Paranoia and Insomnia Symptoms: An Exploratory Analysis

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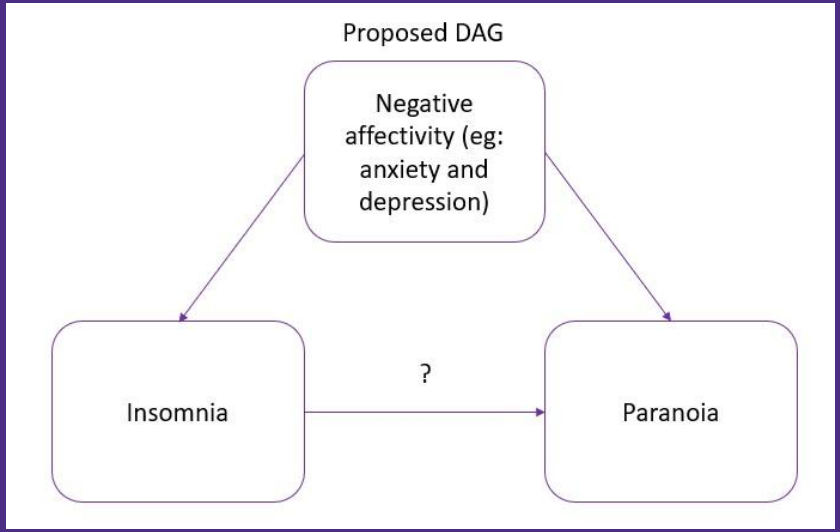
Scientific Question

Are self-perceived symptoms of insomnia associated with paranoia symptoms among adults residing in the United Kingdom when controlling for symptoms of negative affectivity?



Previous Research

- A cross-sectional study was conducted in 2017 on 439 UK adults aged 18 to 77
- Participants answered survey questions about paranoia, insomnia, and general mental health
- A previous study from 2009 showed a plausible link between insomnia and paranoia
- The 2017 study built on these findings and used factor analysis to link specific symptoms to paranoia, finding that adjusting for negative affect accounted for the paranoia-insomnia relationship

Variable Definitions

- Paranoia: based on DSM-5 guidelines, those with >=34 points are considered to have paranoia (16 - 76 pt range)
- Insomnia: using SLEEP-50 guidelines, those with >=19 points have insomnia (8 - 32 pt range)
- Negative affectivity: cut into thirds (21 points per category, 0 - 63 pt range)

Descriptive Statistics

Average age is 35.1, with 76% of participants identifying as female

	Paranoia (range from 16 - 76)	Insomnia (range from 8 - 32)	Negative Affectivity (range from 0 - 63)		
Mean (SD)	18.56 (5.68)	17.7 (5.27)	12.6 (11.52)		
Percentage per category	4% (17/439)	42% (184/439)	Low 81%	Med 16%	High 3%

Logistic Regression Analysis

- For those with insomnia, the expected odds of having paranoia are **37% lower (OR=0.63, 95% CI: 0.19-2.05, p=0.44)** than those without insomnia when adjusting for negative affectivity
- Negative affectivity categories do seem to be strongly associated with paranoia ($p<0.0001$)

Subgroup Analyses: Age

Percentages per category		Age 18-37 (n=266)	Age 38-57 (n=146)	Age 58-77 (n=27)
Paranoia		4.5%	3.4%	0%
Insomnia		36%	51%	56%
Negative affect	Low	78%	84%	96%
	Medium	18%	15%	4%
	High	4%	1%	0%

P-values for each associated multiple logistic regression are not significant at the 0.05 level

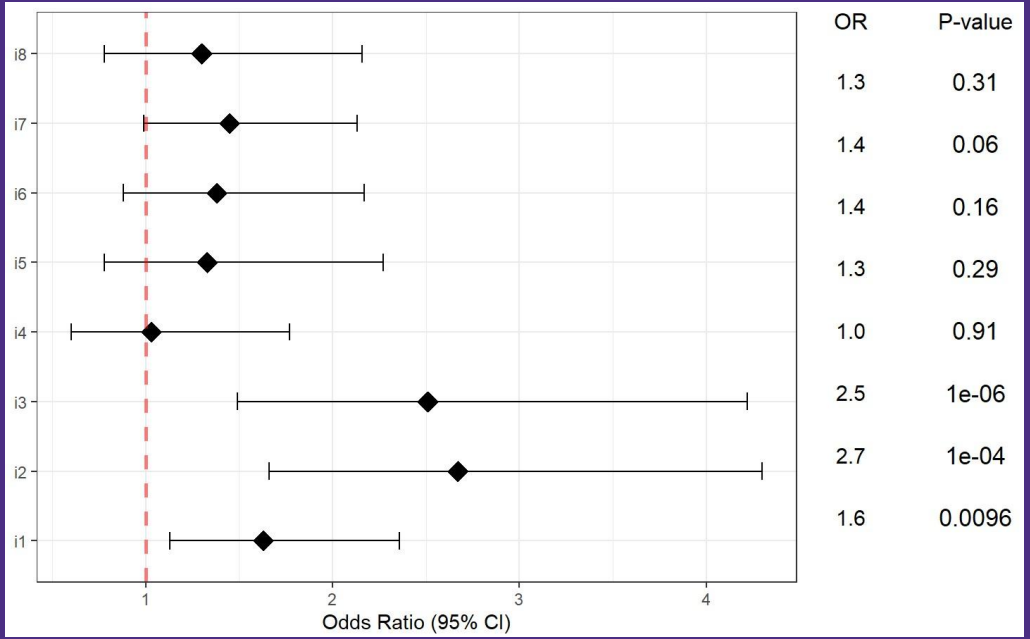
Individual Insomnia Symptoms

Significant symptoms are:

i1: “I find it difficult to fall asleep”

i2: “I worry so much it prevents me from falling asleep”

i3: “I find it hard to relax”



Notably, “I sleep too little” (i8) is not significantly associated

Conclusions and Limitations

- We do not have evidence for an association between paranoia and insomnia when adjusting for negative affect
  - These results closely match the original study's findings
- Cross sectional study: can't make causal conclusions
- Not easily generalized:
  - Participants are 76% female and are likely to be highly educated, as subjects came from a university mailing list
- Categorization of paranoia was done in a way that is not likely to match real-life diagnoses

References

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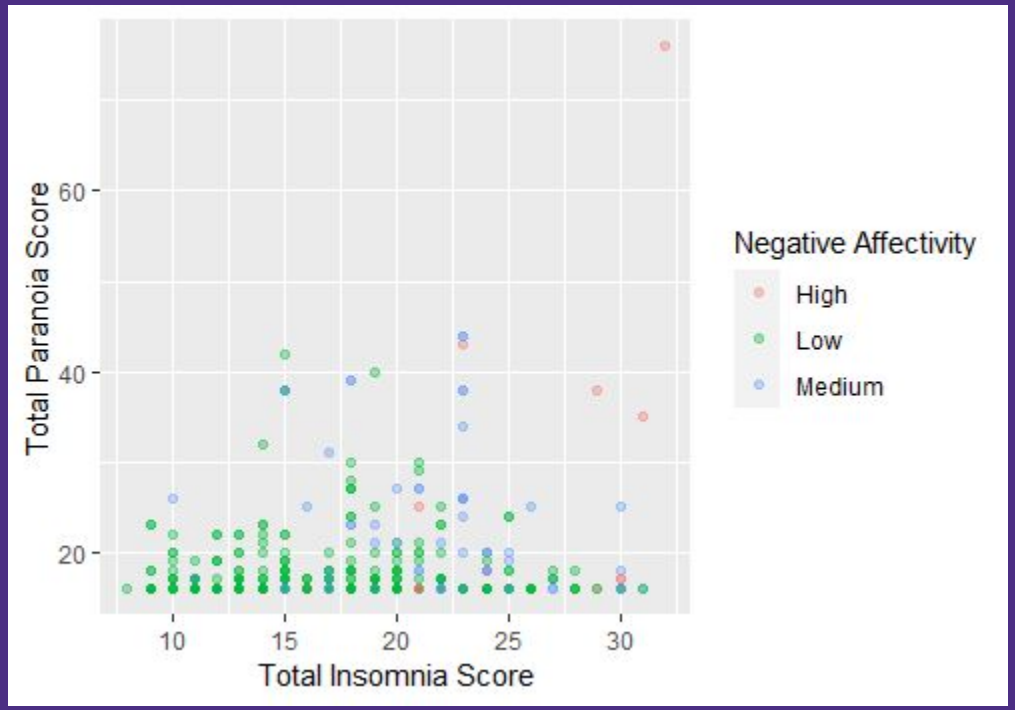
Appendix I: Exponentiated Multiple Logistic Regression Estimates

	Estimate	95% CI	P-value
Intercept	0.013	(0.005, 0.037)	<0.001
Insomnia	0.63	(0.19, 2.05)	0.44
Medium Affectivity	14.81	(4.01, 54.68)	<0.001
High Affectivity	58.34	(10.15, 335.2)	<0.001

Appendix II: Exponentiated Simple Logistic Regression Estimates

	Estimate	95% CI	P-value
Intercept	0.028	(0.013, 0.06)	<0.001
Insomnia level	2.04	(0.76, 5.48)	0.16

Appendix III: Scatterplot of Paranoia and Insomnia Scores



Appendix IV: Exponentiated Multiple Logistic Regression Estimates, Ages 18-37

	Estimate	95% CI	P-value
Intercept	0.017	(0.006, 0.05)	<0.001
Insomnia	0.45	(0.09, 2.26)	0.33
Medium Affectivity	13.2	(2.29, 75.8)	<0.001
High Affectivity	50.6	(4.99, 513)	<0.01

Appendix V: Exponentiated Multiple Logistic Regression Estimates, Ages 38-57

	Estimate	95% CI	P-value
Intercept	0.006	(0.0002, 0.14)	<0.01
Insomnia	1.65	(0.2, 13.4)	0.64
Medium Affectivity	16.9	(2.39, 120)	<0.01
High Affectivity	95.1	(4.07, 2221)	<0.01