**Associations between intolerance of uncertainty, paranoia, anxiety and depression: Evidence from an international multi-site sample**

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**Abstract**

Intolerance of uncertainty (IU: the tendency to find uncertainty aversive) and paranoia (e.g., excessive mistrust of others), are both associated with anxiety and depression symptoms. While previous research has primarily focused on IU and paranoia separately, there is recent evidence to suggest that IU and paranoia are linked and may interact to increase risk for anxiety, depression, and schizophrenia-spectrum conditions. The aims of the current study were to assess: (1) the extent to which IU (total score and subscales), paranoia, anxiety, and depression are associated and (2) whether the interaction between IU and paranoia is associated with greater anxiety and depression symptoms. To examine these aims, we conducted a survey on an international multi-site sample (n = 2510). Questionnaires included: IU (total score and subscales), paranoia (RGPTS persecution subscale), anxiety, and depression. The findings revealed that: (1) IU was positively associated with paranoia (*r* = .43), anxiety (*r* = .48) and depression (*r* = .49), and (2) People with high scores on IU and paranoia showed higher anxiety and depression symptoms. Importantly, these effects remained when controlling for negative beliefs about the self and others and demographic factors. Additionally, the inhibitory IU subscale (uncertainty paralysis) was related to paranoia, anxiety, and depression. However, the prospective IU subscale (desire for predictability) was only related to depression, but not paranoia and anxiety. Overall, these findings reliably demonstrate that IU and paranoia are linked, and that IU and paranoia interactions may synergistically work to affect current levels of anxiety and depression symptoms.

*Keywords.* Intolerance of Uncertainty, Paranoia, Anxiety, Depression, Questionnaire

**Introduction**

Intolerance of Uncertainty (IU) is the tendency to find uncertainty distressing (Carleton, 2016a; Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994). Previous research has demonstrated that individuals with higher IU interpret uncertain scenarios as more threatening (Cupid, Stewart, Sumantry, & Koerner, 2021; Pepperdine, Lomax, & Freeston, 2018), and under uncertainty they tend to experience greater negative affect (Morriss, Goh, Hirsch, & Dodd, 2023) and physiological arousal (Morriss, Zuj, & Mertens, 2021; Tanovic, Gee, & Joormann, 2018). IU is commonly measured using the 12-item IU scale, which can be used as unilateral scale or split into two subscales (Carleton et al., 2007; Hong & Lee, 2015). The Inhibitory IU subscale captures paralysis of cognition and action during uncertainty and the prospective IU subscale captures the desire for predictability (Carleton et al., 2007). The total IU score and subscales are reliably normally distributed across the general population (Carleton et al., 2012; Hong & Lee, 2015).

The total IU score and its subscales are noticeably higher in individuals with clinical anxiety (e.g., generalised anxiety, obsessive-compulsive, and post-traumatic stress disorders) and depression (Carleton et al., 2012; McEvoy, Hyett, Shihata, Price, & Strachan, 2019), relative to the general population. Further recent evidence suggests that self-reported IU is higher in individuals with schizophrenia-spectrum as well, compared to the general population (Morriss et al., under review). Additionally, prior evidence has shown that IU is positively associated with a host of symptoms related to anxiety (e.g., worry, bodily sensations) and depression (e.g., anhedonia) (Carleton et al., 2014; Jensen, Cohen, Mennin, Fresco, & Heimberg, 2016; McEvoy & Mahoney, 2012; Oglesby, Boffa, Short, Raines, & Schmidt, 2016; Yao, Qian, Jiang, & Elhai, 2021), and recent evidence has highlighted that IU is positively associated with symptoms related to psychosis (e.g., persecutory delusions and paranoia) (Lebert, Turkington, Freeston, & Dudley, 2021; Startup et al., 2016). Based on this body of work, IU may be considered an important risk and maintaining factor in these mental health conditions.

Notably, there is substantial comorbidity between anxiety, depression, and schizophrenia-spectrum conditions (Braga, Reynolds, & Siris, 2013; Buckley, Miller, Lehrer, & Castle, 2009; Van Os & Jones., 2001). This comorbidity may arise from several lower- and higher-order transdiagnostic dimensions (Bentall et al., 2009; Hong & Cheung, 2015; Sharp, Miller, & Heller, 2015); although as far as we are aware, no research has yet explicitly defined the shared transdiagnostic dimensions across anxiety, depression, and schizophrenia-spectrum conditions. Of note is that studies indicate that negative affectivity (e.g., the tendency to experience negative affect), which is a higher-order (latent) transdiagnostic dimension, has been shown to play a part in driving negative states such as anxiety, depression, and psychosis (Eysenck, 1991; Knežević et al., 2019; Krabbendam et al., 2002; van Os & Jones, 2001). Relatedly, in hierarchical models of transdiagnostic dimensions for anxiety and depression, negative affectivity is partially supported by the lower-order factor of IU (Hong & Cheung, 2015; Paulus, Talkovsky, Heggeness, & Norton, 2015). Therefore, it is possible that IU is one of the key transdiagnostic dimensions that bind and modulate different symptoms across anxiety, depression, and schizophrenia-spectrum conditions (SSDs).

Currently, the role of IU in anxiety and depression symptoms is relatively well documented (Carleton, 2016b; Shihata, McEvoy, Mullan, & Carleton, 2016). For example, higher IU is reliably associated with greater anxiety and depression symptoms (e.g., bodily sensations, worry, and rumination), and IU mediates the relationship between negative affectivity with both anxiety and depression symptoms (Mahoney & McEvoy, 2012; McEvoy & Mahoney, 2012). Additionally, IU was found to have a stronger edge weight with anxiety compared to depression in a recent network analysis (Denecke et al., 2023). Furthermore, there is some evidence to suggest that the IU subscales (inhibitory: paralysis under uncertainty; prospective: desire for predictability) may influence anxiety and depression symptoms differently (Boelen, Reijntjes, & Smid, 2016; McEvoy & Mahoney, 2012; Saulnier, Allan, Raines, & Schmidt, 2019). In particular, prior research has demonstrated that higher inhibitory IU is associated with a variety of anxiety (e.g. social anxiety, panic disorder, post-traumatic stress disorder) and depression symptoms (Boelen et al., 2016; Saulnier et al., 2019), whereas higher prospective IU seems to be more reliably associated with anxiety (e.g. generalised anxiety disorder and obsessive compulsive disorder) than depression symptoms (McEvoy & Mahoney, 2012).

Research on the relationship between IU and psychosis symptoms is still emerging (Bredemeier, McCole, Luther, Beck, & Grant, 2019; Lebert et al., 2021; Startup et al., 2016; White & Gumley, 2010; Zheng et al., 2022). A recent systematic review of ten studies (five clinical samples, four student samples, and one at-risk mental state sample) demonstrated that higher IU is associated with greater symptoms of psychosis, particularly paranoia (Morriss et al., under review). In order to understand the potential of IU as a transdiagnostic target for SSDs, the systematic review by Morriss et al. (under review) further highlighted the need for future research to address: (1) the reliability of associations between IU metrics (total IU, inhibitory IU, prospective IU) and paranoia symptoms in larger and more generalisable samples, and (2) the specificity of associations between IU metrics andg paranoia symptoms, over other broader negative affective tendencies.

Alongside these developments, there has been a growing literature that has demonstrated relationships between paranoia and anxiety / depression symptoms (for review see, Hartley et al., 2013). For example, prior research has identified that anxiety and paranoia symptoms tend to cluster together (Sun et al., 2018). Moreover, other studies have evidenced how greater anxiety and depression symptoms contribute to greater paranoia symptoms (Freeman et al., 2012). . Given that independent relationships have been observed between IU / paranoia with anxiety and depression symptoms, there is potential that IU and paranoia may *interact* to exacerbate anxiety and depression symptoms. However, as far as we are aware no research to date has examined such a relationship.

Therefore, the aim of this study was to examine relationships between IU, paranoia, anxiety and depression in a representative general population sample collected across five international sites (UK, USA, Germany, Hong Kong, Australia). We tested the following hypotheses: (1) higher IU is associated with greater paranoia, anxiety, and depression symptoms; (2) the interaction between higher IU and paranoia together is associated with greater anxiety and depression symptoms. We further explored the extent to which the different IU subscales were associated with paranoia, anxiety, and depression. Alongside these directional and exploratory hypotheses, we examined the specificity of associations between IU and paranoia, anxiety, and depression, over and above broader negative affective tendencies such as negative beliefs about the self and others (e.g. see recommendation by Zheng et al., 2022), and demographic factors (e.g., site, age, sex assigned at birth, and educational attainment).

**Method**

**Design**

An online survey design was employed and participants were recruited from five international sites (Australia; Germany; Hong Kong; United Kingdom; United States). The following variables were measured: intolerance of uncertainty, paranoia; anxiety; depression, negative beliefs about self; negative beliefs about others.

**Participants**

Participants were recruited via the Qualtrics recruitment panels using stratified quota sampling to ensure that each sample was representative of the respective general population at each site based on sex assigned at birth, age, and educational attainment. A total of 2510 participants met quota and quality assurance conditions (see Procedure). The distribution of participants across sites was: Australia (n=502); Germany (n=516); Hong Kong (n=445); United Kingdom (n=512); United States (n=535). Participants had an average age of 43.3 years (SD = 15.7, range 18-89 years) and with regards to sex assigned at birth, 1323 (53%) were female and 1186 (47%) were male. The sample in relation to educational attainment was as follows: primary (up to age 11, 2%), secondary (up to age 16, 25%), further education (up to age 18, 31%), bachelor’s degree (31%), Master’s degree (10%), PhD (1%).

The study is an analysis of an existing dataset, therefore no a priori power analysis was undertaken (see Ellett et al., 2023 for details of the sample characteristics).

**Questionnaires**

*The Revised Green et al., Paranoid Thoughts Scale*(RGPTS, Freeman et al., 2019) is an 18-item measure comprised of two subscales: ideas of reference (8 items) and persecution (10 items). Items are rated on a 5-point scale of *0-not at all* to *4-totally* and exhibit reliability across the paranoia continuum. In the current study, because we were interested in paranoia specifically (as opposed to ideas of reference), we used the persecution subscale only (range 0-40), and the Cronbach’s alpha was excellent, α=.96.

The *Depression, Anxiety and Stress Scales – 21 item* (DASS, Henry & Crawford., 2005) consists of 7 items each measuring depression, anxiety and stress on a scale from 0 *‘did not apply to me at all’* to 3 *‘applied to me very much or most of the time’).* For this study, we used the depression and anxiety subscales only (because stress didn’t form part of our a priori hypotheses and therefore was not analysed in this study). The Cronbach’s alpha was excellent for the depression (α=.93) and anxiety (α=.88) subscales.

*The Intolerance of Uncertainty Scale – 12 items* (IU, Carleton et al., 2007) consists of 12-items which are rated on a 5-point scale of *1 ‘not at all typical of me’* to 5 *‘very typical of me’* (range 12-60). The inhibitory IU subscale (paralysis under uncertainty) consists of 5 items and the prospective IU subscale (desire for predictability) consists of 7 items. In the current sample, the Cronbach’s alpha was excellent for total IU (α=.93), inhibitory IU (α= .89), and prospective IU (α= .87).

 *The Brief Core Schema Scales* (BCSS, Fowler et al., 2006) consists of 24 items which are rated on a 5-point scale (0-4), and four subscales are produced, all with six items each: negative beliefs about self, negative beliefs about others, positive beliefs about self and positive beliefs about others. For the purpose of this study, only the two negative subscales were used and Cronbach’s alpha for each subscale was excellent (>0.85).

**Procedure**

Ethical approval was obtained from each of the five host sites. Potential participants were contacted by Qualtrics to take part. Consenting participants completed the questionnaires online via the Qualtrics survey platform and were reimbursed for their time. To prevent missing data, participants were required to respond to all questions on each page before progressing through the survey. To enhance the accuracy of the data, participants had to correctly respond to all five attention checks that were distributed through the survey. Completion time was also monitored and those taking less than half of the median completion time were excluded. Participants with a geographical location that did not correspond with the stated location, and/or who did not consent to their data being used and/or dropped out without completing all measures were excluded at source by Qualtrics. Participants not fulfilling quota conditions were also excluded. Based on these criteria and conditions, n = 3555 participants were excluded at source by Qualtrics.

**Data analysis plan**

The statistical analyses were conducted using SPSS 29.0 (SPSS, Inc; Chicago, Illinois). Firstly, correlations were conducted to establish whether there were statistically significant associations between the variables (e.g. IU, inhibitory IU, prospective IU, paranoia, anxiety, depression, negative beliefs about the self, negative beliefs about others). Secondly, hierarchical regressions were conducted to assess specificity of: (1) associations between the IU total scores, inhibitory IU, or prospective IU and paranoia, anxiety, and depression, and (2) associations between IU\*paranoia interactions and anxiety and depression. IU was examined in comparison to the negative beliefs about the self and others (see recommendations by Zheng et al., 2022) because it is important to establish specificity of IU over broader negative affective tendencies, which form part of the higher-order (latent) factor of neuroticism.

The demographic variables (e.g. international site, sex assigned at birth, and educational attainment) were categorical and thus were dummy coded for the hierarchical regressions. In step 1 of regression analyses, negative beliefs about the self and others, demographic factors (e.g. international site, age, sex assigned at birth, and educational attainment), and the alternative IU subscale if applicable were entered as the independent variables and paranoia, anxiety, or depression were entered as the dependent variable. In step 2, IU, inhibitory IU, prospective IU, or IU\*paranoia were entered as the independent variables. If the model remained significant after step 2 this indicated specific variance related to: (1) the associations between IU, inhibitory IU, or prospective IU and paranoia, anxiety, or depression, or (2) associations between IU\*paranoia and anxiety and depression.

The Benjamini-Hochberg False Discovery Rate (1995) procedure was used to correct for multiple comparisons (*p* < .045). The significance level was determined based on the *p* values from the twelve independent models and their two hierarchical steps.

**Results**

 Table 1 shows descriptive statistics on all study measures for the full sample, and relationships between variables. Table 2 summarises the findings from the hierarchical regression analyses. All the statistical tests survived correction for multiple comparisons.

[INSERT TABLES 1 & 2 HERE]

**IU and paranoia**

Higher total IU score and the IU subscales were significantly correlated with greater paranoia, *p*s < .001, with small-medium effect sizes (0.38-0.45, see Table 1). Hierarchical regressions confirmed specificity of the associations between the total IU score/inhibitory IU subscale and paranoia. More specifically, total IU was significantly associated with paranoia, over negative beliefs about self, negative beliefs about others, and the demographic factors, *ps* < .001 (see Table 2. Similarly, inhibitory IU was significantly associated with paranoia, over prospective IU, negative beliefs about self, negative beliefs about others, and the demographic factors, *ps* < .001 (see Table 2). However, the prospective IU subscale was not significantly associated with paranoia, over inhibitory IU, negative beliefs about self, negative beliefs about others, and the demographic factors (see Table 2).

**IU and anxiety**

Higher total IU score and the IU subscales were significantly correlated with greater anxiety, *p*s < .001, with small-medium effect sizes (0.40-0.52, see Table 1). Hierarchical regressions confirmed specificity of the associations between the total IU score/inhibitory IU subscales and anxiety, over the alternative IU subscale, negative beliefs about self, negative beliefs about others, and the demographic factors *p*s < .05 (see Table 2). The prospective IU subscale was not significantly associated with anxiety, over inhibitory IU, negative beliefs about self, negative beliefs about others, and the demographic factors (see Table 2).

**IU and depression**

Higher total IU score and the IU subscales were significantly associated with greater depression, *p*s < .001, with small-medium effect sizes (0.42-0.52, see Table 1). Hierarchical regressions confirmed specificity of the associations between the total IU score, inhibitory IU, and prospective IU subscale with depression. Such that the total IU score was significantly associated with depression, over negative beliefs about self, negative beliefs about others, and the demographic factors, *ps* < .001 (see Table 2). Similarly, inhibitory IU was significantly associated with depression, over prospective IU, negative beliefs about self, negative beliefs about others, and the demographic factors, *ps* < .001 (see Table 2). Additionally, the prospective IU subscale was significantly associated with depression, over inhibitory IU, negative beliefs about self, negative beliefs about others, and the demographic factors, *p* =.001 (see Table 2).

**IU and paranoia interactions with anxiety and depression**

Results from the hierarchical regressions revealed that both higher IU and paranoia together were specifically associated with greater anxiety and depression, when controlling for negative beliefs about self, negative beliefs about others and the demographic factors, *ps* < .001 (see Table 2, see Figure 1).

[INSERT FIGURE HERE]

**Discussion**

 In the current study, we examined the relationships among IU, paranoia, anxiety and depression in a large representative community population sample across five international sites (Australia, Hong Kong, Germany, UK, USA). We recruited a representative general population sample, such that mean levels of paranoia in the study were low, consistent with both the continuum model (Strauss., 1969; Elhai et al., 2017) and previous research (Freeman et al., 2021). Given our nonclinical population, we acknowledge our findings may not reflect clinical phenomena, which should be taken into account when interpreting the study findings. Overall, our findings demonstrate that IU, particularly inhibitory IU (uncertainty paralysis), is positively associated with paranoia, anxiety, and depression, in line with previous research (for review see Carleton, 2016; McEvoy et al., 2019; Morriss et al, under review) and show that these relationships are consistent and robust in an international sample. We extend the literature by showing, for the first time to our knowledge, that IU and paranoia interact resulting in higher levels of anxiety and depression symptoms. Importantly, these effects remained when controlling for negative beliefs about the self and others and demographic factors (e.g., international site, age, sex assigned at birth, and educational attainment). Demonstrating specificity of effects is crucial and whilst we have taken the first steps to demonstrate this in the current study, future research is needed to further scrutinise specificity using a range of other key lower and higher-order constructs associated with anxiety, depression, and SSDs such as jumping to conclusions and negative affectivity (Morriss et al., under revision).

The findings add to the evidence for IU as an important transdiagnostic risk and maintenance factor across a broad range of symptoms (McEvoy et al., 2019; Morriss, 2023; Shihata et al., 2016). We posit that IU might be one of the key transdiagnostic dimensions that binds and modulates different symptoms across anxiety, depression, and schizophrenia-spectrum conditions (Morriss et al., under review), though further investigation is needed to determine whether the effects shown here generalise in clinical populations. Although the evidence base examining the IU-paranoia relationship is still emerging, future research is also needed to identify and test how different facets of IU (e.g., inhibitory, prospective) and paranoia link up to modulate cognitive (e.g., worry, jumping to conclusions), somatic (e.g., bodily sensations), and behavioural (e.g., avoidance, checking) processes associated with anxiety, depression, and SSDs. In relation to clinical implications, the findings also highlight the intriguing possibility that interventions designed to reduce IU (Dugas et al., 2022; Miller & McGuire, 2023) might also reduce paranoia, though this would need to be established in future research, alongside directionality of effects.

 The study has some limitations that warrant consideration. First, the study used a cross-sectional design, such that causality cannot be established, and relied solely on self-report measures. Future research using experimental paradigms to manipulate IU (Morriss, Abend, Zika, Bradford, & Mertens, 2023) and paranoia (Ellett et al., 2023a; Ellett et al., 2023b) would be useful. Second, the sample predominantly consisted of individuals from higher- income countries and the findings should be replicated in samples representing lower- and middle-income countries. Finally, although we recruited nationally representative general population samples across five international sites, our findings may not generalise to clinical populations and further research is needed to assess relationships between IU with paranoia, anxiety and depression symptoms in clinical samples, including comparing individuals with persecutory delusions within the context of schizophrenia spectrum conditions and those with anxiety disorders.

 Overall, these findings reliably demonstrate across different international samples that IU and paranoia are specifically linked, and that IU and paranoia interactions may contribute to exacerbating current anxiety and depression symptoms. Future research using both experimental and longitudinal designs, and in clinical samples, is now needed.

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|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Mean (SD)** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| **1.IU** | 33.81 (11.06) | - |  |  |  |  |  |  |  |
| **2.Inhibitory IU** | 13.29 (5.26) | - | - |  |  |  |  |  |  |
| **3.Prospective IU** | 20.51 (6.34) | - | .81\*\* | - |  |  |  |  |  |
| **4.Paranoia** | 7.78 (10.26) | .43\*\* | .45\*\* | .38\*\* | - |  |  |  |  |
| **5.Anxiety** | 6.51 (5.52) | .48\*\* | .52\*\* | .40\*\* | .51\*\* | - |  |  |  |
| **6.Depression** | 8.25 (6.41) | .49\*\* | .52\*\* | .42\*\* | .44\*\* | .78\*\* | - |  |  |
| **7.Negative Beliefs About Self** | 3.51 (5.16) | .41\*\* | .42\*\* | .36\*\* | .40\*\* | .42\*\* | .56\*\* | - |  |
| **8.Negative Beliefs About Others** | 5.12 (6.32) | .34\*\* | .33\*\* | .32\*\* | .40\*\* | .33\*\* | .38\*\* | .48\*\* | - |

**Table 1.** Summary of correlations

Note: constructs were measured using IU-12 (IU total, inhibitory IU & prospective IU), RGPTS (paranoia), DASS (anxiety & depression), BCSS (negative beliefs about self and others). \*\**p* <.001.

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| --- |
| **Table 2.** Summary of hierarchical regression analyses |
|  | Paranoia |  |  | Anxiety |  |  | Depression |  |
| Predictors | *R2* | *F* | *DF* | ∆ *R2* | β |   | *R2* | *F* | *DF* | ∆ *R2* | β |   | *R2* | *F* | *DF* | ∆ *R2* | β |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Model: IU** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Step 1. negative beliefs about self, negative beliefs about others, demographic factors | .33\*\* | 98.25 | 13,2495 |  | .224, .279, -.247 - .095 |  | .50\*\* | 194.6 | 13,2495 |  | .308, .110, -.276 - .211 |  | .57\*\* | 258.5 | 13,2495 |  | .463, .083, -.351 - .145 |
| Step 2. IU |   | 149.1 | 1,2494 | .037\*\* | .223 |   |   | 368.8 | 1,2494 | .064\*\* | .293 |   |   | 296.3 | 1,2494 | .045\*\* | .246 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Model: Inhibitory IU** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Step 1. prosepctive IU, negative beliefs about self, negative beliefs about others, demographic factors | .36\*\* | 102.5 | 14,2494 |  | .182, .181, .242, -.230 - .194 |  | .55\*\* | 218.6 | 14,2494 |  | .244, .252, .061, -.499 - .49 |  | .61\*\* | 278.7 | 14,2494 |  | .212, .414, .041, -.493 - .041 |
| Step 2. inhibitory IU |   | 63.74 | 1,2493 | .016\*\* | .233 |   |   | 132.8 | 1,2493 | .023\*\* | .279 |   |   | 73.11 | 1,2493 | .011\*\* | .195 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Model: Prospective IU** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Step 1. inhibitory IU, negative beliefs about self, negative beliefs about others, demographic factors | .38\*\* | 109.6 | 14,2494 |  | .243, .153, .239, -.207 - .106 |  | .57\*\* | 239.3 | 14,2494 |  | .311, .217, .058, -.192 - .433 |  | .62\*\* | 290.1 | 14,2494 |  | .252, .389, .042, -.117 - .421 |
| Step 2. prospective IU |   | .17 | 1,2493 | <.001 | .012 |   |   | 2.90 | 1,2493 | <.001 | .039 |   |   | 10.23 | 1,2493 | .002\* | .069 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Model: IU \* Paranoia** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Step 1. negative beliefs about self, negative beliefs about others, demographic factors |  |  |  |  |  |  | .50\*\* | 194.61 | 13,2495 |  | .308, .110, -.276 - .211 |  | .57\*\* | 258.5 | 13,2495 |  | .463, .083, -.351 - .045 |
| Step 2. IU\*paranoia |  |  |  |  |  |  |  | 768.2 | 1,2494 | .11\*\* | .424 |  |  | 299.8 | 1,2494 | .046\*\* | .265 |
| Note: constructs were measured using IU-12 (IU total, inhibitory IU & prospective IU), RGPTS (paranoia), DASS (anxiety & depression), BCSS (negative beliefs about self and others). \* *p* < .01; \*\* p < .001 |
|  |

