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# A Comprehensive Examination of University of Mississippi Early Entry Students' Perceptions of Mental Illness

By

Brianna Gray

A thesis submitted to the faculty of The University of Mississippi in partial fulfillment of the requirements of the Sally McDonnell Barksdale Honors College

Oxford

May 2019

Approved by

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## ABSTRACT

Mental disorders affect nearly 1 in 5 adults in the United States in a given year, and that number is steadily increasing. Pharmacists, being some of the most accessible and frequently contacted health care professionals, must be prepared to provide support for these patients. They can play a key role in whether or not there is a positive patient outcome. Education can play a role in pharmacists' comfort with and knowledge of mental illness. The primary objective of this study was to determine if University of Mississippi early-entry pharmacy students' mental illness knowledge, familiarity, and acceptable social distance affected their attitude towards mental illness patients. The secondary objectives of this study were to test for differences in knowledge, social distance, and attitude towards mental illness based on gender, year in school, work experience in a pharmacy, and previous courses addressing mental illness. The study employed a descriptive, cross-sectional survey to collect study data from 95 early-entry pharmacy students. The respondents reported their lifetime knowledge of mental illness just above average. A majority of the respondents reported their familiarity with mental illness on the lower extremity of the spectrum. Most respondents had observed a person, in passing, who they believed to have a severe mental illness but had never lived with a person with a mental illness. The respondents were more willing to have some social distance between someone with a mental illness. They were more willing to work alongside that person but less willing to share an apartment with that person. Overall, the respondents had a positive attitude towards individuals with mental illness. However,

there was still a slight negative stigma. This could be improved by adding more courses that address mental illness into the curriculum.

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## BACKGROUND

### *Statistics*

What is mental illness? Mental illness is described as a condition that affects a person's thinking, feeling, or mood (National Alliance on Mental Illness.). Recent studies have shown that approximately 1 in 5 adults in the United States – 43.8 million or 18.5% - suffer from mental illness in a given year (National Alliance on Mental Illness.). Mental illness is not the result of just one thing. Genetics, environment, and lifestyle all play a large role in the development of a mental disorder (National Alliance on Mental Illness). The DSM-IV lists 297 mental disorders (Rosenberg, 2013). Among these mental disorders, the most common are depressive disorders (16.2 million) and anxiety disorders (19.1 million) (Cates, Burton, & Woolley, 2005). Within those diagnosed with a mental illness, roughly 1 in 25 adults in the United States – 9.8 million or 4.0% - experience a serious mental illness that interferes with major life activities in a given year (National Alliance on Mental Illness). Additionally, 21.4% of youth ages 13-18 will develop a mental disorder at some point in their lifetime (National Alliance on Mental Illness). Homeless adults tend to have higher rates of serious mental illness than the rest of the population (National Alliance on Mental Illness). These individuals are frequently being exposed to stressful living conditions and life events that result in mental issues. Additionally, the lack of access to treatment often results in a more severe case for some of them (World Health Organization).

The number of people in the United States being diagnosed with a mental disorder has steadily increased during the past two decades (Rickles, Dube, McCarter, & Olshan, 2010). Why? For starters, we have gotten better at detecting mental illness (Rosenberg). This is encouraging because better detection of mental illness could lead to better treatment. However, on the opposite hand, better detection of it means more diagnosed cases. Additionally, it is noted that statistically, we are more 'mentally ill' than earlier generations (Rosenberg). As a matter of fact, mental illness is manifesting at earlier points in life (Rosenberg). Lastly, certain things that were once considered to be 'healthy' are now considered 'mentally ill', meaning that the actual definition of mental illness has expanded in recent years (Rosenberg).

Mental illness is considered the costliest medical condition in the country with an estimated $201 billion spent on it in 2013 (Huffington Post). Mood disorders – depression, dysthymic disorder, and bipolar disorder – are the third leading cause of hospitalization in the United States (National Alliance on Mental Illness). Treatments are readily available for those suffering from a mental illness; however, approximately two-thirds of those suffering from a known mental illness never seek professional treatment (World Health Organization). Some mental disorders are actually preventable, and most are treatable; a majority of individuals who seek treatment are able to live a normal lifestyle (World Health Organization). So why would so many people willingly not seek treatment? Stigma, discrimination, and neglect are the three most likely reasons for people not seeking treatment (World Health Organization). Consequently, untreated mental health issues, such as depression, are the leading cause of suicide (Holmes, 2017). Those living with a severe mental illness are more likely to develop a chronic medical

condition (National Alliance on Mental Illness). Individuals suffering from mental illness die an average of 25 years earlier than the general population due to treatable medical conditions (National Alliance on Mental Illness). Therefore, in order to live a long and healthy life, it is critical for these individuals to seek treatment as quickly as possible.

### *The Pharmacists' Role in Mental Illness*

With the rates of mental illness steadily climbing, pharmacists must be prepared to provide support for these patients. Pharmacists play a key role in whether or not there is a positive patient outcome. They are some of the most accessible and frequently contacted health care professionals (O'Reilly, C.L., Bell, J.S., & Chen, T.F., 2010). Management of patients with mental illness requires a level of knowledge of symptoms and treatments, in addition to a level of comfort working with these patients (Rickles, Dube, McCarter, & Olshan, 2010). A pharmacists' attitude towards mental illness is extremely important because it can affect his or her professional interactions and clinical decisions. Mental illness can have a negative stigma following it. These negative stereotypes include but are not limited to a person with a mental illness being: unpredictable, dangerous, untrustworthy, aggressive, and disturbing (Bell, J.S., Aaltonen, S.E., Airaksinen, M.S., Volmer, D., Gharat, M.S., Muceniece, R., Vitola, A., Foulon, V., Desplenter, F.A., & Chen, T.F., 2010). Unfortunately, this negative stigma is widespread among the general public, as well as health care professionals. Negative attitudes towards mental illness can result in a pharmacist giving inadequate service, prescribing medications with harmful side-effects, and providing careless use of diagnostic labels towards persons with mental illness (Volmer, D., Maesalu, M., & Bell, J.S., 2008). Reports have been made that pharmacists are less likely to provide counseling and drug

information to people with a mental illness than a physical illness (Bell, J.S., Aaltonen, S.E., Airaksinen, M.S., Volmer, D., Gharat, M.S., Muceniece, R., Vitola, A., Foulon, V., Desplenter, F.A., & Chen, T.F., 2010). Additionally, fear of stigmatization may result in a mentally ill person to willingly not seeking treatment.

The lack of pharmacists' mental health education is considered the primary barrier to the successful provision of services towards those with a mental illness (O'Reilly, C.L., Bell, J.S., & Chen, T.F., 2010). Others include inadequate communication skills and lack of knowledge (O'Reilly, C.L., Bell, J.S., & Chen, T.F., 2010). Many strategies have been undertaken in order to improve the attitudes of health professionals towards persons with mental disorders, including direct contact with individuals with mental disorders and more education (Volmer, D., Maesalu, M., & Bell, J.S., 2008).

***Pharmacy Students and Mental Illness***

During my literature review, I found two different studies that focused on how the attitudes of pharmacy students toward mentally ill patients changed throughout pharmacy school (Cates, M.E., Neace, A.L., & Woolley, T.W., 2012; Cates, M.L., May, K.L., & Wooley, T.W., 2009). Both studies were based on a voluntary and anonymous survey.

During the first study, students at a southeastern pharmacy school were given the survey at the beginning of their first professional year and then again at the end of their last professional year (Cates, M.E., Neace, A.L., & Woolley, T.W., 2012). Throughout the four years, the students received 20 hours of psychiatric therapeutics. The survey measured two different scales. The first scale, The Index of Attitudes Towards the Mentally Ill, is an 11-item scale that measures stigmatization. Each item was measured

on a five-point scale, so the scores could range from 11 to 55, with higher numbers representing more positive attitudes. The second scale, Whatley's Social Distance Scale, is an 8-item scale that measures comfortable social distance from persons who are mentally ill. Each item was measured on a three-point scale, so scores could range from 8 to 24, with lower numbers representing a more comfortable social distance. The scales were completed by 90% of the students at the beginning of their first year and 57% of the students at the end of their fourth year. The Index of Attitudes Towards the Mentally Ill mean score increased from 38.8 +/- 3.5 to 39.3 +/- 4.5. However, this difference was not considered significant. On the other hand, two items did significantly improve: patients in mental hospitals are not dangerous and a mentally ill person is in no condition to make decisions about everyday living problems. The Whatley Social Distance Scale mean score decreased from 14.4 +/- 3.7 to 13.1 +/- 3.3. Three items, in particular, significantly improved from the beginning of pharmacy school to the end: I would not ride in a taxi driven by someone who had been in a mental hospital, it is best not to associate with people who have been in mental hospitals, and school teachers who have been in mental hospitals should not be allowed to teach.

The survey in the second study, conducted at the same school, was composed of two scales and a section of basic questions (Cates, M.L., May, K.L., & Wooley, T.W., 2009). The two scales were The Index of Attitudes Towards the Mentally Ill scale and Whatley's Social Distance Scale, as previously described. The third section contained general questions about gender, knowing someone with a mental illness, having previously visited a mental hospital, and knowing someone who has been admitted into a mental hospital. The survey was given to first-, second-, and third-year pharmacy

students during their fall semester. It was given to third-year students again in the spring and to fourth-year students four months prior to graduation. The study had approximately an 82% response rate. The only significant finding that the study found was that fourth-year students had more favorable responses than second-year students on The Index of Attitudes Towards the Mentally Ill scale. On Whatley's Social Distance Scale, females had more favorable responses. Overall, students that had previously been exposed to mental illness had more favorable responses.

In conclusion, the first study found that pharmacy students' social distance from persons with mental illness significantly improved but stigmatization did not improve during pharmacy school (Cates, M.E., Neace, A.L., & Woolley, T.W., 2012). On the other hand, the second study found that pharmacy students' attitudes did not significantly change during pharmacy school (Cates, M.L., May, K.L., & Wooley, T.W., 2009).

***Study Objectives***

To expand on what is already known about pharmacy students' attitudes toward mental illness, the goals of this study are to:

1. Measure early-entry pharmacy students' ***knowledge*** of mental illness,
2. Measure early-entry pharmacy students' ***familiarity*** with mental illness,
3. Measure early-entry pharmacy students' preferred ***social distance*** from someone with a mental illness, and
4. Measure early-entry pharmacy students' ***attitude*** toward individuals with a mental illness.

The secondary objectives of this study were to test for differences in knowledge,

social distance, and attitude towards mental illness based on ***gender*** (male versus female), ***year in school*** (EE1, EE2, EE3), ***work experience in a pharmacy***, and ***previous courses addressing mental illness***.

## METHODS

### *Design*

This study utilized a descriptive, cross-sectional survey designed to collect data from early-entry pharmacy students. The format of the survey was paper. University of Mississippi IRB exemption was granted prior to the study.

### *Sample & Data Collection*

We used a sample of 95 early-entry pharmacy students at the University of Mississippi to meet the study objectives. We collected the data at an early-entry pharmacy meeting that took place on August 28, 2018. The meeting was located at the Jackson Avenue Center and included all EE1, EE2, and EE3 students. 210 students attended the meeting, resulting in a survey response rate of 45%. Dr. Holmes and I arrived at the Jackson Avenue Center at approximately 6 p.m. I read the consent information and gave a short description of the survey. We passed the surveys out and proceeded to leave the meeting. The surveys were collected by a person with no affiliation to the study, and we received them back the next day.

### *Measures*

*Demographic variables.* Demographic variables gathered in this study included 1) age, 2) gender, 3) race/ethnicity, 4) year in early-entry, 5) expected year of graduation with PharmD, 6) work experience in a pharmacy, 7) work experience in a psychiatric facility, and 8) courses taken that addressed mental illness.

*Knowledge of mental illness.* Following Swami, Persaud, & Furnham (2011), early-entry pharmacy students were requested to estimate their lifetime knowledge of mental illnesses. This is a 7-point measure on a linear numeric scale where 1=not at all knowledgeable and 7=very knowledgeable. To detect for potential over-reporting of knowledge, students were also asked to rate the lifetime knowledge of other early entry students.

*Familiarity with mental illness.* Familiarity was measured using an 11-item measure created by Holmes, Corrigan, Williams, Conor, & Kubiak, 1999. Respondents were asked to check all situations on a list in which they have experienced in their lifetime. Their score on this measure was to be the most intimate situation indicated by the respondent. For example, as quoted by Holmes, "a person who checked 'I have a severe mental illness' (rank order score = 11), 'I have observed persons with a mental illness on a frequent basis' (rank order score = 4), and 'I have observed, in passing, a person I believe may have had a severe mental illness' (rank order score = 2) would receive a score of 11 because 'I have a severe mental illness' is the most intimate of the checked situations."

*Acceptable social distance.* Acceptable social distance was measured with the Social Distance Scale (SDS) by Bell, Johns, & Chen (2006) where respondents indicated their willingness to associate with persons with a mental illness. This scale is composed of 7 items on 4-point linear numeric scales where 1=definitely willing and 4=definitely unwilling. Higher scores indicate greater distance. An example item reads: "Have that person as a babysitter for your child."

*Attitude toward individuals with mental illness.* Attitude was measured with the Mental Illness: Clinician's Attitude Scale (MICA-4) by Kassam, Glozier, Leese, Henderson C, Thornicroft G (2010) to assess respondents attitudes toward individuals with mental illness on a 6-item linear numeric scale where 1=strongly disagree and 7=strongly agree. An example item includes: "The public does not need to be protected from people with a severe mental illness." To detect for potential over-reporting of attitude, students were also asked to rate the lifetime knowledge of other early entry students.

***Analysis***

*Sample Description.* The early-entry pharmacy student sample was described by calculating the frequencies, means, and percentages for the demographic characteristics of the early-entry pharmacy student respondents.

*Mental Illness Measures.* To evaluate mental illness measures such as knowledge, familiarity, social distance, and attitude towards mental illness, means and standard deviations were used.

*Difference Testing.* In order to meet the secondary objectives of this study, independent sample t-tests and analysis of variance tests were conducted at a 0.5 level of significance to test for differences in knowledge, social distance, and attitude toward mental illness based on ***gender*** (male versus female), ***year in school*** (EE1, EE2, EE3), ***work experience in a pharmacy***, and ***previous courses addressing mental illness***. Paired sample t-tests were conducted to detect for any over self-reporting of knowledge or attitude.

# RESULTS

## *Sample Description*

To get a better understanding of the characteristics of the respondents, several demographic questions were asked. Of the 95 complete surveys, 24 (25.5%) were completed by males, and 70 (74.5%) were completed by females. One respondent did not report gender. Participants ranged from 18 to 21 years old, with an average age of 18.82 years old (SD = 0.875). As the year in school increased, the number of early-entry pharmacy students decreased (Table 1). 22 (23.2%) of the students had previously worked in a pharmacy, while 73 (76.8%) had no work experience in a pharmacy. Only 2 (2.1%) of the students had previously worked in a psychiatric facility, while 92 (97.9%) had no work experience in a psychiatric facility. One respondent did not report work experience in a psychiatric facility. 34 (36.2%) of the students had previously taken a course that addressed mental illness, while 60 (63.8%) had not. One respondent did not report courses taken that addressed mental illness. Of the 34 students that had taken a course that addressed mental illness, 32 of those students reported that the course was psychology.

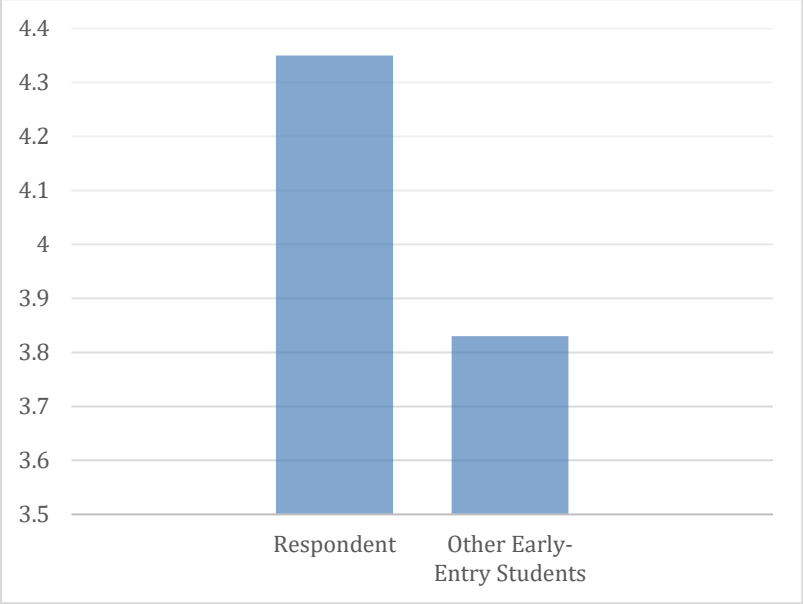
**Table 1: Demographic Characteristics**

| Race or Ethnicity | Number of Respondents (%) |
|---|---|
| African American/Black | 3 (3.2) |
| American Indian/Alaskan Native | 0 (0) |
| Native Hawaiian/Other Pacific Islander | 0 (0) |
| Asian/Indian Asian | 8 (8.4) |
| White/Caucasian | 82 (86.3) |
| Hispanic | 1 (1.1) |
| Other | 1 (1.1) |
| **Year in School** | **Number of Respondents (%)** |
| EE1 | 42 (44.2) |
| EE2 | 35 (36.8) |
| EE3 | 18 (18.9) |

***Knowledge of Mental Illness***

Respondents reported that their own lifetime knowledge of mental illness was just above average (M = 4.35) on a scale from 1 to 7 where 1 = not at all knowledgeable and 7 = very knowledgeable (SD = 1.27). The minimum reported lifetime knowledge of mental illness reported was a 2, and the maximum reported was a 7. There was a statistically significant difference between respondents' own reported lifetime knowledge of mental illness compared to respondents' rating of other early-entry pharmacy students' lifetime knowledge of mental illness. The respondents reported that other early-entry pharmacy students' lifetime knowledge of mental illness was lower (M = 3.83, SD = 1.084, p = 0.000) (Figure 1). Respondents' minimum reported rating of other early-entry pharmacy students' lifetime knowledge of mental illness reported was a 1, and the maximum reported was a 6.

**Figure 1: Respondent vs. Other Early-Entry Pharmacy Students' Lifetime Knowledge of Mental Illness**




There were no statistically significant differences when comparing males (M = 4, SD = 1.445) to females (M = 4.47, SD = 1.201), work experience (M = 4.27, SD = 1.279) to no work experience (M = 4.37, SD = 1.275), courses addressing mental illness taken (M = 4.59, SD = 1.305) to no courses addressing mental illness taken (M = 4.2, SD = 1.246), or year in school.

***Familiarity with Mental Illness***

Respondents were asked to rate how familiar they were with mental illness by checking "yes" or "no" to the items listed in Table 2. Five (5) respondents reported that they have never observed, in passing, a person that they believed to have a severe mental illness. Three (3) respondents reported having a severe mental illness. The greatest frequency of respondents reported that they have observed, in passing, a person they believed to have a severe mental illness (n = 82). Furthermore, another large frequency of

respondents (n = 69) reported that they have watched a documentary on the television about severe mental illness.

**Table 2: Mental Illness Familiarity**

| | Severity | Frequency |
|---|---|---|
| I have never observed a person that I was aware had a severe mental illness. | 1 | 5 |
| I have observed, in passing, a person I believe may have had a severe mental illness. | 2 | 82 |
| I have watched a documentary on the television about severe mental illness. | 3 | 69 |
| I have observed persons with a severe mental illness on a frequent basis. | 4 | 31 |
| I have worked with a person who had a severe mental illness at my place of employment. | 5 | 17 |
| My job includes providing services to persons with a severe mental illness. | 6 | 17 |
| My job involves providing services/treatment for persons with a severe mental illness. | 7 | 15 |
| A friend of the family has a severe mental illness. | 8 | 48 |
| I have a relative who has a severe mental illness. | 9 | 40 |
| I live with a person who has a mental illness. | 10 | 9 |
| I have a severe mental illness. | 11 | 3 |

***Acceptable Social Distance***

Respondents were asked to rate what they consider to be their acceptable social distance from someone who was just hospitalized with a mental illness, where 1 = definitely willing and 4 = definitely unwilling. Respondents were more willing to work alongside someone just hospitalized or have that person as their neighbor and less willing to share an apartment with that person or have that person as a babysitter for their child (Table 3).

**Table 3: Acceptable Social Distance**

| | Mean | Standard Deviation |
|---|---|---|
| Share an apartment with that person | 2.74 | 0.815 |
| Work alongside that person | 1.87 | 0.815 |
| Have that person as a neighbor | 1.73 | 0.881 |
| Have that person as a babysitter for your child | 3.31 | 0.912 |
| Have one of your children marry that person | 2.71 | 0.875 |
| Introduce to friend as relationship partner | 2.59 | 0.928 |
| Recommend that person for a job | 2.09 | 0.759 |

Males reported to be less willing (M = 3.09, SD = .793) than females (M = 2.59, SD = .876, p = 0.017) to have one of their children marry a person who has just been hospitalized with a mental illness. There were no other significant differences between males and females. Additionally, there were no statistically significant differences between respondents who had work experience in a pharmacy to those who had no work experience in a pharmacy. The respondents who had previously taken a course that addressed mental illness reported to be more willing (M = 1.65, SD = 0.774) than those who had not previously taken a course that addressed mental illness (M = 2, SD = 0.823, p = 0.044) to work alongside a person who had just been hospitalized with a mental illness. There were no other statistically significant differences between those who had previously taken a course that addressed mental illness to those who have not. Furthermore, there were no significant differences in acceptable social distance between the year in school of the respondents.

***Attitude Toward Individuals with Mental Illness***

On a scale from 1 to 5 where 1 = strongly disagree and 5 = strongly agree, respondents generally agreed that working in the field of mental health is just as respectable as other fields of health and social care (M = 4.68, SD = 0.789). The

respondents also agreed that if a senior colleague instructed them to treat people with a mental illness in a disrespectful manner, they would not follow their instructions (M = 4.78, SD = 0.717). The respondents disagreed that being a health/social care professional in the area of mental health is not like being a real health/social care professional (M = 1.6, SD = 0.983). Additionally, they disagreed that they would use the terms ‘crazy,’ ‘nutter,’ ‘mad,’ etc. to describe to colleagues people with a mental illness who they have seen in their work (M = 1.47, SD = 0.873). There was a significant difference in 12 out of the 16 items between the respondent and other early-entry pharmacy students whereby students reported more positive attitudes about mental illness for themselves than other early entry students. Additional findings can be found in Table 4.

## Table 4: Attitude Toward Individuals with Mental Illness

| | | Mean | Standard Deviation | Sig (2-tailed) |
|---|---|---|---|---|
| I just learn about mental health when I have to, and would not bother reading additional material on it. | Me | 2.23 | 1.125 | 0.000 |
| | Other Early Entry Students | 2.75 | 0.825 | |
| People with a severe mental illness can never recover enough to have a good quality of life. | Me | 1.66 | 1.068 | 0.000 |
| | Other Early Entry Students | 2.01 | 0.984 | |
| Working in the mental health field is just as respectable as other fields of health and social care. | Me | 4.68 | 0.789 | 0.000 |
| | Other Early Entry Students | 4.33 | 0.844 | |
| If I had a mental illness, I would never admit this to my friends because I would fear being treated differently. | Me | 2.82 | 1.352 | 0.295 |
| | Other Early Entry Students | 2.94 | 0.982 | |
| People with a severe mental illness are dangerous more often than not. | Me | 2.36 | 0.949 | 0.001 |
| | Other Early Entry Students | 2.67 | 0.767 | |
| Health/social care staff know more about the lives of people treated for a mental illness than do family members or friends. | Me | 3.03 | 1.046 | 0.063 |
| | Other Early Entry Students | 3.17 | 0.883 | |
| If I had a mental illness, I would never admit this to my colleagues for fear of being treated differently. | Me | 3.21 | 1.219 | 0.485 |
| | Other Early Entry Students | 3.28 | 1.007 | |
| Being a health/social care professional in the area of mental health is not like being a real health/social care professional. | Me | 1.6 | 0.983 | 0.000 |
| | Other Early Entry Students | 1.89 | 0.939 | |
| If a senior colleague instructed me to treat people with a mental illness in a disrespectful manner, I would not follow their instructions. | Me | 4.78 | 0.717 | 0.000 |
| | Other Early Entry Students | 4.48 | 0.742 | |
| I feel as comfortable talking to a person with a mental illness as I do talking to a person with a physical illness. | Me | 3.91 | 1.012 | 0.001 |
| | Other Early Entry Students | 3.63 | 0.973 | |
| It is important that any health/social care professional supporting a person with a mental illness also ensures that their physical health is assessed. | Me | 4.52 | 0.756 | 0.002 |
| | Other Early Entry Students | 4.33 | 0.868 | |
| The public does not need to be protected from people with a severe mental illness. | Me | 2.98 | 1.067 | 0.47 |
| | Other Early Entry Students | 2.91 | 0.9 | |
| If a person with a mental illness complained of physical symptoms (such as chest pain) I would attribute it to their mental illness. | Me | 1.91 | 0.9 | 0.000 |
| | Other Early Entry Students | 2.18 | 0.922 | |
| General practitioners should not be expected to complete a thorough assessment for people with psychiatric symptoms because they can be referred to a psychiatrist. | Me | 2.37 | 1.032 | 0.001 |
| | Other Early Entry Students | 2.62 | 0.936 | |
| I would use the terms ‘crazy’, ‘nutter’, ‘mad’ etc. to describe to colleagues people with a mental illness who I have seen in my work. | Me | 1.47 | 0.873 | 0.001 |
| | Other Early Entry Students | 1.72 | 0.953 | |
| If a colleague told me they had a mental illness, I would still want to work with them | Me | 4.18 | 0.863 | 0.000 |
| | Other Early Entry Students | 3.8 | 0.858 | |

Males (M = 2.17, SD = 1.465) more strongly agreed that people with a severe mental illness can never recover enough to have a good quality of life more than females (M = 1.47, SD = 0.829, p = 0.005). On the other hand, females (M = 4.29, SD = 0.764) agreed that if a colleague told them they had a mental illness, they would still want to work with them more than males (M = 3.88, SD = 1.076, p = 0.045). There were no other significant differences between males and females.

EE3s (M = 2, SD = 1.188) more strongly agreed that being a health/social care professional in the area of mental health is not like being a real health/social care professional than EE1s (M = 1.29, SD = 0.636, p = 0.014). There were no other significant differences identified between the year of school of the respondents.

Respondents who had not previously taken a course addressing mental illness (M = 4.92, SD = 0.334) more strongly agreed that if a senior colleague instructed them to treat people with a mental illness in a disrespectful manner, they would not follow their instructions than those who had previously taken a course addressing mental illness (M = 4.53, SD = 1.080, p = 0.012). There were no other significant differences between those who had previously taken a course addressing mental illness to those who had not. Furthermore, there were no significant differences between the respondents who had work experience in a pharmacy to those who had no work experience in a pharmacy.

## DISCUSSION

The number of individuals receiving mental health diagnoses has been steadily increasing. Therefore, the demand for pharmacists in the mental healthcare setting is increasing. Pharmacists can play a key role in increasing positive outcomes in mental health patients receiving medication. It is crucial that pharmacy schools incorporate mental health into the curriculum so that students can acquire knowledge on mental illness and be better prepared to treat it. Limited studies exist that focus on early-entry pharmacy students' knowledge and attitudes towards individuals with mental illness. The significance of this study was to better understand the knowledge and attitudes towards persons with a mental illness of early-entry pharmacy students from the University of Mississippi. After analyzing the results of this study, we may be able to incorporate more appropriate content addressing mental illness, and how to work with patients with mental illness, into the curriculum.

### *Interpretation of Results - Knowledge*

Overall, respondents reported having above-average knowledge of mental illness. Respondents reported that their own lifetime knowledge of mental illness is greater than other early-entry pharmacy students. This could be an accurate representation of knowledge or the result of over-reporting. This could be addressed in future research by issuing a more objective measure of knowledge of mental illness, such as a quiz.

### *Interpretation of Results - Familiarity*

Most of the respondents reported ratings regarding their familiarity with mental illness on the lower end of the extremity spectrum (i.e., observed a person, in passing, who they believed to have a severe mental illness). Few respondents reported never having observed a person with a severe mental illness (n=5), living with a person with a mental illness (n=9), or having a mental illness themselves (n=3). These findings could be the result of the use of the differing terms "mental illness" and "*severe* mental illness."

### *Interpretation of Results – Acceptable Social Distance*

As expected, respondents were more willing to have some social distance between themselves and someone with a mental illness. Most respondents were willing to work alongside that person or have that person as a neighbor but not willing to share an apartment with that person or have that person as a babysitter for their child.

Males reported to be less willing than females to have one of their children marry a person who has just been hospitalized with a mental illness. This could be attributed to the fact that males are exhibiting more of a protective instinct, or indirectly, associating more stigma with mental illness.

The respondents who had previously taken a course that addressed mental illness reported to be more willing than those who had not previously taken a course that addressed mental illness to work alongside a person who had just been hospitalized with a mental illness. This could be due to the fact that those who had previous taken a course that addressed mental illness have more knowledge of mental illness. Since they have more knowledge of mental illness, they presumably have a more positive view of those individuals with mental illness and, therefore, are more likely to work alongside them.

***Interpretation of Results – Attitude***

Overall, the respondents reported having a positive attitude towards individuals with mental illness. These results could indicate less negative stigmatization from a social perspective. However, there is always the risk of social desirability bias. We tried to detect this by having the respondents answer on behalf of themselves and other early-entry pharmacy students. We found there was a significant difference in 12 out of the 16 items between the respondent and other early-entry pharmacy students whereby respondents reported more positive attitudes about mental illness for themselves than other early entry students. This could be an accurate representation of attitude toward mental illness or a result of over-reporting of attitudes toward mental illness.

Males strongly agreed that people with a severe mental illness can never recover enough to have a good quality of life compared to females. This could be indicative of the fact that males may possibly less empathetic toward mental illness patients than females, and, therefore, are less confident in the ability of an individual with a mental illness to take that great of a step to recover. On the other hand, females agreed that if a colleague told them they had a mental illness, they would still want to work with them more than males. This could be an outcome of the fact that females may be more empathetic toward those with mental illness than males.

Unexpectedly, EE3s agreed that being a health/social care professional in the area of mental health is not like being a real health/social care professional more than EE1s. This could be attributed to the likelihood that EE3s have received more education on mental illness than EE1s and, therefore, have adopted more opinions on professionals in the area of mental health than EE1s.

The respondents who had not previously taken a course addressing mental illness agreed that if a senior colleague instructed them to treat people with a mental illness in a disrespectful manner, they would not follow their instructions more strongly than those who had previously taken a course addressing mental illness. Although an unexpected response, it could be attributed to the fact that those who had previously taken a course addressing mental illness have learned more about mental illness and, therefore, have acquired a more negative view on individuals with mental illness than those who had not previously taken a course addressing mental illness.

### *Limitations*

Given the topic of this research, the greatest limitation to the results of this study that seemed to appear is social desirability bias. Although the responses to the survey were anonymous, it is possible that the respondents still responded in a more positive manner. We tried to combat the self-report bias by having the respondents answer on behalf of themselves as well as other early-entry pharmacy students. However, there is still the risk of over-reporting due to over-confidence in the respondents' knowledge and attitude towards mental illness compared to other early-entry pharmacy students. Future research could address this self-report bias by administering a quiz as a more objective measure. Finally, the results of this study may not necessarily be generalizable to the national early entry population due to the local sample used for this study.

### *Future Research*

This study focused solely on the knowledge, familiarity, perceived social barriers, and attitude of early-entry pharmacy students at the University of Mississippi towards individuals with mental illness. Future research could expand on the findings of this study

by evaluating the same criteria with early-entry pharmacy students on a national level in order to get a more accurate representation. Furthermore, measuring these variables in a professional pharmacy student population would give insight into the attitudes towards mental illness from students who have received more education and are in a closer proximity to actually becoming pharmacists.

### *Study Implications*

Although the early-entry pharmacy students had an overall positive response towards individuals with mental illness, the findings of the study indicate that a somewhat negative stigma towards mental illness still exists. Additionally, a majority of the respondents reported that the only education they had previously received addressing mental illness had been a general psychology course. These findings suggest the need to incorporate more content addressing mental illness (especially as it relates to stigma and communication with patients with mental illness) into the curriculum in order to increase knowledge and to decrease negative stigma towards mental illness.

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# APPENDIX 1: SURVEY

Dear Early-Entry Pharmacy Student,

My name is Brianna Gray, and I am a pharmacy student at Ole Miss. This fall, I am conducting a research survey through the Sally McDonnell Barksdale Honors College, and I am asking for your participation. This survey should take no more than 7 or 8 minutes of your time. It includes various demographic questions, but mainly focuses on your knowledge and perceptions of mental illness. Your willingness to participate in this research will help me better understand early-entry pharmacy students' understanding and attitude towards mental illness.

Please keep in mind that your participation in this survey is entirely voluntary. Your responses will remain completely anonymous and will be examined along with other respondents' surveys. Whether or not you complete this survey has no bearing on your status in the Early Entry program or the School of Pharmacy. No risks are expected from taking this survey and no benefits are expected other than personal satisfaction of helping with research

This study has been reviewed by the University of Mississippi's Institutional Review Board (IRB). The IRB has determined that this study fulfills the human research subject protections obligations required by the state and federal law and University policies. If you have any questions, please contact the IRB at (662) 915-7482.

If you have any questions about the research project specifically, feel free to contact me at btgray@go.olemiss.edu, or my advisor, Dr. Erin Holmes, at erholmes@olemiss.edu, or (662) 915-5914.

Thank you in advance for your participation.

Sincerely,
Brianna Gray

***I have read and understand the above information. By completing the survey/interview I consent to participate in the study and that I am at least 18 years of age***

## Section 1: Demographics

Age: _____

Are you (please circle): Male Female

Which of the following best describes your race or ethnicity?

- ❒ African American/Black
- ❒ American Indian/Alaskan native
- ❒ Native Hawaiian/Other Pacific Islander
- ❒ Asian/Indian Asian
- ❒ White/Caucasian
- ❒ Hispanic
- ❒ Other

What year in school are you? EE1 EE2 EE3

In what year will you graduate with your PharmD? _____

Have you ever worked in a pharmacy? Y N

Have you ever worked in a psychiatric facility? Y N

Have you taken any courses that address mental illness? Y N

➡ If yes, please list those courses _____

## Section 2: Knowledge

Please rate your lifetime knowledge of mental illness and that of other Early Entry students where 1 = not at all knowledgeable and 7 = very knowledgeable.

| | Not at all Knowledgeable | | | | | | Very Knowledgeable |
|---|---|---|---|---|---|---|---|
| ***My*** lifetime knowledge of mental illness | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| ***Other Early Entry students'*** lifetime knowledge of mental illness | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## Section 3: Familiarity

Please circle yes or no in response to each of the situations below:

| | | |
|---|---|---|
| I have observed, in passing, a person I believe may have had a severe mental illness. | yes | no |
| My job involves providing services/treatment for persons with a severe mental illness. | yes | no |
| I have observed persons with a severe mental illness on a frequent basis. | yes | no |
| I have a severe mental illness. | yes | no |
| I have worked with a person who had a severe mental illness at my place of employment. | yes | no |
| I have never observed a person that I was aware had a severe mental illness. | yes | no |
| My job includes providing services to persons with a severe mental illness. | yes | no |
| A friend of the family has a severe mental illness. | yes | no |
| I have a relative who has a severe mental illness. | yes | no |
| I have watched a documentary on the television about severe mental illness. | yes | no |
| I live with a person who has a severe mental illness. | yes | no |

## Section 4: Social Distance

How willing are you to associate in the following ways with someone who has just been hospitalized with mental illness where 1 = definitely willing to 4 = definitely unwilling?

| | Definitely Willing | | | Definitely Unwilling |
|---|---|---|---|---|
| Share an apartment with that person | 1 | 2 | 3 | 4 |
| Work alongside that person | 1 | 2 | 3 | 4 |
| Have that person as a neighbor | 1 | 2 | 3 | 4 |
| Have that person as a babysitter for your child | 1 | 2 | 3 | 4 |
| Have one of your children marry that person | 1 | 2 | 3 | 4 |
| Introduce to friend as relationship partner | 1 | 2 | 3 | 4 |
| Recommend that person for a job | 1 | 2 | 3 | 4 |

## Section 5: Attitude

On each of the items, please indicate the extent to which ***you*** agree and the extent to which you think ***other early-entry students*** would agree with each of the following statements. Mental illness here refers to conditions for which an individual would be seen by a psychiatrist where 1 = strongly disagree and 5 = strongly agree.

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| I just learn about mental health when I have to and would not bother reading additional material on it. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| People with a severe mental illness can never recover enough to have a good quality of life. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| Working in the mental health field is just as respectable as other fields of health and social care. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| If I had a mental illness, I would never admit this to my friends because I would fear being treated differently. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| People with a severe mental illness are dangerous more often than not. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| Health/social care staff know more about the lives of people treated for a mental illness than do family members or friends. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

Please continue on next page ➡

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| If I had a mental illness, I would never admit this to my colleagues for fear of being treated differently. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| Being a health/social care professional in the area of mental health is not like being a real health/social care professional. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| If a senior colleague instructed me to treat people with a mental illness in a disrespectful manner, I would not follow their instructions. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| I feel as comfortable talking to a person with a mental illness as I do talking to a person with a physical illness. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| It is important that any health/social care professional supporting a person with a mental illness also ensures that their physical health is assessed. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| The public does not need to be protected from people with a severe mental illness. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| If a person with a mental illness complained of physical symptoms (such as chest pain), I would attribute it to their mental illness. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| General practitioners should not be expected to complete a thorough assessment for people with psychiatric symptoms because they can be referred to a psychiatrist. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| I would use the terms 'crazy,' 'nutter,' 'mad,' etc. to describe to colleagues people with a mental illness who I have seen in my work. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

| | | Strongly Disagree | | | | Strongly Agree |
|---|---|---|---|---|---|---|
| If a colleague told me they had a mental illness, I would still want to work with them. | Me | 1 | 2 | 3 | 4 | 5 |
| | Other Early Entry Students | 1 | 2 | 3 | 4 | 5 |

*Thank you for your time and participation!*