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**Attitude of medical students towards psychiatry:  
transcultural perspective**

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# Attitude of medical students towards psychiatry: transcultural perspective

## Abstract

**Introduction and objective:** Worldwide, there is currently a gap between the high prevalence of psychiatric disorders and psychiatric and psychological care. The negative attitude towards psychiatry among medical students contributes to the low excitement in terms of recruitment in this specialty. The attitude of medical students, as an essential sector of medical manpower, contributes to changing the public views towards psychiatry. Therefore, knowing the role of cultural effect in shaping attitudes towards psychiatry is a field of relevance.

**Methods:** In a cross-sectional survey, we examined and compared various aspects and misconceptions in psychiatry among 105 medical students from Charité University Berlin in Germany and 94 medical students from Ain Shams University in Egypt, using the “Attitudes Towards Psychiatry” (ATP-30) scale and eight additional items developed for the purpose of the study. Furthermore, we examined the students’ will to specialize in psychiatry, as well as the factors that may influence their attitudes towards this specialty.

**Results:** According to the ATP-30 questionnaire, both groups have generally a positive attitude towards psychiatry without a significant difference, with a mean ATP score of 109.70(SD: 11.39) in the Egyptian and 110.48 (SD: 13.03) in the German group. However, we distinguished significant differences in attitudes among German and Egyptian students who did not complete the psychiatric clerkship (Egyptian: 103.79, German 109.79,  $P = .013$ ). The clinical clerkship in psychiatry contributed significantly to improving the students’ will for a future specialty in psychiatry, and this result was more evident in the Egyptian group.

Furthermore, there were significant differences in five out of the eight additional items and in twenty items of the ATP-30, reflecting potential cultural attitudinal differences between the groups. 6.4% of the Egyptian vs 3% of the German students mentioned psychiatry as their first career choice.

**Conclusion:** Attitudinal differences regarding psychiatry are influenced by psychiatric clerkship, and probably by cultural assumptions. Medical students' general positive views towards psychiatry in either culture do not translate appropriately into improving preferences for psychiatry as career. Further studies will be needed to further investigate and understand the cultural differences in the perceptions of psychiatry.

**Keywords**

Medical students, attitudes towards psychiatry, mental health in Germany, mental health in Arab countries, transcultural psychiatry.

# **Einstellung von Medizinstudenten zur Psychiatrie: Transkulturelle Perspektive**

## **Zusammenfassung**

**Einleitung und Fragestellung:** Weltweit gibt es zurzeit eine Lücke zwischen der hohen Prävalenz von psychiatrischen Störungen und dem Mangel an psychiatrischer und psychologischer Versorgung. Die negative Einstellung von Medizinstudenten zur Psychiatrie trägt zu der geringen Begeisterung für diese Fachrichtung bei. Die Einstellung der Medizinstudenten, die einen wesentlichen Sektor des medizinischen Personals darstellen, beeinflusst die Veränderung der öffentlichen Meinung zur Psychiatrie. Der Einfluss der kulturellen Faktoren auf die Gestaltung der Einstellung zur Psychiatrie ist ein wesentlicher Untersuchungsbereich.

**Methoden:** In einer Querschnittstudie untersuchten und verglichen wir verschiedene Aspekte und Missverständnisse in der Psychiatrie von 105 Medizinstudenten der Charité-Universität Berlin in Deutschland und 94 Medizinstudenten der Ain Shams-Universität in Ägypten anhand den „Attitude Towards Psychiatry Scale“ (ATP-30) und acht weiteren speziell für diese Studie entwickelten Statements. Darüber hinaus untersuchten wir ihre aktuellen Wünsche zur Spezialisierung in diesem Bereich sowie die Faktoren, die ihre Einstellung zur Psychiatrie beeinflussen können.

**Ergebnisse:** Nach dem ATP-30 Fragebogen haben beide Gruppen eine positive Einstellung zur Psychiatrie ohne signifikanten Unterschied mit einem durchschnittlichen ATP-30 Score von 109.70 (SD = 11.39) in der ägyptischen Gruppe und 110.48 (SD = 13.03) in der deutschen Gruppe. Wir fanden allerdings einen signifikanten Unterschied in der Einstellung zwischen den deutschen und ägyptischen Studenten, die das psychiatrische clerkship nicht besucht hatten (Ägyptische: 103.79, Deutsche: 109.79, P: .013). Das psychiatrische clerkship trug signifikant zur Verbesserung der Einstellung zur Psychiatrie bei, insbesondere in der ägyptischen Gruppe. Darüber hinaus gaben es signifikante Unterschiede bei fünf von den acht zusätzlichen Statements und in zwanzig Statements des ATP-30, welche eventuelle kulturelle Unterschiede zwischen den

Gruppen widerspiegeln. 6,4% der ägyptischen vs 3% der deutschen Studierenden gab Psychiatrie als ihre erste Berufswahl an.

**Schlussfolgerung:** Einstellungsbezogene Unterschiede hinsichtlich der Psychiatrie werden durch psychiatrische clerkship und möglicherweise kulturelle Faktoren beeinflusst. Die generell positive Einstellung der Medizinstudenten zur Psychiatrie in beiden Kulturen wird nicht angemessen in die Verbesserung der Einstellungspräferenzen in der Psychiatrie einbezogen. Zum besseren Verständnis der kulturellen Unterschiede der psychiatrischen Konzepte sind weitere Studien erforderlich.

### **Schlüsselwörter**

Medizinstudenten, Einstellungen zu psychiatrischer, psychischer Gesundheit in Deutschland, psychische Gesundheit in den arabischen Ländern, transkulturelle Psychiatrie.



## **1. Introduction and objective of the study**

Mental disorders are highly prevalent and burdensome in both the developed and developing world (Demyttenaere, Bruffaerts et al. 2004; Kessler, Berglund et al. 2005; Whiteford, Degenhardt et al. 2013). Over recent years, the World Health Organization (WHO) has issued alarming facts about the increasing incidence of mental illnesses all over the world, whereas epidemiological studies have estimated that lifetime prevalence rates of mental disorders among adults are 12.2–48.6% (World Health Organization: mhGAP: Mental Health Gap Action Programme 2008).

Although more national and international efforts have been made in recent years to face this issue, many people with mental disorders are still underdiagnosed and undertreated, resulting in a large treatment gap (Demyttenaere, Bruffaerts et al. 2004; Kessler, Berglund et al. 2005; McDaid, Knapp et al. 2008; Schomerus 2009).

There is a variety of barriers preventing the utilization of an “appropriate” qualified mental health service. One such barrier is a lack of facilities and trained mental health personnel who could meet the needs of mental health services. WHO has also identified a worldwide shortage of specialized health workers (WHO: Comprehensive mental health action plan 2013–2020). Another important factor hindering the utilization of mental health services is the stigma surrounding mental disorders, which is associated with a lack of general public awareness of mental illnesses and psychosocial treatment (Karam, Mneimneh et al. 2006)(In a 2010 report, WHO, Mental Health Gap Action Programme).

The stigma attached to mental illnesses or towards patients with mental illnesses is not limited to the general public, but also extends to professionals (Hugo 2001; Al-Adawi, Dorvlo et al. 2002; Ahmead, Rahhal et al. 2010). Medical students undoubtedly represent a considerable part of the professional health workforce, and their attitudes towards psychiatry play an important role in determining their future choice of psychiatry as a possible career, an in dealing with psychiatric complains in their clinical practice once they enter their profession. Accordingly, they play a critical role in shaping the impact of stigma on the quality of life of the mentally ill (Eaton and Goldstein 1977).

The attitude of medical students towards psychiatry has been studied worldwide over the past decades, with a negative attitude towards various aspects in psychiatry being observed in different developed and developing countries, such as the USA (Eagle and Marcos 1980; Zimny and Sata 1986; Balon, Franchini et al. 1999), the UK (Creed and Goldberg 1987; Calvert, Sharpe et al. 1999; Budd, Kelley et al. 2011), France (Andlauer, Guicherd et al. 2012) Australia (Yellowlees, Vizard et al. 1990; Malhi, Parker et al. 2003), Korea (Koh 1990) China (PAN, Lee et al. 1990), Spain (Adebowale, Adelufosi et al. 2012; Failde, Salazar et al. 2014), Saudi Arabia (Soufi and Raof 1992), Egypt (Amer and ElShami 2011) and Nigeria (Ogunsemi, Odusan et al. 2008).

On the other hand, results from other global studies also show a positive attitude of psychiatry medical students towards psychiatry in developing and developed countries (Strebel, Obladen et al. 2000; Al-Ansari and Alsadadi 2002; Reddy, Tan et al. 2005; Tan, Azmi et al. 2005; Kuhnigk, Strebel et al. 2007; Laugharne, Appiah-Poku et al. 2009; Den Held, Hegge et al. 2010; Wang, Xiang et al. 2011; BaniMustafa, Shahait et al. 2012; Williams, Liu et al. 2014).

Apart from the differences between the aforementioned results, it is seems that there is a current shortage of psychiatrists in many countries, and the recruitment of psychiatrists present a major concern in several countries worldwide (Rajagopal, Rehill et al. 2004; Budd, Kelley et al. 2011; Andlauer, Guicherd et al. 2012).

The decision to work in psychiatry is influenced by several factors. Some variables affecting career choice, such as cultural factors, arise before the medical education.

The perception of mental distress and therefore the attitude towards psychiatry is still broadly associated with cultural beliefs (Schreiber 1991; Al-Krenawi 1999; Abdullah and Brown 2011), although significant progress has been made in the “biomedical” understanding of the etiology of psychiatric disorders over recent decades. It is proposed that education, religion, beliefs, symbols, values, ethnicities, socioeconomic class, age, gender, race and a person’s experiences are all cultural factors that are presumed to contribute to interpretations of mental illness and to the shaping of the attitudes towards mental health disorders and eventually influence help-seeking behaviors (Demyttenaere, Bruffaerts et al. 2004; Tseng and Streltzer 2008; Al-Krenawi, Graham et al. 2009; Vaughn, Jacquez et al. 2009; Fernando, Deane et al. 2010). Many

studies point out the differences in the conceptualization of mental distress between non-Western cultures and Western cultures (Eisenbruch 1990; Sayed 2003; Nieuwsma, Pepper et al. 2011). In developing countries, where the majority of the population lives among non-western cultures, psychiatric issues and mental illness are strongly stigmatized. Researchers in cultural psychiatry have distinguished between beliefs prevailing in traditional cultures on the one hand and Western biomedical views on mental illness (Kleinman 1987), in non-Western traditional cultures, whereas patient-centered organic explanations in the Western world (Landrine and Klonoff 1994).

Despite several studies having examined the attitude towards psychiatry among medical students worldwide, there is a paucity of comprehensive studies comparing concurrently the attitudes, opinions and beliefs about psychiatric disorders in different cultures. Furthermore, considering that accelerated globalization and modernization in some societies has increased the general awareness of mental health, there is a need to monitor the current attitudes towards psychiatry and examine the similarities and differences between different cultures.

In this context, we examine the attitudes towards psychiatry among medical students in Ain Shams University and Charité University, as examples from non-Western and Western cultures, respectively. We examine how these attitudes are influenced by various factors, including gender, parents' education, residence, religion, knowledge of psychiatry, the familiarity with psychiatric patients, and by psychiatric education. Moreover, we monitor the current attitudes towards specialization in psychiatry among medical students in both cultures.

In the following, we explore current mental health care and its characteristics in Arab and Western cultures (using Germany as an example).

## **1.1 Mental health care in the Arab region**

The Arab world comprises 22 countries that have many social and cultural commonalities, accounting for about 300 million people with the largest proportion of young people worldwide (about 40%).

As is the case in most developing countries, the Arab world is suffering from many problems attached to dealing with mental health disorders, inter alia, paucity of mental

health professional (Yahia 2012). The utilization of modern psychiatric care has not yet played a dominant role in the treatment of patients suffering from psychiatric disorders. Similar to developing countries, there is still a lack of mental health cares and insufficient attention from health authorities to mental health issues in traditional Arab societies (Okasha, Karam et al. 2012). A recent review by Okasha shows that six of the Arab countries do not have mental health legislation and two do not have a mental health policy, while seven countries have fewer than 0.5 psychiatrists per 100,000 inhabitants (Okasha 2003; Okasha, Karam et al. 2012). There is a need for better infrastructure and more mental health professionals, especially given the expected of a dramatic increase in the incidence of many behavioral and mental disorders related to armed conflicts and wars in most Arab countries, which has been the most instable part of the world in the recent years.

In the Arab world, the perceptions of mental illness are affected by prevailing socio-cultural factors. Most populations of in the Arab countries believe in the influence of supernatural powers, that are mostly religious in nature, for example, the evil eye, envy (Hassad), spirit possession, witchcraft, evil influence and fate (El-Islam and Abu-Dagga 1992; Al-Krenawi 1999; Al-Adawi, Al-Ismaily et al. 2001; Al-Krenawi 2005). Furthermore, in the Arab world, the word “madness” for psychiatric patients is often associated with possession and sorcery, and thus psychiatric disorders are mostly perceived as non-medical manifestations of distress. They also generally attribute illness to the “Will of God”, with this believe system leading to a general underutilization of mental health services, and more help-seeking from traditional and religious healers (Al-Adawi, Al-Ismaily et al. 2001; Al-Sinawi, Al-Adawi et al. 2008; Okasha, Karam et al. 2012). In addition, compared with Western culture, Arab patients tend to express their psychological problems in terms of physical symptoms, this is especially the case with women, which seems a way to avoid the stigma of mental illness (Al-Krenawi 2005). People tend to maintain their negative attitudes towards mental health services with little knowledge and acceptance regarding the existence of mental disorders in the modern context.

## **1.2 Mental health care in Germany**

The Federal Republic of Germany comprises 16 federal states and has approximately 81 million inhabitants. While the population size is stable, the population is becoming older. Furthermore, Germany is home to the third largest number of international migrants worldwide. The German health care system has a reputation for being one of the best in the world, and many patients from developing countries seek medical treatment in Germany; hence, promoting a practice known as “medical tourism”

Most of the population are enrolled as “compulsory” members in the public health insurance system, receiving nearly all mental health care for free. About 20% of the population has a private health insurance, which covers some additional services such as specialist psychotherapy (Gaebel and Zielasek 2012). In 2009, according to OECD (Organisation for Economic Co-operation and Development), there were 19.6 practicing psychiatrists per 100,000 inhabitants in Germany. The number of psychiatrists per capita in Germany has increased since 2000 by 2.1. In addition to medical and psychological services provided by psychiatrists, there are also psychological psychotherapists and general practitioners who provide psychotherapeutic services after they have completed a special psychotherapy curriculum.

In respect of specialists in mental health, a lack of psychiatrist cover in Germany after the reunification was observed, which was particularly pronounced in rural areas of the East German states. It is assumed that psychiatry is usually among the first fields to suffer from a lack of personnel (Kuhnigk, Strebel et al. 2007). Furthermore, it was estimated that a major part of psychiatrists and psychotherapists are ageing. The percentage of young practicing psychiatrists is low, with just 1% being under 34 years (Bundes Ärztekammer, 2011).

According to the German Federal Statistical Office (2012b), there was an increasing number of mental health inpatients from 2000 to 2010 (Gaebel and Zielasek 2012). In recent analyses, an increase in the utilization of mental health care services by 70 to 80% has been reported in Germany, including inpatient and outpatient services (Gaebel and Zielasek 2012).

Mental health care in Germany is currently facing some challenges. There will be shortages in the health care workforce, including psychiatrists, due to the increasing demand for mental health care after the novel mental hospital remuneration system. Moreover, it seems unable to secure a sufficient number of medical students interested in psychiatry, due to their lower motivation to specialize in psychiatry (Kuhnigk, Strebel et al. 2007). Germany is facing an increasing need to deal with age-related diseases, e.g. Alzheimer's disease, due to the ageing society profile.

Although of demand for mental healthcare services is increasing, it is assumed that the care gap could still be closed (Gaebel and Zielasek 2012). Finally, despite the extensive supply of modern psychiatric care services throughout the country, some studies have shown that the use of alternative health methods plays a relevant role in medical care, not only among patients with migrant background but also among German patients, with a quarter of psychiatric inpatients tending to believe that unconventional medicine is an effective form of therapy for psychological problems (Assion, Zarouchas et al. 2007).

### **1.3. Aim and Hypotheses of the study**

The objective of this study is to gain an understanding of the attitudes towards psychiatry among Arab and German medical students through two samples from two major universities in Egypt (Ain Shams) and Germany (Charité Berlin), and to examine how cultural factors affect this attitude. Accordingly, we aim to answer the following questions:

- How do the current attitudes of medical students seem to be towards psychiatry in general, in Egypt and Germany, and how much interest is there currently among medical students in taking up work in psychiatry in Germany and Egypt?
- What are the differences in views concerning mental illness between the two groups?
- Which factors may influence these students' attitudes towards psychiatry in the two groups?

We assume that German students will have a more positive attitude towards psychiatry than Egyptian students, who will be more influenced by traditional views and thus more likely to have misconceptions about psychiatry and a stronger belief in traditional healing methods compared to their German counterparts.

We further assume that factors like the exposure to elements such as instruction and training in psychiatry during clerkship, gender, age, parent's education and religion, familiarity with psychiatric patients may influence students' attitudes towards psychiatry. Finally, we will verify if there is positive correlation between the attitudes towards psychiatry and chose psychiatry as a career choice.

## 2. Methods

### 2.1 Subjects

The samples comprise cross-cultural data from of two student groups: medical students from Egypt (Ain Shams University, Medical School), and Germany (Charité Universitätsmedizin Berlin). All students provided informed consent to participate in the study. Data were excluded from analysis if less than 30 items of the ‘Attitudes towards Psychiatry’ (ATP-30) scale were completed.

**Ain Shams sample:** Sampling the data by students in Ain Shams University was conducted with the help of psychiatrists at Ain Shams University (name by acknowledgement). Hard copies of the questionnaires were utilized and distributed among the students for the purpose of the survey. Given that English is the primary language of instruction at Ain Shams University, students were asked to anonymously complete the questionnaires in English. The questionnaire was approved by the Administrative Council of the Faculty of Medicine and information explaining the study’s purpose was provided on the first page of the questionnaire. The student sample comprised 2<sup>nd</sup> and 5<sup>th</sup> year medical students during the academic year 2011-2012, who were asked to fill in the hard copies of the questionnaire during their lectures. The students from 2<sup>nd</sup> year were in their pre-clinical years and had neither theoretical nor practical knowledge of psychiatry, whereas the 5<sup>th</sup> year students were in their penultimate clinical year and had already finished a psychiatry clerkship. From the about 5500 Students, 94 took part in the study, leading to a response rate of 1.7 %.

**Charité sample:** An online survey tool was prepared by the author to survey the attitudes towards psychiatry among medical students in Charité Berlin. Participants were recruited via an announcement, approved by press office, on the internal internet website of Charité Campus. All medical students of the academic year 2011-2012 were asked to participate in the study. Approval to conduct the study was obtained from the Ethics Committee at the Charité. Since the project involves an anonymous online survey, no prior statement from the data protection commisor was necessary. After the analysis, the data was erased and no IP addresses were saved.



Students were able to securely access the survey online and anonymously complete the questionnaire. Information about the survey and online access, including the study's purpose, was provided at the information center on-campus, in addition to the telephone number and email address to reach the investigator. Participants were rewarded with a remuneration of 10 Euros, the financial transactions were handled by the secretary of our department who was not involved in the study.

From the about 4500 students in question, 105 took part in the study, leading to a response rate of 2.3 %.

### **- Overview of studying medicine at in Charité medical school in Germany and Ain Shams University in Egypt**

At the Charité still most of the graduating students have received their education through the regular study system called "Regelstudiengang". Completing this course takes a minimum of six years. This program is divided in two mainly separated parts.

The first two years focus on the preclinical sciences like chemistry, biochemistry, physics, physiology, anatomy, histology and medical sociology. During these years students should be taught the necessary basics relevant for the medical education. In the end of the preclinical block students have to pass a comprehensive exam consisting of a written and oral part to continue their studies. The preclinical part is thereby followed by three years of clinical teaching, in which the students attend courses based on the different medical specialities. During those courses the students gain clinical examination skills and deeper understanding of human diseases and their treatment.

Before being able to graduate students have to complete a clerkship year of three months placements in each surgery, internal medicine and one elective subject to gain deeper insight into the practical duties of physicians. The whole studies will be completed with a second comprehensive exam on all clinical specialities called the "Staatsexam". The psychiatric teaching is included in the curriculum of the fourth year and consists of 12 study units (each 1.5 hours) clinical teaching and 14 complementary lectures covering psychiatry in general.

In Ain Shams University, a three-week psychiatric course for sixth-year students (15 working days, 45 hours) of interactive lectures and clinical case demonstrations represents students' entire encounter with psychiatry.

## 2.2 Questionnaire

The questionnaire covers items regarding the attitudes towards psychiatry based upon the validated ATP-30. The 30-item questionnaire ATP-30 was developed by Burra et al. to study attitudes towards various aspects of psychiatry on the basis of a 5-point Likert scale (Burra, Kalin et al. 1982). This scale has multiple dimensions and measures attitudes towards mental illness, treatment, psychotherapy, psychiatric patients, psychiatric hospitals and psychiatrists, as well as psychiatric teaching. The ATP-30 consists of 30 items, of which 15 items are directed at the positive attitude towards psychiatry and the remaining 15 items are directed at the negative attitude towards psychiatry. The higher the score, the more favorable the attitude (minimum score 30=negative attitude; maximum score 150=positive attitude; score of 90=computed neutral attitude value). The ATP-30 has shown good validity and reliability and has been used in various international studies.

The German version of the ATP-30 was designed by Strebel (Strebel, Obladen et al. 2000), translated professionally and prepared by three psychiatrists involved in clinical and scientific work. The German version has been replicated in other works (Kuhnigk, Strebel et al. 2007; Haufs 2008) and has proven its good validity and reliability.

Two psychiatrists, one being the Author, with dual education in the field of Arabic and German mental health system with experience in psychiatry in transcultural settings, the other a native German psychiatrist, developed eight additional statements in German, which explore important cultural/religious aspects and conceptions in psychiatry (see table 1). The eight statements were translated from German into English in two directions. These statements present three components, the first of which consists of two items (31,32) regarding the causality of psychiatric disorders in general and obsessive compulsive disorder (OCD), taking into account misconceptions and peculiarities about OCD causalities. The other five items (33-37) explore the correlation between religion and psychiatry, as well as misconceptions about this correlation.

In the last item (38), we investigate the help-seeking behavior in the case of severe depression, and examine whether those concerned prefer seeking help from psychiatrists or a spiritual healer or a priest. Table 1 shows the ATP 30 statements in

multiple components as differentiated by Strebel (Strebel, Obladen et al. 2000) as well the eight additional items.

<b>Attitude Components</b>	<b>N.</b>	<b>Statements</b>
Psychotherapy	1	The practice of psychotherapy basically is fraudulent since there is no strong evidence that it is effective.
	2	Psychiatric illness deserves at least as much attention as physical illness.
	3	Psychiatric treatment causes patients to worry too much about their symptoms.
	4	It is interesting to try and unravel the cause of psychiatric illness.
	5	The practice of psychiatry allows the development of very rewarding relationships with people.
	6	It is quite easy for me to accept the efficacy of psychotherapy.
Psychiatrists	7	Psychiatrists talk a lot, but do very little.
	8	On the whole, people taking up psychiatric training are running away from participation in real medicine.
	9	Psychiatrists seem to talk about nothing but sex.
	10	Psychiatrists tend to be at least as stable as the average doctor.
	11	At times, it is hard to think of psychiatrists as equal to other doctors.
	12	Psychiatrists get less satisfaction from their work than other specialists.
Psychiatric patients	13	Psychiatric teaching increases our understanding of medical and surgical patients.
	14	If we listen to them, psychiatric patients are just as human as other people.
	15	Psychiatric patients are often more interesting to work with than other patients.
Psychiatry as a scientific discipline	16	Psychiatry is unappealing because it makes little use of medical training.
	8 *	On the whole, people taking up psychiatric training are running away from participation in real medicine.
	17	Psychiatry is a respected branch of medicine.
	18	Psychiatry has very little scientific information to go on.
	19	Psychiatry is so unscientific that even psychiatrists can't agree as to what its basic applied sciences are.
	20	Most of the so-called facts in psychiatry are really just vague speculations.
21	Psychiatry is so unstructured that it cannot really be taught effectively.	

Psychiatric treatment	22	With the forms of therapy now available, most psychiatric patients improve.
	23	There is very little that psychiatrists can do for their patients.
	24	In recent years, psychiatric treatment has become quite effective.
Psychiatric hospitals	25	Psychiatric hospitals are little more than prisons.
	26	Psychiatric hospitals have a specific contribution to make to the treatment of the mentally ill.
Psychiatric teaching	13*	Psychiatric teaching increases our understanding of medical and surgical patients.
	27	The majority of students report that their psychiatric undergraduate training has been valuable.
	28	These days, psychiatry is one of the most important parts of the curriculum in medical schools.
	22*	Psychiatry is so unstructured that it cannot really be taught effectively.
Interest of the of specialization in psychiatry	29	If I were asked what I considered to be the three most exciting medical specialties, psychiatry would be excluded
	30	I would like to be a psychiatrist.
The causality of psychiatric disorders	31	I believe that ghosts, demons, devils and witches (or one of them) can cause mental health diseases
	32	Obsessive compulsive disorders are caused by supernatural powers, e.g. Satan
Religion and psychiatry	33	Psychiatrists are not as religious or pious as others
	34	Mental illness doesn't affect the faithful and righteous and pious
	35	There is a conflict between psychiatry and religion
	36	Visiting a doctor or clinical psychologist shows a lack of faith and religiosity
	37	I believe that a spiritual healer or priest can help the mentally ill.
Help-seeking behaviors	38	If you suffer from severe depression and are unable to perform daily activities you will seek help from a spiritual healer or priest rather than a psychiatrist

Table 1 shows the statements in multiple components of attitudes towards psychiatry.

\*repeated items

In the questionnaire, the following data was also documented (see questionnaire in Appendix):

- Demographics: gender, age, residence (city or countryside), school semester, parents' education (using a scale ranging from primary school to university) nationality.

- Religion and the degree of religiousness, measured using a scale from 0 to 7.
- Knowledge in the field of psychiatry, measured using a 5-point scale ranging from very little to high.
- Familiarity with psychiatric patient, with yes/no answers.
- The attending psychiatric clerkship, with yes/no answer.
- Career choice, three options of medical specialty that students want to take up as their career intention.

**The internal reliability and validity:** We verified the internal reliability of the scale ATP-30 in current research as being good (Cronbach's alpha = 0.831), as in the case with the additional eight statements (Cronbach's alpha = 0.709).

We verified the internal validity by calculating the correlation coefficient each of the 38 items and the total ATP 30. The figures in the table confirm the internal validity by a significant value of  $< 0.05$ , see table 2.

### 2.3 Statistical analysis

The collected data was analyzed using the SPSS version 19. Reliability and validity was tested with the calculation of cronbachs alpha and the correlation of the single item to the total scale, respectively.

Mean values and standard deviations were used for descriptive representation, while percentage distributions were calculated to indicate the frequency. QQ Plots were used to examine the normal distribution of the samples

In the calculation of the ATP-30 scores, the original values of the positively formulated items were summed (Nr. 2, 4-6, 10, 13-15, 17, 22, 24, 26-28, 30; see questionnaire in Appendix), while in the scores of the negatively formulated items and the eight additional items were subtracted from 6, so we have the score in one direction, with higher values indicating greater positivity.

To compare the attitudes of the two groups of students, the effect of variables on this ATP 30 and on the single items separately, we used the nonparametric Mann-Whitney Test, as nearly none of the variables showed a normal distributions according to QQ Plots. The P-value was considered significant at  $< 0.05$  in the results and discussion. A Spearman test for correlation was used in no normal distribution variables.

We presented comparisons of the attitude of Ain Shams and Charité students on a sum and single item basis. Furthermore the items in the questionnaire were broken down into three interrelated domains, taking into account the answers in three categories: disagree/strongly disagree as one category and agree/strongly agree as one category, and neutral reflecting unchanged.

The parents' education was divided into two categories: higher education is considered if one parent has a higher education and no higher education if neither parents has higher education.

I analyzed every item individually since this is a pilot study investigating the differences in attitudes related to mental health in Egyptian and German medical students. Thus, each test has an underlying proper null hypothesis. As for each test one single null hypothesis is investigated, we did not carry out a correction for multiple testing. Hence, in addition to ATP 30, it was important to analyze every item individually so that no effects are missed.

<b>Item<sup>+</sup></b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
rho	.485**	.584**	.431**	.391**	.470**	.434**	.556**	.395**	.296**	.400**
p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
N	187	187	187	187	187	187	187	187	187	187
<b>Item<sup>+</sup></b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
rho	.398**	.525**	.281**	.396**	.382**	.434**	.561**	.198**	.356**	.173 <sup>+</sup>
p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	0.007	<.001	0.018
N	187	187	187	187	187	187	187	187	187	187
<b>Item<sup>+</sup></b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
rho	.591**	.429**	.529**	.264**	.418**	.408**	.591**	.436**	.288**	.382**
p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
N	187	187	187	187	187	187	187	187	187	187
<b>Item<sup>+</sup></b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>		
rho	.228**	.305**	.240**	.219**	.278**	.281**	.166 <sup>+</sup>	.224**		
p	0.002	<.001	0.001	0,003	<.001	<.001	0.023	0.002		
N	187	184	186	187	187	187	187	187		

Table 2 shows the correlation coefficient rho with p-values of each of the 38 items with ATP 30. \* show significant, \*\* highly significant correlations. + Item numbers as listed in the questionnaire in Appendix.

### 3. Results

#### 3.1 Demographic characters

94 medical students from Ain Shams : 50 male (53.2%) and 43 female (44.7%) and one who did not state his/her gender, participated in the study, of whom only 82 completed the ATP-30 questionnaire (87.2%). The number of students who answered the additional eight items was between 91 and 94 (about 97%). 40 students were in the 4<sup>th</sup> semester, 53 in the 10<sup>th</sup> semester (1 did not state the semester). The average age of the respondents was 20.32 years (SD 1.2 years). 105 of the 120 Charité students responded, 64 of them were male (61%), 41 female (39%) and completed the questionnaire online. There were students from all semesters, with the largest number from the 8<sup>th</sup> semester (36%). For the counts in each semester (see table 3) .The average age of the respondents was 25.1 years (SD 4.4).

1	1	1.0
2	12	11.8
3	4	3.9
4	1	1.0
5	3	2.9
6	5	4.9
7	11	10.8
8	36	35.3
9	6	5.9
10	7	6.9
11	11	10.8
12	3	2.9
13	1	1.0
14	1	1.0
Total	102	100.0
Missing	3	

Table 3 Semester (counts and percent values for each semester for the German data)

The majority of the Ain Shams students came from Egypt (90 students, 95%), one from Sudan, one from Palestine, one from Eritrea and one not stated. 21.3 % live in the countryside, whereas 77.7 % live in the city. In the Charité group, the majority of the

students came from Germany (96 students, 92.4%), two from Bulgaria, and one each from France, Luxemburg, Switzerland, Sri Lanka, Turkey and Kurdistan.

26 students (27.7%) from Ain Shams University and 45 students (42.9%) from Charité. said had close contact to patients with a psychiatric illness from their family or friends.

All but one of Ain Shams students declared their religion, 86.2% of them being Muslim and 12.8 % Christian. Most of those who declared stated that their religiosity was with 95% scoring  $\geq 4$  on the 7-point scale. 45 students (42.9%) from Charité declared themselves to be Christian, three (2.9%) Muslim, three (2.9%) Confucian and two (1.9%) from another religion, 23 (21.9%) declared that they are irreligious or secular, while 29 (27.6%) did not give any answer. Regardless of their religious group, 48 students (45.7%) estimated their religiosity to be of the lowest degree on the 7-point religiosity scale. Overall, most of the students (about 77%) declared a relatively low level of low religiosity on the 7-point scale (equal or lower than 3 points).

In both groups, the majority of the students' parents have a higher education level of university education. In the Ain Shams group, 83% of fathers and 75.5% of mothers completed university level education, compared with 61% of fathers and 57.1% of mothers in the Charité group.

In the Ain Shams group, 55 students (58%) completed a clerkship in psychiatry, whereas only 30 students (28.6%) did so in the Charité group. Regarding the knowledge in psychiatry, the majority (60.6%) of Ain Shams group assessed their knowledge in psychiatry as being average. In Charité group, the majority (42.0%) assessed their knowledge in psychiatry as little and 12.6% as very little, and only 15% as being above average or high.

The correlation between knowledge and ATP 30 was investigated by Spearman correlation, showing a significant medium positive correlation ( $\rho=.270$ ,  $p<.001$ ,  $N=185$ ) for the two groups together. Looking at the two groups separately showed the same result (German:  $\rho=.276$ ,  $p=.004$ ,  $N=105$ ; Egypt:  $\rho=.313$ ,  $p=.005$ ,  $N=80$ ).

For the analysis of the correlation between clerkship and knowledge, the latter was divided into two categories (very little/little and more than little). This relationship was investigated by Fishers exact test, leading to a highly significant result when looking at the two groups together ( $p<.001$ ). 75.3 % (64/85) of students with a clerkship say that



they have an average to high knowledge, contrasting only 44.6 % (50/112) of students without clerkship (see table 4). This dependency remains significant when only considering Germans ( $p=.009$ ) or Egyptians ( $p=.037$ ).

		Knowledge		Sum
		very little/little	average to high	
Clerkship	yes	21	64	85
	no	62	50	112
	Sum	83	114	197

Table 4: Cross table for the relationship of clerkship and Knowledge for both groups together.

### 3.2 Psychiatry as a career choice

From both groups, 27 of 177 students (15.2%) expressed the potential wish to choose psychiatry as one of their top three career choices, although only eight students (4.5 %) selected psychiatry as their first option (see figure 1). 19.4% (15/77) of the Ain Shams University students versus 12% (12/100) of the Charité students intended to choose psychiatry as one of their top three career choices as their potential specialty. In the Ain Shams group, eleven (73.3%) students were female vs. six (50%) in the Charité group. Of the students who stated their first choice, five students (6.4%) from the Ain Shams group in comparison to three students (3%) from the Charité group listed psychiatry as their first choice. In respect to other specialties selected as their first choice, 22/77 (28.5%) of the students from the Ain Shams group chose surgery, 16/77(20.7%) internal medicine and 11/77 (14%) pediatrics. In the Charité group, 34/100 (34%) chose internal/general medicine, 15/100(15) pediatrics, 11/100 surgery (11%), and 13/100 (13%) anesthesiology and intensive-care medicine.

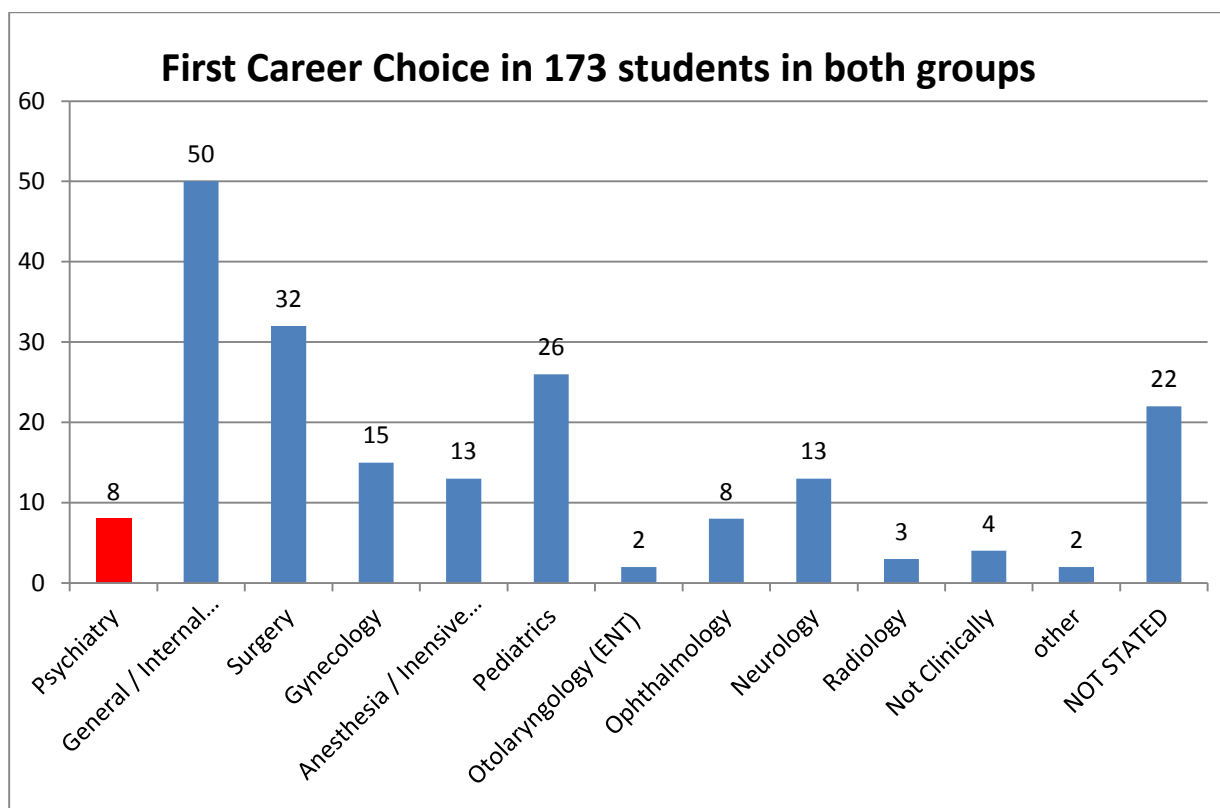


Figure 1 shows first choice of specialties in both groups

### 3.3 Attitudes towards psychiatry

#### 3.3.1 Comparison of attitudes towards psychiatry among Charité and Ain Shams students

By comparing the single items using a Mann-Whitney test, we found significant differences between the two groups in twenty single items from the ATP score. In the additional eight items, we found significant differences in five of eight items. In the following section, we will present the comparison results in multiple components as broken down in table 1 above. The items that were significantly positive in the Charité group are marked with \*, and in the Egypt group with \*\* in the tables. In addition we present in the tables the numbers and percentages of students with negative attitude (NA), positive attitude (PA) regarding each item (considering the answers “disagree/strongly disagree” as one category and “agree/strongly agree” as one category).

- **Items measuring attitudes towards psychotherapy**

There were significant differences in five of the six items. The Charité group was highly positive in four items, while in one item „item 5”, the Ain Shams group was more positive (table 5).

Item	Group	N	mean	Z	p	NA, N (%)	PA, N (%)
1	Charité	105	4.39	-5.071	<.001*	4(3.8%)	91(86.7%)
	Ain Shams	92	3.84			4(4.3%)	61(66.3%)
2	Charité	105	4.54	-3.889	<.001*	2(1.9%)	98(93.3%)
	Ain Shams	94	4.07			9(9.6%)	75(79.8%)
3	Charité	105	3.53	-1.872	0,061	15(14.3%)	60(57.1%)
	Ain Shams	93	3.23			28(30.1%)	42(45.2%)
4	Charité	105	4.30	-3.572	<.001*	6(5.7%)	95(90.5%)
	Ain Shams	93	3.92			7(7.5%)	71(76,3%)
5	Charité	105	3.37	-4.842	<.001**	17(16.2%)	44(41.9%)
	Ain Shams	94	4.00			10(10.6%)	74(78.7%)
6	Charité	105	4.02	-2.932	,003*	10(3.5%)	83(79.0%)
	Ain Shams	94	4.00			15(16.0%)	59(62.8%)

Table 5: Results of a Mann-Whitney Test to compare the two groups in the items measuring attitudes towards psychotherapy. NA: negative attitude PA: positive Attitude.

- **Items measuring attitudes towards psychiatrists**

In two items, there was a highly positive attitude among the Charité students compared to their Ain Shams counterparts (table 6).

Item	Group	N	mean	Z	P	NA, N (%)	PA, N (%)
7	Charité	105	3.84	-1.213	.225	14(13.3%)	76(72.4%)
	Ain Shams	94	3.66			20(21.3%)	61(64.9%)
8	Charité	105	4.34	-4.443	<.001*	3(2.9%)	90(85.7%)
	Ain Shams	92	3.74			12(13.0%)	61(66.3%)
9	Charité	105	4.67	-3.989	<.001*	1(1.0%)	100(95.2%)
	Ain Shams	93	4.18			6(6.5%)	73(78.5%)

10	Charité	105	3.30	-.146	.884	18(17.1%)	42(40.0%)
	Ain Shams	92	3.30			16(17.4%)	38(41.3%)
11	Charité	105	3.21	-1.258	.208	35(33.3%)	46(43.6%)
	Ain Shams	93	3.43			21(22.6%)	45(48.4%)
12	Charité	105	3.72	-.690	.490	10(9.5%)	61(58.1%)
	Ain Shams	92	3.60			14(15.2%)	56(60.9%)

Table 6: Results of a Mann-Whitney Test comparing the two groups in the items measuring attitudes towards psychiatrists. NA: negative attitude PA: positive attitude.

- **Items measuring attitudes towards psychiatric patients**

Three items are represent this component; in one item the Charité group was more positive and in one item the Egypt group was more positive (table 7).

Item	Group	N	mean	Z	P	NA, N (%)	PA, N (%)
13	Charité	105	3.68	-2.305	.021**	17(16.2%)	71(67.6%)
	Ain Shams	93	4.01			7(7.5%)	77(82.6%)
14	Charité	105	4.39	-2.647	.008*	5(4.8%)	90(85.7%)
	Ain Shams	93	4.02			12(12.9%)	74(79.6%)
15	Charité	105	2.83	-1.293	.196	41(39.0%)	31(29.5%)
	Ain Shams	94	3.06			31(33.0%)	31(33.0%)

Table 7: Results of a Mann-Whitney Test comparing the two groups in the items measuring the attitudes towards psychiatric patients. NA: negative attitude PA: positive Attitude.

- **Items measuring attitudes towards psychiatry as a scientific discipline**

In five items, a highly positive attitude was manifest in the Charité group in comparison to the Ain Shams group (table 8).

Items	Group	N	mean	Z	P	NA, N (%)	PA, N (%)
16	Charité	105	4.18	-1.380	.167	12(11.4%)	88(83.8%)
	Ain Shams	92	3.99			9(9.8%)	63(68.5%)

8	Charité	105	4.34	-4.443	<.001*	3(2.9%)	90(85.7%)
	Ain Shams	92	3.74			12(13.0%)	61(66.3%)
17	Charité	105	4.26	-.252	.801	8(7.6%)	89(84.8%)
	Ain Shams	94	4.29			3(3.2%)	81(86.2%)
18	Charité	105	4.13	-3.499	<.001*	7(6.7%)	87(82.9%)
	Ain Shams	93	3.70			13(14.0%)	63(67.7%)
19	Charité	105	3.95	-3.221	.001*	9(8.6%)	78(74.3%)
	Ain Shams	93	3.53			15(16.1%)	51(54.8%)
20	Charité	105	3.66	-3.801	<.001*	13(12.4%)	67(63.8%)
	Ain Shams	92	3.12			24(26.1%)	37(40.2%)
21	Charité	105	3.98	-3.569	<.001*	11(10.5%)	77(73.3%)
	Ain Shams	92	3.35			14(15.2%)	54(58.7%)

Table 8: Results of a Mann-Whitney Test comparing the two groups in the items measuring the ATP as a scientific discipline. NA: negative attitude PA: positive Attitude.

- **Items measuring attitudes towards psychiatric treatment**

In one item, the attitude in the Ain Shams group was more highly positive than in the Charité group (table 9).

Items	Group	N	mean	Z	P	NA, N (%)	PA, N (%)
22	Charité	105	3.66	-1.074	.283	10(9.5%)	70(66.7%)
	Ain Shams	94	3.59			5(5.3%)	54(57.4%)
23	Charité	105	3.78	-1.213	.225	11(10.5%)	72(68.6%)
	Ain Shams	94	3.87			9(9.6%)	69(73.4%)
24	Charité	105	3.29	-4.186	<.001**	10(9.5%)	41(39.0%)
	Ain Shams	94	3.71			5(17.4%)	63(67.0%)

Table 9: Results of a Mann-Whitney Test comparing the two groups in the items measuring the attitudes towards psychiatric treatment. NA: negative attitude PA: positive Attitude.

- **Items measuring attitudes towards psychiatric hospitals**

In one item, the attitudes among the Ain Shams group were highly positive compared to the Charité group, while in another item the attitude in the Charité group was significantly more positive compared to the Ain Shams group (table 10).

Items	Group	N	mean	Z	P	NA. N (%)	PA. N (%)
25	Charité	105	4.43	-7.599	<.001*	7(6.7%)	94(89.5%)
	Ain Shams	93	3.11			35(37.6%)	40(43.0%)
26	Charité	105	3.43	-2.302	.021**	14(13.3%)	53(50.5%)
	Ain Shams	92	3.71			10(10.9%)	62(67.4%)

Table 10: Results of a Mann-Whitney Test comparing the two groups in the items measuring the attitudes towards psychiatric hospitals. NA: negative attitude PA: positive Attitude.

- **Items measuring attitudes towards psychiatric teaching**

Four items represented this component. Three of which revealed a significantly higher positive attitude in the Ain Shams group, whereas one item was more positive among the Charité group (table 11).

Items	Group	N	mean	Z	P	NA. N (%)	PA. N (%)
13	Charité	105	3.68	-2.305	.021**	17(16.2%)	71(67.6%)
	Ain Shams	93	4.01			7(7.5%)	77(82.6%)
27	Charité	105	3.18	-3.704	<.001**	11(10.5%)	27(25.7%)
	Ain Shams	93	3.57			9(9.6%)	54(58.1%)
28	Charité	105	1.64	-9.835	<.001**	94(89.5%)	5(4.8%)
	Ain Shams	94	3.57			19(20.2%)	56(59.6%)
22	Charité	105	3.89	-3.569	<.001*	11(10.5%)	77(73.3%)
	Ain Shams	92	3.53			14(15.2%)	54(58.7%)

Table 11: Results of a Mann-Whitney Test comparing the two groups in the items measuring the attitudes towards psychiatric teaching. NA: negative attitude PA: positive Attitude.

- **Items measuring the interest in the specializing in psychiatry**

In the two items, Ain Shams group was more positive than the Charité group (table 12).

Items	Group	N	mean	Z	P	NA. N (%)	PA. N (%)
29	Charité	105	2.53	-3.056	.002**	58(55.2%)	27(25.7%)
	Ain Shams	85	3.08			28(32.9%)	34(40.0%)
30	Charité	105	2.24	-3.387	.001**	62(59.0%)	17(16.2%)
	Ain Shams	94	2.77			36(38.3%)	21(22.3%)

Table 12: Results of a Mann-Whitney Test comparing the two groups in the other ATP 30 Items measuring the attitudes towards psychiatry. NA: negative attitude PA: positive Attitude.

- **Additional items measuring attitudes towards the causality of psychiatric disorders/religion and psychiatry/help-seeking behaviors**

Two items represented the attitudes towards the causality of psychiatric disorders including OCD. Here, there was a clearly higher positivity in the Charité group. In two of the five items explaining the attitudes towards the relation between religion and psychiatry, the Charité group was more positive. Finally, in the statement exploring the help-seeking behaviors in the case of severe depression “If you suffer from severe depression and are unable to perform daily activities you will seek help from a spiritual healer or priest rather than a psychiatrist”, the Charité group was clearly more positive than the Ain Shams group (table 13).

Items	Group	N	mean	Z	P	NA. N(%)	PA. N (%)
31	Charité	105	4.46	-6.581	<.001*	3(2.9%)	84(80.0%)
	Ain Shams	93	3.26			32(34.4%)	41(44.1%)
32	Charité	105	4.70	-6.421	<.001*	2(1.9%)	95(90.5%)
	Ain Shams	91	3.75			18(19.8%)	56(61.5%)
33	Charité	105	3.72	-1.463	.144	5(4.8%)	49(46.7%)
	Ain Shams	92	3.89			8(8.7%)	61(66.3%)
34	Charité	105	4.70	-8.654	<.001*	2(1.9%)	95(90.5%)
	Ain Shams	91	3.43			20(22.0%)	49(53.8%)

35	Charité	105	3.50	-1.839	.066	24(22.9%)	50(47.6%)
	Ain Shams	94	3.81			16(17.0%)	61(64.9%)
36	Charité	105	4.70	-3.441	.001*	1(1.0%)	95(90.5%)
	Ain Shams	93	4.34			6(6.5%)	80(86.0%)
37	Charité	105	3.45	-.980	.327	27(25.7%)	51(48.6%)
	Ain Shams	94	3.28			30(31.9%)	38(40.4%)
38	Charité	105	4.60	-5.822	<.001*	5(4.8%)	94(89.5%)
	Ain Shams	94	3.77			17(18.1%)	61(64.9%)

Table 13: Results of Mann-Whitney Test comparing the two groups in the eight additional items. NA: negative attitude PA: positive Attitude.

### 3.3.2 Factors impact in attitude towards psychiatry

In a first step, the influence of various factors on the relationship between the culture and the ATP30 was investigated by exploring the differences between the Charité and Ain Shams groups restricted to different factors (see table 14 Mann-Whitney test results in rows). We found differences between the Charité and Ain Shams groups who did not have clerkship, while this difference was not evident in both groups with a clerkship, with the obvious improvement in the ATP score in the Egypt group.

With respect to age, it was more distributed among the Charité group with a mean age of 25.18 vs. 20.32 in the Ain Shams group, where the oldest student was 23 year-old. To study the influence of age on the attitudes toward psychiatry, the Charité group was separated into 2 subgroups based on age,  $\leq 23$  and  $> 23$  year-old students. The results of the younger age group at Charité were compared with the results of the older age group at the same university as well as with the data from Ain Shams University. The investigation concluded no significant difference in the two comparisons (table 14).

Regarding other factors, namely parents' education, gender, residence, familiarity with psychiatric patients and selecting psychiatry as a career, we could not find any differences between the two subgroups.



	N	ATP30 mean	N	ATP30 Mean	MW-Test for the factor effect (Z. p)
<b>Clerkship</b>	no		yes		
Charité	30	109.79	75	112.20	-1.136. .256
Ain Shams	48	103.79	33	113.60	-3.688. <.001**
<b>MW-Test</b> comparing Charité. and Ain shams S. (Z. p)		-2.736. .006*		-.082. .934	
<b>Gender</b>	Male		female		
Charité	41	107.68	64	112.27	-1.472. .141
Ain Shams	44	108.28	37	111.57	-1.252. .210
<b>MW-Test</b> comparing Charité. and Ain shams S. (Z. p)		-.154. .878		-.215. .830	
<b>Familiarity with psychiatric patient</b>	yes		no		
Charité	45	111.69	60	109.57	-1.095. .274
Ain Shams	24	114.33	57	107.61	-2.034. .042*
<b>MW-Test</b> comparing Charité. and Ain shams S. (Z. p)		-.088. .930		-.887. .375	
<b>Residence</b>	Countryside		City		
Charité	5	104.80	100	110.76	-.422. .673
Ain Shams	18	105.39	63	110.81	-2.001. .045*
<b>MW-Test</b> comparing Charité. and Ain Shams S. (Z. p)		-.859. .390		-.104. .917	
<b>Parent's education</b>	High (one of them)		neither		
Charité	72	110.32	33	110.82	-.532. .595
Ain Shams	67	110.36	15	106.73	-1.062. .288

<b>MW-Test</b> comparing Charité. and Ain Shams S. (Z. p)		-291. .771		-1.224. .221	
<b>Psychiatry as potential specialty</b>	yes		no		
Charité	12	115.75	88	110.47	-1.364. .173
Ain Shams	14	120.14	53	107.19	-3.372. <b>.001*</b>
<b>MW-Test</b> comparing Charité. and Ain Shams S. (Z. p)		-644. .520		-1.919. .055	
<b>Age groups</b>	$\leq 23$		$>23$		
Charité	42	111.05	62	110.42	-.149. .881
Ain Shams	81	109.60	0	-	-
<b>MW-Test</b> comparing Charité. and Ain Shams S. (Z. p)		-.896. .370		-	
<b>Religion</b>					
Charité	45	110.33 (christian)	23	109.91 (secular)	-.324. .746
Ain Shams	67	108.73 (muslim)	13	112.46 (christian)	-1.344. .179

Table 14: Results of Mann-Whitney U Tests comparing ATP 30 for different factors and for group. Significant results are marked with \* ( $p < 0.05$ ) or \*\* ( $p < 0.001$ ). MW: Mann-Whitney Test.

In the second step, the differences in the ATP30 according to these factors were investigated for both groups separately (see table 14 Mann-Whitney test results in last column). In the Charité, group no difference was evident between Christians and secular subgroups, who are the most presented in the religion item, while there was also no difference between Muslims and Christians in the Ain Shams group. There was

also no significant effect on ATP for the factors of gender and parents' education in either group.

In the Ain Shams group, we see that psychiatric clerkship, familiarity with psychiatric patients and residence all have impact on the attitudes, while the selection of psychiatry as career was associated with significantly higher ATP30 scores.

The results of the investigation of the single items 31 to 38 are shown in table 15. Here, the Ain-Sham group has significantly more negative views regarding the causalities of psychiatric disorders (items 31 and 32), significantly more misconceptions about religion and psychiatry (items 35 and 36) and is significantly more likely to seek help from a spiritual healer or priest in case of severe depression (item 38).

In the Charité group, no significant change in the ATP 30 is observed depending on the various factors (table 14).

As the factor of clerkship showed a high impact on ATP 30, this factor was also investigated in the additional eight items (31-38) for each group separately. In the Charité group, clerkship had no significant effect on the eight items. In the Ain-Sham group, students with clerkship had significantly higher values in items 31, 32, 35, 36 and 38 (table 15).

In the next step, the dependency of ATP-30 on knowledge and religiosity was investigated in both groups. The results of Spearman correlation revealed no impact of religiosity on the ATP-30 score in either group (German:  $\rho=0.051$ ,  $p=0.612$ ,  $N=101$ ; Egypt:  $\rho=-0.184$ ,  $p=0.114$ ,  $N=75$ ), although we found a positive correlation between knowledge of psychiatry and the ATP-30 score (German:  $\rho=0.276$ ,  $p=0.004$ ,  $N=105$ ; Egypt:  $\rho=0.313$ ,  $p=0.005$ ,  $N=80$ ).

item	Group	Clerkship	N	Mean	Z	p
31	Charité	yes	30	4.50	-.314	.754
		no	75	4.44		
	Ain Shams	yes	54	3.61	-2.837	<b>.005</b>
		no	38	2.79		

<b>32</b>	Charité	yes	30	4.67	-.935	.350
		no	75	4.72		
	Ain Shams	yes	54	4.04	-2.807	<b>.005</b>
		no	36	3.31		
<b>33</b>	Charité	yes	30	3.90	-1.119	.263
		no	75	3.65		
	Ain Shams	yes	54	3.89	-.347	.729
		no	37	3.89		
<b>34</b>	Charité	yes	30	4.77	-.323	.747
		no	75	4.67		
	Ain Shams	yes	52	3.42	-.047	.963
		no	38	3.45		
<b>35</b>	Charité	yes	30	3.67	-.770	.441
		no	75	3.43		
	Ain Shams	yes	54	4.15	-2.859	<b>.004</b>
		no	38	3.37		
<b>36</b>	Charité	yes	30	4.57	-1.170	.242
		no	75	4.75		
	Ain Shams	yes	54	4.56	-2.074	<b>.038</b>
		no	38	4.05		
<b>37</b>	Charité	yes	30	3.50	-.212	.832
		no	75	3.43		
	Ain Shams	yes	55	3.38	-1.136	.256
		no	38	3.08		
<b>38</b>	Charité	yes	30	4.50	-1.333	.183
		no	75	4.64		
	Ain Shams	yes	55	4.05	-2.548	<b>.011</b>
		no	38	3.37		

Table 15: Results of a Mann-Whitney Test analyzing the effect of clerkship in items 31 to 38 in both groups.

## 4. Discussion

### 4.1. Attitude towards psychiatry and comparison with literature

The study indicates positive attitudes towards psychiatry in both the Egyptian and German groups, with close total scores on the ATP-30 scale (the Charité group: 109.7, SD: 11.39, Ain Shams group: 110.48, SD: 13.03).

Our results are consistent with those from other surveys conducted among German students (Strebel, Obladen et al. 2000; Kuhnigk, Strebel et al. 2007; Haufs 2008) and Arab students (Al-Ansari and Alsadadi 2002; BaniMustafa, Shahait et al. 2012) in which the ATP-30 scale was used.

Strebel found a positive attitude among 105 students from Heinrich-Heine-University in Düsseldorf, with an ATP-30 score of 104.6 (Strebel, Obladen et al. 2000). In another study, Kuhnigk reported a positive attitude among 508 medical students at the University Clinic of Essen, with an ATP-30 of 106.85 (Kuhnigk, Strebel et al. 2007). In a recent work, the attitude was also positive with an ATP score of 111.3 among 57 students from Hamburg University and a score of 107.4 among 241 students from Duisburg-Essen (Haufs 2008). From the Arab world, Al-Ansari found a positive ATP with an average ATP30 score of 105.79 among 122 students in a study in Arabian Gulf University in Bahrain (Al-Ansari and Alsadadi 2002). In a recent study, positive attitudes among 160 medical students from Jordan were observed, including a difference between students without a clerkship who scored at 94.83 and with a clerkship who scored 104.18 (BaniMustafa, Shahait et al. 2012). We observe that the scores in our Egyptian group were higher than those scored in the Bahrain and Jordan groups. We can speculate that this attitude in Bahrain and Jordan students may be influenced more by traditional beliefs about psychiatry in the more Bedouin conservative traditional society in Jordan and Bahrain in comparison to Egypt.

In comparison with international studies, our results to some extent agree with many studies using the same ATP-30 scale in various countries (table 16). We observe in the table a positive attitude towards psychiatry; some of these studies indicate improvements in attitudes after psychiatric education.

Held referred to a potential cultural effect in the attitudes towards psychiatry among 262 medical students in a survey using the ATP30 scale in the Netherlands and the Dutch-speaking part of Belgium, noting that foreign students from non-Western countries had lower scores in terms of generally positive attitudes (Den Held, Hegge et al. 2010).

<b>Author / Country</b>	<b>Students N.</b>	<b>Mean ATP Score</b>
(Al-Ansari and Alsadadi, 2002) Bahrain	122	105.79
(Kuhnigk, Strebel et al. 2007) Germany	508	104.63 (110.64)*
(Beaglehole, Baig et al. 2008)Malawi	53	105 (118)*
(Reddy, Tan et al. 2005) Malaysia	122	108.34 (110.39)*
(Tan, Azmi et al. 2005) Australia	48	104.82 (114.4)*
(Den Held, Hegge et al. 2010) Nederlands	262	106.1
(BaniMustafa, Shahait et al. 2012) Jordan	160	94.6 (104.2)*
(Andlauer, Guicherd et al. 2012) Nigeria	81/106	107.96 (113.25)*
(Strebel, Obladen et al. 2000) Germany	105	104.6
(Haufs, 2008) Germany, Essen	241	107.4
(Haufs, 2008) Germany, Hamburg	57	111.3
(Burra, Kalin et al. 1982) Canada	189	103.8
(Sloan, Browne et al. 1996) Ireland	110	98.4

Table 16 shows the ATP-30 values from previous international studies

\*After the psychiatric education

## **4.2 Comparisons of attitude components towards psychiatry among the two groups**

Although the ATP-30 scale scores indicate positive attitudes towards psychiatry among both the Egyptian and German groups, we could define significant differences in twenty single items from the total 30 items, in 12 of them which the Charité group was significant more positive as well as five of the eight additional statements which likely are attributing to cultural differences between the groups.

In items regarding psychiatry as a scientific discipline, we found that five of seven Charité students show a more positive attitude compared with the Ain Shams students.

However we should take into account that a “considerable” percentage of students expressed negative attitude with regard to some statements; for example. 12.4% of the Charité students and twice as many (26.1%) from the Ain Shams group agree that “Most of the so-called facts in psychiatry are really just vague speculation”, while 15% of the Ain Shams vs. 9% of the Charité students agree with the statement “Psychiatry is unscientific” (table 8). This difference corresponds with the higher relative percentage of Egyptian students who have traditional explanations for the etiology of psychiatric disorders in comparison with Charité students in items 31 and 32 regarding the attitude towards the causality of psychiatric disorders. Egyptian students believe considerably more strongly in sensate agents as causes of psychiatric disorders; thus. 34.4% of the Ain Shams medical students believe in supernatural powers as possible causes of psychiatric disorders (like ghosts, Demons, devils and witches), compared with just 3% among the Charité group (table 13).

The perception of psychiatry as being a vague, unscientific and less medical discipline has been previously described (Feifel. Moutier et al. 1999; Strebel. Obladen et al. 2000). This was observed in a study of Egyptian students (Amer and ElShami 2011), in which about one-third of the students disagreed with the statements “Most of the so-called facts in psychiatry are really just vague speculations”, and “Psychiatry is unappealing because it makes little use of medical training” until after their psychiatric clerkship. Another study in the Arab region in Saudi Arabia showed that 51.9% of medical students agreed with the statement that psychiatry is unscientific and imprecise after psychiatric rotation (El-Gilany, Amr et al. 2010). Furthermore, in an Omani survey, most students and the public shared the view that mental illness is caused by spirits (Al-Adawi, Dorvlo et al. 2002). In another study, the belief in supernatural power was 40% in the first year. decreasing to 17% among fifth year students at Damascus University (Latifa 2009).

Our results match our hypotheses about the expected cultural differences regarding this point, and we think that the scientific understanding of the nature of psychiatric disorders is pronounced in German students, whereas the Egyptian group still emerge as believing in various folk concepts about mental illness. which agree with the belief system in Arab culture referred to previously (Al-Krenawi 2005). These differences are

observed in the conceptualization of mental distress between Western and non-Western cultures (Eisenbruch 1990; Sayed 2003). In the Arab culture, social traditional views towards psychiatric disorders are still in existence, including the influence of supernatural powers such as the evil eye, contemptuous envy (Hassad), spirit possession, evil influence or fate (Al-Krenawi 2005).

The attitudinal difference concerning the causality of mental disorders explains the differences in other items here, with the Ain Shams group agreeing significantly more strongly with the statements that "Mental illness doesn't affect the faithful and righteous and pious" (22% Ain Shams vs. 1.9% Charité) and "Visiting a doctor or clinical psychologist shows a lack of faith and religiosity" (7% Ain Shams vs. 1% Charité), (table 13).

Furthermore, in relation to the difference mentioned, we can explain the discrepancy in attitudes towards the students' help-seeking behavior in the last item, according to which 18.1% Ain Shams' students vs. 4.8% of their Charité counterparts would go and seek help from a spiritual healer or priest first rather than a psychiatrist in the case of severe depression, see table 13. This agrees with studies showing that the causal cultural beliefs of mental distress are significant predictors of attitudes about seeking help (Sheikh and Furnham 2000).

Our results showed a positive attitude towards psychotherapy in both groups, although more positive views emerged in five of the six items among Charité students, whose group was more accepting of the efficacy of psychotherapy and strongly disagreed with disproved the statement that "psychotherapy basically is fraudulent" (Charité: 86.7% vs. Ain Shams : 66.3%), see table 13. We can attribute these differences to various points: first, the practice and familiarity with psychotherapy as a treatment option for psychiatric disorders is also related to the psychiatry's stigma prevalent in the social context, according to which visiting a psychotherapist probably implies negative meaning in society in the Arab world; and second, that known schools of psychotherapy that have developed in Western practice have been unsuccessful among patients in the Arab region (especially Muslims) because they were adapted to another culture (Badri 2011). Psychotherapy was generally seen as speaking about the past and one's personal history as recorded among 71% of the first-year students and 54% of the fifth-year



students at Damascus University (Latifa 2009). Furthermore, psychotherapy in Germany is among the basic provided options by the mental health service, which is mostly covered by insurance.

In terms of attitudes towards psychiatric hospitals, more positivity in the Charité students in comparison with Egyptian students was noted in their disapproval concerning the statement “the hospitals are little more than prisons” (89.5% vs. 43%). Corresponding results were found in a survey among Egyptian students, where only 41.5% from the sixth year disagreed with this item (Amer and ElShami 2011), while more positive responses were observed among German students (Strebel, Obladen et al. 2000). Moreover, the Charité students stated significantly more positive views in two items regarding attitudes towards psychiatrists. We consider that the view on psychiatric hospitals and psychiatrists should be seen in this context of traditional views on mental health, since a visit to a psychiatric clinic/psychiatrist implies a stigma and brings shame in Arabic traditional culture. For example, a survey from Arabic countries also revealed that 55.6% of the pre-rotation and 33.3% of the post-rotation students disagree that they perceived psychiatrists to be clear logical thinkers (El-Gilany. Amr et al. 2010). In Arab societies, psychiatrists are traditionally seen as “the others” or not normal or that they have a special authority and influence, which makes people apprehensive about visiting a psychiatrist: In a study among Syrian medical students. more than 85% agreed that patients are afraid to visit a psychiatrist (Latifa 2009).

Finally, in two items, the Egyptian students were prominently more positive in their attitudes towards psychiatric teaching, and it was observed that 59.6% of the Egyptian students vs. only 4.8% of the Charité students disagreed with the statement “These days, psychiatry is one of the most important parts of the curriculum in medical schools”. This positive view towards teaching corresponds with the significant improvement of the attitudes among the Egyptian group.

### **4.3 Psychiatry as career choice**

Despite the positive attitudes towards psychiatry among medical students in both the German and the Egyptian groups, the wish to take up in psychiatry as a career was not

proportionate. This is observed in the two related items from ATP 30, which are among one of the lowest averages in the ATP30 single items, as well as the direct question about the top three career preferences. It is interesting to note that attitudes to working with psychiatric patients reflected one of the more negative attitudes in ATP 30, which is consistent with the little interest shown in going into psychiatry despite generally positive attitudes.

In our study, only five (6.4%) Ain Shams and three (3%) Charité students mentioned psychiatry as their first career choice, while we observed a good potential wish to go into psychiatry, as 19.4% (15/77) of the Ain Shams and 12% (12/100) of the Charité students intended to choose psychiatry as one of their top three career choices, which was relatively more favorable among the Egypt group.

The results show the increasing willingness of students to go into psychiatry as a career after clerkship which went up from 9.7% to 20.5% in general, including from 14.3% to 20.4% in the Egyptian group and from 8% to 20.8% in the German group. This is consistent with highly ATP-30 observed in the students would select psychiatry as career choice, especially in Egyptian group, see table 14.

Our results agree with many previous international studies and the largest recent study in London (Malhi. Parker et al. 2003; Budd, Kelley et al. 2011) showing that the choice of psychiatry among medical students fluctuates between 3 and 6%. Moreover, about 4.5% of students in Germany chose psychiatry as their first career choice in both studies (Strebel. Obladen et al. 2000; Kuhnigk. Strebel et al. 2007) and recently 5.7% (Haufs 2008). Close results have also been observed in Arab countries (Al-Ansari and Alsadadi 2002; BaniMustafa. Shahait et al. 2012) which are consistent with the observed discrepancy between the basically moderate positive attitudes and the minimal desire to go into psychiatry as a career.

In Arab countries, stigma still acts as a hindrance factor for those who wish to recruit into psychiatry, which makes it difficult to translate the positive attitude towards psychiatry into recruiting. Another possible reason may be the lack of opportunities to train in psychiatry in developing countries, including many Arab countries (Laugharne, Appiah-Poku et al. 2009). A recent study indicated to the factors facilities specializing in psychiatry among German students such as flexible working hours, career prospects

and a good work–life balance (Baller, Ludwig et al. 2013), although there is no generally valid explanation for the lack of interest to work in this field in Germany.

Given this low percentage of those who expressed the wish to specialize in psychiatry and the low psychiatrist-to-patient ratios currently prevailing in Arab countries, we expect a huge gap in psychiatric services, especially in view of the increased need for mental health services in Arab countries. Indeed, this presents a huge challenge, given ,according to the WHO, that it is expected that enormous numbers of people, especially children, will be suffering from trauma associated psychological disorders and will need support and therapies in a region beset by conflict (for example, in Libya, Syria, Iraq, Yemen, Lebanon and Egypt).

Considering the increasing shortage of specialists in psychiatry and psychotherapy in Germany, especially in rural areas after the reunification of Germany in 1990, the number of new psychiatrists in Germany is not sufficient to meet the needs of the reunited country.

#### **4.4. Factors influencing attitudes towards psychiatry**

Our results highlight the fact that exposure to psychiatric education as one of the important factors that might influence attitudes towards psychiatry. In the Ain Shams group, the mean ATP30 increased significantly from 103.8 to 113.6 ( $Z=3.688$ ,  $p<.001$ ) after clerkship, whereas the increase was not so strong and significant in the Charité group from 109.8 to 112.2 ( $Z=-1.136$ ,  $p=.256$ ).

The impact of clerkship was also observed in five of eight additional items in the Ain Shams group, which are in agreement with the general ATP 30 improvement.

More interestingly, we identified significant differences in the ATP30 between the Charité and Ain Shams subgroups “without clerkship”, which not more seen in the group with psychiatric clerkship. These results indicate two points: a). As the students adapt their social and cultural views before training and education usually in their first years, let us suppose that there is an essential difference in attitudes towards psychiatry in general social views. b). This indicates the important effect of psychiatric education, which was clearer in the Egypt group, although the effect of clerkship in Charité group was minimally positive, yet the actual output values were strongly positive. Our study

here asserts the positive influence of psychiatric curriculum in changing attitudes towards psychiatry, especially if negative/less positive views were adapted before education.

Although the students' perception of psychiatry is influenced and shaped by different factors, many studies have focused the role of psychiatric clerkship or psychiatric education (Sloan, Browne et al. 1996; Roberts 2010). Indeed, this has been observed in Arab countries as well as Germany (Al-Ansari and Alsadadi 2002, Kuhnigk, Strebel et al. 2007). Another study revealed a significant improvement in the view to the common myths about psychiatry among medicine students after their psychiatric rotation (Latifa, 2009; El-Gilany, Amr et al. 2010).

The quality of psychiatry clerkship during medical school, including more contact with patients with a good prognosis and opportunities to provide the students with active participation in treatment process, may be the most important modifiable in enhancing a positive view of psychiatry and changing this attitude (Eagle and Marcos 1980; Calvert. Sharpe et al. 1999; Feifel. Moutier et al. 1999; McParland. Noble et al. 2003; Kuhnigk, Strebel et al, 2007; Andlauer, Guicherd et al, 2012). A recent French study examined the factors influencing attitudes towards psychiatry, finding a positive correlation between a positive attitude and higher ratings of psychiatric teaching and the time of teachings and contact with patients (Adebowale. Adelufosi et al, 2012). Kuhnigk accentuated the quality of university teaching through the skill/aptitude training of the instructors and a focus on special training and contact with psychiatric patients from an early stage and constantly during the studies (Kuhnigk, Strebel et al. 2007).

Moreover, we found a significant effect of familiarity with a psychiatric illness on the attitudes towards psychiatry in our study, most prominently among the Egyptian group (mean 114.33 vs. 107.61;  $Z=-2.034$ .  $p=.042$ ). This is agreement with studies showing this effect as a factor that may play a role in shaping attitudes towards psychiatry (Al-Ansari and Alsadadi 2002; Kuhnigk. Strebel et al. 2007; Baller. Ludwig et al. 2013). Recent French survey found that history of a personal/familial mental illness was associated with a higher likelihood of considering psychiatry as a career (Andlauer, Guicherd et al. 2012). In Arab society, families and friends still play an important part in caring for the psychiatric patient, which may explain the clear positivity in this group.

We found higher values of ATP in females in both groups, see table 13, albeit without a significant difference. Previous results indicate more positivity in attitudes towards psychiatry among female students in all Arab surveys (Al-Ansari and Alsadadi 2002; BaniMustafa, Shahait et al. 2012), as well as in Western surveys (Eagle and Marcos 1980; Kuhnigk, Strebel et al. 2007). The positive correlation between the attitudes towards psychiatry and the knowledge in psychiatry correspond with the improvement of awareness after psychiatric exposure.

Finally, the residence, age, parents' education, religion and religiosity show no impact on attitudes towards psychiatry in our results, but this result should be regarded with caution since the sample of the subgroups is small.

#### **4.5 Limitations of the study**

In terms of limitations, the study was conducted in cross-sectional form with a small cohort of students participating and with sampling bias resulting from a non-random convenience sampling, which somewhat limits the general validity of the results.

Regarding the ATP 30 items, some areas in psychiatry could be important to explain, such as the image of patients being hasty or dangerous and should remain in hospital, attitudes towards misconceptions about medication such as addictive drugs or towards ECT.

This study did not sufficiently evaluate the quality of psychiatric clerkship, for example, we did not ask about the duration of training, contact with patients and feedback from teachers, which limit its ability to show which aspects of the clinical training and curriculum influence the attitudes of students.

## 5. Conclusion

The study has shown that Charité and Ain Shams medical students generally hold positive attitudes towards psychiatry. However, the comparison of the attitudes between the Egyptian and German students before they are exposed to psychiatric education indicate significant differences in their attitudes towards psychiatry, which improved considerably in the Egyptian group after psychiatric education. This in some measure reflects the cultural difference in attitude between the two cultures, taking into account that the attitude in the first years before education represents the social attitude to a greater extent. Moreover, Egyptian students believe more in the role of supernatural powers regarding the etiology of psychiatric disorders, and consider the role of a spiritual healer or priest to be more important, which confirm cultural differences in understanding psychiatric disorders.

Psychiatric education plays an important role in changing some traditional misconceptions in psychiatry.

Taking in account the role of psychiatric education and the recommendation from the WPA-Task Force (Sartorius, Gaebel et al. 2010; Gaebel and Zielasek 2012), stronger focus on the psychiatric curriculum and adapting it according to the local environment may help persuade students to enter the field of psychiatry, since about 20% of the students have the potential wish to work in this field.

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## 7. Appendix

# A questionnaire about the attitude of medical students towards psychiatry

Dear Students,

Perceptions and attitudes towards psychiatry may be different according to country and culture. This attitude may also change from exposure to information from the community, media or through training received at medical school.

The attitude of medical students to psychiatry is of considerable importance in general for mental health care and is also relevant to judge the attractiveness of psychiatry as a specialty for medical students.

The aim of this questionnaire is to obtain and compare the attitude of medical students towards psychiatry in different cultures and after clinical clerkship in psychiatry during their medical school curriculum.

This questionnaire includes demographic questions, general statements and questions that measure their attitude towards psychiatry; the time needed to complete the questionnaire is about 20 minutes.

The survey is completely anonymous and strictly confidential.

The data will be used solely for scientific purposes.

Thank you for your participation!

Please fill out the following preliminary information and tick ✓ on the appropriate answer,

<b>Age</b>				
<b>Gender</b>	Male		Female	
<b>School year</b>				
<b>Place of residence</b>	Village / Countryside		City	
<b>Nationality</b>				
<b>Educational level of your father</b>	primary	lower secondary	secondary	university
<b>Educational level of your mother</b>	primary	lower secondary	secondary	university

<b>Religion</b>							
<b>How religious are you?</b> 1: not a believer 7: very religious	1	2	3	4	5	6	7

Have / Have you had close contact with a mental patient (family friend)?	yes	no
--	-----	----

Have you completed some training (clerkship ) in psychiatry?	yes		no			
How do you assess your knowledge in psychiatry?	Very little	little	average	Above average	high	

Which medical specialty do you want to take up?	1- option:
	2- option:
	3- option:

Please read each of the following statements carefully and consider whether the statement is true for you or not

1: **Strongly disagree**, if you strongly disagree with the statement.

2: **Rejection**, if you disagree with the statement

3: **Neutral**, if the statement is neither true nor false

4: **Agree**, if you agree with the statement

5: **Strongly agree**, if you strongly agree with the statement

There are no “right” or “wrong” answers in this questionnaire. Please answer each question truthfully.

	To what extent do you agree with the following statements?	1	2	3	4	5
1	Psychiatry is unappealing because it makes little use of medical training.					
2	Psychiatrists talk a lot but do very little.					
3	Psychiatric Hospitals are little more than prisons.					
4	I would like to be a psychiatrist.					
5	On the whole, people taking up psychiatric training are running away from participation in real medicine.					
6	Psychiatrists seem to talk about nothing but sex.					
7	The practice of psychotherapy basically is fraudulent since there is no strong evidence that it is effective.					
8	Psychiatric teaching increases our understanding of medical and surgical patients.					
9	The majority of students report that their psychiatric undergraduate training has been valuable.					
10	Psychiatry is a rapid respected branch of medicine.					
11	Psychiatric illness deserves at least as much attention as physical illness.					
12	Psychiatry has very little scientific information to go on.					
13	With the forms of therapy now available. most psychiatric patients improve.					
14	Psychiatrists tend to be at least as stable as the average doctor.					
15	Psychiatric treatment causes patients to worry too much about their symptoms.					
16	It is interesting to try and unravel the cause of psychiatric illness.					
17	There is very little that psychiatrists can do for their patients.					
18	Psychiatric Hospitals have a specific contribution to make to the treatment of the mentally ill.					
19	If I were asked what I considered to be the three most exciting medical					

	specialties, psychiatry would be excluded.					
20	These days psychiatry is one of the most important parts of the curriculum in medical schools.					
21	Psychiatry is so unscientific that even psychiatrists can't agree as to what its basic applied sciences are.					
22	In recent years psychiatric treatment has become quite effective.					
23	Most of the so-called facts in psychiatry are really just vague speculations.					
24	If we listen to them, psychiatric patients are just as human as other people.					
25	The practice of psychiatry allows the development of really rewarding relationships with people.					
26	Psychiatric patients are often more interesting to work with than other patients.					
27	Psychiatry is so unstructured that it cannot really be taught effectively.					
28	It is quite easy for me to accept the efficacy of Psychotherapy.					
29	At times it is hard to think of psychiatrists as equal to other doctors.					
30	Psychiatrists get less satisfaction from their work than other specialists.					
31	I believe that ghosts, Demons, devils and witches (or one of them) can cause mental health disease.					
32	Obsessive compulsive disorders are caused by supernatural powers, e.g Satan.					
33	Psychiatrists are not as religious or pious as others.					
34	Mental Illness doesn't affect the faithful and Righteous and Pious.					
35	There is a conflict between psychiatry and religion.					
36	A visit to the doctor or clinical psychological shows a lack of faith and religiosity.					
37	I believe that a spiritual healer or priest can help the mentally ill.					
38	If you suffer from severe depression and are unable to perform daily activities, you will seek help from a spiritual healer or priest rather than a psychiatrist.					

Thank you for your participation

# Fragebogen über die Einstellungen von Medizinstudenten zum Fachgebiet der Psychiatrie

Liebe Studierende,

Einstellungen von Studierenden der Medizin zur Psychiatrie sind von erheblicher Bedeutung z.B. für die zukünftige Versorgung psychisch Kranker oder die Attraktivität des Faches für den ärztlichen Nachwuchs.

Dieser Fragebogen dient der Erfassung und dem Vergleich der Einstellungen Medizinstudierender zur Psychiatrie und Psychotherapie in verschiedenen Kulturen und nach psychiatrischen clinical Training.

Nach Erhebung allgemeiner Daten wird die Beantwortung des Fragebogens ca. 20 Minuten in Anspruch nehmen. Selbstverständlich wird die Befragung vollständig anonymisiert und ist absolut vertraulich. Die Daten werden allein für wissenschaftliche Zwecke verwendet.

Beantworten Sie bitte die Fragen in der vorgegebenen Reihenfolge möglichst zügig. ohne lange zu überlegen.

Vielen Dank für Ihre Teilnahme!



<b>Wie alt sind sie?</b>					
<b>Wie ist Ihr Geschlecht?</b>	Männlich	Weiblich			
<b>In welchem Semester sind Sie?</b>					
<b>Wo leben Sie?</b>	Ländliche Umgebung	In einer Stadt			
<b>Welche Nationalität haben Sie?</b>					
<b>Bildungsstand des Vaters</b>	Real-/ Haupt-Schulabschluss	Berufsausbildung/Lehre	Abitur	Studienabschluss	Kein Schulabschluss
<b>Bildungsstand der Mutter</b>	Real-/ Haupt-Schulabschluss	Berufsausbildung/Lehre	Abitur	Studienabschluss	Kein Schulabschluss

<b>Religion</b>							
<b>Wie religiös sind Sie?</b> 1: nicht gläubig 7: sehr gläubig	1	2	3	4	5	6	7

<b>Haben/hatten Sie engen Kontakt zu einem psychischen Kranken (Freunde. Bekannte etc.)?</b>	JA	NEIN
--	----	------

<b>Haben Sie bereits in der Psychiatrie ein Training abgeschlossen (clerkship)?</b>	JA	NEIN
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<b>Wie schätzen Sie Ihr Wissen in Psychiatrie ein?</b>	sehr wenig	wenig	mittel	Übermittel	hoch
--	------------	-------	--------	------------	------

<b>Welche medizinischen Fachgebiete streben Sie für Ihre spätere Berufstätigkeit an?</b>	1- Option
	2- Option
	3- Option

**Lesen Sie bitte jede die folgende Aussagen aufmerksam durch und überlegen Sie, ob die Aussage für Sie persönlich zutrifft oder nicht.**

**1: starke Ablehnung**, wenn Sie der Aussage auf keinen Fall zustimmen oder sie für völlig unzutreffend halten.

**2: Ablehnung**, wenn Sie der Aussage nicht zustimmen oder sie für unzutreffend halten.

**3: neutral**, wenn die Aussage weder richtig noch falsch, also weder zutreffend noch unzutreffend ist.

**4: Zustimmung**, wenn Sie der Aussage eher zustimmen oder sie für zutreffend halten.

**5: starke Zustimmung**, wenn Sie der Aussage nachdrücklich zustimmen oder sie für völlig zutreffend halten.

Es gibt bei diesem Fragebogen keine „richtigen“ oder „falschen“ Antworten. Bitte beantworten Sie jede dieser Fragen entsprechend ihrer persönlichen Meinung so wahrheitsgemäß wie möglich.

	<b>Inwieweit treffen Ihrer Meinung nach folgende Aussagen zu?</b>	1	2	3	4	5
1	Psychiatrie reizt mich nicht, weil man dafür kaum Wissen und Fähigkeiten des Medizinstudiums gebrauchen kann.					
2	Psychiater reden viel und tun wenig.					
3	Psychiatrische Kliniken unterscheiden sich nur wenig von Gefängnissen.					
4	Ich würde gern Psychiater werden.					
5	Wer Psychiater werden will, drückt sich eigentlich vor „richtiger Medizin“.					
6	Psychiater scheinen nur über Sex zu sprechen.					
7	Die Anwendung von Psychotherapie ist letztlich Betrug, denn es gibt keine klaren Beweise für ihre Wirksamkeit.					
8	Der Unterricht im Fach Psychiatrie verbessert auch das Verständnis für internistische und chirurgische Patienten.					
9	Nach Meinung der meisten „höheren Semester“ ist der Psychiatriekurs nützlich gewesen.					
10	Psychiatrie ist ein anerkanntes Fachgebiet der Medizin.					
11	Psychiatrische Erkrankungen erfordern mindestens so viel Beachtung wie somatische Erkrankungen.					
12	Psychiatrie hat kaum wissenschaftliche Grundlagen.					
13	Durch die inzwischen verfügbaren Therapieverfahren geht es den meisten psychiatrischen Patienten besser.					
14	Psychiater sind im allgemein genau so stabil wie andere Ärzte.					
15	Psychiatrisch / psychotherapeutische Behandlungen führen dazu, dass Patienten sich zu viele Gedanken über Ihre Beschwerden					

	machen.					
16	Es ist interessant. die einer psychiatrischen Erkrankung zugrunde liegenden Ursachen herauszufinden.					
17	Psychiater können nur sehr wenig für ihre Patienten tun					
18	Ein wesentlicher Beitrag zur Behandlung psychisch Kranker muss von psychiatrischen Krankenhäusern geleistet werden.					
19	Wenn ich nach den drei spannendsten medizinischen Fachgebieten gefragt werden würde. würde ich Psychiatrie nicht dazu zählen.					
20	Derzeit ist Psychiatrie das wichtigste Fach des Medizinstudiums.					
21	Psychiatrie ist derart unwissenschaftlich, dass sich selbst Psychiater nicht darüber einig sind. welche die eigentlich dafür grundlegenden Wissenschaften sind.					
22	In letzter Zeit wurde die psychiatrische Behandlung ziemlich effektiv.					
23	Die meisten der sogenannten Fakten in der Psychiatrie sind in Wirklichkeit lediglich vage Spekulationen.					
24	Wenn man sich mit psychiatrischen Patienten genauer beschäftigt, sind sie genauso menschlich wie andere Patienten auch.					
25	Psychiatrische Arbeit ermöglicht die Entwicklung von wirklich lohnenden Beziehungen.					
26	Es ist häufig interessanter mit psychiatrischen Patienten als mit anderen Patienten zu arbeiten.					
27	Psychiatrie ist ein derart strukturloses Fachgebiet, dass ein effektiver Unterricht kaum möglich ist.					
28	Ich kann mir gut vorstellen, dass Psychotherapie ein effektives Therapieverfahren ist.					
29	Meiner Meinung nach sind Psychiater nicht immer Ärzte wie andere Ärzte auch.					
30	Psychiater ziehen aus ihrer Arbeit weniger Befriedigung als Ärzte anderer Fachrichtungen					
31	Geister, Dämonen, Teufel und Hexen können psychische Erkrankungen verursachen.					
32	Zwangsstörungen werden durch nichtirdische Mächte wie z.B. den Teufel verursacht.					
33	Psychiater sind weniger religiös oder gläubig als andere Menschen sind.					
34	Fromme Menschen werden von psychischen Erkrankungen nicht betroffen.					
35	Es gibt einen Konflikt zwischen Psychiatrie und Glauben (Religiosität).					
36	Klinik- oder Arztbesuche zur psychiatrischen Behandlung deuten auf einen Mangel an Glauben oder Religiosität hin					

37	Geistige Heiler oder Priester können psychisch Kranken helfen.					
38	Wenn Sie an einer schweren Depression leiden würden, würden Sie sich vor allem an Geistige Heiler oder Priester wenden.					

**Vielen Dank für Ihre Teilnahme!**



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Datum: 29.07.2015

Einstellung von Medizinstudenten zur Psychiatrie: Transkulturelle Perspektive  
**Antragsnummer: EA4/091/15**

Sehr geehrter Herr Professor Bajbouj,

die von Ihnen eingereichte o.g. Studie wurde durch den Ethikausschuss 4 der Ethikkommission auf der Sitzung am 22.07.2015 beraten.

Die Ethikkommission erhebt keine Bedenken gegen die Veröffentlichung der aus dem Projekt erarbeiteten Ergebnisse.

Folgende Unterlagen wurden zur Begutachtung eingereicht:

- Ethikantrag, 23.06.15
- Zustimmung des Studienleiters

An der Beratung über das o.g. Vorhaben haben folgende Mitglieder teilgenommen:

Herr Prof. Dr. med. Stahlmann  
Frau von Badewitz  
Frau Burack  
Frau Epik  
Herr Prof. Dr. med. Kollwitz  
Herr Dr. rer. nat. Kotwas  
Herr Prof. Dr. Dr. Lohmann  
Herr PD Dr. med. Seyfert

Pharmakologie und Toxikologie  
Rechtswissenschaften  
Ärztin  
Pflege und Gesundheitswissenschaften  
Urologie  
Pharmazie  
Rechtswissenschaften  
Neurologie

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## **9. Curriculum Vitae**

Mein Lebenslauf wird aus datenschutzrechtlichen Gründen in der elektronischen Version meiner Arbeit nicht veröffentlicht.

## 10. Affidavit

I, **Jihad Alabdullah** certify under penalty of perjury by my own signature that I have submitted the thesis on the topic „**Attitude of medical students towards psychiatry: transcultural perspective**“. I wrote this thesis independently and without assistance from third parties. I used no other aids than the listed sources and resources.

All points based literally or in spirit on publications or presentations of other authors are, as such, in proper citations (see "uniform requirements for manuscripts (URM)" the ICMJE [www.icmje.org](http://www.icmje.org)) indicated. The sections on methodology (in particular practical work, laboratory requirements, statistical processing) and results (in particular images, graphics and tables) correspond to the URM (s.o) and are answered by me. My interest in any publications to this dissertation correspond to those that are specified in the following joint declaration with the responsible person and supervisor. All publications resulting from this thesis and which I am author correspond to the URM (see above) and I am solely responsible.

The importance of this affidavit and the criminal consequences of a false affidavit (section 156.161 of the Criminal Code) are known to me and I understand the rights and responsibilities stated therein.

Datum

Signatur