The Adaptation, Preliminary Validation and Application of two existing measures of stigma towards Schizophrenia

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ABSTRACT

Schizophrenia is a severe mental disorder characterised by a range of cognitive and emotional dysfunctions disrupting normal life, and with an unknown aetiology that limits treatment options. There are also numerous stereotypes surrounding Schizophrenia that further complicate the lives of sufferers and their families. In two studies, this investigation seeks to first, create a new accessible attitude scale by combining two pre-existing scales, that measure mental illness and adapting it for the specific use of schizophrenia and second, utilize the scale in assessing the effects the media have in influencing individuals' attitudes about phenomena that they know little about. Results of Study 1 revealed that combining and optimising the two scales scale provided a new shorter scale of schizophrenia that was internally consistent and reliable. Study 2 however did not produce any significant differences between the media and individuals' attitudes towards Schizophrenia, and thus the null hypothesis was accepted. Future studies will need to further validate the new measurement scale (The Schizophrenia Specific Attitude Scale) using factor and confirmatory analysis to examine the construct validity. Further studies examining the effects of media could focus on different types of media used to portray Schizophrenia.

KEY WORDS:	**Schizophrenia**	**Stigma**	**Media**	**Scale Adaptation**	**Scale Development**

Introduction

Schizophrenia: symptoms and aetiology

Schizophrenia is a severe mental disorder affecting approximately 24 million people of the world's population aged between 15-35 years, and of which only 50% are receiving appropriate care (World Health Organisation, 2009). Schizophrenia is characterised by a range of cognitive and emotional dysfunctions including: delusions, hallucinations, irrational beliefs, confused speech or a poverty of speech (alogia), disorganised or catatonic behaviour, and a lack of emotional response (affective flattening) (American Psychiatric Association, Diagnostic and Statistical Manual, IV). Crow, Cross, Johnstone, and Own (1982) distinguished between these symptoms, portraying them as either "positive" (perceived as unusual cognitive and perceptual experiences, including delusions and hallucinations), "negative" (the deficits which arise with the condition, psychomotor slowness, under activity), or "disordered" symptoms which correspond to an individual's personal and social impairments. Additional negative symptoms have been suggested, such as difficulties in verbal and non-verbal communications (Wing, 1985), and poor IQ and treatment response (Liddle, Carpenter & Crow, 1994). No single symptom is, however, is synonymous with Schizophrenia; therefore diagnosis involves the recognition of a constellation of symptoms with impaired social functioning (DSM-IV).

The aetiology of Schizophrenia is a highly controversial subject within research; almost every variable known to affect human conduct has been implicated as a possible cause from brain biochemistry to social class and life stressors (Bentall, 1989; Mulvany, O'Callaghan, Takei, Byrne, Fearon & Larkin, 2001). The development of the differential symptom categories has led to a number of theories as to its occurrence. For example, Crow (1980) proposed that the "positive" symptoms of Schizophrenia are due to a neurohumoral imbalance, projected in the Dopamine Hypothesis (Meltzer & Stahl, 1976), which suggests that Schizophrenia is the result of excess dopamine in the brain. Negative symptoms, however, were considered to be due to abnormal cerebral structures, which may be due to substantial cell loss (Liddle, Carpenter & Crow, 1994). Of those that receive treatment, 70% respond successfully to drugs, such as Phenothiazines, but often suffer some side effects: body tremors, rigidity, restless leg syndrome and muscular contraction (Field, 2003).

Stereotypes and schizophrenia

In addition to the physiological and cognitive symptoms, stereotypes that accompany schizophrenia often add burden for sufferers (Penn, Guynan, Dally, Spaulding, Garbin & Sullivan, 1994; González, Oraa, Aristegui, Fernández-Rivas & Guimon, 2007). Stereotypes can also result in stigmatisation of such individuals even in the absence of abnormal behaviour;such a negative environment has major ramifications for those recovering from the illness (Penn, Guynan, Dally, Spaulding, Garbin & Sullivan, 1994).

Some of the stereotypes associated with individuals suffering with Schizophrenia range from high levels of dangerousness to their inability to form normal relationships (see Corrigan, 2004; González, Oraa, Aristegui, Fernández-Rivas &

Guimon, 2007; Norman, Sorrentino, Windell, & Manchanda, 2008 for a comprehensive review of stereotypes), which affect a variety of aspects of normal life. Furthermore, the consequences of these stereotypes range from a loss of social status and social contact to barriers in receiving appropriate treatment. For example, individuals might not seek treatment due to a loss of self-esteem, self-efficacy and confidence or the facilities are underfunded (Lauber, Nordt, Falcato, & Rossler, 2004; and Penn, Guynan, Dally, Spaulding, Garbin and Sullivan, 1994 & Corrigan, 2004). Stigmatisation even occurs within family settings; some are over-protective or infantilise the individual, while others treat the sufferer with benevolence and disregard (Gonzalez-Torres, Oroa, Aristogui, Fernandez-Rivas, &Guimon, 2007). As such, stigmatisation and attitudes towards mental illness has become a major challenge within the mental health field (Norman, Sorrentino, Windell & Machanda, 2008). Magliano et al, (2004) along with many other psychologists believe that these stereotypes are formed from a lack of understanding into the aetiology and treatment of the disorder. Some research has found that acceptance of the mentally ill has been associated with contact time with sufferers, higher levels of education and some cultural factors (Magliano, De Rosa, Fiorillo, Malangone, & Maj, 2004 and Penn, Guynan, Dally, Spaulding, Garbin, & Sullivan, 1994). Corrigan and Penn (2009) promote the view that there are three strategies to changing stigma: Protest, Education and Contact. However, Corrigan and Penn (2009 as cited in Corrigan, Rowan, Green, Lundin, River, Uphoff-Wasowski, White & Kubiak, 2002)) found significant improvements on attitudes came through contact and minimally through education.

One way that negative stereotypes might be reinforced is through schizophrenic behaviours being promoted in the media. These often include keeping social distance from sufferers of Schizophrenia due to their perceived violence; as a consequence these stereotypes may result in the internalisation of cultural stereotypes giving inaccurate impression of Schizophrenia and therefore provide negative consequences for sufferers. Utilising Social Learning theory (Bandura, 1969, as cited in Gosling, Pp 213-262) to explain media influences, one might suggest that individuals learn from the media to distance themselves from sufferers due to the perceived punishments and negative reinforcement (e.g. violence) from having contact with sufferers. This is because individuals learn how to respond to various social situations through observations of others actions and also modify behaviours in order to prevent punishing consequences and gain rewards; the media being a major source of observation and latent learning. However, Stout, Villegas, and Jennings (2004), reported that there is insufficient research into the relationship between the media and stigma. Rather, there seems to be a trend in media reports relating mental illness in general with horrific crimes (Angermeyer & Matschinger, 1996). This disproportionate attention is illustrated further in a report entitled “Famous people and Schizophrenia” (2010) showing that there are individuals suffering with Schizophrenia with incredible minds who receive very little acknowledgement, such as John Nash, Andy and Jack Kerouac. In order to change the negative connotations held by the general public about Schizophrenia the media must become involved in national enterprises enforcing a more positive view of Mental Illness and demystifying uninformed stereotypes (Hocking, 2003).

Measuring stigma and schizophrenia

There has clearly been a mass of research conducted into stereotypes towards Mental Illness, assessing individual's attitudes about schizophrenia has also featured prominently in the literature. Specifically, research conducted by Day, Edgren and Eshleman (2007) and Norman, Sorrentino, Windell and Manchanda (2008) who constructed scales to measure attitudes towards mental illness and their related stereotypes. Norman et al's (2008) scale measured attitudes towards Schizophrenia and Depression using vignettes to obtain individuals' attitudes. The scale was constructed through the assessment of pre-established attitudes held by non-sufferers and included sub-scales that represented each stereotype: personal responsibility; a continuity between everyday experience and illness; danger; social inappropriateness; perceived talent; and effectiveness of treatment. They found perceived inappropriateness, dangerousness and unpredictability had the greatest relationship with social distance and attributed this finding to an evolutionary survival function. Day et al, (2007) created a scale capturing the salient attitudes towards the sufferers of Schizophrenia, Bipolar Depression and Depression, focusing on the dimensions of mental illness proposed by Jones et al (1984): concealability, course, disruptiveness, aesthetic qualities, origin and peril. In contrast to Norman et al, (2008), they found no such relationships; participants were unwilling to express stigmatising attitudes towards the mentally ill, which may show that the mentally ill perceive higher degrees of stigmatisation than actually exist. However, individuals are prone to responding in socially desirable ways; attitudes and prejudicial behaviour are best measured through unobtrusive means. Nevertheless, Day et al, found that Schizophrenics were rated more highly than other mental illnesses in anxiety and relationship disruption and less so on optimism toward treatment, professional efficiency and recovery. Both scales measured similar attitudes towards mental illness in general or depression and Schizophrenia. By combining these attitude scales, this investigation intends to optimise two very similar scales into a more concise measure of stigma solely towards Schizophrenia. These scales were selected on the basis that they measured common attitudes held by non-suffers of Schizophrenia and have been supported by a wide range of research (Angermeyer & Matschinger, 1996; Magliano, De Rosa, Fiorillo, Malangone, & Maj, 2004; Lauber, Nordt, Falcato & Rossler, 2004). Both scales, although demonstrating strong psychometric properties in factor analysis, were not analysed for internal consistency, therefore the overall scale's reliability is unknown. Rather, Norman et al, but not Day et al, provided reliability scores for each subscale therefore producing a series of several unidimensional scales. In addition, each subscale had a disproportionate amount of items which is problematic in factor analysis and tests of multidimensional scales as it can give the impression that factors exist when they do not (DeVellis, 2003). Furthermore, each scale's items contained statements that were double-barrelled and difficult to understand. Finally, although each scale appears to measure different aspects of stigma towards schizophrenia, items could aptly measure the same construct as each other. For example, as they measure similar stigmatised attitudes, it can be implied that the two scales are unnecessary and by combining them, a scale compiled of the strongest items and subscales can assess the attitudes toward Schizophrenia in a more reliable and efficient manner without compromising construct validity. As such, this therefore forms the objectives of study one.

Aims and objectives of the research

The aim of this investigation is to develop a schizophrenic specific attitude scale by combining and consolidating two pre-existing scales to gauge individual's attitudes towards Schizophrenia. In a second experiment, this scale will be used along with positive and negative media portrayals of Schizophrenia, to assess the media influence on attitudes, providing a justification for media campaigns promoting mental health awareness.

In study one, due to the exploratory nature of combining two existing scales it is expected that many items and subscales will overlap and be correlated but it is unknown how which scales will correlate. As such, a research methodology was employed utilizing DeVellis' (2003) guidelines for inventory development was followed since a hypothesis and research question was not appropriate for scale development.

In study two, an experimental design was employed to investigate the effects of media on individuals' attitudes towards schizophrenia. Based on principles of social learning theory presented in the previous section, a one-tailed prediction was made where participants that received a positive media vignette would decrease in stigma towards schizophrenia and those that received a negative vignette would increase in stigma towards schizophrenia relative to a control group who received no vignette.

Method

Study 1

Design

To determine the impact of combining each scale's psychometric properties a non-experimental survey methods design was used. Specifically, to examine whether the existing scales retained internal consistency and reliability after being adapted for schizophrenia, several tests of reliability were conducted using Cronbach's Alpha (Cronbach & Meehl, 1955).

Participants

A convenience sample of 72 undergraduate students from Aberystwyth University participated, however, due to some participants not completing the scale in its entirety, only 46 (Male = 10, Female = 36) undergraduate results were retained for analysis. Of these participants their ages ranged between 18 – 46 years of age (X= 20.6; SD =±.78). A further criterion for retaining respondents in the analysis included asking participants about having previous experience (e.g. family member having a mental illness) with mental illness or schizophrenia in order to avoid potential confounding effects on scores. All 46 respondents reported not having previous experience and were retained in the analysis.

Procedure

To examine internal consistency and reliability, the amended Day et al and Norman et al scale were combined; the new combined scale consisted of 67 statements (appendix a). To avoid acquiescent response set each subscale and its items were randomised (Winkler, Kanouse, & Ware, 1982). The new scale was then administered to undergraduates during a lecture. Furthermore, the Likert scoring was also altered from a five to six point scoring system to increases scale sensitivity of participant's scores as well as reliability and psychometric properties of the scale (Lozano, Garcia-Cueto, and Muniz, 2008; Reise, Waller, & Comrey, 2000). In addition, a six point scoring system forces individuals to choose whether they are for or against a certain viewpoint further preventing acquiescence; no-opinion options often result in individuals not reporting their attitudes (Lozano, Garcia-Cueto, and Muniz, 2008; Krosnik, 2002). Participants were first asked if they were willing to take part in the study. If they agreed participants were then asked to read the participant information sheet (appendix b) and sign the consent form (appendix c). Once participants completed the items, they were given a debrief sheet (appendix d) outlining the full nature of the study and expected results. Data was then collated and analysed using SPSS version 17 (2008).

Results

Mean scores and standard deviations were computed for each scale and its subscales and can be seen in Table 1. Mean scores show that overall participants' scores were generally low in negativity in their evaluations of sufferers of schizophrenia. Low scores were identified as below x=21.3, whereas high scores were considered to be above x=107.1. To examine internal consistency and reliability, Cronbach's alphas were computed for the combined scale and subscales and are presented in Table 2. Item analysis indicated that the combined scale was internally consistent producing a substantial alpha of 0.85. As Cohen (1988, but see also Cronbach & Meehl, 1955, and Field, 2006) suggests, alpha levels of above 0.80 are considered to show a scale with good reliability and internal consistency. Subscales with an alpha level above 0.60 are considered substantial for subscales with four items (Loewenthal, 2001).

To further examine construct validity of the adapted attitude scale, correlations between the subscales and the total scale were also calculated and presented in Table 3. The combined scale subscales were moderately to highly correlated with each other, showing that they were related and testing similar constructs. The highest correlation was between relationship disruption and danger subscales ($r = 0.77$, $p < 0.01$), and the lowest between anxiety and professional efficiency subscales ($r = 0.03$, $p > 0.05$).

Table 1
Mean scores for the attitude scale

Mean (SD) scores (subscales: Day et al, 2007)

	Rel Disr	Visibility	Anxiety	Hygiene	Treatability	Prof Efficiency	Total Mean
Day et al, 2007 *							
Combined Scale Scores	21.9 (5.2)	13.4 (2.5)	21.2 (4.4)	14.3 (6.9)	21.9 (4.6)	4.9 (2.7)	102.5 (16.8)
Schizophrenia Specific Attitude Scale	15.6 (4.3)	--	12.4 (3.3)	6.6 (1.9)	16.5 (3.5)	6.6 (2.3)	64.5 (10.9)

Key: Rel Disr (Relationship Disruption),Prof Efficiency (Professional Efficiency)

*The Authors did not report total item means, they simply provided mean response values

Mean (SD) scores (subscales: Norman et al, 2008)

	Danger	Norms	Resp	Talent	Treatment	Inappr	Total Mean
Norman et al, 2008 *	**--**	**--**	--	--	--	--	--
Combined Scale Scores	32.0 (6.1)	19.8 (4.3)	35.0 (8.2)	11.4 (3.0)	6.9 (1.9)	8.1 (3.3)	113.2 (19.0)
Schizophrenia Specific Attitude Scale	12.4(4.4)	12.8(3.8)	18.3(5.9)	10.8(2.5)	6.9(1.9)	3.3(1.4)	65.0 (13.9)

Key: Resp (Responsibility), Treatment (Treatment Outcome), Inappr (Inappropriateness) *The authors did not report item means

Table 2
Alpha scores for each subscales in their original corresponding scale

Cronbach Alpha Scores (subscales: Day et al, 2007)

	Rel Disr	Anxiety	Visibility	Hygiene	Treatability	Prof Efficiency	TOTAL
Combined Scale Scores	0.61	0.53	0.64	0.12	0.38	0.39	0.74

Key: Rel Disr (Relationship Disruption),Prof Efficiency (Professional Efficiency)

Cronbach Alpha Scores (Subscales: Norman et al, 2008)

	Danger	Norms	Resp	Talent	Treatment	Inappr	TOTAL
Combined Scale Scores	0.74	0.64	0.19	0.47	0.24	0.35	0.75

Key: Resp (Responsibility), Treatment (Treatment Outcome), Inappr (Inappropriateness)

Table 3
Correlations for the Combined Attitude Scale

Subscale Correlations Combined Scale											
	Anxiety	Vis	Hygiene	Treatability	Prof Efficiency	Danger	Norms	Resp	Talent	Treatment	Inappr
Rel Disr	0.48	0.17	0.13	0.47	0.13	0.73	0.52	0.73	-0.02	0.62	0.39
Anxiety	-	0.27	0.18	0.47	0.1	0.39	0.44	0.36	-0.12	0.31	0.26
Visibility	-	-	0.27	0.23	0.02	0.09	0.15	0.11	-0.12	-0.01	0.09
Hygiene	-	-	-	0.4	0.23	0.17	0.07	0.26	-0.01	0.04	0.43
Treatability	-	-	-	-	0.37	0.43	0.33	0.57	-0.11	0.37	0.48
Prof Efficiency	-	-	-	-	-	0.22	0.17	0.26	-0.01	0.18	0.23
Danger	-	-	-	-	-	-	0.38	0.78	-0.17	0.53	0.36
Norms	-	-	-	-	-	-	-	0.53	-0.13	0.34	0.16
Resp	-	-	-	-	-	-	-	-	-0.01	0.56	0.49
Talent	-	-	-	-	-	-	-	-	-	0.15	0.24
Treatment	-	-	-	-	-	-	-	-	-	-	0.32
Inappr	-	-	-	-	-	-	-	-	-	-	-
Key: Rel Disr (Relationship Disruption),Prof Efficiency (Professional Efficiency), Resp (Responsibility), Treatment (Treatment Outcome), Inappr (Inappropriateness)											

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Anxiety	-	0.27	0.18	0.47	0.1	0.39	0.44	0.36	-0.12	0.31	0.26
Visibility	-	-	0.27	0.23	0.02	0.09	0.15	0.11	-0.12	-0.01	0.09
Hygiene	-	-	-	0.4	0.23	0.17	0.07	0.26	-0.01	0.04	0.43
Treatability	-	-	-	-	0.37	0.43	0.33	0.57	-0.11	0.37	0.48
Prof Efficiency	-	-	-	-	-	0.22	0.17	0.26	-0.01	0.18	0.23
Danger	-	-	-	-	-	-	0.38	0.78	-0.17	0.53	0.36
Norms	-	-	-	-	-	-	-	0.53	-0.13	0.34	0.16
Resp	-	-	-	-	-	-	-	-	-0.01	0.56	0.49
Talent	-	-	-	-	-	-	-	-	-	0.15	0.24
Treatment	-	-	-	-	-	-	-	-	-	-	0.32
Inappr	-	-	-	-	-	-	-	-	-	-	-
Key: Rel Disr (Relationship Disruption),Prof Efficiency (Professional Efficiency), Resp (Responsibility), Treatment (Treatment Outcome), Inappr (Inappropriateness)											

Item deletion

The purpose of removing items is to make the combined scale more accessible and unburden the respondents. The Cronbach alpha score can be influenced by the number of items within a scale and the extent of covariation among the items. Thus a compromise between scale length and reliability must be established. Initially, double barrelled statements were removed (e.g. Psychiatrists and psychologists often behave negatively to Schizophrenics, reducing rates of successful treatment) and statements measuring similar constructs (e.g. I tend to feel anxious and nervous when I am around someone with Schizophrenia and I feel nervous and uneasy when I'm near someone with Schizophrenia; also double barrelled). However, the preferred method of item deletion is confirmatory factor analysis but this method is beyond the scope of the current research. Second, to improve the internal consistency of the scale, correlations lower than .55 but also increased the total scale's Cronbach alpha were deleted.

Conclusion

Item analysis demonstrated that the new combined attitude scale had high internal consistency; however, this was less evident for some of the subscales. Correlations between the subscales were also shown suggesting that there was convergent validity between the subscales; a good sign of construct validity in a multidimensional scale. Item deletion provided a shorter and more accessible scale that would be less taxing on the respondents especially given that many of the items removed were double-barrelled and repetitive. As such, participants might have found it difficult to decipher these items and therefore the items did not have strong face validity (see Coolican, 2009 and Reise, Waller, & Comrey, 2000). This might have been one reason for low internal consistency in some of the subscales as participants' responses responded closer to the mid-points in the Likert Scale; a response effect reported by Krosnick (1988) and Krosnick and Schuman, 1988) when an attitude is either unimportant, uncrystalised, or difficult to recall from memory. The process of item deletion provided a scale, containing 37of the original items, with a similarly high reliability. The new Schizophrenia Specific Attitude Scale measures constructs exclusively aligned with Schizophrenia, which have arisen from pre-existing research on individuals attitudes toward Schizophrenia. In order to determine the accessibility and efficiency of the scale, a second study was conducted utilising media portrayals of schizophrenia to assess their influence on the attitudes of individuals.

Study Two

Method

Design

Between subjects factoral design was used to examine the effects of media valence on individual's attitudes towards schizophrenia. The independent measure was the valence of the media that portrayed schizophrenia (positive, negative and none; appendix f and g). The dependant variable was participants' scores on the attitude scale. The experimental hypothesis predicts that the participants presented with a negative portrayal of schizophrenia will have a higher score on the attitude scale, reflecting a more negative attitude towards Schizophrenia, than those presented with a positive media scenario. The null hypothesis suggests that there will be no significant difference between the media scenario presented and the scores obtained from the attitude scale.

Participants

A convenience sample of 30 undergraduates (Females = 16, males = 14) were used and were aged between 19-24 years old (X= 20.8; SD = ±.24). Participants who reported having experience of mental illness were excluded from the results to prevent potential confounding effects on the scores.

Procedure

Participants were collected on the basis of their availability and were asked to read the participant information sheet (Appendix h) before signing the consent form (Appendix i). They were randomly allocated into one of the three conditions prior to being presented with the new schizophrenia attitude scale (Appendix j). Once participants had completed the attitude scale they were debriefed about the nature of the study (appendix k). Participants' data were then computed using one-way ANOVA in SPSS.

Results

The mean and standard deviation scores were calculated for the combined scale its subscales and presented in table 4. The parametric assumptions have been violated within the results of this study. The Levene's test designed to test the similarity of variance within groups, showed a statistically significant difference in variance F (2, 27) = 8.2, $p<.05$. However, an ANOVA was conducted despite not meeting parametric assumptions. This is because Lindman (1974, as cited in Duncan, Szilagyi, Efferen,

Schwartz Parwani, Chakravorty, Madonick, Kunzova, Harmon, Angrist, Gonzenbach, and Rotrosen, p. 65) shows that the *F* statistic is quite robust against violations of this assumption particularly when conditions are of equal sample size. The ANOVA did not show a statistically significant difference between conditions (F (2, 29) = 9.27, $p>.05$), suggesting that there is no significant difference between the participants attitudes and the media scenario presented therefore the Null hypothesis was accepted.

Table 4
Mean scores for the attitude scale

	Mean (SD) scores											
	Rel Disr	Anxiety	Hygiene	Treatability	Prof Efficiency	Danger	Norms	Resp	Talent	Treatment	Inappr	Total
Schizophrenia Specific Attitude Scale	14.9 (2.0)	13.4 (4.1)	8.4 (1.7)	19.5 (3.0)	8.8 (1.5)	14.6 (1.3)	14.2 (3.6)	23.6 (3.9)	6.4 (2.5)	5.9 (1.4)	3.9 (1.0)	

Key: Rel Disr (Relationship Disruption),Prof Efficiency (Professional Efficiency)

	Mean (SD) Scores	
Schizophrenia Specific Attitude Scale	Positive	142.5(16.5)
	Negative	133.6 (8.8)
	Neutral	145.1 (9.2)

Conclusion

Study two aimed to examine the effects of the valence of media portraying schizophrenia on participants' attitudes towards schizophrenia. Results showed no significant effect between the valences of media on attitudes towards Schizophrenia. One argument about the use of self-report measures is that participants may have directed their responses in a socially desirable manner to prevent being perceived detrimentally by the researcher. One way to monitor this might be to remove individuals from analysis that are high in self-presentation by using a well established scale that assess such behaviour. For example, the Paulhaus deception scale (Paulhaus, 1998) and the Marlowe-Crowne Social Desirability Scale (1960) are well used and established measurement scales that identify individuals who are likely to over –report good social behaviours while under-reporting undesirable social behaviours, such as sexual behaviour, aggressive behaviour, and prejudices towards many social groups and individuals. Using these within in this current study might have helped identify those that may have over reported socially desirable behaviour to either please the researcher or reduce cognitive dissonance (see Festinger & Carlsmith, 1959).In addition, individuals often completed the scale in large groups, which may have exacerbated the perception of surveillance of their behaviour and therefore increase social desirability.

Another explanation for the non-significant findings is presented by Clarkson, Petty, & Tormala (2006) and Krosnick (1988). These authors suggested that when individuals are less certain of their attitudes, these attitudes are less likely to predict their behaviour and with decreasing vigour if these attitudes are unimportant and require excessive effort to access them from memory such that judgement errors are often made. These findings provide support for the null hypothesis, as the students that participated in the study had no experience of mental illness and modest knowledge of Schizophrenia prior to completing the scale. Therefore, the attitudes formed by the media scenario may not have created a concrete attitude on which the participants based their responses or provided sufficient bias to resolve the resistance to change their prior attitudes. However, having no experience is important within this study due to the ethical parameters and also any pre-existing stereotypes based on their experience might have confounded the effect of the negative media as pre-existing schemas may be considered more important than the information provided in the media scenario.

General Discussion

Overview of aims and findings

Study one examined the psychometric properties of two existing scales that measured attitudes towards individuals with mental illness. Given that both scales appeared to measure similar stereotypes about mental illness, one aim of this project was to adapt the scales for use with schizophrenia and combine them into one scale that reliably measured stigma about schizophrenia. Utilizing the combined scale, study two sought to demonstrate how media portrayals of schizophrenia influence individuals' attitudes towards schizophrenia. Study one demonstrated that combining the two existing scales produced a new scale measuring schizophrenia specifically that was also internally consistent and reliable. Study two showed, however, that

despite using schizophrenia specific scale there were no significant effects of media on individuals' attitudes towards schizophrenia and the Null hypothesis was accepted.

Implications of Findings

The present study has provided a concise and reliable attitude scale to assess the specific attitudes held towards Schizophrenia. By determining the attitudes specifically affecting the recovery and acceptance of Schizophrenics within society, we can provide methods for change. Although the present research has reported no significant relationship between media and attitudes towards Schizophrenia, there are still destructive stereotypes about Schizophrenia faced by suffers. Thus, campaigns for better awareness to improve sufferers' quality of life are still required. Instead of focusing solely on the media, research has suggested that organisations should embrace the use of contact, education and protest strategies for challenging stereotypes and promoting their reduction (Corrigan, River, Lundin, Penn, Uphoff-Wasowski, Campion, Mathisen, Gagnon, Bergman, Goldstein & Kubiak, 2001; Corrigan, Rowan, Green, Lundin, River, Uphoff-Wasowski, White & Kubiak, 2002 and Penn & Nowlin-Drummond, 2001). Simply disseminating basic knowledge about the illness and individuals recovery from the illness to the population, alleviate negative attitudes towards Schizophrenia (Penn, Guynan, Dally, Spaulding, Garbin & Sullivan, 1994). However, purely focusing on attitude change will not fully address the issue (Corrigan, & Penn, 1999). Perkins, Raines, Tschopp & Warner (2008) suggest other methods of diminishing stigmatisation, such as promoting and providing paid employment and community integration schemes for those in recovery, which provide them with financial, social and psychological support and preventing relapse due to their stable environment. Whereas, Penn & Nowlin-Drummond (2001) suggest using politically correct labels for Schizophrenia; however, these new labels may become negatively associated over time. Negative stereotypes emanate from numerous aspects of life, attempting to minimise key sources of negative information would do a huge amount for those with Schizophrenia, their families and individuals that work with them to encourage their recovery. Purely the belief that they are being viewed in a stereotypic fashion, stereotype threat, causes the same harm than being stereotyped against (Henry, Hippel, & Shapiro, 2010).

Suggestions for Future Research

The participants used within both studies were University undergraduates, so the results cannot be generalised to the public as a whole. Research (Corrigan, River, Lundin, Penn, Uphoff-Wasowski, Campion, Mathisen, Gagnon, Bergman, Goldstein & Kubiak, 2001), has suggested that higher levels of education can result in reduced negative attitudes towards sufferers of Schizophrenia, which suggests that some members of society may be more susceptible to forming negative stereotypes than others. Therefore, investigating the sources of these stereotypes in less educated individuals could be one avenue further research. The effects of age, gender and cultural differences in the acceptance of Schizophrenia may also important in determining the effects of media on the perception of Schizophrenia, as attitudes are formed consequentially of historical, geographical, social, educational and temporal

contexts (González, Oraa, Aristegui, Fernández-Rivas & Guimon, 2007 and Angermeyer, Buyantugs, Kenzine & Matschinger, 2004).

The research project provided a reliable and attainable scale that can be used to assess attitudes towards Schizophrenia in numerous contexts. However, its focus on explicit attitude responses provides a limitation to its validity. Attitude Scales enable participants to manipulate their responses and promote themselves in a positive light, confounding the results of the experiment, which may have resulted in the acceptance of the Null Hypothesis. A method which can be used to remove this bias is through measuring implicit attitude responses over which participants have no control, such as response latencies in Implicit Association Tests, enabling researches to reveal participants true responses, where explicit measures reveal manipulated and biased responses **(**Ajzen, in Press**).**
Alternatively, the nature of the factor structure could be examined through factor analysis. A key assumption underlying alpha is that a set of items are unidimensional, and that each item measures a common underlying variable (DeVellis, 2003). Factor analysis facilitates the identification of one or more latent variables underlying an item set rather than one variable assumed by tests of reliability such as alpha. Due to the adaptation of the scale items, characteristics of each item may have changed, in terms of its content and construct validity, and thus re-examination of the scale using factor analysis maybe another method used analysis the scale and its subscale at a later point. This then would allow a more comparable study of the scale's psychometrics with the original scales' psychometrics

Conclusion

The current research has reached its objectives, providing a Schizophrenic specific attitude scale that can be used in numerous contexts to assess individuals' attitudes to Schizophrenia. It has provided evidence to suggest that the media has no direct influence on media, although this may have been due to a number of confounding variables and provided suggestions for alternative methods to alleviate stigma.

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