To find out if the attitudes of individuals differ between Schizophrenia and Depression due to the influence of news media

Charlotte Huggett
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**ABSTRACT**

This study investigated the influence of news media on consumers’ attitudes toward people with a psychiatric diagnosis, whether they differed between Schizophrenia and Depression, and if they were influenced by demographic factors. One hundred and eight participants (N=108) completed two online questionnaires, one on Schizophrenia (n=54) and one on Depression (n=54). Both questionnaires used Corrigan’s (2000), Martin, Pescosolido and Tuch’s (2000), and Posey’s (2009) adaption of Day, Edgren and Eshleman’s (2007) scales, and were divided into two parts; pre-intervention and post-intervention. The interventions consisted of two online news reports, one concerning Schizophrenia, the other Depression. There was a significant difference (p<.001) between pre-intervention and post-intervention Attitude and Social Willingness Scale (ASWS) scores. There were also significant differences in attitudes between Schizophrenia and Depression in terms of ASWS and Social Attribution scores (p<.01 and p<.05 respectively). These results indicate that the news media is very influential regarding attitudes towards Schizophrenia and Depression. In addition, there was a significant interaction effect (p<.05) between intervention and first-hand experience on ASWS scores. This indicated that the attitudes of individuals with first-hand experience with mental disorders are less likely to be influenced by news media, than individuals without first-hand experience.

**KEY WORDS:** ATTITUDES, SCHIZOPHRENIA, DEPRESSION, NEWS MEDIA INFLUENCE, FIRST-HAND EXPERIENCE
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Introduction

Social stigmas often surround mental disorders, which in turn can lead to prejudice and discrimination. Consequently, individuals with mental disorders find it more difficult to find ‘good jobs, safe housing, satisfactory healthcare, and affiliation with a diverse group of people’ (Corrigan & Watson, 2002, p.16). The media often portray people with mental disorders in a negative way which enhances social stigma, for instance, highlighting their behaviour as dangerous and violent, (Cutcliffe & Hannigan, 2001; Diefenbach, 1997) thus promoting the public’s negative attitude towards them (Angermeyer & Schulze, 2001).

According to Ball-Rokeach and DeFleur (1976) individuals can become dependent on the media to gain access to information and form attitudes. However, the less dependent individuals are on the media, the less likely they will be influenced by their messages. Consequently, this suggests that individuals' are conscious of the information that forms their attitudes as they openly seek or avoid it. In addition, there are many theories as to why and how media consumers change their attitudes. The Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986) suggests that individuals will take one of two routes whilst experiencing attitude change and making decisions about an object or situation (see appendix 1). The first is the peripheral route, whereby the individual does not pay attention to the message being conveyed and is temporarily persuaded by the surface characteristics displayed in the medium. The second is the central route, whereby the individual’s attention is focused on the media message and their attitude is permanently changed.

The ELM has been criticised by researchers as being an inaccurate model of persuasion (Hamilton, Hunter & Boster, 1993). Hamilton, Hunter and Boster (1993) described the temporary attitude change within the peripheral route, as an ‘oxymoron’, this is because ‘attitudes have been traditionally defined as a trait’, not a state (p.60). In contrast, there have been several applications of the ELM to mundane situations. Flynn et al. (2011) found that ‘non-smoking students who were at high risk of taking up smoking’ gave high ratings for measures of ‘active cognitive processing for’ factual messages (p.985). This demonstrates the central route for the ELM. In addition, Bhattacherjee and Sanford (2006) were able to validate the ELM by influencing workers to accept new forms of information technology using the central and peripheral routes. Therefore, despite the criticism the ELM has received, it has high ecological validity.

Researchers have suggested that the media has a high influence over the public’s attitude towards individuals who have been diagnosed with a mental disorder. The media tend to present negative images of people with mental disorders (Signoreilli, 1989; Wahl, 2003a; Williams & Taylor, 1995), which influences the public’s negative attitude toward individuals with mental disorders (Sieff, 2003). Many individuals have claimed that their key source of information about people with mental disorders is the media (Diefenbach, 1997; Philo et al., 1994; Wolff et al., 1996). This therefore suggests that if the media portrays people with mental illness negatively, then members of the public will absorb these images, perceiving them as reality.
News media has the power to provide information to a large portion of the public on a daily basis. Although the news media does not always consider the negative effect they have on the public, Wahl (2003b) found that the most common theme in reports about mental disorders is dangerousness. Furthermore, news reports tend to emphasise a link between violence, crime and mental disorders (Philo et al., 1994; Wahl, 2003b). Angermeyer and Schulze (2001) found that, after reading newspaper articles that portray individuals with a psychiatric diagnosis as violent and dangerous, participants embraced negative these stereotypes. Researchers have also found that electronic sources of news media seem to have a larger impact on participants’ attitudes of individuals who have a psychiatric diagnosis, than print sources of news media (Granello, Pauley & Carmichael, 1999).

Subsequent studies have shown there are differences in attitude towards people with different mental disorders. A lot of these differences are due to misrepresentations by the media. In particular, people with Schizophrenia, tend to be portrayed as violent, dangerous and homicidal by the media (Nawka et al., 2012; Wehring & Carpenter, 2011). There is an element of truth among what is reported as individuals with a diagnosis of Schizophrenia are at risk of behaving violently. Experiencing persecutory Delusions (Bjørkly, 2002) and Hallucinations (Fresán et al., 2005) contribute to the risk of violent behaviour. However, only a minute proportion of people diagnosed with Schizophrenia behave violently (Angermeyer, 2000; Walsh, Buchanan, & Fahy, 2002). The remainder are more likely to be targets of persecution themselves (Wehring & Carpenter, 2011). On the other hand, Depression seems to be reported in terms of causes and the biochemical model, rather than violent reports in the media (Clarke, 2009; Clarke & Gawley, 2009). In addition, findings have suggested that symptoms of depression are not associated with aggressive behaviour, such as bullying (Roland, 2002). Angermeyer and Matschinger (2003) found that the label of Schizophrenia arouses fear in individuals, whereas the label of Depression does not. This could be due to the label of Schizophrenia being more negatively represented in the media, than Depression.

Researchers have recently examined the effects of an individual’s diagnosis of a mental disorder, on the willingness of the public to interact with that individual (Martin, Pescosolido, & Tuch, 2000). Angermeyer, Matschinger and Corrigan (2004) suggested that ‘perceived dangerousness and social distance’ were strongly correlated (p.175). Moreover, the induced fear of individuals diagnosed with a mental disorder behaving violently, increases the desire for social distance (Link et al., 1999). Researchers have paid particular attention to the social distance attitudes towards Schizophrenia and Depression. Dangerousness and fear are contributing factors to the differing social distance attitudes towards the two mental disorders. It was found that individuals felt a greater need for social distance from people diagnosed with Schizophrenia, than Depression (Nordt, Rössler, & Lauber, 2006; Posey, 2009).

The attribution theory has been applied to the stigmatisation of mental disorders (Weiner, 1986). Individuals form assumptions regarding the causes of mental disorders, to seek the origin of the stigma surrounding them (Schwarzer & Weiner, 1991). Schwarzer and Weiner (1991) found that either anger or pity will be directed at individuals with a psychiatric diagnosis, dependent upon the perceived
controllability of the onset of the mental disorder, and this will affect the support the individual receives. On the other hand, Corrigan (2000) stated that a relationship has not been established between ‘attitudes about dangerousness and ineffective self-care’, and ‘emotional reactions and behavioural responses’ (p.57). This suggests that the notion is not ecologically valid and is difficult to generalise. However, Angermeyer and Matschinger (2003) found that individuals attributed a diagnosis of Schizophrenia as more dangerous and aggressive than a diagnosis of Depression. These attributes were associated with feelings of increased fear towards individuals diagnosed with Schizophrenia. Therefore, not only did the researchers establish a relationship between attributions and emotional reactions, they increased the validity of the original notion.

There are contradicting results concerning gender effects on attitudes toward individuals who have a psychiatric diagnosis. On the one hand, research suggests that females have significantly more positive attitudes towards mental disorders than males (Angermeyer & Matschinger, 2003; Angermeyer, Matschinger & Holzinger, 1998; Madianos, et al., 1999; Munro & Baker, 2007). On the other, there is a large body of research that has not found gender differences in attitudes towards individuals who are diagnosed with a mental disorder (Addison & Thorpe, 2004; Angermeyer & Dietrich, 2006; Martin, Pescosolido, & Tuch, 2000; Nordt, Rössler, & Lauber, 2006). These inconsistencies in findings indicate that the research into gender differences in this area is low in external reliability, and therefore implies that the effect of gender on attitudes toward mental disorders needs to be explored further.

One factor that potentially affects attitudes towards individuals diagnosed with a mental disorder is first-hand experience. Researchers have found that if individuals have personal experience with people who have a psychiatric diagnosis they will have a more positive attitude towards them (Day, Edgren & Eshleman, 2007; Angermeyer & Matschinger, 1996), be more likely to associate socially with them (Jorm & Oh, 2009), and will then disregard negative messages conveyed by the media (Philo et al., 1994). In contrast, unqualified nurses with experience working with people who have mental disorders seem to have a more pessimistic attitude towards them than qualified nurses (Munro & Baker, 2007) and the public (Caldwell & Jorm, 2001). This could be because unqualified nurses might work with such individuals whilst their psychiatric symptoms are most prominent and they are in need of crisis intervention (Munro & Baker, 2007). Therefore negative experiences could also lead to negative attitudes.

The final factor that could influence attitudes towards individuals with a psychiatric diagnosis is knowledge. Thornton and Wahl (1996) suggested that factual knowledge about mental disorders ensures a positive attitude towards individuals with a psychiatric diagnosis. The opposite can also be assumed for non-factual news media. These findings are supported by researchers with consistent results (Corrigan et al., 2004; Lauber et al., 2003). Contrastingly, Nordt, Rössler and Lauber (2006) found that there were no differences between the way mental health professionals and the public stereotype individuals with a psychiatric diagnosis, therefore, suggesting that knowledge about mental disorders does not affect
attitudes towards those individuals. The results are very inconsistent, which suggests that this notion needs to be investigated further.

This investigation was based on Posey’s (2009) research, who found that individual’s attitudes towards those diagnosed with a mental disorder varied depending on the disorder. The most negativity was aimed at people who have a diagnosis of Schizophrenia. Furthermore, first-hand experience with an individual diagnosed with a mental disorder influences positive attitudes towards them. However, gender differences in attitude scores were not found. The current study aimed to explore and expand on research into how influential the news media is on consumers’ attitudes toward people with a psychiatric diagnosis, and if their attitudes differ between Schizophrenia and Depression. Specifically the investigation was designed to evaluate the intervention of news media, rather than video footage of an interview, to determine whether the results would be replicated using a different form of medium. In addition, demographic factors were considered. The hypotheses for the present study are listed below:

Hypothesis 1: There will be an interaction effect of diagnosis, (Schizophrenia and Depression) first-hand experience, (with and without) and intervention (pre-test and post-test) on attitude scores.

Hypothesis 2: There will be an interaction effect of gender (female and male) and intervention (pre-test and post-test) on attitude scores.

Hypothesis 3: There will be a significant positive correlation between attitude scores and extent of knowledge that participants report they have about mental disorders.

Hypothesis 4: There will be a significant difference between pre-test and post-test attitude scores, indicating news media influence.

Hypothesis 5: There will be a significant difference between Schizophrenia and Depression in social distance attitude scores.

Hypothesis 6: There will be a significant difference between Schizophrenia and Depression in social attribution attitude scores.

**Method**

**Design**

The current study alters and expands Posey’s (2009) research into attitudes towards mental disorders. To assess the aims, a 2 (diagnosis) x 2 (first-hand experience with individuals who are diagnosed with a mental disorder) x 2 (gender) x 2 (intervention) mixed factorial design using online self-report questionnaires was used. Diagnosis, (Schizophrenia and Depression) first-hand experience (with and without) and gender (female and male) were part of a between subjects design with two levels each. Intervention followed a within subjects design, which also had two levels (pre-test
and post-test attitude scores). The independent variables were intervention, diagnosis, gender, first-hand experience, and the extent of knowledge that participants report they have about mental disorders. The dependent variables were the attitude, social distance and social attribution scores obtained on three scales which are discussed in the ‘materials and procedures’ section. Research has found that the answers given in self-report questionnaires on the internet are consistent with traditional methods, for instance, paper and pencil (Carlbring et al., 2007; Gosling et al., 2004; Luce et al., 2007). For this reason, the ease of access, and higher response rate of participants (Klassen & Jacobs, 2001), the current study was conducted using internet based questionnaires.

Participants

One hundred and thirty-seven (N=137) participants were selected opportunistically from the Midlands and Lancashire. Twenty-nine participants failed to complete the questionnaire and were therefore excluded from the research and data analysis. Thus, the total sample size was one hundred and eight (N=108) participants. All participants were over the age of 18 and from a range of different social backgrounds. They were contacted via e-mail and various social networking sites, for instance, Facebook and were randomly allocated into their groups according to the diagnosis of the individual in the online news report they were to read; Schizophrenia (n=54) and Depression (n=54).

Materials and procedure

The consent form and questionnaires were uploaded onto a survey website (see appendix 9) to promote easier access for participants and the researcher. The website links to the questionnaires were distributed through social networking sites and e-mail (see appendix 10). A message accompanied the links which informed the participants briefly of what the research was about and approximately the length of time it would take to fill out. Two identical questionnaires (save for the specific diagnosis, either Schizophrenia or Depression) were developed, and used the same items and scales for each. A news report, concerning the relevant diagnosis was also attached to the questionnaire.

After being directed to the questionnaire via one of the website addresses, the participants read the consent form and gave their informed consent to take part in the research (see appendix 3). They then answered twenty-five items in the first part of the questionnaire (see appendix 4). Four items were demographic. They asked for ‘level of knowledge about mental disorders, first-hand experience with mental disorders’ (Posey, 2009, p.14), media portrayal of mental disorders, and if individuals feel they are influenced by the media. The remaining twenty-one items measured the perceptions of how an individual who is diagnosed with a mental disorder lives, for example ‘people with Schizophrenia tend to neglect their appearance’. This used the ‘Attitude and Social Willingness Scale (ASWS), which is based on Day, Edgren & Eshleman’s (2007) Mental Illness Stigma Scale’ (Posey, 2009, p.14).
The participants then read an online news report from the British Broadcasting Corporation (BBC) about either an individual with Schizophrenia (see appendix 5) or Depression (see appendix 6). The use of vignettes instead of news reports was taken into consideration, as they are not always accurate representations of the complexity of real-life processes (Haggerty et al., 2005; Van Straaten et al., 2008). However, many other studies into media influence on attitudes toward mental disorders, use some form of medium; print (Dietrich et al., 2006; Thornton & Wahl, 1996), broadcasted (Diefenbach & West, 2007), or internet-based (Seo & Kim, 2010).

In the second part of the questionnaire, there were thirty-two items (see appendix 7). Six items asked participants, to what extent they would distance themselves socially from the individual they have read about in the news report, for example, 'I would like to move next door to the person I just read about in the news report’. This is measured by the Social Distance Scale (SDS) where Cronbach’s alpha is .87, indicating that it is internally consistent (Martin, Pescosolido & Tuch, 2000). Five items measured the levels of danger associated with the mental health disorder that is portrayed in the news report, for instance, ‘the person I just read about in the news report could be dangerous’. This used Corrigan’s (2000) model of Social Attribution (SA; see appendix 2). For both the SDS and SA scales, the phrase ‘I just saw in the video’ within items was changed to, ‘I just read about in the news report’ to accommodate the different intervention technique. The remaining twenty-one items replicated the ASWS items from the first part of the questionnaire. The order of the items was not the same as the original study. The item arrangement was randomised in three different ways for each disorder using a random number generator (see appendix 8). The item randomisation was needed in order to assist in the reduction of order effects. Additionally, in order to control for response bias, items 1, 2, 5 (SDS), 8 (SA), 13, 14, 17, 20, and 22 (ASWS) were all reversed. A 4-point Likert scale was used throughout the questionnaire to measure the participants’ response. Responses ranged from ‘1’ which represented ‘strongly disagree’ to ‘4’ which represented ‘strongly agree’. The participants’ responses were added together for each scale. The lowest scores generated for each scale could have been 21 (ASWS), 6 (SDS), and 5 (SA). The highest scores generated for each scale were potentially 84 (ASWS), 24 (SDS), and 20 (SA). Lower scores on the scale indicate a positive response towards individuals with mental disorders, whereas high scores show negative responses.

Ethical considerations

The British Psychological Societies’ (2009) Code of Ethics and Conduct was taken into consideration before carrying out the research. Confidentiality was maintained throughout the research process (see appendices 19 and 20). The participants were made aware that their response to the online questionnaire would remain anonymous and unidentifiable. Unfortunately, participants did not have the right to withdraw their questionnaire past the submission stage. They were informed of this, and they still had the right to withdraw at any time, before they submitted the questionnaire. After this research report is submitted, all online questionnaire responses will be destroyed.
Appreciating that participants could potentially feel uneasy answering questions about people with Schizophrenia or Depression, questions were designed not to provoke distress in the participant, and the news reports were taken from the public domain, and so were likely to be encountered in everyday life. After reading a full explanation of what the questionnaire entailed, participants gave informed consent to the study.
Results

The data was analysed using IBM SPSS Statistics 19.0. Histograms and Q-Q plots were created to demonstrate the normal distribution of pre-test (see Figures 1 and 2) and post-test ASWS scores (see Figures 3 and 4), SDS scores (see Figures 5 and 6) and SA scores (see Figures 7 and 8).
The Q-Q plots in figures 2, 4, 6 and 8 demonstrate that the majority of scores are normally distributed, despite some scores deviating from a normal distribution at either the high end, low end or both ends. After establishing the data had a normal distribution, the majority of the data was analysed using parametric tests (Howell, 2010; Sheskin, 2004).
Social Distance and Social Attribution attitudes towards diagnoses of mental disorders

Two independent $t$-Tests were conducted (see appendix 11 and 12) in order to establish if there is a significant difference between groups, based on the individuals in the news reports being diagnosed with either Schizophrenia or Depression. Descriptive statistics are provided in Table 1 regarding the results of the independent $t$-Tests.

Table 1

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>SDS Scores</th>
<th>SA Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>19.29</td>
<td>3.44</td>
</tr>
<tr>
<td>Depression</td>
<td>18.43</td>
<td>3.56</td>
</tr>
</tbody>
</table>

SDS scores were only marginally more negative towards Schizophrenia ($M = 19.29$, $SD = 3.44$) than Depression ($M = 18.43$, $SD = 3.56$). The observed results are non-significant, $t(106) = 1.29$, $p > .05$. This shows that, participants could have experienced similar levels of negativity in social distance towards the individual in the news report, regardless of their diagnosis. The results contrast with hypothesis 5, thus the null hypothesis is not rejected, and the results are due to chance. The second test revealed that participants SA scores were only marginally more negative towards Schizophrenia ($M = 14.80$, $SD = 2.06$) than Depression ($M = 13.89$, $SD = 2.66$). However, there is a statistically significant difference between both of these conditions, $t(106) = 1.98$, $p < .05$. Negative attitudes slightly differed in social attribution towards the individual in the news report, depending on whether they were diagnosed with Schizophrenia or Depression. Therefore, the null hypothesis is rejected in favour of hypothesis 6.

News media influence on attitudes towards diagnoses of mental disorders

A paired $t$-Test was then conducted (see appendix 13) to assess whether the overall pre-test and post-test ASWS scores are significantly different. Descriptive statistics for the paired $t$-Test are presented in Table 2.
Table 2

Means and standard deviations for pre-test and post-test ASWS scores

<table>
<thead>
<tr>
<th>ASWS scores</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Pre-test</td>
<td>45.38</td>
<td>7.63</td>
</tr>
<tr>
<td>Post-test</td>
<td>48.14</td>
<td>8.66</td>
</tr>
</tbody>
</table>

Participants scored more negatively on the ASWS after reading the online news report \((M = 48.14, SD = 8.66)\) than before they read the online news report \((M = 45.38, SD = 7.63)\). There was a significant difference between the pre-test and post-test means, \(t(107) = 6.30, p < .001\). This supports research hypothesis 4, and suggests that the news report increased negative attitudes towards an individual diagnosed with either Schizophrenia or Depression.

Interaction effect of news media influence and gender on ASWS scores

Descriptive statistics for ASWS scores (pre-test and post-test), in relation to gender are presented in Table 3.

Table 3

Means and standard deviations for ASWS scores towards individuals who are diagnosed with a mental disorder in relation to gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>ASWS scores</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Male</td>
<td>45.84</td>
<td>1.09</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>45.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>48.16</td>
<td>1.24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>48.12</td>
<td>1.13</td>
<td></td>
</tr>
</tbody>
</table>

Gender
A 2 x 2 mixed Analysis of Variance (ANOVA) was applied to the data (see appendix 14), following previous research that has used it successfully (Kain et al., 2011; George & Uhlenbrock, 2010). There was an insignificant interaction effect between the two factors, ASWS scores and gender, $F(1,106) = .81, p > .05$. This suggests that whether a participant was male or female did not influence their ASWS scores. The observed result opposes hypothesis 2, therefore the null hypothesis is not rejected and the result is due to chance. As there was a non-significant interaction effect, the main effects are explored. There was a non-significant main effect of gender, $F(1,106) = .08, p > .05$. However, there was a significant main effect of ASWS score (pre-test and post-test), $F(1,106) = 38.29, p < .001$. Table 3 suggests that Males scored slightly more negative ASWS scores on both the pre-test ($M = 45.84, SD = 1.09$) and post-test ($M = 48.16, SD = 1.24$), compared to females pre-test ($M = 45.00, SD = 1.00$) and post-test ($M = 48.12, SD = 1.13$) ASWS scores. This suggests that there is a significant difference between pre-test and post-test ASWS, as demonstrated already by the paired $t$-Test.
Interaction effect of news media influence, diagnosis and first-hand experience on ASWS scores

Descriptive statistics for ASWS scores (pre-test and post-test), in relation to diagnosis and first-hand experience are provided in Table 4.

Table 4

Means and standard deviations for ASWS scores towards individuals who are diagnosed with Schizophrenia or Depression, and whether they have first-hand experience with individuals who are diagnosed with a mental disorder or not.

<table>
<thead>
<tr>
<th>Type of disorder in news report</th>
<th>First-hand experience with mental health</th>
<th>Pre-test</th>
<th></th>
<th></th>
<th>Post-test</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>With</td>
<td>45.32</td>
<td>1.33</td>
<td>47.97</td>
<td>1.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Without</td>
<td>49.44</td>
<td>1.54</td>
<td>53.91</td>
<td>1.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>With</td>
<td>43.75</td>
<td>1.31</td>
<td>44.97</td>
<td>1.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Without</td>
<td>43.59</td>
<td>1.57</td>
<td>46.96</td>
<td>1.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>With (Total)</td>
<td>44.52</td>
<td>8.12</td>
<td>46.44</td>
<td>8.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Without (Total)</td>
<td>46.58</td>
<td>6.78</td>
<td>50.51</td>
<td>8.37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A 2 x 2 x 2 mixed ANOVA was carried out using the data (see appendix 15), as it has been used successfully many times in the past by researchers with a similar design (Myer et al., 2006; Trostle, 1988). There was an insignificant interaction between the three factors; ASWS scores, type of disorder and first-hand experience, $F(1,104) = .03$, $p > .05$. The observed results do not support hypothesis 1, therefore the null hypothesis is not rejected and the results are due to chance. As there was a non-significant interaction effect, 2 x 2 interaction effects are explored. A significant two-way interaction effect was observed between ASWS scores and first-hand experience, $F(1,104) = 5.24$, $p < .05$. Table 4 demonstrates that in the pre-test, participants with first-hand experience with an individual who is diagnosed with a mental disorder ($M = 44.52$, $SD = 8.12$), have a more positive attitude towards said

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F value</th>
<th>Sig. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test and post-test</td>
<td>449.44</td>
<td>1</td>
<td>449.44</td>
<td>45.35</td>
<td>$p &lt; .001$</td>
</tr>
<tr>
<td>Disorder type</td>
<td>990.07</td>
<td>1</td>
<td>990.07</td>
<td>8.91</td>
<td>$p &lt; .01$</td>
</tr>
<tr>
<td>First-hand experience</td>
<td>463.24</td>
<td>1</td>
<td>463.24</td>
<td>4.17</td>
<td>$p &lt; .05$</td>
</tr>
<tr>
<td>Pre-test and post-test * Disorder type</td>
<td>21.18</td>
<td>1</td>
<td>21.18</td>
<td>2.14</td>
<td>$p &gt; .05$</td>
</tr>
<tr>
<td>Pre-test and post-test * First-hand experience</td>
<td>51.90</td>
<td>1</td>
<td>51.90</td>
<td>5.24</td>
<td>$p &lt; .05$</td>
</tr>
<tr>
<td>Disorder type * First-hand experience</td>
<td>222.20</td>
<td>1</td>
<td>222.20</td>
<td>2.00</td>
<td>$p &gt; .05$</td>
</tr>
<tr>
<td>Pre-test and post-test * Disorder type * First-hand experience</td>
<td>.32</td>
<td>1</td>
<td>.32</td>
<td>.03</td>
<td>$p &gt; .05$</td>
</tr>
<tr>
<td>Error</td>
<td>1030.70</td>
<td>104</td>
<td>9.91</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
individuals, than those without first-hand experience ($M = 46.58$, $SD = 6.78$). In addition, this was observed in the post-test condition. There were also larger differences in ASWS scores between participants with first-hand experience ($M = 46.44$, $SD = 8.52$) and those without first-hand experience ($M = 50.51$, $SD = 8.37$). The significant interaction between attitude and first-hand experience is demonstrated in Figure 9.

![Figure 9: Scatterplot showing the interaction between pre-test (1) and post-test (2) ASWS scores and first-hand experience.](image)

Figure 9 provides a clear representation of the significant interaction between attitude and first-hand experience. It shows that having no first-hand experience with an individual diagnosed with a mental disorder, contributes to negative attitudes. It also makes individuals more susceptible in being influenced by news reports that portray individuals diagnosed with a mental disorder negatively.

There was a non-significant interaction between type of mental disorder diagnosed and first-hand experience, $F(1,104) = 2$, $p > .05$. There was also a non-significant interaction between ASWS scores and type of mental disorder diagnosed, $F(1,104) = 2.14$, $p > .05$. As there were non-significant interactions involving the diagnosis of mental disorder, the main effect is examined. There was a significant main effect of mental disorder type, $F(1,104) = 8.91$, $p < .01$. This indicates that, the ASWS scores were considerably different between participants who filled out a questionnaire about individuals with a diagnosis of Schizophrenia and Depression.
Relationship between knowledge and ASWS scores

As one of the variables was ordinal data (knowledge about mental disorders), a non-parametric test was conducted. A Spearman’s rho test of correlation was carried out (see appendix 16) to investigate whether the rank order of knowledge about mental disorders is associated with ASWS scores towards individuals diagnosed with a mental disorder. The results reveal research hypothesis 3 is not supported. There was no correlation between knowledge about mental disorders and attitude towards individuals diagnosed with a mental disorder, \( r(106) = .13, p > .05 \). This suggests that the level of knowledge an individual has about mental disorders is not associated with attitude towards individuals diagnosed with a mental disorder. Therefore hypothesis 3 is rejected and the null hypothesis is accepted, rendering the results due to chance.

Analysis of Covariance (ANCOVA)

Subsequent to data collection, a 2 (intervention) x 2 (gender) mixed ANCOVA where the covariate would have been age, was taken into consideration. Researchers have stated that ANCOVA is widely used in studies where groups are randomly assigned, and to analyse pre-test and post-test scores where some form of intervention is utilised (Jamieson, 2004; Keselman et al., 1998; Taylor & Innocenti, 1993; Van Breukelen, 2006). Jamieson (2004) stated that the ANCOVA is adopted to ‘control for baseline (pre-test) differences’ between groups (p. 277). Other researchers have stated that ANCOVA can also control for an independent ‘variable (covariate) that may influence the DV’ (Mertler & Vannatta, 2002, p.15). However, one key assumption in ANCOVA is that the covariate correlates with the dependent variable (Miller & Chapman, 2001). Within the present study, findings from a Pearson’s r test of correlation (see appendices 17 and 18) suggest that there is no correlation between pre-test ASWS scores and age, \( r(106) = .12, p > .05 \), or post-test ASWS scores and age, \( r(106) = .11, p > .05 \). In addition, distorted results are produced by ANCOVA because removing the covariate alters ‘underlying organisations of those constructs that originally gave rise to the observed data’ (Lenzenweger, 2010). Therefore, the use of ANCOVA to analyse this data set was invalid, and the use of an ANOVA was employed.

Discussion

The aims of the present study were to determine how influential the news media is on consumers’ attitudes toward people with a psychiatric diagnosis, and if their attitudes differ between Schizophrenia and Depression. The aims were only partially fulfilled by the research findings. Hypotheses 4 and 6 were supported by the results. However, the hypotheses 1, 2, 3 and 5 were not supported. The implications of results for each hypothesis are discussed in relation to existing research.

News media influence

The mean ASWS scores showed increased negativity towards either Schizophrenia or Depression, from pre-test to post-test. This signifies that the news media has a
great impact on attitudes towards mental disorders, which supports hypothesis 4. The news reports (interventions) that were presented to participants involved offenders as the subjects. They emphasised their dangerousness and highlighted that they have a psychiatric diagnosis, which was in agreement with previous research findings (Philo et al., 1994; Wahl, 2003b). Findings from the present study also support researchers who found that negative news media promotes negative attitudes towards mental disorders (Angermeyer & Schulze, 2001; Sieff, 2003). This suggests that the results regarding news media influence are high in reliability and validity, in terms of being able to replicate research and apply it to everyday life.

**News media influence and gender**

Interestingly, a non-significant interaction was observed between the two factors: intervention (pre-test and post-test) and gender (male and female) on ASWS scores, which opposes hypothesis 2. This suggests that gender differences were not apparent in whether individuals were influenced by the news media regarding their attitudes towards mental disorders. Therefore, indicating that the news media is extremely influential, this is consistent with inferences made by Granello, Pauley and Carmichael (1999) in their research. There was a non-significant main effect of gender, which disputes previous findings that suggest females have more positive attitudes than males (Angermeyer & Matschinger, 2003; Munro & Baker, 2007). Contrastingly, the results of the present study are consistent with findings where there are no gender differences found in attitudes towards individuals who are diagnosed with a mental disorder (Addison & Thorpe, 2004; Angermeyer & Dietrich, 2006). This indicates the results are highly reliable. However, more research needs to be conducted regarding gender differences in attitude towards mental disorders.

**News media influence, diagnosis and first-hand experience**

An interaction effect was not observed between the three factors: intervention (pre-test and post-test), diagnosis (Schizophrenia and Depression) and first-hand experience (with and without) on ASWS scores. This indicates that hypothesis 1 was not supported. Results suggest that the ASWS score increased in negativity after reading the news report, regardless of which mental disorder it was about, or if the participant had first-hand experience or not. This result reiterates the argument that the news media influence overpowers other factors that could influence attitudes towards mental disorders (Granello, Pauley & Carmichael, 1999). In accordance with these findings, researchers understand that the news media is crucial in changing negative attitudes towards mental disorders into positive attitudes (Henderson & Thornicroft, 2009; Wahl, 2003b).

However, a noteworthy interaction emerged between two factors; intervention (pre-test and post-test) and first-hand experience (with and without). This suggests that individuals without first-hand experience are more likely to be influenced by the news media, in relation to attitudes towards mental disorders. The opposite is accurate for individuals with first-hand experience. These findings support researchers who suggest that individuals with first-hand experience have more positive attitudes (Day, Edgren & Eshleman, 2007; Angermeyer & Matschinger, 1996) and will disregard negative messages conveyed by the media (Philo et al., 1994). These findings are
promising in reducing the number of individuals who adopt negative attitudes towards mental disorders because of the news media.

Another notable finding to emerge was a significant main effect of diagnosis. This suggests that individuals' ASWS scores were different between Schizophrenia and Depression. This result is consistent with Angermeyer and Matschinger's (2003) research, who found that the label of Schizophrenia arouses fear in individuals, whereas the label of Depression does not. As suggested previously, this could be due to the label of Schizophrenia being more negatively represented in the media, than Depression. However, in the present study, both diagnoses were represented in similarly negative ways. Therefore, other factors could influence the differing attitudes, for instance, specific symptoms of Schizophrenia are associated with a risk of violent behaviour (Bjørkly, 2002; Fresán et al., 2005). However, the same associated risk is not present in symptoms of Depression (Roland, 2002).

Social Distance

Results indicated that participants' SDS scores were similar in negativity, regardless of whether it was towards Schizophrenia or Depression, thus contradicting hypothesis 5. This opposes findings from existing research stating that individuals felt a greater need for social distance from people diagnosed with Schizophrenia, than Depression (Nordt, Rössler, & Lauber, 2006; Posey, 2009). However, whilst the results from the present study were non-significant, mean SDS scores indicate that attitudes were marginally more negative towards Schizophrenia than Depression. Thus indicating that existing research findings (Nordt, Rössler, & Lauber, 2006; Posey, 2009) were loosely supported. It seems as though there is a lack of research into differences between Schizophrenia and Depression in regards to social distance attitudes. Therefore, future research should be conducted in this area.

Social Attribution

SA scores were slightly more negative towards Schizophrenia than Depression, therefore supporting hypothesis 6. However these results should be interpreted with caution as they were bordering on insignificance. This is probably due to the highly standardised procedure established (as mentioned previously). Nevertheless, results from the present study are consistent with existing research. Angermeyer and Matschinger (2003) found that individuals attribute a diagnosis of Schizophrenia as more dangerous and aggressive than a diagnosis of Depression. Therefore, the results of the present study are generalisable.

Knowledge

Hypothesis 3 was undermined, as a correlation was not observed between level of knowledge and ASWS scores towards individuals with a psychiatric diagnosis. This supports Nordt, Rössler and Lauber’s (2006) notion that knowledge about mental disorders does not seem to have an affect on attitudes towards individuals with a psychiatric diagnosis. However, findings from the present study contradict findings that suggest factual knowledge of mental disorders is associated with a positive
attitude towards individuals with a psychiatric diagnosis (Corrigan et al., 2004; Lauber et al., 2003; Thornton & Wahl, 1996). Therefore, further research needs to be conducted to explore whether knowledge is a contributing factor to attitudes towards mental disorders. In addition, future research should consider testing participants’ knowledge of mental disorders with a ‘Health Beliefs Questionnaire’ (Wrigley et al., 2005), rather than asking participants to rate how much knowledge they have.

Limitations, strengths and future research

The use of self-report questionnaires posed two distinct issues. Firstly, there were difficulties with the questionnaire completion rate. The majority of participants who did not complete the questionnaire, seemed to withdraw their application from the study and simply did not proceed past the intervention stage. Potential reasons for this could be that they got distracted or forgot about the post-test questionnaire. This reduced the overall sample, therefore lowering the degree to which it was representative of the population. Secondly, participants could have been susceptible to social desirability bias. Thus, suggesting that the external validity of the study is lowered. However, to combat potential bias, participants were reassured of their voluntary involvement and anonymity in the present study.

There are conflicting research findings regarding social desirability bias in relation to attitude research. On the one hand, Van De Mortel (2008) found that social desirability bias was not presented by participants in studies regarding ‘attitudes toward particular groups’ of people (p.46). On the other hand, researchers suggest that social desirability bias is something to be wary of, especially when conducting self-report questionnaires involving attitude towards mental disorders (Pinfold et al., 2003). Therefore, it is difficult to determine the status of external validity relating to the present study. Future research into this area could employ a social desirability scale (Kassam et al., 2010; Van De Mortel, 2008) or a scale with integrated power to eliminate social desirability bias (Corrigan, Powell & Michaels, 2013) to increase external validity.

The researcher acknowledged that a potential issue in using questionnaires was acquiescent bias. Nine items within the questionnaire were reversed to address and counteract the potential drawback (Nunnally, 1967). In addition, items from the ASWS, SDS and SA scales were randomised in the second part of the questionnaire to reduce order effects. Therefore, by controlling these issues, the internal validity and reliability of the present study were enhanced. The questionnaire was uploaded onto the internet, enabling access to a larger demographic of individuals to participate in the study (Schmidt, 1997; Wright, 2005). It also increased the ability to generalise the results to individuals across different demographics, thus improving the external validity of the study. However, it may be difficult to generalise across different cultures. This is due to the research being based in the United Kingdom, and ethnicity not being requested within the questionnaire. Therefore, cross-cultural validity is questionable. Stevenson (2010) discusses the emic perspective which suggests that attributions and attitudes can be determined by cultural context. Additionally, it is implied that ‘local knowledge’ is required when adapting research to particular cultures (Stevenson, 2010, p.145). For instance, the present study would be difficult to replicate in a culture where there was no access to news media.
Therefore, this would need to be taken into consideration before the research was replicated.

‘Time to Change’ is a campaign that been set up in England to combat negative images and promote positive images of mental health in the media (Henderson & Thornicroft, 2009). Henderson et al. (2012) found that participants had received a significantly less amount of stigma from familiar sources, for instance, family, friends and the workplace, within one year of the campaign being launched. Although there has been progress, this has only had a minute impact on the lives of individuals with a psychiatric diagnosis. This suggests it needs to be explored further, to ensure a more robust understanding of the stigma surrounding mental health, and to assist in reducing it. In future research, the present study could be expanded to compare attitude towards mental disorders after reading a positive, negative or neutral news report that discusses mental health. This is based on Corrigan, Powell and Michaels’ (2013) findings that positive news reports reduce stigma and increased positive attitudes towards mental disorders. The opposite finding was established for negative news reports.

**Conclusion**

In conclusion, the present study has contributed interesting findings to existing research into this topic area. The findings suggest that the news media is very influential regarding attitudes towards Schizophrenia and Depression. In addition, the attitudes of individuals with first-hand experience with mental disorders are less likely to be influenced by news media, than individuals without first-hand experience. On the other hand, both knowledge and gender did not seem to affect attitudes towards mental disorders. There were significant differences in attitudes between Schizophrenia and Depression in terms of ASWS and SA scores. However, this observation was not apparent in SDS attitude scores. Regardless of methodological issues encountered, these findings are appreciated as they provide supporting and opposing evidence for existing research. Overall, the news media need to recognise the power they have to influence attitudes towards mental disorders, and use this in a positive, rather than negative way.

**References**


