

CACBT 2026 Abstract

DO GENDER AND AGE INTERACT WITH DYSFUNCTIONAL BELIEFS IN GENERALIZED ANXIETY DISORDER?

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Negative beliefs about worry, positive beliefs about worry, anxiety sensitivity, and intolerance of uncertainty are dysfunctional beliefs that are associated with the symptoms of generalized anxiety disorder (GAD). The present study explored whether gender and age interact with these beliefs in relation to GAD symptoms and worry severity. Analyses were conducted with a community sample of Canadian adults ($N = 624$; $M_{\text{age}} = 43.20$; 50.3% Women, 48.6% Men), as well as a sample of Canadian undergraduate students ($N = 1020$; $M_{\text{age}} = 20.78$; 72.0% Women, 24.0% Men). In both samples, it was found that negative beliefs about worry significantly interacted with gender in predicting the symptoms of GAD, with the association being stronger for men. Intolerance of uncertainty also interacted with gender in predicting GAD, such that its effect was stronger for women, but only in the undergraduate sample. In contrast to gender, age did not interact with the dysfunctional beliefs. Further, when worry severity was used as the outcome variable, no interaction effects were found. Past research has found that negative beliefs about worry and intolerance of uncertainty are strongly associated with the symptoms of GAD, and these findings suggest that these associations may be affected by gender. While women are more likely to experience GAD, the present study suggests that high levels of negative beliefs about worry show a stronger association with the symptoms of GAD for men. The findings also suggest that the effect of intolerance of uncertainty on GAD symptoms may be stronger in women. In practice, these findings could indicate that negative beliefs about worry may be of greater concern for male clients, while intolerance of uncertainty may be of greater concern for female clients, and that these effects may be more specific to GAD symptoms, rather than overall worry severity.

W.C 296/300

Topics: Anxiety

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Introduction

- The likelihood of a GAD diagnosis is substantially age and gender dependent, with women and those aged 35-54 seeing higher rates in the Canadian population (Watterson et al., 2017).
- Cognitive constructs such as anxiety sensitivity, intolerance of uncertainty, and metacognitive beliefs about worry are known to be associated with the symptoms of GAD (Naragon-Gainey, 2010; Penney et al., 2020).
- The present study aimed to investigate the possible moderating role that age and gender have on the associations that these constructs have with the symptoms of GAD.

Negative beliefs about worry influence GAD more in men, while intolerance of uncertainty influences GAD more in university-aged women

Discussion

- In both samples, main effects were found for ASI, IUS, and NBW.
- In both samples, the NBW x Gender interaction revealed that men had a stronger association between GAD symptoms and NBW scores than women.
- In the university sample, the IUS x Gender interaction revealed that women had a stronger association between GAD symptoms and IUS scores than men.
- No interaction effects were found when worry severity (PSWQ) was examined as the outcome.
- While women experience GAD at a higher rate, these findings indicate that men may experience greater GAD symptoms as beliefs that worry is dangerous or uncontrollable develop, while women attending university may experience greater GAD symptoms with increasing intolerance of uncertainty.

Method

PARTICIPANTS

- Community Sample: $N = 624$; $M_{age} = 43.20$
 - 50.3% Female, 48.6% Male
- Undergrad Sample: $N = 1020$; $M_{age} = 20.78$
 - 72.0% Female, 24.0% Male

MEASURES

- Generalized Anxiety Disorder Questionnaire-IV (GADQ-IV)
- Penn State Worry Questionnaire (PSWQ)
- Anxiety Sensitivity Index-3 (ASI)
- Intolerance of Uncertainty Scale-18 (IUS)
- Metacognitions Questionnaire-30
- Negative Beliefs about Worry (NBW)
- Positive Beliefs about Worry (PBW)

Community

DV: GADQ-IV	<i>R</i>	<i>R</i> ²	<i>Sig.</i>
Model Summary	.848	.719	<.001
Regression	<i>t</i>	<i>pr</i>	<i>Sig.</i>
ASI	4.288	.172	<.001
IUS	6.732	.265	<.001
NBW	5.603	.223	<.001
PBW	0.175	.007	.861
Age	-1.958	-.080	.051
Gender	-0.975	-.040	.330
ASI x Age	-0.312	-.013	.755
IUS x Age	1.439	.059	.151
NBW x Age	-1.124	-.046	.262
PBW x Age	0.740	.03	.460
ASI x Gender	-0.537	-.022	.591
IUS x Gender	-1.505	-.061	.133
NBW x Gender	2.831	.115	.005
PBW x Gender	-1.077	-.044	.282

Undergrad

DV: GADQ-IV	<i>R</i>	<i>R</i> ²	<i>Sig.</i>
Model Summary	.796	.634	<.001
Regression	<i>t</i>	<i>pr</i>	<i>Sig.</i>
ASI	4.311	.139	<.001
IUS	5.104	.164	<.001
NBW	14.693	.431	<.001
PBW	1.503	.049	.133
Age	0.884	.029	.377
Gender	-4.312	-.139	<.001
ASI x Age	0.183	.006	.854
IUS x Age	0.319	.010	.750
NBW x Age	1.666	.054	.096
PBW x Age	0.525	.017	.600
ASI x Gender	1.11	.036	.267
IUS x Gender	-2.371	-.077	.018
NBW x Gender	3.211	.104	.001
PBW x Gender	0.365	.012	.715

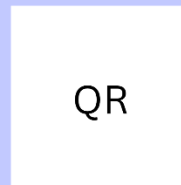
Addendum



OFFICE OF RESEARCH SERVICES

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Scan below to see the abstract, a copy of the poster, and full reference list



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References

- Hong, R. Y., & Lee, S. S. (2015). Further clarifying prospective and inhibitory intolerance of uncertainty: Factorial and construct validity of test scores from the Intolerance of Uncertainty Scale. *Psychological Assessment*, 27, 605-620.
<https://doi.org/10.1037/pas0000074>
- Meyer, T. J., Miller, M. L., Metzger, R. L., & Borkovec, T. D. (1990). Development and validation of the Penn State Worry Questionnaire. *Behaviour Research and Therapy*, 28(6), 487-495. [https://doi.org/10.1016/0005-7967\(90\)90135-6](https://doi.org/10.1016/0005-7967(90)90135-6)
- Naragon-Gainey K. (2010). Meta-analysis of the relations of anxiety sensitivity to the depressive and anxiety disorders. *Psychological Bulletin*, 136(1), 128–150.
<https://doi.org/10.1037/a0018055>
- Newman, M. G., Zuellig, A. R., Kachin, K. E., Constantino, M. J., Przeworski, A., Erickson, T., & Cashman-McGrath, L. (2002). Preliminary reliability and validity of the Generalized Anxiety Disorder Questionnaire-IV: A revised self-report diagnostic measure of generalized anxiety disorder. *Behavior Therapy*, 33(2), 215–233.
[https://doi.org/10.1016/S0005-7894\(02\)80026-0](https://doi.org/10.1016/S0005-7894(02)80026-0)
- Penney, A. M., Rachor, G. S., & Deleurme, K. A. (2020). Differentiating the roles of intolerance of uncertainty and negative beliefs about worry across emotional disorders. *Journal of Experimental Psychopathology*, 11(4), 2043808720970072.
<https://doi.org/10.1177/2043808720970072>
- Taylor, S., Zvolensky, M. J., Cox, B. J., Deacon, B., Heimberg, R. G., Ledley, D. R., Abramowitz, J. S., Holaway, R. M., Sandin, B., Stewart, S. H., Coles, M., Eng, W., Daly, E. S., Arrindell, W. A., Bouvard, M., & Cardenas, S. J. (2007). Robust dimensions of

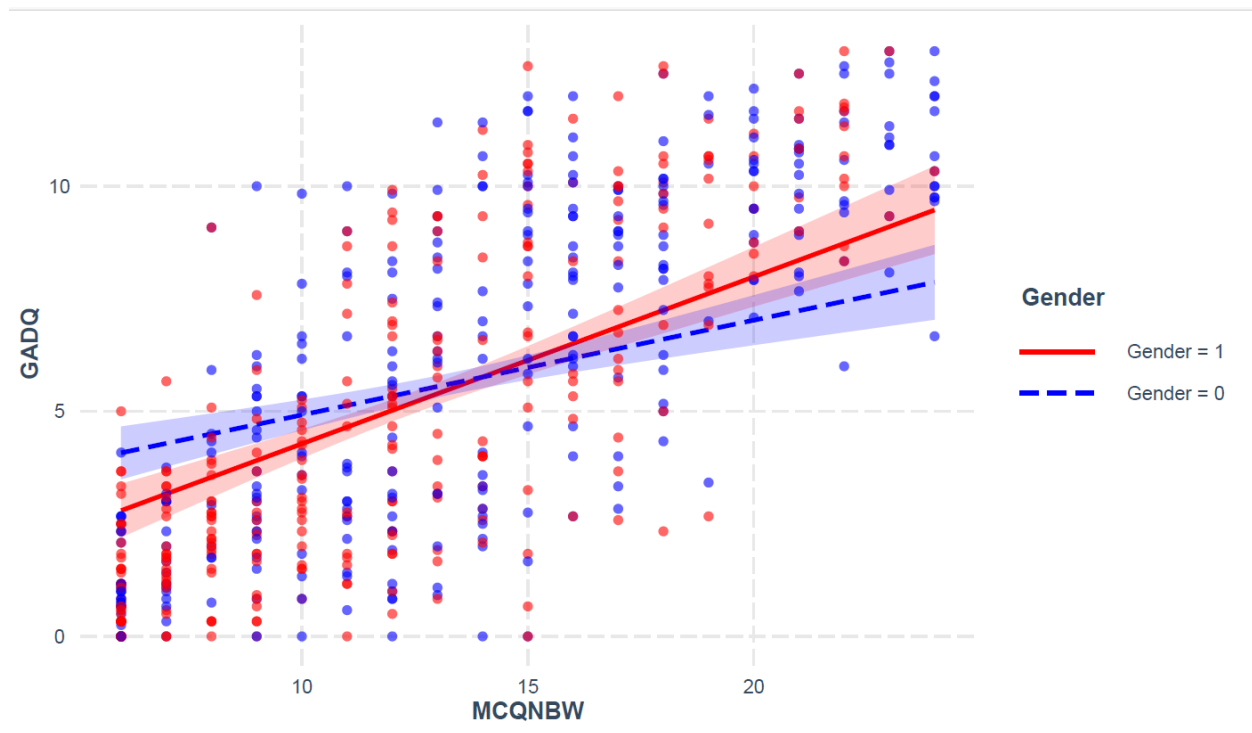
anxiety sensitivity: Development and initial validation of the Anxiety Sensitivity Index-3.
Psychological Assessment, 19(2), 176-188. <https://doi.org/10.1037/1040-3590.19.2.176>

Watterson, R. A., Williams, J. V., Lavorato, D. H., & Patten, S. B. (2017). Descriptive epidemiology of generalized anxiety disorder in Canada. *Canadian Journal of Psychiatry*, 62(1), 24–29. <https://doi.org/10.1177/0706743716645304>

Wells, A., & Cartwright-Hatton, S. (2004). A short form of the Metacognitions Questionnaire: Properties of the MCQ-30. *Behaviour Research and Therapy*, 42(4), 385-396.
[http://doi.org/10.1016/S0005-7967\(03\)00147-5](http://doi.org/10.1016/S0005-7967(03)00147-5)

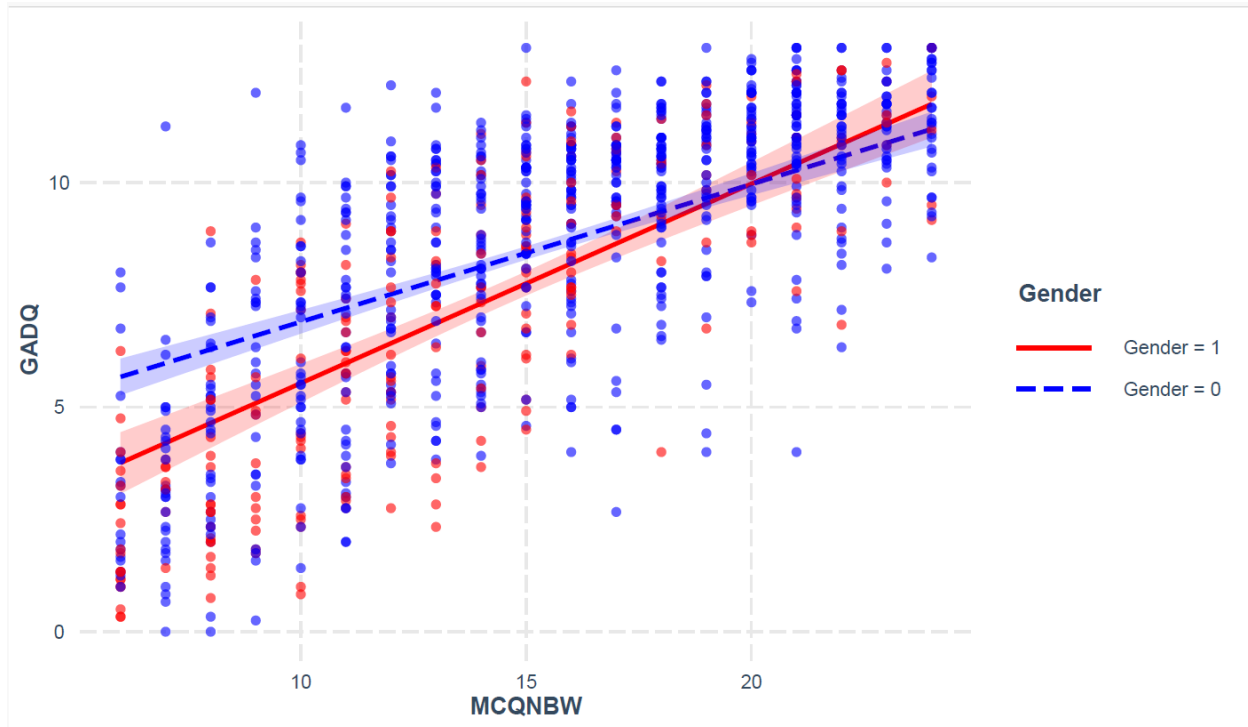
Appendix

Graph of NBW x Gender interaction in community sample.



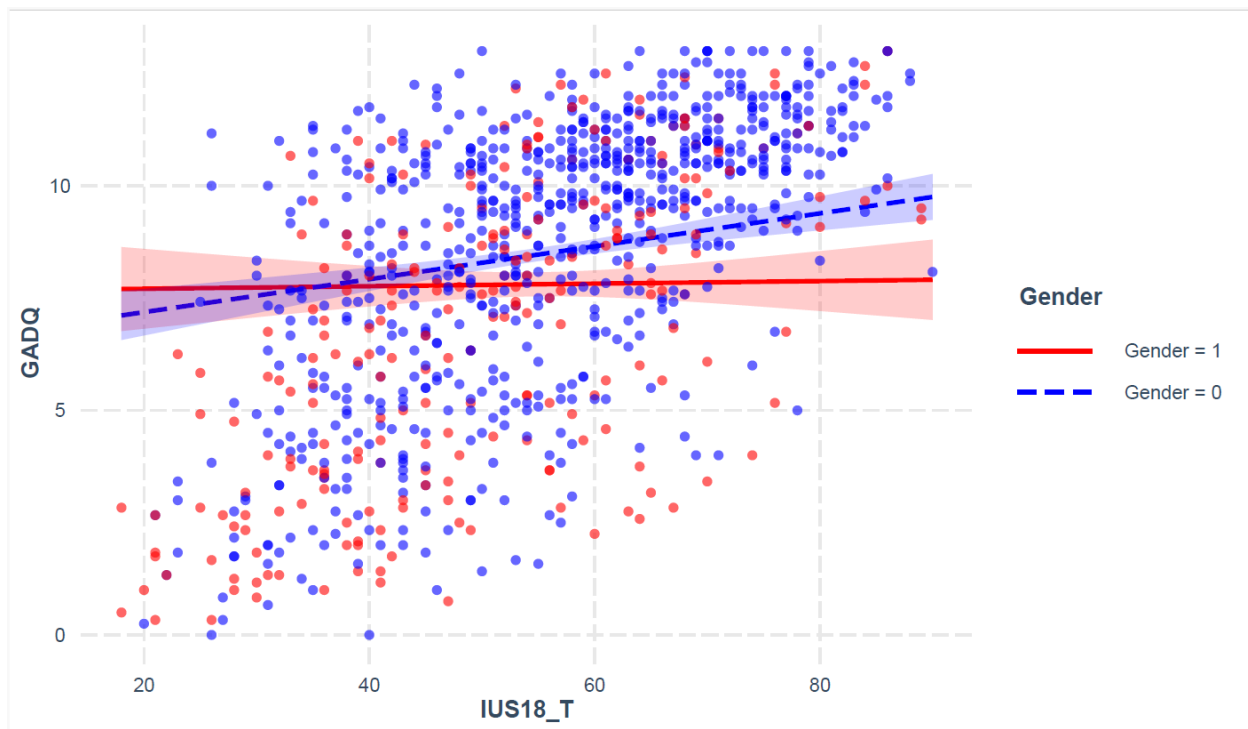
Note. Gender 1 = Women; Gender 0 = Men; MCQNBW = Negative Beliefs about Worry.

Graph of NBW x Gender interaction in undergraduate sample.



Note. Gender 1 = Women; Gender 0 = Men; MCQNBW = Negative Beliefs about Worry.

Graph of NBW x Gender interaction in undergraduate sample.



Note. Gender 1 = Women; Gender 0 = Men; IUS18_T = Intolerance of Uncertainty.