

## General

# The Stigma and Self-Stigma Scales for attitudes to mental health problems: Psychometric properties and its relationship to mental health problems and absenteeism.

Alys E. Docksey<sup>1</sup>, Nicola S. Gray<sup>1</sup> , Helen B. Davies<sup>2</sup>, Nicola Simkiss<sup>1</sup> , Robert J. Snowden<sup>3</sup>  <sup>a</sup>

<sup>1</sup> Department of Psychology, Swansea University, <sup>2</sup> Senior Human Resources Business, Driver and Vehicles Licensing Agency, <sup>3</sup> School of Psychology, Cardiff University

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The Stigma and Self-Stigma scales (SASS) measure multiple aspects of stigmatic beliefs about mental health problems, including cognitive aspects of stigma towards others (Stigma to Others) and emotional stigma toward others (Social Distance), anticipated stigma by others, self-stigma, avoidant coping strategies, and help-seeking intentions, alongside an index of social desirability. The properties of the SASS were investigated by employees of a large UK government organization. With minor exceptions, each of the SASS scales had strong psychometric properties, good internal reliability, and test-retest reliability. Social Distance, Anticipated Stigma, Self-Stigma, and Avoidant Coping were all strongly associated with a lack of help-seeking for mental health problems. Similarly, Stigma to Others, Self-Stigma, and Avoidant Coping were all associated with current mental health problems. Finally, absenteeism from the workplace was found to be negatively related to Stigma to Others, and positively related to Avoidant Coping and Anticipated Stigma. In conclusion, the SASS was able to measure several different forms of stigma about mental health simultaneously in people both with and without a history of mental health problems. The SASS can be used to monitor changes in mental health attitudes outcomes following intervention programs to investigate stigmatic attitudes to mental health problems across different samples.

## 1. INTRODUCTION

Common mental problems (i.e. anxiety and depression) are major factors in sickness and absence from work,<sup>1-4</sup> and in gaining employment,<sup>5</sup> with the obvious negative outcomes for employee, employer, and the economy due to lost productivity. Lim et al.<sup>6</sup> evaluated the consequences of different types of mental health problems on workplace productivity and found the greatest work impairment was due to anxiety and affective disorders. Reducing the presence and severity of common mental problems is a goal for both society and business. However, levels of disclosure and levels of help-seeking are remarkably low given their high prevalence<sup>7-9</sup> and mental health issues are far less likely to be reported than physical health conditions.<sup>10</sup> The most common reason given for this lack of help-seeking relates to stigmatic beliefs about mental health problems and the fear of possible discrimination if an individual were to disclose their own mental health problems.<sup>11,12</sup> In turn, mental health stigma is then related to poor mental health.<sup>13</sup>

### 1.1. MENTAL HEALTH STIGMA

Stigmatic beliefs about mental health problems take various forms. “Stigma to Others” is what a person thinks about other people who have mental health difficulties. When measured at the population level this is often called “public stigma”.<sup>14</sup> Eisenberg, Downs, Golberstein, and Zivin<sup>15</sup> showed that high levels of Stigma to Others were related to low levels of help-seeking in students. However, the meta-analysis of Clement et al.<sup>16</sup> failed to find a consistent association between stigma to others and help-seeking behaviour.

“Social Distance” covers the affective component of beliefs (see Fox, Earnshaw, Taverna, & Vogt<sup>17</sup>) and is defined by a willingness to interact with people with a mental health problem.<sup>18</sup> Schomerus, Matschinger, and Angermeyer<sup>19</sup> have demonstrated that an increased level of personal desire for social distance is associated with a decreased willingness to seek psychiatric help in a large sample of the German general population.

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#### <sup>a</sup> Corresponding author:

R. J. Snowden, School of Psychology, Cardiff University, Wales.  
[snowden@cardiff.ac.uk](mailto:snowden@cardiff.ac.uk) or [snowden@caerdydd.ac.uk](mailto:snowden@caerdydd.ac.uk)

“Anticipated stigma” is the belief that other people will discriminate against you if you have a mental health problem<sup>20</sup> and is also referred to as “perceived public stigma”.<sup>21</sup> Clement et al.<sup>16</sup> identified two studies and found no relationship between anticipated stigma and help-seeking behavior. Fox, Smith, and Vogt<sup>22</sup> found that anticipated stigma had a significant effect on levels of absenteeism. However, Fox et al. conducted their research within a sample of U.S. veterans and, consequently, their results may not be generalisable to other populations with less severe mental health difficulties. Schomerus et al.<sup>19</sup> failed to find an effect of levels of anticipated stigma on willingness to seek psychiatric help.

“Self-stigma” refers to a person’s belief about themselves if they have, or were to have, a mental health problem<sup>14</sup> and can be thought of as the internalisation of public stigma.<sup>14</sup> Jennings et al.<sup>23</sup> found that self-stigma was related to low levels of help-seeking intentions in students, while Conner et al.<sup>24</sup> showed similar results for older adults. The meta-analysis of Clement et al.<sup>16</sup> examined seven studies on this issue and found overall a “small negative relationship” between self-stigma and help-seeking behavior.

“Avoidant coping” is the deliberate ignoring of problems, or the use of maladaptive coping strategies such as the use or abuse of alcohol or other substances, to block out negative thoughts or emotions.<sup>25</sup> Although avoidant coping is not a form of “stigma” it is clearly an important concept in understanding help-seeking behaviour for mental health difficulties, the maintenance of mental health problems, and absenteeism from work. Currently there is little evidence on the relationship between avoidant coping and help-seeking behaviour for mental health problems.<sup>26</sup> However, there is evidence that avoidant coping strategies affect absenteeism. For instance, van Rhenen, Schaufeli, van Dijk, and Blonk<sup>27</sup> examined over 3,500 employees over a 12-month period and found that an avoidant coping style increased both the frequency and the length of sickness absence.

To define these different concepts of stigma we have presented them separately. We also acknowledge that this list is not exhaustive and alternate views of mental health stigma exist. However, these concepts are highly connected. For instance, Lannin et al.<sup>21</sup> have developed that Internalised Stigma Model and showed that anticipated stigma (or perceived public stigma as they refer to the concept) is internalised to self-stigma which in turn is predictive of help-seeking behaviors, particularly through stigma that is associated help-seeking behaviour itself. It was not the aim of this paper to explore these relationships or test the Internalised Stigma model.

## 1.2. MEASURES OF MENTAL HEALTH STIGMA

While there are several measures of mental health stigma<sup>17</sup> there were reasons for the creation of a new measure. First, Wei, McGrath, Hayden, and Kutcher<sup>28</sup> noted that few studies reported on the psychometric properties— a position noted earlier by Brohan, Slade, Clement, and Thornicroft<sup>29</sup> who also noted many had floor or ceiling effects. Second, most measures look at one specific form of stigma (e.g. stigma to others) or confound the different forms of stigma.

None of the existing measures of mental health stigma give separate estimates of stigma to others (in both cognitive and affective forms), anticipated stigma, and self-stigma.

Third, the measures vary with respect to the specificity of the mental disorder.<sup>30</sup> Some are designed to measure attitudes to a specific mental disorder (e.g. schizophrenia) while others are for mental health problems as a whole. Fox et al.<sup>22</sup> suggested that considering mental health stigma variables more generally results in a better understanding of commonalities of mental health stigma (see also Van Brakel<sup>31</sup>).

Fourth, some measures were designed for people who have, or have had, a mental health problem. However, all individuals can be affected by mental health difficulties, and placing experience of mental health on a continuum, rather than into two dichotomous categories (i.e. mentally ill vs. mentally well), is related to a reduction in stigmatising beliefs.<sup>32</sup> Schibalski et al.<sup>33</sup> suggested that considering how individuals with sub-clinical mental disorders identify with stigmatising views can lead to a better understanding of different forms of mental health stigma.

Fifth, measures of stigma may not be answered honestly as individuals may be hesitant to endorse stigmatic beliefs.<sup>34</sup> This desire to present oneself positively is known as “positive impression management” or “social desirability bias” and can lead to false or incorrect responses.<sup>35</sup> Ensuring anonymity is one way to reduce social desirability bias, but it may be prudent to measure this.<sup>35</sup>

## 1.3. THE PRESENT STUDY

The Stigma and Self-Stigma Scale (SASS) was created as a questionnaire that could separately measure these different forms of mental health stigma. It was designed to look at mental health problems in general and was applicable to both those with or without a history of mental health problems. Its principal aim was to have an efficient single measure rather than a range of questionnaires to measure the different concepts (with associated different response formats etc.) in order to evaluate a workplace mental health literacy and stigma reduction programme for the workplace (Prevail – see Gray, Davies & Snowden<sup>36</sup>). The present study evaluated: (a) its psychometric properties, (b) its relationship to current mental health status, and (2) its relationship to recent absenteeism (due to physical and mental health problems).

## 2. METHOD

### 2.1. PARTICIPANTS

The \*\*\*\*\* (\*\*\*\*) is a UK government organisation that \*\*\*\*\* records. Possible participants were selected by the Human Resources Department to obtain approximately equal numbers across employees across age groups, gender, and history of mental health problems. Over one thousand (N = 1235) individuals were contacted, of which and 377 took part. Data from the first 196 participants were used for development of the measure. The other 181 participants took part in the main study. The study was then advertised

across the agency resulting in an additional 147 participants (total  $N = 328$ ; 37.5% male) for the main study. One hundred and thirteen participants repeated the questionnaire approximately four weeks later in order to assess test-retest reliability. Ethics approval was given by the \*\*\* University ethical committee. All participants gave written informed consent.

## 2.2. MATERIALS

### 2.2.1. STIGMA AND SELF-STIGMA SCALES (SASS)

This final version of the SASS was developed from an earlier version. For this original version, the items for the scales of Stigma to Others, Self-stigma, and Anticipated Stigma, and Help-Seeking/Disclosure were chosen by the research team after reviewing many previous scales that aimed to measure these concepts. Items were rewritten to be answerable by people both with and without a history of mental health problems. Items were also chosen to produce a scale related to willingness to disclose mental health difficulties and the amount of help-seeking a person would engage within for these problems. Finally, items were added to produce a Social Desirability scale. All items were reviewed by a research team which consisted of a Clinical and Forensic psychologist, a Forensic psychologist, a Human Resources director, and an MSc-by-Research student.

This initial version underwent an exploratory factor analysis using Principle Axis Factoring with Oblimin rotation and Kaiser Normalization with a pilot sample of participants ( $N = 194$ ). The 10 items from the Social Desirability were not included in this analysis as they are not related to mental health attitudes. The scree plot suggested five factors that explained 43.5% of the variance. Bartlett's test of sphericity was significant,  $\chi^2(1081) = 4571.62$ ,  $p < .001$ . The Kaiser-Meyer Olkin measure verified the sampling adequacy for the analysis,  $KMO = .88$ . The five factors were interpretable broadly along the intended lines. Factor 1 contained items from both the Anticipated Stigma and Self-stigma scales. Factor 2 contained items from the Stigma to Others scales, as did Factor 4. These two factors differed in the items loaded onto Factor four appeared to be those relating to "social distance" (see Introduction). Factor 3 contained items from the Help-seeking/disclosure scale. Finally, Factor 5 appeared to contain items which we interpreted as an "avoidant coping" style.

Following this initial analysis, items that did not load onto the correct scales, or showed poor psychometric properties (e.g. floor or ceiling effects) were dropped or reworded. We decided to maintain the distinction between Anticipated Stigma and Self-stigma for theoretical reasons (see Quinn et al.<sup>20</sup>). Other items were added to bolster the Social Distancing scale and the Avoidant Coping scales.

The final SASS contained of 42 items across the six domains of Stigma to Others, Social Distance, Anticipated Stigma, Self-stigma, Avoidant Coping, and (Lack of) Help-seeking/disclosure with six questions for each domain. The measure also contains six items to examine positive impression management (Social Desirability). Mental health problems were defined at the start of the questionnaire as "a pattern of behaving, thinking, and/or feeling that causes the

person significant distress or impairment of personal functioning".

Participants were asked to indicate if they agreed or disagreed with each of the statements using a 5-point Likert scale ranging from 'strongly disagree, disagree, neither agree nor disagree, agree, strongly agree' scored from 0 to 4. Some terms were reverse scored to prevent response bias. Each scale had a possible range of 0-24 with higher scores representing greater stigma or problems. The full questionnaire is included in the Supplementary Materials.

### 2.2.2 DEMOGRAPHICS AND WORK PERFORMANCE

Participants completed a questionnaire related to demographic information, their history of mental health problems, and any absence from work due to physical or mental health problems. The number of days absent in the past year was assessed separately for both mental and physical problems (see Goetzel et al.<sup>37</sup>), with options of none, one, two to three, four to ten, eleven to twenty, twenty-one to thirty, or more than thirty. Participants were asked if they had ever given a physical health reason for an absence when the real reason was a mental health problem, and vice versa.

### 2.2.3 MEASURES OF MENTAL HEALTH

The Patient Health Questionnaire (PHQ-9) is a 9-item tool that assesses major depression.<sup>38</sup> It scores each of the nine items from 0-3. A score of '0' indicates 'not at all' and a score of 3 indicates 'nearly every day.' In the present study, Cronbach's  $\alpha$  was .91.

The Generalised Anxiety Disorder-7 Item Scale (GAD-7) is a 7-item scale that assesses generalised anxiety disorder<sup>39</sup> with the same scoring structure as the PHQ-9. In the present study, Cronbach's  $\alpha$  was .93.

Work and Social Adjustment Scale (WSAS) is a 5-item measure of impairment in functioning.<sup>40</sup> Each item is rated from 0 to 8 (0 represents no impairment at all and 8 represents very severe impairment). Items measures participants' abilities to complete everyday activities, ability to work, home management, social leisure activities, private leisure activities, and close relationships. In the present study, Cronbach's  $\alpha$  was .89.

## 2.3. STATISTICAL ANALYSES

The psychometric properties of the SASS were assessed via a Confirmatory Factor Analysis, internal reliability (using both Cronbach's alpha ( $\alpha$ ) and coefficient omega:  $\omega_u$  – see Flora<sup>41</sup>) and test-retest reliability (Spearman rho). The main hypotheses (the relationship between mental health stigma variables, current mental health, and workplace absenteeism) were assessed via zero-order correlations and multiple regression. Spearman rho correlations were chosen to analyse the data for consistency across the analysis (as some of the data were ordinal). Multiple hierarchical linear regressions were chosen to analyse the data even for the ordinal data to prevent a loss of information (see Mircioiu & Atkinson<sup>42</sup>). In step 1 the demographic variables were entered (including Social Desirability) to account for their ability to predict the dependent variable. In step 2 the SASS

scales were entered. Changes in the ability of the model to predict the dependent variable were assessed by changes in  $R^2$  and standardised beta ( $\beta$ ) to examine the contribution of each scale.

### 3. RESULTS

Full demographic details are given in [Table 1](#). Around 30% of participants had taken sickness absence for mental health reasons in the past year. Very few participants provided mental health reasons for an absence when it was really a physical health absence ( $n = 4$ , 1.2%). However, approximately a third of participants reported giving a physical health reason for an absence when it was really a mental health problem ( $n = 124$ , 37.8%).

#### 3.1. CONFIRMATORY FACTOR ANALYSIS

The six-factor (Stigma to Others, Social Distance, Anticipated Stigma, Self-stigma, Avoidant Coping and Help-seeking/Disclosure) model was examined via confirmatory factor analysis on the data from the 328 participants. The six items from the Social Desirability scale were not included in this analysis. As the data is ordinal, a confirmatory factor analysis using a diagonally weighted least squares (DWLS) estimator to determine whether the factor structure was used as recommended by Lavaan package version 0.5-22.<sup>43</sup>

The model resulted in an excellent fit ( $\chi^2$  (df= 579) = 881.43, CFI = .97, TLI = .97, and RMSEA = .041) as the Comparative Fit Index (CFI), and Tucker Lewis Index (TLI) were both above the recommended value of .90. Each item loaded significantly on its respective latent factor and all specified covariances were significantly different from zero (see [Table 2](#)).

#### 3.2. PSYCHOMETRIC PROPERTIES OF SASS

The psychometric properties of the SASS are given in [Table 3](#). Most of the scales achieved scores in the mid-range of 0-24 and had acceptable levels of skewness and kurtosis. The exception was the Stigma to Others scale which had a low mean score and a restricted range. Internal consistencies were good for most scales (assessed by either Chronbach's  $\alpha$  or the coefficient omega:  $\omega_{ii}$ ). However, the Avoidant Coping scale did not achieve an acceptable level of internal consistency. All the scales had good levels of test-retest reliability.

There was no significant difference in scale scores due to gender. Most of the scales were also unaffected by age, however, there was a small effect where Stigma to Others was greater for the older participants. The older participants also showed greater levels of Social Desirability.

#### 3.3. SASS AND RECENT MENTAL HEALTH PROBLEMS

The SASS scales gave consistent results across the three measures of mental health— see [Table 4](#). Anticipated Stigma, Self-Stigma (medium effect sizes) and Avoidant Coping (small effect sizes) were positively correlated with mental health problems. Stigma to Others and Social Distance were not correlated with mental health problems

(with some hint that Stigma to Others may be negatively related). Lack of Help-Seeking was positively correlated with mental health problems (small effect size).

As the three mental health problem scales were highly correlated (PHQ-9 and GAD-7 = .87; PHQ-9 and WSAS = .75; GAD-7 and WSAS = .70), the regression results are presented only for the PHQ-9 scale, however, the pattern of results was highly similar across all scales. The stage 1 model was not significant ( $R^2 = .02$ ,  $F(3, 318) = 2.38$ ,  $p = .07$ ). The addition of the SASS scales produced a significant increase in the model's fit ( $\Delta R^2 = 0.21$ ,  $F(3, 314) = 18.33$ ,  $p < .001$ ). Both Self-stigma and Avoidant Coping were positively predictive of mental health problems (medium effects sizes), whereas Stigma to Others was negatively predictive of mental health problems (small effect size).

#### 3.4. SASS AND ABSENTEEISM

[Table 5](#) gives the correlations between the scales of the SASS and recent absenteeism. Anticipated Stigma was positively correlated with all forms of absenteeism (small effect sizes). Stigma to Others was negatively correlated with general absenteeism and with absenteeism due to mental health reasons (small effect sizes).

To clarify the unique role of each SASS scale a hierarchical regression was performed but using the Anticipated Stigma scale rather than the Self-stigma scale due to the former's greater zero-order correlation with absenteeism. As the three measures of absenteeism were highly correlated, and our previous finding that the reasons given for a mental health absence were often recorded as a physical absence, we present data from the analysis of all absenteeism. The stage 1 model was not significant ( $R^2 = .01$ ,  $F(3, 317) = 1.20$ ,  $p = .31$ ). However, the addition of the SASS scales produced a significant increase in the model's fit ( $\Delta R^2 = .06$ ,  $F(3, 313) = 4.99$ ,  $p = .001$ ). Inspection of the beta weights showed that both Anticipated Stigma and Avoidant Coping were positively predictive of absenteeism (small effect sizes), whereas Stigma to Others was negatively predictive (small effect size).

**Table 1. Demographic characteristics of sample. Total N=328.**

		N	%
Gender	Male	123	37.5
	Female	204	62.2
	Prefer not to say/missing	1	0.3
Age	18-29	77	23.5
	30-39	85	25.9
	40-49	77	23.5
	50-59	66	21.1
	60+	22	6.7
	Prefer not to say/missing	1	0.3
History of Mental health problem	Yes	219	66.8
	No	104	31.7
	Prefer not to say/missing	3	0.9
Nature of mental health problem	Anxiety	159	48.5
	Depression	139	42.4
	Stress	64	19.5
	Emotional distress	17	5.2
	Others	79	24.1
Days absent in past year – all	None	123	37.5
	1	13	4.0
	2-3	55	16.8
	4-10	59	18.0
	11-20	26	7.9
	21-30	15	4.6
	30+	36	11.0
	Prefer not to say/missing	1	0.3
Days absent in past year – Physical	None	167	50.9
	1	20	6.1
	2-3	60	18.3
	4-10	53	16.2
	11-20	7	2.1
	21-30	7	2.1
	30+	11	3.4
	Prefer not to say/missing	3	0.9
Days absent in past year – Mental	None	232	70.7
	1	5	1.5
	2-3	9	2.7
	4-10	33	10.1
	11-20	14	4.3
	21-30	9	2.7
	30+	23	7.0
	Prefer not to say/missing	3	0.9

		N	%
Have given a physical health reason but real reason was mental	Yes	124	37.8
	No	201	61.3
	Prefer not to say/missing	3	0.9
Have given a mental health reason but real reason was physical	Yes	4	1.2
	No	324	98.8
	Prefer not to say/missing	0	0

*Note that percentages may not add to 100 as a person could endorse more than one category.*

**Table 2. Standardised Factor Loadings in the CFA, Standard Errors and Omega reliability of SASS subfactors.**

Factor and items	$\omega$	$\lambda$	SE
<b>Stigma to others</b>	.71		
Q16. People with mental disorders are <b>NOT</b> really ill and should just get on with things.		.56	0.00
Q21. Employees suffering from mental disorders are less reliable than other employees.		.55	0.26
Q25. People with mental disorders are weak.		.63	0.24
Q26. People with mental disorders should just "snap out of it."		.71	0.16
Q31. People with mental disorders cannot live good, rewarding lives.		.32	0.15
Q38. People with mental disorders are NOT really ill.		.67	0.17
<b>Social distance</b>	.62		
Q1. I'm good at talking to people with mental health problems		.49	0.00
Q20. I am comfortable when around people with a mental disorder.		.38	0.14
Q28. I would feel comfortable discussing a colleague's mental health problem with them.		.45	0.14
Q33. If I were an employer, I would feel comfortable employing someone with a mental disorder.		.38	0.21
Q34. If I had a mental health disorder and needed help, I would feel comfortable going to a therapist.		.50	0.22
Q41. Having a mental disorder is nothing to be ashamed of.		.46	0.24
<b>Anticipated Stigma</b>	.87		
Q2. If I had a mental disorder, I would worry other people would think that I am weak		.72	0.00
Q11. If I had a mental disorder, I would worry other people would avoid talking to me.		.69	0.72
Q18. If I had a mental disorder, I would worry other people would think I was exaggerating my difficulties.		.78	0.77
Q29. If I had a mental disorder, I would worry that other people might think that I was "not really ill".		.77	0.72
Q32. If I had a mental disorder, I would worry other people would think of me as a failure.		.79	0.67
Q37. If I had a mental disorder, I would worry other people would feel sorry for me or patronise me.		.62	0.80
<b>Self-stigma</b>	.84		
Q9. If I had a mental disorder, I would feel ashamed.		.77	0.00
Q15. If I had a mental disorder and I could not solve my own problems, I would feel bad about myself.		.52	0.77
Q17. If I had a mental disorder, I would feel weak.		.79	0.61
Q19. If I had a mental disorder, I would feel like no one would want to get close to me.		.68	0.67
Q22. I would feel a burden to my colleagues if I had a mental disorder.		.60	0.67
Q40. I would feel a failure if I became mentally unwell.		.74	0.61
<b>Avoidant Coping</b>	.47		
Q6. Drinking alcohol never helps when you are stressed		.14	0.00
Q7. It's often best to ignore problems and hope they go away		.64	1.99
Q10. Taking illegal drugs can never help when you are stressed by something		.10	0.68
Q14. I do my best not to think about my problems		.43	1.83
Q27. The best way to cope with problems is not to think about them		.69	2.18
Q39. Mental health problems are best tackled head on		.23	0.84
<b>Help-seeking behaviours</b>	.78		
Q3. If I had a mental disorder, I would be happy to seek help from a mental health professional		.35	0.00
Q5. If I had a mental disorder, I would <b>NOT</b> feel comfortable telling my manager.		.69	0.46
Q8. I would <b>NOT</b> tell anyone if I had a mental disorder in case they judge me.		.70	0.45
Q12. I would NOT feel comfortable discussing my mental health problems with a colleague.		.66	0.43
Q24. I am confident that I could ask for help if I had a mental health problem		.55	0.30
Q42. It's best not to tell anyone about your mental health problems		.62	0.37

**Table 3. Psychometric Properties of the SASS.**

	Mean	SD	Min - Max	Skewness	Kurtosis	Internal reliability ( $\omega_{ij}$ )	Internal reliability ( $\alpha$ )	Test-Retest reliability	Gender Difference (female -male)	Correlation with age group (rho)
Stigma to others	3.83	2.82	0 - 12	0.43	-0.73	.71	.71	.71	-0.01	.11*
Social distance	6.90	3.16	0 - 17	0.43	0.24	.62	.62	.67	-0.51	.07
Anticipated stigma	13.44	5.10	0 - 24	-0.27	-0.68	.87	.88	.72	0.20	-.10
Self-stigma	11.40	4.86	0 - 24	0.14	-0.57	.84	.84	.76	-0.14	-.07
Avoidant coping	7.90	3.42	0 - 20	0.31	-0.07	.47	.47	.68	-0.28	-.02
(Lack of) Help-seeking	8.34	4.24	0 - 21	0.54	-0.21	.78	.77	.69	-0.43	.07
Social desirability	12.18	4.32	1 - 21	-0.12	-0.53	.72	.72	.82	0.45	.19**

\*p < .05; \*\*p < .01, \*\*\*p < .001



**Table 4. Zero-order correlations and regression coefficients between the scales of the SASS and current mental health variables**

	GAD-7	WSAS	PHQ-9	Regression model PHQ-9 $\beta$
Gender	-.17*	-.06	-.11	-.12*
Age	-.16*	-.14*	-.11*	-.01
Social desirability	-.03	-.12*	-.09	-.04
Stigma to others	-.07	-.12*	-.12*	-.19**
Social distance	.02	-.03	.02	-.11*
Anticipated stigma	.39***	.37***	.39***	-
Self-stigma	.34***	.31***	.40***	.41***
Avoidant coping	.17*	.16*	.23**	.32***
(Lack of) Help-seeking	.12*	.11*	.18**	-

\* $p < .05$ ; \*\* $p < .01$ , \*\*\* $p < .001$ **Table 5. Zero-order correlations and regression coefficients between the scales of the SASS and absenteeism**

	Absence- physical reason given	Absence – mental health reason given	Any absence	Regression Model Any absences $\beta$
Gender	-.06	-.04	-.06	-.06
Age	-.04	-.14*	-.06	.00
Social desirability	-.12*	-.09	-.09	-.07
Stigma to others	-.02	-.12*	-.17**	-.21**
Social distance	.06	-.10	-.04	.01
Anticipated stigma	.14*	.14*	.16**	.12*
Self-stigma	.08	.08	.07	-
Avoidant coping	.10	.11*	.08	.13*
(Lack of) Help- seeking	.09	-.07	-.03	-

\* $p < .05$ ; \*\* $p < .01$ , \*\*\* $p < .001$ 

## 4. DISCUSSION

### 4.1. PSYCHOMETRIC PROPERTIES OF SASS

The SASS scales had good psychometric properties with some minor exceptions. Avoidant Coping had an unacceptable level of internal consistency (i.e. low correlations amongst the items). Examination of the items in this scale did not reveal that any one item was responsible for this low internal consistency, though the items due to use of alcohol and drugs had the lowest loadings. Further development of this scale is warranted to increase its internal consistency due to the scale's clear ability to predict important aspects of help-seeking behaviour, severity of mental health problems, and levels of absenteeism, despite this lack of internal consistency.

The other weakness identified in psychometric properties was the low mean score and truncated range of the Stigma to Others scale. The questions used for this scale were adapted from similar scales (e.g. King et al.<sup>44</sup>; Subramaniam et al.<sup>18</sup>) where higher levels of stigma have been found. Thus, these differences in results may simply reflect

differences in the samples due to culture, education, income, and exposure to people who experience mental health problems.<sup>18</sup>

### 4.2. ANTICIPATED STIGMA AND SELF-STIGMA

We hypothesised that both Anticipated Stigma and Self-stigma would be related to both outcomes (i.e. current mental health problems, and absenteeism). Both hypotheses were supported. These effects were among the strongest of the SASS measures and therefore point to a strategy of targeting these form(s) of mental health stigma in any programme that hopes to produce improvement in behaviours associated with mental health and absenteeism.<sup>45</sup>

### 4.3. STIGMA TO OTHERS AND SOCIAL DISTANCE

Both these scales concern stigma towards people with mental health problems and so are discussed together. The two scales are correlated ( $\rho = .44$ ) and produced broadly similar results. Stigma to Others was negatively related to absenteeism. It may be that people with no current mental health

problems hold more stigmatic attitudes to those with problems and are less likely to be absent from work. These results, overall, suggest that mental health intervention programmes that target stigma to others may not produce changes in absenteeism. Intervention programmes need to target other forms of stigma.

#### 4.4. AVOIDANT COPING

As hypothesised, Avoidant Coping scale was associated with poor mental health and greater absenteeism. Hence, avoidant coping strategies should be targeted by intervention programmes that aim to improve people's help-seeking behaviour for mental health problems and improve rates of absenteeism from work.

#### 4.5. LIMITATIONS

The major limitation of this study is the reliance on self-report for each of the measures used. However, some of the issues seem only accessible via self-report (e.g. a person's attitudes about their own mental health problems), and issues of anonymity precluded our ability to look at how these individual attitudes were related to actual behavior.

Help-seeking intentions were measured rather than actual help-seeking behaviors. This raises the question whether help-seeking intentions are a good proxy measure for help-seeking behavior. Recent research supports the notion that beliefs of one's help-seeking intentions are a good proxy for actual help-seeking behavior.<sup>45</sup>

Current mental health difficulties were measured using well-established questionnaires for the two most common mental disorders of depression and anxiety (PHQ-9 and GAD-7). These measures have established strong associations with actual mental health as diagnosed via clinician diagnoses.<sup>38,39</sup> The study also used the WSAS that allows for an evaluation of the impact of mental health symptoms on level of functioning. The WSAS also incorporates variables that are specific to functioning in the workplace, and thus was the most appropriate measure of the impact of symptoms of mental health in the workplace.

We measured absenteeism through participants' self-report. While official figures would normally record the reason for an absence, it seems likely that some people may dissimulate this reason, particularly if they hold stigmatic attitudes about mental health problems. In the present study, where responses were completely anonymous, approximately 1/3 of the participants admitted that they had dissimulated the reasons provided for their work absence, with nearly all of these being instances where the person had given a physical health reason for absence whereas the real reason was due to mental health problems. These results are in line with large-scale studies that show that people are more reluctant to report mental health problems in comparison to other health conditions.<sup>10</sup> Thus, there are instances where this anonymised self-report method may have advantages over official records. There are also several studies that have addressed the relationship between self-report of absenteeism and official records. Johns and Miraglia<sup>46</sup> meta-analysed these studies and suggests that the relationship between self-report and official records is very

good in terms of rank-ordering, but people tend to under-report their overall levels of absence. They conclude that self-report data is valid for correlational type designs as used in the present study.

The study was also cross-sectional limiting the ability to draw inferences about causation. Clearly, a longitudinal study is needed to see if mental health attitudes are predictive of future work placed behavior.

Finally, there are some limitations to the sample collected. First, data were only collected from a single organisation that may limit the generalisability of the results. Second, the study was reliant on individuals volunteering to take part in the study. No data were available from those that did not volunteer to take part, so the study was not able to compare individuals that did or did not volunteer. There may be systematic biases between these two groups (e.g. experience of mental health problems), however it is not clear that such differences would affect the pattern of relationships between stigma and mental health reported here.

#### 4.6. CONCLUSIONS

The SASS measures multiple aspects of stigmatic beliefs about mental health problems including aspects of stigma towards others (cognitive and emotional stigma), anticipated stigma by others towards the self, self-stigma, avoidant coping strategies and help-seeking intentions, alongside an index of social desirability. The scales of the SASS have good psychometric properties (with some minor exceptions), including good internal reliability and test-retest reliability. The scales also showed validity to key variables such as current mental health and absenteeism from the workplace. The SASS questionnaire, therefore, provides the basis for a more comprehensive examination of mental health stigma and attitudes in the workplace compared to any single measure currently available. It is hoped the SASS will prove useful to monitor changes in mental health attitudes and intervention programmes, or to investigate stigmatic attitudes to mental health problems across different samples, across cultures, and in different types of workplace environment.

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#### AUTHOR CONTRIBUTION

The original project proposal was developed by NSG and HBD. AED was responsible for data collection and curation. AED was supervised by NSG and RJS. Data analysis was performed by RJS, AED and NS. The original paper was drafted by AED and RJS. All authors contributed to editing and rewrites of the manuscript. All authors approved the final version of the manuscript.

#### CONFLICT OF INTEREST

No conflicts of interest are reported for any of the authors.

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