

Depression and Mental Health Awareness Regarding Adolescents within the
Primary Health Care Setting: Study Protocol

Honors Thesis

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Abstract

Background: Depression is a serious illness, warranting adequate access to care and treatment among adolescents. The aim of this study was to further understand college students' perception of mental illness and perceived parental views regarding mental health disorders. **Methods:** Ethnicity and fields of study were analyzed to note any significance amongst the groups. Convenience sampling was used, targeting participants' ages 18-25 years at Salem State University. Using mixed methods methodology, participants were asked to conduct a survey questionnaire. Survey questions were geared towards participant perception of depression, and perceptions of parental views on mental illness. **Results:** A total of 266 anonymous surveys were collected and analyzed to find that the majority of participants' parental views on education and depression were correct. On the other hand, 25% of surveyors believed that their parents would believe that depression is caused by bad or weak character. As for ethnicity, Asian or Pacific Islander (50%), Hispanic or Latinos (35%), and Black or African American (36%) were more likely to think that their parents would believe that depression is caused by bad or weak character. As for fields of study, non-science majors were more likely to have stigmatizing beliefs in regards to depression. **Conclusion:** Further education on depression knowledge should be acknowledged in the school system, media, and more importantly; our health care system. Increased and more in-depth screenings for adolescent depression should be seen by the primary health care provider in order to decrease the number of untreated depression cases. For future studies, a more in-depth survey should be distributed with a larger sample size to increase the numbers in diversity.

Keywords: Depression – mental health stigma – adolescents – parents

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Introduction

Depression disorders are considered one of the most prevalent mental illnesses that cause disability for an individual (6). Globally, over 350 million people have depression but less than half of those will be properly diagnosed and treated (6). In some countries, less than 10% of the population with depression will actually receive treatment. Untreated depression, in its most severe form, may lead to suicidal behavior and ultimately death (1, 2, 4, 6).

As with most mental disorders, signs and symptoms of depression go unnoticed and can be overlooked as a “normal” reaction that most human beings experience from one time to another. As with any other disease, the best form of treatment is prevention and/or seeking evidence of early appearance. In fact, mental disorders can show their early signals around the age of 14; which is true for half of all psychiatric illnesses (4). The problem arises as to why there is an increase of mental illness, primarily depression, in our society when we already know so much about it on a molecular level and not typically an “over-dramatization.”

According to the World Health Organization (WHO), there are three reasons to explain the phenomenon in untreated depression: lack of resources, a lack of proper training from physicians, and (more importantly) social stigma (6). A study done by the Center for Disease Control (CDC) through the Behavioral Risk Factor Surveillance System (BRFSS) found that 57% of all adults felt that people are caring and sympathetic towards those with mental illness (7). On the other hand, only 25% of those with mental illness felt that people were caring and sympathetic to those who were mentally ill (7).

With evidence such as this given study, the debatable question may arise as to when someone is in fact mentally ill. An even more ethical, and controversial, question would be as to when we diagnose our children and/or teenagers with a mental illness. It may even be assumed that some individuals believe that such diagnosis should not even be considered for this age group. This reasoning may be due to fear of poor parenting skills being assumed or the fear of the black box warning on psychiatric medicines such as Prozac (1).

Fortunately the Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5) establishes a baseline for depression (and sub categories) for adults and a separate diagnosis for children, otherwise known as Disruptive Mood Dysregulation Disorder. Screenings with tools such as the PSC and PSC-Y, are mandated by insurers like Medicaid, for pediatricians to use on all of their patients in order to find signs of mental or developmental disorders (3). In general, “for adolescents, the law mandates that insurers cover screening for depression...as well as behavioral assessments” (5). The PSC is a 35 questionnaire with answers that include “Never,” “Sometimes,” or “Always,” and scoring varies when considering the age group (3). But the problem is still apparent since less than 20% of American school-aged children with a mental disorder receive that proper treatment (5).

The Affordable Care Act consequently helps the pediatric primary care physicians in insuring screenings, nonetheless money isn't as much of an issue as it was before (5). Yet in a study in regards to referral and follow-up of commercially insured adolescents who tested high on a mental health screening, only 54% were referred to a psychologist (3). What was more alarming was that only 67% accepted the referral while 18% actually went to an in-person meeting with the referred psychologist. The answer as to ‘why’ could only be assumed that the adolescent may not have had “readiness” to participate in the referral or the parent may have had a disagreement on the matter (3).

Another issue to touch upon, would be the concern that physicians and parents have on the matter of diagnosing a child or adolescent with depression due to the black box warning. The black box warning labeled on SSRIs is to inform the individual of the side effect that the psychiatric med may increase the risk of suicidal ideation (1). Even though there has been no actual suicides from these medications, it's enough to raise concern (1). A physician not properly trained in the mental health area will hesitate to prescribe such a medication, and overlook the option of psychotherapy instead of medical therapy. Psychotherapy may be just as effective but the need for a psychologist is still needed, meaning there still may be a lack of resource due to finances.

For this study, the main focus is to note how social stigma affects the outlook for adolescent depression. The purpose is to 1) perceive students' perception on their parents'/guardian level of knowledge and 2) evaluate the degree of stigmatization seen amongst students' in regards an increase in depression screenings. It is hypothesized that students will believe that their parents/guardian have an overall, somewhat lower level of knowledge, but will vary more notably amongst ethnicity. As for the degree of stigmatization, those who are in a non-science field of study will be more biased towards depression when compared to those who have a focus in the sciences.

Methods

The method used within this experiment was in the form of an anonymous questionnaire given to students who were between the ages of 18-25. The questions were formatted in relation to a survey given by Fox, C., Eisenberg, M., McMorris, B. et al., which originally included 10 questions. The questions in the original survey were formatted for parents and had specific questions in regards to knowledge of depression and for beliefs/stigmatization of depression. Each question allowed the parent to choose from four answers which included

'Strongly Disagree,' 'Somewhat Disagree,' 'Somewhat Agree,' and 'Strongly Agree.' The originally survey was also four pages long and was associated with child and mental health services for assistance. The demographic variables that were observed in these surveyors were age, gender, ethnicity, highest level of education, annual income and the grade/school that their child attended. Out of the 1,300 households reached, 511 surveys were returned.

For this particular case, surveys were limited to the student population at Salem State University. The survey was only one page in length with only six questions taken from the original survey. In order to obtain the outlook of what students thought their parents knew about depression, these questions were reformatted into "How would your parents feel about the following statements." The options still included "Strongly Disagree," "Somewhat Disagree," "Somewhat Agree," and "Strongly Agree" as answers. The options 'neutral' or 'I don't know' were discouraged from this survey in order to encourage the participants to lean towards a side. Out of 273 participants, 267 surveys were analyzed.

Subjects

Surveys were limited to the student population at Salem State University who were between the ages of 18-25. A large population of the students were those who lived in the first-year residence halls on campus while others included classmates or fellow students/workers seen around campus. Surveyors were not allowed to place their name on the survey in order to stay anonymous and all samples were placed in a closed box until the end of sample collection. All students who completed the survey were given a disclosure form that explained the purpose of this study and ensured anonymity. In total 273 surveys were collected with 6 discarded due to ineligible requirements in age. Therefore 266 samples were collected.

Instrument

The surveys were one page in length and in total had 9 questions: three for demographic purposes, four on outlook of parental knowledge, and two for personal beliefs. Surveys were completed in person and in a secluded area if desirable. The completed surveys were submitted by the participant into a sealed box that was not opened until the end of the collection period. On average, the surveys took about 1-2 minutes to complete.

Measures

Dependent Variables

Of the 6 questions asked, each had the option of “Strongly Disagree,” “Somewhat Disagree,” “Somewhat Agree,” and “Strongly Agree” in order to have a consistent scale to analyze. The options ‘neutral’ or ‘I don’t know’ were discouraged from this survey in order to encourage the participants to lean towards a side.

Independent Variables

Comparisons for perception of parental knowledge and personal beliefs on mental health stigma were analyzed in this study. Perception of parental knowledge was measured by asking the participant what they believed their parents would say to the following statement. The four statements included: a) Depression is caused by bad or weak character b) Untreated depression can result in death by suicide c) Teens with depression usually get better on their own and d) Asking someone about suicide will cause them to become suicidal. The response choices were “Strongly Disagree,” “Somewhat Disagree,” “Somewhat Agree,” and “Strongly Agree.” For the statements a, c, and d, “Strongly/Somewhat Disagree” was considered the “correct” answer. “Somewhat Disagree” was still considered a “less correct” answer in order to provide a more in depth analysis. “Strongly/Somewhat Agree” was considered to be an “incorrect” answer. “Somewhat Agree” was considered as a “less correct” answer for further analysis as well. For statement b, “Strongly/Somewhat Agree” was considered the “correct”

answer while “Strongly/Somewhat Disagree” was considered the “incorrect” answer. To study the responses further, “Somewhat Agree” or “Disagree” was considered separately as a “less correct” or “more correct” answer.

In studying stigmatizing beliefs, the participants were asked for their opinion on two statements; a) Students could be ‘labeled’ if they were screened for depression, and b) Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac. Both statements had the options of choosing “Strongly Disagree,” “Somewhat Disagree,” “Somewhat Agree,” or “Strongly Agree” as a response. “Strongly/Somewhat Disagree” were considered the least stigmatizing belief and on the contrary, “Strongly/Somewhat Agree” were considered to be the most stigmatizing belief. Each answer was considered individually with “Somewhat Disagree” being considered less stigmatizing than “Somewhat Agree” and so on.

Demographic variables

In order to maintain confidentiality, the only demographic variables collected were age group, ethnicity, and field of study. For age group, the survey asked if the student was between 18-25 years of age. This was the only age group considered for analysis, and those who did not meet the criteria were discarded from the study. The reasoning behind was that those under the age of 18 are too young to participate and those 26+ years of age would soon age out of their parents health insurance and would therefore not be much help for this particular study.

The choices under the question “What ethnicity do you consider yourself?” were: White, Hispanic or Latino, Black or African American, Native American or American Indian, Asian/Pacific Islander, and Other. Ethnicity was used to compare if cultural background had an impact for the students’ answers on parental knowledge in regards to depression. It was also used to measure any significant differences in answers for stigmatizing beliefs.

For field of study, the participant had Arts, Biology, Business, Criminal Justice, Education, Health Sciences, Undeclared, Social Work, Psychology, and Other. The participants' field of study was used to compare their answers in stigmatizing beliefs, in order to note a correlation within a particular study. Fields of study was also considered individually for each response in the outlook of parental knowledge.

Procedure

The procedure for this survey was to review, in-depth, a series of literature articles found primarily through the Salem State University library database. Eight scholarly articles was then chosen followed by review of the DSM-5 manual on the topic of depression, looking up the goals of Healthy People 2020, and reviewing the proper definitions and statistics of depression through the World Health Organization (WHO), and the Center for Disease Control (CDC). Once a formal proposal was written for the chairmen of the Commonwealth Honors Program at Salem State University and for the chairmen of the Nursing Department, the study was ready for the Institutional Review Board (IRB) to overlook. The study was soon passed by the IRB and the surveys were collected for about two weeks; December 4th 2014 – December 18th 2014. All surveys were on paper and recorded with ink by the participant circling each answer of their choice. Initially, the surveys were handed out to the first year residents located on campus at Bowditch Hall. Over 200 of the surveys were received from this location, while the other 67 were from colleagues seen around campus or other fellow honor students. All participants were given a disclosure form and explained that all answers will be completely confidential. The student themselves would place the completed survey into the locked box, in order to ensure confidentiality. Participants would also be advised to take the survey in a confided space to maintain privacy.

Data Analysis

The surveys were counted for by the conductor of the experiment who entered all results into Microsoft Excel. In the spread sheet, ethnicity and field of study were placed into their own columns as well as the answer to each statement provided. All answers to the statements were considered on a 1-4 basis. "Strongly Disagree" was labeled as 1, "Somewhat Disagree" was labeled as 2, "Somewhat Agree" was labeled as 3, and "Strongly Agree" was looked at as a 4. Each survey was considered individually. Each question also had their own column as well.

The totals were accounted for by using a COUNTIF formula for each column, and specifying all the responses seen in 1-4. The percentages were then accounted for by using simple division of totals of specific responses by those who answered the question overall (acquired by using a SUM equation.) Each subject was then categorized into ethnicity on a separate spread sheet. The same formulas were applied to each ethnicity for each question. Finally, each subject was then categorized into their field of study and placed in a separate spread sheet as well. Similar formulas were applied to each field of study and their answer to each question.

For this particular case, surveys were limited to the student population at Salem State University. The survey was only one page in length with only six questions taken from the original survey. In order to obtain the outlook of what students thought their parents knew about depression, these questions were reformatted into "How would your parents feel about the following statements." The options still included 'Strongly Disagree,' 'Somewhat Disagree,' 'Somewhat Agree,' and 'Strongly Agree' as answers. The options 'neutral' or 'I don't know' were discouraged from this survey in order to encourage the participants to lean towards a side.

Results

At the end of my survey collection there was a total of 273 participants, but only 266 were accounted for due to age requirements. The results were analyzed as a whole and then

separately by ethnicity and fields of study. Ethnicity was looked at through questions regarding parental perception, while fields of study were looked at in the students' degree of biasedness in regards to depression.

Overall Results

With the statement “**Depression is caused by bad or weak character,**” 47% *strongly disagreed* that their parents/guardian would claim this statement and 28% also *somewhat disagreed*. On the contrary, 21% *somewhat agreed* that their parents/guardian would say that depression is caused by bad/weak character, while 4% *strongly agreed*. Looking at these numbers more closely, out of all the students surveyed; approximately one in five students would *somewhat agree* that their parents would look at depression as being a factor associated with poor character. Also, less than half of students would go as far to say that their parents/guardian would *strongly disagree* with the previous statement. In total, 75% of participants said their parents/guardian would overall disagree that depression is caused by bad or weak character while 25% of students claimed their parents/guardian would agree with it.

For the statement “**Untreated depression can result in death by suicide,**” an even 50% of surveyors said their parents/guardian would *strongly agree* with this statement and 33% also *somewhat agreed*. Only 10% *somewhat disagreed* and 7% *strongly disagreed* that their parents/guardian would feel this way about suicide and depression being co-related. The significance found within the response for this statement, was that half of students were very confident that their parents/guardian would understand that untreated depression may result in suicide. Unfortunately, one in ten students felt their parents/guardian would somewhat disagree with the statement. Overall, 83% of college-aged students agreed that their parents/guardian would have the proper knowledge on depression and suicide, while 17% believe their parents/guardian would not correctly understand this statement.

Looking at the statement “**Teens with depression usually get better on their own,**” 46% of students *somewhat disagreed* that their parents/guardian would believe this while 38% *strongly disagreed*. A small number of surveyors showed that their parents/guardian would agree with this statement by 14% choosing *somewhat agree* and 2% *strongly agree*. As a whole, 84% believed that their parents/guardian understood that teens with depression do not get better on their own while a small number of 16% felt that their parents/guardian would disagree with the statement.

In regards to the statement “**Asking someone about suicide will cause them to become suicidal,**” 47% *somewhat disagreed* and 40% *strongly disagreed* that their parents/guardian would believe it. On the other hand, only 10% of participants *somewhat agreed* with the statement in regards to their parents/guardian level of knowledge and 3% *strongly agreed*. Overall, 87% of students felt that their parents/guardian had proper knowledge of suicide while 13% of students felt otherwise. Therefore most students feel that their parents’/guardian would understand that discussing suicide would not induce suicide.

In regards to the statement “**Students could be ‘labeled’ if they were screened for depression,**” the results had a majority of students feeling that they would *somewhat agree* by 38% while 30% of surveyors felt that they would *somewhat disagree* with the statement. For the rest of the surveyors, 22% *strongly disagreed* that students would be judged if they were screened for depression but 10% were still found to *strongly agree*. In total, 48% agreed with the statement while 52% disagreed with the statement as a whole.

For the statement “**Screening adolescents for depression at their primary health care provider, will result in too many teens taking medicines like Prozac,**” received similar results with 36% choosing *somewhat agree* and 33% choosing *somewhat disagree*. The rest of the participants settled with 22% choosing *strongly disagree* and 9% choosing *strongly agree*. Overall, 45% of students chose that they would agree that medications like Prozac will become

too widely used if screenings were to be increased while 55% disagreed with the statement overall.

In regards to the questions asking “How would your parents/guardians feel about the following statements,” the more wrong answer was always the least chosen. In other words, the majority of students felt that their parents’/guardians had the proper knowledge of depression and suicide, even if they did choose the option of ‘somewhat.’ As for the statements asking for the student’s own personal opinion, the results were split so that it was difficult to find a significance for both questions. When looked closely, students favored the option *somewhat agree* in both cases. Yet as a whole, more students leaned towards the options of disagreeing with the stereotypical statement being questioned. It would be safe to conclude that more than half of students would disagree with biased statements in regards to depression and screenings but yet over one third of students would still agree with these types of statements.

Ethnicity

Even though the amount of ethnicities accounted for were not evenly distributed, an analysis was still able to be made with the results. This population was looked precisely at parental perception through the students’ point of view. In order to study the significance of cultural background and views on depression, the first four questions of the survey were looked at by themselves.

In regards to Asian/Pacific Islanders, 10 surveys were collected. For the statement **“Depression is caused by bad or weak character,”** responses were evenly split in half between mostly agree and disagree. 40% chose *somewhat agree* while 10% chose *strongly agree*, yet on the other hand 30% chose *strongly disagree* while 20% chose *somewhat disagree*. For the statement **“Untreated depression can result in death by suicide,”** almost all of these students chose that their parents/guardian would agree. 50% chose that their

parents/guardian would *somewhat agree* with the statement and 40% chose that they would *strongly agree*. Only 10% chose that they would *somewhat disagree* with this statement. With the statement “**Teens with depression usually get better on their own,**” 40% of these surveyors chose their parents/guardian would *strongly disagree* while another 40% chose they would only *somewhat disagree*. 20% of surveyors claimed that their parents/guardian would *somewhat agree* with this statement. For the statement “**Asking someone about suicide will cause them to become suicidal,**” was found to have 40% of these surveyors claim that their parents/guardian would *somewhat agree* with this statement. On the other hand, 30% *strongly disagree* their parents/guardian would reason with the statement while another 30% chose *somewhat disagree* for their parents/guardian.

Looking closely at the population of Black or African Americans that took this survey, a total of 33 surveys were collected. For the statement “**Depression is caused by bad or weak character,**” 40% chose that their parents/guardian would *strongly disagree* with the statement. While a majority *strongly disagreed*, 24% chose that their parents/guardian would *somewhat disagree* with the previous statement while 24% also chose *somewhat agree* and 12% *strongly agreed*. For the statement “**Untreated depression can result in death by suicide,**” a majority of 64% of these students chose that their parents/guardian would *strongly agree* with this statement. Following these findings, 18% chose that they would *somewhat agree* while 6% *somewhat disagreed* and 12% *strongly disagreed*. For the next statement of “**Teens with depression usually get better on their own,**” almost the entire population of surveyors said their parents/guardian would have disagreed. 49% chose that they would *somewhat disagree*, 42% chose *strongly disagree*, 6% chose *somewhat agree*, while merely 3% chose that their parents/guardian would *strongly agree*. Looking at the last statement in that “**Asking someone about suicide will cause them to become suicidal,**” almost the entire specified crowd of surveyors once again said their parents/guardian would have disagreed. 49% chose that they

would *somewhat disagree* and 45% chose they would *strongly disagree*, while a small percentage of 3% chose that their parents/guardians would *somewhat agree* and *strongly agree*.

Looking specifically at the Hispanic/Latino population that took the survey, 35 surveys were collected in total. For the statement “**Depression is caused by bad or weak character,**” over one fourth of surveyors chose that their parents/guardian would *somewhat agree* by 29%. Overall, 35% agreed for their parents/guardian on the previous statement while 6% choosing *strongly agree* as an option. On the contrary, 28% chose *somewhat disagree* while 37% chose *strongly disagree* to conclude that 65% of Hispanics/Latinos disagreed that their parents/guardian would believe this statement. In regards to the next statement, “**Untreated depression can result in death by suicide,**” the majority of this population felt that their parents/guardian would *somewhat agree* by 40%, while 37% *strongly agreed* and 11% *somewhat disagreed* with 12% *strongly disagreed*. For the statement “**Teens with depression usually get better on their own,**” 46% of Hispanics/Latinos studied believed their parents/guardians would *somewhat disagree* while 37% thought they would *strongly disagree*. Only 11% of surveyors felt that their parents/guardian would have chosen *somewhat agree* and merely 6% chose that they would *strongly agree*. The last statement, “**Asking someone about suicide will cause them to become suicidal,**” had a total of 43% choosing *somewhat disagree* for their parents/guardian while 40% chose *strongly disagree*. As for those that felt that their parents/guardian may agree with the statement, 14% chose *somewhat agree* and 3% chose *strongly agree*.

With regards to white ethnicity, 182 surveys were collected in total. For the statement “**Depression is caused by bad or weak character,**” over half of surveyors chose that their parents/guardian would *strongly disagree*. In total, 52% chose *strongly disagree* and 30% chose *somewhat disagree* as an option while 16% chose *somewhat agree* and only 2% chose

strongly agree. With the statement “**Untreated depression can result in death by suicide,**” 52% *strongly agreed* for their parents/guardian while 33% *somewhat agreed*. On the other hand, only 10% *somewhat disagreed* with the statement for their parents/guardian while 5% *strongly disagreed*. Looking at the statement “**Teens with depression usually get better on their own,**” 47% chose *somewhat disagree* while 38% leaned towards that their parents/guardian would say they *strongly disagree*. As for agreeing with this statement, 13% chose *somewhat agree* and 2% chose *strongly agree*. In relation to the statement “**Asking someone about suicide will cause them to become suicidal,**” 50% of students with white ethnicity chose that their parents/guardian would *somewhat disagree* and 39% chose that they would *strongly disagree*. On the contrary, merely 8% chose they would *somewhat agree* with the statement through their parents/guardian perception while 3% *strongly agreed*.

For the ethnicities Native American/American Indian and ‘Other,’ only 3 surveys were collected for each which makes drawing an analysis improbable. With Native American/American Indian and the statement “**Depression is caused by bad or weak character,**” 34% chose *strongly disagree* with 33% choosing *somewhat disagree* and *somewhat agree*. 67% chose *somewhat agree* and 33% chose *somewhat disagree* for the statement “**Untreated depression can result in death by suicide.**” 67% chose *somewhat agree* while 33% chose *strongly disagree* for the statement “**Teens with depression usually get better on their own.**” Finally, 67% chose *strongly disagree* while 33% chose *strongly agree* for the statement “**Asking someone about suicide will cause them to become suicidal.**”

The ethnicity ‘Other’ was an option give to surveyors in case their cultural background was not found or they wished not to share it. In a total of 3 surveys collected for this population, 67% *somewhat agreed* and 33% *strongly disagreed* with the first statement of “**Depression is caused by bad or weak character.**” For the statement “**Untreated depression can result in**

death by suicide,” approximately 34% chose *strongly disagree*, 33% *somewhat disagree*, and 33% *somewhat agree* for their parents/guardian perception. In relation to the statement **“Teens with depression usually get better on their own,”** 67% chose *somewhat agree* while 33% chose *somewhat disagree* as a response. Lastly, 67% chose *strongly disagree* and 33% chose *somewhat agree* for the statement **“Asking someone about suicide will cause them to become suicidal.”**

As predicted, ethnicities such as Asian/Pacific Islander, Hispanic/Latino, and Black/African American were more likely to agree that their parents would choose the more wrong answer for the previous statements. Looking more closely at the generalized statement **“Depression is caused by bad or weak character,”** of the white population studied 82% disagreed and only 18% agreed. Yet Asian/Pacific Islander agreed by 50%, Hispanic/Latino by 35%, and Black/African American by 36% in regards to the statement above and how their parents’/guardian would answer above.

Fields of Study

Fields of study were separated in this study to analyze how the students’ personal opinions on depression and social stigma differed from their counterparts. In regards to the 16 art majors studied, stigmatizing beliefs were strongly prevalent for the statement **“Students could be ‘labeled’ if they were screened for depression”** with 63% choosing *somewhat agree* and 19% for *strongly agree*. Only 12% chose the option *somewhat disagree* and 6% chose *strongly disagree*. On the other hand, art majors showed less stigmatizing beliefs for the statement **“Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac.”** The responses for this statement included 38% for *somewhat agree*, 37% for *somewhat disagree*, and 25% for *strongly disagree*. Overall, art students’ beliefs on judgement for those being screened for depression were 82% prevalent, while thoughts on over-medication were only 38% prevalent.

For the biology majors studied, 19 surveys were collected in total and showed low levels of stigmatization for both statements. For the statement **“Students could be ‘labeled’ if they were screened for depression,”** 37% chose *somewhat disagree* and 21% chose *strongly disagree*. On the contrary, 32% *somewhat agreed* that those being screened will be ‘labeled’ while 10% *strongly agreed*. For the statement **“Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac,”** a surprisingly 58% of students chose that they would *somewhat disagree* and 32% *strongly disagreed*. Only 10% of the biology students *somewhat agreed* with this statement. As a whole, biology students were far less likely to show stigmatizing beliefs towards depression. In this study, 58% disagreed that those screened would be ‘labeled’ while 90% disagreed that an increase in screenings would cause over-medication distribution in psychiatric medicines.

Of the 42 business majors studied, significance in stigmatizing beliefs were only noted for the statement **“Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac.”** For this statement, a total of 57% of students agreed with the statement or in other words 45% *somewhat agreed* while 12% *strongly agreed*. Approximately 21% *somewhat disagreed* while 22% *strongly disagreed*. In regards to the statement **“Students could be ‘labeled’ if they were screened for depression,”** the results were split in half for those who agree or disagree with the statement. For instance, 40% *somewhat agreed* and 10% *strongly agreed* while 24% *somewhat disagreed* and 26% *strongly disagreed*.

In regards to criminal justice majors, 18 surveys were collected in total. Looking at the statement **“Students could be ‘labeled’ if they were screened for depression,”** 55% agreed overall and therefore 45% disagreed as a whole. More exactly, 50% *somewhat agreed* that students could be judged if they were screened for depression while merely 5% *strongly disagreed*. On the other hand, 28% *somewhat disagreed* and 17% *strongly disagreed* that

students would be 'labeled' at all. Surprisingly, criminal justice majors showed less stigmatizing beliefs for the statement **"Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac."** A total of 67% of students disagreed with this statement as whole when compared to 33% who *somewhat agreed*. Of the 67% who disagreed, 45% *somewhat disagreed* and 22% *strongly disagreed*.

For the education majors studied, 28 surveys were collected with notable stigmatizing beliefs apparent. For the statement **"Students could be 'labeled' if they were screened for depression,"** 61% of surveyors agreed with the statement while 39% disagreed. Of the 61% agreeing with the biased statement, 54% *somewhat agreed* with 7% who *strongly agreed*. For the 39% who disagreed with the statement, 18% *somewhat disagreed* and 21% *strongly disagreed*. When the statement **"Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac,"** was looked at, the results were evenly split on both sides. 43% *somewhat agreed* and 7% *strongly agreed* that students would be overly medicated if screenings were increased, while 21% *somewhat disagreed* and 29% *strongly disagreed*.

When looking at the 74 health sciences studied, stigmatizing opinions were notably less prevalent amongst these students. For the statement **"Students could be 'labeled' if they were screened for depression,"** there were 60% of surveyors who disagreed with this statement while 40% disagreed with it. More exactly, 34% *somewhat disagree* while 26% *strongly disagreed* and 31% *somewhat agreed* and 9% *strongly agreed*. For the statement **"Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac,"** 39% *somewhat disagreed* and 22% *strongly disagreed*. On the other hand, 31% *somewhat agreed* and 8% *strongly agreed*. Overall, 61% disagreed that students would be overly-medicated if screenings on depression were to increase while 39% agreed with the scenario.

In regards to the psychology majors studied, 19 were collected in total and results were fluctuating. For instance, in the statement “**Students could be ‘labeled’ if they were screened for depression,**” 69% disagreed in total while 31% agreed. More exactly, 37% *somewhat disagreed* and 32% *strongly disagreed* while 26% *somewhat agreed* and 5% *strongly agreed*. Yet the same results were not seen from the statement “**Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac.**” The responses for this statement included 42% *somewhat agree* and 11% *strongly agreed* while 37% *somewhat disagreed* and 10% *strongly disagreed*. In total, 53% agreed with the biased statement while 47% disagreed with it.

Even though 7 surveys were collected amongst social work majors, significance were noted for both statements. With the statement “**Students could be ‘labeled’ if they were screened for depression,**” a total of 71% disagreed while 29% only *somewhat agreed*. The 71% of surveyors that disagreed with the statement were 57% that *somewhat disagreed* and 14% that *strongly disagreed*. For the statement “**Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac,**” most of the surveyors agreed instead of disagreed. More exactly, 43% *somewhat agreed* and 14% *strongly agreed* while 29% *somewhat disagreed* and 14% *strongly disagreed*. According to the results from these statements, students in social work are more skeptical about the distribution of psychiatric medicines but do not believe judgement will be passed on those who are screened.

For the students who had undeclared as their major, 19 surveys were collected in total. For the statement “**Students could be ‘labeled’ if they were screened for depression,**” 47% agreed while 53% disagreed. Of the 47% that agreed, 26% *somewhat agreed* and 21% *strongly agreed* while the 53% that disagreed included 32% who *somewhat disagreed* and 21% *strongly disagreed*. Looking at the statement “**Screening adolescents for depression at their**

primary health care provider will result in too many teens taking medicines like Prozac,”

the majority of surveys collected agreed with the statement with 63% while 37% disagreed overall. Somewhat agree was the most commonly chosen answer with 37% chosen as the answer which was followed by 26% of surveyors choosing *somewhat disagree*. The least chosen answers included 26% who *strongly agreed* and 11% who *strongly disagreed*.

Undeclared majors were noted as to be more likely to think that over distribution of psychiatric medicines would happen if increased screenings were to be in place, but were least likely to believe that judgement would be passed onto those that were screened.

Finally, results varied with the 24 students who chose ‘other’ as their field of study. The majors that were included in this category included; political science, English, communications, math, sports management, geology, chemistry, and history. For the statement **“Students could be ‘labeled’ if they were screened for depression,”** the results included that 50% agreed overall and 50% disagreed. More precisely, 42% *somewhat agreed* and 8% *strongly agreed* while 33% *somewhat disagreed* and 17% *strongly agreed*. When looking at the statement **“Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac,”** 58% of students agreed with the statement while 42% disagreed. Of the 58% of students who agreed with the statement, 42% *somewhat agreed* while 16% *strongly agreed*. Of the 42% of students who disagreed with the statement, 21% *somewhat disagreed* while 21% also *strongly disagreed*.

Overall, besides business and ‘other’ majors having split views on the statement **“Students could be ‘labeled’ if they were screened for depression,”** the non-science majors were more likely to show stigmatizing beliefs in regards to the scenario. Arts (82%), education (61%), and criminal justice (55%) were all greater than 50% more likely to believe that students screened for depression may be labeled or judged. Majors like social work (71%), psychology (69%), health sciences (60%), biology (58%), and undeclared (53%) were all at least 50% more

likely to disagree that those screened for depression would not frowned-upon. Given the evidence listed above, students who have a background in science based studies may be more likely to understand the physiological effects of depression and see past judgement when compared to those who are not as focused on the sciences. Yet it should also be noted that all majors had at least 25% of its population agree with the statement in one form or another.

With regards to the statement **“Screening adolescents for depression at their primary health care provider will result in too many teens taking medicines like Prozac;”** majors like art, education, and criminal justice who mostly agreed with the biased statement previously, did not show the same response. Instead, undeclared (63%), ‘other’ (58%), social work (57%), business (57%), and psychology (53%) were all over 50% in agreeing with this statement. While biology (90%), criminal justice (67%), arts (62%), and health sciences (61%) were more likely to disagree with the statement as a whole, when compared to education who were evenly split in their responses. Biology and health sciences stayed relatively constant for both of these statements but views greatly varied amongst other fields of study. As hypothesized, for majors that are not as focused on scientific evidence backgrounds may not be as educated on depression when compared to those that are.

Discussion

While distributing these surveys, a great amount of discussion was mentioned amongst surveyors. Common themes that were brought up was that they have not given much thought to depression as a mental health disorder, nor have ever talked to their parents/guardian at all about it. This made their decision making far more difficult and could only assume what their answer would be, which made the option somewhat agree/disagree a common option of choice. As for the opinionated questions on stigmatizing beliefs, some students were very happy that attention was drawn upon the judgement that this mental illness has in society even though they did not necessarily agree with it. Therefore answers that were “strongly/somewhat agree” for

these statements were not always the participant's personal opinion, but in fact their opinion on how others would view the scenario.

Questions were debated such as to "why is it important to know what my parents would think?" or "How am I supposed to know what my parents think if they aren't here?" were commonly brought up during the survey. These were responded with the survey administer encouraging the participant to make their best effort to imagine what their response may be. More questions were brought up as to "What do you mean by 'labeled'?" and "What do you mean by 'too many teens taking medicines like Prozac?'" These questions were addressed in a similar fashion by explaining that 'labeled' also means "stereotype" or "judged upon." And for the statement involving Prozac, it may be rephrased to think of "the debate that Adderall is currently being overly administered and therefore could this happen to drugs meant to treat depression?" These responses helped the students see the statement more clearly.

For future studies, it would be recommended that a much larger sample size is used in order to ensure that populations are evenly distributed. One of the flaws in this study is that ethnicities were not as great in number because the overwhelming number of white participants. The same can go with the greater number of health sciences evaluated when compared to majors like social work that only received 7 surveyors. It would also be greatly recommended that gender and financial status was accounted for as well. Since depression are trended in more women than men, the response could vary greatly amongst the genders. Also since a lower income may be attributed to depression, financial status could show a better correlation amongst surveyors.

Conclusion

After overall and individualized analysis of the surveyed results, it is evident that further depression knowledge is needed in our society. Even though the majority of students studied

felt that their parents/guardian had awareness of the severity of depression, one in four students believed otherwise. More than likely this was due to differences in ethnicity and/or a low educational background in general. With a more in-depth study, reasoning behind a deficiency in parental knowledge may be more identifiable.

This study also proved that social stigma is more definitely apparent in our society. Whether this is the cause for untreated depression still remains a question without a more in-depth analysis. Due to the limited options given and the results being almost split, if the option 'indifferent/neutral' was apparent then results may have varied tremendously. Yet for this study, a side was expected to be chosen in order to obtain a valid conclusion.

In order to decrease social stigma in regards to depression, or mental illness in general, further education is needed. This may be done in the school setting through health education classes and in the media through public service announcements. A social change would mean that depression is more commonly understood as being an actual illness and not due to poor character.

As for reaching the Health People 2020 goal of "increasing the proportion of primary care physician office visits where youth aged 12-18 (and 19 and up) years of age are screened for depression," further education and resources should be more readily available. In a study done by Kutner, L., Olson, C. K., Schlozman, S. et al, it was evident that families that visited their primary health care provider regularly were more comfortable discussing mental health issues with their current provider. This may even be a young adult's pediatrician due to their familiarity with the provider already. This study focused on increasing the confidence of primary health care providers in diagnosing and treating mental health disorders, despite the fear of the black box warning. The researchers showed a short educational video to current pediatricians on the topic of depression and mental health, and it resulted in 92% being very interested for more educational materials on the matter (4).

Materials that provide further education are greatly welcomed to physicians yet should also be provided to parents. As parents receive more education about their children and mental illness, in-school teaching will increase the awareness of depression to adolescents all around. With an increase in education, a decrease in social stigma may be more realistic and the goal of an increase in treatment for those who with depression will far more achievable.

Appendix

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