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Development and Psychometric Validation of the Discrimination and Prejudice Responses Scale; the DAPR

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The ways in which people respond to stigma can have important consequences for health outcomes, yet there is no measure that assesses responses to stigma that can be used across groups stigmatized for different reasons. The aims of this study were to develop and psychometrically evaluate a new stigma responses questionnaire that can be used by individuals with different types of stigmatized characteristics: the Discrimination and Prejudice Responses Scale (DAPR). On the basis of qualitative interviews with 20 people with lived experience of stigma, 96 items were developed. A principal components analysis (n = 966) identified 11 factors containing a total of 44 items: Preparation, Enjoyable Activity, Raise Awareness, Group Attachment, Rumination, Blame, Preparation, Self-Reliance, Avoidance, Distancing, and Secrecy. Each factor was found to have good reliability (α = .67 to 0.94) and acceptability. Confirmatory factor analysis (n = 592) confirmed the 11-factor model and provided validity for the measure. Each subscale of the DAPR was found to be significantly associated with related questionnaires in the expected directions, providing evidence for concurrent validity (n = 546). One-week test–retest reliability (n = 154) was examined, with weighted Cohen's kappa values ranging from 0.41–0.61 for each scale. Overall, the DAPR displayed sound psychometric properties with regard to factor structure, reliability, acceptability, and validity. In conclusion, the DAPR is a reliable and valid measure of responding to stigma, prejudice, and discrimination which can be used across a variety of marginalized groups.

Keywords: stigma, prejudice, discrimination, assessment, measure

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Stigma comprises the key elements of stereotypes, prejudice, and discrimination (Corrigan & Watson, 2002). The ways in which people respond to stigma, prejudice, and discrimination can either help to reduce the negative impact of stigma or inadvertently contribute to negative effects of stigma on health (Brondolo, Brady Ver Halen, Pencille, Beatty, & Contrada, 2009; Major & O'Brien, 2005; Miller & Kaiser, 2001). Many coping questionnaires utilized in studies of stigma, discrimination, and prejudice assess responding to stressful events in general, rather than stigma-specific experiences. However, stigma may elicit responses not used in the context of other types of stressor. For example, widely used coping measures such as the COPE (Carver, Scheier, & Weintraub, 1989), the Ways of Coping Questionnaire (Folkman & Lazarus, 1988) and the Coping Strategies Inventory (Tobin, Holroyd, & Reynolds, 1984) do not address key stigma-response strategies of education, advocacy, or in-group relevant responding. Standardized scales that represent common types of responses, such as measures of rumination (e.g., Trapnell & Campbell, 1999), self-blame (e.g., Marschall, Sanftner, & Tangney, 1994) or empowerment (Rogers, Chamberlin, & Ellison, & Crean, 1997) are not specific in asking about responses to stigma events.

Some researchers wishing to assess responding to stigma have created their own items and measures of stigma responses. All of these have been developed in relation to specific forms of stigma, such as racism (Forsyth & Carter, 2014; Wei, Alvarez, Ku, Russell, & Bonett, 2010), mental health stigma (Ilic et al., 2012; Link, Cullen, Struening, Shrout, & Dohrenwend, 1989; Link, Struening, Neese-Todd, Asmussen, & Phelan, 2002), or stigma relating to sexual orientation (Button, 2004). None of these are applicable for use as a general stigma measure as they contain items relating to the specific form of stigma. Further, they do not allow for responses based on multiple types of stigmatized characteristics, an important issue, given that the average number of such characteristics that individuals report has been found to be as high as six (Pachankis et al., 2018). Other researchers measure responses or coping using a single item or a small number of items (e.g.,

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Blodorn, Major, & Kaiser, 2016), which are not psychometrically sound methods.

Therefore, there is a need to develop a reliable and valid measure to help assess stigma responses across a wide range of different types of stigma, which needs to be specific to responding to stigma rather than to general stressors. Such a measure will be beneficial because it will assess important response constructs in a comprehensive way, but in a single questionnaire that is not too burdensome to participants. The aim of the current study was to develop and psychometrically assess such a measure; the Discrimination and Prejudice Responses Scale, or DAPR.

Method

Development of the DAPR

Initial qualitative item development. Item development drew on the results of a prior qualitative study exploring responses to stigma in 20 participants with a range of stigmatized characteristics (Armstrong, 2019). Thematic analysis of these data revealed 28 domains related to response styles. This data was used to generate initial lists of items for each identified domain, with wording informed by expressions used by participants in the interviews. Approximately 20 items per domain were initially generated. Item refinement and reduction was conducted with a clinical psychologist and psychiatrist with substantial experience in sexual orientation/gender identity and mental illness stigma research, respectively. This process led to 24 domains being selected with the four most acceptable items, based on expert clinical judgment, in each being retained, resulting in a final list of 96 items. Scoring criteria for the DAPR was developed based on consideration current stigma-response measures, such as the Secrecy and Avoidance scales (Thoits & Link, 2016).

Expert and target user consultation. The draft version of the DAPR was reviewed by subject matter experts (academics with stigma research experience, $n = 7$), target users (people with lived experience of stigma, $n = 20$) and professionals working in the areas of diversity, inclusion and equality ($n = 3$). After applying their feedback, a final modified draft was presented to four target users and was deemed to be relevant, clear, sensitively worded, and comprehensive.

Final Measure

The final DAPR comprised of 24 domains: Rumination, Avoiding stereotypes, Putting in extra effort, Support seeking, Rest and digest, Do things you enjoy, Hypervigilance, Be prepared, Social withdrawal, Self-reliance, Avoidance, Surrounding with similar others, Situational withdrawal, Secrecy, Embracing identity, Activism, Education, Challenging, Emotional containment, Resignation, It's not me it's them, Positive reappraisal, Group attachment, and Drawing on strengths. Participants were asked to rate how often they engaged in each item in response to stigma on a 5-point Likert scale, where 1 = *never* and 5 = *always*. For the four items representing Secrecy, participants were given the option of selecting 1 = *never/NA*, due to the fact that some stigmatized characteristics are more visible than others. The subscales measure different responses and therefore each scale is scored separately with higher scores indicating more frequent engagement with this response. It is not intended that a total scale score be calculated. The final measure as it should be presented to participants can be found in the online supplemental materials (A).

Measures for Concurrent Validity

The following scales were used to investigate concurrent validity of the new scale.

Coping With Discrimination Scale. Three five-item subscales from this measure (Wei et al., 2010) were utilized in the current study: Education/Advocacy (e.g., I try to stop discrimination at the societal level), Internalization (e.g., I believe I may have triggered the incident), and Detachment (e.g., I've stopped trying to do anything). Higher scores represent higher agreement with each item. The internal consistency of these subscales ranged from 0.77–0.91 in the current study.

Educating Others and Distancing. Educating Others and Distancing subscales (Link et al., 1989, 2002) were taken from the Stigma Scale subscales from Link et al. (1989) and Link et al. (2002). The Educating subscale assesses whether one educates others a means of reducing stigma, and the Distancing subscale assesses the extent to which participants cognitively distance themselves from the stigmatized group. Both subscales contain four items. Higher scores on each represent higher agreement with each item. The internal consistency of these subscales in the current study were 0.77 and 0.72 for Education and Distancing, respectively.

Secrecy and Avoidance. Secrecy and Avoidance subscales (Link et al., 1989, 2002; Thoits & Link, 2016) were taken from the Concealment Coping Strategies from Thoits and Link (2016). Secrecy contains five items that assess the extent of concealment of one's stigmatized characteristic and Avoidance contains three items that assess social avoidance associated with stigma. Higher scores indicate higher frequency of use of each response. The internal consistency of these subscales in the current study were 0.76 and 0.96 for Avoidance and Secrecy, respectively.

Brief COPE. The Brief COPE (Carver et al., 1989) is a 28-item self-report measure designed to assess how participants have been coping with stressful life events. The following subscales were used, each containing two items per scale: Active Coping (e.g., I've been concentrating my efforts on doing something about the situation I'm in), Denial (e.g., I've been saying to myself "this isn't real"), Use of Emotional Support (e.g., I've been getting emotional support from others), Venting (e.g., I've been saying things to let my unpleasant feelings escape), Planning (e.g., I've been trying to come up with a strategy about what to do), Acceptance (e.g., I've been learning to live with it), Self-Blame (e.g., I've been blaming myself for things that happened). Higher scores reflect higher frequency of use of each response. The internal consistency of these subscales in the current study ranged from 0.61 to 0.85.

Patient Health Questionnaire 9-item (PHQ-9). The PHQ (Spitzer, Kroenke, Williams, & the Patient Health Questionnaire Primary Care Study Group, 1999) is a nine-item measure of depressive symptoms. Higher scores indicate higher levels of depression. The internal consistency of this scale was 0.92 in the current study.

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Participants

Participants were recruited from two sources, Amazon Mechanical Turk (MTurk) and social media. MTurk is an online platform that hosts research materials and provides access to large numbers of participants who subscribe to the platform worldwide and are paid for participating. For the latter, advertisements for the study were posted on special interest pages and groups on platforms such as Facebook. Relevant organizations were also contacted directly and asked to share the study link with their followers if they thought this was appropriate. Advertisements were also placed on classified advertisement websites.

Participants were included if they were over the age of 18 and reported having a characteristic that led to stigma, prejudice, or discrimination from others. Participants were excluded if (a) the participant referred to a characteristic usually seen as being associated with privilege for example, being male or heterosexual; (b) the participant provided a personal characteristic that was associated with distress but not necessarily stigma for example, being shy; or if (c) the participant indicated a stigmatized characteristic that could not be categorized by the researcher. This latter exclusion criterion refers to incomprehensible answers, the simple statement of the word "stigma" or "discrimination" by participants, or answers where it was difficult to extract the stigmatized characteristic. No restrictions were made based on participant location.

Procedure

This study was approved by the King's College London Psychiatry, Nursing and Midwifery Research Ethics Committee (Ref. HR-16/17–4721) and all participants indicated informed consent prior to undertaking the study. Participants (N = 1,558) completed an online survey containing all measures. Sample size requirements for principal components analysis (PCA) and confirmatory factor analysis (CFA) were 960 and 500, respectively (Nunnally, 1978; Wolf, Harrington, Clark, & Miller, 2013), therefore the sample was split randomly on a 2:1 basis to satisfy these requirements. The study was carried out in four stages. Stage 1 involved data from 966 participants, which were used to carry out PCA, internal consistency, and acceptability analyses. The second stage involved data from 592 participants, which were used to establish CFA and reevaluate internal consistency. Stage 3 involved testing for concurrent validity in a subset of participants from the total sample (n = 546). The measures for this test were removed once an appropriate number of participants had been recruited to reduce respondent burden and missing data. Stage four involved assessing test–retest reliability. This involved a proportion of participants (n = 154) who completed the DAPR again approximately one week later, based on guidelines by Mokkink et al. (2010).

Statistical Analyses

Data analysis was conducted using IBM SPSS Version 24 and Mplus (Version 7.0; Muthén & Muthén, 2012). Where less than 20% of data were missing from outcome measures, missing item values were replaced with the mean of the scale. If more than 20% of data were missing, the participant's data were excluded from the analyses. If participants had any missing data on the DAPR they were not included in the study.

Data were initially checked for normality through examination of histograms and QQ plots. The PHQ-9 and both Secrecy subscales, from the DAPR and Thoits and Link (2016), were positively skewed. A log-10 transformation was carried out on these scales, which did not improve the distributions. In these cases, the nonparametric Spearman's rho test was used to establish correlation coefficients.

The Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity were examined to check the suitability of the data for a PCA. DAPR items were then subjected to a PCA using both orthogonal (varimax) and oblique (direct oblimin) rotation. Internal consistency (Cronbach's alpha, alpha if item deleted, interitem correlations, item-total correlations, and item and other subscale total correlations) was assessed for each item. Two measures of acceptability based on data completeness and score distributions were examined, maximum endorsement frequencies (MEFs) and aggregate adjacent endorsement frequencies (AEFs). MEF was deemed to be acceptable if there were less than 80% of responses for any one response category. AEF was deemed to be violated if two or more adjacent response points on an item demonstrated less than 10% of the responses each (Whoqol Group, 1998). Floor and ceiling effects were also examined, with an acceptable limit of 15% of responses at the highest or lowest scale point. CFA was then carried out to replicate the factor structure from the PCA in a different sample. Oblique, orthogonal, and one-factor models were tested to compare fit. Cronbach's alpha was retested and correlational analyses between the subscales of the measure were carried out to further examine construct validity. Concurrent validity was tested by examining correlation coefficients between the DAPR subscales and all comparison measures. Finally, test–retest reliability was investigated by examining the intraclass correlation coefficients (ICCs) of each DAPR subscale between Time 1 and Time 2; weighted Cohen's kappa was used to assess the test–retest reliability of each item.

Results

Participant Demographics

A total of 966 participants were included in this stage of the study. Demographic characteristics are presented in Table 1. Twenty-eight stigmatized characteristics were identified and coded. Of the total sample, 536 participants (55.5%) identified one characteristic only, 221 (22.9%) listed two characteristics, 124 (12.8%) listed three characteristics, 54 participants (5.6%) identified four, and 30 (3.1%) listed five or above. The top five most frequently reported characteristics were gender (n = 320; 33.1%), race/ethnicity (n 269; 27.8%), mental health problem (n = 235; 24.3%), sexual orientation (n = 202; 20.9%), and age (n = 109; 11.3%). See the online supplemental materials (B) for a full overview of the frequency of reported stigmatized characteristics.

PCA

Parallel analysis was used to determine the number of components to extract. Results indicated that 11 factors should be retained. Examination of the scree plot also indicated that five, eight, and 18 factor solutions may have been appropriate, therefore these solutions were explored using both oblique and orthogonal rota-

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Table 1
Demographic Characteristics of the PCA Sample

Characteristic	Total sample (N = 966)
Gender, *n* (%)	
Female	597 (61.8)
Male	291 (30.1)
Other	30 (3.1)
Age	
Range (years)	18–74
M (*SD*)	33.16 (11.25)
Race/Ethnicity, *n* (%)	
British	218 (22.6)
Irish	36 (3.7)
Other White	307 (31.8)
White/Black Caribbean	12 (1.2)
White/Black African	13 (1.3)
White/Asian	20 (2.1)
Other mixed background	30 (3.1)
Indian	83 (8.6)
Pakistani	5 (.5)
Bangladeshi	4 (.4)
Chinese	30 (3.1)
Other Asian background	2 (10)
Black Caribbean	6 (.6)
Black African	31 (3.2)
Other Black background	7 (.7)
Arab	9 (.9)
Other	85 (8.8)
Employment status, *n* (%)	
Full-time employed	415 (43)
Part-time employed	169 (17.5)
Student	221 (22.9)
Unemployed	85 (8.8)
Temporary sick/disabled	14 (1.4)
Permanent sick/disabled	67 (6.9)
Retired	22 (2.3)
Looking after children	42 (4.3)
Carer	9 (.9)
Other	33 (3.4)
Qualification, *n* (%)	
High school	118 (12.2)
College/A-level equivalent	157 (16.3)
Diploma/Vocational qualification	61 (6.3)
Bachelor's degree	384 (39.8)
Master's degree	165 (17.1)
Doctoral degree	31 (3.2)
Marital status, *n* (%)	
Single	337 (39)
Married/civil partnership	298 (30.8)
Partner, living apart	86 (8.9)
Partner, living together	109 (11.3)
Divorced/separated	45 (4.7)
Widowed	4 (.4)

Note. PCA = principal components analysis.

tions. The 11-factor solution with oblique rotation was found to be the most interpretable.

Items were retained based on the following criteria: (a) a loading of above 0.45 on the component, (b) cross-loadings on other components of less than 0.32, and (c) no more than four items representing each component (Tabachnick & Fidell, 2007; Wei et al., 2010). On the basis of these criteria, 44 items were retained. A final PCA was run on this set of 44 items. Loadings of items on their respective components all exceeded 0.58 and no item cross-loaded onto any other component. The 11-factor solution explained 70% of the total variance.

Table 2 describes the 11 components that were retained on the basis of the PCA, including a brief description, the percentage of variance each component accounted for, and the internal consistency of each component. Table 3 shows the final 11 components and their respective eigenvalues and items, item component loadings, communality estimates, means, and standard deviations.

Reliability

Internal consistency was examined through Cronbach's alpha. All scales of the DAPR showed good reliability (Nunnally, 1978), ranging from $\alpha = 0.67$ to 0.94. Values were not increased by the deletion of any items. In regard to interitem and item-total correlations, all values were within the acceptable cutoffs of >0.3 and <0.8 (Terwee et al., 2007) apart from in the case of Secrecy, where values ranged from 0.84 to 0.88. The Secrecy subscale was deemed a theoretically and clinically important component to retain. Therefore, this component was retained for further analyses.

Item scores were totaled for each subscale, with a higher score reflecting a higher frequency of responding. All items correlated more highly with their own component than with any other component. The majority of DAPR subscales were significantly correlated with each other. Raise Awareness was not significantly correlated with Avoidance, Self-Reliance, or Distancing. Group attachment was not significantly correlated with Secrecy, Self-Reliance, Distancing, or Resignation. Enjoyable Activity was not significantly correlated with Rumination or Resignation.

Acceptability

The MEF criteria was not violated as no response categories for any item contained ≥80% of responses. Aggregate AEFs were also considered, which is violated when two or more adjacent response categories on an item show <10% of the responses. Five items violated the AEF, all when considering the adjacent categories of "never" and "rarely." These items were from the Avoidance, Self-Reliance, Blame, and Preparation subscales. However, given the sound psychometric properties of these subscales and items in other respects it was deemed appropriate to retain the items. The subscales of the DAPR did not display any floor or ceiling effects, apart from in the case of Secrecy, where 31.2% of participants scored the lowest score of 1. However, this was interpreted as representing individuals with a stigmatized characteristic that was visible and who were relatively unable to hide it and therefore had to answer "never/NA" for these items.

CFA

A total of 592 participants were included in the CFA. See the online supplemental materials (C) for a full overview of the frequency of demographic characteristics and reported stigmatized characteristics. CFA was carried out in MPlus to replicate the 11-factor structure from the PCA in a different sample. The following fit indices were used to evaluate the model fit to the data: (a) root-mean-square error of approximation (RMSEA) <0.08; (b) comparative fit indicator (CFI) and Tucker-Lewis indicator,

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Table 2
Descriptions, Variance, and Internal Consistency for the 11 Components Retained From the PCA

Component	Description	Variance accounted for (%)	α
1. Preparation	Efforts to prepare in advance for situations where the individual may encounter stigma including readying themselves for such experiences or trying to anticipate when such events may occur.	16.6	.89
2. Raise Awareness	How one may try to educate people about their stigmatized characteristic to increase understanding or how they may try to reduce negative stigmatizing attitudes at a wider level. Items were taken from the initial domains of "activism and fighting back" and "education."	13.3	.88
3. Avoidance	How an individual removes themselves from stigma situations or people who are prejudiced or avoid them in the first place.	7.8	.86
4. Enjoyable Activity	How one would actively go and do something they enjoy that makes them feel better in order to cope with stigma.	6.1	.85
5. Group Attachment	How one responds to stigma by becoming closer to or seeking out relationships with others who share the same characteristic.	4.9	.89
6. Secrecy	Items were specific to people with a less visible characteristic and refer to how one may try to conceal or hide their stigmatized status.	4.8	.95
7. Self-Reliance	How an individual, instead of relying on others for support, may rely more on themselves in terms of coping with stigma and discrimination.	3.9	.76
8. Distancing	How people actively try to move away from negative stereotypes associated with their stigmatized characteristic including, for example, by changing their behavior.	3.4	.77
9. Rumination	Dwelling on past experiences, replaying situations in one's mind, or thinking about the situation for a long time after the event has passed and in this case is specific to ruminating on stigma events and experiences.	3.4	.88
10. Resignation	How an individual resigns themselves to their stigma experiences and accepts how there is nothing they are able to do to change their situation.	3.2	.66
11. Blame	The externalization of blame for the stigmatizing experiences people suffer, for example, acknowledging that it is the perpetrator's fault if they behave in a prejudiced manner.	2.6	.77

Note. PCA = principal components analysis.

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(TLI) >0.9; and (c) standardized root-mean-square residual (SRMR) <0.08 (Cheung & Rensvold, 2002; Fabrigar, Wegener, MacCallum, & Strahan, 1999; Garver & Mentzer, 1999; Hu & Bentler, 1999). The 11-factor oblique model demonstrated good fit statistics for each criterion.

Additionally, an 11-factor orthogonal model was tested as well as a one-factor model with all 44 items loading onto one factor to model compare fit. Because the oblique and orthogonal models were nested, a chi-square difference test was used to compare the fit of these two models. Furthermore, because change in chi-squared is sensitive to large samples, change in CFI and change in RMSEA were also examined, where change in CFI >0.01 and change in RMSEA >0.02 indicates superior model fit (Chen, 2007; Cheung & Rensvold, 2002).

The orthogonal model did not display a good fit and comparison of the two models ($\chi^2 = 1439.87$, $df = 55$, $p < .001$), change in CFI (0.09) and RMSEA (0.02) suggested that the structure was best described with the oblique model. The one-factor model clearly did not provide a good fit to the data. Therefore, it was concluded that, in accordance with the PCA, the 11-factor oblique model provided the best fit to the data. The online supplemental materials (D) displays standardized factor loadings for each latent factor and the means and standard deviations of their respective items. Results indicated an adequate level of internal consistency for all subscales, ranging from $\alpha = 0.66$ to 0.95.

Concurrent Validity

Five hundred forty-six participants completed measures used to assess the concurrent validity of the measure. Demographic characteristics and an overview of the reported stigmatized characteristics in this subsample are provided in in the online supplemental materials E. Means and standard deviations for all measures are provided in the online supplemental materials (F).

At this point it was possible to formulate the following hypotheses about the correlations between the subscales of the DAPR and the additional outcome measures: Educating Others (Link et al., 2002) is positively correlated with Raise Awareness, Distancing (Link et al., 2002) is positively correlated with Distancing, Secrecy (Thoits & Link, 2016) is positively correlated with Secrecy, and Avoidance (Thoits & Link, 2016) is correlated with Avoidance and Secrecy. From the BriefCOPE (Carver et al., 1989), Active Coping is positively correlated with Raise Awareness and Enjoyable Activity, and negatively correlated with Avoidance; Venting is positively correlated with Raise Awareness; Emotional Support is positively correlated with Group Attachment; Planning is positively correlated with Preparation; Denial and Acceptance are negatively and positively correlated with Resignation, respectively; and Self-Blame is positively correlated with Blame. From the Coping with Discrimination Scale (Wei et al., 2010), Education/advocacy is positively correlated with Raise Awareness; Detachment is negatively correlated with Group Attachment and posi-

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Table 3
Components, Items, and Component Loadings, Eigenvalues, Communality Estimates, Means and Standard Deviations From the Final PCA Solution

Components and items	Component loadings											Item *M* and *SD*			Component, *M* (*SD*)
	1	2	3	4	5	6	7	8	9	10	11	H2	M	*SD*	
1. Preparation															14.1 (3.5)
Try to be prepared for situations where I may encounter prejudice or discrimination	**.85**	−.01	.02	.04	.02	.01	−.05	−.02	.02	−.01	−.05	.77	3.6	1.0	
Try to anticipate when I am going to encounter prejudice or discrimination	**.84**	−.01	.06	−.05	.01	.03	−.06	.02	.08	.01	−.01	.79	3.6	1.0	
Ready myself for encountering prejudice or discrimination	**.84**	.06	−.02	−.02	−.04	−.00	.12	−.02	−.02	.05	−.03	.74	3.5	1.0	
Prepare in advance for experiences involving prejudice or discrimination	**.82**	−.01	.08	.01	.02	−.01	.01	.03	−.03	.01	.09	.73	3.4	1.0	
2. Raise Awareness															12.5 (3.9)
Educate people about the characteristic(s) to increase their understanding	−.02	**.87**	.00	.04	−.04	−.03	−.01	.02	−.03	.00	.00	.80	3.1	1.1	
Explain things about the characteristic(s) to people to help them understand what I experience	−.04	**.84**	.02	.02	.00	.05	−.02	.02	.03	.02	−.06	.72	3.1	1.1	
Raise awareness about the characteristic(s) by talking to people about it	.06	**.81**	−.04	.00	.07	−.04	−.04	−.01	.05	−.01	−.06	.78	3.1	1.1	
Try to fight stigma, prejudice or discrimination both within my community and/or on a wider scale	.09	**.72**	−.01	−.01	.13	−.03	.03	−.02	.02	−.10	−.01	.69	3.1	1.2	
3. Avoidance															14.3 (3.4)
Remove myself from prejudiced people or situations	.06	.03	**.82**	.08	−.02	.03	.04	−.05	−.01	−.01	.01	.73	3.6	1.0	
Get away from people who display prejudiced attitudes or behaviour towards me	.04	.04	**.82**	−.00	.02	.01	−.00	.06	−.00	−.03	−.13	.74	3.7	1.0	
Avoid people who I know to be prejudiced	.05	−.02	**.82**	.01	.00	−.02	−.05	.03	.04	−.01	−.01	.72	3.7	1.0	
Withdraw from situations where people are prejudiced	.02	−.06	**.74**	−.03	.06	.01	.07	−.02	.09	.06	.07	.66	3.4	1.0	
4. Enjoyable Activity															12.7 (3.7)
Do an activity that makes me feel good	−.08	−.01	.02	**.87**	−.02	−.02	.03	−.01	.01	−.01	.04	.73	3.4	1.0	
Go and do something to make myself feel better	.04	.00	−.01	**.84**	.00	−.02	−.01	−.01	.02	−.03	.00	.72	3.4	1.0	
Turn to an enjoyable activity to take my mind off the experience	−.02	.00	.02	**.80**	.00	.03	−.02	.01	.08	.13	.01	.65	3.4	1.0	
Do something positive to improve my mood or self-esteem	.08	.05	.03	**.75**	.07	.01	.01	.07	−.12	−.10	−.04	.71	3.4	1.0	
5. Group Attachment															13.6 (3.2)
Become more attached to other people with the characteristic(s)	−.007	.06	.04	.00	**.87**	.04	−.02	.02	.01	.07	−.03	.79	3.1	1.1	
Seek out relationships with other people with the characteristic(s)	.05	.02	−.06	.05	**.87**	.01	−.04	.04	−.06	−.02	.01	.79	3.1	1.1	
Identify more closely with other people with the characteristic(s)	−.03	.00	.06	.01	**.78**	−.03	.08	−.10	.10	.04	.01	.65	3.5	1.1	
Get closer to others with this characteristic as a mark of solidarity	.09	.12	.01	−.02	**.77**	.01	−.00	.06	−.00	−.07	.01	.71	3.0	1.1	
6. Secrecy															10.0 (5.2)
Keep the characteristic(s) a secret from people	−.01	−.03	−.03	.02	.04	**.96**	−.01	−.02	.00	−.01	−.50	.88	2.4	1.4	
Hide the characteristic(s) from people	.00	−.02	.01	−.01	.01	**.93**	−.01	.01	.01	−.02	−.01	.87	2.4	1.4	
Don't tell others about the characteristic(s) unless I trust them	−.01	.07	.03	−.00	−.01	**.91**	.02	−.05	.02	−.03	−.01	.82	2.8	1.6	
Try my best so people don't find out about the characteristic(s)	.04	−.02	.01	.02	−.03	**.88**	.00	.06	−.03	.02	.05	.83	2.4	1.4	
7. Self-Reliance															14.5 (3.1)
Live my life in a way that is not dependent on other people	.05	−.00	−.01	.07	.06	−.04	**.85**	−.00	−.06	−.04	−.04	.76	3.7	1.0	
Rely on myself more than others	−.06	−.01	.14	−.04	−.09	−.01	**.73**	−.03	.11	−.00	.03	.62	3.8	.9	
Build myself up to be an independent person	.11	−.03	−.12	.12	.09	−.05	**.73**	−.02	−.05	−.11	−.16	.66	3.8	1.0	
Stop needing or relying on other people for support	−.02	.01	.04	−.14	−.06	.09	**.66**	.10	.04	.17	.13	.59	3.1	1.1	
8. Distancing															11.6 (3.5)

(*table continues*)

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Table 3 (*continued*)

Components and items	Component loadings											Item *M* and *SD*			Component, *M* (*SD*)
	1	2	3	4	5	6	7	8	9	10	11	H2	M	*SD*	
Try to appear as if I don't fit the stereotypes associated with the characteristic(s)	−.02	.01	−.12	−.03	.01	.04	.02	**.82**	.05	.06	−.03	.70	2.9	1.1	
Try to avoid falling into the stereotypes about the characteristic(s) (e.g. by changing my mannerisms or appearance)	.06	−.06	−.02	−.03	.09	−.02	.03	**.81**	.02	−.02	.02	.69	2.9	1.2	
Distance myself from the stereotypes associated with the characteristic(s)	−.01	.04	.08	.05	−.13	−.02	.00	**.71**	−.00	−.04	−.11	.52	3.1	1.1	
Change my behavior to avoid being stereotyped by people	−.00	.03	.09	.01	.07	.06	.01	**.69**	−.01	.05	.19	.62	2.7	1.1	
9. Rumination															13.7 (3.8)
Replay situations where I have experienced prejudice or discrimination in my mind	.01	−.04	−.02	.02	.05	.02	−.04	.04	**.86**	.04	−.06	.77	3.4	1.1	
Repeatedly go over the event in my mind after experiencing prejudice or discrimination	−.04	−.02	.08	−.02	.01	.05	.02	−.03	**.84**	−.00	−.07	.74	3.5	1.1	
Think about situations that involved prejudice or discrimination for a long time afterwards	.11	.05	.06	.02	.02	.00	.02	−.02	**.77**	−.03	.03	.71	3.4	1.1	
Go over and over what I could have done differently during the event	.02	.10	.01	−.01	−.02	−.00	.04	.10	**.75**	−.01	.13	.68	3.4	1.2	
10. Resignation															12.4 (3.2)
Accept the way I'm treated as a fact of life	.01	.09	.02	−.02	−.02	−.02	−.00	−.01	−.11	**.82**	.04	.63	3.0	1.2	
Put up with the way I'm treated	.00	−.06	.03	−.10	.01	.06	−.06	.05	.09	**.69**	.09	.60	3.0	1.1	
Accept that there is nothing I can do to change people's prejudiced attitudes or behavior	−.03	−.25	−.13	.05	.10	−.01	.03	.04	−.09	**.59**	−.10	.51	2.9	1.1	
Act as if I'm not upset	.12	−.02	−.12	.12	−.05	.02	.08	.02	.19	**.58**	−.03	.49	3.4	1.1	
11. Blame															14.4 (3.4)
Blame the individual(s) involved for their behavior rather than myself	.07	−.14	.02	−.08	.09	−.02	−.05	.04	.11	−.12	**−.83**	.69	3.6	1.1	
Think that it's not my fault if people treat me in a prejudiced or discriminatory way	−.02	.05	.01	.05	.00	−.02	.04	−.01	−.04	−.01	**−.76**	.64	3.6	1.1	
Think that it says more about the character of the individual(s) involved than it does about me	.02	.15	.06	.08	−.06	−.07	.04	−.05	.03	−.01	**−.70**	.65	3.8	1.1	
Think that it's 'their problem not mine' if someone has a problem with the characteristic(s)	−.03	.13	−.01	.02	−.03	.04	.06	−.01	−.12	.12	**−.69**	.55	3.4	1.1	
Eigenvalue	7.32	5.87	3.41	2.69	2.17	2.12	1.69	1.52	1.47	1.41	1.13				

Note. PCA = principal components analysis; H2 = communality estimate. Bold type indicates final factor for which these items load on to.

tively correlated with Self-Reliance. Finally, Internalization is positively correlated with Rumination and Blame. The PHQ-9 (Spitzer et al., 1999) is positively correlated with Rumination. All correlations were hypothesized to be significant and at least moderate in nature (i.e., above 0.1).

The DAPR subscales demonstrated significant correlations in the expected directions and magnitude with the other outcome measures, supporting the construct validity of the DAPR. Table 4 displays correlations between subscales of the DAPR and all measures related to concurrent validity.

Test-Retest Reliability

One hundred fifty-four participants completed the DAPR a second time approximately one week later to establish the test–retest reliability of the measure. Demographic characteristics and an overview of the reported stigmatized characteristics in this subsample are provided in the online supplemental materials (G).

The majority of the items showed good test–retest reliability with weighted Cohen's kappa values ranging from 0.41–0.60. Two items scored below the weighted kappa threshold of 0.41 (Landis & Koch, 1977); "distance myself from the stereotypes associated with the characteristic(s)," $\kappa = 0.36$, from the Distancing subscale and "Stop needing or relying on other people for support," $\kappa = 0.37$, from the Self-Reliance subscale. Scores on each total subscale were examined between the two time points to establish test–retest reliability using the ICC. ICC estimates and their 95% confidence intervals were calculated using a single-measurement, absolute-agreement, two-way mixed effects model. The ICC's of the 11 subscales ranged from 0.75 to 0.85 and were therefore indicative of acceptable reliability (Terwee et al., 2007). All confidence interval widths were within the acceptable range of 0.23.

Discussion

Overall, the DAPR displayed sound psychometric properties with regard to factor structure, reliability, acceptability, and validity. This measure presents a novel way of assessing stigma responses that contributes to the field in several important ways. It advances on existing stigma measures in that it can be used by individuals with different types of and multiple stigmatized characteristics. A strength of this new measure is that it allows people with more than one stigmatized characteristic to report their responses without specifying which characteristic they think is most important to them. This is important; the most salient characteristic may vary depending on context and different characteristics are likely to operate in interacting manner. This is the first stigma response measure that takes this into account. Further, the DAPR addresses limitations of previous coping scales used in stigma research, for example, by including specific stigma management responses that are not included in generic coping measures. The current measure provides stigma researchers with a more comprehensive and specific assessment of responses to stigma, prejudice and discrimination that can be used by participants with any characteristic associated with such experiences.

The way that people respond to stigma is linked to adverse effects, including lower self-esteem and mental health difficulties (e.g., Major & O'Brien, 2005). The DAPR could be used to

Table 4
Correlations Between Subscales of the DAPR and All Measures Related to Concurrent Validity

DAPR subscales	Other scales													
	Education/ Advocacy	Internalization	Detachment	Active Coping	Denial	Emotional Support	Venting	Planning	Acceptance	Self-Blame	Educating Others	Distancing	Secrecy	Avoidance	Depression
Preparation	.32**	.15**	.15**	.14**	.08	.05	.16**	.24**	.07	.15**	.18**	−.00	.07	.25**	.19**
Blame	.30**	−.44**	−.36**	.22**	−.20**	.20**	.11**	.13**	.16**	−.33**	.36**	−.02	−.24**	−.15**	−.18**
Group Attachment	.26**	−.01	−.13**	.07	.03	.23**	.16**	.12**	−.03	−.04	.31**	−.08	.01	.43**	−.01
Self-Reliance	.12**	−.82	.29**	.06	−.01	−.25**	.02	.09*	.22**	.06	−.03	.14**	.06	.04	.11**
Rumination	−.01	.50**	.37**	−.03	.17**	−.01	.15**	.10*	−.03	.45**	−.01	−.00	.25**	.28**	.46**
Distancing	−.06	.25**	.22**	−.01	.25**	−.07	.07	.04	−.00	.17**	−.07	.11**	.27**	.10*	.12**
Avoidance	−.08	.24**	.30**	−.09*	.12**	.07	.13**	.04	−.03	.31**	−.07	.06	.26**	.29**	.37**
Raise Awareness	.75**	−.19**	−.35**	.36**	−.09*	.34**	.16**	.28**	.06	−.13**	.70**	.01	−.15**	−.12*	−.04
Enjoyable Activity	.28**	−.14**	−.26**	.29**	.00	.25**	.06	.23**	.21**	−.16**	.25**	−.01	−.11*	−.11*	−.22**
Secrecy	−.09**	.34**	.39**	−.15**	.26**	−.08	.01	.01	−.03	.36**	−.09*	.07	.83**	.30**	.40**
Resignation	−.33**	.39**	.44**	−.20**	.26**	−.19**	−.09*	−.11*	.24**	.28**	−.37	.03	.20**	.17**	.22**

Note. From the first column: Preparation, Blame, Group Attachment, Self-reliance, Rumination, Distancing, Avoidance, Raise Awareness, Enjoyable Activity, Secrecy and Resignation are all subscales from the Discrimination and Prejudice Responses Scale (DAPR). From the top row: Education/advocacy, Internalization, Detachment from Coping with Discrimination Scale (Wei et al., 2010). Active Coping, Denial, Emotional Support, Venting, Planning, Acceptance, Self-blame from the BriefCOPE (Carver et al., 1989). Educating others and Distancing from Link et al. (2002). Secrecy and Avoidance from Thoits & Link (2016). PHQ-9 = Patient Health Questionnaire 9-item (Spitzer et al., 1999.
* $p < .05$. ** $p < .01$.

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advance research in this area. For example, evidence from the concurrent validity analyses indicates that depressive symptomatology was positively associated with responses of rumination, avoidance, and secrecy whereas blaming the stigmatizing individual(s) and undertaking enjoyable activities showed negative associations. The DAPR assesses multiple types of stigma response simultaneously. Therefore, the DAPR could be used to investigate how different combinations or profiles of responding to stigma may be associated with vulnerability or resilience to stigma impact. Ideally this would be investigated in prospective studies to help provide information about possible causal relationships between stigma responses and risk for different types of stigma impact. Researchers may wish to investigate whether people with specific stigmatized characteristics or psychological characteristics (e.g., high/low self-esteem) tend to report certain combinations of stigma responses.

Overall, all subscales showed good reliability and validity. Therefore, depending on the processes of interest, specific subscales from the measure could be used in future research. Moreover, some subscales such as Secrecy may not be applicable in all populations and could therefore be removed as necessary. Indeed, floor effects observed for this scale indicate that participants with a visible characteristic may have inappropriately responded to these items.

There were some study limitations. Certain responses may not have been captured in the item generation stage. For example, religious coping can be a response to stigma and discrimination (Hickman, Glass, Arnkoff, & Fallot, 2013; Lee, Nezu, & Nezu, 2014), but this was not captured in the current study. Furthermore, some stigma responses that were included in the initial larger item pool were not retained as they did not load sufficiently onto any of the factors. This included seeking support, hypervigilance, and challenging stigma. This may have reflected inadequate measurement of some responses in the initial item set and further research should also consider these factors. Although the measure may not capture all potential ways of responding to stigma, it provides the groundwork for future research in this area.

The DAPR instructions specify that if the participant's responses to stigma would vary in relation to their different characteristics, they should indicate the highest frequency of each response across all their characteristics. This allows researchers to measure the maximum usage for each response within that individual but does not allow measurement of how responses may differ between characteristics within the same individual. Further, the current study was not able to address the questions of whether there are differences between those with multiple characteristics who respond to all of them in the same manner and those who have different response patterns for each stigma.

With regard to sample selection, certain demographic groups were underrepresented, such as those with substance use or a history of criminal offenses. Further work would be needed to validate the DAPR in such groups. In addition, the use of online sampling may have resulted in selection biases.

Regarding future investigations, the DAPR could be used to assess specific processes that could be targeted within a clinical setting. The current paper did not assess whether differences between those with, for example, visible versus concealable characteristics, exist in terms of responses or associated outcomes. Subsequent work could aim to investigate potential differences further.

Another direction for future research would be to develop a short form of the measure that could be used in research settings where a large battery of different measures needs to be administered or where time issues are a consideration. Formal measures of acceptability and feasibility could also be included, such as completion time. Additional validity information could also be collected. For example, it would be expected that individuals who take part in activism or advocacy would score more highly on the Raise Awareness subscale, so future research could specifically compare such individuals with others. To examine the specificity of the scale research could also examine whether these subscales predict outcomes above and beyond generic coping measures.

In conclusion, the DAPR is a reliable and valid measure of responding to stigma, which can be used across a variety of marginalized groups. It offers an important alternative to existing self-report general stress-response questionnaires or single-characteristic stigma responding measures.

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