

## Introduction

Anxiety is a debilitating disorder with a high rate of comorbidity and prevalence within the general population. Traditionally, classical models of anxiety conceptualize worry, threat avoidance and attentional biases, as cognitive mechanisms leading to anxiety. In recent years, pathological worry has dominated the current anxiety literature. However, pathological worry yields inconsistent results and fails to explain a significant and unique variance across all studies. Recent research suggests that this significant and unique variance may be mediated by irrational beliefs.

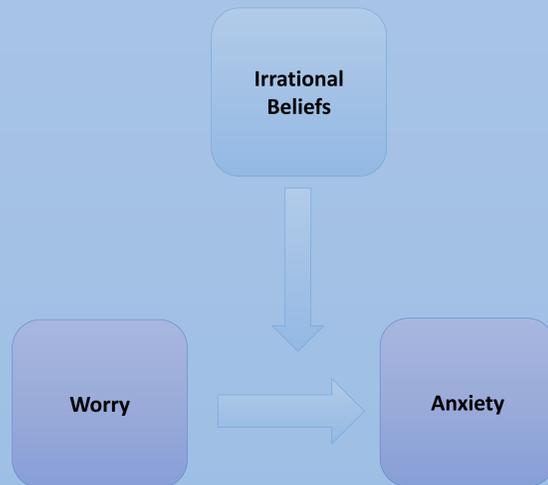


Figure 1. This figure illustrates the proposed mediational relationship of irrational beliefs in worry and anxiety.

## Objectives

Given the inconsistent results of pathological worry within the current anxiety literature, the aim of the current study was to conduct a literature review on the mediational role of irrational beliefs in the relationship between worry and anxiety. Specifically, researchers were interested in (1) the relationship between worry, irrational beliefs and anxiety, and (2) the mediational role of irrational beliefs in the relationship between worry and anxiety. Researchers hypothesized that high worriers and irrational-belief systems would predict anxiety more so than pathological worry

## Methods

From August 2019 to April 2020, a query search was conducted looking for articles related to irrational beliefs, worry and anxiety using EBSCO. In order to be included within this literature review, studies had to be related to irrational beliefs, worry and anxiety. In addition, studies also had to be peer-reviewed and published within the last 10 years. Exclusion criteria, in the current study, included studies not published within the last 10 years or peer-reviewed. Studies that were not directly related to irrational beliefs, worry and anxiety were also excluded. In addition, there were no limitations on research methodology or clinical and non-clinical samples.

## Results / Discussion

After ensuring articles met inclusion criteria for the current study, several articles were included within this literature review. As expected, the studies provided evidence for a significant, positive relationship between irrational beliefs, worry and anxiety. In addition, there was also tentative evidence of irrational beliefs' mediational role in the relationship between worry and anxiety. In general, individuals with high-levels of pathological worry showed significant, positive correlations to anxiety (Chalmers et al., 2016; Zambrano-Vasquez & Allen, 2014; Casteras et al., 2020; Bauer et al., 2020; Kertz & Borden, 2011; Iani et al., 2019). However, recent research did not support worry as the sole predictor of anxiety (Casteras et al., 2020). Instead, recent research appears to support the notion that irrational beliefs mediate the role of worry in anxiety (Buschmann et al., 2018; Belloch et al., 2007; Swee, Olino, & Heimberg, 2019; McEvoy & Brans, 2013). For a summary of findings look at Figure 2.

| Study                           | Method  | Major Findings   |
|---------------------------------|---|--|
| Bauer et al., 2020              | Self-report   | • Higher levels of worry were associated with higher self-report measures of anxiety.  |
| Belloch et al., 2007            | Self-report   | • Reaffirmed prior research of a relationship between worry an anxiety, but also evidenced a mediational role of irrational beliefs in this relationship.  |
| Buschmann et al., 2018          | Self-report   | • Presented tentative evidence of a mediational role of irrational beliefs in worry and anxiety and identified irrational beliefs and worry as a common pathway to depression as well.                               |
| Casteras et al., 2020           | Physiological (Amygdala activation in ventromedial-prefrontal cortex) | • Observed no difference in amygdala activation and connectivity in high and low-worriers (clinical and non-clinical samples), but high-worriers tended to exhibit less connectivity and higher amygdala activation. |
| Chalmers et al., 2016           | Physiological (Heart-rate variability)                                | • Observed differences in heart-rate variability of those with pathological worry and reaffirmed the correlation between worry and anxiety.  |
| Iani et al., 2019               | Self-report   | • Evidenced non-significant relation between worry and anxiety.  |
| Kertz & Borden, 2011            | Review  | • Provides evidence that worry is developed and maintained across time in children in a different way from adults.   |
| McEvoy & Brans., 2013           | Self-report   | • Irrational beliefs and worry were found to significantly predict anxiety.  |
| Swee, Olino, & Heimberg., 2019  | Self-report   | • Provided evidence for a mediational role of irrational beliefs in worry, anxiety and depression.   |
| Zambrano-Vasquez & Allen., 2014 | Physiological (EEG)   | • High-worriers and those with high-self report measures of anxiety exhibited error-related negativity during flanker and probability tasks. Illustrates the relation between worry anxiety.                         |

Figure 2. This figure illustrates and summarizes key findings related to the proposed mediational relationship of irrational beliefs in worry and anxiety.

Thus, the results of this study suggest a mediational role of irrational beliefs in worry and anxiety and has vast implications. First and foremost, it suggests classical models of anxiety do not adequately capture anxiety. In addition, it also has implications on interventions, as the new conceptualization of anxiety will necessitate alterations in current interventions. It also implicates a mediational role of irrational beliefs in worry and anxiety. However, further research is needed to determine the nature of the relationship between irrational beliefs, worry and anxiety.

## Conclusion

Thus, the aim of the current study was to conduct a literature review on worry, irrational beliefs and anxiety. The results of this study provide evidence of a relationship between worry, irrational beliefs and anxiety, and irrational beliefs' mediational role in this relationship. These findings have vast implications on the conceptualization of anxiety and cognitive-based interventions. Limitations to this study include lack of experimental methodology, correlational research, and limited research. Thus, future directions should focus on better understanding the mediational role of irrational beliefs in worry and anxiety, as well as the role of pathological worry in anxiety.

## References

- Bauer, E. A., Braitman, A. L., Judah, M. R., & Cigularov, K. P. (2020). Worry as a mediator between psychosocial stressors and emotional sequelae: Moderation by contrast avoidance. *Journal of Affective Disorders*, 266, 456–464. <https://doi.org/10.1016/j.jad.2020.01.092>
- Belloch, A., Morillo, C., & García-Soriano, G. (2007). Are the dysfunctional beliefs that predict worry different from those that predict obsessions? *Clinical Psychology & Psychotherapy*, 14(6), 438–448. <https://doi.org.ezproxy.lib.usf.edu/10.1002/cpp.551>
- Buschmann, T., Horn, R. A., Blankenship, V. R., Garcia, Y. E., & Bohan, K. B. (2018). The Relationship Between Automatic Thoughts and Irrational Beliefs Predicting Anxiety and Depression. *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, (2), 137. <https://doi.org.ezproxy.lib.usf.edu/10.1007/s10942-017-0278-y>
- Chalmers, J. A., Heathers, J. A. J., Abbott, M. J., Kemp, A. H., & Quintana, D. S. (2016). Worry is associated with robust reductions in heart rate variability: A transdiagnostic study of anxiety psychopathology. *BMC Psychology*, 4. Retrieved from <http://search.ebscohost.com.ezproxy.lib.usf.edu/login.aspx?direct=true&db=psyh&AN=2016-28269-001&site=eds-live>
- Iani, L., Quinto, R. M., Lauriola, M., Crosta, M. L., & Pozzi, G. (2019). Psychological well-being and distress in patients with generalized anxiety disorder: The roles of positive and negative functioning. *PLoS ONE*, 14(11), 1–13. <https://doi.org/10.1371/journal.pone.0225646>
- Kertz, S. J., & Woodruff-Borden, J. (2011). The Developmental Psychopathology of Worry. *Clinical Child & Family Psychology Review*, 14(2), 174–197. <https://doi.org/10.1007/s10567-011-0086-3>
- McEvoy, P., & Brans, S. (2013). Common Versus Unique Variance Across Measures of Worry and Rumination: Predictive Utility and Mediational Models for Anxiety and Depression. *Cognitive Therapy & Research*, 37(1), 183–196. <https://doi.org/10.1007/s10608-012-9448-5>
- Porta-Casterás, D., Fullana, M., Tinoco, D., Martínez-Zalacáin, I., Pujol, J., Palao, D., Soriano-Mas, C., Harrison, B., Via, E., & Cardoner, N. (2020). Prefrontal-amygdala connectivity in trait anxiety and generalized anxiety disorder: Testing the boundaries between healthy and pathological worries. *Journal of Affective Disorders*, 267, 211–219. <https://doi.org/10.1016/j.jad.2020.02.029>
- Swee, M. B., Olino, T. M., & Heimberg, R. G. (2019). Worry and anxiety account for unique variance in the relationship between intolerance of uncertainty and depression. *Cognitive Behaviour Therapy*, 48(3), 253.
- Zambrano-Vasquez, L., & Allen, J. J. B. (2014). Differential contributions of worry, anxiety, and obsessive-compulsive symptoms to ERN amplitudes in response monitoring and reinforcement learning tasks. *Neuropsychologia*, 61, 197–209. <https://doi.org.ezproxy.lib.usf.edu/10.1016/j.neuropsychologia.2014.06.023>