



Inflammation, Microbiome & Alimentation



MENTAL HEALTH SUB-STUDIES

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| Research Update:

**Childhood Trauma,
Depression, Resilience,
and Suicide Risk in
Individuals with
Inflammatory Bowel
Disease (IBD)**



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| Research Update:

**Childhood Trauma,
Depression, Resilience,
and Suicide Risk in
Individuals with
Inflammatory Bowel
Disease (IBD)**

- **Our Team:**
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[Submitted to Journal of Health Psychology]

Despite the prevalence of suicide risk in inflammatory bowel disease populations, research has yet to examine associations between childhood trauma, resilience, depression and suicide risk.

In the present online study, 172 participants responded to measures of childhood trauma, resilience, depression, and suicide risk.

A moderated mediation revealed that resilience does not moderate the associations between childhood trauma, depressive symptoms, and suicide risk.

However, a serial mediation revealed that childhood trauma is associated with decreased resilience, which is related to higher depressive symptoms, and ultimately higher suicide risk, thus suggesting resilience and depression as significant intervention targets.

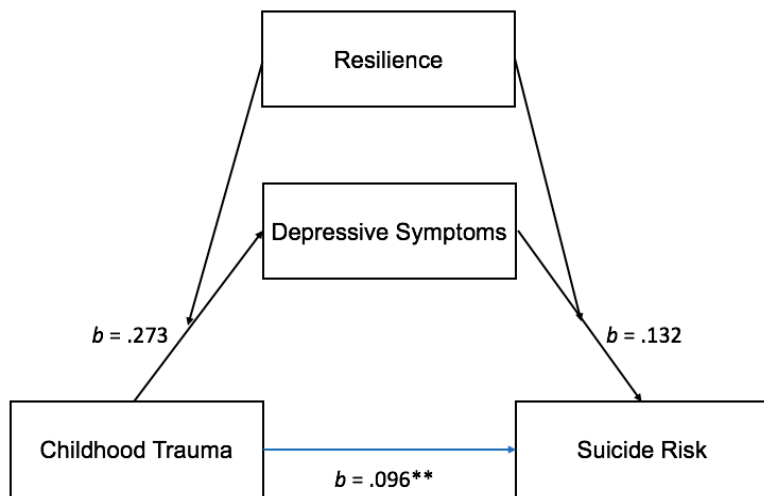


Figure 1. Moderated mediation model tested by Model 58 of the PROCESS macro with blue lines representing significant pathways. ** $p < .01$.

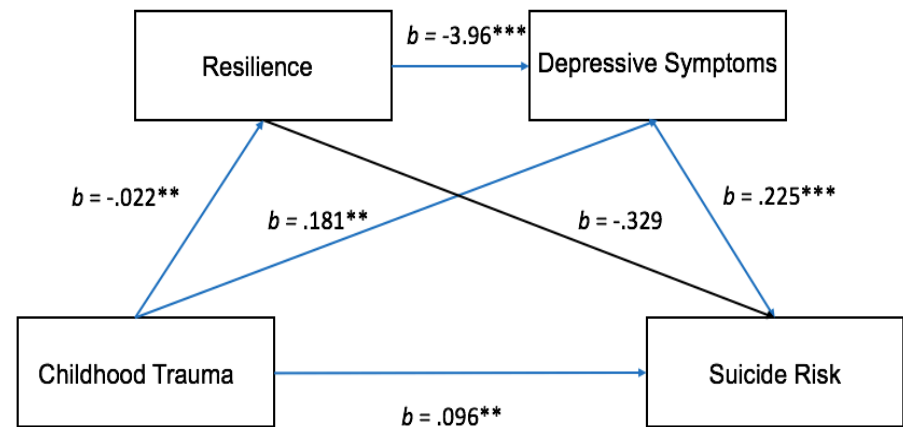


Figure 2. Serial mediation model tested by Model 6 of the PROCESS macro with blue lines representing significant pathways. ** $p < .01$, *** $p < .001$.

The current study was designed to better understand the associations between childhood trauma, resilience, depression, and suicide risk in a sample of individuals with IBD using moderated mediation and serial mediation models.

Taken together, the results suggest that childhood trauma, resilience, and depression play significant roles in promoting and/or mitigating suicide risk.

Resilience alone does not appear to be associated with increased suicide risk, as there were no significant indirect effects of resilience on suicide risk in objective 2 and resilience was not a significant moderator in objective 1.

Regardless, the current study suggests that resilience may affect suicide risk by increasing one's vulnerability to depression.

Regarding measurement, the SBQ-R does not discriminate between suicidal ideation, plans, or previous attempts which individually influence suicide risk. As such, one cannot quantify the presence or absence of these individual factors within the sample.

However, it is a reliable measure for determining overall suicide risk in respondents as it is not limited to current suicidal behaviours but also considers past suicidal behaviours, which are important risk factors in predicting future suicidal behaviour (Osman et al., 2001).

Additionally, the current study does not discriminate between different types of childhood traumatic events in the analyses.

As such, future research may benefit from exploring how specific traumatic experiences influence the development of depressive symptoms and suicide risk.

IMAGINE | Sub-study



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Participate in the 12 week
IBD Wellness Challenge!



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Strategy for Patient-Oriented Research

SPOR

Putting Patients First 

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- **Research Team**

- **Ulcerative Colitis** – co-funded by the University Hospital Foundation – University of Alberta with PI: Dr. Farhad Peerani

- **Crohn's** – co-funded by the American College of Gastroenterology – with PI: Dr. Puneeta Tandon

- **Sub-investigators:**

- Dr. K. Madsen, Ms. K. Ismond, Dr. B. Halloran, Dr. R.J. Bailey, Dr. K. Kroeker, Dr. K. Wong, Dr. L. Dieleman, Dr. D. Baumgart, Dr. J Siffledeen, Dr. A. Lim, Dr. L Gramlich, Dr. D. Befus

- **Research Team:**

- Research Coordinator/Yoga facilitator
- IMAGINE team for sample collection and processing (Lindsay Ambrosio, Ray Odsen, Tracy Jordan)



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- Study Goal:

- Assess the impact of an online 12-week stress release/wellness intervention on:
 - Primary outcome: Perceived stress level (PSS-10)
- Secondary outcomes:
 - Anxiety, depression (HADS)
 - Disease activity (Disease severity scales, CRP, fecal calprotectin)
 - Serum inflammatory marker panel (IL-10, IL-12, IL-1 β , IL-4, IL-6, TNF- α)
 - Stress-resilience (Connor-Davidson, sleep quality index, salivary calcium-binding protein spermatid-specific 1 (CABS1))
 - Health-related quality of life (SIBDQ)



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Inflammation, Microbiome & Alimentation Gastro-Intestinal & Neuropsychiatric Effects



Study Design:

Randomized (1:1) to intervention arm or a wait-list control arm

	Intervention	Wait list control
Baseline		
-Surveys, samples (blood/saliva)	x	x
-Orientation to the online program	x	
Study period		
-Online program access	x	
-Weekly 5-10 min check-in calls	x	
-Weekly motivational quotes		x
End of study		
-Surveys, samples (blood/saliva)	x	x
-Phone interview for feedback	x	

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• Subject Eligibility (all recruited within Alberta, most in Edmonton):

- PSS-10 score ≥ 7
- HADS score < 12
- On stable IBD therapy in the previous 1 month (no steroids, no change in dose of immunomodulator/5ASA, no change in dose or interval of biologic, must be in the maintenance phase of biologic defined as after week 6 for Remicade and Entyvio/after week 4 for Humira/after week 8 for Stelara)
- No Clostridium difficile within previous 1 month



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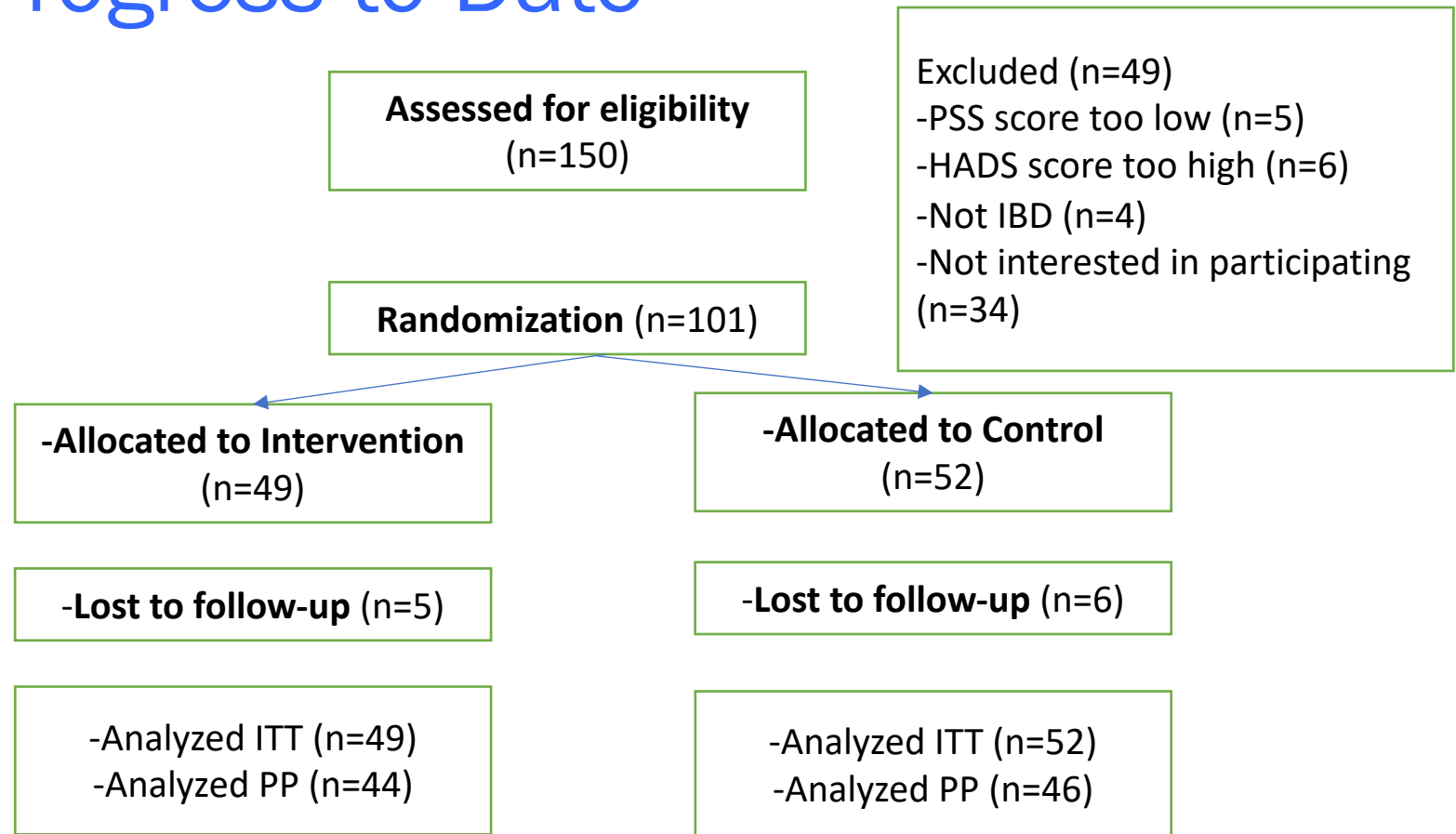


Strategy for Patient-Oriented Research

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• Progress to Date



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Results

- Baseline characteristics
 - 48% UC, Mean age 43 years, 25% males
- Study results – ANCOVA (between group improvement)
 - Perceived stress scale: 20.7% ($p < 0.001$)
 - HADS anxiety subscale: 23.8% ($p < 0.001$)
 - HADS depression subscale: 28.4% ($p < 0.001$)
 - SIBDQ: 9.4% ($p < 0.001$)
 - Connor Davidson Resilience: 9.2% ($p < 0.001$)
 - Psychological Wellbeing total: 5.6% ($p = 0.004$)
 - HBI, Partial Mayo: no significant change
- Biological samples – undergoing analysis



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Qualitative feedback – (being coded)

- *“I don’t think I have as much stress, I’m much happier...honestly, I think that my whole mindset is starting to change and that’s why I don’t want to stop”*
- *“It made me more aware of the things I have in my life. Relationships I have in my wife, my family, some of the relationships at work”*
- *“I thought the program was excellent. The website was easy to follow.”*
- *“I enjoyed it because it was easy and quick to do. I got up in the morning and I did it before anything else”*



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- Challenges

- Recruitment in busy clinics
- COVID!

- The Future

- Program refinement based on participant feedback (ongoing) with subsequent spread and scale
- Potential for expansion into pediatrics?

