

# Examining the Role of Intolerance of Uncertainty in the Relationship between HEXACO

## Personality Factors and Trait Anxiety

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### Introduction

- ◆ Intolerance of uncertainty (IU) is a dispositional characteristic encompassing both behavioural responses to uncertainty (i.e., inhibitory IU) and negative apprehensions regarding the uncertainty of future events (i.e., prospective IU).
- ◆ Several underlying risk factors for anxiety disorders have been proposed, including IU and specific personality factors (e.g., high levels of neuroticism and low levels of extraversion).
  - ◆ IU has been shown to mediate the relationship between the Five Factor Model (FFM) personality factor of neuroticism and various anxiety disorders, including social anxiety disorder, panic disorder, and generalized anxiety disorder.
- ◆ Recent research suggests that the HEXACO model of personality may offer a more robust and comprehensive model of personality than the FFM.
  - ◆ Specifically, the 6-factor HEXACO model has been more robustly replicated across different languages compared to the 5-factor FFM and may offer a broader assessment of personality across cultures.
- ◆ No research to date has examined whether IU mediates the relationship between HEXACO personality factors and anxiety. Accordingly, the current investigation examined the relationship between the HEXACO personality factors and trait anxiety with IU posited as a mediator.

### Methods

- ◆ North American participants ( $n = 164$ ; 69% women) were compensated and completed measures as part of a larger online study.
- ◆ Participants completed the following measures:
  - ◆ **HEXACO-PI-R (HEXACO)**: a 60-item self-report measure that assesses six personality dimensions (i.e., honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience).
  - ◆ **State-Trait Anxiety Inventory-Trait (STAI-T)**: a 20-item self-report measure that assesses stable tendencies to experience anxiety.
  - ◆ **Intolerance of Uncertainty Scale-Short Form (IUS-12)**: a 12-item self-report measure that assesses individual responses to uncertainty.
    - ◆ **Prospective subscale**: 7 items measuring an individual's negative beliefs about uncertainty.
    - ◆ **Inhibitory subscale**: 5 items measuring an individual's behavioural response to uncertainty.
- ◆ Hierarchical linear regression analyses were performed with the STAI-T score as the dependent variable. The independent variables consisted of IUS-12 inhibitory and prospective IU subscale scores in model 1 and the six HEXACO personality dimension scores in model 2.
- ◆ The PROCESS program was used to test the mediating effect of IU scores on the relationship between HEXACO personality dimension scores and STAI-T scores.

### Results

- ◆ Descriptive statistics were as follows: Prospective IU score ( $M=19.9$ ;  $SD=5.8$ ); Inhibitory IU score ( $M=10.7$ ;  $SD=4.8$ ); STAI-T score ( $M=42.1$ ;  $SD=12.5$ ); HEXACO-Honesty-Humility ( $M=3.5$ ;  $SD=.65$ ); Emotionality ( $M=3.1$ ;  $SD=.55$ ); Extraversion ( $M=2.9$ ;  $SD=.85$ ); Agreeableness ( $M=3.1$ ;  $SD=.64$ ); Conscientiousness ( $M=3.6$ ;  $SD=.55$ ); and Openness to experience ( $M=3.5$ ;  $SD=.68$ ).
- ◆ Initial regression analyses suggested that inhibitory IU ( $p < .001$ ) was a significant predictor of the STAI-T score, but not prospective IU ( $p > .05$ ).
- ◆ Accordingly, mediation analyses were only ran with inhibitory IU as a mediator.
  - ◆ HEXACO-Emotionality was indirectly associated with STAI-T through inhibitory IU ( $b$  mediation = .27,  $CI = [.18, .35]$ ,  $R^2 = .16$ ).
  - ◆ HEXACO-Extraversion was indirectly associated with STAI-T through inhibitory IU ( $b$  mediation = -.22,  $CI = [-.31, -.16]$ ,  $R^2 = .67$ ).
  - ◆ HEXACO-Agreeableness was indirectly associated with STAI-T through inhibitory IU ( $b$  mediation = -.14,  $CI = [-.23, -.06]$ ,  $R^2 = .05$ ).
  - ◆ HEXACO-Conscientiousness was indirectly associated with STAI-T through inhibitory IU ( $b$  mediation = -.18,  $CI = [-.27, -.08]$ ,  $R^2 = .08$ ).
- ◆ IU was not found to mediate the relationship between the personality factors of honesty-humility or openness to experience and scores on the STAI-T (both  $p > .05$ ).

### Discussion

- ◆ Congruent with previous research examining the relationship between the FFM personality factors, IU, and anxiety, the current study suggests that IU mediates the relationship between HEXACO personality factors and trait anxiety.
- ◆ Specifically, inhibitory IU mediated the relationships between the HEXACO factors of emotionality, extraversion, agreeableness, and conscientiousness and trait anxiety.
  - ◆ Previous research has shown that inhibitory IU and prospective IU are uniquely associated with different anxiety disorders. The current sample may have experienced symptoms of anxiety more strongly associated with inhibitory IU (e.g., social anxiety), which may explain why prospective IU did not emerge as a significant predictor.
- ◆ The results are consistent with previous research on the FFM supporting the association between specific personality factors and anxiety; however, future research should seek to replicate current findings pertaining to the more recent honesty-humility HEXACO factor.
- ◆ Current results suggest that diverse personality profiles may factor into different treatment outcomes when using IU-based cognitive-behavioural interventions for anxiety.
  - ◆ Given newly developed scales assessing disorder-specific IU (DSIU), future research should replicate the previous analyses using DSIU as a mediator to determine whether the relationship between personality, IU, and anxiety is disorder specific.

Table 1: Correlations

Measures	1	2	3	4	5	6	7	8	9
STAI-T	-								
Inhibitory IU	.69**	-							
Prospective IU	.49**	.71**	-						
HEXACO_H	-.15*	-.30**	-.18*	-					
HEXACO_E	.39**	.41**	.38**	.00	-				
HEXACO_X	-.74**	-.53**	-.39**	.09	-.13*	-			
HEXACO_A	-.42**	-.22*	-.26*	.27**	-.13*	.35**	-		
HEXACO_C	-.33**	-.28**	.10	.34**	-.11	.29**	.16*	-	
HEXACO_O	-.18*	-.21*	-.13	.15*	-.06	.32	.26**	.27**	-

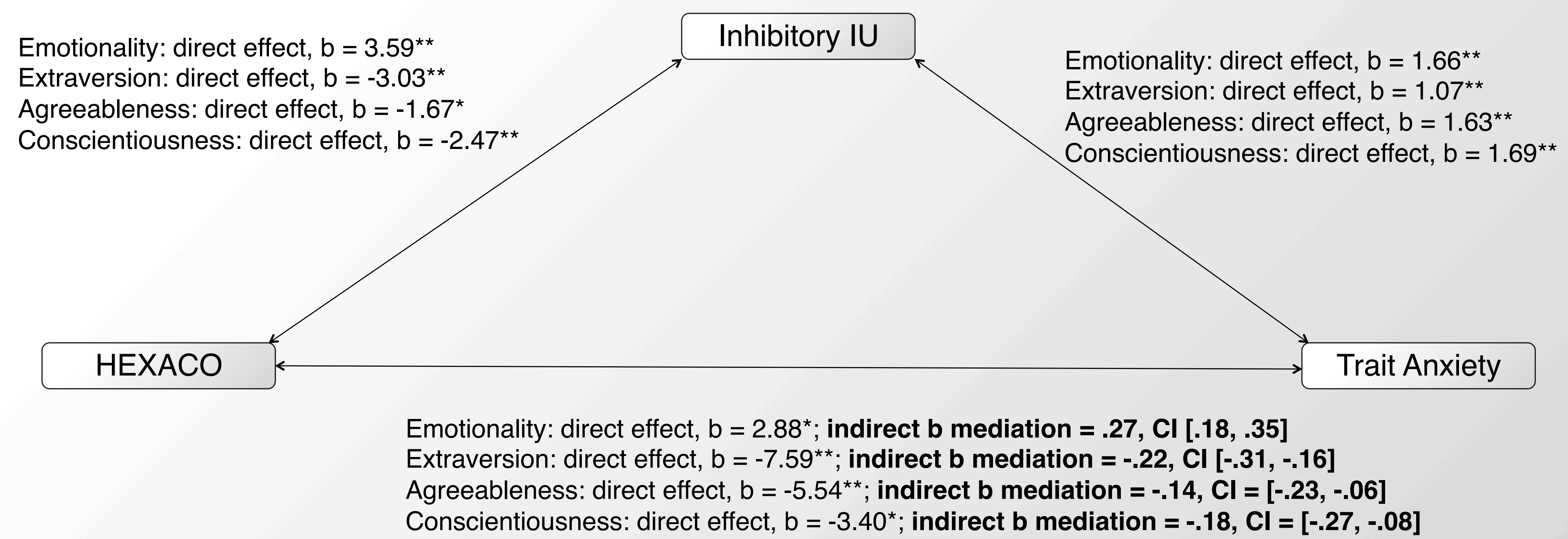
Note: \* $p < .05$ , \*\* $p < .001$ ; STAI-T – State-Trait Anxiety Inventory-Trait subscale; Inhibitory IU – Intolerance of Uncertainty Scale Short Form, Inhibitory IU subscale; HEXACO – HEXACO-Personality Inventory-Revised, H – Honesty-Humility, E – Emotionality, X – Extraversion, A – Agreeableness, C – Conscientiousness, O – Openness.

Table 2: Hierarchical linear regression: STAI-T score dependent variable

Model	Predictor	R	R <sup>2</sup>	R <sup>2</sup> <sub>Adj</sub>	F	$\beta$	p
1		.69	.48	.47	74.46**		.000
	Inhibitory IU					.69**	.000
	Prospective IU					.00	.954
2		.86	.74	.72	55.75**		.000
	Inhibitory IU					.35**	.000
	Prospective IU					-.02	.756
	HEXACO_H					.05	.241
	HEXACO_E					.16**	.001
	HEXACO_X					-.49**	.000
	HEXACO_A					-.18**	.000
	HEXACO_C					-.09	.081
	HEXACO_O					.13*	.004

Note: \* $p < .05$ , \*\* $p < .001$ ; Inhibitory IU – Intolerance of Uncertainty Scale Short Form, Inhibitory IU subscale; Prospective IU – Intolerance of Uncertainty Scale Short Form, Prospective IU subscale; HEXACO – HEXACO-Personality Inventory-Revised, H – Honesty-Humility, E – Emotionality, X – Extraversion, A – Agreeableness, C – Conscientiousness, O – Openness.

Figure 1.



Note: Mediated regression model with the Inhibitory IU subscale score of the Intolerance of Uncertainty Short Form as a mediating variable between the HEXACO-PI-R subscale scores and STAI-Trait anxiety subscale scores; \* $p < .05$ , \*\* $p < .001$ .

