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Carly A. Taylor  
*Colby College*

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### Recommended Citation

Taylor, Carly A., "The Influence of Normative Feedback on Stigma of Mental Health" (2015).  
*Honors Theses*. Paper 773.  
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Running Head: NORMATIVE FEEDBACK AND MENTAL HEALTH STIGMA

The Influence of Normative Feedback on Stigma of Mental Health

Carly Taylor

Colby College

### Abstract

The National Alliance on Mental Illness (NAMI; 2012) reports that the greatest barrier preventing college students from seeking help for a mental illness is stigma. Previous research has yet to develop an effective stigma reduction intervention targeting college students. Therefore, the purpose of the following research was to examine whether the administration of personalized normative feedback (PNF) could reduce personal stigma and correct the perception that others stigmatize mental illness. It was hypothesized that participants at baseline would expect others to hold more stigmatizing views compared to themselves. In order to correct this misperception and reduce stigma, half of the participants received PNF comparing their perspective of mental health with the actual norms from local and national data. It was expected that participants who received PNF would significantly reduce their personal and perceived public stigma compared to the control condition. Additionally, it was predicted that individuals in the PNF condition would be more likely to support allocating funds to mental health initiatives on campus. Study 1 confirmed that individuals incorrectly believe that others hold more negative stigmatizing views toward mental health compared to themselves. Study 2 demonstrated that the administration of PNF led to a reduction in perceived public stigma, but there was no observed decrease in personal stigma. Also, participants who received PNF did not differ from the control condition in how much funding they supported allocating to mental health initiatives. Therefore, future research must employ innovative techniques to reduce personal stigma of mental health in the college population.

### The Influence of Normative Feedback on Stigma of Mental Health

Attending a college or university can be a stressful period for young adults as they must adapt to an independent lifestyle, establish new friendships, and keep up with a rigorous academic and extracurricular schedule. However, for a specific population of college students, this period can be even more challenging because they are worried that they may face stigma and discrimination for an uncontrollable aspect of their life. This population is composed of college students living with a mental health condition such as depression, anxiety, bipolar disorder, and many more. The American College Health Association (ACHA; 2012) found that more than 25 percent of college students had been diagnosed or treated by a professional for a mental health condition within the past year. Also, three quarters of all mental health disorders have first onset before age 24, which corresponds to the same period when many individuals are pursuing a postsecondary education (Kessler 2005). As enrollment at colleges has continued to grow in previous years, college counseling services report an increase in the prevalence and severity of mental health issues and need for psychiatric medication by students (American College Counseling Association, 2010).

To further understand the scope of mental health issues on campuses, National Alliance on Mental Illness (NAMI; 2012) surveyed and recorded the personal experiences of college students from across the nation who were living with at least one mental health condition. NAMI found that only 50% of students disclosed their condition to their college administration, and 40% of students did not access mental health services and supports from the school or outside services while attending college. Therefore, these statistics pose a concerning question: why are college students who are struggling with a mental health condition hesitant to seek help or disclose their condition to receive support and accommodations? In the same survey, NAMI

asked students why they did not disclose their condition to others or seek counseling. The number one reason why many college-attending mental illness sufferers do not disclose their condition to friends, faculty, and mental health service providers on campus is because of the perceived stigma and negative perception of mental health in our society. These students fear that if others discover that they have a condition like depression, they will unjustly perceive the student as possessing negative traits that do not correlate with the perception of a successful and functioning member of our society. For example, depressed medical students reported refusing to seek help for their depression because they feared the stigma of having a mental health condition would taint their academic record and career opportunities (Givens & Tija, 2002). Therefore, many students with a mental health condition would rather struggle with the condition without support, counseling, or accommodations than have to possibly face the perceived stigma that others hold against mental illness.

Consequentially, it is then important to understand if this perceived stigma against individuals with a mental health condition is actually prevalent in our society. Eisenberg, Downs, Golberstein, and Zivin (2009) assessed mental health stigma by asking college students to rate their personal acceptance and the perceived public acceptance of individuals with mental health conditions using the Devaluation-Discrimination (D-D) scale. The researchers found that respondents generally did not personally hold stigmatizing views of people living with a mental health condition. However, the respondents believed that the general population thinks more negatively of individuals with a mental illness than they themselves did. Therefore, individuals are not aware that in actuality the general population does not stigmatize people with mental health conditions as expected. Although personal stigma was generally low, perceptions of the norm can influence an individual's personal attitude and behavior such as using stigmas to shape

their actions towards people with mental health conditions. Previous research supports that misperceptions of others' attitudes and behaviors influence future behavior independent of past behavior and existing beliefs (Larimer, Turner, Mallett, & Geisner, 2004). Lastly, in addition to a perceived public stigma against mental health, many individuals also believe there is a general stigma against mental health service use (Golberstein, Eisenberg, and Gollust, 2008). In particular, the researchers found perceived public stigma of mental health service use was higher among individuals without any family members or friends who had used mental health services and among those who believed that therapy or medication was not very helpful.

If it is believed that society as a whole possesses a stigma against mental illnesses and receiving care for a mental health condition, it is important to understand the behavioral and psychological consequences of this perceived stigma. Vogel, Wade, and Hackler (2007) found that perceived public stigma of mental health contributes to the experience of self-stigma, which then influences lack of willingness to seek help. Therefore, individuals may be less likely to seek help for their mental health problems if perceived public stigma has negatively shaped their own attitude to stigmatize mental illness and help-seeking. Also, Quinn and Chaudoir (2009) examined how living with a concealable stigmatized identity such as a mental illness or sexual orientation can affect a person's psychological well-being and health. Their results indicated that anticipating greater stigma and identifying more strongly with the specific condition predicted psychological distress. Therefore, it is worth consideration to examine the effectiveness of different personal and perceived public stigma reduction programs in order to prevent the negative psychological consequences that individuals with mental health conditions experience while facing anticipated and actual stigma.

### **Stigma Reduction**

Past research has examined a number of mental health stigma reduction programs that have included a wide array of techniques such as educational interventions and face-to-face interactions with individuals with mental health conditions. These interventions have had varying success among adolescent and young adult populations. Pinfold et al. (2003) conducted an effective educational intervention with secondary school students in the United Kingdom. The two-session intervention included both a video about people living with depression and schizophrenia and a presentation by individuals living with a mental health condition to challenge the classic stereotypes associated with mental health disorders. The intervention significantly improved students' attitudes toward mental health at the one-week follow-up compared to baseline. Attitudes were slightly less positive at the one-month follow-up but remained significantly better than baseline attitudes. Therefore, short educational interventions can have a small but significant change in attitudes towards individuals with mental health conditions.

However, promoting stigma reduction in college populations may be a more difficult task compared to the population of younger students that Pinfold et al. (2003) examined. For example, recent research using gatekeeper training, which targets individuals who are in frequent contact with others in their community, has been unsuccessful in reducing mental health stigma on college campuses (Lipson, Speer, Brunwasser, Hahn, & Eisenberg, 2014). Resident advisors (RAs) of 32 colleges from around the nation were trained in Mental Health First Aid to increase knowledge of mental health and treatment in order to improve the RAs' attitudes towards mental health using educational and interactive exercises. Lipson et al. (2014) hypothesized that RAs post-training would have more knowledge and higher self-efficacy to respond to mental health issues in their communities, which could result in more contact with individuals with mental

health conditions and enhanced knowledge within their population. These two potential effects could also cause service utilization. Also, the researchers hypothesized that increased communication by the RAs with their residents about mental health would lead to decreased stigma by their residents. Overall, the training increased the RAs' knowledge of mental health. However, there were no significant changes in personal stigma among either residents or RAs. Therefore, using educational interventions to reduce stigma and encourage help seeking within college campuses has not proven successful, a conclusion that is supported by Eisenberg, Hunt, & Speer's (2012) review of stigma reduction literature.

Eisenberg et al. (2012) were unable to find any previous research targeting college students that was effective in reducing stigma of mental health, justifying new research to explore this topic. Specifically, the findings of Eisenberg et al. (2009), which demonstrated a discrepancy between the perceived and actual norms of mental health stigma, suggests that attempts to alter the perceptions of the norm might be useful for reducing both types of stigma. Moreover, stigma reduction programs for mental health stigma have yet to examine whether normative feedback providing information on the true perceptions of mental health will decrease stigma.

### **Personalized Normative Feedback**

The social norms theory states that behavior is influenced by our misperceptions of how our peers think and act (Perkins & Berkowitz, 1986). In particular, people tend to overestimate the occurrence and approval of risky, negative behaviors while underestimating the occurrence and approval for protective, positive behaviors. Consequentially, individuals use these misperceptions to mold their behavior, resulting in increases of problem behaviors and decreases in the protective ones. To address the damaging misperceptions, researchers have employed

personalized normative feedback (PNF), an intervention method that presents an individuals' own perceptions and behaviors in comparison with the actual beliefs and behaviors of their peers. By making the individual aware that their perceived norms are discrepant with the actual norms, PNF has the potential to decrease the individual's participation in negative behaviors while increasing engagement in positive behaviors.

PNF is typically used by first assessing an individual's own beliefs and behavior before providing norms. For example, Neighbors, Larimer, and Lewis (2004) aimed to change perceived norms and alcohol consumption of college students by presenting the students with PNF. The researchers assessed behavior and perceived norms at baseline by asking participants to indicate how much they personally drink and how much they estimate that the typical student drinks. The students in the PNF condition were then given feedback with a tailored summary of their perception of the drinking norms, the actual drinking norms, and the student's own reported consumption. Participants who received PNF significantly made positive changes in their perceived norms and alcohol consumption at three and six month follow-ups. Apart from improving drinking norms and behaviors, PNF has also been successful in a wide variety of behaviors such as increasing sun protection (Reid & Aiken, 2013), promoting energy conservation (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007), and increasing intention to eat healthily (Oenema & Brug, 2003).

Previous research has distinguished between two types of norms that can compose normative feedback: injunctive and descriptive norms (Cialdini, Reno, & Kallgren, 1990). Injunctive norms are defined as what most others approve or disapprove of. On the other hand, descriptive norms reflect the prevalence of characteristics and behaviors of others. Most research has focused on providing PNF based on discrepancies of perceived descriptive norms compared

to the actual descriptive norms such as the research by Neighbors et al. (2004). However, there is a small body of literature that supports the utilization of injunctive norms in PNF to correct the normative misperceptions (Reid & Aiken, 2013). Thus far no previous research has examined combining both descriptive and injunctive norms together in one PNF intervention.

Although previous research has never examined the influence of normative feedback on mental health stigma, researchers have explored the role of norms with other stigmatized identities. Stangor, Sechrist, and Jost (2001) found that presenting fabricated favorable consensus feedback that stated others held a more positive attitude towards African Americans compared to the participants led to an expression of more positive and less negative stereotypes of African Americans than at baseline. On the other hand, participants who had been provided with feedback indicating that others held more unfavorable stereotypes than they had estimated expressed more negative stereotypes. Sechrist and Stangor (2001) expanded from the findings of Stangor et al. (2001) to examine whether providing consensus information about the perception of African Americans would influence the participants' behavior towards African Americans. The results indicated that high-prejudice participants who received low-consensus feedback sat closer to an African American confederate compared to the high-prejudice individuals who received high-consensus feedback. Therefore, providing individuals with information that others share similar beliefs about a stigmatized condition like race can significantly influence the individual's beliefs and behaviors toward the stigmatized group.

The final stigmatized identity that research has examined the impact of consensus information on attitudes is obesity. Similar to the research of perceived consensus and race, Puhl, Schwartz, and Brownell (2005) gave participants fabricated consensus feedback about the beliefs of the average student that was either more unfavorable or favorable towards obesity compared

to the participants' baseline estimates. Participants who received favorable consensus feedback reported more positive and fewer negative traits about obese individuals. Puhl et al. (2005) also compared consensus feedback with other interventions to examine which was most effective in changing stereotypical beliefs of obesity. The participants were assigned to one of the four experimental conditions or the control condition of no feedback. The four different intervention conditions respectively consisted of feedback reflecting the beliefs of other students, feedback reflecting the "actual" prevalence of the traits, the uncontrollable causes for obesity, or the controllable causes of obesity. Informing the participants about the trait prevalence of obese individuals was the most effective intervention in increasing ratings of positive traits compared to all other conditions. For decreasing negative perceptions of obesity, the trait prevalence, other students' beliefs, and uncontrollable causes conditions were most effective compared to the other conditions but did not differ from one another.

The previous research examining perceived consensus with stigmatized identities like race and obesity supports that individuals' own attitudes and behaviors are influenced by people's perceptions of whether their beliefs are consistent with the attitudes of others. This is similar to the presentation of injunctive norms during normative feedback interventions, which presents individuals with their personal belief about a behavior or identity in comparison with the perceptions and approval of others concerning that same behavior or identity. Also, the presentation of the "actual" prevalence of traits among obese individuals, although fabricated, is similar to descriptive norms in normative feedback because it is informing the participant about the occurrence of a behavior or trait. The question however remains whether normative feedback using true rather than fabricated data will also effectively reduce stigmatizing attitudes. This is an important issue because providing fabricated information to participants requires debriefing,

which can reduce an individual's likelihood to maintain the positive attitude changes toward the stigmatized groups after finding out the consensus information does not reflect the real attitudes of their peers.

### **Current Study**

The purpose of the current research was to examine the influence of normative feedback in reducing the stigma of mental health. This research is especially important because no previous intervention has successfully decreased stigma of mental health among the population of college students. Also, past research has presented consensus feedback about other stigmatized conditions, but the consensus was fabricated and did not represent the actual norms of our society. Before the administration of the PNF, the current study replicated the findings of Eisenberg et al. (2009), which demonstrated a discrepancy between perceived public and personal stigma. Therefore, the present research consisted of a two-part study. The goal of Study 1 was to justify the need for using normative feedback as a stigma reduction program by displaying in the target population that individuals have inaccurate perceptions of the stigma and norms of mental health. Once these misperceptions of the norms were exhibited, Study 2 attempted to correct the false beliefs by providing the participants with personalized feedback about how their perceptions compared with the real norms.

### **Study 1**

In this study, participants were provided with different measures to assess their perceptions of the injunctive and descriptive norms of mental health stigma and prevalence. Therefore, the first hypothesis was that there would be a discrepancy between personal stigma and perceived public stigma. Specifically, it was expected that participants would believe that others perceived individuals with a mental health condition more negatively compared to

themselves. Study 1 also examined the relationship between stigma and the amount of funding a participant assigned to mental health services and programs. The amount of funding that an individual allocates to mental health initiatives represented a behavioral intention that could possibly be influenced by receiving personalized normative feedback. The second hypothesis was that personal and perceived public stigma would be negatively correlated with the amount of funding a participant would assign to mental health services and programs. Therefore, participants would be less likely to support giving monetary funds to mental health programs if they personally held a strong stigma or perceived that others think negatively of mental illness. Also, the results of Study 1 were used to indicate which norms needed to be targeted by the PNF in Study 2 in order to correct the misperceptions and reduce stigma.

## **Method**

**Participants.** The participants were undergraduate students ( $N = 144$ ; 99 women, 45 men) from a small liberal arts school in the Northeast. The average age was 19.42 years ( $SD = 1.19$ ). Ethnic representation was 81% White, 10% Asian, 3% Black or African American, 2% Hispanic, 1% Native American or Native Alaskan, and 3% other. Also, 23% reported having been previously diagnosed with a mental health condition.

**Procedure.** The online study was advertised as a psychology study examining health behaviors and attitudes on college campuses. After providing consent, the participants were asked to answer basic demographic questions as well as whether they personally had been diagnosed with a mental health condition. The participants then completed the relevant measures.

## **Measures.**

**Descriptive Norms.** The questions used to assess participants' descriptive norms of mental health were developed based on data of the NAMI (2012) survey and from the

participants' college counseling services. The six items asked the participants to estimate the prevalence of mental health and help-seeking behaviors both within the U.S. college population and their own school's population. In particular, the four mental health items based on the U.S. data asked participants to estimate how many students have a diagnosable mental health condition as well as how many students with a mental illness seek counseling, experience a mental health crisis, and are no longer attending school due to their condition. The two items based on local data asked participants to estimate what percentage of students utilize the counseling services at their school each year and also during their entire academic career.

***Perceived injunctive norms and personal stigma.*** The participants were then presented with two versions of the Discrimination-Devaluation (D-D) scale (Link, 1987), which was also used to measure stigma in Eisenberg et al. (2009). The D-D scale is a 12-item measure that assesses mental health stigma by asking how much a person agrees with each statement (e.g., "feel that receiving mental health treatment is a sign of personal failure") based on that person's beliefs and actions. The response choices were on a 6-point Likert scale: 0 = *strongly agree*, 1 = *agree*, 2 = *somewhat agree*, 3 = *somewhat disagree*, 4 = *disagree*, 5 = *strongly disagree*. To make the D-D scale more relevant to college students, two items were added about college admissions' acceptance of mental illness and one's willingness to work with individuals with a mental health condition on academic group projects. In the current study, the first version of the D-D scale that the participants completed was used to assess personal stigma. The second version was used to assess perceived public stigma by asking the participants to rate the items based on the extent that the typical student at their college would agree or disagree with each statement. There was high internal reliability in the adapted scales measuring personal stigma (Cronbach's  $\alpha = 0.79$ ) and perceived public stigma (Cronbach's  $\alpha = 0.88$ ).

**Funding for mental health initiatives.** Lastly, participants were presented with a measure developed for this study that asked them to assign a percentage of funding to different campus programs and initiatives. Participants read that their college annually has \$100,000 to support programs and initiatives that will positively influence the campus community as a whole. They then assigned what percentage of that pool of money should go to academic enrichment, athletic teams, renovations of common areas, arts, mental health services, student health services, and dorm renovations.

## Results

**Descriptive norms discrepancies.** For three of the six items, there were significant discrepancies between the participants' perceived descriptive norm and the actual norm. First, the participants significantly underestimated the percentage of U.S. students with a mental health condition who are no longer attending college due to their condition ( $M = 23.53$ ,  $SD = 17.00$ );  $t(143) = -28.47$ ,  $p < 0.001$ . They also underestimated the percentage of U.S. students with a mental health condition who have experienced a mental health crisis while in college ( $M = 43.90$ ,  $SD = 24.14$ );  $t(79) = -10.78$ ,  $p < 0.001$ . Lastly, participants underestimated the percentage of students at their college who had sought counseling during their time at college ( $M = 32.33$ ,  $SD = 19.95$ );  $t(142) = -5.20$ ,  $p < 0.001$ . All other perceived and actual descriptive norm comparisons were not significant.

**Injunctive norms discrepancies.** There was a significant difference in the overall ratings for personal stigma ( $M = 1.37$ ,  $SD = 0.62$ ) and perceived public stigma ( $M = 2.11$ ,  $SD = 0.62$ );  $t(139) = -12.80$ ,  $p < 0.001$ . Therefore, participants misperceived that others hold more stigmatizing views of individuals with mental health conditions compared to their own personal views. Participants were most discrepant on the D-D scale item about taking the opinions of

individuals with mental illness less seriously, and they rated their personal stigma ( $M = 1.31$ ,  $SD = 1.43$ ) as significantly lower than their perception of the public stigma ( $M = 2.20$ ,  $SD = 1.20$ );  $t(138) = -17.04$ ,  $p < 0.001$ . The other most significant discrepancy between personal stigma and perceived was exhibited for the item about thinking less of an individual who has received mental health treatment. Participants believed they personally would agree less ( $M = 0.74$ ,  $SD = 1.01$ ) with this statement compared to the public ( $M = 1.93$ ,  $SD = 1.05$ );  $t(139) = -10.48$ ,  $p < 0.001$ .

**Associations among personal stigma, norms, and funding.** To understand how personal stigma of mental health is related to the perceived descriptive and injunctive norms, multiple correlations were conducted (see Table 1). There were two significant correlations. Personal stigma was positively associated with injunctive norms, indicating that individuals who held more negative stigmatizing attitudes towards mental health also expected others to hold a greater stigma. Also, personal stigma had a negative relationship with the descriptive norm about the percentage of students at the participants' college who had sought counseling during their academic career. Therefore, individuals who held a greater stigma were less likely to believe other students were seeking help from counseling services

There was also a significant negative correlation between personal stigma and amount of funding given to the mental health programs;  $r(140) = -0.26$ ,  $p < 0.01$ . This result indicates that individuals are potentially less likely to support funding towards programs supporting mental health if they personally possess a greater stigma against mental health. On average, participants allocated a percentage of 11.82 ( $SD = 5.94$ ) to mental health programs and initiatives on campus.

Lastly to understand how funding was related to the perceived norms, more correlational analysis were conducted (see Table 1). There was no significant association between

participants' perceived injunctive norms and funding;  $r(140) = -0.09$ ,  $p = 0.27$ . Therefore, a person's decision to allocate funding to mental health programs does not seem to be directly affected by their perceived injunctive norms. Only one descriptive norm was associated with funding. Participants who estimated that a higher percentage of students on their campus utilize counseling services were more likely to allocate a higher percentage of funding to mental health initiatives and programs. However, this positive correlation was only marginally significant.

### **Discussion**

Study 1 supported the hypothesis that there was a discrepancy between personal stigma and perceived public stigma. In particular, the most discrepant D-D scale items indicated that individuals believe they personally are more accepting of the opinions of individuals after finding out they have sought treatment for a mental illness and are likely to think more highly of individuals with a mental illness compared to the attitudes of other students. Study 1 also demonstrated a discrepancy between participants' perceived descriptive norms and the actual norms. Specifically, participants underestimated the percentage of U.S. students with a mental illness who have withdrawn from college because of their condition and also who have experienced a mental health crisis while at school. Additionally, participants underestimated the percentage of students at their own college who have utilized counseling services during their academic career.

The results also indicated that personal stigma is negatively correlated with the amount of funding that participants believed should be allocated to mental health initiatives on campus. However, there was no direct relationship between perceived public stigma and funding. By examining the correlations between personal stigma and funding with the discrepant descriptive norms and injunctive norms, there is justification to continue to the normative feedback

component of the current research. Because personal stigma is associated with injunctive norms, there is potential for a reduction in personal stigma after the participants' misperceptions of the injunctive norms have been corrected. Additionally, correcting the descriptive norm underestimation of the amount of students that seek counseling may also lead to a reduction in personal stigma.

## Study 2

Study 2 provided participants PNF comparing their opinions and perceptions of mental health with the actual descriptive and injunctive norms from local and national data. It was hypothesized that after receiving normative feedback, individuals would decrease both personal and perceived public stigma compared to the control condition. Overall, it was also expected that after the administration of personalized normative feedback, individuals that received feedback would be more willing to support funding of mental health programs compared to the control condition that contains no normative feedback.

### Method

**Participants.** Participants included undergraduate students ( $N = 73$ ; 37 women, 36 men) from a small liberal arts school in the Northeast. The age range was 18 to 26 years ( $M = 19.90$ ,  $SD = 1.45$ ). Ethnic representation was 64% White, 23% Asian, 5% Black or African American, 4% Hispanic, and 3% other. Also, 27% reported having been previously diagnosed with a mental health condition.

**Procedure and Measures.** In Study 2, participants completed a baseline survey that consisted of the same descriptive norms, injunctive norms, and funding measures as Study 1 with a few additions. After completing the initial assessment, participants were randomized to the PNF experimental condition or the control condition. After reading the feedback or control

message, all participants immediately were asked to complete the same measures as baseline. One-week later, participants were sent a follow-up assessment through email asking them to complete the same assessments again.

### **Additional Measures.**

***U.S. injunctive norms.*** To assess the participants' perceptions of how much U.S. college students approve of individuals living with mental illness, participants were presented with another version of the D-D scale. This third version was used to measure national perceived public stigma by asking the participants to rate the items based on the extent that the typical U.S. student would agree or disagree with each of the 14 D-D scale items.

**Experimental Manipulation.** Participants were either randomized to the information only control condition ( $N = 37$ ) or the PNF intervention condition ( $N = 36$ ). Participants in the intervention condition were given normative feedback reflecting their perceived injunctive and descriptive norms compared to the real norms from actual data. In all, the normative feedback presented two injunctive norms and two descriptive norms. For each type of norm, one pertained to national data whereas the other was derived from data collected at the participants' college.

First, for the descriptive norm feedback, participants were asked to read a personalized national norms message: "You believed that \_\_\_ % of students with a mental health condition have experienced a mental health crisis while attending school," where the blank was replaced with each participant's own perception, which was reported during the baseline assessment. The next sentence gave the participant the actual U.S. norm: "In actuality, national data reports that 73% of students with a mental health condition have experienced a mental health crisis." (NAMI, 2012). The participants were also presented with a similar local descriptive norm message

comparing their perception to data from their school's counseling services reporting that 41% of students seek counseling during their time at college.

On the same page, participants viewed the two feedback statements about injunctive norms. The national injunctive norm was developed from data collected by Eisenberg et al. (2009) who used the D-D scale to assess mental health stigma. The data from Eisenberg et al. (2009) revealed that the typical U.S. student actually strongly disagreed that they would think less of a person who has received mental health treatment. To compare the participant's perception to the actual norm of this D-D scale item, the participants were provided with graphics, as shown in Figure 1, to highlight how their response differed from the response of 5,514 U.S. students. Moreover, the local injunctive norm was derived from the discrepant responses to the D-D scale item from Study 1 about taking the opinions of those with a mental illness less seriously. A graphic similar to Figure 1 was displayed showing the participants' perception compared to the actual average response of the 144 students who participated in Experiment 1.

Compared to the intervention condition, the participants in the control condition were provided with no information about the norms. Instead, participants in the control condition viewed a blurb from their counseling services' website. The message described the counseling services' mission statement. The contact information such as a phone number and mailing address was also provided. Both the participants of the PNF and control condition were given a minimum time of thirty seconds to read the information provided.

## **Results**

All 73 participants completed the baseline and immediate follow-up assessments. The one-week assessment was completed by 63 (86%) participants.

**Descriptive norms.** To examine whether the two descriptive norms messages of the PNF had effectively corrected the misperceptions at the immediate follow-up compared to the control condition, two different one-way ANCOVAs were conducted controlling for the participants' baseline descriptive norm perceptions. First, participants who received normative feedback significantly readjusted their local descriptive norm perception to match the actual norm when compared to the control group;  $F(1,72) = 37.79, p > 0.001, \text{partial } \eta^2 = 0.46$ . Also, participants in the PNF maintained this knowledge at the one-week follow-up and again correctly reported the correct prevalence of students at their school who sought counseling during their time at college;  $F(1,61) = 4.53, p > 0.05, \text{partial } \eta^2 = 0.11$  (see Figure 2 for means). The analysis of the national descriptive norm revealed that at the immediate follow-up participants who received PNF significantly corrected their misperception of the percentage of U.S. students with a mental health condition who have experienced a mental health crisis while at school to match the actual prevalence;  $F(1,72) = 47.58, p > 0.001, \text{partial } \eta^2 = 0.67$ . However, the participants did not maintain this knowledge at the one-week follow-up;  $F(1,62) = 3.47, p = 0.07, \text{partial } \eta^2 = 0.09$  (see Figure 3 for means).

**Injunctive norms.** In order to determine whether the PNF had significantly reduced the participants' perceived local public stigma of their peers at their college at the immediate and one-week follow-up, an ANCOVA was conducted controlling for their perceived local public stigma at baseline. Compared to the control condition, the PNF participants significantly reduced their perceived local public stigma at the immediate follow-up;  $F(1,72) = 10.53, p > 0.01, \text{partial } \eta^2 = 0.13$ . The participants maintained this reduction in perceived local public stigma at the one-week follow-up;  $F(1,62) = 11.36, p > 0.01, \text{partial } \eta^2 = 0.16$  (see Figure 4 for means).

Two additional ANCOVAs were also conducted to examine the influence of PNF on perceived national public stigma at the immediate and one-week follow-up while controlling for the participants' perception of the national injunctive norm at baseline. Overall, the PNF reduced their perceived national public stigma significantly more than the control condition at the immediate follow-up;  $F(1,72) = 42.32, p > 0.001$ , partial  $\eta^2 = 0.37$ . They also maintained this stigma reduction at the one-week follow-up;  $F(1,62) = 17.61, p > 0.001$ , partial  $\eta^2 = 0.23$  (see Figure 5 for means). Therefore, administration of the actual injunctive norms relevant to the students at the participants' college and other U.S. colleges effectively reduced the participants' inflated perception that their peers hold more stigmatizing views than the true beliefs.

**Personal stigma.** Finally, to test for a reduction in personal stigma after providing participants with PNF, two ANCOVAs were conducted controlling for the personal stigma at baseline for the immediate and one-week follow-ups. At the immediate follow-up, the control group had a significantly higher average stigma compared to the PNF group;  $F(1,72) = 4.12, p < 0.05$ , partial  $\eta^2 = 0.06$ . However, this difference was not due to the PNF, and instead the control group increased in personal stigma. A paired samples t-test confirmed that the PNF group did not significantly differ in personal stigma at the two assessments;  $t(35) = 0.66, p = 0.51$ . Analyses of the one-week follow-up also did not demonstrate a reduction in personal stigma in the PNF group compared to the control group;  $F(1,62) = 1.09, p = 0.30$ , partial  $\eta^2 = 0.02$  (see Figure 6 for means).

**Funding.** The final analysis included two ANCOVAs controlling for funding allocated to mental health programs at baseline to examine whether the administration of normative feedback impacted support for mental health funding on campus at the immediate and one-week follow-ups. There was no significant change in funding at the immediate follow-up;  $F(1,72) = 0.38, p =$

0.54, partial  $\eta^2 = 0.01$ . This was consistent at the one-week follow-up as well;  $F(1,62) = 0.03$ ,  $p = 0.86$ , partial  $\eta^2 = 0.001$  (see Figure 7 for means).

### **General Discussion**

The current study has provided support that personalized normative feedback can both significantly correct misperceptions of mental health norms and adjust individuals' belief that others hold more stigmatizing views about mental health than themselves. In particular, providing participants with the actual injunctive norms of U.S. students and the students at their own college about the beliefs they hold about mental health resulted in decreased perceived local and national public stigma at the immediate and one-week follow-up. However, the administration of normative feedback had no compelling impact in reducing personal stigma or increasing support for allocating funding towards mental health programs.

The implications of reducing perceived public stigma are momentous because NAMI (2012) reported that students stated the number one barrier to seeking help for a mental health condition is the perception that others hold a negative stigma against mental health. Therefore, future research should employ PNF within populations of individuals with mental illness to reduce perceived mental health stigma. By reducing perceived public stigma, individuals may be more likely to seek help for issues concerning mental health. This is especially important in the college population because the Substance Abuse and Mental Health Services Administration (SAMHSA; 2006) found that compared to older adults, the 18-24 year old age group shows the lowest rate of help-seeking. However, future research must develop a strategy to recruit a larger population of people with mental illness than the 27% that the current study assessed. In particular, forthcoming research should target individuals who are suffering from mental health issues but have yet to seek help because of a fear of stigma. Therefore, recruitment should

advertise this research by first provoking the question of whether one's perception of mental health is accurate and then discussing how this research will aid individuals with mental health on campus. This may encourage students hiding with a mental illness to participate in the study because of a genuine interest in how others perceive them and their condition.

By increasing the likelihood that students will seek counseling by decreasing perceived stigma, many mental health related consequences may be prevented. NAMI (2012) found that 64 percent of young adults who are no longer in college are not attending college due to a mental health related reason. This statistic provides evidence that possessing a mental health condition can significantly impend a student's aspiration to graduate from college, an advantageous accomplishment needed to secure well-paying, steady employment. Suicide is also a major concern for college students suffering from a mental health condition. Overall, 7 percent of college students have seriously considered suicide during the past year (ACHA, 2012).

Additionally, according to the Centers for Disease Control and Prevention (CDC; 2012), suicide is the second leading cause of death on college campuses, second only to traffic incidents.

Suicide and mental illness are closely interrelated and at least 90 percent of people who die of suicide are suffering from a mental disorder at the time of death (Hawton & van Heeringen, 2009). Consequentially, by reducing perceived public stigma, mental illness may be less of a taboo subject on college campuses, encouraging individuals who need counseling to seek help to prevent the distressing consequences that unfortunately affect a significant portion of mental health sufferers.

Although reducing perceived public stigma by correcting the perception of the injunctive norms of mental health is important, future research must continue to develop additional intervention methods to reduce personal stigma of mental health because shared stigma in our

society leads to unfair and damaging stereotyping and discrimination towards individuals with mental health conditions (Corrigan & Watson, 2002). Despite the lack of decrease in the current study, changing the way the PNF is administered in future research may cause a reduction in personal stigma. Only providing participants with two injunctive norms and two descriptive norms limited the current study. Subsequent research should provide college students with more comparisons of their perceived norm with the actual norms to demonstrate more examples of when their beliefs were discrepant with the real norms. By addressing multiple discrepancies, individuals may be more likely to change their personal beliefs to positively reflect the actual data.

Furthermore, future research using normative feedback may benefit from having participants interact with individuals who suffer from mental health conditions. Pinfold et al. (2003) were successful in reducing negative perceptions of mental health by having their participants interact face-to-face with people who have been diagnosed with a mental health condition instead of using a computerized setting. Therefore, it may be effective to integrate interactions with individuals with mental health conditions into normative feedback within a group setting. For example, LaBrie, Hummer, Neighbors, and Pedersen (2008) gave participants live, interactive normative feedback about college alcohol use within a group setting and found a significant correction of drinking norms and reduction of alcohol use at the 1- and 2-month follow-ups. Through communal discussion of the norms with peers and individuals with mental health conditions, the administration of PNF could potentially make the normative discrepancies even more evident, promoting reduction of personal stigma.

Additional research should also focus on reducing stigma for specific mental illnesses. The goal of the current study was to assess the general stigma of mental health to understand the

common misperceptions of mental illnesses as a whole in our society. However, some mental illnesses are more stigmatized than others and thus deserve more attention in stigma reduction programs. For example, schizophrenia has been labeled as the most dangerous and violent mental illness and possesses much greater stigma compared to other conditions like depression, anxiety disorders, and eating disorders (Angermeyer & Schulze, 2001). Therefore, future research may employ normative feedback to correct norms specific to certain disorders. By addressing distinguishing norms particular to certain illnesses, may be effective in reducing personal stigma for individual disorders.

Another limitation of the current study was the structure of the funding question, which may explain why there was a lack of effect of PNF in increasing support for funding for mental health programs on campus. The measure asked participants to allocate the fixed total amount of money to different organizations on campus. Therefore, participants may have been hesitant to take away monetary support from other programs in order to fund mental health initiatives. The goal of the current study was not to compare the importance of mental health to other campus programs. Moreover, future research should develop a funding question that simply asks the participants to give a percentage of funding to mental health programs without also asking them to give percentages to other campus organizations. This setup may lead to an increase in funding after administration of PNF.

Lastly, it is important to address why the control group increased in personal stigma at the immediate follow-up. Although the message about the participants' college counseling services provided basic information about their responsibilities and willingness to help, the message also emphasized how confidential the services are. Participants in the control condition may have read the statement and were under the impression that mental health is a secretive issue

meant to be hidden. This belief may have reinforced some participants' personal stigma because it promotes a negative connotation toward mental illness on college campuses. Fortunately, this increase in personal stigma demonstrated by the participants in the control was not observed at the one-week follow-up, indicating no long-term stigma increase. Therefore, future research should utilize a more neutral control message that does not have an adverse undertone.

In conclusion, the current study demonstrated that PNF is effective at reducing perceived public stigma by illustrating that one's own perceptions are contradictory to the true norms. Unfortunately, this finding could not be extended to personal stigma, and participants in the PNF condition showed no reduction in personal stigma after the administration of descriptive and injunctive norms. However, future research has the potential to incorporate different components into interventions in order to influence personal stigma. Thus by reducing the different forms of mental health stigma on college campuses, individuals will understand that mental health is a prevalent issue with a false façade of stigma that can be reduced, forming a more accepting and supportive environment for all.

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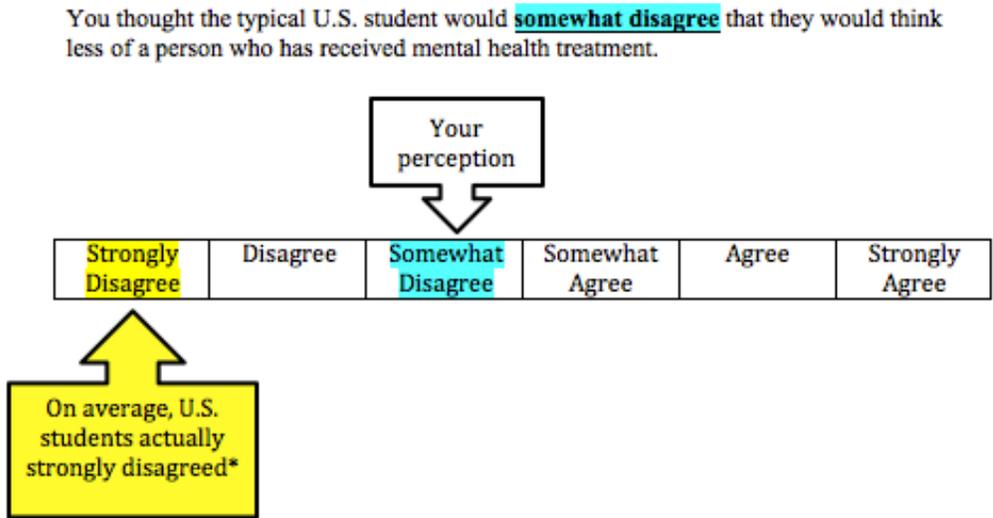
*The Correlations Between Personal Stigma and Funding with Injunctive and Descriptive Norms*


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	Personal Stigma	Funding
Injunctive Norms	0.38**	-0.09
Descriptive Norm 1: % U.S. experiencing a crisis	-0.18	0.17
Descriptive Norm 2: % U.S. no longer attending school due to condition	0.01	0.10
Descriptive Norm 3: % students at college seeking counseling during academic career	-0.17**	0.17*

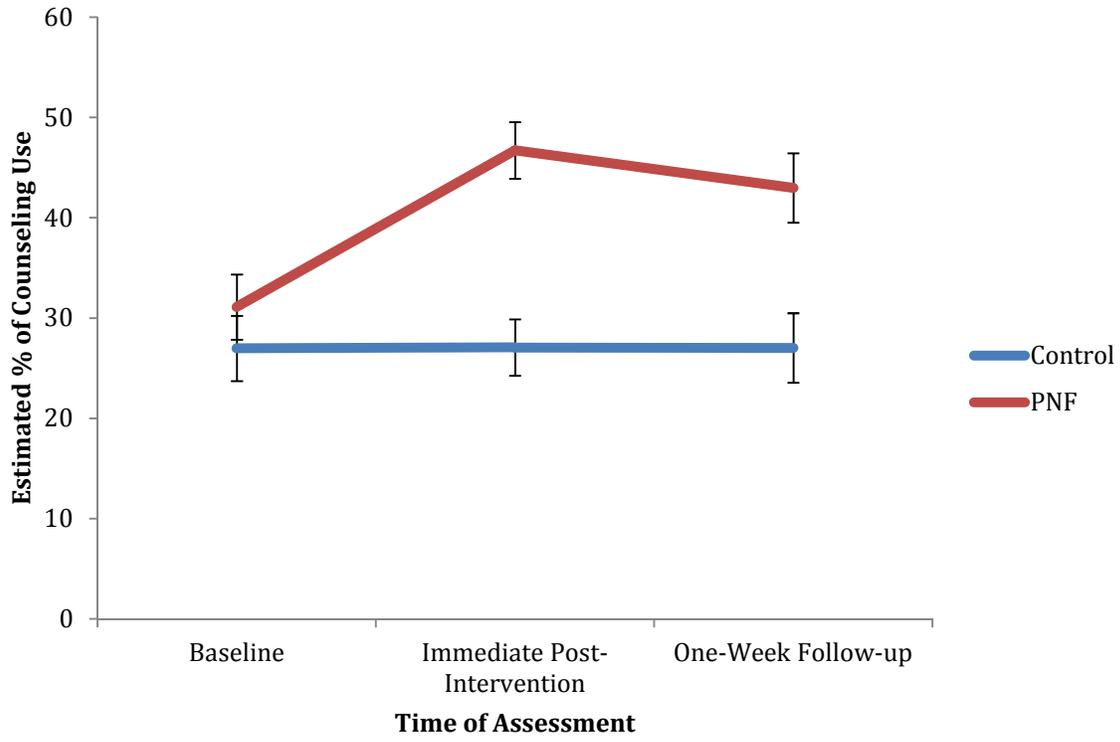
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\*  $p < 0.10$ \*\*  $p < 0.05$ \*\*\*  $p < 0.001$

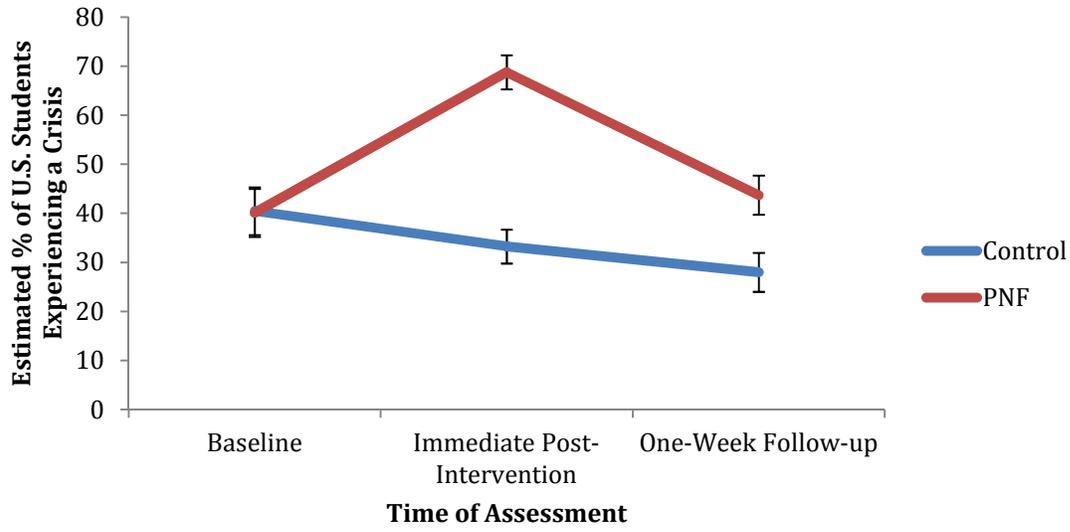


\*Based on the responses of 5,514 U.S. students.

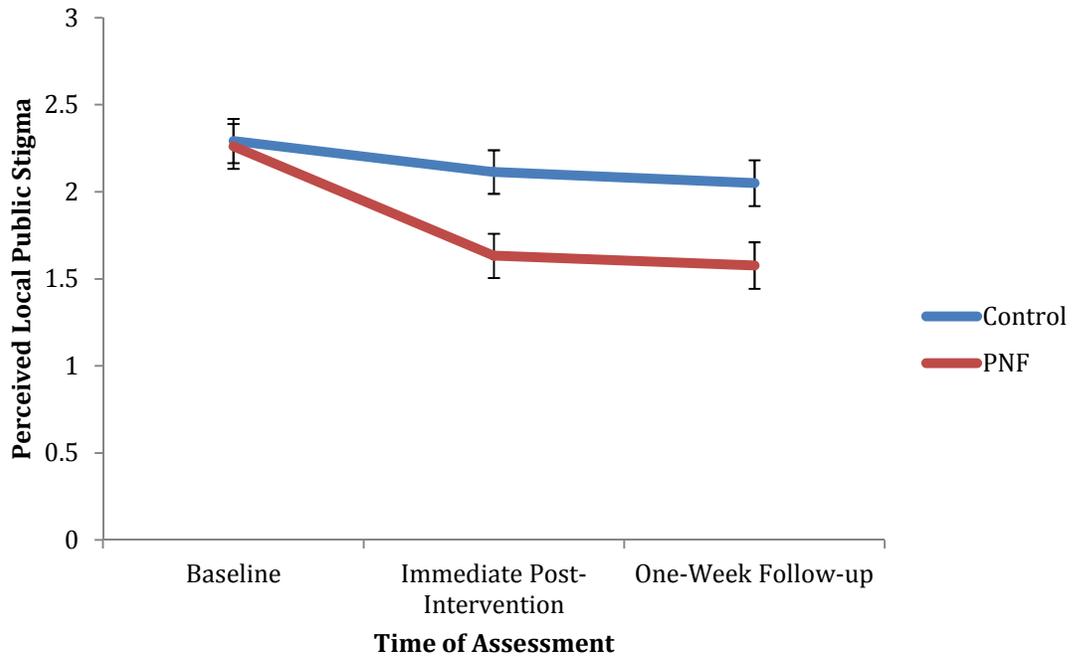
**Figure 1.** Sample of a portion of the personalized normative feedback comparing the participant’s injunctive norm perception with the actual norm.



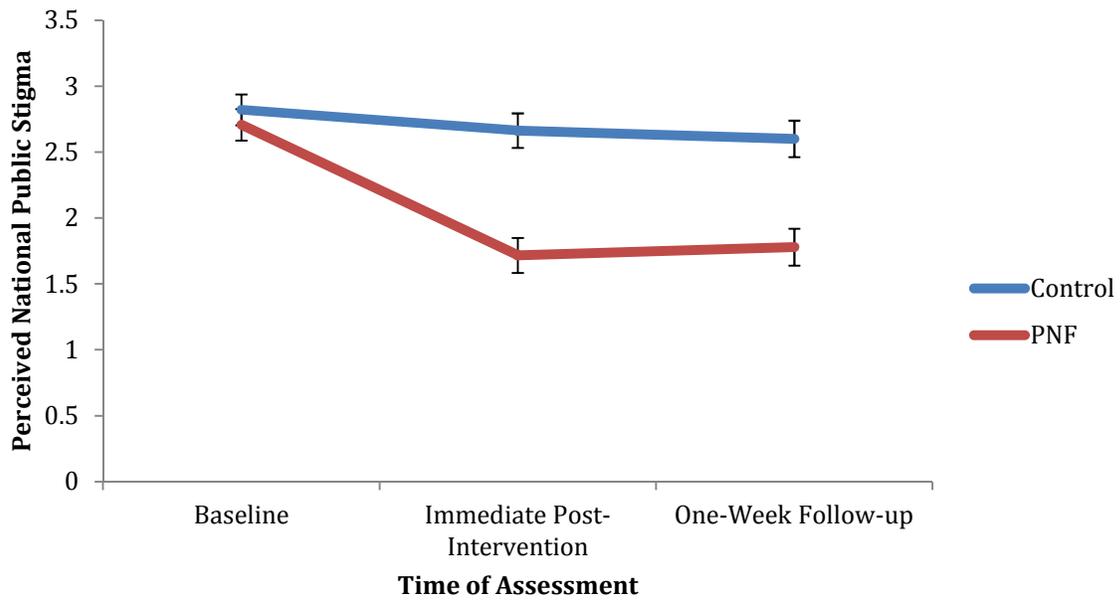
**Figure 2.** The estimated prevalence of local counseling use as a function of condition and time of assessment. The error bars reflect the standard error of the mean.



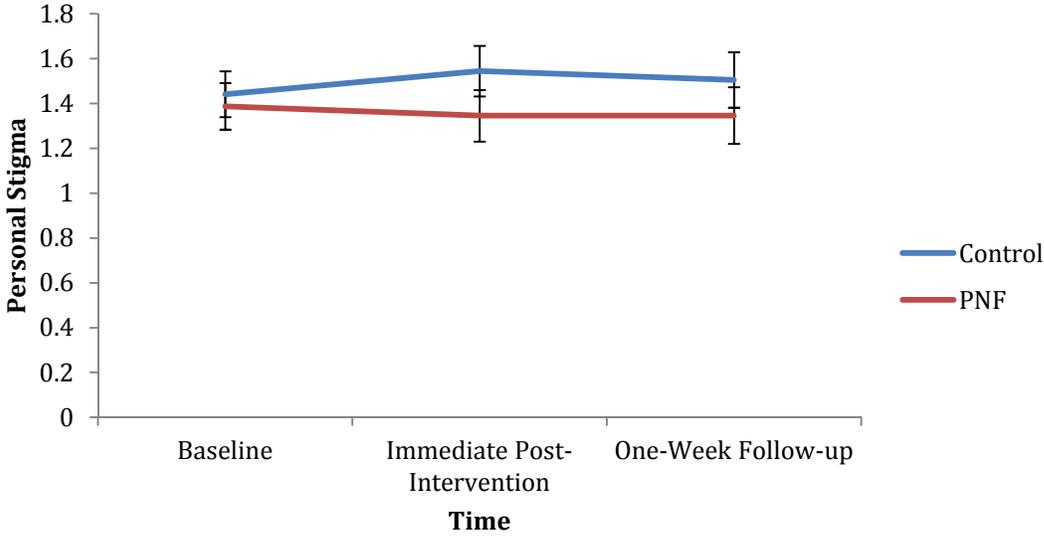
**Figure 3.** The estimated prevalence of U.S. students experiencing a mental health crisis as a function of condition and time of assessment. The error bars reflect the standard error of the mean.



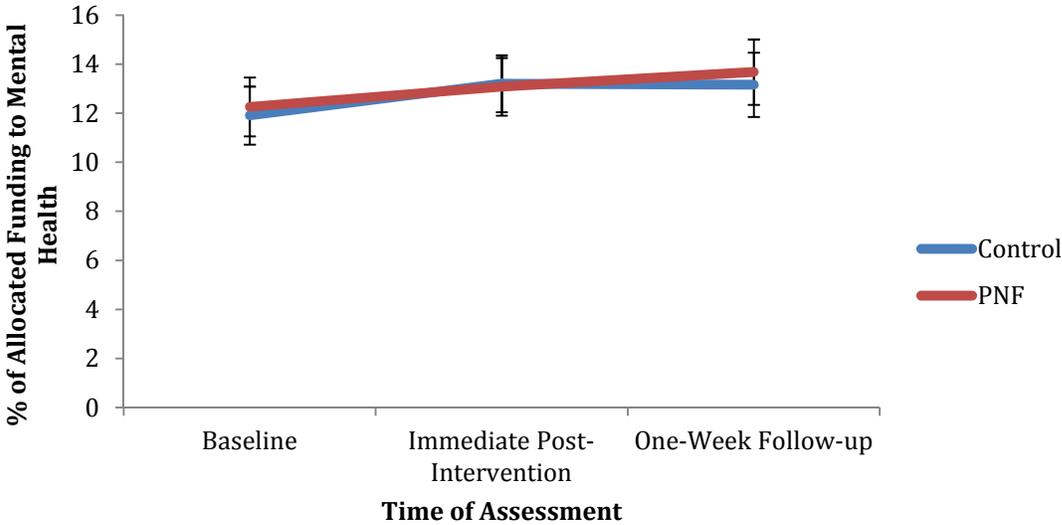
**Figure 4.** The perceived local public stigma as a function of condition and the time of assessment. The error bars reflect the standard error of the mean.



**Figure 5.** The average U.S. perceived public stigma as a function of condition and the time of assessment. The error bars reflect the standard error of the mean.



**Figure 6.** The average personal stigma as a function of condition and the time of assessment. The error bars reflect the standard error of the mean.



**Figure 7.** The percentage of funding allocated to mental health programs as a function of condition and time. The error bars reflect the standard error of the mean.