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Critically Evaluating Website Credibility: Factors that Influence Perceptions of Online Mental Health Information

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CRITICALLY EVALUATING WEBSITE CREDIBILITY: FACTORS THAT INFLUENCE PERCEPTIONS OF ONLINE MENTAL HEALTH INFORMATION

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ABSTRACT

CRITICALLY EVALUATING WEBSITE CREDIBILITY: FACTORS THAT INFLUENCE PERCEPTIONS OF ONLINE MENTAL HEALTH INFORMATION

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Research on the use of online information has suggested that general users of the internet do not critically evaluate the information they consume. In addition, specific elements of online information, such as the presence of advertisements, has been shown to affect perceptions of that information, resulting in less favorable ratings of websites. In contrast, communication studies have shown that perceptions of the presented information increased favorably when an image of a brain was included even when the actual information was considered insufficient in quality by experts. To date, the combined effects of brain images and advertisements on evaluations of online mental health information have not been studied. In the current study, participants from Central Washington University and the general public were randomly assigned to view a neuroimage, an advertisement, both a neuroimage and advertisement, or no neuroimage or advertisement along with an article from a website discussing the neuroscience underlying depression. I hypothesized that participants would rate the presented webpage and its information more favorably when a neuroimage was present and less favorably when an advertisement was present. Contrary to expectations, participants in this study

rated the webpage higher when there was no neuroimage present, compared to when there was a neuroimage present. Specifically, participants rated their ability to identify with the webpage information and the presentation of the webpage's information higher when there was no neuroimage present. Participant responses were also influenced by their perceptions of sharing mental health experiences online, how many hours on average they spent online daily, and whether they were currently experiencing symptoms of depression. The current findings demonstrate that investigations of the perception of online information is not only complex, but that there is a need for more research on how website variables affect people's perceptions of online mental health information.

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TABLE OF CONTENTS

TABLE OF CONTENTS CONTINUED

CHAPTER PAGE

LIST OF TABLES

CHAPTER I

INTRODUCTION

Information is increasingly readily available via the internet, with an estimated 1,095% growth in world internet use in the last 19 years (Internet World Stats, 2019). In 2013, researchers reported that 72% of the world's internet users searched at least once for some sort of health information (Fox & Duggan, 2013). While internet users may be using web-based resources, previous research indicates that most users do not sufficiently evaluate the information they are consuming (Fergie et al., 2015; Fox & Duggan, 2013; Klawitter & Hargittai, 2018; Monteith et al., 2013; Robertson-Lang et al., 2011). For example, 95% of users choose a website from the first page of results when searching on Google, without further evaluation of its credibility (Monteith et al., 2013). Because of search engine optimization, websites may appear on the first page of results but that does not necessarily make them more credible (Klawitter & Hargittai, 2018).

Google does not show the same results to all users and uses targeted advertising in order to increase spending, not knowledge, by its users (Monteith et al., 2013). A study of 21 frequently accessed websites about depression underscores this issue as none of the sites cited any scientific evidence, with less than half mentioning important evidence-based conventional treatments (Griffiths & Christensen, 2000). Furthermore, multiple studies have shown that presenting an image of a brain next to information from psychological research studies influences viewer perceptions (Keehner et al., 2011; McCabe & Castel, 2008; Schweitzer et al., 2013). For example, people rated the research study's information more favorably when there was a brain image provided with the explanation compared to information without a brain image (Ikeda et al., 2013; Keehner

et al., 2011; McCabe & Castel, 2008; Schweitzer et al., 2013). Similarly, information was preferred when presented with neuroscientific terms and the use of brain scans compared to when those two components were lacking, even if experts deemed the explanations insufficient (Weisberg et al., 2008). Critically evaluating web sources such as blogs and commercial websites and understanding how other factors such as visual stimuli can influence information consumption is essential to improving mental health literacy (Jorm et al., 1997).

CHAPTER II

LITERATURE REVIEW

Mental Health Literacy and Reducing Stigma

Mental health literacy is defined as the ability to recognize specific disorders or types of psychological stress as well as knowledge about risk factors and treatment options for mental disorders (Jorm et al., 1997). Holding attitudes that facilitate the application and recognition of mental health information is essential to correcting errors in knowledge and expanding understanding (Jorm et al., 1997). Stigmas exist for most, if not all mental illnesses; for example, a 2011 Australian national survey found that over 6,000 individuals strongly agreed with items such as schizophrenia was an unpredictable problem and social phobia was not a real medical illness and was caused by personal weakness (Reavley & Jorm, 2011). Other scenarios regarding depression and post-traumatic stress disorder were also assessed, revealing similar patterns of agreement with stigmatizing statements (Reavley & Jorm, 2011). Comparable results have been found in the United States (U.S.; Gibbs et al., 2013), and in U.S. veterans (Tsai et al., 2014). With nearly one in five adults in the U.S. living with a mental illness in 2017 (Mental Illness, n.d.), reducing stigma is important for encouraging access to treatment and support (Corrigan, 2004).

Improving Mental Health Literacy via the Internet

Recent research has suggested that increasing mental health literacy could be a solution to mental illness stigma, with the internet providing easier access to these interventions (Burns et al., 2009; Crowe et al., 2018). While a survey of 917 participants revealed that only 10.6% had used the internet to search for mental health information, individuals currently going through mental distress were significantly more likely to use

the internet for mental health information (Powell & Clarke, 2006). In an additional study examining the relationships between self-stigma of mental illness, self-stigma of seeking help, and mental health literacy, 102 participants completed the Stigma of Seeking Help Scale and the Stigma of Mental Illness Scale to assess perceived stigma of seeking help for themselves and their overall stigma of general mental illness (Crowe et al., 2018). Self-stigma of seeking help and self-stigma of mental illness predicted mental health literacy as measured by the Mental Health Knowledge Scale which quantifies an individual's knowledge of mental health. For every one standardized unit increase of self-stigma of seeking help, there was a .45 standardized unit decrease in mental health literacy, suggesting that, perhaps, in a bidirectional relationship, increasing mental health literacy may decrease self-stigma attitudes (Crowe et al., 2018).

An internet-based intervention, *Reach Out*, succeeded in increasing mental health literacy and reducing mental illness stigma in Australian adolescents (Burns et al., 2009). As utilized for that study, *Reach Out* was a comprehensive website containing five major elements: Evidence-based fact sheets, a professionally moderated online community forum, *Reach Out Central* (i.e., an online virtual game where individuals could practice real life situations), social networking site links, and podcasts that discussed various mental health topics. Nine hundred and four participants used the *Reach Out* intervention and the authors found that following their use of *Reach Out*, 59% of participants sought help from a mental health professional with an additional 19% stating an intention to do so (Burns et al., 2009). The authors suggested that this type of program could be beneficial to U.S. adolescents as well, arguing that, at the time of the study, the U.S. did not have a similar, comprehensive website, but only multiple single-topic focused

websites. Lacking a website like *Reach Out* originating in the U.S. is not necessarily problematic, but it places greater pressure on those single-topic websites to provide accurate and credible information. Simply searching "mental health" on Google yields over 300,000,000 results (March 25, 2019), and with so many sites to choose from, it is important for individuals to properly evaluate the websites they choose.

Current Research on Public Evaluation of Neuroscience

Due to the terminology, practices, and methodology of neuroscience research, neuroscience is considered increasingly advanced and complex, both academically and technologically (Racine et al., 2010). Therefore, it is understandable that the lay public have difficulty understanding such research when reported scientifically. Such potential difficulties may be the reason that Racine et al. (2010) commented that neuroscience research is often reported as optimistic and not concretely in the media. In a meta-analysis of 1,256 articles from U.S. and United Kingdom (U.K.) newspapers in which 98% of articles reported the use of neurotechnology, only 28% of those articles were considered to be critical in that they presented one scientific or ethical issue associated with the technology, despite a high number of the research reports being from scientists (i.e., 42%). Those authors also discussed the issue of translating neuroscience research to the general population relative to public support and policy. The authors promoted the idea that when neuroscience is presented in neuro-realistic and neuro-essentialist ways, it can affect one's personal life as well as social practices and policies. However, manipulating how results are presented may be used as support for other agendas, such as online direct-to-consumer advertising of neuroimaging products like supplements and

treatments. Companies may misuse favorable articles after they are published in support for their products, creating a false sense of research support (Racine et al., 2010).

Misinformation during crises is increasingly problematic due to the rise of social media (Gesser-Edelsburg et al., 2018). Gesser-Edelsburg et al. (2018) examined different ways that health organizations can correct this misinformation quickly and clearly. Of major relevance was recent measles outbreaks in the U.S., attributed to misinformation about vaccinations that have circulated on social media platforms. Gesser-Edelsburg et al. (2018) investigated if health organization workers could moderate social media-based misinformation by actively presenting links or other information-based corrections. Those authors had 243 graduate student participants respond to a dilemma of sending a child to kindergarten in which participants either received a common information correction from the health organization or a recommended theory-based information correction that acknowledged the public's concerns. Participants were more satisfied when the information was presented in a transparent and concrete, theory-based recommendation, rather than as common knowledge, suggesting how research should be presented in the media in order to better combat misinformation (Gesser-Edelsburg et al., 2018).

The importance of concrete information over abstract information is also demonstrated in the public's opinion of neuroscience (Loughman & Haslam, 2018; Weisberg et al., 2008). Neuroscience is becoming increasingly prominent in the psychology literature, and a recent study observed that this is a mixed blessing in the context of mental health stigma (Loughman & Haslam, 2018). Specifically, a meta-analysis of experimental studies assessing the impact of manipulated explanations of

mental illnesses on stigma found that neurobiological explanations that contained essentialist undertones of mental illness (e.g., greater perceived dangerousness, greater prognostic pessimism) increased stigmatizing attitudes, such as desiring more social distance, classifying those with mental illness as more dangerous, and being more pessimistic about recovery from mental illness. Similar results were found with correlational studies, suggesting that while the public may favor the concreteness found in neurobiological explanations, the manner in which such explanations are presented can reduce the stigmatizing attitude of blaming the individual for their illness but may promote social stigma through greater social distance and less hope for recovery (Loughman & Haslam, 2018). This has implications on how neuroscience research is presented online, and what other mediating factors may contribute to stigmatizing attitudes of mental illness.

Weisberg et al. (2008) investigated whether neuroscientific explanations and language influenced participants' judgement about eighteen different types of psychological phenomena. The conditions that did not contain neuroscientific information started as "The researchers claim…" (Weisberg et al., 2008, pg. 471); whereas, conditions containing neuroscientific information stated, "Brain scans indicate…" (Weisberg et al., 2008, pg. 471) in order to emphasize the distinct responsibilities of researchers and science. Among a sample of participants from the general public and students in a neuroscience course, participants were more satisfied when the presented information included explanations with neuroscientific information presented as being distinct from researchers' claims (Weisberg et al., 2008). However, a sample of neuroscience experts rated explanations containing neuroscientific information

as less satisfying than explanations without neuroscientific information. Weisberg et al. (2008) concluded that, because experts in the field are more inclined to recognize good or bad neuroscientific information, the experts may have felt that the neuroscientific information provided in the explanation was not sufficient. A concern of this finding is that the lay public may prefer the presence of neuroscientific information and rate such descriptions higher, even if it is not considered sufficient by experts in the field.

Age Differences in Search Patterns

With an increase in blogs and websites focused on personal experience, it is up to the user to determine if information is relevant or credible. Fergie et al. (2015) found that young adults in the U.K. assessed online information of diabetes and mental health by distinguishing between fact-finding and accessing others' accounts. The authors argued that, in an age of social media, opportunities for connecting with others have increased, allowing individuals with medical conditions to find comfort and reassurance in knowing they are not alone in their experiences. Therefore, while the most common strategy of evaluating credibility was by visiting multiple sources, participants also recognized that timing and context were important to determining the usefulness and validity of online information. Participants agreed that fact finding from concrete information was more credible in most situations, but also recognized informational value in accessing other peoples' social media accounts in their daily online routine. These findings suggest that younger users are more critical users of online health information than commonly perceived and are also capable of appreciating personal information about specific conditions (Fergie et al., 2015).

A study on the search patterns of older Canadian adults for online health information revealed different results (Robertson-Lang et al., 2011). Participants were asked to perform online searches on specific health conditions, and then search one condition of their choosing before answering questions about why they deemed the website they found credible, what strategy they used in searching, how familiar they were with the website before the study, and if the author's credentials were listed. Only 24 of 83 participants (i.e., 29%) checked the source of their chosen website to evaluate credibility, and the most common strategy of evaluating credibility was based on their personal prior knowledge of the health condition. Commercial websites could contain underlying motives for their information; therefore, the fact that only 24 participants in that study checked the source of their website is concerning as is the reliance on the individual's prior knowledge of the health condition instead of scientific findings. However, more research is needed in this area, as it is unclear whether these results would replicate across ages and other mental health conditions, as only eight participants out of the 83 in the study searched for mental health diseases (Robertson-Lang et al., 2011).

Website Factors in Evaluating Online Information

As noted by Kolmes (2012), there has been little research on the effects of social media and the internet on mental health information dissemination and its use. However, in the communications field there has been extensive research conducted on the consumption of online information and how website criteria can impact these perceptions (Chiagouris et al., 2008; Fogg et al., 2001; Fogg et al., 2003; Klawitter & Hargittai, 2018; Yang & Oliver, 2004). Klawitter and Hargittai (2018) examined how the classic theory of

heuristics translated into individuals' processing of online information through in-person interviews from multiple areas in the midwestern U.S. Participants in that study were video recorded while finding websites containing solutions for eight hypothetical medical situations. Participants were encouraged to talk through this process to reveal what strategies they were employing, as well as describe these strategies in a post-observation interview for further elaboration. The findings revealed five common heuristics that users employed during the tasks, which broke down into 20 different strategies (Klawitter & Hargittai, 2018).

The five main heuristics that Klawitter and Hargittai (2018) found participants employed when evaluating websites for medical information were reputation, endorsement, consistency, expectancy violation, and persuasive intent. The first three heuristics appear to be based in actual website content and quality, while expectancy violation and persuasive intent were influenced by participants' personal beliefs and attitudes toward the website. If participants' expectations were not met (e.g., participants expected credible medical information to be recent and academic in nature, as well as including medical terms and scientific names of conditions and procedures), and the website did not align with their personal health experiences, then they evaluated the website as less credible. With regard to persuasive intent, if a website had too many advertisements or seemed to be pushing an alternative commercial motive, participants deemed the website less credible; a finding that has been reported in other studies examining the impact of advertisements (Fogg et al., 2001; Fogg et al., 2003). There must be a balance between these factors among individuals if they are to critically evaluate the information they consume. If the general public is only relying on personal beliefs and

expectations, then they are missing factors pointing to the potential lack of quality and credible content. Because all five factors influenced website use, reputation, endorsement, consistency, expectancy violation, and persuasive intent should be taken into consideration when preparing online mental health information (Klawitter & Hargittai, 2018).

The Neuroimage Effect

In 2008, McCabe and Castel first introduced the idea of manipulating participant perceptions via the use of brain images. In their series of experiments, participants viewed brief summaries of research studies, and news-type article summaries of research studies, while viewing or not viewing an image of a brain. In general, participants favored and agreed with the articles more when they included a brain image (McCabe & Castel, 2008). However, more recent research on this effect has found contradicting results (Ikeda et al., 2013; Keehner et al., 2011; Schweitzer et al., 2013).

Schweitzer et al. (2013) sought to replicate McCabe and Castel's (2008) findings while investigating if weak language and faulty reasoning in research summaries (i.e., those that made claims without stating direct findings or neuroscientific terms), could interact with the impact of a 3D color neuroimage, similar to the 3D color brain image used by Keehner et al. (2011). Participants rated the article presented with the brain image as more credible than the no-image condition, but only when provided alongside research summaries containing weak language and faulty reasoning (Schweitzer et al., 2013). Understanding what it is about this specific context with less than ideal research summaries that make the neuroimage more appealing is important when presenting information online about mental health and neuroscience.

Recent Measures of Online Information Credibility

While there have not been any scales developed to examine credibility of online mental health information specifically, Kelly et al. (2015) created the E-Health Impact Questionnaire to measure how participants rated online health information with regard to attitudes toward online health information in general, attitudes toward sharing health experiences online, and the social benefits of health websites as well as the participants' sense of solidarity and similarity in health scenarios after viewing a website. One subscale, information and presentation, focuses solely on the technical aspects of the website while an understanding and motivation subscale measures how encouraged participants feel in making health decisions after viewing the website (Kelly et al., 2015).

The E-Health Impact Questionnaire has not been extensively used, although it has been translated to Dutch (Neijenhuijs et al., 2019; Engler et al., 2016). The E-Health Impact Questionnaire has also been used to assess website ratings in a population of cancer patients (Engler et al., 2016). Using other survey methods in conjunction with the E-Health Impact Questionnaire, Engler et al. (2016) concluded that cancer patients placed value on relating their health issues to others having similar cancer experiences, but they also sought more information from websites in order to feel a sense of validity through multiple information sources (Engler et al., 2016). To date, the E-Health Impact Questionnaire has not yet been studied in relation to the general population's view of online mental health websites.

The Current Study's Hypotheses

The current study examined factors that may influence assessments of credibility of online mental health information. It was hypothesized that the presence of

advertisements and neuroimages would alter perception of the credibility of a website. Specifically, it was hypothesized that participants would be more critical of information presented on a commercial webpage as denoted by containing advertisements than the same information presented without advertisements. In addition, the absence or presence of different fMRI brain images has not previously been evaluated with regard to its impact on website credibility; therefore, the current study also investigated the potential for a neuroimage to alter credibility ratings on an adapted version of the E-Health Impact Questionnaire (Kelly et al., 2015), and a short Research Summary Questionnaire (Schweitzer et al., 2013). It was hypothesized that an interaction would occur between neuroimage and advertisements with participants rating the information as more credible when there was no advertisement but a neuroimage present, than the same information presented without a neuroimage and with an advertisement. It was also expected that information presented with a neuroimage would be rated as more credible than information presented without a neuroimage. Lastly, information that was presented with an advertisement was expected to be rated as less credible by participants when compared to the same information presented without an advertisement.

CHAPTER III

METHOD

Design

An experimental 2 x 2 between-subjects design was used. The independent variables were the presence of a neuroimage (present, absent) and the presence of a commercial motive indicated by an advertisement or its absence. The dependent measures were scores on three subscales from the E-Health Impact Questionnaire which were modified to measure mental health-related components (Kelly et al., 2015) and the Research Summary Questionnaire from Schweitzer et al. (2013). The three subscales from the E-Health Impact Questionnaire used as dependent measures provided ratings of confidence and identification with the website, the website's information and presentation, and the participants' understanding and motivation after viewing the website. Two other subscales from the E-Health Impact Questionnaire (Kelly et al., 2015) were also modified to refer to mental health and were included as covariates, measuring the participant's attitude toward online mental health information in general, and their attitude toward sharing mental health experiences online. Average amount of hours spent online daily was also included as a covariate, as was the presence or absence of current symptoms of depression. Each participant answered a manipulation check upon completion of the final dependent measure, which asked participants if they saw an image of a brain and of an advertisement.

Participants

Data were collected from November 22, 2019, until January 10, 2020. Two hundred and twenty-four participants (Women: n = 182; Men: n = 40; Other or

unidentified: $n = 2$), completed the survey, and were, on average, 22 years of age ($M = 21.8$, $SD = 8.6$, Range = 18-77). Participants reportedly spent an average of 5 ½ hr online daily ($M = 5.5$, $SD = 2.3$). Of the 224 participants, 223 responded to questions about where they had heard about the study, if they were currently seeking treatment for depression, if they were currently experiencing symptoms of depression, if they had received treatment for depression in the past, and if they had experienced symptoms of depression in the past. Table 1 presents frequencies and percentages of responses to those items.

Table 1

Frequency and Percentage of Participants in Demographic Categories (n = 223)

Demographic Categories		Frequency (*n*)	Percentage (%)
Study Source			
	CWU SONA	192	85.7
	Social Media	21	9.4
	Other	10	4.5
Current Symptoms of Depression			
	Yes	93	41.5
	No	118	52.7
	I Prefer not to Say	12	5.4
Current Treatment for Depression			
	Yes	53	23.7
	No	163	72.8
	I Prefer not to Say	7	3.1
Past Symptoms of Depression			
	Yes	160	71.4
	No	59	26.3
	I Prefer not to Say	4	1.8
Past Treatment of Depression			
	Yes	88	39.3
	No	135	60.3
	I Prefer not to Say	0	0

Participants were recruited using a voluntary, convenience sampling method with the Central Washington University's (CWU) SONA research system, and through sharing the survey's link online through social media. The study was titled "Rate an Online Article About Depression" with the following description: "You will be viewing a mental health website, and then asked to respond to questions about the website's credibility and information's quality afterwards." Anyone who was 18 years of age or over, could read and write English, and had access to the internet was able to participate. There were no other eligibility restrictions. This study was approved by the CWU Human Studies Research Council (H#2019-132-ONL). Respondents were presented with an online information page prior to consenting to participate and were presented with a debriefing statement after they completed the study.

Materials

The online experiment included five subscales that were modifications from the E-Health Impact Questionnaire (Kelly et al., 2015) and the Research Summary Questionnaire (Schweitzer et al., 2013), as well as demographic questions (i.e., gender, age, hours spent online daily, where they heard about the study, and current or past experiences with depression), and a manipulation check. Participants needed a computer or mobile phone to participate in the survey.

Covariate Measures. Two modified subscales from Kelly et al.'s (2015) E-Health Impact Questionnaire (Kelly et al., 2015) were included as covariates (see Appendix A), attitudes toward online mental health information (ONLINE INFO), and attitudes toward sharing mental health experiences online (ONLINE SHARING). The wording of these subscales was modified for the current study to specifically address

mental health topics/issues. Modified questions for attitudes toward online mental health information (ONLINE INFO) involved replacing the word “doctor” with “mental health specialist,” resulting in statements such as “I would use the internet to check that the mental health specialist is giving me appropriate advice” and “The internet is a reliable resource to help me understand what a mental health specialist tells me.” Similar modifications occurred for the subscale assessing attitudes toward sharing mental health experiences online (ONLINE SHARING) by adding the word “mental” prior to references to health, resulting in statements such as “The internet is a good way of finding other people who are experiencing similar mental health problems” and “It is reassuring to know that I can access mental health-related websites at any time of the day or night” (Kelly et al., 2015).

Items in both subscales were rated on a 6-point Likert scale, ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Higher scores on both these subscales were interpreted as positive attitudes toward searching and sharing information online by Kelly et al. (2015). Good internal consistency had been established by Kelly et al. (2015) with Cronbach’s alphas of 0.77 (ONLINE INFO), and 0.89 (ONLINE SHARING). In the current study, Cronbach’s alphas of 0.77 (ONLINE INFO) and 0.74 (ONLINE SHARING) mirrored Kelly et al.’s (2015) data and indicated good internal consistency.

Online Mental Health Information. The online mental health information presented to participants was selected from newharbinger.com (see excerpt in Appendix B), and contained a general article outlining the mental illness of depression (Korb, 2019). This webpage was selected because it discussed both depression and how depression presents itself in the brain through referencing neuroscience studies. Its

readability was also for those aged 17 years or older as indicated by its Flesch Kincaid score. The webpage discussed how depression contains biological factors, how it can be treated, how to reduce stigma of this mental illness, and different ways to help those living with depression. The author also appeared to be credible, as it was written by Dr. Alex Korb, who received his PhD in neuroscience at the University of California, Los Angeles, and is currently a professor there (Korb, 2019). A screenshot of the webpage was provided that participants viewed to evaluate and read the article. For different conditions, the webpage was manipulated to include the presence or absence of a neuroimage and/or an advertisement.

Neuroimage. The neuroimage (see Appendix C) selected for use in this study was from Schweitzer et al. (2013). This image was selected because it affected perceptions of information credibility in that study and is a realistic 3D image of the brain.

Advertisement. Because most advertisements on mental health websites are pharmaceutical (Monteith et al., 2013), an advertisement for Effexor XR (see Appendix D), an antidepressant, was chosen for this study ("Effexor [Venlafaxine]", n.d.). Since the information used in this study outlined the mental illness of depression, a medication for depression such as Effexor XR was deemed appropriate ("Effector [Venlafaxine]", n.d). The advertisement was manipulated to include the word "ADVERTISEMENT" above it, as well as two icons, the triangle and x, which are commonly seen in online advertisements in the top right corner (Cherney, 2017).

Dependent Measures. Three subscales from Kelly et al.'s (2015) E-Health Impact Questionnaire were modified to measure participants' perceptions of the validity and credibility of the presented mental health information (see Appendix E), specifically

confidence and identification with the website (CONFIDENCE), the website's information and presentation (PRESENTATION), and the participants' understanding and motivation after viewing the website (MOTIVATION). All three scales had items rated on a 6-point Likert scale, ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

Some examples of statements include "The website gave me more confidence to explain my mental health after viewing the website" (CONFIDENCE), "The language on the website made it easy to understand" (PRESENTATION), and lastly "The website encourages me to take actions in benefiting my mental health" (MOTIVATION; Kelly et al., 2015, pg. 1422). One statement from the original scale "The website is easy to use" was not included in the current study because participants did not interact with an actual website but, instead, viewed a screenshot of a website (Kelly et al., 2015). In the current study, all three subscales had good internal consistency, with Cronbach's alphas of 0.99 (CONFIDENCE), 0.98 (PRESENTATION), and 0.97 (MOTIVATION). These values were higher than reported by Kelly et al. (2015), who noted Cronbach's alphas of 0.92 (CONFIDENCE), 0.89 (PRESENTATION), and 0.90 (MOTIVATION). Higher scores on the subscales were interpreted as indicating a more positive view of the website's credibility and presentation as well as the participants' understanding and motivation after viewing the article.

Research Summary Questionnaire. Schweitzer et al. (2013) used six questions (see Appendix E) to evaluate the effects of a neuroimage on perceptions of a research summary. Those six questions included statements such as "I believe in the researcher's conclusions" and "I feel that the research described in the summary was 'scientific'" (Schweitzer et al., 2013, pg. 505). Each of Schweitzer et al.'s (2013) statements were

utilized in the current study with 6-point Likert scale responses, with anchors ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). These questions were included in the current research because they focused on the quality of the information, itself, rather than the components of the webpage. Good internal consistency was determined for this scale with a Cronbach's alpha of 0.89, which was the same value reported by Schweitzer et al. (2013) in their study among adults from a sample collected via Amazon Mechanical Turk.

Manipulation Check. At the end of the experiment, participants were asked the questions "Did you see an image of the brain?" and "Did you see an advertisement?" to judge their awareness of the experimental condition to which they had been assigned. The options to select "Yes", "No", or "I Don't Remember".

Procedure

Participants were recruited via the CWU SONA system's online research participation board and through sharing via Facebook. Participation occurred online via Qualtrics. After consenting to participate and confirming that they were 18 years of age or older, participants were presented with demographic questions followed by the two covariate measures of ONLINE INFO and ONLINE SHARING in counterbalanced order. Qualtrics, then, pseudo-randomly assigned participants to one of four conditions for the combinations of neuroimage (present/absent) and advertisement (present/absent). In each condition, participants viewed the webpage article on depression before being presented with the CONFIDENCE, PRESENTATION, and MOTIVATION subscales as well as the Research Summary Questionnaire in counterbalanced order via Qualtrics.

After completing the dependent measures, participants responded to the manipulation check and were presented with a debriefing statement.

Statistical Analysis

Each participant provided the following information: 1) Demographic information on age, gender identity, hours spent online daily, where they heard of the study, whether or not they were seeking treatment for depression, whether or not they were currently experiencing symptoms of depression, whether or not they had received treatment for depression in the past, and whether or not they had experienced symptoms of depression in the past; 2) the mean of five items measuring perceptions toward using the internet for mental health information (ONLINE INFO); 3) the mean of six items measuring attitudes toward sharing mental health experiences online (ONLINE SHARING); 4) mean ratings of nine items on the confidence in and identification with the website (CONFIDENCE); 5) mean ratings for seven items measuring the website's information and presentation (PRESENTATION); 6) mean ratings of nine items on the participant's understanding and motivation after reading the article (MOTIVATION); 7) the mean of six items measuring their perception of the validity of the research assessed by the Research Summary Questionnaire; and 8) responses to the manipulation check.

Four separate 2 (Neuroimage: Present, Absent) x 2 (Advertisement: Present, Absent) factorial between-subject analyses of covariance (ANCOVAs) were performed in the statistical software, Statistical Package for Social Sciences (SPSS), to assess the main effects and interaction of the presence of an advertisement and a neuroimage on CONFIDENCE, PRESENTATION, MOTIVATION, and the Research Summary Questionnaire scores. ONLINE INFO, ONLINE SHARING, hours spent online daily,

and the presence of current symptoms of depression were included as covariates. The presence of current symptoms of depression was selected as a covariate because it was assumed that, out of the four depression questions, this would have the most influence on participant responses. Overall, it was hypothesized that the absence of an advertisement and the presence of a neuroimage would, individually, enhance scores on each of the dependent measures, indicating increased perceived credibility and validity of the website and the article; however, it was unclear to what extent covariates might influence the dependent measures.

CHAPTER IV

RESULTS

A total of 224 participants completed the experiment. Mahalanobis distance was used to identify multivariate outliers, resulting in the removal of four outliers from data analysis and leaving a total of 220 participants. Because not all participants completed all items, degrees of freedom (*df*) vary across the analyses. Pearson's *r* analyses were conducted between each of the covariates and dependent measures to examine correlational relationships; these are displayed in Table 2. Data were examined to ensure that requirements for all relevant assumptions were met. Scatterplot matrixes were visually examined to determine the absence of curvilinearity, and Levene's tests were conducted to ensure homogeneity of variance. ONLINE INFO, ONLINE SHARING, hours spent online daily, and the presence of current symptoms of depression were included as covariates in each 2 (Neuroimage; Present, Absent) x 2 (Advertisement; Present, Absent) ANCOVAs for the dependent measures of CONFIDENCE, PRESENTATION, MOTIVATION, and Research Summary Questionnaire scores. Except for ONLINE INFO, each covariate was significant for at least one of the dependent measures. There were no significant main effects of advertisement found on any of the dependent measures, nor were there any significant interactions between neuroimage and advertisement.

Correlational Analyses

Among the covariate measures, only ONLINE INFO and ONLINE SHARING were positively correlated, $r(220) = .32$, $p < .01$. CONFIDENCE scores reflected how confident participants were regarding their own mental health management after reading

Table 2

Descriptive and Correlational Statistics for Covariates and Dependent Measures (n = 207-220)

	M	*SD*	1	2	3	4	5	6	7
1. Hours spent online daily	5.5	2.3	--						
2. Current Symptoms of Depression			-.07	--					
3. ONLINE INFO	3.8	0.9	.02	-.01	--				
4. ONLINE SHARING	4.5	0.6	.01	-.05	.32**	--			
5. CONFIDENCE	3.8	1.0	.12	-.08	.13	.28**	--		
6. PRESENTATION	4.4	0.9	.14*	-.08	.15*	.30**	.98**	--	
7. MOTIVATION	4.2	0.9	.13	-.24**	.19**	.33**	.68**	.66**	--
8. Research Summary Questionnaire	4.5	0.7	.01	-.01	.16*	.18**	.14*	.13*	.17*

Note: Correlation is significant at the *0.05 level (2-tailed), **0.01 level (2-tailed).

the article, and how well they were able to identify with the website. As presented in Table 2, CONFIDENCE was only correlated with ONLINE SHARING, $r(220) = .28$, $p < .01$. PRESENTATION was positively corrected with hours spent online daily, ONLINE INFO, ONLINE SHARING, and CONFIDENCE, rs(218-220) > .14, ps < 0.05. MOTIVATION measured, in part, participants' motivation to act on their own mental health after reading the article and was negatively correlated with current symptoms of depression, $r(207) = -0.24$, $p < .01$, such that participants who indicated they had symptoms of depression (*Yes* = 0, *No* = 1) had higher ratings of their motivation to act on their own mental health after reading the article. MOTIVATION was also positively correlated with ONLINE INFO, ONLINE SHARING, CONFIDENCE, and

PRESENTATION, *r*s(220) > .19, *p*s < 0.01. Lastly, Research Summary Questionnaire scores were positively correlated with ONLINE INFO, ONLINE SHARING, CONFIDENCE, PRESENTATION, and MOTIVATION, *r*s(220) > .13, *p*s < 0.05.

ANCOVAs

Four separate 2 (Neuroimage: Present, Absent) x 2 (Advertisement: Present, Absent) ANCOVAs were conducted for measures of CONFIDENCE, PRESENTATION, MOTIVATION, and Research Summary Questionnaire scores. Main effects of neuroimage were observed for CONFIDENCE, $F(1, 204) = 5.29$, $p < .05$, $\eta^2 = .03$, and PRESENTATION, $F(1, 204) = 5.80$, $p < .05$, $\eta^2 = .03$. Analyses of both CONFIDENCE and PRESENTATION measures also revealed significant covariates of ONLINE SHARING, $F(3, 202) = 11.79$, $p < .01$, $\eta^2 = .06$, and, $F(3, 202) = 14.70$, $p < .01$, $\eta^2 = .07$, as well as hours spent online daily, $F(3, 202) = 4.45$, $p < .05$, $\eta^2 = .02$, and, $F(3, 202) = 6.43$, $p < .05$, $\eta^2 = .03$, respectively. Neither ONLINE INFO nor current depression symptoms were significant covariates for CONFIDENCE or PRESENTATION. Contrary to expectations, CONFIDENCE was higher in the absence of the neuroimage ($M_{adj} = 3.9$, $SD = 0.9$) than in its presence ($M_{adj} = 3.6$, $SD = 1.0$) as was PRESENTATION ($M_{adj} = 4.5$ and 4.2, $SD = 0.8$ and 1.0, respectively for neuroimage absence and presence).

ANCOVAs for MOTIVATION and the Research Summary Questionnaire scores revealed no significant main effects or interactions of neuroimage or advertisement. For both MOTIVATION and the Research Summary Questionnaire scores, ONLINE SHARING was a significant covariate, $F(3, 202) = 19.22$, $p < .01$, $\eta^2 = .09$, and, $F(3, 202) = 4.54$, $p < .05$, $\eta^2 = .02$, respectively. Current depression symptoms was also a significant covariate for MOTIVATION, $F(3, 202) = 8.67$, $p < .01$, $\eta^2 = .04$, but not for

the Research Summary Questionnaire scores. As noted, participants who indicated they had symptoms of depression (*Yes* = 0, *No* = 1) had higher ratings of their motivation to act on their own mental health after reading the article. ONLINE INFO and hours spent online daily were not significant covariates for either MOTIVATION or the Research Summary Questionnaire scores.

Manipulation Checks

For the manipulation checks, approximately half of participants correctly selected their neuroimage condition, 112 (50.9%), or their advertisement condition, 109 (49.6%). For the neuroimage conditions, 40 (18.2%) participants selected an incorrect response on the manipulation check while 68 (30.9%) indicated they could not remember. For the advertisement conditions, 59 (26.8%) participants selected an incorrect response on the manipulation check while 52 (23.6%) indicated that they did not remember.

CHAPTER V

DISCUSSION

The current study examined the impact of the presence of a neuroimage and an advertisement on the perceptions of a website article on depression. In general, self-report measures of different elements of the webpage and article were positively correlated with one another, indicating that participant identification with the website and confidence in their own mental health after viewing the article (i.e., CONFIDENCE), their perceptions of the website's information and presentation (i.e., PRESENTATION), their own understanding and motivation after reading the article (i.e., MOTIVATION), and their assessment of the article's information and its quality (i.e., Research Summary Questionnaire scores) were associated with one another.

Contrary to the proposed hypotheses, the advertisement had no effect on any of the perceptions of the website or article while the neuroimage decreased measures of identification with the website and confidence in each participant's own mental health after viewing the article as well as perceptions of the website's information and presentation compared to the neuroimage's absence. Several participant variables influenced perceptions of the website and the article, with attitudes toward sharing mental health experiences online (i.e., ONLINE SHARING) and the average amount of time spent online daily both influencing identification with the website and confidence in their own mental health as well as perceptions of the website's information and presentation. Attitudes toward sharing mental health experiences online influenced understanding and motivation scores after reading the article as well as assessment of the article's information and quality. Lastly, current depression symptoms influenced understanding

and motivation scores, with those experiencing symptoms having higher motivation to act on their own mental health after reading the article.

Overall, participants in the study reported a high average time spent online daily (i.e., 5.5 hr). This finding is consistent with research on university students indicating that smartphones and social media use has resulted in a population that is permanently online and permanently connected (Vorderer et al., 2016). Forty percent (i.e., 40.5%) of participants reported experiencing current symptoms of depression with only half of those individuals (i.e., 23.7%) indicating that they were receiving treatment for their depression. Significantly, 71.4% of participants reported past symptoms of depression while 40.3% indicated they had previously sought treatment for depression. The rates of depression in university students have shown wide variability across studies with prevalence rates ranging from 10 to 85% (Ibrahim et al., 2013). Furthermore, the disparity between the prevalence of depressive symptoms and the utilization of treatment found in the current study are consistent with prior reports that, in an ethnoracially diverse college student sample, 71% of participants with high levels of depressive symptoms had not received mental health treatment in the previous 12 months (Herman et al., 2011).

Lack of Neuroimage and Advertisement Effects

Contrary to prior findings (Schweitzer et al., 2013) and my hypothesis, participants in the current study had higher confidence in and identification with the website as well as rating it higher on appearance and visual factors, when the website did not contain a neuroimage compared to when a neuroimage was present. Schweitzer et al. (2013) found that participants preferred neuroscientific information when it was

presented with a brain image, rating it as more credible on the Research Summary Questionnaire. In the current study, the presence of the same neuroimage that was used by Schweitzer et al. (2013) did not influence Research Summary Questionnaire scores assessing the article's information and its quality. Schweitzer et al. (2013) did not employ the measures of confidence and presentation ratings used in the current study, thus limiting further direct comparisons. One potential reason for the disparity in findings between studies may be that the article used in the current study was focused on the mental health of depression and students may not connect changes in the brain to mental health issues; a possibility that requires further investigation. If this is the case, the reaction of participants to a seemingly unrelated neuroimage was to more negatively judge the website, suggesting that respondents do use strategies to critically evaluate online mental health information.

Also contrary to the proposed hypotheses, the presence or absence of advertisements of depression medication had no effect on ratings of the website or the article's information and quality. Previous research has demonstrated that people are more critical of a website if it contains an underlying commercial motive (Klawitter & Hargittai, 2018; Fogg et al., 2001; Fogg et al., 2003). In part, disparities among studies may be because of the limited number of advertisements (i.e., one) in the current experiment or because the advertisement was relevant to the website article itself. Internet users may be inured to the presence of advertisements given the search optimization of Google, which prioritizes targeted advertising versus credible knowledge, making websites with commercial motives more common (Monteith et al., 2013). Given that the presence of one advertisement had no effect on any of the measures in the current

study, it may be that internet users have developed strategies to ignore a limited number of advertisements. However, further research may seek to better resolve the variables that influence the impact of advertisements on website evaluation and credibility.

Attitudes Toward Online Information and Sharing

The ONLINE INFO scale measured participants attitudes toward online mental health information (Kelly et al., 2015). In the current study, participant attitudes toward online mental health information did not influence any of the perceptual ratings of the website, the participants' responses to the website, or their assessment of the article's information and its quality. Attitudes toward online mental health information were associated with willingness to share mental health experiences online, mirroring Kelly et al.'s (2015) conclusion that "a person's orientation to online information may therefore influence the extent to which a person engages with a website" (p. 1423). As noted previously, the scales used in this study were modified from Kelly et al. (2015) in order to focus on mental health information and Kelly transformed his scale metrics, limiting direct comparisons between samples. In the current study, the average ratings of participants' willingness to share mental health experiences online were higher than their attitudes toward online mental health information in general, suggesting that university students for whom social media use is common (Vorderer et al., 2016) may be comfortable sharing about their mental health online. Such comfort in sharing information online may aid students in overcoming higher levels of self-stigma and discomfort toward online counseling compared to face-to-face counseling (Bird et al., 2020).

In the current study, attitudes toward sharing mental health experiences online influenced all the ratings of the website and article, with more willingness to share online associated with better perceptual ratings and participant responses to the website as well as higher ratings of the article's information and its quality. This finding aligns with previous literature suggesting that younger people value sharing health experiences online (Fergie et al., 2015) and, significantly, an online sense of community and the knowledge that others are experiencing similar situations may help break down the stigma surrounding mental health (Burns et al., 2009). This is the first study to show that improved attitudes to sharing mental health experiences online can influence perceptions of and responses to websites as well as ratings of website information and quality. As previously noted, Klawitter and Hargittai (2018) found that participants' rated websites as more credible when their expectations about the website were met or when the website aligned with their personal health experiences. It is unclear from the current data if willingness to share online is an element of participant expectations or alignment or if it is an additional heuristic that influences responses to websites.

Daily Online Use

Participants' self-reported average time spent online daily was associated with greater identification with the website and confidence in participants' own mental health as well as their ratings of the website's visual factors. Surprisingly, time online did not influence participants' understanding and motivation after viewing the article nor their assessment of the article's information and its quality. These results align with previous literature that reported that those who spend more time online have more experience using the internet and have created heuristics to evaluate the information they consume

(Klawitter & Hargittai, 2018). For example, Klawitter and Hargittai (2018) concluded that online medical information was evaluated for reputation, endorsement, consistency, viewer expectancy violation (e.g., participants expected credible medical information to be recent and academic in nature, as well as including medical terms and scientific names of conditions and procedures), and persuasive intent with the first three heuristics being based on website content and quality. These findings also indicate that viewers differentially evaluate website appearance and their identification with the website from their understanding and assessment of the information on the website.

Current Symptoms of Depression

Participants who indicated that they were currently experiencing symptoms of depression rated their motivation to act in their own mental health after reading the article significantly higher than their non-symptom counterparts. People currently experiencing mental distress are significantly more likely to search out information on mental health (Powell & Clarke, 2006). Furthermore, as noted by Crowe et al. (2018), people who seek online mental health information have higher mental health literacy, which in turn may decrease their self-stigma attitudes. Thus, participants in the current study who were experiencing symptoms of depression may have found hope and relief in the article's suggestions and information. These findings emphasize the positive impact that providing mental health information online in a non-stigmatizing form can have on at-risk individuals and suggest that outreach utilizing online resources may be helpful to patient populations, at least with regard to depression.

Limitations and Ideas for Future Research

One of the most pertinent limitation to this study is that there is currently no standardized scale for measuring participant attitudes toward online mental health information. Internal consistency measures of items in the scales I used were similar to those reported by Kelly et al. (2015), suggesting that the modifications I made to the items in order to focus on mental health did not alter the constructs underlying each subscale. Kelly et al. (2015) developed the scales using data from ~220 men and women who were over 18 years of age, and living in the U.K.; however, the scales were not validated with predictive or concurrent measures in that study. Thus, while the current experiment suggests that these scales are appropriate to use in university students in the U.S., future studies should evaluate the validity of these scales via differentiation by known groups or correlations with other behavioral or psychological measures or outcomes. This may be particularly important in order to determine whether the scales can be used in populations without experience navigating online information.

Another limitation of this study was the way in which the webpage was presented to participants. Because of technical requirements in presenting the webpage within a larger online format (i.e., Qualtrics), it was not possible to have participants access an interactive website. Instead, an image of the webpage was presented to participants. Although participants could expand the screenshot of the webpage, they were not able to interact with the article in the same way they would have with a real online website. Furthermore, the advertisement that was used in the study was very relevant to the article, but it appears that the neuroimage from Schweitzer et al. (2013) lacked significant contextual links to the article itself. Conscious awareness of the presence of the

neuroimage and advertisement appear to have been lower than anticipated, with only half of the participants in each condition able to correctly indicate whether they had seen a neuroimage or advertisement. Future research could select a neuroimage more directly relevant to the article on display, perhaps displaying brain activity differences between those who have and those who do not depression. Enhancing the relevance of the neuroimage might be necessary in order for participants to note its presence which might then increase its impact on their ratings of the website and the information contained in the article.

Lastly, it is important to note that participants were not asked to specify how they spent their time online. Internet users who predominantly use the internet for educational purposes rather than for entertainment purposes may employ different strategies or combinations of skills to critically evaluate online information (Klawitter & Hargittai, 2018). Future studies could ask participants to estimate their internet use for educational, work-related, entertainment, or social media activities in order to assess if differences exist across groups. Furthermore, this study's data were collected prior to the influence of COVID-19; the effects of the pandemic may have drastically changed online activities especially because many schools and workplaces transitioned to online work environments. These shifts likely resulted in people spending more time online and raises the possibility that some of those individuals developed new or different critical consumption strategies which could be examined via replication of this experiment.

Applications and Conclusions

Contrary to expectations, participants' ability to identify with a website and the website's appearance were rated more highly in the absence of a neuroimage than in its

presence. Furthermore, an advertisement for depression medication had no effects on participants' ratings of their perceptions of or attitudes toward the website or the information presented. Perceptions on sharing mental health experiences online, daily time spent online, and currently experiencing symptoms of depression all influenced perceptions of online mental health information in distinct ways. These findings demonstrate that investigations of the perception of online information is not only complex, but that there is a need for more research on how visual factors affect people's perceptions of online mental health information. For a generation permanently online and permanently connected (Vorderer et al., 2016), the ability to effectively evaluate online mental health information is an essential skill that may have widespread personal and societal impacts.

Participants in this study and others were willing to share mental health experiences online and were comfortable finding mental health information online (Fergie et al., 2015; Kelly et al., 2015; Monteith et al., 2013; Powell & Clarke, 2006). The willingness to share mental health experiences may aid in decreasing the stigma associated with mental health problems and improve treatment-seeking behaviors (Burns et al., 2009; Crowe et al., 2018). With the emerging field of telehealth, it may be important to train emerging health professionals on the value of teaching their patients strong online evaluation strategies so that those patients can access and understand their own mental health. In addition, the creation of an online interactive program like *Reach Out* in the United States with an added online therapy component could emphasize the importance of sharing mental health experiences and finding community, while also providing treatment information (Burns et al. 2009).

Lastly, studies have shown that improving mental health literacy can aid in reducing stigma against mental disorders (Burns et al., 2009; Crowe et al., 2018). Therefore, it becomes essential that researchers acknowledge their own responsibility to make their research accessible to the public and to disseminate their research findings in a way that is practical, applicable, and understandable. Creating such a balance is important to facilitate the ability of the general public to consume research findings both responsibly and critically. Studying how people critically evaluate the online mental health information that they consume is a significant and integral step in ensuring that, when researchers do disseminate information, website factors are both conducive to decreasing people's stigma toward mental health issues and to stopping the spread of misinformation.

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Appendix A

Covariate Measures Adapted from Kelly et al. (2015)

The following two scales were presented in counterbalanced order. Participant instructions were "Please select the level of which you agree or disagree with each of the following statements." Responses options ranged from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*).

Attitudes toward online mental health information (ONLINE INFO)
1) I would use the internet if I needed help to make a decision about my mental health
2) The internet can help people decide if their symptoms warrant a visit to a mental health specialist
3) I would use the internet to check that the mental health specialist is giving me appropriate advice
4) The internet can help the public know what it is like to live with a mental health problem.
5) The internet is a reliable resource to help me understand what a mental health specialist tells me.

Attitudes toward sharing mental health experiences online (ONLINE SHARING)
1) The internet is a good way of finding other people who are experiencing similar mental health problems.
2) Viewing other people's mental health related experiences online is helpful.
3) The internet is a good way of finding other people who are facing mental health-related decisions I may also face.
4) By viewing mental health websites, I am reassured that I am not alone with my mental health concerns.
5) The internet is useful if you don't want to tell people how you feel.
6) It is reassuring to know that I can access mental health-related websites at any time of the day or night.

Appendix B

Excerpt of Webpage Article from Korb (2019)

Why Is It Important to Understand the Neuroscience of Depression?

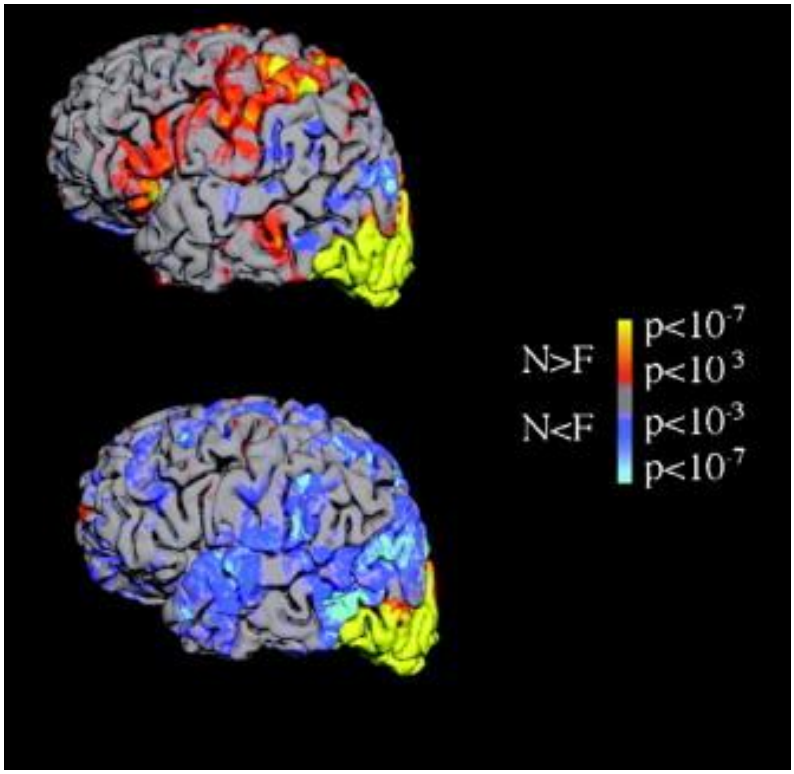
When I first started writing a book about the neuroscience of depression, my editor asked me why I spent so much time explaining how the brain works. She emphasized that most people didn't want to understand the science; they just wanted to know what to do to feel better. Well it turns out that in depression, you can't always do something to feel better at every moment. Yet simply understanding the neurobiological basis of what's happening can in fact be a very powerful force in overcoming depression.

Many people with depression blame themselves, or feel a stigma about being depressed. But that shouldn't be the case. Depression is a disorder rooted in biology—and you can't really be blamed for your biology. Helping people understand the truth about how their brain works can reduce self-blame as well as stigma, and you can be the one to teach them.

The connection with depression and the brain is a nuanced story. First, in trying to convince people that depression is a biological condition, you may be unwittingly working against yourself. Because once people understand that it's biological, they think that it won't change...

Appendix C

Neuroimage from Schweitzer et al. (2013)



Appendix D

Advertisement for Effexor XR ("Effexor [Venlafaxine]", n.d.)

Appendix E

Dependent Measures

The following four scales were presented in counterbalanced order. Participant instructions were "Please select the level of which you agree or disagree with each of the following statements." Responses options ranged from 1 (*Strongly Disagree*) to 6 (*Strongly Agree*).

Confidence and identification (CONFIDENCE)
1) I feel I have a sense of solidarity with other people using the website.
2) I can identify with other people using the website.
3) I feel I have a lot in common with other people using the website.
4) The website gave me more confidence to explain my mental health concerns to others.
5) I am confident that I can manage my mental health after viewing the website.
6) The website made me more confident to discuss my mental health with other people.
7) I value the advice given on the website.
8) Contributors to the website understand what is important to me.
9) The website prepared me for what might happen to my mental health.

Information and presentation (PRESENTATION)
1) The language on the website made it easy to understand.
2) I can easily understand the information on the website.
3) I trust the information on the website.
4) The information on the website left me feeling confused.
5) The website provides a wide range of information.
6) Photographs and other images were used appropriately on the website.
7) I found the images on the website distressing.

Understanding and Motivation (MOTIVATION)
1) The website encourages me to take actions in benefitting my mental health.
2) The website includes useful tips on how to make life better.
3) The website encourages me to play a more active role in my mental health.
4) The website helps me to have a better understanding of my mental health.
5) I feel more inclined to look after myself after viewing the website.
6) I learned from the website.
7) In general, I find the website reassuring.
8) The website has a positive outlook.
9) I would consult the website to make a decision about my mental health.

Research Summary Questionnaire (Schweitzer et al., 2013)
1) I understood this summary
2) I feel the researchers described in the summary did a good job.
3) I feel the scientific reasoning in the summary made sense.
4) I believe the researchers' findings.
5) I feel that the research described in the summary was "scientific".
6) I agree with the researchers' conclusions.