correlation between GAD scores and demographic attributes

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Findings

general

- 27.2% of respondents have minimal GAD; 35.4% have mild, 24.9% have moderate and 12.5% have severe GAD
- majority of respondents are from rich and medium-resource schools; 42.4% rich, 32.2% medium and 25.4% poor
- an overwhelming majority of respondents are of age 14-19, inclusive; they account for 88% of respondents
- respondents are almost evenly split with regard to gender; 48.6% of respondents are male, 51.4% are female
- *c.* two of every three respondents is from a minority tribe; 65.5% minority, 34.5% majority

severity against select demographics

severity and age

- across all severity levels, respondents aged 14-17, inclusive, are the overwhelming majority. respondents aged 14-19, inclusive, account for 88% of respondents, therefore, it is reasonable that, statistically, the 14-17 group has the observations it exhibits

severity	proportion aged 14-17 (%)
minimal	89.4
mild	89.2
moderate	86.6
severe	84.2

- the age range across severity levels viz

severity	age range
minimal	12-21
mild	13-23
moderate	13-19
severe	13-25

notice how the respondents under `moderate` severity are strictly teenagers

severity and gender

- male respondents make a majority in the severity levels `minimal` and `mild` and a minority in the levels `moderate` and `severe`

severity	%female	%male
minimal	49.4	50.6
mild	46.4	53.6
moderate	51.8	48.2
severe	67.1	32.9

the differences between genders in the groups where males are in the majority is smaller than those where the females are in the majority

severity and tribe

- respndents from minority tribe(s) make a majority across all severity levels; the differences between tribes is large

severity	%majority	%minority
minimal	33.5	66.5
mild	42.5	57.5
moderate	29.3	70.7
severe	30.5	69.5

severity and school resources

- respondents from less-resourced schools make a majority of respondents in each severity level; 52% of those that reported minimal and 46.3% of those that reported severe GAD levels are from poor schools

severity	%rich	%medium	%poor
minimal	30.7	17.3	52.0
mild	34.8	25.8	39.5
moderate	32.9	32.9	34.1
severe	26.8	26.8	46.3

- in the `moderate` and `severe` levels, there are as many respondents from resource-rich schools as those from schools with medium resources: 32.9% unser `moderate` and 26.8% under `severe`

severity and all demographic characteristics

- there is weak correlation between severity and all demographic characteristics

	Tribe	Gender	Age	School_Resources	Severity
Tribe	1.00000000	-0.06649228	-0.1547092	-0.4697763	-0.09551923
Gender	-0.06649228	1.00000000	0.1310904	0.1225617	-0.10956822
Age	-0.15470924	0.13109041	1.0000000	0.3646377	0.14902258
School_Resources	-0.46977631	0.12256171	0.3646377	1.0000000	0.10230336
Severity	-0.09551923	-0.10956822	0.1490226	0.1023034	1.00000000

- the most positive is age (0.15) and the most negative is gender (-0.11)

  - to some extent, the older a respondent is the more likely it to have more severe GAD

About GAD

what is GAD?

- GAD is a long-term condition that causes a patientto feel anxious about a wide range of situations and issues rather than one specific event
- People with GAD feel anxious most days and often struggle to remember the last time they felt relaxed
- As soon as one anxious thought is resolved, another may appear about a different issue

what does the GAD score measure?

- One's proclivity to have excessive, uncontrollable and often irrational worry about events or activities

why is GAD important as a measure of mental wellness?

- It is an efficient tool for screening for GAD and assessing its severity in clinical practice and research

Method

flow

- consume dataset

- clean dataset
- perform simple EDA
- create a correlogram of severity levels against demographic characteristics
- create an abstract

Data set

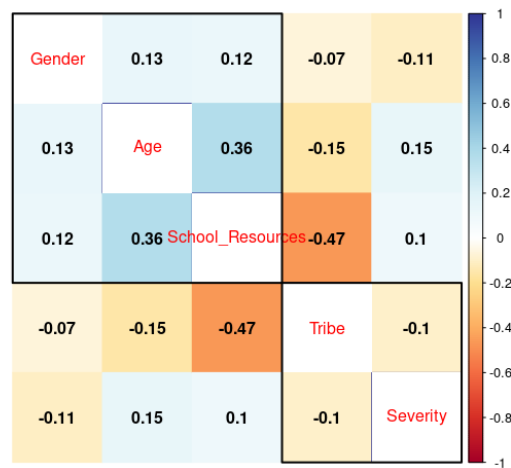- 658 variables of 33 observations

missing values

- the data-set is imputed, therefore, there are no missing values

imputed data-set

- not able to determine what type of imputation has been used

Visualisations

Correlogram of severity and demographic characteristics

Sources

1. Datrtmouth-Hitchcock
2. Brief measures
3. MIRECC
4. NHS - UK
5. NIMH - US
6. AAFP - US
7. NLM - US

Tables

1. Occurrence of GAD by severity

Severity	Freq	Percentage
Mild	233	35.4
Minimal	179	27.2
Moderate	164	24.9
Severe	82	12.5

2. Occurrence of GAD by school resources

School_Resources	Freq	Percentage
Medium	212	32.2
Poor	167	25.4
Rich	279	42.4

3. Occurrence of GAD by age

Age	Freq	Percentage
12	1	0.152
13	13	1.98
14	84	12.8
15	179	27.2
16	199	30.2
17	117	17.8
18	42	6.38
19	15	2.28
20	3	0.456
20	1	0.152
21	1	0.152
22	1	0.152
23	1	0.152

Age	Freq	Percentage
25	1	0.152

4. Occurrence of GAD by gender

Gender	Freq	Percentage
F	338	51.4
M	320	48.6

5. Occurrence of GAD by tribe

Tribe	Freq	Percentage
Majority	227	34.5
Minority	431	65.5

6. Occurrence of GAD by age, grouped by severity

Severity	Age	Freq	Percentage
Mild	13	4	1.72
Mild	14	24	10.3
Mild	15	63	27.0
Mild	16	72	30.9
Mild	17	49	21.0
Mild	18	14	6.01
Mild	19	4	1.72
Mild	20	2	0.858
Mild	23	1	0.429
Minimal	12	1	0.559
Minimal	13	7	3.91
Minimal	14	31	17.3
Minimal	15	52	29.1
Minimal	16	53	29.6
Minimal	17	24	13.4
Minimal	18	7	3.91
Minimal	19	2	1.12
Minimal	20.5	1	0.559
Minimal	21	1	0.559
Moderate	13	1	0.610
Moderate	14	21	12.8
Moderate	15	49	29.9
Moderate	16	46	28.0
Moderate	17	26	15.9

Severity	Age	Freq	Percentage
Moderate	18	15	9.15
Moderate	19	6	3.66
Severe	13	1	1.22
Severe	14	8	9.76
Severe	15	15	18.3
Severe	16	28	34.1
Severe	17	18	22.0
Severe	18	6	7.32
Severe	19	3	3.66
Severe	20	1	1.22
Severe	22	1	1.22
Severe	25	1	1.22

7. Occurrence of GAD by gender, grouped by severity

Severity	Gender	Freq	Percentage
Mild	F	115	49.4
Mild	M	118	50.6
Minimal	F	83	46.4
Minimal	M	96	53.6
Moderate	F	85	51.8
Moderate	M	79	48.2
Severe	F	55	67.1
Severe	M	27	32.9

8. Occurrence of GAD by tribe, grouped by severity

Severity	Tribe	Freq	Percentage
Mild	Majority	78	33.5
Mild	Minority	155	66.5
Minimal	Majority	76	42.5
Minimal	Minority	103	57.5
Moderate	Majority	48	29.3
Moderate	Minority	116	70.7
Severe	Majority	25	30.5
Severe	Minority	57	69.5

9. Occurrence of GAD by school resources, grouped by severity

Severity	School_Resources	Freq	Percentage
Mild	Medium	81	34.8
Mild	Poor	60	25.8
Mild	Rich	92	39.5
Minimal	Medium	55	30.7
Minimal	Poor	31	17.3
Minimal	Rich	93	52.0
Moderate	Medium	54	32.9
Moderate	Poor	54	32.9
Moderate	Rich	56	34.1
Severe	Medium	22	26.8
Severe	Poor	22	26.8
Severe	Rich	38	46.3