

Running head: CONTACT, KNOWLEDGE, ATTITUDES, AND INTENTIONS

CONTACT, KNOWLEDGE, ATTITUDES, AND BEHAVIORAL INTENTIONS TOWARD
ANTI-STIGMA FACEBOOK MATERIALS: A PATH MODEL

by



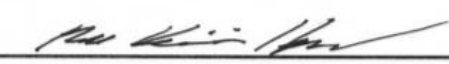
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Abstract

To understand the relationship between mental health knowledge, mental health attitudes, previous interpersonal contact with mental illness, and behavioral intentions to engage with social media anti-stigma advertisements, a theory-driven path model was proposed with two hypothesized mediation models. Analyses revealed support for the model of mediation wherein levels of mental health knowledge predicted self-reported behavioral intentions to engage with anti-stigma social media campaign materials with mental health attitudes acting as a partial mediator. Thus, higher demonstrated levels of mental health knowledge predicted higher self-reported likelihood to engage with Facebook materials, a relationship mediated by the factor of attitudes toward mental illness. Findings from the current study suggest that future anti-stigma campaigns may be most effective by utilizing passive forms of media, in order to allow for the education of an audience that may not be motivated or oriented to actively engage with educational mental health social media posts.

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Department of Psychology, 2018
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Dedication

For Support Staff and their unrelenting dedication to excellence.

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Chapter One

Introduction

The stigma one experiences as the result a mental illness can lead to a variety of negative outcomes including decreased help-seeking behaviors (Clement et al., 2015; Mak & Wu, 2006), lowered self-esteem and self-efficacy (Corrigan & Rao, 2012; Corrigan, Watson, & Barr, 2006; Link, Streuning, Neese-Todd, Asmussen, & Phelan, 2001), and the exacerbation of the illness (Drapalski et al., 2013, Link et al., 2001). The stigma of mental illness has been theorized to be a problem of knowledge (i.e., ignorance), attitudes (i.e., prejudice), and behaviors (i.e., discrimination) (Thornicroft, Rose, Kassam, & Sartorius, 2007). That is, a lack of knowledge regarding mental health is thought to contribute to negative attitudes toward individuals with mental illness, which can then lead to discriminatory behaviors toward individuals with mental illness. Examples of such discriminatory behavior includes employers selectively choosing not to offer jobs to qualified candidates with mental health diagnoses (Sharac, McCrone, & Thornicroft, 2010) and healthcare workers providing lower quality medical care to patients on the basis of an individual's mental illness (Teachman, Wilson, & Komarovskaya, 2006). Methods of effective stigma reduction include both education and interpersonal contact (Couture & Penn, 2003). While education involves providing accurate information about mental illness (Thornicroft et al., 2007), interpersonal contact involves positive interactions between individuals with mental illness and members of the general public (Corrigan & Penn, 1999). In an attempt to apply theory and research to the detriment of current societal levels of mental health stigma, anti-stigma campaigns have used both educational and interpersonal contact in their campaign materials.

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Anti-stigma campaigns have focused their efforts on social media campaigning for a number of reasons, including cost efficiency and the ability to increase direct engagement through social media's interactive functioning (Gallant, Irizarry, Boone, & Kreps, 2011; Neiger, Thackeray, Burton, Thackeray, & Reese, 2013). Furthermore, the nature of online interactions can lead to decreases in negative attitudes toward mental illness in users by facilitating both education and indirect interpersonal contact opportunities (Gallant et al., 2011; Neiger et al., 2013). Specifically, Facebook represents the most popular and widely utilized social media platform (Pew, 2015). As a result, it is the most popularly used site by individuals and organizations developing health initiatives for the dissemination of campaign materials.

Despite the popular use of Facebook by anti-stigma groups, the nature and purpose of the platform may, in actuality, contraindicate its use for such purposes. Notably, social media allows users to customize their online surroundings, tailoring the messages to which they are exposed based on their interests and values. This customization works well for commercial advertisers who can use user profile and activity information for targeted marketing. For example, someone who reports fishing as an interest, and often "likes" posts about fishing, would be the ideal target audience for an outdoor supply store that specializes in fishing equipment. A fishing enthusiast is likely to report that interest in his or her profile and interact regularly with related materials. Facebook tracks this information and advertisers can use it to present potential customers with relevant advertisements. While such a system may be ideal for targeted commercial advertising, the personalized nature of Facebook may mean that important health information promoted by health organizations does not reach target audiences because that specific health-related information is blocked or considered to be irrelevant to a particular user based on the user-defined interests. Thus, those who may hold negative attitudes about mental illness, but who

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could possibly benefit from an educational post dispelling common myths about schizophrenia, are unlikely to be presented with such information. In contrast, an individual who lists mental health as an interest, reports working in the mental health field, and who often interacts with mental health-related posts, is likely to be presented with anti-stigma Facebook materials because the site's algorithm identifies that the individual represents the target audience for such information. This knowledgeable individual would, thus, be presented with educational materials on the topic of mental health despite the fact that he or she likely already holds a positive attitude toward mental illness.

As a result of the factors identified previously, the current study posits that anti-stigma materials are more commonly viewed by and shared amongst like-minded individuals who already agree that mental health stigma is a problem, already have knowledge about mental health, and who may already have some experience interacting with individuals with a mental health diagnosis. This “preaching to the choir” effect of social media advertising, while ideal in targeted commercial advertising, is less likely to be an effective way of decreasing mental health stigma. This problem occurs because individuals most in need of education and contact with mental health issues are those least likely to be exposed to such content through their Facebook feeds.

Establishing the nature of the relationship between previous interpersonal contact, knowledge, attitudes, and intentions to engage with anti-stigma materials is important because it offers a potential explanation for why mental health stigma continues to persist despite anti-stigma campaigns' social media presence. That is, in a society where the majority of adults interact with social media on a regular basis (Duggan, 2015), and knowing that anti-stigma campaign materials have the potential to decrease mental health stigma (Bayar, Poyraz, Aksoy-

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Poyraz, & Arıkan, 2009), the question becomes, why has a significant decrease in mental health stigma not occurred? The answer may lie in the factors associated with predicting behavioral intentions to interact with such materials, which may be similar to those associated with the behavior changes targeted by anti-stigma campaigns (i.e., increased willingness to interact with individuals with mental illness and decreases in discrimination toward individuals with mental illness). In other words, exposure to educational and indirect contact materials may have the potential to decrease negative attitudes toward mental illness; however, the motivations that determine whether individuals choose to expose themselves to those materials is less understood.

While it has been established that contact, knowledge, and attitudes are associated with intentions to engage in discriminatory or prosocial behaviors toward people with mental illness (Thornicroft et al., 2007), it is possible that these same variables are associated with intended behaviors toward anti-stigma campaign materials. The assumption that anti-stigma materials will reach their intended audience and bring about the intended positive outcomes, therefore, may be unrealistic. Research supports anti-stigma campaign goals of increasing positive attitudes and prosocial behaviors toward individuals with mental illness through education and indirect contact (Couture & Penn, 2003). However, it may also be true that higher levels of pre-existing knowledge and previous contact would be associated with the likelihood to interact with anti-stigma campaign materials in the first place.

In an effort to better understand the factors that predict an individual's self-reported likelihood to engage with anti-stigma Facebook materials, the following hypotheses were examined through a proposed path model, containing two models of mediation (see Figure 1).

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- 1) Positive attitudes toward individuals with mental illness would mediate the relationship between mental health knowledge and behavioral intentions to engage with anti-stigma Facebook materials.
- 2) Positive attitudes toward individuals with mental illness would mediate the relationship between mental health contact and behavioral intentions to engage with anti-stigma Facebook materials.

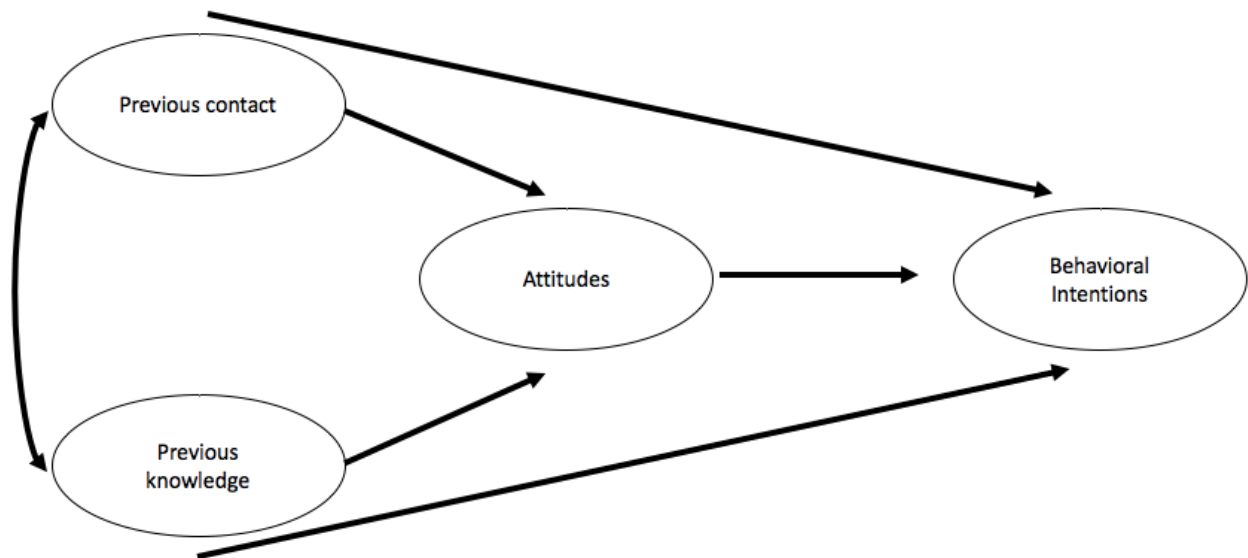


Figure 1. *Proposed path model.*

Method

Participants

Two hundred and sixty-two participants recruited through Amazon's Mechanical Turk (MTurk) application participated in the study. The target participant sample size of 200 was derived based on previous literature that suggests a minimum sample size of 200 participants for any structural equation model (Kline, 2005; Westin & Gore, 2006). Oversampling was used to ensure that a sufficient number of completed surveys was obtained.

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The participant pool was restricted to those MTurk workers who were located in the United States, reported English as their first language, had completed more than 500 Human Intelligence Tasks (HITs), and had received an approval rating of 90% or higher. Further exclusionary criteria included having an active Facebook profile at the time of participation and having maintained that profile for at least 6 months prior to participation. This criterion was in place to ensure that participants were familiar with how interactions on the site are carried out, including how to send messages, join groups, and follow profile feeds. Furthermore, terminology used in the behavioral intention measure required the participant to be familiar with what is meant by “liking,” “sharing,” and commenting on materials.

Instruments

Level of Contact Report. The Level of Contact Report (LCR) is a continuous measure of previous contact with individuals with mental illness. Participants were presented with a list of 12 situations in which intimacy of contact with severe mental illness varies. Listed situations ranged from the least intimate (i.e., “I have observed, in passing, a person I believe may have had a mental illness”) to the most intimate (i.e., “I have a severe mental illness). Each item was assigned a weight based on the level of intimacy of each situation with weights ranging from 1 to 12, with 12 reflecting higher levels of intimacy. Participants indicated their level of previous contact with severe mental illness by clicking a box next to each situation that represented their own experience. The statement checked that ranks the highest in intimacy represents the individual’s overall score.

The LCR was developed by Holmes, Corrigan, Williams, Canar, and Kubiak (1999). Situation items and associated weight rankings were derived from previous contact scales. Rankings for situations were individually decided upon by three experts with a resulting

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interrater reliability of .83. The reliability and validity of the measure have been supported by two studies to date (Corrigan, Green, Lundin, Kubiak, & Penn, 2001; Holmes, Corrigan, Williams, Conor, & Kubiak, 1999).

Behavioral intentions task. While social media behaviors have been examined in previous research, a common methodology of assessing social media behaviors and intentions has not yet been established. In this study, participants were presented with a simulated Facebook feed. Centrally posted on the feed was a series of anti-stigma campaign posts derived from the Facebook profiles of various anti-stigma campaigns located in the United States (NAMI) and the United Kingdom (Time to Change). Behavioral intentions regarding likelihood to engage with anti-stigma social media materials were assessed through self-reported responses to eight items. Items reflected the levels of consumer online brand-related activities (COBRAs) proposed by Muntinga, Moorman, and Smit (2011). Various COBRAs distinguish between various levels of engagement according to the activities involved. These levels include consuming, contributing, and creating. At the first and lowest level, consuming represents those activities that involve simple one-way interactions with materials (e.g., watching a video, reading an article). A sample item representing this level of engagement includes “I would read one of the articles posted on the page.” The second level, contributing, represents activities that involve engaging with materials in a more active manner such as joining a group, “liking” a page, commenting on an article, sharing a page with others, and so forth. An example item representing this level of engagement includes “I would ‘like’ one of these articles.” The third and highest level of engagement, creating, involves the production and publication of original materials on an organization’s social media profile. This might include publishing an article, uploading videos, writing a review of an event and so on. A sample item representing this level

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of engagement includes “I would write and publish my own article on the topic of mental health stigma.”

A 6-point Likert scale was used to respond to eight items allowing participants to rate the likelihood that they would participate in each activity, from -3 (not at all likely) to +3 (very likely). Three items each were included to represent first- and second-level activities. The highest level of engagement, the third level, was represented using two items, yielding a total of eight items overall. To aid in the creation of an overall score, each item was assigned a numerical weight according to the level of engagement required to engage in the associated activity, with the higher levels of engagement representing higher numerical weights (i.e., 1 = consuming behavior, 2 = contributing, 3 = creating). Thus, each item response was weighted by multiplying the associated item weight by the Likert value of the response. For example, in response to the item “how likely are you to read one of the articles,” a participant may choose the Likert response “Somewhat likely.” The item is related to the second level of engagement and would thus carry a weight of 2. The Likert response “Somewhat likely” would be assigned a weight of 2. By multiplying these two values, the resulting score for this item is 4 (i.e., Level of engagement multiplied by Likert scale response). Scores for each item were aggregated into one overall behavioral intention score with larger numbers representing higher levels of intended engagement with social media materials. Overall scores could range from -45 to +45.

Mental Health Knowledge Schedule (MAKS). The MAKS is composed of two parts with six items in each part. Responses were reported using a Likert scale with six options ranging from *Strongly Agree* to *Strongly Disagree*. Part A includes six items that measure stigma-related health knowledge areas (help-seeking, recognition, support, employment, treatment, and recovery). A sample item for part A includes “Most people with mental health

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problems want to have paid employment.” Part B required participants to report their agreement as to whether each term presented represents a type of mental illness. The presented terms include actual mental health disorders (i.e., depression), as well as other terms that do not represent actual mental health disorders. For example, sample items included “Depression,” “Stress,” and “Schizophrenia.”

The MAKS was developed by Evans-Lacko and colleagues in 2010 and was found to have strong psychometric properties across a number of studies measuring the strength of the measure with an average test-retest reliability of .71 (Evans-Lacko et al., 2010). The MAKS has been utilized to measure knowledge about mental health internationally and has, thus, been translated into several languages including Japanese (Yamaguchi, Koike, Watanabe, & Ando, 2014), Chinese (Li, Li, Thornicroft, & Huang, 2014), and Italian (Serra et al., 2013). The measure has been validated for face-to-face and online administration (Sin, Henderson, Pinfold, & Norman, 2013).

Attribution Questionnaire (AQ-27). Attitude toward individuals with mental illness was measured using the AQ-27. The 27-item survey consists of a brief vignette about “Harry,” a man with a serious mental illness, followed by 27 questions assessing nine factors contributing to one’s overall attitude toward people with mental illness. Each factor represents a common stereotype associated with mental health stigma. These factors include *blame*, *avoidance*, *segregation*, *coercion*, *anger*, *fear*, *pity*, *help*, and *dangerousness*. Items are rated on a 9-point Likert scale ranging from 1 (*not at all*) to 9 (*very much*) and scores for each of the nine constructs are computed by summing participant responses to the three items comprising that construct, for a maximum score of 27 for each construct. Thus, scores can range from 27 to 243. Higher scores represent greater endorsement of the corresponding attitude or belief.

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The AQ-27 has shown good psychometric properties across studies examining the strength of the measure. The AQ-27 has been found to have good test-retest reliabilities within each factor (.55-.87) when used with a sample of 54 college age students (Corrigan, Watson, Warpinski, & Gracia, 2004). The AQ-27 was found to have sufficient convergent validity when compared to the Attitudes Toward Mental Illness Questionnaire, a similar measure validated in the United Kingdom (Luty et al., 2006). The AQ-27 has been used in the United States and the United Kingdom (Luty, et al., 2006), as well as a number of other countries, and has, thus, been translated into Italian (Pingani et al., 2012), Lithuanian (Zukauskiene & Sondaite, 2004), and Portuguese (de Sousa, Marques, Rosario, & Queiros, 2012).

Marlowe-Crowne Social Desirability (MCSD) Scale, 10-item short form. In order to measure and potentially control for the aspect of social desirability, the MCSD scale was included in the survey procedure to assess for the role of social desirability in participant responses. Social desirability is a well-established phenomenon observed in self-report measures (Maher, 1978). Respondents are often unwilling or unable to respond honestly to items regarding sensitive topics in order to manage their impression on others (Maccoby & Maccoby, 1954). It has been suggested by authors (Leite & Beretvas, 2005) that a low correlation between the MCSD scale and the scale of interest indicates honest responses.

Analysis

Participant data was only to be included in analyses if participants fully completed the LCR, MAKS, AQ-27, and behavioral intentions task. SPSS 14.0 and R 3.0 software were to be utilized to analyze the data collected. SPSS was used to produce descriptive statistics describing the demographics of the sample, including information about gender, age, and race. Confirmatory factor analysis (CFA) was used in an attempt to establish factor structure for the

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latent variables (i.e., knowledge, previous contact, attitudes, and behavioral intentions). Once the measurement model had been established, structural equation modeling with manifest variables would have been used to test the proposed model.

Results

Sample Characteristics

Two hundred and sixty-two participant responses were collected via Amazon Turk. Thirty-six participant surveys (13.74 %) were removed from the sample due to incomplete survey responses (n = 19), reporting of a non-United States residence (n = 4), failure to endorse having an active Facebook account at the time of survey completion (n = 2), and failing to respond appropriately to attention-check items (n = 11). The resulting participant sample consisted of 226 individuals.

Demographic information can be found in Table 1. It should be noted that the majority of participants reported a female gender (57.96%), an age between 24 and 35 years of age (42.46%), being Caucasian (79.6%), and obtaining a bachelor's degree or higher with regards to their educational achievement level (52.20%).

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Table 1
Demographic Profiles of Respondents

<u>Demographic Category</u>	<u>n</u>	<u>Percentage</u>
<u>Sex</u>		
Male	94	41.59
Female	131	57.96
Other (non-binary)	1	0.44
<u>Age</u>		
18-23	14	6.19
24-29	52	23.00
30-35	44	19.47
36-41	31	13.72
42-47	26	11.50
48-53	26	11.50
54-59	15	6.64
60-65	11	4.87
66+	7	3.09
<u>Race/Ethnicity</u>		
White/Caucasian	180	79.65
Hispanic/Latino	14	6.19
Asian	12	5.31
Black/African American	16	7.07
Other	4	1.76
<u>Education</u>		
Less than high school diploma	1	0.44
High school diploma or equivalent	60	26.54
Associate degree	47	20.80
Bachelor's degree	90	39.82
Master's degree	22	9.73
Doctoral or professional degree	6	2.65

Social Desirability

Regarding measurement of social desirability in the sample, a Pearson correlation was derived in SPSS and assessed the relationship between AQ-27 and the 10-item Marlowe-Crowne short form. It has been suggested by authors (Leite & Beretvas, 2005) that a low correlation between the MCSD scale and the scale of interest indicates honest responses. There was no significant correlation between the two variables, $r = -.048$, $p = .473$. Therefore, it can be

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concluded that social desirability did not significantly impact participants' responses to items on the AQ-27, a measure of attitudes toward individuals with mental illness.

Confirmatory Factor Analysis

Structural equation modeling analysis was intended to follow a two-step process in which a measurement model was to be specified first before a structural equation model analysis was to be conducted to examine the model. First, a CFA was performed to establish the measurement model. Overall, the resulting CFAs implied poor fit, and indicators generally failed to converge successfully onto the associated latent variables as demonstrated by multiple fit index values. In response to this failure to specify a measurement model, path analysis with simple testing of indirect effects was used to examine mediation models independently.

CFAs were performed for each of the latent variable measures using the lavaan package within R software. In evaluating model fit, standards described by Hu and Bentler (1999) were implemented. Models with root mean square error of approximation (RMSEA) values $\leq .05$ and confirmatory fit index (CFI) values $\geq .90$ were considered acceptable fit. The Tucker-Lewis index (TLI) and Chi-square values are also included. The TLI requires values equal to or greater than .95 for acceptable fit. Finally, Chi-square test of independence was used to test absolute or perfect fit along with associated p-values. The results for each CFA are summarized in Tables 2, 3, and 4.

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Table 3

Unstandardized Estimate Coefficients for CFA - Mental Health Knowledge Schedule (MAKS)

Observed variable	Estimate	SE
MAKS_1	1.00	NA
MAKS_2	0.87	0.26
MAKS_3	1.45	0.31
MAKS_4	1.24	0.27
MAKS_5	0.44	0.21
MAKS_6	-0.17	0.20
MAKS_7	1.44	0.30
MAKS_8	-0.08	0.20
MAKS_9	1.40	0.27
MAKS_10	1.62	0.31
MAKS_11	0.82	0.27
MAKS_12	-0.13	0.21

Note. CFA = confirmatory factor analysis. SE = standard error.

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Table 4
*Unstandardized Estimate Coefficients for CFA – Attributional
 Questionnaire-27 (AQ-27)*

Observed variable	Estimate	SE
AQ.27_1	1.00	NA
AQ.27_2	1.42	0.21
AQ.27_3	0.69	0.09
AQ.27_4	0.15	0.12
AQ.27_5	-0.63	0.11
AQ.27_6	0.92	0.11
AQ.27_7	-1.47	0.12
AQ.27_8	0.81	0.14
AQ.27_9	1.04	0.11
AQ.27_10	0.90	0.11
AQ.27_11	1.54	0.12
AQ.27_12	1.55	0.12
AQ.27_13	0.98	0.11
AQ.27_14	1.57	0.12
AQ.27_15	0.60	0.08
AQ.27_16	-1.51	0.12
AQ.27_17	1.26	0.11
AQ.27_18	0.38	0.14
AQ.27_19	-0.17	0.10
AQ.27_20	-0.15	0.10
AQ.27_21	-0.76	0.12
AQ.27_22	-0.94	0.14
AQ.27_23	-0.84	0.22
AQ.27_24	0.13	0.12
AQ.27_25	-0.67	0.10
AQ.27_26	0.62	0.12
AQ.27_27	0.36	0.11

Note. CFA = confirmatory factor analysis. SE = standard error.

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Table 5
Unstandardized Estimate Coefficients for CFA – Behavioral Intentions Task

Observed variable	Estimate	SE
BI.LEVEL1_1	1.00	NA
BI.LEVEL1_1	1.09	0.26
BI.LEVEL1_1	1.32	0.31
BI.LEVEL1_2	2.54	0.27
BI.LEVEL1_2	2.50	0.21
BI.LEVEL1_2	2.51	0.20
BI.LEVEL1_3	2.18	0.30
BI.LEVEL1_3	1.12	0.20

Note. CFA = confirmatory factor analysis. SE = standard error.

CFA for the Mental Health Knowledge Schedule revealed poor fit between collected data and anticipated factor loadings (RMSEA = 0.17, TLI = 0.48, CFI = 0.58). Finally, the Chi-square test of independence revealed a significant value, suggesting that the null hypothesis (i.e., perfect fit) was rejected in this instance, $X^2(54) = 391.112, p \leq .01$.

CFA analysis for the AQ-27 also revealed poor fit for the attitudinal measure (AQ-27) (RMSEA = 0.17, TLI = 0.52, CFI = 0.56). Chi-square analysis resulted in a significant p-value, leading to the rejection of the null hypothesis of perfect fit, $X^2(324) = 2421.26, p \leq .01$.

A CFA analysis was also performed on the behavioral intentions task created to measure behavioral intentions to engage with Facebook anti-stigma campaign materials. Analysis revealed poor fit and failure of indicators to converge on the latent variable of behavioral intentions (RMSEA = 0.17, TLI = 0.79, CFI = 0.85). The Chi-Square test results suggested rejecting the null hypothesis of perfect fit, $X^2(20) = 155.78, p \leq .01$.

Finally, a CFA was carried out on the LCR. Analysis revealed acceptable fit when referencing included fit indexes (RMSEA = 0.00, TLI = 1.00, CFI = 1.00).

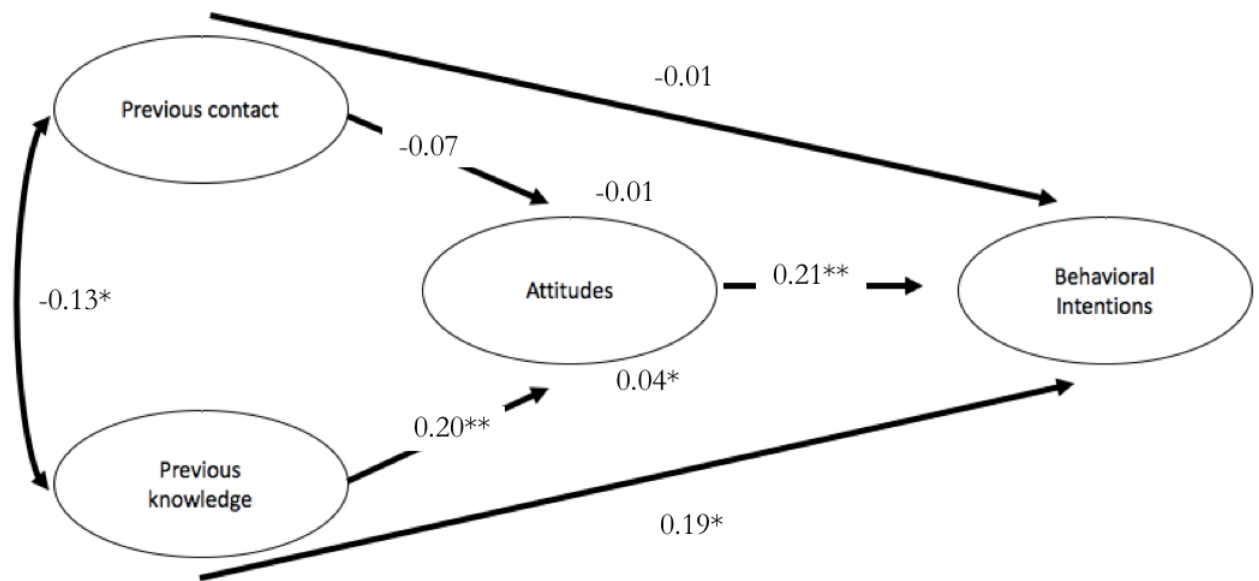
Path Analysis

It was determined that proceeding with a full structural model would not be appropriate due to a failure to establish the measurement model. The decision was made to perform a simple path analysis testing for indirect effects in order to examine the two mediation models contained within the overall model individually. In doing so, the path analytic analyses allowed for the testing of the proposed hypotheses, albeit not in an overall structural model as originally proposed.

Single-indicator measurement, including path analysis techniques, refers to methods in which there is only one observed measure of each hypothetical construct. In this case, single indicator scores were created by creating scaled scores for each of the measures representing latent variables within the model. Those scaled scores were then used to run a path analysis (Kline, 2016). Path analyses were carried out using Mplus Version 7.11. Estimates for the model are summarized in Figure 3.

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Figure 3
Standardized model estimates for two mediation models



Note. Standardized model estimates for two mediation models, *ab* coefficient for model 1 (knowledge, attitudes, behavioral intentions), $\beta = 0.04$, $p \geq .05$. *ab* coefficient for model 2 (previous contact, attitudes, behavioral intentions), $\beta = -0.01$, $p = .34$, * = $p \geq .05$, ** = $p \geq .01$.

The first hypothesis concerned the relationship between attitudes toward mental illness, knowledge regarding mental illness, and behavioral intentions to engage with anti-stigma Facebook materials. Results indicated that MAKS scores were significantly positively related to AQ-27 scores, $\beta = 0.20$, $p < .01$ (path *a*). Furthermore, positive attitudes toward mental illness were found to be significantly related to behavioral intention task scores, $\beta = 0.21$, $p < .01$ (path *b*). Regarding the direct effect of knowledge on behavioral intentions, MAKS scores were found to be significantly positively related to behavioral intention task scores, $\beta = 0.19$, $p = .03$ (path *c*). Thus, previous knowledge about mental illness positively predicted positive attitudes about mental illness, as well as self-reported likelihood to engage with anti-stigma Facebook materials. Finally, indirect effects were examined and were significant, $\beta = 0.04$, $p = .03$ (path *ab*).

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Finally, the second hypothesis proposed that positive attitudes toward mental illness would also partially mediate the relationship between previous contact with mental illness and behavioral intentions to engage with anti-stigma Facebook materials. LCR was not found to be significantly related to AQ-27 scores (path *a*), $\beta = -0.07$, $p = 0.31$. However, positive attitudes toward mental illness were found to be significantly related to behavioral intention task scores, $\beta = 0.21$, $p < .01$ (path *b*). Direct effects between LCR scores and behavioral intentions task scores (path *c*) were not found to be significant ($\beta = -0.01$, $p = 0.34$). The indirect effect (path *ab*) was also not significant ($\beta = -0.01$, $p = 0.34$).

Discussion

The current findings reflect that mental health knowledge scores were significantly associated with higher self-reported likelihood to engage with anti-stigma Facebook materials, with mental health attitudes acting as a partial mediating factor, supporting hypothesis one. These findings are consistent with the body of literature that has documented that higher levels of mental health knowledge correlates with more positive attitudes toward people with mental illness (Brokington, Hall, Levings, & Murphy, 1993; Henderson, Evans-Lacko, & Thornicroft, 2013) and with willingness to engage in prosocial behaviors toward individuals with mental illness (Angermeyer, Matshinger, & Corrigan, 2004). However, with regard to the second hypothesis, levels of previous interpersonal contact were not found to be significantly associated with attitudes toward mental illness or behavioral intentions to engage with anti-stigma Facebook materials. These findings are inconsistent with previous research that documents that interpersonal contact with someone with a mental illness is associated with more positive attitudes toward people with mental illness (Couture and Penn, 2003; Schiappa, Gregg, & Hewes, 2005), as well as higher willingness to engage in prosocial behaviors toward individuals

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with mental illness (Aznar-Lou, Serrano-Blanco, Fernandez, Luciano, & Rubio-Valera, 2016). Four potential explanations may help explain the findings: (a) participant recall of interpersonal contact may not have been reliable, (b) participants may have lacked an awareness of previous interpersonal contact experiences that had occurred, (c) participant personality factors may have impacted self-reported information, and (d) recalled contact experiences may not have been of sufficient quality to impact attitudes and behavioral intentions. Each of these explanations is addressed in the following sections.

Reliance on retrospective recall of contact experiences. In an effective contact scenario, an individual has an interaction with a member of a stigmatized group, which is inconsistent with stereotypes regarding that group (Couture & Penn, 2003). For instance, a college student meets and interacts with a fellow student who discloses that he has bipolar disorder. The individual with bipolar disorder does not display dangerous or erratic behaviors, contradicting stereotypes of the disorder (Couture & Penn, 2003). In order to resolve discrepancies, attitudes toward the stigmatized person improve, which can then be generalized to the stigmatized group as a whole (Desforges et al., 1991). The absence of support for the second hypothesis may be linked to the type or types of interpersonal contact experiences reported by study participants. In this study, participants were asked to recall previous interpersonal contact experiences they had with individuals with mental illness, as well as rate the level of intimacy involved in those interactions. Scores on the LCR revealed that, on average, participants reported at least knowing and interacting with a family friend who had a mental illness. However, while this measure provides information about contact experiences that participants are aware of having, scores say less about contact experiences which participants do not recall having. Thus,

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it is possible that participants had interpersonal contact experiences with individuals with mental illness that they did not recall having and, thus, did not report.

Participant awareness of contact experience. In addition to the absence of recall in interacting with an individual with mental illness, it is also possible that individuals simply are not aware that the person with whom they are engaging experiences mental illness. Participants may have inadvertently under-reported interpersonal contact experiences in this study because mental illness is not always visible. Prevalence rates of mental illness in the United States suggest that most people will interact with someone with a mental illness on a daily basis (American Psychiatric Association, 2013). However, whether an individual is aware of these contact experiences is not always clear. Unlike more visible characteristics of a stigmatized group (i.e., race), mental illness can often be concealed (Couture & Penn, 2003). For instance, an individual may not be aware that his or her neighbor has depression, that an uncle has an eating disorder, or that a co-worker takes medication to manage panic attacks. Individuals may, therefore, be more likely to identify an interpersonal contact experience has occurred when symptoms are more easily observable and not realize that a contact experience has occurred when the other person's mental illness is less obvious.

The visibility of mental health symptoms is often suggestive of a higher level of acuity of the disorder in question. For instance, if someone was to observe an individual crying, exhibiting disorganized speech, or behaving in a disorganized way, he or she is likely to quickly label that person as a having a mental illness (Weiner, 1980). Furthermore, an individual with high symptom severity is more likely to behave in a stereotype-confirming manner (Couture & Penn, 2003). Interactions with such an individual are unlikely to result in positive attitude or behavior change (Desforges et al., 1999). Inversely, interactions with individuals with mental

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illness that are non-conforming to stereotypes may go unnoticed by members of the general public, and will not, thus, have positive impacts on attitudes toward people with mental illnesses. Therefore, while most people likely experience multiple instances of interactions with a person with a mental illness who does not conform to stereotypes, a member of the public may not realize doing so unless the other person decides to disclose their mental illness at the time. This means that participants likely had stereotype non-confirming experiences with individuals with mental illnesses, but were unaware that this had occurred, and thus did not experience attitude change as a result.

Sample personality characteristics. Personality traits of the participants in this study may have affected their attitudes toward people with mental illness and their reported behavioral intentions to engage with educational and indirect contact Facebook materials. Personality factors play an important role in both general prejudice and attitudes toward individuals with mental illness. Openness to experience and Agreeableness, for instance, are “Big Five” personality traits that have been found to inversely correlate with levels of general prejudice (Sibley & Duckitt, 2008). These personality traits have been found to apply similarly to mental health stigma with Openness and Agreeableness being negatively correlated, and Neuroticism being positively correlated with levels of prejudice against people with mental illnesses (Brown, 2008). In the current study, it is possible that participants with higher levels of Agreeableness and Openness to experiences may have reported more positive attitudes and self-reported likelihood to engage with anti-stigma Facebook materials even in the absence of any interpersonal contact experiences. Therefore, previous contact would not necessarily predict attitudes and behavioral intentions.

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Researchers have also suggested that personality factors like these may play an important role in predicting how impactful an interpersonal contact experience is in altering attitudes and behavioral intentions toward individuals with mental illness (Chung et al., 2001; Couture & Penn, 2003). For instance, someone who is low on levels of Openness and high levels of Neuroticism may not benefit as much from an interpersonal contact experience by virtue of his or her personality. An individual's reported previous contact experiences would have not necessarily been associated with more positive attitudes or intentions to engage with anti-stigma Facebook materials.

Personality factors may also have had an impact on reported behavioral intentions toward presented anti-stigma Facebook materials. Previous research findings suggest that personality traits are reflected in social media behaviors (Kosinski, Bachrach, Kohli, & Graepel, 2014). Multiple studies conducted on the topic of personality and online behaviors have found that extroverts are more likely to reach out and interact with other people online, are more likely to "like" and share media content, and will likely update their profile status more often when compared to introverts (Kosinski et al., 2014). Kosinski and colleagues' (2014) findings are important because, in the case of the current study, introverted participants would be unlikely to engage in many of the social media behaviors asked about on the survey materials simply because they are not the type of people to engage in that sort of behavior, regardless of their attitudes and previous contact experiences. In the case of the introverted participant, personality factors may have been a stronger predictor of social media behaviors than previous interpersonal contact with someone with a mental illness.

Quality of reported interpersonal contact. While interpersonal contact is considered to be one of the strongest predictors of improved attitudes and behavioral intentions toward

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individuals with mental illness (Couture & Penn, 2003), not all contact experiences are created equal. Thus, not all interpersonal contact can be assumed to end in positive attitude and behavioral outcomes. Indeed, several factors have been implicated in the success of an interpersonal contact experience in improving attitudes and probability of prosocial behaviors toward individuals with mental illness, and should be considered as potentially playing a role in the results of this study.

Factors considered important in determining the success of an interpersonal contact experience include intimacy of interaction (Ellison & Powers, 1994), equal status of individuals involved (Cook, 1985), cooperative interactions (Worchel, 1986), real-world opportunities rather than contrived interactions within an experimental setting (Sigelman & Welch, 1993), and general pleasantness of the interaction (Desforges et al., 1991). Thus, the quality of an interaction has been examined before as a factor that can make or break an interpersonal contact event. It is possible that the previous contact reported upon in this study did not include qualities required to predict attitude change and impact behavioral intentions toward this group and, thus, would not have provided support for the second hypothesis.

Limitations and Future Directions

As with many research studies interested in behaviors that are not easily observable, the current study relied on participants reporting their behavioral intentions related to anti-stigma Facebook materials. A common criticism for this approach includes the possibility that participant responses may be subject to social desirability bias and may be inaccurate as a result (Armitage & Conner, 2001; Ajzen, 2011). Scores on a measure of social desirability, however, did not suggest that participants' responses were significantly impacted by social desirability, but

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it is important to consider reported behavioral intentions as being only approximations of future behaviors.

Furthermore, because no known measure existed at the time to assess for social media behavioral intentions, one was created for the purpose of this study. The resulting task assessed for behavioral intentions to engage with anti-stigma Facebook materials. As a result, no normed data exists to provide context for the resulting scores and researchers can only speculate as to their meaning.

The LCR measure used in this study does not assess for the quality of previous interactions. While participants, on average, indicated a level of previous contact equivalent to having a family friend with a severe mental illness, this actually tells researchers very little about the quality of those encounters. The interactions themselves may not have been voluntary, cooperative, or pleasant, all factors that are considered important in a productive contact experience (Ellison & Powers, 1994; Worchel, 1986; Sigelman & Welch, 1993). Thus, it is possible that the second hypothesis in this study was not supported because the contact experiences reported by participants were not of sufficient quality to have caused an improvement in attitudes or behavioral intentions toward individuals with mental illness.

Future research can address one limitation in this study by working to develop a normed instrument for the assessment of social media behavioral intentions. Additionally, future research may also benefit from assessing for the quality of previous interpersonal interactions reported by participants. Finally, when possible, future researchers should aim to use direct observation of social media behaviors and interpersonal interactions whenever possible.

Implications and Conclusion

Two implications are based on the current findings: (a) anti-stigma campaigns should focus on passive media advertising, and (b) interpersonal contact alone may not be a reliable predictor of attitudes and behavioral intentions.

Passive media is key. Current findings suggest that anti-stigma programs may benefit from emphasizing the use of passive rather than active media outlets to disseminate educational and indirect contact campaign materials. Active communication channels include interpersonal communication in-person or online, which involves people actively seeking out and sharing information (Dutta-Bergman, 2004). Alternatively, television, radio, and print advertising are considered passive because information in these contexts is being presented to an audience regardless of the individual's expressed interest in receiving it (Dutta-Bergman, 2004). Based on the findings in the current study, those with little knowledge about mental illness are less likely to report behavioral intentions to engage with educational materials. Thus, those with little knowledge and who hold negative attitudes toward mental illness are also less likely to engage with educational and indirect contact materials designed to counter these problematic characteristics. If campaigners wish to educate those with low levels of motivation and a passive orientation toward mental health information, they may need to utilize passive forms of media to do so.

Contact alone does not predict attitudes and behavioral intentions. Participants in this study reported, on average, having intentions to engage with indirect contact and educational materials. However, these reports were not associated with self-reported previous interpersonal contact experiences. These findings may offer support for the use of social media advertising to engage audiences with anti-stigma campaign materials. However, it is important to keep in mind

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that Facebook and other social media platforms have algorithms that would make it unlikely that anti-stigma posts would be presented to someone who has not previously expressed an interest in the topic (Facebook, 2016). Although it is encouraging that this study found that interpersonal contact with someone with a mental illness is not a required prerequisite for intentions to engage with anti-stigma materials, other barriers continue to exist. Current findings highlight the difficulty of relying on social media platforms to engage audiences in anti-stigma efforts.

In conclusion, findings from this study reflect that previous knowledge about mental illness can significantly influence whether someone chooses to interact with Facebook anti-stigma campaign materials, with positive attitudes toward people with mental illness mediating the relationship. These findings can help shape how organizations market anti-stigma campaigns, how communities increase tolerance, and how individuals increase their own sensitivity toward marginalized populations.

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Chapter Two

Literature Review

Despite decades of research dedicated to the subject, mental health stigma and the negative consequences associated with it continue to negatively impact individuals with mental illness (Clement et al., 2015; Corrigan & Rao, 2012; Drapalski et al., 2013; Rusch, Corrigan, Todd, & Bodenhausen, 2010). Anti-stigma campaigns have focused on decreasing mental health stigma by engaging the public in indirect contact and educational opportunities. However, no known research has examined the factors associated with an individual's intentions to interact with anti-stigma materials as they are presented on Facebook.

The following chapter summarizes the relevant literature related to (a) mental health stigma and its consequences, (b) methods of stigma reduction, (c) the role of social media in anti-stigma campaigning, and (d) outcome research related to anti-stigma campaigning. First, an introduction to mental health stigma is provided, including definitions of both public and self-stigma. Literature that supports the existence of relationships between the variables of interest (i.e., contact with mental illness, mental health knowledge, attitudes toward mental illness, and behavioral intentions) will also be reviewed. Several proposed models aimed at explaining the creation and maintenance of stigma will also be discussed. Next, the negative effects of mental health stigma on the individual with mental illness will be addressed. Additionally, research regarding mental health stigma reduction interventions, including both education and social contact, will be reviewed. Literature examining the use of social media as a marketing tool will be outlined with a focus on how social media has been utilized to combat mental health stigma. Finally, anti-stigma campaign outcome research will be reviewed. The chapter ends with an

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introduction to the current study by connecting previous research to the current dissertation study.

Mental Health Stigma

The following section introduces the topic of mental health stigma by reviewing several proposed definitions of the term used throughout the literature. Mental health stigma is conceptualized in the current study as an interplay between a lack of knowledge, negative attitudes, and negative behaviors toward individuals with mental illness. The concepts of attitudes toward mental illness and behaviors toward individuals with mental illness will be introduced.

Defining stigma. Stigma is a comprehensive term used to refer to one or more associated constructs. Stigma has been defined broadly as a process involving labeling, separation, stereotype awareness, stereotype endorsement, prejudice, and discrimination in a context in which social, economic, or political power is exercised to the detriment of members of a social group (Link & Phelan, 2001). The concept of stigma has been examined regarding various stigmatized groups, including racial and ethnic minorities (Loury, 2003), sexual minorities (Hatzenbuehler, 2009), and individuals living with HIV/AIDS (Sayles, Wong, Kinsler, Martins, & Cunningham, 2009).

Stigma can also be broken down into public and self-dimensions to capture the stigma that stems from sources outside of the self and that which is internalized within the self-schema (Corrigan & Watson, 2002; Link & Phelan, 2001). Public stigma includes the discrimination of individuals with mental illness by members of the community who endorse negative stereotypes about mental health (Corrigan & Watson, 2002). Self-stigma, on the other hand, involves the

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internalization of negative mental health attitudes and stereotypes into the self-schema of the individual with mental illness (Lannin, Vogel, Brenner, & Tucker, 2015).

Stigma as a problem of knowledge, attitudes, and behaviors. Studies examine the phenomenon of stigma by focusing on one or more of its individual components (e.g., negative attitudes, stereotype endorsement, discriminatory behaviors toward individuals with mental illness, etc.). Thornicroft et al. (2007) held that stigma is a problem of knowledge (i.e., ignorance), attitudes (i.e., prejudice), and behaviors (i.e., discrimination). That is, a lack of knowledge regarding mental health contributes to negative attitudes toward individuals with mental illness. Negative attitudes increase the probability of engagement in discriminatory behaviors toward individuals with mental illness. For example, a lack of accurate knowledge regarding the dangerousness of people with mental illness may lead the general public to fear individuals with mental health diagnoses. The result of such negative views contributes to discriminatory behaviors toward this group, such as endorsing the forced hospitalization of people with mental illness. The current study defines mental health stigma in these terms, that is, as a problem encompassing a lack of knowledge, negative attitudes, and negative behaviors toward individuals with mental illness that can be altered through increasing knowledge and engaging in intergroup contact with individuals with mental illness. Knowledge, attitudes, and behaviors as factors within the context of mental health stigma will be reviewed briefly in the following sections.

Knowledge. Mental health knowledge is considered to play an important role in the creation and maintenance of mental health stigma as demonstrated by the emphasis that many anti-stigma programs place on education. Research findings consistently demonstrate that a lack of mental health knowledge is associated with negative attitudes toward mental illness, such as

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endorsing the belief that individuals with mental illness should be forcibly hospitalized (Henderson et al., 2013; Wolff, Pathare, Craig, & Leff, 1996). The relationship between knowledge and behaviors toward individuals with mental illness has also been demonstrated, with more knowledge about mental health being associated with less desired social distance from individuals with mental illness (Corrigan et al., 2001). Many anti-stigma campaigns have been designed based on the public health theory of Knowledge, Attitude, and Behavior (KAB). KAB theory postulates that health behaviors are affected by one's knowledge about and attitudes toward a target health behavior (Schneider & Cheslock, 2003). The KAB model has a number of implications for public health initiatives, including that organizations should focus on increasing knowledge regarding health behaviors in order to increase positive attitudes and positive health behaviors (Xu et al., 2010). A review of the research regarding educational methods of reducing mental health stigma will be reviewed later in this chapter.

Attitudes. Various researchers have used measures of attitudes toward mental illness to provide information regarding levels of societal stigma in a population across time. Attitudes have been measured in various ways within mental health stigma research. Studies may focus on measuring the attitudes of community members or the attitudes that individuals with mental illness have toward themselves (King et al., 2007). Mental health attitudes may be assessed through self-report measures requiring participants to state their agreement with mental health stereotypes, how dangerous they perceive someone with mental illness to be, or how much social distance they would choose to keep from someone they believed to have mental illness (King et al., 2007). Other measures aim to understand how individuals with and without mental illness view topics like treatment seeking and treatment efficacy (Mojtabai, 2007). As opposed to measures of explicit attitudes (i.e., self-report measures), implicit measures attempt to access

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private or even unconscious biases toward mental illness through the completion of certain tasks. For example, the Brief Implicit Attitudes Task requires participants to unwittingly demonstrate preferences for mental or physical illnesses by timing how long it takes for participants to sort various physical and psychological conditions into “good” and “bad” valence categories. Quicker responses are interpreted as indicating a stronger association between the target word and the categorical term. Longer response times are interpreted as taking more cognitive effort and thus representing a lower association between the target and categorical terms (Teachman et al., 2006).

Regardless of how attitudes are measured, studies performed in the United States offer a glimpse into how little attitudes toward mental illness have changed over time in the general population. That is, despite increases in mental health knowledge, especially regarding the neurological basis of mental illness and an increase in endorsement of psychological treatment for mental illness (Pescolodio et al., 2010), attitudes toward mental illness did not significantly change between 1996 and 2006, remaining overwhelmingly negative during this time span. Specifically, a national study revealed that desired social distance and perceived dangerousness of an individual mental illness did not significantly change in the United States, and in some instances, even worsened between 1996 and 2006 (Pescolodio et al., 2010). A national study carried out across the United States in 2012, revealed that 80% of adults sampled agreed that treatment could help people living with mental illness lead normal lives (Center for Disease Control and Prevention, National Association of County Behavioral Health and Developmental Disability Directors, National Institute of Mental Health, & The Carter Center Mental Health Program, 2012). However, 35% to 67% of adults agreed that people are caring and sympathetic to people living with mental illness, suggesting that societal attitudes toward mental illness

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continue to be negative. Thus, attitudinal measures allow researchers to track stigma across place and time, revealing trends according to various demographic factors.

Behaviors. Measured behaviors within mental health stigma research vary widely depending on the research questions being explored. For example, some studies focus on understanding why a person chooses to engage in helping or punishing behaviors toward individuals with mental illness (Corrigan, 2006). Others focus on whether or not employers hire individuals with mental illness (Sharac, McCrone, Clement, & Thornicroft, 2010), and the types of treatments that professionals offer patients (Schulze, 2007). Other studies focus on predicting whether individuals with mental illness chooses to seek help for themselves (Corrigan, Druss, Perlick, 2014). Regardless of the behavioral outcome of interest, measuring behaviors of any kind offers challenges to researchers.

Because many studies interested in the behaviors of a population are unable to observe participants in naturalistic environments, most choose to assess the behavioral intentions of participants through self-report measures. The Theory of Planned Behavior posits that intentions to engage in a given behavior are antecedents to actual behaviors (Ajzen, 1991). Ajzen proposes that behaviors are planned and are the result of the interpretation of behavior-relevant information available in the environment (2011). Attitudes held toward a given behavior, such as the belief that the behavior will result in a favorable outcome, contribute to the intention to engage or not to engage in a given behavior. Intentions can then be considered to lead to actual behaviors as long as the person has the freedom to engage in the behavior in question (Ajzen, 2011).

A common criticism for the use of self-report behavioral intention measures, especially those inquiring into sensitive topics, includes the possibility that participant responses may be

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subject to social desirability bias (Armitage & Conner, 2001; Ajzen, 2011). That is, individuals may choose to state that they intend to do something because they wish to present as a morally upright citizen rather than because they actually intend to behave in a prosocial way. For example, a study examining the role of mental health stigma in the workplace found a significant discrepancy between employers' stated willingness to hire someone with a mental illness and their history of ever knowingly doing so. Specifically, while employers expressed willingness to hire someone who had a mental health diagnosis, most did not report that they had done so (Sharac et al., 2010). Social desirability bias in behavioral intention measures has been found to occur even when participants are assured that surveys are kept anonymous (Armitage & Conner, 2001). Thus, while behavioral intentions offer one method of approximating behavioral outcomes, it is important to consider reported intentions in the context of other available information such as measures on social desirability scales and reported attitudes toward the intended behavior.

Theoretical Models of Mental Health Stigma

In an effort to combat mental health stigma, a variety of models that conceptualize the creation and maintenance of stigma have been hypothesized. A clear understanding of stigma is needed in order to effectively design interventions to combat the problem. Such explanatory models can be broken down into three general groups: motivational models, institutional models, and social cognitive models. While the present study utilizes a social cognitive model in its conceptualization of mental health stigma, the following sections will review other models and offer critiques when necessary to support this decision.

Motivational models of mental health stigma. Theories based on motivation pose that stigma serves an important function for the stigmatizing group. These motivations include ego-

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justification, group-justification, and system justification (Jost & Banaji, 1994). Biernat and Dovidio (2000) explained that stereotypes may act as a justification for the existence and perpetuation of stigma. The theories posit that stereotypes and stigma serve to justify the negative treatment of a particular group, serving to provide an advantage for the majority group.

On an individual level, stigmatizing another group may serve the purpose to protect the physical body or the psychological self from the perceived threat presented by an individual with mental illness. For example, an individual may purposefully avoid sitting on a public bench with someone he or she suspects may have a mental illness. The individual may choose to do so in order to avoid exposing themselves to a “dangerous” situation. The belief that persons with mental illness are dangerous reinforces the distance that society tends to keep from these individuals. The stereotype, therefore, serves to justify the behavior.

Motivation to engage in stigmatic behavior at the group level is explained by the idea that stigma supports the goals of the in-group over members of an out-group (Neuberg, Smith, & Asher, 2000). Thus, the “us” verses “them” rhetoric used when referencing those with and without a mental illness signifies the in-group wishing to distance itself from a group of people it views as inappropriate, abnormal, and potentially dangerous. Thus, the superiority of the in-group is maintained by creating additional distance from individuals with mental illness through the language used to discuss the mentally ill (Corrigan & Watson, 2003).

A system-justification explanation of stigma holds that stigma is perpetuated by the very system that is designed to care for individuals with mental health disorders. For example, by holding the stigmatic view that people with mental illness are not capable of recovering and are unable to care for themselves, the public justifies its tendency to institutionalize people with mental illness (Corrigan, 2001). Thus, the system can continue to operate as it always has despite

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the discriminatory nature of its actions because the general public agrees that it does so for good reason.

Motivational models of stigma offer an explanation, but not a clear opportunity, for intervention regarding mental health stigma. That is, while understanding how stigma can justify discriminatory acts against the mentally ill can help one gain insight into the mechanisms at work regarding this matter, no clear suggestions have been made about how this phenomenon can be influenced. Indeed, if stigmatic and stereotypic beliefs help to justify treating the mentally ill unfairly, no explanation about why they are viewed as inferior is being offered.

Institutional models of mental health stigma. Institutional models of stigma offer a system-level understanding of how political and economic forces can influence certain groups (Corrigan, Kerr, & Knudsen, 2005). Laws and regulations at the state and federal level that directly or indirectly affect marginalized individuals can be considered to be perpetuating stigma. For example, the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 was enacted in response to discrepancies in insurance coverage and reimbursement between physical and mental health services (Civic Impulse, 2015). In particular, insurance companies and Medicaid providers were free to discriminate against those with mental illness by setting strict limits on the number of days that patients could receive inpatient or outpatient care. No such limits were imposed on physical health treatments. The Parity Act requires insurance companies to offer coverage for mental health care that is comparable to its coverage of physical healthcare needs (Civic Impulse, 2015). However, this particular act was specifically aimed at private insurance companies. Medicaid and Medicare providers were free to continue to discriminate and only recently has legislation been put in place to gradually phase out this

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practice. Despite the introduction of the Parity Act, a 2015 study found that many insurance plans continue to cover these conditions unequally (Berry, Huskamp, Goldman, & Barry, 2015).

Unfortunately, while institutional models offer a system level understanding of how stigma functions, they offer little insight into how to influence that system for change.

Institutional models of stigma explain that stigma is a method by which to oppress an out-group on a systemic level. However, such a model does not offer any specific reasons for why the stigma is occurring or indeed how that stigma can be decreased.

Social cognitive theories of mental health stigma. Social cognitive theories hold that stigmas are the outcome of knowledge processing structures that are used to efficiently interact with the environment in which we live (Corrigan, 2000; Corrigan, 1998). Human understanding of the world is limited by the mind's ability to process external stimuli and sort those stimuli into easily understood categories or schemas (Greenwald & Banaji, 1995). Cognitive processes are constantly at work and mostly out of conscious awareness. Greenwald and Banaji (1995) introduced the concept of implicit social cognition to describe such processes that occur outside of conscious awareness or control in relation to social psychological constructs such as attitudes, stereotypes, and self-concepts. Such theories often utilize path models in order to understand how exposure to certain discriminative stimuli is associated with certain behavioral outcomes. This is done by examining and testing the cognitions that mediate these constructs (Corrigan, 2000). Path models are useful when attempting to conceptualize how to decrease certain outcomes because paths' clear and logical illustrations of processes allow for the targeting of interventions to a particular place in the process. One such social cognitive theory includes a model based on the cognitive process of attribution.

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Attribution theory is a specific social cognitive model that holds that stigma is the result of the functioning of certain knowledge structures. Specifically, attributional theories are based on the basic human desire to explain why a particular event has occurred (Corrigan, 2006). In other words, how an individual interprets an event can affect how that individual will respond to it. For example, if one was to believe that a driver cut him/her off on the road intentionally, he/she is likely to respond differently than if he/she did not interpret the act as intentional. Weiner's attributional model of social conduct has been applied to a variety of social situations and is based on the making of inferences about an individual's responsibility in a transgression (1980). The attribution of responsibility determines whether anger or sympathy is felt toward the transgressor and, thus, what behavioral response is appropriate (Weiner, 1980).

Weiner's attribution model was originally proposed to explain the process that an individual goes through before making a judgment about whether to help someone who has fallen. In his 1980 publication, Weiner revealed that the decision about whether or not to engage in helping behavior was largely dependent on the perceived causality of the fall. Specifically, the decision about whether or not to help a fallen person is the result of a process by which an individual has an emotional reaction to the event, seeks to understand what caused the event, and then makes the decision about whether to engage in helping behaviors. Factors that influence causality include perceived locus, control, and responsibility. Weiner's research revealed that when an individual is considered to have been in control of the fall (i.e., intoxicated), participants were less likely to offer helping behaviors when compared to those who attributed the fall to the situation (i.e., the person was ill and using a cane at the time of the fall) (Weiner, 1980).

Weiner's model has been adapted to a variety of contexts and has since been adapted to explain behavioral reactions to mentally ill individuals (Corrigan, 2006). In Corrigan's model, a

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signaling event occurs wherein an individual perceives the presence of a person with mental illness. A signaling event could consist of seeing an individual talking to him or herself, being dressed in a bizarre manner, or even simply being perceived as “homeless.” The affective response in a given situation is mediated by the attribution of responsibility granted to the individual’s symptoms. Their symptoms are perceived as either controllable or not controllable. Thus, the individual is either deemed responsible or not responsible for his/her behaviors. Affective responses are either pity in response to a person who is not deemed not responsible for his/her symptoms or anger if he/she is deemed responsible. Behavioral reactions in response to pity would include some type of helping behavior wherein the individual would make an attempt to assist the person with a mental illness in some way. Behavioral reactions in response to anger may take the form of attempting to reform or rehabilitate the individual (e.g., calling the police, communicating anger verbally, etc.).

The attributional model of mental health stigma has been tested and supported within the literature. Specifically, path analyses support the directionality of the relationship between uncontrollability attributions about an event leading to pity and helping behaviors (Dooley, 1995; Menec & Perry, 1998). However, the path leading from responsibility, anger, and punishing behavior has less current support (Corrigan, 2000).

Within Corrigan’s adapted model, a signaling event leads into a decision about responsibility and, consequently, the appropriate emotional response toward the offender, either anger or pity. Such a model is able to offer a clear explanation regarding how stigma functions within everyday social interactions and, as a result, reveals areas for intervention. In particular, the role of stereotyping in the initiation of this process could be an area of intervention, as education and contact have been found to decrease the endorsement of mental health stereotypes

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(Brockington, Hall, Levings, & Murphy, 1993; Corrigan & Penn, 2015; Couture & Penn, 2003; Pinfold et al., 2003). Furthermore, the attribution of responsibility mediating process showcases a fundamentally simplistic understanding of mental health. Specifically, mental health symptomology may involve a number of factors including those genetic or situational factors that may be out of the individual's control, as well as more controllable factors such as treatment seeking and medication compliance. While such a black-and-white conceptualization of mental health has been supported by this model, education and contact may serve to increase awareness regarding the complex reality of mental illness, thus, reducing stigmatization based on convenient stereotypes.

The Negative Effects of Mental Health Stigma

Research has examined the negative effects of mental health stigma in a variety of areas including the self-esteem and self-efficacy of the individual, treatment seeking behaviors, and hiring behaviors. An overview of this literature, with an emphasis on how mental health stigma affects the individual with mental illness, is provided. The indirect impact of mental health stigma on the friends and family of individuals with mental health diagnoses is also reviewed.

Self-Stigma. The Internalized Stigma Model proposed by Lannin, Vogel, Brenner, and Tucker (2015) describes self-stigma as the result of perceived situational factors. Within this model, individuals respond to their own mental health diagnosis based on how they perceive others feel about it. The stereotypes and other collective representations of mental illness that people are aware of influences how those individuals come to understand their own mental health and how they will respond to their identity as people with mental illness. When individuals with a mental health diagnosis agree with the negative stereotypes expressed by others regarding their condition, they often suffer lower self-esteem and self-efficacy (Corrigan

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& Watson, 2002), as well as a lower quality of life (Rusch et al., 2010). Other previous research supports these findings wherein an awareness of public stigma has been linked to slower recovery, lower self-esteem, increased depression, and the avoidance of mental health treatment (Corrigan and Roa, 2012; Link, Streuning, Neese-Todd, Assmusen, & Phelan, 2001; Manos, Rusch, Kanter, & Clifford, 2009). This model offers unique insight into the prevalence of self-stigma and, by extension, the negative outcomes associated with it. Because negative attitudes and stereotypes regarding mental health are prevalent within Western culture, a model that links these attitudes to the individual with mental illness reiterates the importance of intervening on a mass public scale. By decreasing negative public attitudes toward mental illness, individuals with mental health diagnoses, by extension, may begin to view themselves in a more positive light.

Self-Esteem. The self-esteem of individuals with mental health diagnoses has been shown to be negatively affected by mental health stigma (Corrigan, 2004; Corrigan et al., 2006; Link et al., 2001). Self-esteem has been defined by Corrigan, Faber, Rashid, and Leary (1999) as a feeling of one's own personal worth. When the stereotypes and negative attitudes of the general public are internalized by the individual with mental illness, his or her self-esteem can be negatively impacted (Corrigan & Watson, 2002). Low self-esteem has been correlated with a variety of mental health disorders including depression (Sirey et al., 2013; Watson, Suis, & Haig, 2002). In fact, some researchers caution against viewing depression and self-esteem as two distinct constructs because of the consistently strong negative correlations found between the two (Watson et al., 2002). Rather, it is argued that self-esteem and depression may represent two poles of the same construct (Watson et al., 2002). Indeed, self-esteem has been considered to be a key variable in many theories concerning the etiology and maintenance of mental "disorder"

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(Thoits, 2013) and currently represents a key marker in the diagnosis of a number of mental health disorders.

Low self-esteem or “feelings of worthlessness” represent one of the central diagnostic criteria for a major depressive disorder within the most current edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013). The relationship between mental health and self-esteem likely represents a complicated interplay of cause and effect between these variables. Thus, the experience of mental health stigma, if internalized, may decrease an individual’s self-esteem, thereby potentially increasing the severity and duration of his or her mental health condition.

Self-Efficacy. Bandura defines self-efficacy broadly as the belief that a person holds regarding his/her ability to perform tasks needed to achieve a desired outcome (Bandura, 1997). For an individual with a mental illness, the desired outcome may include the individual’s perceived ability to recover from illness, engage in meaningful relationships with others, obtain employment, and so on.

One’s sense of self-efficacy is derived from various sources of information, including mastery experience, vicarious experience, social persuasion, and physiological states. Information derived from these sources can have either a positive or negative effect on an individual’s sense of self-efficacy (Bandura, 1997). Mastery experience refers to an individual perceiving that he/she has been successful in performing similar activities required for the current desired outcome in the past (e.g., “I have obtained employment in the past while having generalized anxiety disorder, so I can do it again”) (Britner & Pajares, 2006; Joet & Usher, 2011; Usher, 2009). Vicarious experience requires the observation of others performing similar tasks (e.g., “This famous celebrity has bipolar disorder and she has been successful, so I can too”)

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(Schunk, 1987). Social persuasion is related to the feedback, either positive or negative, that an individual receives from others regarding his/her capabilities (e.g., “My family tells me that I cannot live on my own and take care of myself, so I don’t think I can either”) (Zeldin & Pajares, 2000). Finally, physiological states include the information that one receives from his/her body regarding one’s emotional and physical arousal levels (e.g., “When I think about seeing a therapist for my anxiety, my heart rate increases so I cannot possibly carry through with it”) (Usher & Pajares, 2008).

Self-efficacy is considered to be the most important prerequisite for behavior change (Bandura, 1977, 1978, 1997). Inversely, a lack of self-efficacy has been associated with decreased willingness to seek independent living opportunities and employment opportunities even when available (Link, 1982). Thus, if individuals do not feel that they are capable of accomplishing the tasks required for treatment, they may be less likely to seek out mental health treatment. Sources of information for individuals with mental illness are likely to include society at large, as well as personal experiences with individuals in their communities. The negative attitudes and stereotypes of mental illness expressed by members of the public, therefore, are all sources of from which self-efficacy is conceived. For example, negative attitudes toward mental illness have often been associated with beliefs regarding perceived responsibility of symptoms and an inability to recover (Corrigan et al., 2003). The internalization of these beliefs by individuals with mental illness can affect beliefs regarding their own abilities to recover, resulting in a sense of guilt regarding their condition, potentially lessening the probability that they will seek treatment.

Treatment Seeking. The presence of mental health stigma has been linked to therapy utilization, willingness to return for subsequent therapy sessions, and negative attitudes toward

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therapy in general (Vogel, Wade, & Haake, 2006; Wade, Post, Cornish, Vogel, & Tucker, 2011). International studies reveal that over 70% of individuals with mental illness receive no treatment for their conditions (Thornicroft, 2007). Despite a number of evidence-based and validated treatments for a variety of mental health conditions (Satcher, 2000), individuals with mental health disorders often choose not to seek treatment. If the decision to seek treatment is made, premature treatment drop-out is common (Kessler et al., 2001; Regier et al., 1993; Sirey et al., 2001). Choosing not to seek out or continue with mental health treatment can have negative consequences on the individual, including an increase in severity of mental health symptoms, negative physical health outcomes, and frequency of suicide attempts (Niederkröthaler, Reidenberg, Till, & Gould, 2014).

Individuals with mental illness may not seek treatment for a number of reasons, including personal and perceived negative attitudes toward mental illness, a fear of facing discrimination, and fear of facing stigma by professionals in the healthcare system (Corrigan & Calabrese, 2001). While multiple factors are at play in the gap between service availability and utilization, stigma makes a salient contribution to this issue (Peris, Teachman, & Nosek, 2008). As mentioned previously, feelings of self-efficacy and self-stigma have both been associated with a willingness to seek out treatment. Specifically, lower levels of self-efficacy and higher levels of perceived stigma have both been associated with lower treatment seeking in those with a mental illness (Corrigan et al., 2006).

The Internalized Stigma Model proposed by Lannin et al. (2015) explores the role of self-stigma in the development and maintenance of mental health stigma within a culture, as well as the role of stigma in help-seeking. Stigma associated with seeking help is considered to be distinctly different from mental health stigma in general (Ben-Porath, 2002; Tucker et al., 2013).

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Self-stigma of mental illness and self-stigma of seeking psychological help have both been found to be predictors of lower self-esteem (Lannin et al., 2015). Furthermore, self-stigma of seeking psychological treatment has been found to predict decreased intentions to seek counseling (Lannin et al., 2015). Thus, internalized stereotypes about both having a mental illness and seeking psychological help may be associated with negative self-evaluations. Furthermore, internalized stereotypes associated with seeking help may be pertinent predictors of decisions to seek help. Thus, psychologists and other mental health providers benefit their clients by understanding that stigmatizing perceptions may both demoralize individuals and enact barriers to seeking treatment for their mental health concerns.

Attitudes of healthcare providers. Fear of experiencing discrimination by healthcare providers has been cited as a contributing factor in the decision to not seek treatment (Calabrese & Corrigan, 2001). While professionals in the field of mental health are expected to provide unbiased and compassionate care to clients, research findings are mixed. Indeed, much of the research performed on this topic has revealed that mental healthcare providers have similarly negative attitudes regarding mental health as members of the general public (Hansson, Jormfeldt, Svedberg, & Svensson, 2013; Nordt, Rossler, & Lauber, 2006; Stuber, Rocha, Christian, & Link, 2014). One study found that mental health professionals endorsed as many negative mental health stereotypes and desired equal amounts of social distance from people with mental illness as members of the general public (Nordt et al., 2006). A more recent study found that mental healthcare providers held more positive attitudes toward mental illness compared to members of the general public (Stuber et al., 2014). However, mental healthcare providers reported equal amounts of desired social distance and reported similar levels of perceived dangerousness of an individual with mental illness (Stuber et al., 2014).

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Attitudes toward mental illness have been found to vary across treatment environments and mental health diagnoses. Professionals working in inpatient facilities (Hansson et al., 2013) expressed the most negative attitudes when compared to professionals working in outpatient facilities. Attitudes also vary depending on the specific mental health disorder being considered. Drug use disorders, in particular, have been associated with some of the most negative attitudes expressed by mental healthcare workers when compared to other conditions (e.g., depression, diabetes, etc.) (vanBoekl, Brouwers, vanWeeghal, & Garretsen, 2013).

The attitudes of the healthcare professionals toward mental illness affect how they interact with, conceptualize, and approach treatment with clients. Research suggests that people with mental illness do not receive the same level of care as individuals with medical conditions (Desai, Rosenheck, Druss, & Perlin, 2002). Druss and colleagues (2000) examined the various types of treatments provided to individuals with heart problems. They found that those individuals who also had a comorbid psychiatric illness were much less likely to receive cardiovascular procedures when compared to patients without such a comorbid condition (Druss et al., 2000). The differential treatment of those with physical disorders over those with mental health disorders may stem from beliefs that the general public holds regarding the etiology of mental health symptoms. Members of the general public have been found to view individuals with mental illness as more responsible for their symptoms compared to those with exclusively physical ailments (Teachman et al., 2006). Individuals viewed to have more responsibility in their present conditions are, consequently, viewed with less sympathy by others since they should, based on this notion, have the power to alter their circumstances (Teachman et al., 2006). Thus, mental health providers may differ in their approaches with clients they perceive as being more or less responsible for their conditions.

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Negative attitudes have been associated with more pessimistic conceptualizations and treatment approaches taken by mental health professionals. A 2008 study revealed that the presence of explicit bias against mental illness in a mental healthcare professional predicted a more negative patient prognosis offered by the therapist (Peris et al., 2008). That is, healthcare professionals who reported more negative attitudes toward individuals with mental illnesses on survey materials were also more likely to report low expectations of recovery for those patients. Furthermore, the presence of implicit bias against mental illness predicts routine over-diagnosis of clients (Peris et al., 2008), thus, underscoring the importance intervening on stigma even at the level of the professional.

While healthcare providers are not immune to holding negative attitudes toward mental illness, several studies reveal that healthcare workers express less negative attitudes toward mental illness than do members of the general public (Stuber et al., 2014). Factors associated with more positive views of mental illness in healthcare professionals have been found to include higher levels of professional training, more education (Stuber et al., 2014), more years of experiences, and more knowledge about specific disorders (Hsaio, Lu, & Tsai, 2015; Maier, Moergeli, Kohler, Carraro, & Schnyder, 2015). Additional factors associated with positive attitudes of healthcare professionals include contact and familiarity with mental illness (Stuber, Rocha, & Christian, 2014). Specifically, Stuber and colleagues (2014) found that 32% of mental health staff reported receiving a mental health diagnosis themselves at some point in their lives. Personal experience of this nature was highly associated with more positive attitudes toward mental illness, less perceived dangerousness of a person with mental illness, and decreased desired social distance (Stuber et al., 2014). Thus, increasing contact early on in training has

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been posited as a potential valuable way to decrease stigma and negative attitudes in healthcare professionals.

Employment. Employment is considered to play an important role in mental health and recovery (Provencher, Gregg, Mead, & Mueser, 2002). Apart from the financial and physical security associated with steady income, gainful employment offers opportunities to practice coping skills, engage in interpersonal interactions (Warr, 1987), and enhance the self-esteem of individuals with mental illness (Bond et al., 2001). In a longitudinal study, individuals with a mental illness who obtained employment over the first year of the study increased their use of outpatient services and decreased their use of institutional services (i.e., hospitals, jails, and prisons). Within the 5-year follow-up period, those who maintained steady employment decreased their utilization of the mental health system significantly overall (Bush, Drake, Xie, McHugo, & Haslett, 2009). Researchers posited that this reduction in treatment usage may be related to a decline in symptom severity associated with a decrease in finance-related stressors and increases in the sense of self-worth in the individual (Bush et al., 2009). Therefore, the ability of individuals with mental illness to access the job market has important implications for the individual beyond the obvious financial gains. Despite the obvious benefits associated with employment, individuals with mental illness have higher rates of unemployment and underemployment when compared to those without a mental illness (Stuart, 2006).

While the process of seeking employment can be stressful and frustrating for anyone, individuals with a mental illness can experience unique challenges in this process. Meta-analysis has shown that stigma has an adverse effect on obtaining and maintaining employment such that individuals who experience stigma during the hiring process were more likely to be denied work or be terminated later on (Sharac et al., 2010). A study performed by Wahl (1999) surveyed

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individuals with a mental illness and inquired into employment seeking experience. The results revealed that a majority of the individuals who chose to disclose information about their mental health during the interview process felt that they were denied the position despite qualifications because of their mental health history. Legislation, such as the Americans with Disabilities Act (1990), is meant to prevent individuals from being denied or terminated from employment opportunities due to a physical or mental condition. However, popular opinion regarding the matter shows that a quarter of members of the general public feel that it is admissible to deny employment to someone who discloses that he/she has a mental health diagnosis (Barry, McGinty, Pescosolido, & Goldman, 2014). Furthermore, behavioral intention research has shown a discrepancy between employers' stated intentions and actual behaviors in this area. One particular study found that, while a majority of the employers surveyed stated that they would have no reservations about employing an individual with a mental illness, only a small minority of them had actually ever hired someone with a mental illness (Sharac et al., 2010). Indeed, potential effects on employment is one of the most common reasons that people state they do not seek treatment for mental illness (Clement et al., 2012; Brouwers et al., 2016).

Anticipation and fear of facing discrimination by potential employers can have deleterious effects on an individual's willingness to pursue employment. Fear of discrimination and expected rejection is associated with discouragement and a discontinuation of employment seeking (Brouwers et al., 2016; Wahl, 1999). An international survey carried out across 35 countries found that 60% of the 834 individuals with major depression interviewed had stopped themselves from pursuing education, employment, or training because they anticipated experiencing discrimination based on their mental health condition (Brouwers et al., 2016).

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Once a job placement has been secured, individuals with mental illness face discrimination by employers and fellow employees at high rates. In a study performed in 2015, people with mental illness identified employers as one of the most frequent sources of stigma in their lives with 62.5% stating that they had experienced or anticipated experiencing stigma in the workplace (Brouwers et al., 2016). Thus, mental health stigma's effects on employment can negatively impact an individual at every step of the employment process.

Family. While the majority of mental health stigma research has focused on the impact of stigma on the individual with mental illness, the impact of mental health stigma on the friends and family has also been explored. Mental health stigma has consistently been found to negatively impact the family members of the individual with mental illness (Chang & Harrocks, 2006; Silver, 1999; Steele, Maryama, & Galynker, 2010). The concept of “associative stigma” has been described as the mental health stigma that is experienced by someone simply because he/she is associated with a person with a mental illness (Ostman & Kjellin, 2002). Also referred to as “courtesy stigma” (Angermeyer, Schulze, & Dietrich, 2003; Goffman, 1963), the experience of being associated with someone with a mental illness has been linked with feelings of guilt and contamination expressed by family members who internalize stereotypes associated with being the cause of their loved one's mental illness (Ohaeri & Fido, 2001; Streuning et al., 2001). In sum, the effects of mental health stigma reach far beyond the individual with a mental health diagnosis, which reiterates the importance of decreasing it in society at large.

Decreasing Stigma

In response to the numerous negative outcomes related to mental health stigma, individuals and organizations have set out to decrease the prevalence of mental health stigma through campaigning materials by use of both education and interpersonal contact experiences.

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The following section will review the literature regarding education and contact as a means of reducing mental health stigma.

Education. A common method utilized by anti-stigma campaigns to decrease negative attitudes toward mental illness includes education. Educational methods are based on the premise that a lack of knowledge (i.e., ignorance) regarding mental illness plays a major contributing role in the creation and maintenance of mental health stigma (Thornicroft et al., 2007). Studies seeking to establish the link between knowledge and attitudes toward mental health have shown that members of the general public who demonstrate a better understanding of mental illness are less likely to endorse stigma and discrimination when compared to those without such knowledge (Brokington et al., 1993; Pinfold et al., 2003). Educational methods may include providing pamphlets, trainings, and public service announcements on a public or individual level, which include educational information. The type of information relayed by campaigns varies depending on the goals and theoretical conceptualization of stigma held by the campaign in question. While many anti-stigma campaigns focus on correcting mental health stereotypes, other campaigns focus on increasing knowledge related to behavioral outcomes, such as treatment seeking and assisting others during a mental health crisis.

Educational methods of decreasing mental health stigma routinely involve providing accurate information regarding mental illness for the purpose of contradicting negative stereotypes and myths (Corrigan & Watson, 2002). For example, the United Kingdom-based anti-stigma campaign, Time to Change, includes posts specifying the differences between clinical depression and everyday sadness in their materials (Time to Change, 2015). The myth that individuals with depression diagnoses are actually experiencing everyday sadness but are unable or unwilling to “help themselves” is one such myth. This myth can be disputed by

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acquiring knowledge regarding the actual differences between everyday sadness and clinical depression. Such myths result in blame being placed on the individual for his/her symptoms and a belief that people with depression are “unmotivated” or “weak” (Time to Change, 2015). Based on the social attribution theory proposed by Weiner (1980) and adapted to mental health by Corrigan (2006), cues in the environment trigger an individual to identify someone as having a mental illness. Individuals then make assumptions regarding attributions of responsibility concerning an individual’s condition. Attributions of responsibility result in emotional responses toward the individual (i.e., anger or pity), which lead to corresponding behavioral responses toward the individual with mental illness (i.e., punishing or helping). These attributions often stem from pre-existing stereotypes regarding mental illness (Corrigan, 2006). Educational methods, which seek to counter mental health stereotypes, theoretically disrupt this process by discrediting these stereotypes and replacing them with accurate information. Therefore, the resulting emotional responses and behaviors are meant to reflect this accurate understanding of the situation rather than inaccurate stereotypes.

While a variety of programs have attempted to combat negative mental health stereotypes through education, stereotypes have been found to be resistant to change in adult samples (Corrigan & Penn, 1999). Studies testing the efficacy of such educational programs have found that mental health education often leads to decreased self-reported endorsement of mental health stereotypes. However, unconscious negative attitudes toward mental illness may persist as demonstrated by scores on implicit attitude measures (Strack & Deutsch, 2004). Implicit measures provide unique information concerning biased attitudes because they can uncover biases even in those wishing to appear as unbiased. In an attempt to combat stereotypes before they become engrained in an individual’s schema regarding mental illness, some educational

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programs have been designed to intervene on knowledge structures during childhood and adolescence. Educational programs, as well as those using both education and contact approaches, have been found to be effective in decreasing negative attitudes in children and youth samples (Corrigan et al. 2001; Schulze, Richter-Werling, Matchinger, & Angermeyer, 2003; Yamaguchi, Mino, & Uddin, 2011).

Many organizations seek to increase mental health literacy broadly as opposed to simply providing information that contradicts specific stereotypes. Health literacy is defined as an individual's capacity to access, comprehend, and utilize health information in order to maintain good personal health (Nutbeam, 2009). In the case of mental health, literacy would encompass an individual's factual knowledge about mental health disorders and treatments, as well as an understanding about how to seek treatment for him/herself or others. Mental health literacy includes the ability to recognize disorders, identify risk factors, and seek out treatment as necessary (Jorm, 2000). Researchers interested in understanding levels of mental health literacy in the general public have found that most people are unable to recognize and differentiate between specific disorders or varying types of psychological distress (Jorm, 2000). Participants also differ from mental health experts in their beliefs about the causes of mental disorders and the most effective treatments. Poor mental health literacy is associated with delays in recognizing and seeking help for mental health disorders and is considered to hinder public acceptance of evidence-based mental health care, and cause people with mental health disorders to be denied effective care (Jorm, 2000). For example, low mental health literacy in both children and adults has been credited as one of the leading causes of children with mental health problems not receiving appropriate care (Pescosolidio et al., 2008).

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To increase mental health literacy in young people, various educational programs have been implemented and with encouraging results. One such program includes a randomized controlled trial performed in Australian public schools (Perry et al., 2014). Three hundred and eighty students were randomly assigned to receive either a mental health literacy class or another course. Program materials included information about mental health in general, information about treatments, where to get help, and information about etiology of mental health disorders. Results of the program showed an increase in the ability of students to recognize features of depression, reported willingness to engage in help-seeking for depression, and willingness to accept treatment with medication in those territories where the program was carried out (Perry et al., 2008).

Educational programs targeting adults in the general public have also found to be successful in increasing mental health literacy (Kitchener & Jorm, 2002). For example, a 9-hour course focused on helping someone in a mental health crisis (e.g., suicidal thoughts, panic attacks, acute psychosis, acute stress reactions, etc.) and provided information about depression, anxiety, and psychotic disorders. Associated symptoms, risk factors, and evidence-based treatments were also discussed. Two hundred and ten participants received the training and were surveyed before the training, immediately after the training, and at 6 months following the training. Results of the study revealed reported desired social distance significantly decreased at post test for reactions to both schizophrenia and depression vignettes. Significant increases in confidence in providing help to individuals in crisis and actual reported help to others were also observed (comparing reports 6 months before and 6 months following the training) (Kitchener & Jorm, 2002).

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Furthermore, mental health literacy training has also been tested and utilized within the criminal justice system. Providing Crises Intervention Training (CIT) to law enforcement officers has been associated with significant reductions in unnecessary arrests, use of force, and an increase in referrals to emergency healthcare providers when working with individuals in a mental health crisis (Steadman et al., 2001; Dupont & Cochran, 2000; Bower & Pettit, 2001). CIT trainings often include providing information about how to recognize various mental health disorders, effective communication training, and how to access mental health emergency services (Steadman et al., 2001). The aim of such programs is to reduce stigmatizing attitudes toward persons with mental illness present in the criminal justice system, as well as to promote the use of community services over the criminal justice system in cases of mental health related events (Compton et al., 2006).

While educational programs have been successful in increasing accurate conceptualizations of mental health and increasing overall mental health literacy, positive attitude changes toward individuals with mental health are not necessarily associated with increases in mental health knowledge (Schomerus et al., 2012). Studies performed in the United States reveal that, despite general increases in mental health knowledge, attitudes toward mental illness did not significantly change between 1996 and 2006 (Pescolodio et al., 2010). Thus, while increases in mental health knowledge may improve as a result of education, improvements in attitudes do not necessarily occur. One argument for this apparent contradiction is that the type of information that is promoted may have unintended consequences.

Over the past 20 years, anti-stigma campaigns have increasingly focused on disseminating biogenetic models of mental illness in their materials (Schomerus et al., 2012). Biogenetic models of mental illness stress that disorders, such as schizophrenia, are diseases of

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the brain (Schomerus et al., 2012). Viewing mental illness etiology in physical terms has increased as a result of medical research suggesting chemical imbalances and observable differences in brain structure uncovered through imaging studies (Kendler et al., 2008; Kendler & Prescott, 2006). According to social attribution theories of mental health stigma, viewing a disorder as having a physical basis should decrease blame on the individual for his/her symptoms since perceived responsibility for the condition is low (Corrigan, 2006). However, educational programs emphasizing the biogenetic model of mental illness result in little change in negative attitudes or even in more negative attitudes toward individuals with mental illness (Rusch, Todd, Bodenhausen, & Corrigan, 2011). One explanation for this phenomenon is that the biogenetic model portrays mental illness as an unchangeable aspect of a person's genetic makeup, suggesting that it is impervious to treatment (Nelkin & Lindee, 1995). A study performed by Rush et al. (2011) was interested in testing the explicit and implicit mental health attitudes of people with and without mental illness, along with their endorsement of the biogenetic model of mental illness. Results revealed that, among those with mental illness, endorsement of biogenetic models of mental illness were associated with greater explicit fear and stronger implicit self-guilt associations. Among the members of the general public surveyed, endorsement of the biogenetic model was associated with less perceived responsibility of the individual with mental illness for their illness, but greater desired social distance (Rusch et al., 2011). Thus, while the biogenetic model of mental illness may reduce the blame that is placed on individuals with mental illness by members of the general public, the perceived lack of control that people with mental illness appear to have over their condition may lead to more fear and discrimination toward this group. Furthermore, biogenetic models' emphasis on portrayal of mental illness as being beyond the

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control of the individual likely contributes to a sense of self-guilt experienced by an individual seemingly born “different” from others.

Despite the mixed success of various mental health education programs, education continues to be a focus of many anti-stigma programs. While increasing mental health knowledge has been associated with changes in attitudes and more positive behaviors, the exact message of educational programs requires continued monitoring in order to ensure positive outcomes.

Interpersonal Contact

A second method of decreasing mental health stigma includes interpersonal contact. Originally proposed by Allport in 1954, the contact hypothesis asserts that prejudicial attitudes between different groups can be decreased through positive interactions. While originally examined as a means of decreasing negative attitudes and behaviors towards members of different racial and ethnic groups, the contact hypothesis has since been applied to mental health stigma (Corrigan & Penn, 1999). Factors implicated in the success of a contact experience in various settings include (a) intimacy of the interaction (Ellison & Powers, 1994), (b) equal status of individuals involved in the interaction (Cook, 1985), (c) cooperative activities (Worchel, 1986), and (d) authentic rather than contrived interactions (Sigelman & Welch, 1993). Such an approach has been supported in decreasing mental health stigma expression with an inverse relationship between self-reported positive previous contact with an individual with a mental illness and expression of mental health stereotypes (Evans-Lacko et al., 2012).

While now widely considered to be one of the most effective ways to reduce prejudice between majority and minority group members, interpersonal contact has stood up to rigorous empirical scrutiny over the preceding 60 years (Schiappa et al., 2005). Holzberg (1963), for

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instance, asked university students to spend 1 hour a week with an individual with a mental illness for 1 year. The study found that the program significantly improved attitudes toward mental illness in the students. Similar findings have been replicated across methodology and time. Specifically, retrospective contact and prospective contact with mental illness have been studied as they affect attitudes toward mental illness across a number of studies.

Retrospective studies of contact and mental health stigma inquire into whether participants have ever experienced interpersonal contact in their lives and compare those reported experiences with attitude measures (Link & Cullen, 1986). Such studies have generally supported the theory of previous contact with mental illness being associated with more positive attitudes toward individuals with mental illness (Link & Cullen, 1986; Corrigan et al., 2001; Callaghan, Shan, Yu, & Kwan, 1997; Vezzoli et al., 2001). One such study performed in 1986 recruited 153 individuals. Participants were asked to complete measures of perceptions of dangerousness and report any previous contact with mental illness (Link & Cullen, 1986). Results demonstrated that voluntary contact with mental illness was associated with lower perceived dangerousness of individuals with mental illness. Thus, results supported that previous contact with persons with mental illness can influence mental health stigma. Corrigan and colleagues (2001) found similar results in a study of their own. Researchers recruited 208 college students and examined the impact of reported familiarity with, desired social distance from, fear of, and perceived dangerousness of individuals with mental illness. Familiarity, in this case, was derived from the Level of Contact Report (Holmes, Corrigan, Williams, Canar, & Kubiak, 1999), which measures previous contact with mental illness based on a continuum rating scale from most intimate previous exposure (i.e., “I have a mental illness”) to least intimate (“I have never interacted with someone with a mental illness”). Results found that participants who reported

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more familiarity with mental illness also reported less fear, perceived less danger, and desired less social distance from individuals with mental illness compared to those with lower levels of familiarity.

Prospective studies assess the impact of contact on mental health stigma by having participants engage in contact with individuals with mental illness as part of their participation in the study. These studies too generally support the contact hypothesis in decreasing mental health stigma (Chinsky & Rappaport, 1970; Kish & Hood, 1974). In a study examining attitude change in mental health workers, views of individuals with mental illness significantly improved following 10 weeks of voluntary patient contact (Kish & Hood, 1974). Another study required college-aged participants to spend 30-hour long sessions with a group of eight psychiatric patients over the course of five and a half weeks. Results showed that these students showed significantly more positive attitudes toward mental illness when compared to a control group following the exposure (Chinsky & Rappaport, 1970). Thus, prospective findings support the prescription of interpersonal contact to decrease stigma.

Promoting contact between individuals with mental illness and other members of the public presents unique challenges in that campaigns must convince two contentious groups to interact with one another. In response to this challenge, various methods of indirect contact have been proposed and studied. The topic of indirect contact is important when considering how social media and other online applications may be utilized to decrease stigma since all interactions through these platforms would involve indirect communications (e.g., responding to Facebook posts, posting response videos, etc.). There is, however, a dearth of literature to draw from regarding this topic. Schiappa et al. (2005) studied how indirect means of contact could influence levels of prejudice toward sexual minority members. Indeed, indirect means of contact

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(i.e., viewing clips including sexual minority members) were associated with lower levels of expressed prejudice. Thus, these findings suggest an additional means by which to influence a decreased stigma in individuals.

Social Media as a Platform for Change

Social media campaigning is a popular method to spread educational messages and promote contact experiences in a public arena. The following section will outline research related to social media and its use by public health organizations with a focus on defining social media and social media engagement as it applies to the current study.

Social Media Defined. Social media has been defined as “forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos)” (Merriam-Webster, 2016). Social media can be broken down into six types, including social networking, collaborative projects, virtual social worlds, virtual game worlds, blogs, and content communities (Kaplan & Haenlein, 2010). On social networking sites users create profiles that allow them to interact with other users as well as organizations, companies, events, support groups, and so on (i.e., Facebook, LinkedIn, etc.). Collaborative project sites like Wikipedia allow users to collaborate on a common project online. Wikipedia is one example of a collaborative project social media site where users collaborate to create an online encyclopedia freely available to all users. Virtual social worlds include sites like Second Life, where individuals create characters and interact with one another in the context of a virtual world. Virtual game worlds differ from virtual social worlds in that gamers interact with one another within the context of a competitive scenario (e.g., World of Warcraft). Blogs and microblogs allow individuals to interact with each other through the creation of digital posts. Finally, content

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communities include sites like YouTube within which users can upload original content (e.g., videos) and are able to interact with one another through comments and other outlets.

Social media advertising has gained popularity with corporate and non-profit organizations alike due to its ability to access a large and diverse segment of the population. A majority of all Internet users report using one or more social media websites (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015). Facebook, for example, boasted over 1.44 billion monthly active users in 2015 (Facebook, 2016), making it the most popular of all social media sites. In fact, according to a Pew Research poll, 72% of all Internet users and 62% of the adult population surveyed reported using Facebook (Duggan et al., 2015). Demographically, users of Facebook represent a diverse segment of the population based on age, ethnicity, gender, socio-economic status, and level of education (Duggan et al., 2015). Millennials (people born between 1982 and 2000, roughly 30% of population), specifically, have been targeted by advertisers and businesses through social media outlets due to their primary dependence on social media for the acquisition and sharing of information (American Press Institute, 2015). Social media is also appealing to marketers because of its unique interactive quality.

Social media engagement. Social media differs from more traditional forms of media in its enabling of real-time interactions between users and organizations, unbound by geography (Heldman, Schindelar, & Weaver, 2013). These interactions between users and organizations, as well as between individual users, have been equated to public dialogues wherein users and organizations can communicate in a previously unprecedented manner (Kent & Taylor, 1998). The value of social media platforms for corporations and non-profit organizations has been cited to be due to its ability to facilitate these types of two-way interactions in real time (Thackeray, Neiger, & Keller, 2012; Saffer, Sommerfeldt, & Taylor, 2013).

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Kent and Taylor (1998) introduced the Dialogic Theory of online communication as involving a feedback loop between users and organizations. This loop of communication allows the public and organizations to be involved in back and forth interactions. This allows users to pose questions to organizations and receive relevant and accurate information in response regarding the topic of interest. For example, an individual may inquire as to how to access a proposed resource through an organization's frequently asked questions webpage. The organization would supply a clear response to this individual, which would be available publically to any viewer, thus, ensuring that the needs of the public are met. These dialogues are valuable because they enable organizations to ensure the relevancy and appeal of their messages, products, and services based on the information that is gathered through such dialogues (Heldman et al., 2013). A public health organization can identify the needs of the public by monitoring its social media webpages and responding to the trends it observes. For example, a public health organization may notice a trend in its Twitter feed in which users are mentioning struggles with losing weight on a budget. In response, the organization may supply a link on the organization's Twitter feed that leads them to a published article on the topic.

By keeping social media content consistent with the needs and interests of the public, organizations can increase the likelihood that users are interacting with their social media materials (Heldman et al., 2013). Interacting with materials can include individual users viewing webpages or videos, joining online groups, sharing content with other users, or even creating original content. These interactions can also be referred to as social media engagement behaviors. In an attempt to understand how and why users interact with a given message, social media engagement has been defined and broken down in a variety of ways. Within public health literature, social media engagement has been defined as,

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a multi-way interaction between and among an organization and digital communities that could take many forms, using social media channels to facilitate that interaction; health messaging is shared in a way that creates opportunities for information to be acted on by the audience, thereby opening a dialogue with the organization that allows both parties to work collaboratively to address issues effecting the health and well-being of the audience. (Heldman et al., 2013, page 5)

Because social media engagement can include a variety of different types of behaviors, the literature has conceptualized the concept according to the types of social media activities involved (Muntinga et al., 2011). Li and Bernhoff (2008), for example, introduced a breakdown of engagement by distinguishing between different types of social media user identities: inactives, spectators, joiners, collectors, critics, and creators. Each identity, within this model, is associated with behaviors that represent increasing levels of engagement with social media materials. However, in response to the observations that a user can qualify for multiple identities by engaging in a variety of behaviors, models of engagement were introduced that discriminate levels of engagement according the behaviors themselves.

Muntinga et al. (2011) introduced the concept of consumers' online brand-related activities (COBRAs) (2011). COBRAs distinguish between various levels of engagement according to the activities involved (Muntinga et al., 2011). These levels include consuming, contributing, and creating. At the lowest level, consuming represents those activities that involve simple one-way interactions with materials (watching a video, reading an article, etc.). The next level, contributing, represents activities that involve engaging with materials in a more active manner (joining a group, liking a page, commenting on an article, sharing a page with others, etc.). The third and highest level of engagement, creating, involves the production of original

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materials and publishing them on the organization's site. This might include publishing an article, uploading videos, writing a review of an event, and so on.

The importance of engagement for corporate and non-profit organizations alike stems from the assumption that more engagement will equal greater behavior change (Hanna, Rohm, & Crittenden, 2011). Ultimately, the goal of any social media marketing campaign is to alter the public's attitudes or behaviors in some way. That is, a corporate organization may wish to increase the engagement of the public with its social media materials because it believe that more engagement will result in higher purchasing behaviors of its product (Hanna et al., 2011). Similarly, a non-profit organization such as an anti-stigma organization may assume that higher engagement with its social media materials will result in more positive attitudes toward mental illness and a decrease in negative behaviors toward this group.

However, the literature on public health suggests that the relationship between social media engagement and behaviors is yet to be fully understood (Freeman, Potente, Rock, & McIver, 2015). That is, data linking levels of social media engagement to associated behavior changes would be advantageous to corporate and health organizations alike; however, this data has yet to be produced (Freeman et al., 2015). A variety of issues stand in the way of this goal, including a lack of studies, issues with methodology of existing studies, and a lack of consistent theory-driven campaigns to be analyzed.

Anti-Stigma Campaigns

The following section will offer an overview of the literature related to anti-stigma campaigns beginning with their use of social media. Next, a review will be offered of the KAB model of public health, often used by anti-stigma campaigns. Next, available research regarding

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the outcomes of various anti-stigma campaigns will be reviewed in an attempt to understand the efficacy of such programs. Finally, a critique of the available research will be provided.

Anti-stigma campaign use of social media. Anti-stigma campaigns too have attempted to capitalize on social marketing for disseminating information, raising awareness, and advertising public events. While both contact and education can be effective means to decrease stigma in individuals in laboratory settings, utilizing these methods in the real world has presented challenges. Anti-stigma campaigns face the challenge of disseminating accurate information regarding mental health, as well as encouraging contact between stigma sufferers and stigmatizers. Campaigning is often done through mass media channels like radio, television, billboards, and pamphlets. Messages that are disseminated through these media channels must be kept brief as well as appealing in order to leave a lasting impression (Singh & Cole, 1993). Financial constraints for non-profit organizations also mean that broadcasted messages are often not imparted when exposure would be greatest (Singh & Cole, 1993). In response to the challenges posed by engaging the public in educational and contact scenarios offline, anti-stigma campaigns have taken advantage of the public's interest in online activities.

Social media platforms have been targeted above other traditional media forms by anti-stigma campaigns over the past 10 years for a variety of reasons including cost efficiency, utility in providing feedback to organizations from users, and the ability to increase direct engagement through social media's interactive functioning (Gallant, Irizarry, Boone, Kreps, & 2011; Neiger, Thackeray, Burton, Thackeray, & Reese, 2013). Interaction is what sets social media apart from more traditional means of marketing public health initiatives (U.S. Centers for Disease Control and Prevention, 2011). Furthermore, the nature of certain online interactions can lead to

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decreases in negative attitudes toward mental illness in users by facilitating both educating and indirect contact opportunities (Gallant et al., 2011; Neiger et al., 2013).

Social media has been touted as an essential and powerful platform for disseminating the anti-stigma message owing to its ability to facilitate public dialogues amongst community members: “Campaigns are increasingly incorporating social media into their communication channels, but perhaps their most important role is amplifying individual-led conversations and channeling them to mainstream media” (Betton et al., 2015, p 444).

While for-profit organizations utilize social media platforms as a means of marketing their products and services to consumers, public non-profit organizations are also utilizing social media frequently. Exactly how these organizations utilize social media and other outlets depends on the theory of public health to which the organization ascribes.

Knowledge, Attitude, and Behavior model. Many anti-stigma campaigns have been designed based on the theory of KAB, which postulates that behaviors are affected by one’s knowledge about and attitudes toward a target behavior (Schneider & Cheslock, 2003). The KAB model has a number of implications for public health initiatives, including that organizations should focus on increasing knowledge regarding health behaviors in order to increase positive attitudes and positive health behaviors (Xu et al., 2010). This model has been supported within the field of mental health stigma by findings that show that a lack of mental health knowledge is associated with negative attitudes toward mental illness, such as endorsing the belief that individuals with mental illness should be forcibly hospitalized (Wolff et al., 1996). The relationship between knowledge and behaviors toward individuals with mental illness has also been demonstrated, with more knowledge about mental health being associated with less desired social distance from individuals with mental illness (Corrigan et al., 2001). Furthermore,

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more positive attitudes have been associated with positive behavioral outcomes such as desired social distance and willingness to engage in contact with individuals with mental illness (Corrigan et al., 2001).

Outcomes of anti-stigma campaigns. The following section will review available research regarding anti-stigma campaigns, along with their outcome research with an emphasis on any social media usage. While dozens of anti-stigma campaigns have been carried out internationally, few campaigns gather data regarding their outcomes. Because of this, the following section will focus on what little research has been made available to the public. Specifically, the United Kingdom's Time to Change campaign will be covered in the most detail.

Time to Change. One of the largest and longest-running anti-mental health stigma campaigns that has been carried out is the Time to Change campaign, which was carried out across the U.K. from 2009 to March of 2015 (Evans-Lacko et al., 2013). The campaign had the goal of improving public attitudes and decreasing discrimination toward individuals with mental illness. The campaign utilized multiple media outlets (e.g., national television, print, radio, cinema, and social media), outdoor and online advertisements, as well as public events. Social media platforms used in the campaign included Facebook, Twitter, and YouTube.

Advertisements directed its audience to the Time to Change website, where stories of people with mental illness, tips for fighting stigma, blogs, and forums were freely available. The campaign focused on behavior change and used social media to drive the public into action. The campaign emphasized any size action, from a smaller action (e.g., engaging in a conversation with someone else about stigma in person or online) to larger actions (e.g., helping to plan an event aimed at encouraging the public to engage in conversations about mental health stigma).

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The target audience for Time to Change included individuals living in England who were 25 to 45 years of age and of the middle-income bracket (Evans-Lacko et al., 2013). More specifically, the campaign intended to target what it considered to be “unconscious stigmatizers.” An unconscious stigmatizer was defined as someone who does not recognize that discrimination against people with mental illness occurs, or how his/her own actions might contribute to the issue of mental health stigma. Furthermore, the study meant to target those individuals who had some proximity to people with mental health problems already. These individuals include people who have friends, coworkers, or distant family members with a mental illness. The justification for this target audience included that this audience would have attitudes most amenable to change and would fit the description of most people. Furthermore, it was felt that changes in this section of the population would influence other, more difficult to target, portions of the population such as those people who actively discriminate against individuals with mental illness and the “unaware” group (i.e., people not aware of mental illness). It was theorized that as unconscious stigmatizers begin educating themselves and become more active in anti-stigma campaigning, they would indirectly influence other portions of the population positively (Evans-Lacko et al., 2013).

The campaign model included three phases during which time the campaign shifted its primary objective as well as method of delivery to suit the goal. The campaign was based on a model that describes stigma to be the result of a lack of knowledge (ignorance and miscommunication) regarding mental health, negative attitudes toward mental health (prejudice), and negative behaviors (discrimination) (Thornicroft et al., 2007).

Campaign development involved the collaboration of marketing and mental health experts. Surveys of individuals who have had personal experience with mental illness also

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influenced shifting campaign foci (Evans-Lacko et al., 2013). Additionally, workshops with over 100 survey participants involved taking part in activities, which explored experiences of participants with stigma and discrimination. Through these workshops, participants disclosed the types of discrimination and stigma that they had experienced, from whom they experienced it, and their ideas about what should be done to improve attitudes and decrease stigma. Such workshops and focus groups were carried out throughout the campaign and contributed to the particular messages that were distributed to the public.

The first phase of Time to Change occurred with the initial introduction of the campaign to the public in 2009 and focused on dispelling myths about mental illness along with providing basic mental health facts (Evans-Lacko et al., 2013). The goal of this initial phase was to increase the relevancy of the problem of mental health stigma and increase general knowledge about the problem to the general public. The second phase focused on attitudes and recognizing one's own prejudice and stereotypes held against individuals with mental illness. The third phase involved the introduction of the Time to Talk initiative, which encouraged the public to start conversations about mental health stigma and engage in social contact with individuals with mental illness. This phase included events wherein individuals could engage in real-life opportunities to talk about mental health problems (Evans-Lacko et al., 2013). Such events included having tents at local festivals run by campaign staff where individuals could sit in a living-room-like environment and explore written materials designed to educate the public about mental health stigma, talk with mental health professionals, view videos, and so on.

A number of studies have been conducted to measure the effects of the Time to Change campaign. Affiliated researchers tracked attitudes, knowledge of mental health, and behaviors in the public across the campaign's duration and the evaluations of a previous phase were applied

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to the next year's phase. Researchers utilized a variety of measures to ascertain campaign materials' effectiveness in increasing campaign awareness, mental health knowledge, mental health related attitudes, and intended behaviors toward individuals with mental illness.

Abraham and colleagues (2010) examined the effect of a single exposure to Time to Change materials on attitudes toward individuals with mental illness. The study exposed 250 adult participants to Time to Change materials, including images of online advertisements, blogs, and articles with stories of individuals with mental illness. Results from the study suggested that a single exposure was not sufficient to improve attitudes toward mental illness. Indeed, results showed that individuals in the exposure group had equally negative attitudes toward individuals with mental illness as members of the general public surveyed (Abraham et al., 2010). These findings contradicted previous findings in other studies that have found that exposure to educational materials and vignettes equating to indirect contact decreased scores on negative attitude measures (Abraham et al., 2010). Thus, it was suggested that repeated exposures to campaign materials were needed in order to obtain desired improvements in attitudes.

Other studies have offered evaluations of the Time to Change campaign overall. A study performed by Evans-Lacko and colleagues (2013) wished to evaluate the impact of the social marketing component of the campaign in particular, which emphasized social contact between people with and without mental health problems to reduce stigma and discrimination. The study involved recruiting participants through an online market research panels (900-1100 participants per phase) from the campaign's target population (residents of England who were 25 to 45 years of age). Participants completed self-report measures of knowledge, attitudes, and behavioral intentions toward individuals with mental illness. Quotas were set in order to ensure equal distribution of age, gender, and socioeconomic status. Separate samples were gathered and

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assessed before and after each campaign phase. Results from the study found that campaign awareness increased from 38% to 64% (Evans-Lacko et al., 2013). The most consistent predictor of campaign awareness included knowing someone with a mental illness as well as being female, suggesting that those individuals most likely to engage with campaign materials were those who already had some investment in the topic (i.e., knowing someone personally who had a mental illness and, thus, someone affected by mental health stigma). Awareness was strongly associated with better knowledge, more positive attitudes, and intended behaviors. Furthermore, the study found that there was no longitudinal improvement in attitudes, knowledge, or intended behaviors over the course of the entire campaign. However, one intended behavior item was noted to have significantly improved (i.e., “In the future, I would be willing to live with someone with a mental health problem). From one phase to the next, researchers noted that knowledge scores for certain scale items increased significantly. However, knowledge overall actually decreased over the span of the entire campaign. Analyses performed on the effect of intergroup contact through campaign events found that interpersonal contact was associated with increased confidence to challenge stigma, a relationship mediated by positive attitudes (Evans-Lacko et al., 2013).

While outcome research examining the Time to Change campaign show significant improvement in campaign awareness and reported willingness to live with someone with a mental illness, these findings do not offer compelling and clear evidence of the efficacy of the campaign in meeting its initial goal of improving attitudes and decreasing discrimination toward individuals with mental disorders.

It's Up to Us. The It's Up to Us campaign, which launched in San Diego California in 2010, represents a successful multi-media anti-stigma campaign carried out in the United States (Sczersputowski et al., 2013). Utilizing a behavior change model based on Corrigan's social

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attribution model of mental health stigma, It's Up to Us used television, radio, public advertising, and social media marketing to spread educational information aimed at disrupting negative stereotypes toward mental illness. The campaign targeted members of the general public and relayed messages including that mental illness is common, that recovery is possible, that help is available, and that mental health should be taken seriously as an important aspect of overall health.

In order to understand the impact of the campaign, adult residents of the San Diego area were randomly dialed by researchers immediately prior to the campaign launch (N = 602), at 6 months following the campaign launch (N = 601), and 18 months following the campaign launch (N = 604). Results suggested high levels of campaign exposure (88%) and high numbers of website visits (Sczersputowski et al., 2013). Between baseline and 18-month follow-up surveys, a higher percentage of respondents were willing to seek help from a mental health provider (69% vs 85%), a medical provider (70% vs 82%), a family member or a friend (52% vs 66%), and a crisis line or a community resource (36% vs 54%) following the campaign launch. Additionally, those who were aware of the campaign differed significantly from those not exposed on the 18-month follow-up. Furthermore, those aware of the campaign had significantly higher scores than those unaware on the mental health knowledge measures and had lower scores for preferred social distance.

The findings suggested that the campaign had a relatively broad reach and may have facilitated a willingness to seek help (Sczersputowski et al., 2013). The study, furthermore, concluded that, among those exposed, the campaign was beginning to influence knowledge and attitudes that are likely to result in desired behavior changes such as knowledge of resources and support for people with mental illness. However, the study did not provide current evidence for

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campaign effects on attitudes and knowledge toward mental illness. Furthermore, no information was offered regarding the attitudes of those who chose not to seek out online materials.

In One Voice. The In One Voice initiative was a brief social media campaign that took place in Canada and was aimed at increasing awareness and use of its website (Livingston, Tugwell, Korf-Uzan, Cianfrone, & Coniglio, 2013). Content of the website was designed to increase mental health literacy, decrease negative attitudes, and decrease negative behaviors toward individuals with mental illness. The website had a youth focus and collaborated with a professional hockey league to reach its intended audience. The campaign included a number of public service announcements on social media in which British Columbia's Canuck hockey team players talked about a team mate recently lost to suicide, the topic of depression, as well as the website, which was linked to the video.

Livingston et al. (2013) evaluated the In One Voice campaign by surveying a sample of 13- to 25-year-olds before and 2 months after the campaign had launched. Measures for attitudes toward people with mental illness, desired distance from people with mental illness, and mental health literacy (i.e., basic knowledge about mental illness and help-seeking) were administered to the sample. The authors also examined the website analytics to assess number of website views. Results revealed improved mental health literacy, but limited changes on personal stigma and desired social distance from those with mental illness. Thus, a short-term campaign was not found to be effective in changing attitudes toward mental illness despite increases in knowledge.

Critique of outcome research. Despite the popular use of social media by businesses and non-profit organizations, stigma continues to negatively influence individuals with mental illness. While research suggests that the education and indirect contact offered through online interactions (Nguyen, Chen, & O'Reilly, 2012; Brokington et al., 1993) and the direct contact

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available through attending advertised events can have deleterious effects on stigma (Pinfold et al., 2003; Evans-Lacko et al., 2012), little research has successfully examined whether social media is indeed a valuable means by which to draw in those in need of its message (i.e., those with low knowledge and negative attitudes toward mental illness). Ultimately, the goal of such organizations is to alter public opinions regarding mental illness and its treatment. However, there is currently a lack of evidence suggesting that public health social media campaigns have the desired effect on the attitudes and behaviors of the public (Ashwood et al., 2012). What research does exist has been suggested to have a number of weaknesses, including the generalizability of findings, a lack of comparison groups, issues regarding the theories used, and the target audience examined.

Generalizability of outcome measures. Anti-stigma campaign outcome research is often carried out by campaign staff and published in un-peer-reviewed reports (Corrigan, 2012). Because campaign messages are disseminated through media channels such as social media and mass media, exposure to materials is often difficult to predict or measure. Therefore, outcome research studies often lack comparison groups, thus, limiting the strength of findings.

Small controlled experimental studies where individuals are deliberately exposed to materials are advantageous because they allow the examination of specific elements of campaign materials (Ashwood et al., 2012). These studies allow researchers to compare their findings to a control group and give the researchers more control over the type and duration of exposure. However, these studies do not reflect reality wherein individuals may choose not to interact with a message or may choose how and for how long they interact with campaign materials. Therefore, findings of these studies often lack generalizability (Ashwood et al., 2012). Ultimately, these studies offer data regarding the potential of materials to affect an individual's

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attitude or intended behavior, but give little information about the effect of a campaign overall in real-world settings.

Comparison groups. Studies that utilize before and after comparison groups involve sampling a portion of the target population before and after the campaign is introduced. While the inclusion of a comparison group enriches the validity of the findings, it can be challenging to establish why any measured changes have occurred. Thus, changes in attitudes could be an effect of the anti-stigma campaign or some other unmeasured event (Ashwood et al., 2012).

Theoretical issues. Many public health organizations, including anti-stigma campaigns, are evaluated based on a theory of a dose-response relationship between exposure to materials and attitudinal and behavioral shifts (Ashwood et al., 2012). That is, there exists an assumption that the more a message is interacted with, the more effective it will be. However, there is no evidence that this is actually the case (Hornik, 2002; Randolph & Viswana, 2004). Indeed, researchers have stressed the importance of establishing a relationship between social media engagement and behavioral changes with regard to public health campaigns; however, this connection has yet to be reliably demonstrated (Ashwood et al., 2012).

Perhaps owing to this assumption, campaigns most often evaluate their impact based on campaign recognition and awareness. However, campaign awareness has not found to be particularly telling with regard to attitudinal or behavioral changes (Corrigan, 2012). Relatedly, campaign outcome research also stresses evaluating a campaign based on how many “likes” it receives through platforms like Facebook. However, little connection has been found between number of likes and likelihood of health behavior change (Freeman et al., 2015).

Target audience. While dozens of anti-stigma programs have been carried out in numerous counties, mental health stigma continues to affect those suffering from mental illness

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(Corrigan, 2002). One explanation for the continuance of mental health stigma is that these campaigns are failing to reach their target audiences, those low in mental health knowledge and mental health contact. For example, Time to Change was aimed at altering the attitudes, knowledge, and behaviors of individuals who had some proximity to someone with a mental health disorder (Time to Change, 2015). Thus, the campaign chose to cater its message to those individuals who already had some knowledge or familiarity with the topic of mental health. Because contact and knowledge about mental health is associated with willingness to engage with someone with a mental illness and more positive attitudes, it is also possible that these individuals are likely more willing to interact with anti-stigma materials (Corrigan et al., 2001). Thus, the finding that campaign awareness was associated with more knowledge, more positive attitudes, and less intended discriminatory behavior may suggest that individuals with more familiarity with mental health were primed to interact with the campaign materials.

Time to Change targeted “subconscious stigmatizers” for its campaign (2015). A subconscious stigmatizer refers to an individual who lacks insight into whether he/she may be experiencing negative attitudes or engaging in discriminatory behaviors toward individuals with mental illness (Evans-Lacko et al., 2013). Campaign designers argue that unconscious stigmatizers are the most appropriate target for anti-stigma campaigns because the message of decreasing public stigma should appear to be relevant to them. That is, individuals unaware of their role in public mental health stigma, and not having explicit negative attitudes, are likely those who wish to make a positive impact on society (Evans-Lacko et al., 2013). However, based on available outcome research, this audience is not benefitting significantly from these interventions, with no reliable attitude change (Pescolodio et al., 2010; Schwann et al., 2012). It is possible that significant improvements are not happening due to ceiling effects. That is, this

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population may be more likely to have more favorable views of mental illness in the first place when compared to individuals with no familiarity and knowledge about mental health.

Individuals with mental illness often report negative interactions with employers, landlords, and the criminal justice system, and social exclusion in interpersonal relationships (Farina & Feliner, 1973; Link et al., 1987; Teplin, 1984; Wahl, 1999; Wright, Gronfein, & Owens, 2000;). A literature review published in 2012 suggested that anti-stigma campaigning should be focused on intervening on these individuals in order to ensure the greatest positive change for individuals who face mental health stigma (Corrigan, 2012). However, targeting individuals with mental health familiarity is more common.

Summary

A theory and research-driven model linking previous contact with and knowledge of mental illness to intentions to engage with anti-stigma Facebook materials through the mediation of attitudes toward mental illness is proposed. It is hypothesized that higher levels of previous contact with and knowledge of mental health will predict higher reported likelihood to engage with mental health anti-stigma materials. Furthermore, it is predicted that these relationships will be mediated by attitudes toward individuals with mental illness.

Based on the relationships previously established in the literature between mental health contact, knowledge, attitudes, and behavioral intentions, along with the pre-existing KAB theoretical framework, the following hypothesized model is proposed (see Figure 1).

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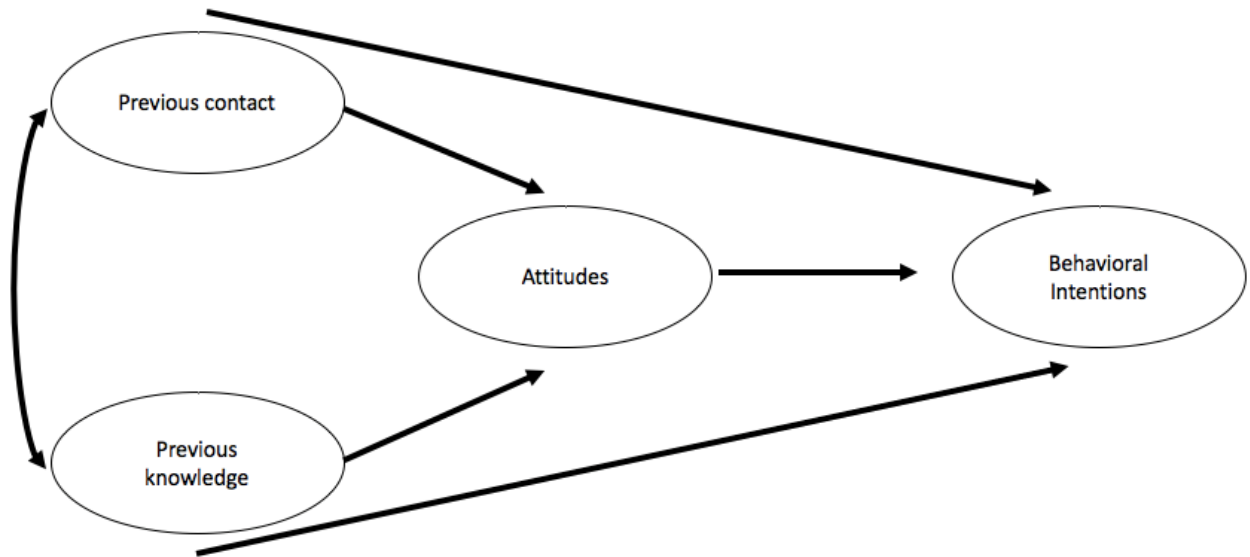


Figure 1. Proposed path model.

The resulting hypothesized path model proposes that previous knowledge of mental health and contact with individuals with mental illness will predict behavioral intentions to interact with Facebook anti-stigma materials through the mediation variable of positive attitudes toward mental illness. The KAB model, as it is applied to mental health stigma, assumes that level of knowledge about mental health predicts prosocial behaviors toward individuals with mental illness through the mediating variable of positive attitudes. The current model builds off of the KAB model by instead focusing on the outcome variable of behavioral intentions to interact with Facebook anti-stigma materials rather than prosocial behaviors. Furthermore, the proposed model adds an additional exogenous variable of previous contact with individuals with mental illness. The present study aims to address the following research questions:

- 1) To what degree does the collected data support the proposed model of previous contact, knowledge, attitudes, and social media behavioral intentions?
- 2) Does previous contact with mental health and high levels of knowledge about mental health predict higher reported intentions to interact with social media materials?

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- 3) Is the relationship between knowledge, contact, and intended social media behaviors mediated by positive attitudes toward mental health?

Based on previous research examining the relationships between mental health knowledge, mental health contact, attitudes toward mental illness, and behavioral intentions to engage with individuals with mental illness, research questions are addressed through the proposition of a path model. The proposed path model is aimed at predicting behavioral intentions to engage with Facebook anti-stigma materials from previous mental health knowledge and exposure. Furthermore, the model also predicts that positive attitudes toward mental illness will act as a mediating factor within these paths. The proposed path model is examined through the following hypotheses:

- 1) Positive attitudes toward individuals with mental illness will mediate the relationship between mental health knowledge and behavioral intentions to engage with anti-stigma Facebook materials.
- 2) Positive attitudes toward individuals with mental illness will mediate the relationship between mental health contact and behavioral intentions to engage with anti-stigma Facebook materials.

Chapter Three

Methods

Previous research has explored the relationships between contact with mental illness, knowledge about mental health, attitudes toward mental illness, and the intentions to engage in prosocial behaviors. Greater knowledge of mental illness has been associated with more positive attitudes toward individuals with mental illness (Brokington et al., 1993; Henderson et al., , 2013; Maier, Moergeli, Kohler, Carraro, & Schnyder, 2015; Pinfold et al., 2003) and higher behavioral intentions to engage in prosocial behaviors toward those with mental illness (Angermeyer et al., 2004). Similarly, previous contact with mental illness has also been associated with more positive attitudes toward individuals with mental illness (Couture & Penn, 2003; Schiappa et al., 2005) and higher behavioral intentions to engage in prosocial behaviors toward those with mental illness (Coutoure & Penn, 2003). However, no known research has established the nature of the relationship between these variables as they relate to social media behaviors. The current study responds to this gap in the literature by exploring these relationships. Based on the relationships previously established in the literature between mental health contact, knowledge, attitudes, and behavioral intentions along with the pre-existing Knowledge Attitudes and Behaviors (KAB) theoretical framework (Schneider & Cheslock, 2003), the following hypothesized model is proposed (see Figure 1).

The proposed path model predicted that behavioral intentions to engage with Facebook anti-stigma materials could be predicted from previous mental health knowledge and interpersonal exposure. Furthermore, the model also predicted that positive attitudes toward mental illness would act as a mediating factor within these paths. The proposed path model was examined through the following hypotheses:

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- 1) Positive attitudes toward individuals with mental illness would mediate the relationship between mental health knowledge and behavioral intentions to engage with anti-stigma Facebook materials.
- 2) Positive attitudes toward individuals with mental illness would mediate the relationship between mental health contact and behavioral intentions to engage with anti-stigma Facebook materials.

Information regarding sampling method, instruments, and analyses is provided in the following sections.

Recruitment

Amazon's Mechanical Turk. The current study utilized Amazon's Mechanical Turk (MTurk) application for the recruitment of survey participants. Using MTurk and its workers in research studies has a number of advantages over more traditional participant recruitment methods, including lower cost, higher levels of diversity, and increased speed at which data can be collected (Berinsky, Huber, & Lenz, 2012; Goodman, Cryder, & Cheema, 2012; Mason & Suri, 2012; Parker & Fischhoff, 2005; Peterson, 2001). Despite growing popularity for use in academic research, MTurk continues to face scrutiny from researchers who question the quality and reliability of the data collected through this method (Goodman et al., 2012). However, a number of critiques have also been made regarding the quality and representativeness of the data collected. The following section offers a review of MTurk methodology, as well as discusses the advantages and limitations of its use in the current study.

Review of MTurk methodology. MTurk (www.mturk.com) is an online work marketplace where businesses and researchers are able to access a large and inexpensive research participant pool via the Internet. The site allows users to register as “requesters” or “workers.”

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Requesters solicit participation in online activities (referred to as Human Intelligence Tasks or HITs) in exchange for monetary compensation. The types of HITs differ depending on the research goals of requesters and can include the completion of surveys, writing tasks, image tagging, transcription of audio, and the sorting of images into categories.

All available HITs on the MTurk site are presented in a standardized format allowing workers to browse, search, and select jobs based on basic information provided on the job list such as the title, the requester, the wage, and the amount of time needed to complete the task (www.mturk.com). If a worker is interested in a task, he/she can select the HIT, exposing additional details regarding the job, such as any qualifications needed by workers in order to participate in the HIT. Often these requirements include a minimal HIT approval rate. Each time a worker completes a HIT, the requester must approve or reject the HIT. Rejections may occur if the requester decides that the worker has failed to complete all required tasks sufficiently. Therefore, a task may be rejected if (a) the worker fails to complete a certain amount of the activity, (b) responses to attention check items reveal that the worker did not follow directions, or (c) the activity is completed in less time than would be necessary to attend fully to the task. Attention check items refer to items that are meant to provide information regarding how much the worker is attending to a given task. For example, an attention check item may involve the switching of a rating scale from a previous direction or involve a simple question that might be answered incorrectly if the participant failed to fully read the given instructions.

HIT approval rates, or the percentage of HITs approved and accepted by requesters, become part of a worker's record and are considered to represent the overall quality of a worker's work (Mason & Suri, 2012). Low HIT approval rates can result in workers being excluded from participating in some jobs. Many HITs require workers to have obtained an

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approval rate of at least 90% to 95% in order to qualify for participation. MTurk workers may also be excluded from HIT participation based on language, age, gender, level of education, or country of residence.

HITs may be completed through the MTurk site itself or require following a link to an outside site. The present study utilized the latter method, requiring that workers follow a link to a survey hosted on an independent site (i.e., Qualtrics). When HITs are completed on an outside site, the requester supplies the worker with a unique completion code that is used by the worker to verify the completion of the HIT with MTurk. Payment is immediately rendered to the worker following the HIT being accepted by the requester. HIT wages can vary greatly; however, compensation typically ranges from 5 to 10 cents for a 5- to 10-minute task with Amazon charging a 10% commission per HIT (www.mturk.com). Because MTurk functions entirely online, the site is open 24 hours a day and, thus, workers can work from anywhere and at any time. Data collection can be completed for a study in a matter of hours, making it a highly appealing method by which to collect data for a number of disciplines (Goodman et al., 2012).

Demographics of MTurk samples. MTurk subjects have been found to be more ethnically and geographically diverse, and in many cases, more representative of the general population of the United States than samples obtained through more traditional means (i.e., college convenience samples and face-to-face community sampling) (Berinsky et al., 2012; Parker & Fischhoff, 2005; Peterson, 2001). Furthermore, MTurk samples have also been found to be more ethnically diverse when compared to Internet samples obtained from other web sources (Burhmester, Kwang, & Gosling, 2011). However, workers have also been found to differ from members of the general public in a number of ways. Indeed, when limiting samples to workers living in the United States, MTurk workers have been found to be younger and more

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ideologically liberal than members of the general public, thus, limiting their use for some research questions (Berinsky et al., 2012). Many MTurk workers live outside of the United States with fewer than half of MTurk workers actually residing in the country (Paolacci et al., 2010). In fact, nearly a third of all MTurk workers reside in India (Paolacci et al., 2010). One study revealed that the MTurk sample obtained included individuals from over 50 countries and from all 50 U.S. states (Buhrmester, Kwang, & Gosling, 2011). MTurk samples are not just unique in their diversity and geographic location, but they also vary in their personality traits when compared to samples obtained by more traditional means. A study looking to decipher the typical MTurk worker administered personality questionnaires to its sample. They found that, compared to individuals recruited through community sampling, MTurk workers were more introverted, less emotionally stable, and had lower self-esteem (Goodman et al., 2012). Thus, while MTurk provides a quick and cost-efficient means to recruit a diverse sample, researchers must remain aware of the demographics of workers both during recruitment and when analyzing and interpreting resulting data.

In the case of the current study, MTurk provided an efficient means to recruit a diverse and representative sample of Internet users. However, the HIT protocol was not open to users from outside of the United States or to non-native English speakers. The current study was most interested in assessing the mental health attitudes and knowledge of U.S. residents and evaluating the willingness of participants to engage with anti-stigma materials designed for that population. Therefore, individuals residing in countries outside of the United States were not eligible to participate. The study also excluded those who did not speak English as their first language in order to avoid participant responses representing an inability to comprehend survey items rather than the participant's actual thoughts and feelings.

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Quality of MTurk data. While the use of MTurk has been touted for its quick and economical access to a diverse sample of individuals, the system has also received a number of critiques regarding the quality of data derived from the sample. In particular, it has been argued that an unsupervised and poorly compensated workforce is likely not motivated to provide accurate, consistent, and reliable performances (Buhrmester et al., 2011; Goodman et al., 2012).

Just like with any other online data collection method, the effect of having participants unsupervised represents a risk to data quality. Previous research has shown that when participation is not monitored, participants are less likely to fully attend to activity instructions (Oppenheimer, Meyvis, & Davidenko, 2009). However, MTurk has been found to be no more likely to have people fail attention checks than with any other method (Paolacci et al., 2010). Paolacci and colleagues (2010) assessed for this tendency in its MTurk sample by including one attention-check item. Specifically, they included one yes/no question: “While watching television, have you ever suffered a fatal heart attack?” Incorrect responses were used as an indicator that the worker had not fully read the question or attended to the survey instructions. Results revealed that MTurk workers generally answered the item correctly, thus, suggesting that they were indeed paying adequate attention to the activity (Paolacci, 2010).

The Modified Instructional Manipulation Check (Oppenheimer et al., 2009) provides a more elaborate system by which to evaluate whether participants are reading instructions carefully. The activity involves reading a brief paragraph and responding to items regarding the paragraph’s contents. However, the instructions indicate that participants respond in a specific way that would not be understood if the instructions were not read fully. This method was used by Goodman et al. (2012) to compare attentiveness to instructions between an MTurk sample, an online student sample, and a face-to-face community sample. Results showed that MTurk

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workers were significantly more likely to fail this check. However, failing was also highly correlated with not having English as a first language. Thus, it is possible that MTurk workers could fail such checks because they lack the necessary language skills to understand the instructions provided, reiterating importance of limiting samples to first language English speakers.

While MTurk workers are likely no less attentive than other participants, previous research suggests that including an attention check item or activity may be necessary in order to identify when thoughtlessness has occurred. Additionally, the MTurk system also provides incentives to workers for providing quality responses through the HIT approval rate system. Thus, failing an attention check, such as the one used by Paolacci and colleagues, would likely result in a rejection of the HIT, nonpayment, and a decrease in the HIT approval rate for that worker. The results of a low approval rate, as mentioned before, can mean that the worker is not eligible for future HITs. In response to this issue, two attention check items were included in the protocol. The attention check items included two true/false items: the first, “I enjoy receiving bills for things I did not purchase,” and the second, “I recently suffered a fatal heart attack.” The first item was embedded between other items approximately half way through the survey and the second item was implanted near the end of the survey. Failure to respond correctly to these items resulted in the participant’s survey being removed from analyses. MTurk workers were also required to have a HIT approval rate of at least 90%.

Apart from not fully attending to items and instructions, MTurk has been critiqued for its use in assessing for knowledge from workers because workers can simply access the Internet to obtain correct responses (Goodman et al., 2012). Indeed, Goodman et al. (2012) found that MTurk workers were significantly better at estimating the number of countries in Africa than

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community members recruited in person, 10% and 0% respectively. The authors concluded that workers were likely using their already open Internet connections to access search engines to find the correct response. Because the current study included a knowledge measure, the risk of cheating had to be acknowledged and minimized where possible. Luckily, a follow-up study by Goodman and colleagues (2012) revealed that simply asking participants not to cheat actually significantly decreased the tendency to do so on the same activity. Furthermore, social psychology research suggests that individuals are less likely to engage in, even private, unethical behavior if that negative behavior is associated with their personal identity. Bryan, Adams, and Monin (2013) offered participants an opportunity to obtain money that they were not entitled to if they engaged in cheating behaviors that were undetectable. They found that participants were less likely to cheat if they were asked to not be a “cheater” rather than simply asked not to cheat. They concluded that individuals are more uncomfortable with engaging in a negative behavior if that behavior is suggested to impact their own self-image (Bryan et al., 2013). Thus, the current study used findings to deter participants from cheating by asking them to not be a “cheater” in survey instructions.

The quality of the data derived from MTurk samples has also been called into question due to a perceived lack of adequate motivation being provided to workers. A lack of adequate monetary compensation has been assumed to lead to workers not giving their best performance on tasks (Buhrmester et al., 2011). However, in a study that evaluated MTurk worker motivations for working for the site, Buhrmester et al. (2011) found that MTurk workers reported their primary motivations to include supplementing their income and entertainment. Indeed, a similar study revealed that 61% of MTurk workers reported that they were motivated to participate to earn extra money. However, only 14% stated that they rely on MTurk as their

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primary source of income. Furthermore, 41% stated that they were motivated to participate in HITs because they found the work entertaining (Paolacci et al., 2010). These findings suggest that the primary motivation for most workers is not to make a living off of their MTurk work. Thus, small amounts of monetary compensation likely do not affect motivation to perform well on tasks.

Studies looking to assess the quality and consistency of MTurk workers' responses have generally found responses to be as reliable as student and community member samples (Buhrmester et al., 2011; Goodman et al., 2012; Gosling, Vazire, Srivastava, & John, 2004). One particular study evaluated the reliability of reported demographic data, an important aspect of many research questions (Rand, 2011). The study revealed that MTurk workers were generally honest and 95% accurate when reporting their country of residence by correlated responses to IP addresses of worker computers. The reliability of this information in particular is important for the current study since the author wished to recruit only individuals reportedly living in the United States.

Finally, while MTurk responses have been found to be generally as reliable as other more traditional samples, research has suggested that MTurk samples are particularly sensitive to fatigue. That is, when MTurk workers were asked to perform brief tasks (approximately 5 minutes), they performed just as well as on tasks as college and community samples (Paolacci et al., 2010). However, when tasks exceeded 16 minutes in duration, MTurk workers performed significantly worse than comparison groups (Paolacci et al., 2010). Thus, studies wishing to utilize MTurk samples should attempt to limit their task demands as much as possible in order to ensure maximum worker performance.

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Furthermore, studies aimed at evaluating the effects of anti-mental health stigma campaigns have encouraged the use of online over face-to-face surveys, particularly when evaluating behavioral intentions toward individuals with mental illness (Henderson, Evans-Lacko, Flach, & Thornicroft, 2012). Authors concluded that differences found between online and in-person response are likely related to individuals being more susceptible to social desirability effects when questioned about sensitive topics in person (Henderson et al., 2012).

Participants

The current study continued to recruit participants until 200 qualified surveys had been obtained. A qualified survey was one in which all instruments associated with the variables of interest had been fully completed. Furthermore, a qualified survey was one that was completed by a worker who reported living in the United States and spoke English as a first language. The target participant sample size was derived based on previous literature that has suggested a minimum sample size of 200 participants for any structural equation model (Kline, 2005; Westin & Gore, 2006). Oversampling was used to ensure that a sufficient number of completed surveys was obtained.

Participants were recruited through Amazon's MTurk website. The participant pool was restricted to those MTurk workers who were located in the United States, spoke English as their first language, and had received an approval rating of 95% or higher. Exclusionary criteria included having an active Facebook profile at the time of participation and having maintained that profile for at least 6 months prior to participation. Participants were excluded from the analyses if they reported not having an active Facebook account at the time of participation. Having an "active" profile was defined as signing into the site at least one time every month.

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This definition was derived from the terminology used by Facebook when reporting on its own user statistics (<http://newsroom.fb.com/company-info/>).

These criteria were in place to ensure that participants were familiar with how interactions with the site, other users, and organizations within the website are carried out. Furthermore, terminology used in the behavioral intention measures required the participant to be familiar with what is meant by “liking,” “sharing,” and commenting on materials. Necessary levels of Facebook savviness could not be assumed for those without such an established history of Facebook usage. Compensation for workers was based on typical rates for similar activities on the site during the time of data collection.

Procedure

The title and brief description of the current study, as it was listed on the MTurk webpage, portrayed the study as looking to assess the attitudes toward and knowledge of health in the general public. The decision to not specify that the survey was specifically interested in attitudes toward and knowledge of mental health was to avoid individuals self-selecting to participate in a survey because of personal experience with mental health, which could have potentially resulted in an oversampling of individuals with mental health disorders. Also, this tactic was meant to avoid alerting participants to respond to survey materials in a socially desirable way. This quality of deception was deemed necessary to increase the reliability of results and was considered unlikely to result in harm or a violation of the autonomy of participants, both important factors to consider when deciding whether deception is appropriate in research (Bartolotti & Mameli, 2006).

Participants who met inclusion criteria were directed to the Qualtrics survey from the Amazon Turk webpage. An informed consent page appeared first, which provided information

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regarding estimated time required for completion of survey materials as well as any risks or benefits associated with participation. Participants were also provided with contact information for the author if they should have had any questions or concerns regarding the study following their participation. In the event that participants experienced distress or felt that they required assistance in accessing mental health resources or supports following their participation, the Substance Abuse and Mental Health Service Administration (SAMHSA) national hotline number was also provided at that time. This free national helpline provides confidential 24-hour, 365-day-a-year treatment referral and information services to callers. After reviewing the information provided in the informed consent page, participants were then asked to click a box confirming that they had read and understood the information provided and agreed to participate in the survey. Instruments were presented in the following order: Marlowe-Crowne Social Desirability (MCSD) Scale short form, Mental Health Knowledge Schedule (MAKS), Attribution Questionnaire-27, demographics, behavioral intentions task, and Level of Contact Report (LCR).

Following completion of survey materials, participants were presented with a debriefing page, where the author provided the rationale and purpose of the study. Contact information for the author and the SAMHSA hotline number were also presented again at this time. Estimated time for completion of all materials was between 20 and 25 minutes.

Instruments

Behavioral intentions task. Information regarding behavioral intentions to engage with anti-stigma Facebook materials were gathered through the following task. Participants were asked to take a few moments to view a hypothetical Facebook feed containing seven posts (see Figure 2). Three posts contained an image of an individual along with a quote describing mental health stigma and the individual's personal experience with stigma. These posts also included

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links to articles where the topic of stigma and personal stories could be viewed. One post included a video depicting an individual sharing her personal experience with having a mental illness and stigma. Two posts contained educational content about mental health stigma and encouraged individuals to become involved with the anti-stigma movement and the anti-stigma organization itself. Screenshots were derived from the Facebook feeds of two anti-stigma campaigns located in the United States (i.e., National Alliance on Mental Illness and the Substance Abuse and Mental Health Services Association) and one campaign based in the United Kingdom (Time to Change).

Post selection was based on several criteria, including relevant content, number of shares, and the original publisher. The author considered posts for selection when content focused on the topic of mental health and mental health stigma in general, rather than posts that focused on a specific population, disorder, or other related topic. This criterion was put in place in order to avoid participants being interested in a post for reasons other than those related to learning about mental illness and ending mental health stigma. For example, the author chose not to include a number of posts regarding the experiences of popular celebrities with mental illness and stigma. These posts were not included in stimuli because participants may have been drawn to these posts because of an interest in the celebrity rather than the topic of interest. Posts were also considered eligible for inclusion in project stimuli if they had received at least 500 “likes” or “shares.” This criterion was meant to avoid the use of any post that had already proven to be unpopular, which may have led to artificially inflating results. Furthermore, this criterion also showed that a particular post had proven evocative enough to encourage some level of user engagement. Posts were also required to be recently published by their respective organizations. Specifically, posts were required to be published to organizational pages within the last year.

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This criterion was included in order to ensure that posts reflect organizations' current approaches and methods for reaching the targeted audience for the purpose of stigma reduction through indirect contact and education.

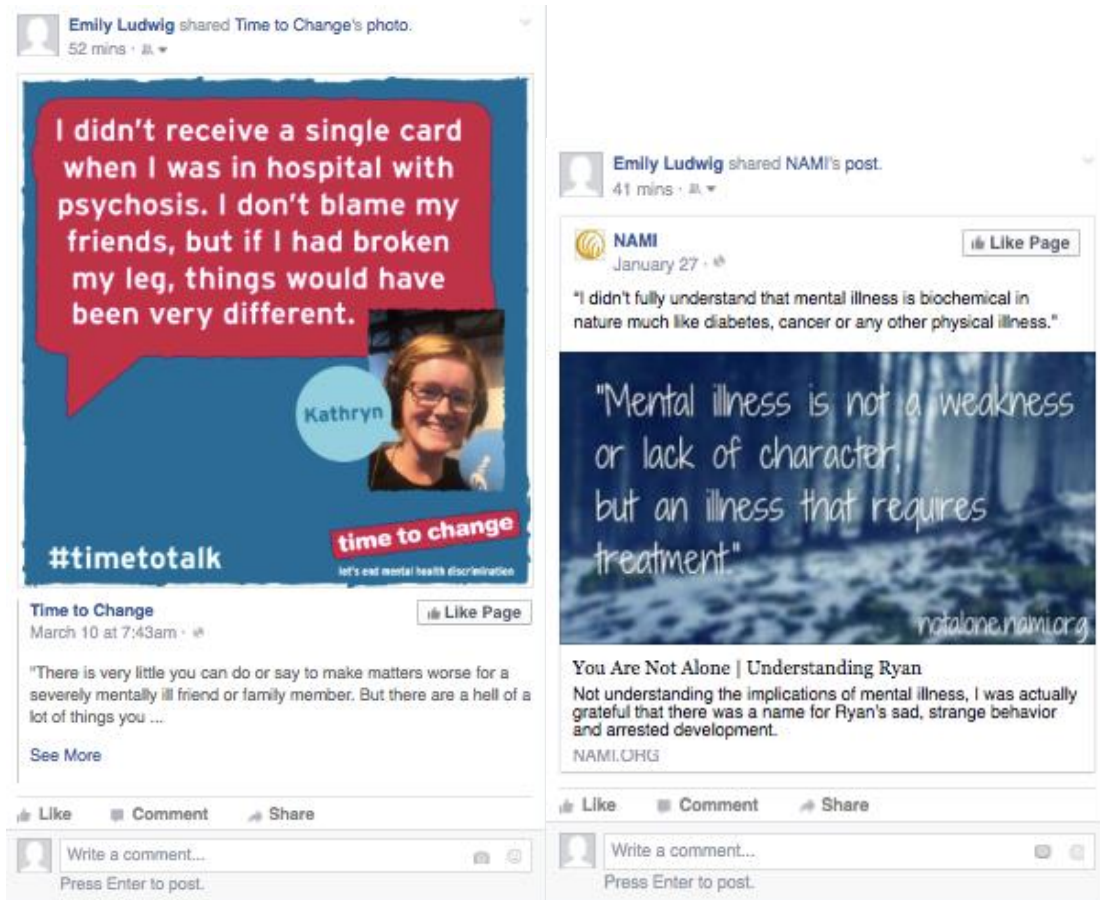


Figure 2. Sample of survey Facebook posts

Behavioral intentions regarding likelihood to engage with anti-stigma social media materials were assessed through self-reported responses to eight items. Items reflected the levels of COBRAs proposed by Muntinga et al. (2011). Various COBRAs distinguish between various levels of engagement according to the activities involved. These levels include consuming, contributing, and creating. At the lowest level, consuming represents those activities that involve simple one-way interactions with materials (e.g., watching a video, reading an article). Items

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representing this level of engagement include “how likely are you to watch a video?” and “how likely are you to read one of the articles posted?”

The next level, contributing, represents activities that involve engaging with materials in a more active manner such as joining a group, “liking” a page, commenting on an article, or sharing a page with others. Sample items for this level of engagement include “how likely are you to ‘like’ one of these posts?” and “how likely are you to share a post with friends?”

The third and highest level of engagement, creating, involves the production and publication of original materials on an organization’s social media profile. This might include publishing an article, uploading videos, writing a review of an event, and so on. Sample items that address this level of engagement include “how likely are you to publish your own article about mental health on your own Facebook feed?” and “how likely are you to create and publish a video about mental health on your own Facebook feed?”

A 6-point Likert scale was used to respond to eight items, allowing participants to rate the likelihood that they would participate in each activity, from -3 (not at all likely) to +3 (very likely). Three items each were included to represent first- and second-level activities. The highest level of engagement, the third level, was represented using two items, yielding a total of eight items overall. To aid in the creation of an overall score, each item was assigned a numerical weight according to the level of engagement required to engage in the associated activity with the higher levels of engagement representing higher numerical weights (i.e., 1 = consuming behavior, 2 = contributing, 3 = creating). Thus, each item response was weighted by multiplying the associated item weight by the Likert value of the response. For example, in response to the item “how likely are you to read one of the articles,” a participant may choose the Likert response “Somewhat likely.” The item is related to the second level of engagement and would

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thus carry a weight of 2. The Likert response “Somewhat likely” would be assigned a weight of 2. By multiplying these two values, the resulting score for this item is 4 (i.e., Level of engagement multiplied by Likert scale response). Scores for each item were aggregated into one overall behavioral intention score with larger numbers representing higher levels of intended engagement with social media materials. These scores could range from -45 to positive 45.

While social media behaviors have been examined in previous research, a common methodology of assessing social media behaviors and intentions has not yet been established. Previously, researchers have examined social media intentions broadly as a self-reported willingness to use social media (Parra-López, Bulchand-Gidumal, Gutierrez-Tano, & Diaz-Armas, 2011) or behaviors through self-reported history of using social media usage (Pilling & White, 2009). While researchers have assessed for behavioral intentions toward social media activities more broadly, no previous research has examined intentions to engage in differing levels of social media behaviors. In order to examine behavioral intentions to engage in various types of social media-related activities requiring varying levels of engagement with content, the behavioral intention task described was created.

Level of Contact report. The LCR is a continuous measure of previous contact with individuals with mental illness. Participants were presented with a list of 12 situations in which intimacy of contact with severe mental illness varies. Listed situations ranged from the least intimate (i.e., “I have observed, in passing, a person I believe may have had a mental illness”) to the most intimate (i.e., “I have a severe mental illness). Each item was assigned a weight based on the level of intimacy of each situation with weights ranging from 1 to 12. Participants indicated their level of previous contact with severe mental illness by clicking a box next to each

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situation that represented their own experience. The statement checked that ranks the highest in intimacy represents the individual's overall score.

The LCR was developed by Holmes et al. (1999) as an alternative to categorical measures with limited power. Situation items and associated weight rankings were derived from previous contact scales. Rankings for situations were individually decided upon by three experts with a resulting interrater reliability of .83. The reliability and validity of the measure have been supported by two studies to date (Corrigan et al., 2001; Holmes et al., 1999).

Mental Health Knowledge Schedule (MAKS). The MAKS is composed of two parts with six items each. Part A includes six true-false items which assess stigma-related health knowledge areas (i.e., help-seeking, recognition, support, employment, treatment, and recovery). Part B requires participants to report their agreement as to whether each term presented represents an actual type of mental illness. The presented terms include actual mental health disorders (i.e., depression) as well as other terms that do not represent actual mental health disorders (i.e., stress).

The MAKS was developed by Evans-Lacko and colleagues in 2010. The design of the measure is based on a conceptualization of stigma as comprising three constructs: knowledge (i.e., ignorance), attitudes (i.e., prejudice), and behavior (i.e., discrimination) (Thornicroft et al., 2007). The authors derived their initial items from the existing body of literature that suggests there are several types of knowledge that may influence mental health-related attitudes and behaviors, including the treatability of mental disorders, how to access mental health treatment resources, and general knowledge about different types of mental health diagnoses (Evans-Lacko, London, Little, Henderson, & Thornicroft, 2010). The initial items were presented to a panel of experts for a review of comprehensiveness, content validity, and face validity of items.

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A pilot study involved surveying 30 lay people in London in order to assess the average reading ability and vocabulary of the population. Results were used to clarify wording and refine the comprehensibility of items.

Three further studies were used to validate the measure and further refine items. In the first study, the MAKS was piloted through face-to-face interviews in Cambridge, England. Sixty of these interviews were performed by knocking on doors and 32 interviews were carried out through interviews solicited on the street in public areas. The survey materials included the MAKS as well as a demographic survey that included questions about age, gender, and socioeconomic status (Evans-Lacko, et al., 2010).

Study two involved revisiting the participants interviewed through the door-to-door recruitment procedure in the first study and re-administering the measure. Thirty-seven of the original participants agreed to the second administration of the MAKS 1 week after the first administration in order to establish test-retest reliability (Evans-Lacko et al., 2010).

Study three involved the final measure being tested for its psychometric properties. A sample of 403 adults across England were recruited through email via an online research participant provider (e.g., ResearchNow). The sample was meant to include equal distributions of age, sex, and socioeconomic status and was meant to be representative of the population of England based on these factors as well as residence and ethnicity. The resulting overall test-retest reliability was .71 (Lin's concordance statistic). Individual item test-retest reliability, based on a weighted kappa, ranged from .57 to .87. These results suggested moderate to substantial reliability of scores from one administration to the next. Internal consistencies of items, using Cronbach's alpha, ranged from .57 to .69, demonstrating moderate internal consistency of items with an overall consistency score of .65 (Evans-Lacko et al., 2010).

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A Google Scholar search revealed that the MAKS has been cited 59 times since its creation. A PsycINFO search revealed that the MAKS has been cited 28 times. The MAKS has been used by a number of published studies, including in many of the studies aimed at evaluating the overall efficacy of the U.K.'s Time to Change anti-stigma campaign on the attitudes and knowledge of the general public (Evans-Lacko, Henderson, Thornicroft, & McCrone, 2013; Evans-Lacko, Corker, Williams, Henderson, & Thornicroft, 2014). More specifically, the MAKS was used to track public knowledge regarding people with mental illness in England from 2009 and 2012, before and after the introduction of the campaign (Evans-Lacko et al., 2013) as well as from 2008 to 2011 (Henderson & Thornicroft, 2013). The MAKS was also used to assess the cost effectiveness of the Time to Change campaign based on the measured shifts in knowledge, attitudes, and behaviors in public in conjunction with the monetary cost of the campaign (Evans-Lacko et al., 2013). Finally, the MAKS was used to trace campaign effects on knowledge shortly after the introduction of the campaign, as well as to monitor the persistence of effects over several years following the introduction of the campaign (Evans-Lacko et al., 2010).

The MAKS has been utilized to measure knowledge about mental health internationally and has, thus, been translated into several languages including Japanese (Yamaguchi et al., 2014), Chinese (Li et al., 2014), Swedish (Hansson, 2009; Martensson, Jacobsson, & Engstrom, 2014), and Italian (Serra et al., 2013). The wide use of the MAKS suggests that the measure's conceptualization of mental health knowledge is applicable across diverse cultures and would thus lend itself to use in the United States. The measure has been validated for face-to-face and online administration (Sin et al., 2013). Apart from assessing the mental health knowledge of members of the general public, the MAKS has been used to assess mental health knowledge of college students (Yamaguchi et al., 2014), high school students (Chisholm, Patterson, Torgerson,

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Turner, & Birchwood, 2012; Serra, et al., 2013), police officers (Hansson & Markstrom, 2014), medical students (Fredreich et al., 2013), and nurses (Martensson et al., 2014).

Attribution Questionnaire (AQ-27). The AQ-27 is a popular measure of public stigma toward people with mental illness used in social psychology research (Corrigan et al., 2002, 2004). The 27-item survey consists of a brief vignette about “Harry,” a man with schizophrenia, followed by 27 questions assessing nine factors contributing to one’s overall attitude toward people with mental illness. Each factor represents a common stereotype associated with mental health stigma. These factors include blame, avoidance, segregation, coercion, anger, fear, pity, help, and dangerousness. An item associated with the blame factor includes “I would think it was Harry’s own fault that he is in the present condition.” An example of an item representing the anger factor includes “I would feel aggravated by Harry.” A pity related item includes “I would feel pity for Harry.” A help item includes “I would be willing to talk to Harry about his problems.” A dangerousness item includes “I would feel unsafe around Harry.” A fear item includes “Harry would scare me.” An avoidance item includes “If I were an employer, I would interview Harry for a job” (reverse scored). A segregation item includes “I think Harry poses a risk to his neighbors unless he is hospitalized.” Finally, a coercion item includes “If I were in charge of Harry’s treatment, I would require him to take his medication.”

Items are rated on a 9-point Likert scale ranging from 1 (*not at all*) to 9 (*very much*) and scores for each of the nine constructs are computed by summing participant responses to the three items comprising that construct, for a maximum score of 27 for each construct. Higher scores represent greater endorsement of the corresponding negative attitude or belief. Scores may be analyzed by examining individual scale scores or by aggregating scores together to create an overall score (Fridberg & Ahmed, 2013).

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The items of the AQ-27 are based on an attributional model of mental health stigma. Weiner's attributional model of social conduct has been applied to a variety of social situations and is based on the making of inferences about an individual's responsibility in a transgression (1980). The attribution of responsibility determines whether anger or sympathy is felt toward the transgressor and, thus, what behavioral response is appropriate. Within the context of mental health stigma, Weiner's attributional model has been adapted to explain that the attributions that one makes regarding the controllability and responsibility of an individual's mental health symptoms predicts the emotional response and resulting behaviors expressed toward that individual (Corrigan et al., 2003). This model posits that attributions about the controllability of mental illness influence beliefs regarding personal responsibility, which contribute to emotional responses and the likelihood of a helping or punishing behavioral response. The original 21-item version of the measure included items that assessed mental illness stigma in terms of personal responsibility beliefs, emotional responses (i.e., pity, anger, and fear of Harry), and behavioral responses (withholding help/avoidance and coercion/segregation) (Corrigan et al., 2003). The current AQ-27 adds a "Dangerousness" subscale and includes separate subscales for withholding help, avoidance, coercion, and segregation, for a total of nine subscales. Corrigan and colleagues conducted studies investigating the psychometric properties of the earlier 21-item AQ and the current AQ-27 (Corrigan et al., 2003; Corrigan et al., 2004). The AQ has shown good psychometric properties across studies examining the strength of the measure. The original 21-item version of the AQ was validated on college students from an urban community college in the Midwestern United States (Corrigan et al., 2003). Exploratory factor analysis revealed six factors including responsibility, anger, pity, fear, helping, and coercion/segregation with reliability alphas ranging from .70 to .89.

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The AQ-27 has been found to have good test-retest reliabilities within each factor (.55-.87) when used with a sample of 54 college age students (Corrigan et al., 2004). Another larger study on 774 college age students revealed six factors and showed reliabilities for each subscale ranging from fair (.6) to good (.93). Furthermore, test-re-test reliabilities ranged for the six factors were good, ranging from .74 to .90 (Brown, 2008). The AQ-27 was found to have sufficient convergent validity when compared to the Attitudes Toward Mental Illness Questionnaire, a similar measure validated in the United Kingdom (Luty et al., 2006).

Disagreement between researchers continues regarding factor structure, as the segregation and coercion items in particular often load together (Fridberg & Ahmed, 2013). The segregation factor refers to the preference for individuals with mental illness to be separated from the rest of society, while the coercion factor refers to the belief that people with mental illness should be forced into treatment (Corrigan et al., 2003). The tendency for these factors to blend together may be related to associated items tapping into similar constructs. Both concepts involve separating individuals with mental illness from others and placing them in treatment. However, because this measure is being used to produce an overall score rather than individual scale scores, this issue is unlikely to affect its use in the present study.

A Google Scholar search reveals that the AQ-27 has been cited 585 times. The AQ-27 has been used in the United States and the United Kingdom (Luty, et al., 2006), as well as a number of other countries and has, thus, been translated into Italian (Pingani et al., 2012), Lithuanian (Zukauskiene & Sondaite, 2004), and Portuguese (de Sousa et al., 2012). It has also been adapted for use with children and adolescents (Watson et al., 2004).

Studies have used the measure to assess attitudes toward mental illness in the general public as well as college students (Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003;

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Corrigan et al., 2004), adolescents (Watson et al., 2004), police officers (Watson, Corrigan, & Ottati, 2004), and healthcare workers (Blair-Irvine et al., 2012). In sum, these data suggest that the AQ-27 may be used to evaluate stigma in healthcare students and professionals, and to measure the effects of anti-stigma programming on stigmatizing attitudes among these groups.

Marlowe-Crowne Social Desirability Scale, 10-item short form. Social desirability is a well-established phenomenon observed in self-report measures (Maher, 1978). Respondents are often unwilling or unable to respond honestly to items regarding sensitive topics in order to manage their impression on others (Fisher, 1993). It has been suggested by authors (Leite & Beretvas, 2005) that a low correlation between the MCSD scale and the scale of interest indicates honest responses. Thus, in order to measure and potentially control for the aspect of social desirability, the MCSD was included in the survey procedure to assess for the role of social desirability in participant responses.

The MCSD 10-item scale is a brief version of the original 33-item full measure (Crowne & Marlowe, 1960). The MCSD is the most commonly used social desirability assessment (Leite & Beretvas, 2005) and has demonstrated strong reliability. The original authors obtained a Kuder-Richardson reliability coefficient estimate of .88 (Crowne & Marlowe, 1960) and a Cronbach alpha of .85, providing evidence of reliability (Smith & Cashwell, 2011). The 10-item short form was validated on a sample of students and showed strong psychometric properties (Reynolds, 1982).

Demographics and Facebook experience. A brief demographic survey was included to assess for gender, age, and level of education for the purpose of providing descriptive information about the sample. Furthermore, items were included that inquired into the country of residence and first language of participants. Responses to language and country of residence

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items were used to determine whether participants qualified for inclusion in the analyses. Several items also inquired into the participants' experience with Facebook and included questions about whether they had a current active Facebook account and how long they had maintained that profile.

Analyses

Participant data was only to be included in analyses if participants fully completed the LCR, MAKS, AQ-27, and behavioral intentions task. SPSS 14.0 and R 3.0 software were to be utilized to analyze the data collected. SPSS was used to produce descriptive statistics describing the demographics of the sample including information about gender, age, and race. Confirmatory factor analysis was used in an attempt to establish factor structure for the latent variables (i.e., knowledge, previous contact, attitudes, and behavioral intentions). Once the measurement model had been established, structural equation modeling with manifest variables would have been used to test the proposed model. In the event that indicators failed to converge successfully onto associated latent variables, simple path analysis with testing for indirect effects would be used alternatively to examine mediation models independently.

Chapter 4

Results

Results are presented in the following pages, including sample characteristics, a review of social desirability measure results, mean scores for each scale used in final analysis, confirmatory factor analyses regarding each latent variable measure, and the results of a simple path analysis with testing of the indirect effects. A summary of results and rationale for analyses chosen are offered in the following pages.

Sample Characteristics

Based on previous research examining the relationships between mental health knowledge, contact with mental illness, attitudes toward mental illness, and behavioral intentions to engage with individuals with mental illness, research questions were addressed through a path model proposition. The proposed path model was aimed at predicting behavioral intentions to engage with Facebook anti-stigma materials from previous mental health knowledge and exposure. Furthermore, the model also predicted that positive attitudes toward mental illness would act as a mediating factor within these paths. The focus of analyses, therefore, included testing the proposed path model through two hypotheses. The first hypothesis held that positive attitudes toward mental illness would mediate the relationship between mental health knowledge and behavioral intentions to engage with anti-stigma Facebook materials. Thus, scores on the Attribution Questionnaire (AQ-27) were predicted to mediate the relationship between the Mental Health Knowledge Schedule (MAKS) and behavioral intention task scores. The second hypothesis proposed that positive attitudes toward individuals with mental illness would mediate the relationship between mental health contact and behavioral intentions to engage with anti-stigma Facebook materials. Thus, scores on the AQ-27 were predicted to mediate the

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relationship between scores on the Level of Contact Report (LCR) and behavioral intention task scores. The following section will provide an overview of completed analyses along with rationale for each step in the analytical process.

Participant data was included in analyses only if participants fully completed the LCR, MAKS, and AQ-27 measures, along with fully completing the behavioral intentions task. SPSS 14.0 and R 3.0 software was utilized to analyze the collected data. Analyses began with using SPSS to produce descriptive statistics describing the demographics of the sample including information about gender, age, education, and race.

Two hundred and sixty-two participant responses were collected via Amazon Turk recruiting methodology. Thirty-six participant surveys were removed from the sample due to incomplete survey responses (19), reporting of a non-American residence (4), denying having an active Facebook account at the time of survey completion (2), or failing to respond appropriately to attention check items (11). The resulting participant sample consisted of 226 individuals (131 females and 91 males). One individual reported identifying his/her gender as non-binary.

Compensation of one dollar per HIT was determined by noting the going rate for similarly time-demanding survey tasks on the MTurk database at the time that data collection began. Participants were compensated for their participation regardless of whether they fully completed necessary items required to be included in data analysis. Participants were also compensated regardless of whether they provided consent at the end of the survey for their data to be released for data analysis.

Demographic information related for the sample is summarized in Table 1. It should be noted that the majority of participants reported a female gender (58%), an age between 24 and 35

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years of age (42.5%), being Caucasian (79.6%), and obtaining a bachelor's degree or higher with regards to their educational achievement level (52.2%).

Table 1. Demographic Profiles of Respondents

Demographic Category	N	Percentage
Sex		
Male	94	41.6
Female	131	58.0
Other (non-binary)	1	0.4
Age		
18-23	14	6.2
24-29	52	23.0
30-35	44	19.5
36-41	31	13.7
42-47	26	11.5
48-53	26	11.5
54-59	15	6.6
60-65	11	4.9
66+	7	3.1
Race/Ethnicity		
White/Caucasian	180	79.6
Hispanic/Latino	14	6.2
Asian	12	5.3
Black/African American	16	7.1
Other	4	1.8
Education		
Less than high school diploma	1	0.4
High school diploma or equivalent	60	26.5
Associate degree	47	20.8
Bachelor's degree	90	39.8
Master's degree	22	9.7
Doctoral or professional degree	6	2.7

Social Desirability

In order to test for the presence and potential influence of social desirability in the responses of survey participants, the 10-item Marlowe-Crowne Social Desirability (MCSD) Scale Short Form (Crowne & Marlowe, 1960) was included in survey materials. Social

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desirability is a well-established phenomenon observed in self-report measures (Maher, 1978).

Due to concern that social desirability could impair honest responding to the measure of attitudes toward mental illness (AQ-27), the social desirability scale was administered and it has been suggested by authors (Leite & Beretvas, 2005) that a low correlation between the MCSD scale and the scale of interest indicates honest responses.

A Pearson correlation was performed in SPSS to assess the relationship between AQ-27 and the 10-item Marlowe-Crowne short form. There was not significant correlation between the two variables, $r = -.048$, $n = 226$, $p = .473$. Therefore, it can be concluded that social desirability had no significant influence on reports of attitudes toward mental illness.

Mean Scores for Scales

In this section, mean scores are presented for each of the measures associated with latent variables of attitudes toward mental illness, knowledge of mental illness, previous contact with mental illness, and behavioral intentions to engage with anti-stigma Facebook materials. A summary of sample scores on primary measures can be found in Table 2 below.

Table 2. Means and Standard Deviations of the Dependent Variables

Social Desirability		Knowledge		Attitudes		Previous Contact		Behavioral Intentions	
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
15.11	2.35	27.88	7.4	122.4	21.16	8.96	3.54	28.56	9.09

Knowledge. Participant knowledge was assessed with the (MAKS). Scores on this measure have the potential to range from 0 to 60, with higher scores indicating more agreement with accurate statements regarding mental illness. Participants in the sample obtained a mean

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MAKS score of 27.88 ($SD = 7.4$). Sample scores were like those obtained by siblings of individuals with psychotic disorders ($M = 27.52$, $SD = 2.89$) in a study performed by Sin and colleagues (2016). Thus, the sample showcased a level of knowledge regarding mental illness similar to those who have been in direct contact with individuals with mental illness.

Previous contact. Previous contact with mental illness was assessed using the LCR. Scores on this measure range from 0 to 12, with higher scores indicating higher levels of self-reported level of intimate contact with severe mental illness. The mean score for the study sample was 8.96, which can be rounded up to a score of 9. A score of 9 correlates with an individual reporting that “a friend of the family has a severe mental illness.” Thus, participants reported some intimacy with knowing and observing someone with a mental illness.

Attitudes. Attitudes toward mental illness were assessed using the AQ-27. Twenty-seven is the maximum score for each of the nine constructs with an overall maximum score of 243. The current sample acquired a mean score of 122.4 ($SD = 21.16$). Items are rated on a 9-point Likert scale ranging from 1 (*not at all*) to 9 (*very much*) and scores for each of the nine constructs are computed by summing participant responses to the three items comprising that construct, for a maximum score of 27 for each construct. Higher scores represent greater endorsement of the corresponding negative attitude or belief. Scores may be analyzed by examining individual scale scores or by aggregating scores together to create an overall score (Fridberg & Ahmed, 2013).

Behavioral intentions. Behavioral intentions to engage with anti-stigma Facebook materials were assessed through a behavioral intentions task. Within the task, participants were presented with a mock Facebook page containing several campaign posts. Participants were then asked to rate the likelihood that they would engage in a variety of social media behaviors of varying levels of engagement. Three items that represent each level of engagement were be

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presented along with a 6-point Likert scale that allowed participants to rate the likelihood that they would participate in each activity, from -3 (not at all likely) to +3 (very likely). To aid in the creation of an overall score, each item was assigned a numerical weight according to the level of engagement required to engage in the associated activity with the higher levels of engagement representing higher numerical weights (i.e., 1 = consuming behavior, 2 = contributing, 3 = creating). Thus, each item response was weighted by multiplying the associated item weight by the Likert value of the response. For example, in response to the item “how likely are you to read one of the articles,” a participant could have chosen the Likert response “Somewhat likely.” The item is related to the second level of engagement and would have thus carried a weight of 2. The Likert response “Somewhat likely” is assigned a weight of 2. By multiplying these two values, the resulting score for this item is 4 (i.e., Level of engagement multiplied by Likert scale response).

Scores for each item were aggregated into one overall behavioral intention score with larger numbers representing higher levels of intended engagement with social media materials. Mean scores for the behavioral intentions task in this sample came to 28.56 ($SD = 9.09$).

Confirmatory Factor Analysis

Structural equation modeling (SEM) analysis was intended to follow a two-step process in which a measurement model was to be specified first before a structural equation model analysis would be conducted to examine the model. First, a confirmatory factor analysis (CFA) was performed to establish the measurement model. Overall, the resulting CFAs implied poor fit and indicators generally failed to converge successfully onto the associated latent variables.

CFAs were performed for each of the latent variable measures using the Lavaan package within R software. In evaluating model fit, standards described by Hu and Bentler (1999) were

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implemented. Models with root mean square error of approximation (RMSEA) values $\leq .05$ and confirmatory fit index (CFI) values $\geq .90$ being considered acceptable fit. The Tucker-Lewis index (TLI) and Chi-square values are also included. The TLI requires values equal to or greater than .95 for acceptable fit. Finally, Chi-square test of independence was used to test absolute or perfect fit along with associated p-values. The results for each CFA are summarized in the following pages. Associated factor loadings for indicators can be found in the appendix.

Mental Health Knowledge Schedule. Analysis revealed poor fit between collected data and anticipated factor loadings (RMSEA = 0.17, TLI = 0.48, CFI = 0.58). Finally, the Chi-square test of independence revealed a significant value, suggesting that the null hypothesis (i.e., perfect fit) was rejected in this instance, $X^2(54) = 391.112, p \leq .01$.

Attributional Questionnaire 27. CFA analysis also revealed poor fit for the attitudinal measure (AQ-27) (RMSEA = 0.17, TLI = 0.52, CFI = 0.56). Chi-square analysis resulted in a significant p-value, leading to the rejection of the null hypothesis of perfect fit, $X^2(324) = 2421.26, p \leq .01$.

Behavioral Intentions Task. A CFA analysis was also performed on the behavioral intentions task created to measure behavioral intentions to engage with Facebook anti-stigma campaign materials. Analysis revealed poor fit and failure of indicators to converge on the latent variable of behavioral intentions (RMSEA = 0.17, TLI = 0.79, CFI = 0.85). The Chi-Square test results suggested rejecting the null hypothesis of perfect fit, $X^2(20) = 155.78, p \leq .01$.

Level of Contact Report. Finally, a CFA was carried out on the LCR. Analysis revealed acceptable fit when referencing included fit indexes (RMSEA = 0.00, TLI = 1.00, CFI = 1.00).

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Path Analysis

To begin, CFA was used in an attempt to establish factor structure for the latent variables within the proposed path model (i.e., knowledge, previous contact, attitudes, and behavioral intentions). Once the measurement model had been established, path analysis with latent variables could have been used to test the proposed model. Therefore, it was determined that proceeding with a structural equation model analysis would not be appropriate due to a failure to establish the measurement model and observable variables to converge on the associated latent variables. The decision was, therefore, made to perform a simple path analysis with testing for indirect effects in order to examine the two mediation models contained within the overall model individually.

Single-indicator measurement, including path analysis techniques, refers to methods in which there is only one observed measure of each hypothetical construct. In this case, single indicator scores were created by creating scaled scores for each of the measures representing latent variables within the model. Those scaled scores were then used to run a path analysis (Kline, 2016). Drawbacks to this approach include that path analysis assumes no error or measurement, whereas SEM assumes that error has occurred in measurement and includes this assumption in the model itself. However, while error of measurement can never be accurately assumed, most other methods in statistics also carry this inaccurate assumption (Kline, 2016). Path analyses were carried out using Mplus Version 7.11 (Muthen & Muthen, 1998-2017). Estimates for the model are summarized in Figure 3.

The first hypothesis concerned the relationship between attitudes toward mental illness, mental health knowledge, and behavioral intentions to engage with anti-stigma Facebook materials. Specifically, the first hypothesis posited that positive attitudes toward individuals with

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mental illness would partially mediate the relationship between knowledge about mental health and behavioral intentions to engage with anti-stigma Facebook materials. Results indicated that MAKS scores were significantly positively related to AQ-27 scores $\beta = 0.20, p < .01$ (path *a*). Furthermore, positive attitudes toward mental illness were found to be significantly related to behavioral intention task scores, $\beta = 0.21, p < .01$ (path *b*). Regarding the direct effect of knowledge on behavioral intentions, MAKS scores were found to be significantly positively related to behavioral intention task scores, $\beta = 0.19, p = .03$ (path *c*). Thus, previous knowledge about mental illness positively predicted positive attitudes about mental illness as well as self-reported likelihood to engage with anti-stigma Facebook materials. Finally, indirect effects were examined and were significant, $\beta = 0.04, p = .03$ (path *ab*).

Finally, the second hypothesis proposed that positive attitudes toward mental illness would also partially mediate the relationship between previous contact with mental illness and behavioral intentions to engage with anti-stigma Facebook materials. LCR was not found to be significantly related to AQ-27 scores $\beta = -0.07, p = 0.31$ (path *a*). However, positive attitudes toward mental illness were found to be significantly related to behavioral intention task scores, $\beta = 0.21, p < .01$ (path *b*). Direct effects between LCR scores and behavioral intentions task scores (path *c*) were not found to be significant ($\beta = -0.01, p = 0.34$). The indirect effect (path *ab*) was also not significant ($\beta = -0.01, p = 0.34$).

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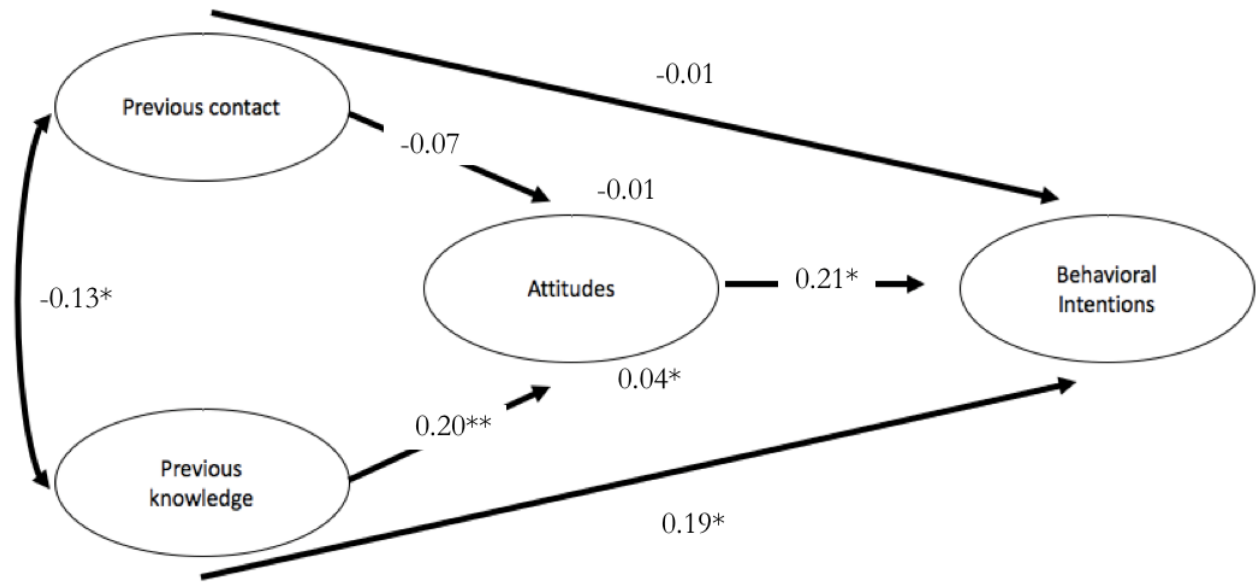


Figure 3. Standardized model estimates for two mediation models, * = $p \geq .05$, ** = $p \geq .01$.

Chapter 5

Discussion

The following chapter summarizes the findings of the current study and offers explanations and implications for these findings. Unique contributions of this study are outlined, followed by a description of perceived limitations. Finally, future directions for research and anti-mental health stigma campaign-design are provided.

Summary of Study Findings

In an effort to better understand the factors that predict an individual's self-reported likelihood to engage with anti-stigma Facebook materials, the following hypotheses were examined through a proposed path model (see Figure 1):

- 1) Positive attitudes toward individuals with mental illness would mediate the relationship between mental health knowledge and behavioral intentions to engage with anti-stigma Facebook materials.
- 2) Positive attitudes toward individuals with mental illness would mediate the relationship between mental health contact and behavioral intentions to engage with anti-stigma Facebook materials.

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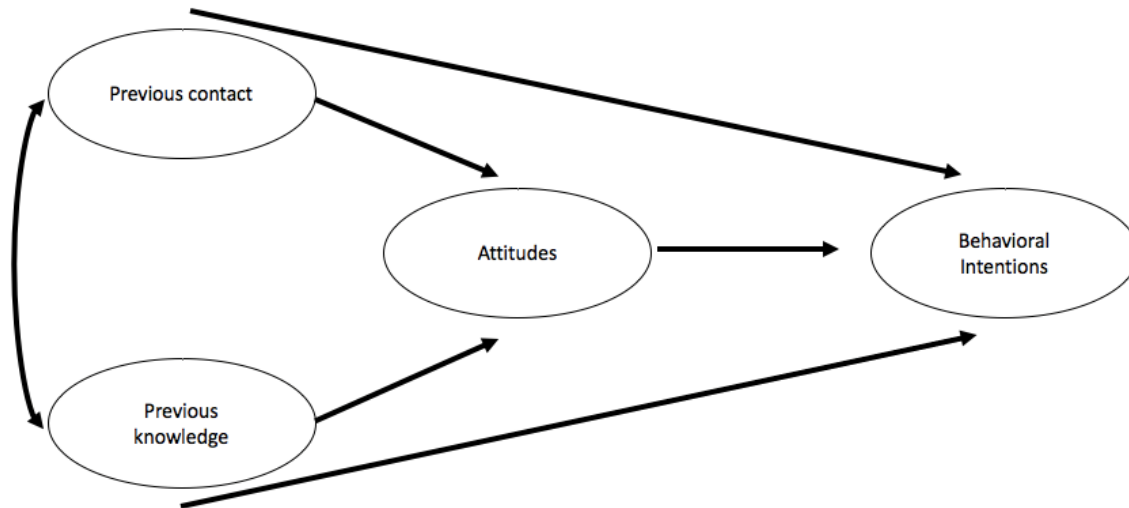


Figure 1. Proposed Path Model

Hypothesis One. As noted in the results section, mental health knowledge was found to be significantly positively correlated with self-reported likelihood to engage with anti-stigma Facebook posts. Thus, those participants who demonstrated more knowledge regarding mental illness also reported a higher likelihood to engage with the anti-stigma Facebook campaign materials presented in the survey. Additionally, mental health knowledge was significantly positively correlated with attitudes toward mental illness in this study. Finally, as hypothesized, attitudes toward mental illness mediated the observed significant relationship between mental health knowledge and self-reported likelihood to engage with anti-stigma Facebook materials. Thus, it can be concluded that individuals who are most likely to report behavioral intentions to engage with Facebook educational and indirect contact materials are those who demonstrate relatively high levels of knowledge about mental illness.

Correlations between mental health knowledge and self-reported willingness to engage in prosocial behaviors toward individuals with mental illness are supported in the literature. That is, greater mental health knowledge has been associated with higher behavioral intentions to engage

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in prosocial behaviors toward this group (Angermeyer et al., 2004). Correlations between mental health knowledge and attitudes toward individuals with mental illness are also supported by previous research, with greater knowledge associated with more positive attitudes toward individuals with mental illness (Brokington et al., 1993; Henderson et al., 2013; Maier et al., 2015; Pinfold et al., 2003). The current findings support previous research that has repeatedly found that those who have more positive attitudes toward mental illness are more likely to perform prosocial behaviors toward this population (Couture & Penn, 2003).

Hypothesis Two. The second hypothesis in this study posited that attitudes toward mental illness would also partially mediate the relationship between previous contact with mental illness and behavioral intentions to engage with anti-stigma Facebook materials. This hypothesis was not supported by current findings. In the current study, scores on a measure of previous interpersonal contact with mental illness were not found to be significantly associated with scores on a measure of attitudes toward mental illness. Increases in self-reported interpersonal contact experience were not found to be significantly related to attitudes toward individuals with mental illness. Furthermore, previous contact was also not significantly associated with behavioral intentions to engage with anti-stigma Facebook materials.

These findings contradict previous research findings. Prior studies have documented that previous interpersonal contact with individuals with mental illness was associated with improved attitudes toward mental illness (Couture & Penn, 2003; Schiappa et al., 2005). Interpersonal contact has also been found associated with increases in willingness to engage in prosocial behaviors toward this population (Aznar-Lou et al., 2016), where prosocial was defined as a willingness to support local mental health resources.

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Understanding Current Findings

Based on the findings of previous literature, researchers in this study expected to find that attitudes toward mental illness would partially mediate a relationship between knowledge about mental illness and self-reported likelihood to engage with anti-stigma Facebook materials. Data from the study supported this hypothesis. However, researchers also expected that attitudes would mediate the relationship between previous interpersonal contact and self-reported likelihood to engage with Facebook anti-stigma materials. Yet, the researchers were not able to reject the null hypothesis. Three potential explanations to understand the lack of findings are offered: (a) participant recall of interpersonal contact may not have been reliable, (b) participants lacked an awareness of previous interpersonal contact experiences that had occurred (c) participant personality factors may have impacted self-reported information, and (d) recalled contact experiences may not have been of sufficient quality to impact attitudes and behavioral intentions. Each of these potential explanations is addressed below.

Reliance on retrospective recall of contact experiences. In an effective contact scenario, an individual has an interaction with a member of a stigmatized group that is inconsistent with stereotypes regarding that group (Couture & Penn, 2003). For instance, a college student meets and interacts with a fellow student who discloses that he/she has bipolar disorder. The individual with the disorder does not behave erratically or showcase rapid shifts in his/her mood or mental state, a well-established stereotype. In order to resolve these discrepancies, attitudes toward the stigmatized person improve, which can then be generalized to the stigmatized group as a whole (Desforges et al., 1991). However, the absence of support for the second hypothesis may be linked to the type or types of interpersonal contact experiences reported by study participants. In this study, participants were asked to recall previous

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interpersonal contact experiences they had with individuals with mental illness, as well as rate the level of intimacy involved in those interactions. Scores on the Level of Contact Report (LCR) measure revealed that, on average, participants reported at least knowing and interacting with a family friend who had a mental illness. However, while this measure provides information about contact experiences that participants are aware of having, scores say less about contact experiences that participants do not recall having. Thus, it is possible that participants had interpersonal contact experiences with individuals with mental illness that they did not recall having and, thus, did not report.

In addition to the absence of recall in interacting with an individual with mental illness, it is also possible that individuals simply are not aware that the person with whom they are engaging experiences mental illness. Participants may have inadvertently under-reported interpersonal contact experiences in this study because mental illness is not always visible. It is important to note that prevalence rates of mental illness in the United States suggest that most people will interact with someone with a mental illness on a daily basis (American Psychiatric Association, 2013). However, whether an individual is aware of these contact experiences is not always clear. Unlike more visible characteristics of a stigmatized group (i.e., race), mental illness can often be concealed (Couture & Penn, 2003). For instance, an individual may not be aware that his/her neighbor has depression, that an uncle has an eating disorder, or that a co-worker takes medication to manage panic attacks. Individuals may, therefore, be more likely to identify an interpersonal contact experience has occurred when symptoms are more easily observable and not realize that a contact experience has occurred when the other person's mental illness is less obvious. The visibility of mental health symptoms is often suggestive of a higher level of acuity of the disorder in question. For instance, if someone was to observe an individual crying,

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exhibiting disorganized speech, or behaving in a disorganized way, he/she is likely to quickly label that person as having a mental illness (Weiner, 1980). Furthermore, an individual with high symptom severity is more likely to behave in a stereotype-confirming manner (Couture & Penn, 2003). Interactions with such an individual are unlikely to result in positive attitude or behavior change (Desforges et al., 1999). Inversely, interactions with individuals with mental illness that are non-conforming to stereotypes may go unnoticed by members of the general public and will not, thus, have positive impacts on attitudes toward people with mental illnesses. Therefore, while most people likely experience multiple instances of interactions with a person with a mental illness that does not conform to stereotypes, a member of the public may not realize doing so unless the other person decides to disclose his/her mental illness at the time.

Much of the research performed on the topic of interpersonal contact has focused on interactions that occurred in controlled laboratory settings. In these instances, the researchers and the participants knew that the individuals involved in the contact experience had a mental illness because it was made explicit in the research protocol (Couture & Penn, 2003). One explanation for the lack of findings in the current study is that the interpersonal contact experiences, which were reported on survey materials, may have been related to experiences that reinforced stereotypes rather than challenged stereotypes about mental illness. The interactions, which participants recall having with individuals with mental illness, may only be those in which the person they interacted with displayed some stereotypical behavior and could thus easily discern that the person had a mental illness at all. This means that many of the participants likely had stereotype non-confirming experiences, but, unless the individual decided to disclose his/her mental health history at the time, were unaware that this had occurred, and thus did not experience attitude change as a result.

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Sample personality characteristics. Another explanation for a lack of significant findings concerns the personality characteristics of the sample. Personality traits of the participants in this study may have affected their attitudes toward people with mental illness and their reported behavioral intentions to engage with educational and indirect contact Facebook materials.

Personality factors play an important role in both general prejudice and attitudes toward individuals with mental illness. Openness to experience and agreeableness, for instance, are “Big Five” personality traits that have been found to inversely correlate with levels of general prejudice (Sibley & Duckitt, 2008). These personality traits have been found to apply similarly to mental health stigma with openness and agreeableness being negatively correlated, and neuroticism being positively correlated with levels of prejudice against people with mental illnesses (Brown, 2012).

In the current study, while personality factors were not assessed, it is possible participants with higher levels of agreeableness and openness to experiences may have reported more positive attitudes and self-reported likelihood to engage with anti-stigma Facebook materials even in the absence of any interpersonal contact experiences. In this case, previous contact would not necessarily predict attitudes and behavioral intentions.

Researchers have also suggested that personality factors like these may play an important role in predicting how impactful an interpersonal contact experience is in altering attitudes and behavioral intentions toward individuals with mental illness (Chung et al., 2001; Couture & Penn, 2003). For instance, individuals who are low on levels of openness and high on levels of neuroticism may not benefit as much from an interpersonal contact experience by virtue of their personality profile. Their reported previous contact experiences would have not necessarily been

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associated with more positive attitudes or intentions to engage with anti-stigma Facebook materials.

Personality factors may also have had an impact on reported behavioral intentions toward presented anti-stigma Facebook materials. Previous research findings suggest that personality traits are reflected in social media behaviors (Kosinski et al., 2014). For example, an introverted person is likely to behave and interact on social media websites in dramatically different ways than an extroverted person (Kosinski et al., 2014). Multiple studies conducted on the topic of personality and online behaviors have found that extroverts are more likely to reach out and interact with other people online, are more likely to “like” and share media content, and will likely update their profile status more often when compared to introverts (Kosinski et al., 2014). Kosinski and colleagues’ findings are important because, in the case of the current study, introverted individuals would be unlikely to engage in many of the social media behaviors asked about on the survey materials simply because they are not the type of people to engage in that sort of behavior, regardless of their attitudes and previous contact experiences. In the case of the introverted participant, personality factors may have been a stronger predictor of social media behaviors than previous interpersonal contact with someone with a mental illness.

Quality of interpersonal contact. While interpersonal contact is considered to be one of the strongest predictors of improved attitudes and behavioral intentions toward individuals with mental illness (Couture & Penn, 2003), not all contact experiences are created equal. Thus, not all interpersonal contact can be assumed to end in positive attitudes and behavioral outcomes. Indeed, several factors have been implicated in the success of an interpersonal contact experience in improving attitudes and probability of prosocial behaviors toward individuals with mental illness, and should be considered as potentially playing a role in the results of this study.

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Factors considered important in determining the success of an interpersonal contact experience include (a) intimacy of interaction (Ellison & Powers, 1994), (b) equal status of individuals involved (Cook, 1985), (c) cooperative interactions (Worchel, 1986), (d) real-world opportunities rather than contrived interactions within an experimental setting (Sigelman & Welch, 1993), and (e) whether the experience was perceived as pleasant (Desforges et al., 1991). Thus, the quality of an interaction has been examined before as a factor that can make or break an interpersonal contact event.

It is possible that the previous contacts reported upon in this study were not of the quality required to predict attitude change and impact behavioral intentions toward this group. For instance, if previous contact events reported on by participants were not cooperative in nature or naturally occurring, they would not have necessarily resulted in positive changes in attitudes or behavioral intentions.

Implications of Findings

There are three primary implications for the findings including (a) anti-stigma campaigns should emphasize passive media for stigma reduction efforts, (b) interpersonal contact may not be a predictor for changes in attitudes and behavioral intentions regarding mental illness, and (c) interpersonal contact should not be viewed as a one-dimensional factor.

Stigma reduction program advertising. Current findings suggest that anti-stigma programs may benefit from emphasizing the use of passive rather than active media outlets to disseminate educational and indirect contact campaign materials. Media can be characterized as being either active or passive depending on how consumers interact with the information involved. Active communication channels include interpersonal communication in-person or online, which involves people actively seeking out and sharing information (Dutta-Bergman,

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2004). Alternatively, television, radio, and print advertising are considered passive because information in these contexts is being presented to an audience regardless of the individual's expressed interest in receiving it (Dutta-Bergman, 2004).

Facebook advertisements, by nature, rely on the viewer actively choosing to engage with their content. However, based on the findings in the current study, those individuals who had little knowledge about mental illness are less likely to report behavioral intentions to engage with educational materials. Thus, those individuals with little knowledge about mental illness and with negative attitudes about mental illness are also less likely to engage with educational materials designed to counter these problematic characteristics. Anti-stigma campaigns cannot assume that educational materials are going to be accessed by those who could most benefit from their message, because, as findings from the current study suggest, mental health knowledge may be a prerequisite for behavioral intentions to engage with educational and indirect contact Facebook materials. One possible way toward targeting individuals who would benefit most, and who have lower prior knowledge, may involve considerations of health orientation. Health orientation is defined as “a goal-directed arousal to engage in preventative health behaviors” (Moorman & Matulich, 1993, p. 210). Orientation is considered an important factor in predicting how an individual will obtain health information. Those individuals with active health orientations are likely to view health-related information as relevant and seek out information as needed to improve their own health-related outcomes. In contrast, those with a more passive health orientation are less likely to actively seek out health-related information and, therefore, are less likely to view such information as relevant when it is presented. Dutta-Bergman (2004) proposed that an individual's health orientation would subsequently impact his/her likelihood to engage in behaviors related to the topic or issue of health. Active health information orientations

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increase the attention paid by the individual to relevant information and the comprehension of such materials. When applied to the topic of anti-stigma Facebook material engagement, those with active orientations toward mental health may be more likely to actively engage with such information. However, those without such an orientation are likely to view that information as irrelevant and choose not engage with it. In response to this observation, Dutta-Bergman (2004) considered how an individual's health orientation would relate to how a particular individual obtains most of his/her health-related information. Based on analysis of 1999 HealthStyles data, Dutta-Bergman found that active communication channels such as interpersonal communication and Internet-based social media platforms served as primary health information sources for health-conscious individuals with strong health habits and a commitment to health activities. However, passive consumption channels such as television and radio were found to serve as primary health information resources for individuals who were not health-oriented.

Considering current findings within the context of health orientation and motivation research, participants who demonstrated higher levels of knowledge may have represented those with higher motivation for such information and a pro-mental health orientation. However, those without such knowledge may have represented those with lower levels of motivation and a non-active health orientation. Understanding the role that orientation and motivation may have on individuals self-selecting to engage with educational materials may influence how campaigns disseminate educational materials. If campaigners wish to educate those with low levels of motivation and a passive orientation toward mental health, they may need to utilize passive forms of media to do so. Dutta-Bergman (2004) concluded from his research that passive media outlets are better suited for health-related prevention campaigns because those campaigns are more often targeting those without implicit active health orientations. Inversely, more active

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forms of media including print media, interpersonal networks, and social media are better suited for communicating health issues to the health active consumer because these individuals are likely to view such information as relevant and actively seek it out.

Contact alone may not be a reliable predictor of attitudes and behavioral intentions.

The second hypothesis in this study proposed that positive attitudes toward mental illness would partially mediate the relationship between previous contact with mental illness and behavioral intentions to engage with anti-stigma Facebook materials. Findings in the current study failed to support this hypothesis, contradicting previous research (Couture & Penn, 2003; Schiappa et al., 2005; Aznar-Lou et al., 2016). The lack of findings related to this hypothesis suggests that previous contact alone may not necessarily be enough to predict improved attitudes or willingness to engage with social media campaign materials.

Participants in this study reported, on average, having intentions to engage with indirect contact and educational materials. However, these reports were not associated with self-reported previous interpersonal contact experiences. These findings may offer support for the use of social media advertising to engage audiences with anti-stigma campaign materials. That is, people may be willing to engage with materials regardless of whether or not they have had interpersonal contact with someone with a mental illness in the past. However, it is important to keep in mind that Facebook and other social media platforms have algorithms that would make it unlikely that anti-stigma posts would be presented to someone who has not previously expressed an interest in the topic (Facebook, 2016). Therefore, even though it is encouraging that this study found that interpersonal contact with someone with a mental illness is not a required prerequisite for intentions to engage with anti-stigma materials, other barriers continue to exist. This highlights the difficulty of relying on social media platforms to engage audiences in anti-stigma efforts.

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Interpersonal contact qualities are important. As has been previously emphasized, previous research has demonstrated that interpersonal contact alone is not enough to ensure attitudinal and behavioral change in participants. Factors including (a) intimacy of interaction (Ellison & Powers, 1994), (b) equal status (Cook, 1985), (c) cooperation (Worchel, 1986), and (d) naturalistic opportunities (Sigelman & Welch, 1993) are considered vital ingredients when determining the success of an interpersonal contact experience. Much of the previous research performed in the area of mental health stigma has examined contact within controlled laboratory settings where contact experiences were choreographed to include important qualities to ensure the success of a contact experience (Couture & Penn, 2003). However, current findings suggest that research that assesses participants' self-reported interpersonal contact experiences cannot necessarily assume these qualities were present. Therefore, implications for future researchers may include the consideration of contact more than a single dichotomous variable that has either been present or absent in a participant's life.

While relying on self-reported occurrence of an interpersonal contact experience may not be the best determinant for attitudinal and behavioral changes toward people with mental illness, measuring for and considering the quality of a contact experience may represent an important implication of current findings. That is, researchers should consider contact as a multi-dimensional construct with various factors that contribute to its effectiveness. Researchers would do well to consider the quality of self-reported contact when examining interpersonal contact experiences that occur outside of controlled laboratory settings.

Unique Contributions

The current study provided three unique contributions to the existing body of literature related to mental health stigma and its reduction through (a) examining factors of knowledge,

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attitudes, and contact in relation to social media behaviors, (b) offering a means of evaluating stigma reduction campaigns' current use of social media advertising, and (c) offering a novel method of evaluating online behavioral intentions toward social media advertisements.

Factors of knowledge, attitudes, and contact as they relate to social media behaviors.

While research has explored factors of mental health knowledge, previous interpersonal contact, and mental health attitudes as they relate to various behavioral factors, such as intentions to engage in prosocial behaviors and desire for social distance, these factors have not been considered in reference to how individuals choose or report they will act on social media platforms. This information is important because much of the social media campaigning in the United States is occurring on social media platforms like Facebook. Therefore, understanding how these factors influence social media behaviors is important.

Furthermore, while we know from previous studies that educational and interpersonal contact materials can decrease negative attitudes and certain negative behaviors, less is known about how these materials are working in the real world. That is, effective educational and indirect interpersonal contact materials do little good if they are not being presented to their target audience, those with little knowledge and little interpersonal contact. Therefore, the current study adds to the literature by providing information about how these factors influence whether someone chooses to expose themselves to educational and indirect contact materials on Facebook. A thorough understanding of the factors that predict exposure to anti-stigma materials is vital to designing anti-stigma campaigns that have the strongest negative impact on the occurrence of mental health stigma.

Evaluation of current campaign use of social media. Findings contribute to future campaign design by suggesting that social media advertising is likely not an ideal method of

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educating those without some pre-existing mental health knowledge or positive mental health attitudes. Results from the current study suggest that social media advertising is most likely going to be viewed by individuals more pre-existing knowledge about mental illness. Thus, social media advertising is likely a poor way to reach those individuals within the population who would most benefit from exposure to campaign materials. Current findings are useful because they suggest that there are likely better ways to engage these passive audiences as suggested previously. These current findings add to the dearth of literature available that critically examines how campaigns are working outside of controlled settings.

Facebook behavioral intentions task. The current study also provided a novel method of examining social media behaviors. The development of a behavioral intentions task to demonstrate self-reported likelihood to engage with Facebook materials allowed researchers to examine intentions to engage with Facebook materials in a way that could correlate with other factors like knowledge. While Facebook analytics can provide the number of times that a particular post has been shared, viewed, liked, and so on, there does not currently exist, to the knowledge of the researchers, a method by which to effectively derive information related to why an individual chooses to do so. No previous studies have attempted to measure Facebook behavioral intentions toward anti-stigma posts in this way. Behavioral intentions task may be a useful method to measure such self-reported behaviors in the future.

Limitations

While the current study provided unique contributions to the existing body of literature, several limitations should also be noted. The following section identifies, reflects on, and provides potential remedies for overcoming observed limitations in future studies. These limitations include the (a) analyses utilized to test proposed hypotheses, (b) measurement of

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behavioral intentions and self-report measures, (c) absence of measures for quality of interpersonal contact, and (d) use of an un-normed measure of behavioral intentions task.

Analyses. Regarding analyses, confirmatory factor analyses (CFA) were used to establish factor structure for the latent variables within the proposed path model (i.e., knowledge, previous contact, attitudes, and behavioral intentions). Once the measurement model had been established, structural equation modeling with latent variables could have been used to test the proposed model. It was determined that proceeding with a full structural equation model would have been inappropriate due to a failure to establish the measurement model. The decision was, therefore, made to perform a simple path analysis with testing for indirect effects in order to examine the two mediation models contained within the overall model individually. In doing so, the path analytic analyses allowed for the testing of the proposed hypotheses, albeit not in an overall structural model as originally proposed.

Single-indicator measurement, including path analysis techniques, refers to methods in which there is only one observed measure for each hypothetical construct. In this case, single indicator scores were created through scaled scores for each of the measures representing latent variables within the model. Those scaled scores were then used to run a path analysis.

Drawbacks to this approach include that path analysis assumes no error of measurement, whereas structural equation modeling (SEM) assumes that error has occurred in measurement and includes this assumption within the model itself (Kline, 2016). However, while error of measurement can never be accurately assumed, most other methods in statistics also carry this inaccurate assumption (Kline, 2016). SEM methodology, had it been successful, would have allowed for the testing of the overall path model proposed, rather than examining it in its individual components, allowing for a more comprehensive view of the workability of the paths.

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The failure of the indicators to converge on associated factors may have been due to the size of the index measures themselves. Kline (2016) suggested that scales that include less than three indicators are ideal for such analyses. However, the lack of an existing measure meant that the current study used scales including up to 27 items or indicators (i.e., AQ-27).

Measurement of behavioral intentions. The use of behavioral intentions as indicators of future behaviors could also represent a limitation of the current study. For convenience, behavioral intentions were assessed related to Facebook material engagement. It is difficult to observe directly a behavior like Facebook engagement. Because of this, the reported intentions to engage in Facebook behaviors were assessed with participants. A common criticism for the use of self-report behavioral intention measures, especially those inquiring into sensitive topics, includes the possibility that participant responses may be subject to social desirability bias (Ajzen, 2011; Armitage & Conner, 2001). That is, individuals may choose to state that they intend to do something because they wish to present as a morally upright citizen rather than because they actually intend to behave in a prosocial way. For example, a study examining the role of mental health stigma in the workplace found a significant discrepancy between employers' stated willingness to hire someone with a mental illness and their history of ever knowingly hiring such a person. Specifically, while employers expressed willingness to hire someone who had a mental health diagnosis, most did not report that they had done so (Sharac et al., 2010). Social desirability bias in behavioral intention measures has been found to occur even when participants are assured that surveys are kept anonymous (Armitage & Conner, 2001). Thus, while behavioral intentions offer one method of approximating behavioral outcomes, it is important to consider reported intentions in the context of other available information such as measures on social desirability scales and reported attitudes toward the intended behavior.

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Failure to measure for quality of interpersonal contact. Another limitation for the current study includes the fact that the quality of interpersonal contact was not assessed. As stated previously, multiple factors have been associated with predicting the success of an interpersonal contact experience including level of intimacy, equal status of individuals involved, cooperative interactions, and organically occurring interactions (Ellison & Powers, 1994; Sigelman & Welch, 1993; Worchel, 1986). When considering how these factors may have impacted the results found in this study, it is important to note that the LCR used to assess participant level of previous interpersonal contact does not assess for these factors. This detail regarding the contact measures is important because while participants on average indicated a level of previous contact equivalent to having a family friend with a severe mental illness, this actually tells very little about the nature of those encounters. For instance, while participants expressed having high levels of previous contact with individuals with mental illness, the interactions themselves may not have been voluntary, cooperative, or pleasant. If previous interpersonal encounters were non-voluntary, or uncooperative in nature, they may have not had the positive impact on attitudes and behavioral intentions normally associated with such interactions. The positivity or negativity of an interaction heuristics may also have played a role. One can consider the impact of having an encounter with someone with schizophrenia that reinforces a negative stereotype associated with this condition, such as schizophrenia being dangerous.

While researchers have examined the potential positive impact of interpersonal contact, less research has examined the potential negative impact that negative interactions can have on attitudes and willingness to engage in prosocial behaviors toward this group. Available research suggests that negative intergroup contact can significantly negatively impact attitudes toward a

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stigmatized group. Visintin, Green, and Pereira (2017), for example, examined attitudes in Bulgaria between majority group members (i.e., Bulgarian and Turk) compared to Romas, a highly stigmatized ethnic minority group. They found that positive contact was associated with reduced levels of prejudice and more support for pro-roma policy. Meanwhile, negative contact was associated with increased negative attitudes and increased opposition for pro-Roma policies. Furthermore, positive and negative intergroup emotions were found to mediate the relationships between positive and negative intergroup contact and prejudice and policy support.

These findings highlight the importance of emotional processes involved in positive and negative intergroup contact experiences. Thus, the positivity or negativity of a contact experience may be an important variable to consider when looking at the value that a previous interpersonal contact experience can have on intentions to engage with anti-stigma Facebook materials. It is possible, in the case of the current study, that negative interpersonal contact experiences may have been present in the collected sample. If this were the case, these negative interactions would not have resulted in increases in positive attitudes or self-reported likelihood to engage with anti-stigma Facebook materials. Unfortunately, the current study did not assess for the heuristic quality of previous interactions to confirm this hypothesis.

Use of an un-normed behavioral intentions task. It is also important to consider that the task used to assess for behavioral intentions to engage with anti-stigma Facebook materials was created for the purpose of this study and no normed data exists to provide context for the resulting scores. Rather, the average score obtained on this task by participants of 28.56 (SD = 9.09) can only be understood by understanding that such a score falls in the positive realm and thus that most people are reporting that they would engage rather than not engage with the Facebook materials provided.

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Despite limitations, the current study was able to provide a number of unique contributions to the existing, but limited, body of literature regarding anti-stigma campaigning. These findings can be used by researchers to influence future research designs and increase understanding of how best to influence societal levels of mental health stigma. Furthermore, anti-stigma campaign design can also benefit from the findings of the current study, namely by considering the use of passive media advertising to influence passive learners in their target audience.

Future Directions for Research

The following section provides suggestions for future research based on current findings. Future research should address discussed limitations in future studies on similar topics and utilize current study findings to enhance anti-mental health stigma campaign efforts.

A review of the current study's limitations revealed multiple flaws with selected measures. Future researchers would benefit from choosing measures that are generally briefer and may also want to consider including a measure of the quality of an interpersonal contact experience. The measures included in the current study were often lengthy, leading to problems with analyses. Future studies should utilize briefer measures to increase the probability of successful convergence. While the current study failed to do so, future research also should consider inquiring into the quality of an interpersonal contact experience. It should not be assumed that any exposure experience, regardless of these factors, would contribute to more positive attitudes and behaviors toward those with mental illness.

Results of the current study also provide a clear direction for future research related to the topic of mental health anti-stigma campaigning. Namely, these results suggest that researchers could explore ways to promote anti-stigma campaign messages through more passive media

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outlets by learning from other campaigns that have done so successfully. In search of an example of how passive media usage has been effective in altering attitudes and behaviors toward negative health habits, one need look no further than the many successful efforts of anti-tobacco campaign initiatives. An abundance of research has been conducted to establish the impact of such campaigns and with encouraging results. Exposure to smoking cessation campaign advertisements and materials have been linked with increased quit attempts and decreased tobacco use initiations (Farrelly, Nonnemaker, Davis, & Hussin, 2009; McAfee, Davis, Alexander, Pechacek, & Bunnell, 2013). In addition, and perhaps relatedly, there have also been significant declines in smoking-related premature deaths in the United States since 1964 (Holford et al., 2014).

While little research has been performed to measure the individual successes of anti-mental health stigma campaigns, a plethora of such research is available related to anti-tobacco use campaign efforts. One such study was performed in 2009 regarding the impact of the national Truth campaign. From 1997 to 2004, exposure to campaign materials was determined to have prevented 450,000 teenagers from initiating tobacco use (Farrelly et al., 2009). The campaign was designed to empower teens to rebel against tobacco use. Tobacco industry advertisements and other media sources have traditionally showcased tobacco use as glamorous, sexy, and cool. Alternatively, the Truth campaign openly advertised the corruption of the tobacco industry and countered stereotypes about smoking by showing images and using statistics that suggested that smoking can lead to unattractive health conditions. Furthermore, tobacco use was presented as falling for the sly tricks of tobacco industry advertisers. To disseminate the campaign's message, the Truth campaign mainly relied on passive media in the form of television advertising (Farrelly et al., 2009). By doing so, television audiences were exposed to

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campaign messaging regardless of any individual's desire or interest in the topic. The topic was made entertaining and relevant to teens by focusing on cohort values including physical attractiveness, popularity, and rebellion.

The results of the current study suggest that the use of passive forms of campaigning may be a much more impactful method of educating those with low motivation and passive orientation to the topic of mental health. Campaigns against tobacco use have demonstrated an ability to influence attitudes and behaviors toward tobacco use by providing educational materials through passive media advertising. Therefore, anti-stigma campaign designers may benefit from considering similar approaches to penetrate target audiences with valuable mental health knowledge. Current findings then suggest that through improvements in attitudes toward mental illness, intentions toward social media may improve, and exposure to evidence-based materials will be ensured. By exposing passive audiences to information in a passive format, anti-stigma campaigns could increase exposure to and, ideally, decrease the negative sequela associated with the existence of mental health stigma.

Conclusion

Mental health education and interpersonal contact have long been established as effective means of decreasing negative attitudes and discriminatory actions of individuals toward those with mental illness. While these methods have been utilized by anti-stigma organizations, most of this campaigning has been carried out on active media outlets, namely via Facebook. However, mental health stigma and its negative consequences continue to significantly impact individuals with mental illness despite these efforts. The current study was interested in understanding how an individual's knowledge about mental illness and previous exposure to

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individuals with mental illness would impact his/her likelihood to engage with Facebook anti-stigma educational and indirect contact materials.

One can conclude from this study that previous knowledge about mental illness can significantly influence whether someone chooses to interact with Facebook anti-stigma campaign materials. Furthermore, this relationship is mediated by levels of positive attitudes toward those with mental illness. However, the mediation model proposed by the second hypothesis of this study was not supported. That is, a measure of previous interpersonal contact with mental illness did not predict self-reported likelihood to engage with anti-stigma Facebook materials. Thus, self-reported interpersonal contact with mental illness was not found to predict self-reported likelihood to engage with anti-stigma Facebook materials.

These findings generally supported the idea that social media advertising alone is not likely to be successful in initiating a significant societal shift in levels of mental health stigma. That is, those who view such posts as irrelevant or who do not have an active interest in seeking out related information are not likely to do so, at least not on Facebook. Anti-stigma campaigns can learn from other campaigns that have focused on using television and other forms of passive advertising outlets. Such passive channels allow campaigns to provide educational information to audiences regardless of their personal interest or motivation for the information.

In order to effectively combat the stigma of mental health and its consequences, anti-stigma campaign designers must understand how their current efforts are working, and in some cases, address relevant concerns when they are not. Findings from the current study assist in providing this understanding, and furthermore, provide some direction for future campaign design.

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