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Comparing perceived public stigma and personal stigma of mental health treatment seeking in a young adult sample

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ABSTRACT

Perceived public stigma regarding seeking mental health treatment can be a barrier to accessing services for young adults. While factors associating with personal stigma regarding how one would view and treat others have been identified, the discrepancies between perceived and personal stigma have received less research attention. We designed the current study to expand on previous research and examine the discrepancies between perceived public stigma and personal stigma among a sample of 386 primarily White and Asian college students. Participants completed surveys of mental health symptoms, treatment experience and attitudes, perceived public, and personal stigma. Overall, participants generally reported greater perceived public stigma than personal stigma; an effect that was particularly evident for women and those with mental health symptoms. The majority of participants disagreed with items assessing personal stigma. Negative attitudes toward treatment and anxiety symptoms associated with perceived public stigma, while male gender, Asian ethnicity, and negative attitudes toward treatment associated with personal stigma. Findings have implications for interventions and marketing programs to help change perceptions about mental health stigma to encourage utilization of services for those young people who could benefit from care.

1. Introduction

Mental health disorders are highly prevalent among young adults in the United States. Findings from the National Comorbidity Survey reveal that more than 50% of young adults aged 18–29 have met criteria for any mental health disorder in their lifetime (Kessler et al., 2005). Between one-tenth and one-third currently meet diagnostic criteria for a mood or anxiety disorder and approximately 15–20% meet criteria for a substance use disorder (Slutske, 2005; Wu et al., 2007; Blanco et al., 2008; Read et al., 2011; Eisenberg et al., 2012). The majority of young adults also report experiencing subclinical but substantial symptoms of these disorders (e.g., feeling sad, overwhelmed, exhausted, or anxious) (Lauterbach and Vrana, 2001; Eisenberg et al., 2007b; Smyth et al., 2008; American College Health Association, 2012).

Despite the prevalence of mental health disorders and clinically significant symptoms, young adults are unlikely to seek mental health care for such concerns (Wang et al., 2000; Eisenberg et al., 2007a; Wu et al., 2007). For example, Blanco et al. (2008) found in a sample of over 5000 college- and non-college-attending young adults that, although approximately 47% met criteria for a mental health disorder in the past year, only approximately one-fifth of those meeting criteria utilized mental health treatment services in the past year. Few young adults in general perceive a need for mental health services, even among those with clear need based on measures indicating likely depressive, anxiety, or alcohol use disorders (Eisenberg et al., 2007a; Wu et al., 2007). Even those that perceive a need for care may still not seek treatment and the gap between perceived need and actual receipt of care is greatest among young adults compared to other age groups (SAMHSA, 2006).

Multiple logistical and attitudinal barriers prevent young adults from engaging in treatment, such as personal attitudes that seeking care will not be beneficial, belief one can handle problems on their own, concerns about cost, and lack of awareness of treatment options (Rickwood et al., 2007; Sareen et al., 2007; Mojtabai et al., 2011). One of the most cited barriers is stigma against mental health disorders and against those who receive treatment for these concerns. *Public stigma* in particular is defined as the degree to which the general public holds negative views and discriminates against a specific group (Corrigan, 2004).

The perception of public stigma from others (i.e., others would view one negatively if they sought treatment) is a major barrier to mental health treatment seeking among young adults. Indeed, one-fifth of college students with unmet mental health needs have cited "I worry what others will think of me" as a major barrier to

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seeking care (Eisenberg et al., 2007a). Data from the National Survey on Drug Use and Health finds that upwards of one-third of individuals report concerns about stigma affected their decision to not seek treatment despite perceiving a need (SAMHSA, 2006; Mason et al., 2013). Findings from the National Cormorbidity Survey replication study reported approximately one-fifth of individuals in mental health care dropped out of treatment due to perceived public stigma (Mojtabai et al., 2011). Not only is perceived stigma a major barrier to treatment seeking (Corrigan, 2004), but it can exacerbate anxiety and depressive symptoms, substance abuse, social isolation, medication non-compliance, and treatment drop-out (Link et al., 1999; Sirey et al., 2001; Britt et al., 2008; Keyes et al., 2010). Perceived stigma affects initiation and engagement in treatment for individuals beyond the United States as well, suggesting it is a global concern that warrants further attention (Sareen et al., 2007; Andrade et al., 2013).

Few studies have examined the validity of perceived public stigma. That is, while youth may perceive that others would view them negatively if they sought treatment, it is not clear if these perceptions are accurate. One way to test these perceptions is to compare perceived public stigma (i.e., how one thinks others would view and treat them) with personal stigma (i.e., how one actually would view and treat others themselves). For example, Eisenberg et al. (2009) found that the majority of a large sample of college students (65%) agreed that "most people would think less of someone who has received mental health treatment" yet 85% of them disagreed with the statement, "I would think less of someone who has received mental health treatment." Similar findings have been reported for adolescents and perceived versus actual stigma related to symptoms of depression, with Australian youth reporting greater levels of perceived stigma (e.g., "most people believe that depression is a sign of personal weakness") compared to personal stigma (e.g., "depression is a sign of personal weakness) (Calear et al., 2011). These findings suggest that young adults may overestimate public stigma against mental health treatment particularly in relation to their own personal stigma attitudes. However, to date no studies have examined perceptions or misperceptions of how the study *participants themselves* would be treated by the general public for seeking treatment for mental health concerns. Likewise, prior work has not examined what factors (e.g., demographics; mental health symptoms common in college such as anxiety, depression, and heavy alcohol use) influence the degree of misperception between perceived public stigma and actual attitudes toward seeking treatment.

1.1. The present study

We designed the current study to expand on previous research and examine factors associated with perceived public stigma and personal stigma attitudes regarding mental health treatment seeking among young adults. For this study, perceived public stigma was conceptualized as how an individual believed others would view and treat them if they sought treatment, while personal stigma referred to how the individual him/herself would view and treats others who seek treatment. In our analyses, we included demographic factors known to associate with attitudes toward treatment and treatment utilization; specifically, age, sex, and ethnicity, as young adult males and individuals identifying as Asian have demonstrated less favorable attitudes toward seeking mental health treatment in several studies (Kim and Omizo, 2003; SAMHSA, 2006; Eisenberg et al., 2007a; Elhai et al., 2008; Masuda et al., 2009; Nam et al., 2010). Based on previous research, we hypothesized that males, Asian students, those with no mental health treatment experience, and those with unfavorable attitudes toward treatment (i.e., those unlikely to seek treatment themselves) would report greater perceived public stigma (e.g., Vogel et al., 2005; Elhai et al., 2008; Gonzalęz et al., 2011). We also hypothesized these groups would similarly report greater levels of personal stigma. Since young adults with mental health concerns report more stigma-related barriers to treatment than those without these concerns (e.g., Hoge et al., 2004; Pietrzak et al., 2009), we hypothesized that those reporting mental health concerns such as depression, anxiety, and risky alcohol use would be more likely to endorse greater perceived public stigma. Yet given their likely need for services and potential insight into how treatment could help others like themselves, we hypothesized those with mental health symptoms would report reduced personal stigma attitudes compared to those without symptoms. Lastly, we utilized within-person analyses to examine discrepancies between participants' reports of perceived public stigma and personal stigma attitudes. We hypothesized participants would be more likely to report that others would view and treat them negatively for seeking treatment than they themselves would view or treat others (i.e., greater perceived public stigma than personal stigma attitudes; Eisenberg et al., 2009; Lally et al., 2013). We explored factors associated with discrepancies between perceived public stigma and personal stigma attitudes among participants. Determining if and to what extent perceived public stigma is misperceived by young people can inform future research and intervention efforts with youth.

2. Methods

2.1. Participants and procedure

Surveys were distributed to college students during mass testing day as part of introductory psychology courses at a large west coast university. Students attending class that day were able to complete packets of research surveys by university researchers and receive course credit. Those not attending were able to complete an alternate assignment specified by their professor (e.g., write a paper). Survey packets containing measures for this study were distributed to a random half of the approximate 780 students in attendance. Three-hundred and eighty-six survey packets were returned with our study measures completed. Participant demographics are found in Table 1.

2.2. Measures

2.2.1. Demographics.

Participants responded to items assessing age, sex, ethnic background, and class year.

2.2.2. Perceived public stigma and personal stigma

Participants completed the perceived public stigma subscale of the perceived stigma and barriers to care for psychological problems measure developed for use with young adult service members and college students (Hoge et al., 2004; Britt et al., 2008). The measure included six items regarding one's beliefs about how others would view them if they were to seek mental health treatment (see items in Table 2). Specifically, participants were asked to rate from "1 strongly disagree" to "5 strongly agree" how each of the six items might affect their decision to seek treatment for a psychological problem (e.g., a stress or emotional problem such as depression, anxiety attacks, or substance use concerns) from a mental health professional (e.g., a psychologist or counselor). Higher scores reflected greater perceived public stigma (α=0.86). Wording of the items followed from previous work with college students (Britt et al., 2008; α=0.82) and changes in wording from "my peers" to "my unit" or "leadership" have also displayed adequate reliability in young adult military samples (e.g., α=0.89 in Blais and Renshaw (2013); α=0.94 in Britt et al. (2008)). These six items was then followed by the same 6 items slightly reworded for this study's purposes to reflect how much the participant agreed with each item if they knew a student at their school who was struggling with a psychological problem and they decided to seek treatment from a mental health professional. Higher scores reflected greater personal stigma. Internal reliability of this modified scale was adequate, α=0.89.

2.2.3. Mental health symptoms

Participants completed measures of current symptoms for depression, general anxiety, and risky alcohol use. For depressive symptoms, participants completed the Patient Health Questionnaire 2-item (Kroenke et al., 2003), where participants reported frequency of "Little interest or pleasure in doing things" and "feeling down,

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depressed, or hopeless" in the past 2 weeks from "0 not at all" to "3 nearly every day." A score of three indicates adequate specificity and sensitivity for a depressive disorder. The PHQ-2 has been used in studies of young adult college students to screen for depressive disorders (Berg et al., 2011; Klein et al., 2011). The two items were moderately correlated in the present sample, $r=0.55$, $p<0.001$. Anxiety symptoms were assessed with the Generalized Anxiety Disorder 7-item scale (GAD-7; Spitzer et al., 2006), a screener for anxiety disorders. Threshold scores of 5, 10, and 15 indicate mild, moderate, and severe anxiety, respectively. Participants indicated the frequency in which they experienced symptoms of anxiety (e.g., "worrying too much about different things," "trouble relaxing") in the past 2 weeks from "0 not at all" to "3 nearly every day." The GAD-7 has demonstrated adequate reliability and validity when used with college student samples (Donker et al., 2011; Rudd et al., 2011) and displayed adequate reliability in the present sample, $\alpha=0.90$. Risky alcohol use was assessed with the Alcohol Use Disorder Identification Test-Consumption scale (AUDIT-C; Bush et al., 1998). The measure contained three items assessing frequency, quantity, and heavy drinking and has been used to identify alcohol dependence and risky drinking among college students (Dawson et al., 2005). A score of 5 or higher reflects risky drinking ($\alpha=0.82$ in present sample).

2.2.4. Mental health treatment experience and attitudes

Mental health treatment experience was assessed with two items regarding psychotherapy and medication treatment for "issues related to mental health (e.g., anxiety, depression, or alcohol/drug use?)." Participants selected whether they had met with a mental health professional (e.g., psychologist, therapist, counselor)" for psychotherapy and/or "a medical doctor or mental health professional" for psychiatric medication in the past year. Participants indicated receipt of either form of mental health care at some point in their lives but not in the past year. Attitudes toward mental health treatment were assessed with the 10-item Attitudes Toward Seeking Professional Psychological Help Scale-Short Form (ATSPPH-SF; Fischer and Farina, 1995; Elhai et al., 2008). We used the single factor of the 10 items as specified by Fischer and Farina (1995). Reliability of the items was acceptable, $\alpha=0.79$. Response options range from disagree (0) to agree (3). Sample items include "If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy" and "I might want to have psychological counseling in the future." The ATSPPH-SF has been used to assess young adults' attitudes towards mental health treatment in other studies (Nam et al., 2010).

2.3. Analytic plan

We used IBM SPSS Statistics Version 21 to perform descriptive and regression analyses. Descriptive analyses included reports of percentages, means, standard deviations, and *t*-tests of the difference between perceived public and personal stigma. Regression analyses included a hierarchical repeated measures design where we examined the differences between perceived public stigma and personal stigma toward against mental health treatment seeking on three steps. The first step contained demographic information (sex, ethnicity, age), the second step contained mental health symptoms of depression, anxiety, risky alcohol use (i.e., PHQ-2, GAD-7, AUDIT-C), and the third step contained mental health treatment experiences and attitudes (psychotherapy, psychiatric medication, ATSPPH-SF). Given that we had adequate N for White and Asian participant comparison only, ethnicity was dummy coded into two variables to compare White ethnicity to all other ethnicities and Asian ethnicity to all other ethnicities. We also combined positive responses (i.e., Yes in the past 12 months; Yes at some point in my life) to the items for mental health treatment experiences to reflect having ever received psychotherapy and/or psychiatric medication.

Table 1
Sample demographics.

	Mean/ Percentage	Standard deviation
Age	19.32	1.75
Sex		
Male	40.4%	–
Female	59.6%	–
Ethnicity		
White	44.6%	–
Asian	39.6%	–
African–American/Black	3.9%	–
Hispanic/Latino(a)	3.9%	–
Mixed ethnicity	5.2%	–
Other	2.8%	–
Class year		
First-year student	67.5%	–
Sophomore	17.7%	–
Junior	10.4%	–
Senior	4.4%	–
PHQ-2[a]	1.07	1.36
Screen for possible depression[b]	12.2%	–
GAD-7[c]	5.91	4.91
Screen for moderate to severe anxiety[d]	20.8%	–
AUDIT-C[e]	2.90	2.99
Screen for heavy drinking/abuse/ dependence[f]	29.2%	–
Psychotherapy[g]	18.1%	–
Psychiatric medication[h]	9.1%	–
Attitudes toward seeking help[i]	2.35	0.46

[a] Patient Health Questionnaire-2 item.
[b] PHQ-2 score of 3 or higher.
[c] Generalized Anxiety Disorder-7 item.
[d] GAD-7 score of 10 or higher,
[e] Alcohol Use Disorders Identification Test-Consumption.
[f] AUDIT-C scores ≥ 5.
[g] Received psychotherapy ever.
[h] Received medication ever.
[i] Attitudes toward seeking professional psychological help scale-short form composite.

3. Results

3.1. Descriptive analyses

Descriptive information about the mental health, treatment experience, and attitudes measures is found in Table 1. Participants reported a mean perceived public stigma score of 2.43 (S.D.=0.84) and a mean personal stigma score of 1.50 (S.D.=0.64), representing a significant difference between perceived public stigma and personal stigma, t (383)=22.33, $p<0.001$. Overall, 57.1% of participants reported means at 2.50 or less indicating disagreement that others would view someone negatively, 33.8% reported means representing neither agreement nor disagreement (values of 2.51 to 3.50) and 9.1% reported mean scores higher than 3.50, indicating "agreement" that others would view someone negatively. In comparison, 93.0% of participants reported means at 2.50 or less representing disagreement that they would view someone negatively, 6.2% reported means representing neither agreement nor disagreement (values of 2.51–3.50), and 0.8% reported mean agreement with items that they would view someone negatively if they sought treatment.

The means and standard deviations, frequencies of disagreement, and frequencies of agreement of individual items from the perceived public stigma and personal stigma scales can be found in Table 2. In general, over three-fourths of participants disagreed that they might treat someone negatively if they sought treatment, with approximately nine out of 10 participants disagreeing with the personal stigma statements that others should feel embarrassed, others should worry about their reputation, they would view the person as weak, they would blame the person for the problem, and they would think less of the person if they were to seek mental health treatment. For each of the six paired items, participants rated the perceived public stigma with significantly less disagreement than personal stigma. That is, while several participants agreed that they would be viewed negatively by others for seeking treatment, they generally tended to disagree that they themselves would view someone negatively. For example, for the pair of items related to being seen as weak (i.e., I would

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Table 2
Comparison of mean responses to individual items of perceived public stigma and personal stigma attitudes.

		M	S.D.	*t*[a]	Percent agreeing (%)	Percent disagreeing (%)
Pair 1	It would be too embarrassing	2.68	1.08	20.21	28.6	49.5
	They should feel embarrassed	1.45	0.75		3.1	91.1
Pair 2	It would harm my reputation	2.37	1.05	15.32	17.7	60.5
	They should worry about their reputation	1.53	0.81		3.9	88.5
Pair 3	My peers might treat me differently	2.75	1.14	14.41	31.9	46.2
	I might treat them differently	1.83	1.05		10.4	75.0
Pair 4	My peers would blame me for the problem	1.93	0.90	12.07	4.9	75.3
	I would blame them for the problem	1.35	0.67		1.6	93.5
Pair 5	I would be seen as weak	2.62	1.19	19.02	28.8	50.6
	I would view them as weak	1.48	0.80		3.4	88.5
Pair 6	People important to me would think less of me	2.24	1.17	15.01	18.2	66.0
	I would think less of them	1.37	0.67		1.0	92.2

[a] *t*-Values represent differences between perceived public stigma and personal stigma within pair. All are significant at $p < 0.001$.

be seen as weak" and "I would view them as weak"), while 28.8% agreed that they would be viewed as weak if they sought mental health treatment, 88.5% disagreed that they would view someone as weak if they sought treatment. Only 3.4% agreed they would view someone as weak in this situation.

3.2. Regression analyses

3.2.1. Perceived public stigma

Using the repeated measures analyses, we looked at factors in our model that associated with greater perceived public stigma against seeking treatment for psychological problems. The results from these analyses at each step can be found in Table 3. On step 1, we entered demographic information of gender, ethnicity, and age. The overall model was non-significant, $R^2=0.01$, F (4, 382)=1.15, $p=0.337$, and we did not find any significant unique effects. On step 2, after controlling for demographic variables on step 1, we entered mental health symptoms from composite scores of the GAD-7, PHQ-2, and the AUDIT-C. The overall model was significant, $R^2=0.06$, F (7, 379) =3.21, $p=0.003$. The GAD-7 score was significantly and positively associated with greater perceived public stigma. That is, greater frequency of anxiety symptoms was associated with greater agreement with beliefs that one would be treated and viewed negatively by others if they sought treatment. On step 3, after controlling for demographics and mental health symptoms, we entered treatment attitudes and treatment experience. The overall model on step 3 was significant, $R^2=0.09$, F (10, 379)=3.57, $p < 0.001$. Less favorable attitudes toward treatment (e.g., less likely to seek treatment if distressed) were associated with greater perceptions that others would view one negatively if they sought treatment.

3.2.2. Personal stigma attitudes.

We looked at factors in our model that associated with greater personal stigma against others who were seeking treatment for psychological problems. The step 1 model for personal stigma was significant, $R^2=0.01$, F (4, 381)=4.08, $p=0.003$. Asian participants (compared to other ethnicities) and males (compared to females) reported greater agreement that they would view someone negatively if they sought treatment. The step 2 model was also significant, $R^2=0.05$, F (7, 378)=2.84, $p=0.007$, but there were no unique effects of the mental health variables added on step 2. Finally, the model on step 3 was significant, $R^2=0.10$, F (10, 378)= 3.97, $p < 0.001$. Less favorable attitudes toward treatment (less likely to seek treatment if distressed) associated with greater personal stigma.

3.2.3. Differences between perceived public stigma and personal stigma attitudes.

We next determined using a repeated measures design which factors influenced differences between perceived public and personal stigma against treatment seeking. On step 1, after controlling for demographics, there was a within subjects effect for gender, Wilk's $\Lambda=0.98$, F (1, 377)=5.59, $p=0.002$, such that female participants reported a greater difference between perceived public stigma and personal stigma compared to men. On step 2, there was a significant effect for differences in perceived and personal stigma by PHQ-2 scores, Wilk's $\Lambda=0.99$, F (1, 371)=4.37, $p=0.038$, such that higher depression scores on the PHQ-2 associated with a greater discrepancy between perceived and personal stigma. There was also a significant effect by GAD-7 scores, Wilk's $\Lambda=0.97$, F (1, 371)=12.81, $p < 0.001$, such that higher anxiety scores on the GAD-7 associated with a greater discrepancy between the types of stigma. On step 3, after controlling for all other factors in the model, neither of the treatment experience variables nor the ATSPPH-SF composite score associated with differences in stigma.

4. Discussion

In the current study, we examined perceived public stigma and personal stigma toward seeking mental health treatment among a diverse sample of young adults. We found that, in general, participants endorsed higher levels of perceived public stigma than personal stigma. For example, while approximately one-third of participants believed that their peers would treat them differently if they sought mental health treatment, three-fourths reported they would not treat a peer differently if they sought treatment. This represents an important misperception between how individuals perceive others would view and treat them and how others may actually view and treat them. In other words, general consensus towards mental health treatment may not be as negative as one believes. This discrepancy between perceived public stigma and personal stigma was the largest for women and those reporting depression and anxiety symptoms. That is, women, those with depression symptoms, and those with anxiety symptoms were more likely than men and those without symptoms to believe others would view/treat them negatively, but also were more likely to report that they themselves would not view/treat others negatively for seeking treatment. It is possible that this discrepancy relates to underlying psychopathology in anxiety and depression and the tendency to pessimistically evaluate oneself and one's environment (e.g., I think people should receive help if they want it but others would look down on me if I sought

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Table 3
Regression analyses.

	Unstandardized coefficient B	*SE*	*t*	*p*
Perceived public stigma				
Step 1 – Demographics				
Sex[a]	0.10	0.09	1.14	0.255
Ethnicity (Asian versus others)[b]	0.22	0.13	1.68	0.094
Ethnicity (White versus others)[c]	0.18	0.13	1.45	0.148
Age	0.03	0.03	1.05	0.295
Step 2 – Mental health symptoms				
PHQ-2[d]	−0.05	0.04	−1.25	0.212
GAD-7[e]	0.04	0.01	3.96	< 0.001
AUDIT-C[f]	−0.01	0.02	−0.25	0.802
Step 3 – Treatment experience and attitudes				
Psychotherapy[g]	−0.02	0.12	−0.17	0.868
Psychiatric medication[h]	0.08	0.17	0.46	0.645
Attitudes toward seeking help[i]	−0.33	0.10	−3.47	<0.001
Personal stigma attitudes				
Step 1 – Demographics				
Sex[a]	−0.17	0.07	−2.49	0.013
Ethnicity (Asian versus others)[b]	0.26	0.10	2.65	0.008
Ethnicity (White versus others)[c]	0.09	0.10	0.88	0.382
Age	−0.01	0.02	−0.39	0.697
Step 2 – Mental health symptoms				
PHQ-2[d]	0.03	0.03	0.99	0.325
GAD-7[e]	0.01	0.01	0.61	0.546
AUDIT-C[f]	0.00	0.01	−0.02	0.981
Step 3 – Treatment experience and attitudes				
Psychotherapy[g]	−0.12	0.10	−1.23	0.220
Psychiatric medication[h]	0.16	0.13	1.23	0.220
Attitudes toward seeking help[i]	−0.03	0.01	−4.94	0.001

[a] Male coded 0, female coded 1.
[b] Other ethnicities coded 0, Asian coded 1.
[c] Other ethnicities coded 0, White coded 1.
[d] Patient Health Questionnaire-2 item.
[e] Generalized Anxiety Disorder-7 item.
[f] Alcohol Use Disorders Identification Test–Consumption.
[g] Received psychotherapy coded 1.
[h] Received medication coded 1.
[i] Attitudes toward seeking professional psychological help scale-short form.

help) or worry about what others may think of one's actions (Barlow, 2002; Clark, 2001).

Misperceptions between how one perceives they would be treated and viewed by others and how others may actually view and treat the person have been observed in other work with young adults in college and military settings (e.g., Adler et al., 2009; Eisenberg et al., 2009; Lally et al., 2013). Additionally, individuals may be more willing to believe that treatment is acceptable for others but not for themselves. For example, Adler et al. (2009) found that among nearly 2300 Army soldiers recently returning from combat, though about 50% reported seeking treatment was "okay for me," 75% reported that seeking support was "okay for soldiers" in general. Similarly, the large majority of college students in other studies indicate that few would view or treat someone differently (Eisenberg et al., 2009; Lally et al. 2013). Concerns about being viewed and treated negatively by peers are major deterrents to seeking mental health care (SAMHSA, 2006; Mojtabai et al., 2011; Mason et al., 2013) and knowledge that others would not actually view or treat them differently may promote mental health treatment initiation and engagement.

For perceived public stigma specifically, higher reported anxiety symptoms associated with greater perceptions that others would view and treat them negatively if they sought treatment. Compounding this, those with less favorable attitudes toward mental health treatment also reported greater perceived public stigma. Thus, those who may likely benefit from treatment to address anxiety concerns are the ones more likely to believe that others would view them negatively. This may further prevent them from initiating and engaging in treatment that could ultimately be helpful. We did not find any effect for depression or risky alcohol use. This may be because public stigma towards mental disorders can vary across specific diagnoses (e.g., Reavley and Jorm, 2011). For example, clinical populations of individuals with diagnosed anxiety disorders may worry about what others think, fear disapproval from others, and report lower self-esteem and self-confidence, which may contribute to greater perceptions that others would view them negatively in this context (Barlow, 2002; Ociskova et al., 2013). It is also possible that anxiety symptoms both as part of clinical diagnoses and as stand-alone symptoms contribute to stigma concerns moreso than other mental health symptoms or clinical diagnoses, which is an area for further research.

Concerning personal stigma attitudes and consistent with previous studies (e.g., Masuda, Boone (2011)), male sex, Asian ethnicity, and less favorable views toward mental health treatment were associated with greater personal stigma attitudes That is, male and Asian young adults, as well as those with negative views of treatment, appear to have greater stigmatizing views about others who seek treatment. Males and Asian students themselves are less likely to have been to mental health counseling (Soet and Sevig, 2006) and report less perceived need for such services (Komiya et al., 2000; Eisenberg et al., 2007a; Elhai, et al., 2008). Early childhood socialization and learned cultural attitudes (e.g., "boys don't cry," control one's emotions and solve one's own

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problems is considered a sign of strength) may have influenced male and Asian students to report more personal stigma attitudes towards other (Chandra and Minkovitz, 2006; Kim, 2007; Kim and Omizo, 2003). It is unclear if male students were considering only other male students like themselves in their attitudes or if they would be more accepting of female students' receipt of treatment; a group that themselves appears more open to seeking treatment than men but still reports considerable perceived public stigma from other students. Also, while we do not know if these attitudes would manifest as actual behaviors towards others (e.g., actually treating someone differently because they sought treatment), these individuals could potentially hinder help seeking for others as well as for themselves. Efforts targeted toward reducing personal stigma attitudes and promoting acceptability of help seeking may be especially important for these individuals.

4.1. Clinical implications

Taken together, the present study and previous studies (e.g., Adler et al., 2009; Eisenberg et al., 2009; Lally et al. 2013) suggest that the majority of young adults may indeed (1) not think less of someone who seeks care and (2) believe that it is okay for someone to seek care. Correcting misperceptions of behaviors and attitudes is a major component of efficacious norms-based interventions aimed at initiating behavior change in a variety of areas such as reducing alcohol use, sexual assault, and home energy usage (Lewis and Neighbors, 2006; Neighbors et al., 2009; Steg and Vlek, 2009; Berkowitz, 2010; LaBrie et al., 2013) and perhaps similar strategies could be developed to correct students' misperceptions about the acceptability of seeking care. Beyond individualized approaches such as this, campus-wide social norms marketing campaigns (Wechsler et al., 2003) could similarly utilize statistics obtained within a school to correct students' misperceptions through posters and other media (Eisenberg et al., 2009; Lally et al., 2013).

It is important to note that barriers to treatment extend well beyond perceived public stigma. There are other barriers to receiving treatment among young people including not knowing where to go for help, lack of insurance, belief that help is not needed, and preferences to deal with mental health issues on one's own (SAMHSA, 2006; Eisenberg et al., 2012). Considering the diversity of the college population, there are also barriers specific to culture or ethnic background to consider. Asian Americans, for example, were more likely to endorse personal stigma in this study. Some known barriers among Asian Americans include incompatibility with cultural values, language, and religious beliefs (e.g. Abe-Kim et al., 2007). Thus, it is important to consider context in perceptions of mental health treatment on specific campuses and within one's family and culture. Additionally, while very few participants agreed that they would not view someone negatively if they sought treatment, one in 10 agreed that they *would* treat the person differently. However, it is unclear how participants interpreted "treating someone differently." For example, this could have been interpreted as either "I would be supportive of them" or "I would avoid them."

Of additional note, the college student participants in our study generally disagreed that others would view them negatively if they were to seek treatment. Cross-sectional research from both American and Irish university students suggests that many students report low perceived public stigma and these perceptions may not be as highly influential on treatment intentions as previously believed (Eisenberg et al., 2009; Lally et al., 2013). However, longitudinal studies examining the effects of perceived public stigma on actual treatment seeking are unavailable and represent an area of necessary research work. Still, upwards of nearly one-third of students in our sample agreed with statements that others would view them differently, view them as weak, or cause them to feel embarrassed. If these results were generalized to the broader student population, a large number of individuals have potential to be affected by perceived public stigma; particularly if they are struggling with mental health concerns like depression or anxiety.

4.2. Limitations

There are limitations to the study. First, we assessed personal stigma by examining how one would hypothetically treat or view someone differently and do not know if people would actually respond this way if presented with someone seeking treatment. Like other studies, our study is cross-sectional and did not examine stigma in relation to actual treatment seeking. In addition, our sample of young adults contained a sample of primarily first and second year college students from one university, which limits the generalizability of our findings. However, with the exception of substance use disorders, other studies have reported few differences in the mental health problems between college students and their non-college attending peers (Wu et al., 2007; Blanco et al., 2008). Also, though our sample was small, we observed similar effects as reported in larger studies of college students (e.g., Eisenberg et al., 2009). Though gender and ethnicity was representative of the students completing introductory psychology courses at the time of data collection, women and Asian students were overrepresented compared to the university at large. Finally, we included the "neither disagree nor agree" option as included in the perceived barriers scale (Hoge et al., 2004; Britt et al., 2008), which was selected by a substantial number of participants. While this option gives participants freedom to express an option where they may not have a firm opinion, it somewhat limits our understanding of how individuals would view others (or perceive to be viewed by others). A modification of this scale could place response options on a bidirectional scale of negative to positive views to yield richer data.

4.3. Conclusion

In conclusion, findings from this study and previous studies with young adults, suggest that most young people report that they would not view or treat someone differently if they decided to seek mental health treatment. These findings have implications for the continued development of interventions tailored toward reducing perceived public stigma and personal stigma attitudes, as well as promoting treatment initiation among those who could benefit. Internet-based and school-based interventions exist to reduce perceived stigma and promote mental health treatment initiation (e.g., Saporito et al., 2011; Farrer et al., 2012; Gulliver et al., 2012). More research modifying these existing interventions by including actual norms about public stigma against seeking care is encouraged.

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