Performance of the Everyday Discrimination Scale: a Three Group Comparison

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Introduction

Although discrimination impacts health, accurate measures of perceived discrimination are needed to understand exactly how discrimination "gets under the skin" (1,2). Individuals experiencing multiple marginalizations cannot always attribute their experiences of discrimination to a single cause, such as racism or homophobia (3,4). Single cause discrimination scales might inaccurately measure their experiences of discrimination (1,4,5). The Everyday Discrimination Scale (EDS) may be an appropriate measure because it allows discrimination to be reported with global attributions (1,6,7). This can free respondents from distinguishing inseparable causes of discrimination. At the same time, because discrimination experiences can vary across configurations of marginalization, EDS must be sensitive to different experiences of discrimination. To understand EDS's scale performance, factor analyses were compared for three different marginalized groups: people of color, sexual minorities, and substance-misusing individuals.

Methods

A secondary analysis of data from the Midlife Development in the United States (MIDUS) survey II (2004-2006)(8) was performed. MIDUS contains a nine item EDS with a four point likert scale. People of color (N=230) were selected on the basis of their self-reported racial ancestry. Sexual minorities (N=105) were respondents reporting a homosexual or bisexual orientation. Substance-misusing individuals (N=46) were those who reported using more substances than they intended six or more times within the prior twelve months. Overlap between these groups was examined but found to be minimal (i.e., no more than three individuals). Three exploratory factor analyses (EFA) were performed by group using only those participants who answered all nine EDS items. Skew and kurtosis of EDS items for each group were checked; evidence of non-normality was not found (i.e., skew and kurtosis of all items was <2.0). EFA was performed with principle axis extraction rather than maximum likelihood, in order to avoid convergence problems with the group of substance-misusing individuals. Prior communalities were estimated with squared multiple correlations(9). Because EDS has been found to have a one or sometimes two factor solution, extracted factors were allowed to correlate with promax rotations (10). Factors were retained using a proportion criterion of more than 5%. Two factor solutions were also forced, but were rejected in the interests of obtaining a richer description of group differences. Both three and two factor solutions resulted in factors with only two items.

Results

Similar but distinct factor patterns were found for the three groups (see appendix). Factors extracted for both people of color and sexual minorities reflected experiences of verbal aggression, impolite treatment, and being the object of negative opinions. Impolite treatment consisted of being treated with less courtesy and less respect. Verbal aggression consisted of being called names or being insulted, and being threatened or harassed. For people of color, but not sexual minorities, 'people act afraid of you' and 'people think you're not as good' loaded onto the negative opinion factor. These items in particular may reflect a belief that people of color have a fundamental character flaw. This belief is consistent with ideologies of racism in the United States (11–13). Conversely, the adage 'love the sinner, hate the sin,' suggests that sexual minorities encounter negative opinions related to behavior rather than character.

Factors extracted for substance misusing individuals were experiencing micro-mistreatments, stigma-fueled aggression, and social distancing. Micro-mistreatments consisted of being treated with less courtesy and less respect, as well as being called names or being insulted. These experiences may be micro-aggressions of being mistreated. Stigma-fueled aggression included people thinking you're dishonest and not as good, as well as being threatened or harassed. Link and Phelan (2001) describe five components of stigma, one of which is discrimination resulting from status loss (9). The focus of this component is not on the initial cause of stigma per se, but rather on how status loss resulting from that cause then leads to discrimination. The grouping of items within stigma-fueled aggression conceptually match this component, where being threatened or harassed is a manifestation of discrimination as aggression. An additional component of stigma described by Link and Phelan (2001) is social distancing, which serves to separate 'us' and 'them' (9). Receiving poorer service, people thinking you're not as smart, and people acting afraid of you reflected social distancing for substance misusing individuals. Phelan, Link, and Dovidio (2008) have compared models of prejudice and stigma and developed a typology of stigma and prejudice functions (14). Discrimination experienced by substance misusing individuals may reflect what they describe as a 'disease avoidance' function of stigma and prejudice.

Limitations

Results of this analysis cannot be used to describe what the experiences of everyday discrimination are for people of color, sexual minorities, or substance misusing individuals. Multiple replications with larger sample sizes, and a greater incorporation of multiple marginalized statuses, would be necessary for that. One particular limitation of this analysis is that the sample of substance misusing individuals is small for factor analytic techniques. A regularized exploratory factor analysis, appropriate for small samples, could be used to confirm the factor pattern loading for substance misusing individuals (15). This analysis does seek to see if EDS can be sensitive to different experiences of everyday discrimination. Different factor patterns were observed by group; moreover, these factor patterns fit conceptual understandings of how these groups may experience discrimination.

Conclusion

EDS can be sensitive to different experiences of everyday discrimination. This sensitivity, combined with the fact that EDS does not force single cause attributions of discrimination, may make EDS an

appropriate measure to use for individuals experiencing multiple marginalizations. Researchers should identify specific configurations of marginalization common within target populations, and explore EDS performance for those specific groups prior to data collection. To maximize EDS's ability to measure different experiences of everyday discrimination, researchers can use estimated factor scores[1], rather than simple scale sums, to score EDS. Estimated factor scores are weighted linear combinations derived from factor patterns.

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[1] Estimated factor scores are weighted linear combinations derived from factor patterns.

Appendix

1. People of Color

Item M(SD) Prior Communality	Rotated Factor Pattern Factor (Variance explained eliminating other factors)			Factor Structure Factor (Variance explained ignoring other factors)		
	Factor 1 (0.95)	**Factor 2** (0.80)	**Factor 3** (0.75)	**Factor 1** (4.49)	**Factor 2** (4.40)	**Factor 3** (3.56)
Treated with less courtesy 2.90 (0.88) 0.81	2	**85**	8	66	**91**	61
Treated with less respect 2.97 (0.88) 0.83	5	**85**	8	**69**	**93**	63
Receive poorer service 3.08 (0.85) 0.65	**44**	**49**	-7	**74**	**75**	49
Ppl think you're not smart 3.05 (0.91) 0.65	**72**	16	-1	**83**	66	51
Ppl act afraid of you 3.24 (0.90) 0.44	**67**	-5	9	**69**	47	46
Ppl think you're dishonest 3.28 (0.88) 0.62	**75**	6	6	**82**	61	53
Ppl think you're not as good 2.91 (0.95) 0.65	**53**	23	16	**78**	**69**	61
Called names or insulted 3.46 (0.73) 0.65	4	5	**79**	54	56	**84**
Threatened or harassed 3.60 (0.67) 0.66	5	5	**79**	55	57	**85**

Inter-Factor Correlations

	Factor1	Factor2	Factor3
Factor1	100	70	59
Factor2	70	100	61
Factor3	59	61	100

Chronbach alpha for all items: 0.925764 raw, 0.926197 standardized

Scree and variance Plots
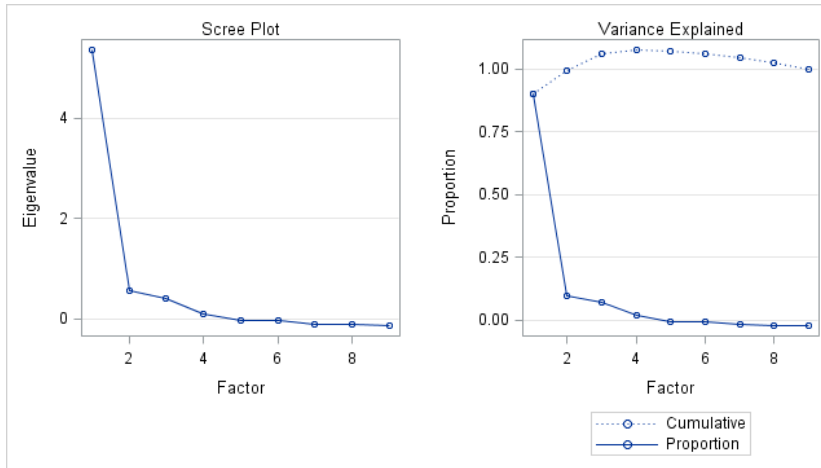
Correlation Matrix*

	Treated with less courtesy	Treated with less respect	Receive poorer service	Ppl think you're not smart	Ppl act afraid of you	Ppl think you're dishonest	Ppl think you're not as good	Called names or insulted	Threatened or harassed
Treated with less courtesy	1.00000	0.88506	0.67802	0.59697	0.47132	0.55111	0.68955	0.54144	0.55965
Treated with less respect	0.88506	1.00000	0.73475	0.63048	0.44987	0.62168	0.68126	0.57278	0.58113
Receive poorer service	0.67802	0.73475	1.00000	0.70041	0.48283	0.63259	0.57488	0.45873	0.46514
Ppl think you're not smart	0.59697	0.63048	0.70041	1.00000	0.55409	0.70214	0.67971	0.47858	0.47268
Ppl act afraid of you	0.47132	0.44987	0.48283	0.55409	1.00000	0.59264	0.58393	0.40610	0.41563
Ppl think you're dishonest	0.55111	0.62168	0.63259	0.70214	0.59264	1.00000	0.66018	0.46920	0.50749
Ppl think you're not as good	0.68955	0.68126	0.57488	0.67971	0.58393	0.66018	1.00000	0.54724	0.54631
Called names or insulted	0.54144	0.57278	0.45873	0.47858	0.40610	0.46920	0.54724	1.00000	0.78927
Threatened or harassed	0.55965	0.58113	0.46514	0.47268	0.41563	0.50749	0.54631	0.78927	1.00000

*All correlations significant at p<0.0001

2. Sexual Minorities

Item M(SD) Prior Communality	Rotated Factor Pattern Factor (Variance explained eliminating other factors)			Factor Structure Factor (Variance explained ignoring other factors)		
	Factor 1 (0.97)	**Factor 2** (0.67)	**Factor 3** (0.79)	**Factor 1** (3.96)	**Factor 2** (4.11)	**Factor 3** (4.03)
Treated with less courtesy 3.22 (0.84) 0.88	**94**	2	1	**95**	61	57
Treated with less respect 3.19 (0.87) 0.89	**86**	7	7	**94**	66	63
Receive poorer service 3.46 (0.72) 0.55	6	**64**	13	54	**77**	60
Ppl think you're not smart 3.34 (0.82) 0.51	15	**69**	-7	55	**74**	49
Ppl act afraid of you 3.41 (0.82) 0.41	21	39	11	52	60	50
Ppl think you're dishonest 3.70 (0.56) 0.54	-8	**57**	30	46	**72**	64
Ppl think you're not as good 3.16 (0.84) 0.68	29	28	39	**70**	**72**	**75**
Called names or insulted 3.46 (0.72) 0.67	4	-1	**83**	53	58	**85**
Threatened or harassed 3.53 (0.65) 0.73	4	8	**80**	57	65	**88**

Inter-Factor Correlations

	Factor1	Factor2	Factor3
Factor1	100	63	60
Factor2	63	100	68
Factor3	60	68	100

Chronbach alpha for all items: 0.917118 raw, 0.919367 standardized

Scree and variance Plots
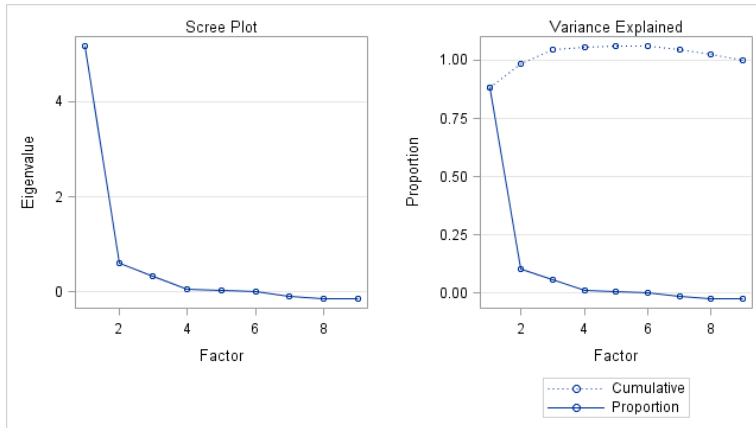
Correlation Matrix*

	Treated with less courtesy	Treated with less respect	Receive poorer service	Ppl think you're not smart	Ppl act afraid of you	Ppl think you're dishonest	Ppl think you're not as good	Called names or insulted	Threatened or harassed
Treated with less courtesy	1.00000	0.91548	0.52958	0.53101	0.53854	0.40972	0.65146	0.49795	0.57293
Treated with less respect	0.91548	1.00000	0.56692	0.54394	0.49973	0.51968	0.71872	0.56692	0.56744
Receive poorer service	0.52958	0.56692	1.00000	0.62811	0.46277	0.58988	0.57185	0.51903	0.58144
Ppl think you're not smart	0.53101	0.54394	0.62811	1.00000	0.44959	0.50578	0.60031	0.39996	0.46532
Ppl act afraid of you	0.53854	0.49973	0.46277	0.44959	1.00000	0.48843	0.48815	0.43012	0.47103
Ppl think you're dishonest	0.40972	0.51968	0.58988	0.50578	0.48843	1.00000	0.57592	0.54198	0.58493
Ppl think you're not as good	0.65146	0.71872	0.57185	0.60031	0.48815	0.57592	1.00000	0.65077	0.69761
Called names or insulted	0.49795	0.56692	0.51903	0.39996	0.43012	0.54198	0.65077	1.00000	0.78618
Threatened or harassed	0.57293	0.56744	0.58144	0.46532	0.47103	0.58493	0.69761	0.78618	1.00000

*All correlations significant at p<0.0001

3. Substance Misusing Individuals

| Item
M(SD)   Prior Communality | Rotated Factor Pattern | | | Factor Structure | | |
| | Factor (Variance explained eliminating other factors) | | | Factor (Variance explained ignoring other factors) | | |
	Factor 1 (1.09)	**Factor 2** (0.85)	**Factor 3** (0.85)	**Factor 1** (4.32)	**Factor 2** (4.06)	**Factor 3** (4.18)
Treated with less courtesy 3.04 (0.94) 0.95	**85**	10	9	**97**	65	67
Treated with less respect 3.02 (0.91) 0.94	**88**	-3	15	**95**	57	66
Receive poorer service 3.37 (0.68) 0.66	27	-12	**71**	63	46	**80**
Ppl think you're not smart 3.17 (0.97) 0.67	-7	19	**75**	50	60	**83**
Ppl act afraid of you 3.35 (0.79) 0.75	19	31	**48**	66	**71**	78
Ppl think you're dishonest 3.57 (0.75) 0.56	-1	**60**	24	48	**74**	59
Ppl think you're not as good 3.15 (0.92) 0.72	5	**51**	40	59	**78**	74
Called names or insulted 3.52 (0.69) 0.65	**55**	43	-12	**73**	68	47
Threatened or harassed 3.59 (0.58) 0.60	13	**74**	-4	54	**79**	49

Inter-Factor Correlations

	Factor1	Factor2	Factor3
Factor1	100	58	61
Factor2	58	100	60
Factor3	61	60	100

Chronbach alpha for all items: 0.928562 raw, 0.930570 standardized

Scree and variance Plots
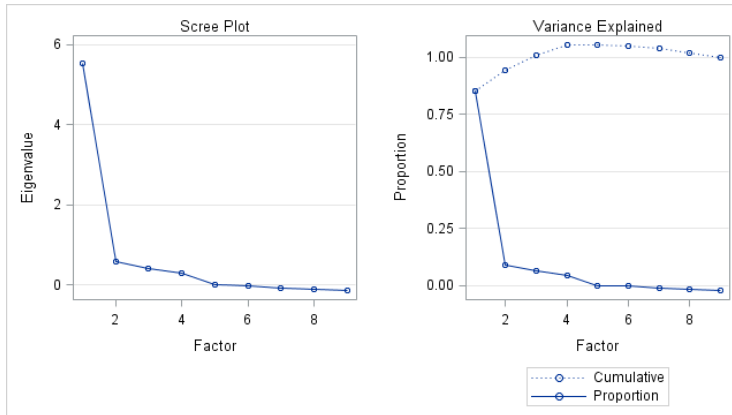
Correlation Matrix*

	Treated with less courtesy	Treated with less respect	Receive poorer service	Ppl think you're not smart	Ppl act afraid of you	Ppl think you're dishonest	Ppl think you're not as good	Called names or insulted	Threatened or harassed
Treated with less courtesy	1.00000	0.96197	0.63503	0.57354	0.66207	0.56229	0.68606	0.71575	0.56222
Treated with less respect	0.96197	1.00000	0.63697	0.57505	0.60606	0.50458	0.63673	0.65567	0.52441
Receive poorer service	0.63503	0.63697	1.00000	0.64096	0.74520	0.41017	0.54980	0.48024	0.39631
Ppl think you're not smart	0.57354	0.57505	0.64096	1.00000	0.63829	0.62366	0.71592	0.39092	0.44490
Ppl act afraid of you	0.66207	0.60606	0.74520	0.63829	1.00000	0.55758	0.65661	0.67382	0.60745
Ppl think you're dishonest	0.56229	0.50458	0.41017	0.62366	0.55758	1.00000	0.64693	0.49049	0.59952
Ppl think you're not as good	0.68606	0.63673	0.54980	0.71592	0.65661	0.64693	1.00000	0.50265	0.66283
Called names or insulted	0.71575	0.65567	0.48024	0.39092	0.67382	0.49049	0.50265	1.00000	0.60494
Threatened or harassed	0.56222	0.52441	0.39631	0.44490	0.60745	0.59952	0.66283	0.60494	1.00000

*All correlations significant at p=0.05

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