

# Stigma and Health

## Mental Illness Related Discrimination: The Role of Self-Devaluation and Anticipated Discrimination for decreased Well-being.

--Manuscript Draft--

<b>Manuscript Number:</b>	SAH-2016-0127R1
<b>Full Title:</b>	Mental Illness Related Discrimination: The Role of Self-Devaluation and Anticipated Discrimination for decreased Well-being.
<b>Abstract:</b>	<p>People with serious mental illness experience discrimination across many different contexts. Mental illness-related discrimination has, however, been an under-researched area until the last decade. This study aims to expand understanding of the relationship between discrimination and well-being. Cross-sectional data on stigma, experiences of discrimination, and well-being were collected from adults in specialist mental health services in South London, United Kingdom as part of the MIRIAD study. Structural equation modeling supported the predictions that a higher degree of experienced discrimination would be associated with lower well-being via a pathway through higher internalized stigma and hopelessness. Higher anticipated discrimination also separately mediated the association between higher discrimination and lower well-being in the model. This suggests that discrimination is associated with lower well-being through both internalization of negative stereotypes and demoralization, as well as anticipation of further discrimination. In order to increase the well-being of people with severe mental illness, interventions may need to address the negative beliefs people hold about themselves (internalized stigma), as well as the sense of current and future threat that they experience (experienced and anticipated discrimination).</p>
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### Outline of amendments to the revised manuscript

- **First the constructs analyzed are highly correlated with one another as indicated by the R-square values leading me to worry somewhat about concept confounding. For example is hopelessness truly distinct conceptually from well-being.**

The predictors in the model are indeed correlated. However, the path model may not provide a fully accurate picture. The zero-order correlations (see Table 2 below), show that correlations ranged from small to large according to Cohen's (1992) criteria. Furthermore, as CFA portions out measurement error in SEM (Joreskog, 1973), the potential "noise" that would usually result in lower correlations is portioned out.

In the revised manuscript, we have added the table of Intercorrelations (Table 2) and explanatory text in the Results section:

“The zero-order correlations between the latent variables are displayed in Table 2.

The correlations ranged from small to moderate according to criteria by Cohen (1992). As some of the predictors in the model were strongly correlated this was investigated further. For any outcome with more than one predictor in the model, multicollinearity was assessed by regressing the predictors on each other and calculating the remaining unexplained variance (tolerance). The tolerance for all predictors was found to be above the recommended minimum value of .10, indicating that multicollinearity was not of concern (Tabachnick & Fidell, 2001)” (p. 10, lines 225-232)

Table 2. Intercorrelations among latent variables

	DISC	ISMI <sub>A+SE</sub>	QUAD	BHS
DISC	1			
ISMI <sub>A+SE</sub>	.76**	1		
QUAD	.74**	-.46**	1	
BHS	.43**	-.51**	0.22*	1
WEMWBS	-.44**	-.51**	-.29**	-.81**

\*p<.05, \*\*p<.001

With regards to well-being and hopelessness constructs:

Conceptually, we recognise that hope (and hopelessness) and well-being are conceptually closely related. Magaletta & Oliver (1999) investigated the construct of hope in relation to general well-being. They argue that: “Conceptually, the major difference between hope and well-being appears to lie in their temporal orientation, as hope refers to a cognitive set regarding the future, whereas well-being has always been measured regarding the recent past” (Magaletta & Oliver, 1999, p549)

Magaletta, P. R., & Oliver, J. M. (1999). The hope construct, will, and ways: Their relations with self-efficacy, optimism, and general well-being. *Journal of clinical psychology, 55*(5), 539-551.

It should be noted that one of the items of the WEMWBS resembles items of the BHS (“I’ve been feeling optimistic about the future”). However, as the study used latent variables, the error and confounding associated with single items is portioned out. We would therefore argue that the robust measurement in the current study reduces the concern with regards to such overlap and the conclusion drawn by Magaletta & Oliver (1999) can reasonably be taken to pertain to the latent variables in the current study.

We have also added the following paragraph in the Discussion section, to recognise the conceptual overlap and statistical relationship:

“Additionally, hopelessness and well-being were strongly correlated in the current study, which was to be expected as these are conceptually similar constructs. However, as pointed out by Magaletta and Oliver (1999), these can be taken to represent two distinct “cognitive sets”, where hope is focused around orientation towards the future, whereas general well-being pertains to the recent past. ” (p. 17, lines 403-407)

- **The model fit was deemed fair only and the data are cross-sectional. All this makes me worry some about what is mediating what and whether the variables could be rearranged with an equally good fit but telling a different story. Also, with such highly correlated variables multicollinearity can be a problem. It would be good if you could address this issue directly in a revision either empirically, conceptually and/or by pointing to any ambiguity in the limitations section.**

We are in agreement that multicollinearity is a potential cause for concern in the model. The outcome variables that have more than one predictor are well-being and anticipated discrimination.

With regards to the anticipated discrimination outcome, tolerance can be directly examined as the other predictor (internalised stigma) is already regressed on the other predictor (discrimination). This shows that tolerance ( $1-R^2$ ,  $1-.59=.41$ ) is considerably higher than suggested minimum value of  $<.10$  (Tabachnick & Fidell, 2001).

With regards to the anticipated discrimination and hopelessness, the correlation between these two predictors was relatively low. To check we however regressed the anticipated discrimination on the hopelessness variable and the tolerance value was again higher than what would be cause for concern (.94).

This is also addressed in the beginning of the Results section in the revised manuscript:

“The zero-order correlations between the latent variables are displayed in Table 2. The correlations ranged from small to moderate according to criteria by Cohen (1992). As some of the predictors in the model were strongly correlated this was investigated further. For any outcome with more than one predictor in the model, multicollinearity was assessed by regressing the predictors on each other and calculating the remaining unexplained variance (tolerance). The tolerance for all predictors was found to be above the recommended minimum value of  $.10$ , indicating that multicollinearity was not of concern (Tabachnick & Fidell, 2001)” (p. 10, lines 225-232)

We have also recognised the limitations of the paper in terms of the model and correlational data in the Strengths and Limitations Section:

“The arrangement of the variables in the model was based on prominent theories on how different facets of stigma and well-being may link together (e.g., Link et al.,

1986; Corrigan et al., 2006). Further longitudinal research is needed to validate the processes proposed in the model. ” (p.16, Lines 388-391)

- **A very small point but please indicate in the path diagram that the numbers in parentheses are standard errors (if my inference that that is what they are is correct).**

*This is correct and been clarified.*

- **Also is the path from discrimination to anticipated discrimination really .95? One might expect and even higher r-square given a standardized coefficient of this magnitude. Additionally if it is this high the concern about multicollinearity is supported by this evidence.**

We believe the concern regarding multicollinearity has been addressed above. The path coefficient is indeed high. However, as Peterson and Brown (2005) point out, standardized beta coefficients are not equivocal to Pearson r when there are multiple predictors. Of note is also that, while the Pearson r in Table 2 between discrimination and anticipated discrimination would be classified as “High” (Cohen, 1992), it is substantially lower than .95.

Reviewer 1

**Reviewer #1: This paper examines the impact of mental illness discrimination on well-being. The authors utilize interesting data from the MIRAID study, conducted in South London. They apply SEM methods to examine the complex interplay between well-defined theoretical concepts. Overall, the paper is easy to follow and the analysis appears to have been well done.**

- **While the paper is generally strong, it does need a more careful edit, as there are several awkward sentences and many missing commas that distract from the overall flow of the manuscript.**

We have read through and edited the manuscript with the view to improve readability.

- **The authors might also consider expanding the discussion a bit more to better frame the results in the context of other research that has attempted to examine similar or related processes. This could help to hone the broader theoretical contribution of the manuscript, particularly for MLT. In particular, the authors might wish to review the paper by Wright, Gronfein, and Owens 2000 in the Journal of Health and Social Behavior, which presents a similar analysis, but comes to a slightly different conclusion than that advanced by Moses (2009).**

**Together, the present analyses, especially compared with Wright, et al. (2000) and Moses (2009) suggest that discrimination and rejection may function differently at different stages of the illness career.**

We agree that the results presented by Wright et al. (2000) are pertinent to this study and thus deserve to be included in the Discussion. The following has been added to the revised manuscript:

“Internalized stigma, as it was measured in this study, was a latent variable for items measuring endorsement of negative stereotypes and beliefs about being different (alienation). The model presented in this study would thus suggest that discrimination may lead to increased self-devaluation and this, in turn, would lead to increased hopelessness about the future. A study by Lysaker, Tunze, Yanos, Roe, Ringer and Rand (2012) with adult service users with a diagnosis of schizophrenia, however, found that stereotype endorsement and discrimination were associated with each other concurrently, but not across time. Neither of the outcomes were associated with distress across time. With regards to well-being, experiences of rejection have not been found to be significantly associated with mastery in an adolescent sample (Moses, 2009). A study by Wright, Gronfein and Owens (2000) with adult service users recently discharged from hospital, however, found that rejection experiences were associated with lower levels of mastery when measured concurrently, but not across time. It may thus be that recent and current experiences of discrimination are pertinent to well-being in particular. These findings would also suggest that, in people who have been experiencing mental health problems for a longer period of time, current experiences of rejection may function differently in relation to well-being when compared with persons who have only had such experiences for a relatively short time.” (pp. 13-14, lines 316-334)

“As has been pointed out, relationships between discrimination and well-being have not been consistent in the literature (Wright et al., 2000; Moses, 2009) and may be depend on how long the person has been experiencing mental health problems (first contact with services or longstanding difficulties), time-frame for the experienced discrimination (ongoing or historical) and the type of well-being outcome (eudaimonic or hedonic). The current study measured general well-being (both eudaimonic and hedonic) on current and recent (previous 12 months) experiences of discrimination and the service users were recruited from secondary care. Future studies may wish to pay particular attention to these variables.” (p.17, lines 408-416)

**Reviewer #2:** this ms presents data on the unique effects of discrimination of outcome - particularly independent of the effects of internalized stigma. a strength of the paper is a clearly articulated model of the effects of discrimination independent of their internalization.

- **my only suggestion is for consideration how this paper fits into a broader literature than reviewed here. for one the intervention nect (c.f yanos et al) stresses that it is how people make sense of discrimination and self experience that affects outcome and hence interventions should involve efforts at considering not only what has happened but also how discrimination has uniquely the life of a particular person. this seems relevant both as a clinical implication but also as basis for the questions asked here are so important.**

We have attempted to add some of the literature regarding interventions in the Introduction and Discussion sections:

“Of note is that these theoretical frameworks focus more on the internalized beliefs held by people with SMI, rather than their current social context and perception of this. This is in particular with regards to experiences of unfair treatment from others (discrimination) and the expectation of future unfair treatment (anticipated discrimination). Accordingly, interventions have also focused on negative beliefs people may hold about mental illness and the way they may appraise their illness



label. These interventions have, however, not produced consistent findings with regards to well-being (Yanos, West, Smith & Roe, 2012; Knight, Wykes & Hayward, 2006). Furthermore, Knight et al. (2006) found that the degree of experienced discrimination remained stable throughout the intervention. This suggests that, in addition to internalized beliefs, the context and life circumstances of the individuals with SMI may warrant further attention as an important factors that impact their well-being.” (pp. 3-4, lines 48-60)

“Current interventions, such as Narrative Enhancement / Cognitive Therapy (NECT; Yanos et al., 2012), focus on helping people with SMI connect with positive beliefs and stories about themselves. How people make sense of the discrimination that they experience may also be pertinent to predictions about future discrimination. Such beliefs and appraisals may, however, be linked to perceived public stigma (e.g., “members of the public do not accept a person with mental illness”), rather than beliefs about the self. Whether interventions should address anticipated discrimination would, however, arguably also depend on the adaptiveness of this response (i.e., are the predictions likely to come true). However, in order to draw strong clinical inferences, further longitudinal studies are needed to ascertain the temporal sequence between all the factors in this study. ” (pp.15-16, lines 362-372)

- **There is additionally more reasons to suppose that self-stigma and discrimination should be detangled. Lysaker, tunze et al 2012 present data from a longitudinal study finding stereotyped endorsement and discrimination experiences affect one another in the moment but not necessarily over time. The Yanos et al model of how self-stigma affects outcome and Hasson-Ohayon model of how stigma degrades meaning in life both also deserves some mention as one very detailed idea of how self-stigma plays an important role.**

These points have been included in the Introduction and Discussion Sections:

“The process of internalization of negative stereotypes has been expanded in the Progressive Model of Self-stigma, which posits that the sequential stages of awareness (e.g., “the public think people with mental illness are stupid”), agreement (e.g., “I think that people with mental illness are stupid”) and application to the self (e.g., “because I have a mental illness, I am stupid”) of mental illness stereotypes lead to diminished self-esteem and self-efficacy (Corrigan, Watson & Barr, 2006). This in turn may lead a person to become demoralized and to opt out of pursuing important life goals, termed the “Why try” effect (Corrigan, Larson & Rüscher, 2009). In line with this, models have further stressed the importance of hope and self-esteem as key mediators between adoption of an “illness identity” (e.g., self as dangerous or incapable) and decreased quality of life (Hasson-Ohayon, Kravetz, Meir & Rozenzweig, 2009; Yanos, Roe & Lysaker, 2010).” (p. 2, lines 36-47)

“Internalized stigma, as it was measured in this study, was a latent variable for items measuring endorsement of negative stereotypes and beliefs about being different (alienation). The model presented in this study would thus suggest that discrimination may lead to increased self-devaluation and this, in turn, would lead to increased hopelessness about the future. A study by Lysaker, Tunze, Yanos, Roe, Ringer and Rand (2012) with adult service users with a diagnosis of schizophrenia, however, found that stereotype endorsement and discrimination were associated with each other concurrently, but not across time. Neither of the outcomes were associated with distress across time. With regards to well-being, experiences of rejection have not been found to be significantly associated with mastery in an adolescent sample (Moses, 2009). A study by Wright, Gronfein and Owens (2000) with adult service users recently discharged from hospital, however, found that rejection experiences

were associated with lower levels of mastery when measured concurrently, but not across time. It may thus be that recent and current experiences of discrimination are pertinent to well-being in particular. These findings would also suggest that, in people who have been experiencing mental health problems for a longer period of time, current experiences of rejection may function differently in relation to well-being when compared with persons who have only had such experiences for a relatively short time.“ (pp. 13-14, lines 316-334)

- **Perhaps worth mentioning the differences between appraisals of discrimination as being about one’s deficiency (self-concept) AND identifying any behaviour as arising from a given characteristic (perceived discrimination). The latter is likely to be particularly important for further appraisals of ongoing AND future events (increased anticipated discrimination).**

This is an interesting point and we have attempted to include this in the Discussion regarding future interventions:

“Current interventions, such as Narrative Enhancement / Cognitive Therapy (NECT; Yanos et al., 2012), focus on helping people with SMI connect with positive beliefs and stories about themselves. How people make sense of the discrimination that they experience may also be pertinent to predictions about future discrimination. Such beliefs and appraisals may, however, be linked to perceived public stigma (e.g., “members of the public do not accept a person with mental illness”), rather than beliefs about the self. Whether interventions should address anticipated discrimination would, however, arguably also depend on the adaptiveness of this response (i.e., are the predictions likely to come true). However, in order to draw strong clinical inferences, further longitudinal studies are needed to ascertain the temporal sequence between all the factors in this study.“ (pp. 15-16, lines 362-372)

April 9th, 2017

Dr Bruce Link  
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Dear Dr Link,

Thank you for your response on the manuscript *SAH-2016-0127 Mental Illness Related Discrimination: The Role of Self-Devaluation and Anticipated Discrimination for decreased Well-being*. I am very thrilled with your decision to consider the revised manuscript for publication in *Stigma and Health*. I have now reviewed the feedback and amended the manuscript. Please find with this letter a summary of how yours and the reviewers' points have been addressed. I and the other authors hope that the comments have been addressed sufficiently. If you have any queries regarding this, please do not hesitate to contact me.

Sincerely,

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Mental Illness Related Discrimination:  
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### **Abstract**

People with serious mental illness experience discrimination across many different contexts. Mental illness-related discrimination has, however, been an under-researched area until the last decade. This study aims to expand understanding of the relationship between discrimination and well-being. Cross-sectional data on stigma, experiences of discrimination, and well-being were collected from adults in specialist mental health services in South London, United Kingdom as part of the MIRIAD study. Structural equation modeling supported the predictions that a higher degree of experienced discrimination would be associated with lower well-being via a pathway through higher internalized stigma and hopelessness. Higher anticipated discrimination also separately mediated the association between higher discrimination and lower well-being in the model. This suggests that discrimination is associated with lower well-being through both internalization of negative stereotypes and demoralization, as well as anticipation of further discrimination. In order to increase the well-being of people with severe mental illness, interventions may need to address the negative beliefs people hold about themselves (internalized stigma), as well as the sense of current and future threat that they experience (experienced and anticipated discrimination).

*Keywords:* stigma, discrimination, well-being, satisfaction with life, serious mental illness.

Stigma experienced by people with severe mental illness (SMI) has been reported to be associated with a range of negative outcomes for mental health and well-being (Farina, 1998; Mak, Poon, Pun & Cheung, 2007; Pascoe & Richman, 2009). A number of theoretical models have also been developed to understand the processes underlying these associations. Modified Labeling Theory (MLT; Link, 1987; Link & Phelan, 2006) suggests that, as a person becomes labeled with a mental illness, they begin to apply negative sociocultural beliefs about devaluation and discrimination around mental illness to themselves. This process consequently leads to coping strategies such as withdrawal and secrecy, which in turn lead to decreased income, social networks and self-esteem.

The process of internalization of negative stereotypes has been expanded in the Progressive Model of Self-stigma, which posits that the sequential stages of awareness (e.g., “the public think people with mental illness are stupid”), agreement (e.g., “I think that people with mental illness are stupid”) and application to the self (e.g., “because I have a mental illness, I am stupid”) of mental illness stereotypes lead to diminished self-esteem and self-efficacy (Corrigan, Watson & Barr, 2006). This in turn may lead a person to become demoralized and to opt out of pursuing important life goals, termed the “Why try” effect (Corrigan, Larson & Rüsch, 2009). In line with this, models have further stressed the importance of hope and self-esteem as key mediators between adoption of an “illness identity” (e.g., self as dangerous or incapable) and decreased quality of life (Hasson-Ohayon, Kravetz, Meir & Rozencwaig, 2009; Yanos, Roe & Lysaker, 2010).

Of note is that these theoretical frameworks focus more on the internalized beliefs held by people with SMI, rather than their current social context and perception of this. This is in particular with regards to experiences of unfair treatment from others



(discrimination) and the expectation of future unfair treatment (anticipated discrimination). Accordingly, interventions have also focused on negative beliefs people may hold about mental illness and the way they may appraise their illness label. These interventions have, however, not produced consistent findings with regards to well-being (Yanos, West, Smith & Roe, 2012; Knight, Wykes & Hayward, 2006). Furthermore, Knight et al. (2006) found that the degree of experienced discrimination remained stable throughout the intervention. This suggests that, in addition to internalized beliefs, the context and life circumstances of the individuals with SMI may warrant further attention as an important factors that impact their well-being.

People with SMI indeed experience discrimination across a range of contexts (Thornicroft, Brohan, Rose, Sartorius, Leese, & INDIGO Study Group, 2009) and this has been reported to be negatively associated with a range of measures of well-being and mental ill health. In two longitudinal studies, higher ratings on an item on recent experiences of stigmatisation and discrimination because of mental illness were found to predict lower levels of life satisfaction and higher levels of symptoms at follow-up (Markowitz, 1998, 2001). Furthermore, Link, Struening, Rahav, Phelan and Nuttbroc (1997) found that experiences of rejection predicted deterioration in depressive symptoms in men with substance abuse and mental health problems at one year follow-up, even when controlling for baseline levels of depression. A recent longitudinal study by Illic et al. (2013) also found that experienced discrimination predicted worse mental health (indicated by symptoms, quality of life and self-esteem) at baseline and follow-up.

Another important aspect of experienced stigma that has been proposed is anticipated discrimination (Thornicroft, 2006; Lasalvia et al., 2013). This has been less studied, perhaps because few measures of anticipated discrimination exist (Brohan,

Slade, Clement & Thornicroft, 2010). Anticipated discrimination has, however, been reported by between a third and over a half of people with schizophrenia diagnosis and has been found to occur both with, and without, prior experiences of discrimination (Thornicroft et al., 2009; Uçok et al., 2012).

Further clarification on the role of internalized stigma in the association between discrimination and well-being is warranted as it is emphasized in the prominent theoretical frameworks of mental health stigma (e.g., Link, 1987; Corrigan et al., 2009). The awareness of, agreement with, and application to the self of, mental health stereotypes may also be an important mediator in the association between discrimination and well-being in that when people experience unfair treatment from the people around them (e.g., being called names), they may begin to endorse these beliefs about themselves. Consistent with this, Munoz, Sanz, Perez-Santos and Quiroga (2011) reported that internalized stigma mediated the relationship between experiences of discrimination and a latent variable composed of social functioning and personal autonomy. People who hold internalized negative stigmatizing beliefs would also possibly be more inclined to anticipate unfair treatment from others (e.g. “I am not a worthy member of society, therefore people will treat me unfairly”).

However, it is arguably not necessarily the case that a person would have to agree with, or even be aware of, the stereotypes associated with discrimination they experience, in order for it to have a negative effect on their wellbeing. Rather, as a people with SMI accumulates experiences of discrimination, they may simply begin to anticipate this threat to re-occur across different contexts (e.g., social settings, work or family), and thus withdraw and avoid these contexts.

**Current Study**

This study aimed to investigate the role of key variables proposed by prominent theoretical models of stigma with regards to experiences of mental illness discrimination. The first hypothesis was that the pathway with higher internalized stigma leading to higher hopelessness would mediate part of the association between discrimination and well-being. Second, it was predicted that discrimination would also be associated with diminished well-being via higher internalized stigma and anticipated discrimination. Third, a pathway where discrimination would be associated with well-being via anticipated discrimination, independently of the levels of internalized stigma was also hypothesized.

## **Method**

### **Design**

The MIRIAD (Mental Illness-Related Investigations on Discrimination) study was a cross-sectional study conducted across secondary mental health services in South London. Data were collected between September 2011 and October 2012. The recruitment procedures and sample are briefly described here and have been reported in detail elsewhere (see Farrelly et al., 2014). The study was approved by the East of England/Essex 2 Research Ethics Committee (ref 11/EE/0052).

### **Participants and Procedure**

The participants in the MIRIAD sample were 202 adults using specialist mental health services. The inclusion criteria for this study were: (a) above 18 years of age; (b) primary diagnosis of schizophrenia-spectrum, bipolar affective disorder or major depression; (c) self-identified ethnicity of Black, White or Mixed (Black and White); (d) fluent enough in English language to understand the study materials; and (e) well enough to provide valid consent to participate. The demographic characteristics of the participants are shown in Table 1.

Participants were recruited from community mental health teams in South London. The clinicians in the teams excluded potential participants on their caseload who they felt were not well enough to participate. Eligible potential participants were then approached via letter and they could contact the study if they were interested in participating. Participants were also recruited via posters in waiting rooms and the

clinicians could also refer participants to the study. In these latter methods of recruitment, wellness to participate was checked before the first interview. The eligible potential participants met with a research assistant to complete the measures over two face-to-face interviews.

The representativeness of the sample was assessed as a part of the MIRIAD study procedure, through comparing demographic data on the electronic records between consenting and non-consenting eligible participants. No differences were found between the groups with regards to demographic characteristics, suggesting that the sample obtained was representative of the population of interest in regard to these characteristics.

**-Insert Table 1 about here-**

## **Measures**

Demographic data were collected through self-report and diagnosis from the clinical electronic records. Discrimination was assessed using the Discrimination and Stigma Scale (DISC-12; Brohan et al., 2013), which is a 34-item interviewer administered scale, asking participants to rate experiences of unfair treatment because of mental health in the past year with reference to 34 domains (friendships, family, justice system etc.). Each item is rated between 0 (“Not at all”) and 3 (“A lot”) and the scale has been found to have good internal consistency,  $\alpha = .82$ , and validity (Brohan et al., 2013). The ISMI Discrimination Experiences (ISMI<sub>DE</sub>; Ritsher, Otilingam & Grajale, 2003) subscale was used as the second indicator of discrimination. This scale is composed of five statements relating to the behavior and perceptions of others, which are rated between 1 (Strongly disagree) and 4 (Strongly agree). The subscale has been

found to have good internal consistency of  $\alpha = .75$  (Ritsher et al., 2003). Anticipated discrimination was assessed using the Questionnaire of Anticipated Discrimination (QUAD; Gabbidon, Brohan, Clement, Henderson, & Thornicroft, 2013), which asks participants to rate, between 0 (Strongly disagree) and 3 (Strongly agree), how much they would expect unfair treatment if people in 14 different domains (e.g., friends, family and work) knew about their mental illness. The scale has been found to have good internal consistency,  $\alpha = .86$ , and validity (Gabbidon et al., 2013).

The current study aimed to distinguish between behavioral and cognitive aspects of stigma (e.g., Link et al., 1997; Thornicroft, 2006). This rationale was also adopted with regards to measurement. In line with Yanos, Roe, Markus and Lysaker (2008), the ISMI Alienation (ISMI<sub>A</sub>) and Stereotype endorsement (ISMI<sub>SE</sub>) subscales were considered to be conceptually similar as they reflect respondents' beliefs about mental illness and themselves. These scales were thus used as indicators of internalized stigma. The ISMI<sub>A</sub> subscale consists of six statements about beliefs about being different because of mental illness. The subscale has been shown to have good internal consistency of  $\alpha = .79$  (Ritsher et al., 2003). The ISMI<sub>SE</sub> subscale consists of seven statements about negative stereotypes of people with mental illness. This subscale has also been shown to have good internal consistency of  $\alpha = .72$  (Ritsher et al., 2003).

Hopelessness was measured using the Beck Hopelessness Scale (BHS; Beck & Steer, 1988). In this study, the items were rated on a five-point likert scales from 1 (strongly disagree) to 5 (strongly agree). The internal consistency of the BHS for this study was excellent,  $\alpha = .95$ .

Well-being was assessed using the Warwick-Edinburgh Well-being Scale (WEMWBS; Tennant et al., 2007), a 14-item scale that measures a range of facets related to well-being (positive affect, satisfying interpersonal relationships and social

functioning). The items are rated between 1 (“none of the time”) and 5 (“all the time”). The scale has been shown to have very good internal consistency with  $\alpha = .91$  and validity (Tennant et al., 2007).

### **Data Analysis**

Structural Equation Modeling (SEM) was used as a method of analysis. The fit of the hypothesized model (see Figure 1) was assessed using the  $\chi^2$  goodness-of-fit statistic, the Comparative fit index (CFI), Tucker-Lewis index (TLI) and Root-mean-square error of approximation (RMSEA). The fit of the model was judged to be good if the following criteria were met: a non-significant  $\chi^2$  statistic, CFI and TFI  $>0.90$  and an RMSEA that was between 0 and 0.08 (Hu & Bentler, 1999; Wang & Wang, 2012). In addition, the conventional criteria of  $\beta \geq 0.30$  and  $p < .05$  for each standardized factor loading was used (Brown, 2006; Wang & Wang, 2012). Given an adequately fitting model, the significance of the direct pathways was investigated. Finally, the significance of the indirect pathways was examined. The analyses in this study were performed with Mplus software version 7.4 (Muthén & Muthén, 2010). To construct an adequate measurement model, item-pair parcels were created from each of the scales (Hau & Marsh, 2004). For scales with an uneven number of items, the final parcel was calculated as the mean of the last three items.

**-Insert Figure 1 about here-**

## Results

The zero-order correlations between the latent variables are displayed in Table 2. The correlations ranged from small to moderate according to criteria by Cohen (1992). As some of the predictors in the model were strongly correlated this was investigated further. For any outcome with more than one predictor in the model, multicollinearity was assessed by regressing the predictors on each other and calculating the remaining unexplained variance (tolerance). The tolerance for all predictors was found to be above the recommended minimum value of .10, indicating that multicollinearity was not of concern (Tabachnick & Fidell, 2001).

**-Insert Table 2 about here-**

The hypothesized model provided a good fit to the data. All but one of the hypothesized pathways was statistically significant. Two significant indirect pathways, one via internalized stigma and hopelessness, and another via anticipated discrimination, were found between discrimination and well-being.

**Model fit.** The goodness-of-fit test yielded a significant chi-square,  $\chi^2(489) = 788.56, p < .001$ , indicating a significant difference between the model and the observed data. This was within the range of fair fit, RMSEA = 0.06, 90% CI: 0.05-0.06. The comparative fit indices both indicated an adequate model fit, CFI = .92, TLI = 0.91 (Hu & Bentler, 1999; Wang & Wang, 2012). All the indicators for their latent factors were significant and had a standardized coefficient of  $\geq 0.30$ , indicating adequate



measurement of the respective latent constructs (see Table 3) (Brown, 2006; Wang & Wang, 2012).

In sum, although the chi-square goodness-of-fit test indicated a significant difference between the model and the observed data, the model was judged to provide a good fit for the data. The reason for this was that the chi-square model fit statistic is often problematic when used with larger sample sizes ( $\geq 200$ ) because the power to detect even small differences between the model and observed data is high (Kelloway, 2014).

**-Insert Table 3 about here-**

**Direct effects.** All the hypothesized pathways were statistically significant and in the predicted direction, apart from the pathway between internalized stigma and anticipated discrimination, which was non-significant and negative. Discrimination thus predicted both higher levels of internalized stigma and higher levels of anticipated discrimination in the model. Internalized stigma in turn predicted higher levels of hopelessness, but not anticipated discrimination. Both hopelessness and anticipated discrimination predicted lower levels of well-being. The model explained 67% of the variance in well-being (see Figure 2).

**-Insert Figure 2 about here-**

**Indirect effects.** There was a statistically significant indirect effect of discrimination on well-being where discrimination predicted higher levels of

internalized stigma, which in turn predicted higher levels of hopelessness and higher hopelessness predicted lower well-being,  $\beta = -0.31$ , S.E.=0.05,  $p < .01$ . The indirect effect, where higher discrimination predicted lower levels of well-being through internalized stigma and anticipated discrimination (sequentially) was non-significant,  $\beta = 0.02$ , S.E. = 0.02,  $p = .18$ . The effect for the more direct pathway from discrimination to well-being via only anticipated discrimination was significant,  $\beta = -0.11$ , S.E. = .05,  $p = .04$ . The total indirect effect was statistically significant,  $\beta = -0.40$ , S.E. = .06,  $p < .01$ . This indirect effect was negative, indicating that increased discrimination was associated with lower well-being through the specified pathways.

## Discussion

Consistent with the first hypothesis, discrimination was associated with lower well-being, via higher internalized stigma and higher hopelessness. Contrary to the second hypothesis, the pathway via both internalized stigma and anticipated discrimination was not significant. The third hypothesis, that higher levels of discrimination would be associated with lower levels of well-being via higher anticipated discrimination only, was supported.

The findings of this study thus suggest that discrimination may lead to lower well-being via two main pathways. The pathway via internalized stigma and hopelessness supports the “Why try” effect (Corrigan et al., 2009), where internalized negative beliefs (about the self) lead to demoralization (measured as hopelessness in the present study), because of perceived lack of ability and worth to pursue important goals (e.g., “because I have a mental illness I cannot live a normal life so there is no point in trying to get what I want”) (Corrigan et al., 2009). MLT would similarly predict that internalized beliefs about how people with mental health problems are devalued and discriminated against would lead to maladaptive coping strategies, which would have a further detrimental effect on mental health and well-being (Link et al., 1989). Such an association between internalized stigma, hope and diminished quality of life has been previously demonstrated (Mashiach-Eizenberg et al., 2013). The current study, however, links these theoretical frameworks to experiences of discrimination.

Internalized stigma, as it was measured in this study, was a latent variable for items measuring endorsement of negative stereotypes and beliefs about being different (alienation). The model presented in this study would thus suggest that discrimination may lead to increased self-devaluation and this, in turn, would lead to

increased hopelessness about the future. A study by Lysaker, Tunze, Yanos, Roe, Ringer and Rand (2012) with adult service users with a diagnosis of schizophrenia, however, found that stereotype endorsement and discrimination were associated with each other concurrently, but not across time. Neither of the outcomes were associated with distress across time. With regards to well-being, experiences of rejection have not been found to be significantly associated with mastery in an adolescent sample (Moses, 2009). A study by Wright, Gronfein and Owens (2000) with adult service users recently discharged from hospital, however, found that rejection experiences were associated with lower levels of mastery when measured concurrently, but not across time. It may thus be that recent and current experiences of discrimination are pertinent to well-being in particular. These findings would also suggest that, in people who have been experiencing mental health problems for a longer period of time, current experiences of rejection may function differently in relation to well-being when compared with persons who have only had such experiences for a relatively short time.

Importantly, the current model also separately included the anticipated discrimination component, which has been previously proposed to be associated with experiences of discrimination (e.g., Thornicroft et al., 2009). This component was found to constitute a second potential pathway through which discrimination may lead to decreased well-being. As both pathways were found to be independently related to diminished well-being, the current study would highlight the need to consider internalized stigma and anticipated discrimination as separate mediating mechanisms in the association between discrimination and well-being. Crucially, the model suggests that anticipation of further discrimination as a result of experienced discrimination is independent of levels of internalized stigma (stereotype endorsement

and alienation). The findings of this study thus highlight that future studies would benefit from including both self-devaluation (i.e., negative beliefs about the self) and anticipated discrimination as variables when investigating the association between experiences of discrimination and mental health outcomes. Further, disentangling different components of internalized stigma (alienation and stereotype endorsement) may also be important.

The findings would suggest three distinct foci of clinical intervention to decrease the impact of mental health discrimination. Firstly, interventions to decrease experienced discrimination itself are arguably of primary importance. There is, however, currently insufficient evidence to determine whether anti-stigma interventions have an impact on discrimination (Clement et al., 2013; Thornicroft, Clement, Mehta & Henderson, 2015). Secondly, dispelling negative stereotypes about mental illness (e.g., Lucksted et al., 2011) may be particularly important with regards to the self-devaluing beliefs. The current model would, however, suggest that exclusively targeting these beliefs may not have an impact on anticipated discrimination. Future interventions, may thus consider incorporating anticipated discrimination as a target for intervention.

Current interventions, such as Narrative Enhancement / Cognitive Therapy (NECT; Yanos et al., 2012), focus on helping people with SMI connect with positive beliefs and stories about themselves. How people make sense of the discrimination that they experience may also be pertinent to predictions about future discrimination. Such beliefs and appraisals may, however, be linked to perceived public stigma (e.g., “members of the public do not accept a person with mental illness”), rather than beliefs about the self. Whether interventions should address anticipated discrimination would, however, arguably also depend on the adaptiveness of this response (i.e., are the

predictions likely to come true). However, in order to draw strong clinical inferences, further longitudinal studies are needed to ascertain the temporal sequence between all the factors in this study.

### **Strengths and Limitations**

The MIRIAD study materials explicitly stated that the study was about stigma and discrimination (although it was also stated that the study was interested in hearing from people who had not experienced this). This may have resulted in some bias in sampling, where people who felt particularly strongly about the topic were more likely to take part. It should, however, be noted that there was a subset of participants who reported no stigma and discrimination and the sample obtained was representative of the sampling frame in terms of demographic characteristics. Furthermore, service users who were not seen by their responsible clinicians to be well enough to participate were not included in the study. This may mean that the results of this study may not be generalizable to people who were feeling particularly hopeless or distressed.

This study was cross-sectional, which means that any causal links presented in the models are purely theoretical. The arrangement of the variables in the model was based on prominent theories on how different facets of stigma and well-being may link together (e.g., Link et al., 1986; Corrigan et al., 2006). Further longitudinal research is needed to validate the processes proposed in the model. The study, however, used validated instruments to measure the constructs of interest. Robust measurement was also reflected in the analyses, which used latent variables to portion out measurement error. A broad measure was used as an indicator of well-being, which includes hedonic (absence of negative affect, presence of positive affect and satisfaction with life) and

eudaimonic (e.g., meaning and psychological functioning) well-being (Tennant et al., 2007). It should, however, be noted that, at face value, the WEMWBS could be seen as an inverse measure of depression. The current observed relationships could therefore be due to a general presence of depression, which would be expected to also correlate with hopelessness, discrimination and internalized stigma. Further research is needed to investigate the role of depression in the observed relationships.

Additionally, hopelessness and well-being were strongly correlated in the current study, which was to be expected as these are conceptually similar constructs. However, as pointed out by Magaletta and Oliver (1999), these can be taken to represent two distinct “cognitive sets”, where hope is focused around orientation towards the future, whereas general well-being pertains to the recent past.

As has been pointed out, relationships between discrimination and well-being have not been consistent in the literature (Wright et al., 2000; Moses, 2009) and may depend on how long the person has been experiencing mental health problems (first contact with services or longstanding difficulties), time-frame for the experienced discrimination (ongoing or historical) and the type of well-being outcome (eudaimonic or hedonic). The current study measured general well-being (both eudaimonic and hedonic) on current and recent (previous 12 months) experiences of discrimination and the service users were recruited from secondary care. Future studies may wish to pay particular attention to these variables.

**Summary and conclusions**

In sum, this study found that anticipated discrimination, internalized stigma and hopelessness are important mediators in the association between mental illness discrimination and well-being. The current study is the first to highlight that two pathways, one through self-devaluing beliefs (internalized stigma) and hopelessness and the other through anticipated discrimination, which independently mediate the association between experienced discrimination and well-being. This study would thus suggest that anticipated discrimination and self-devaluation to be considered separately, both in terms of research and clinical practice.

Further research would benefit from investigating whether particular aspects of well-being are associated with experiences of discrimination via anticipated discrimination. It would also be important to establish the role of past and current experiences of discrimination for well-being, and whether the latter is of particular importance to a person's current well-being. This would importantly illuminate to what extent targeting internalized beliefs may be sufficient as an intervention to increase well-being.



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Table 1

Demographic characteristics of the full MIRIAD sample used in the study.

Age		41.86 (11.06)
Gender		
Female	110 (54.5)	
Male	92 (45.5)	
Ethnicity		
White	108 (53.5)	
Black	77 (38.1)	
Mixed (White and Black)	17 (8.4)	
Educational level		
No formal qualifications	25 (12.4)	
Up to 16 years education	50 (24.8)	
A-levels/Vocational qual.	67 (33.2)	
Degree level or higher	60 (29.7)	
Employment status		
Employed	46 (22.8)	
Unemployed	126 (62.4)	
Student/In training	25 (12.4)	
Diagnostic group		
Schizophrenia spectrum	96 (47.5)	
Bipolar Affective Disorder	41 (20.3)	
Major Depression	65 (32.2)	



Table 2. Intercorrelations among latent variables

	DISC	ISMI <sub>A+SE</sub>	QUAD	BHS
DISC	1			
ISMI <sub>A+SE</sub>	.76**	1		
QUAD	.74**	-.46**	1	
BHS	.43**	-.51**	0.22*	1
WEMWBS	-.44**	-.51**	-.29**	-.81**

\*p&lt;.05, \*\*p&lt;.001

Table 3

Factor loadings for the structural models

	Mental wellbeing model	
	$\beta$	SE
<b>Discrimination experiences</b>		
DISC-12 Mean*	.57	.06
ISMI <sub>DE</sub> Parcel 1	.71	.05
ISMI <sub>DE</sub> Parcel 2	.83	.04
<b>Internalised stigma</b>		
ISMI <sub>A</sub> Parcel 1	.76	.05
ISMI <sub>A</sub> Parcel 2	.72	.05
ISMI <sub>A</sub> Parcel 3	.64	.06
ISMI <sub>SE</sub> Parcel 1*	.34	.08
ISMI <sub>SE</sub> Parcel 2*	.64	.07
ISMI <sub>SE</sub> Parcel 3	.68	.07
<b>Hopelessness</b>		
BHS Parcel 1*	.86	.02
BHS Parcel 2	.59	.10
BHS Parcel 3	.68	.04
BHS Parcel 4	.79	.03
BHS Parcel 5	.73	.04
BHS Parcel 6	.82	.04
BHS Parcel 7	.82	.03

Table 2 (contd.)

BHS Parcel 8	.90	.02
BHS Parcel 9	.86	.03
BHS Parcel 10*	.90	.02
<b>Anticipated discrimination</b>		
QUAD Parcel 1	.67	.05
QUAD Parcel 2	.67	.06
QUAD Parcel 3	.71	.04
QUAD Parcel 4 <sup>¥</sup>	.57	.06
QUAD Parcel 5	.74	.04
QUAD Parcel 6	.67	.06
QUAD Parcel 7	.72	.05
<b>Well-being</b>		
WEMWBS Parcel 1	.81	.04
WEMWBS Parcel 2	.75	.05
WEMWBS Parcel 3	.84	.03
WEMWBS Parcel 4	.89	.02
WEMWBS Parcel 5	.86	.03
WEMWBS Parcel 6	.80	.04
WEMWBS Parcel 7	.82	.03

\*Square root transformed, ¥Log transformed,

*Note.* The significance of all factor loadings is  $p < 0.001$ .

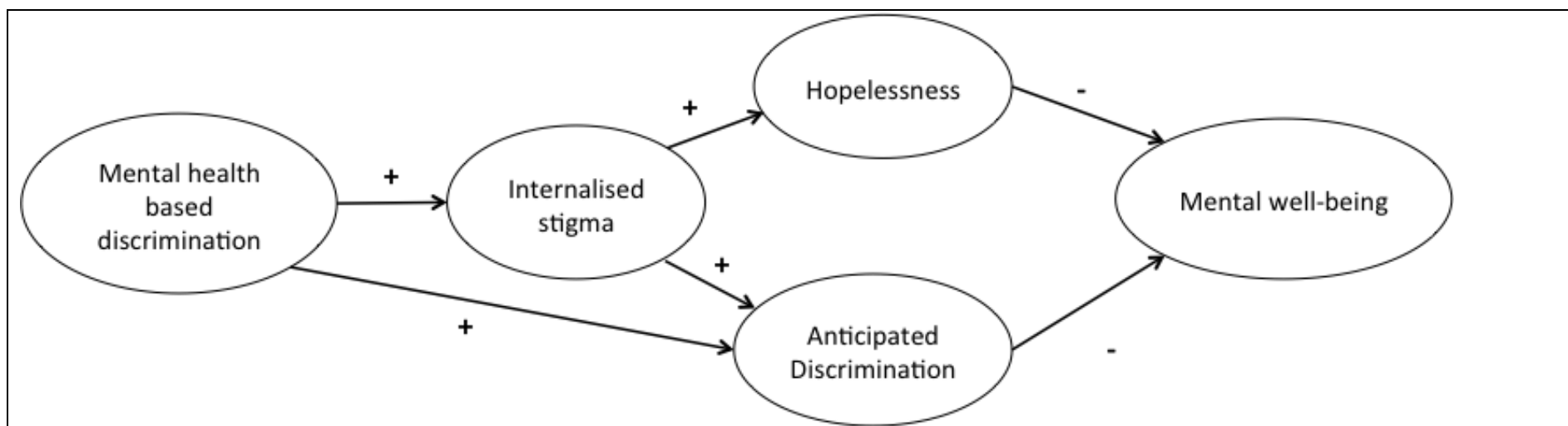


Figure 1. The hypothesised structural model.

Note. The plus and minus signs depict the hypothesised direction of the effects.

