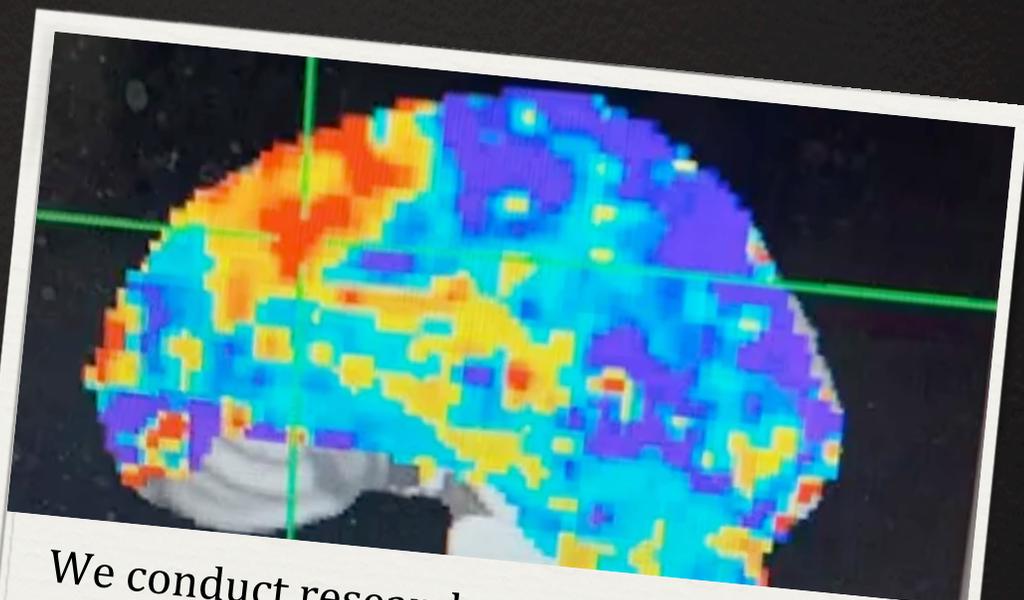




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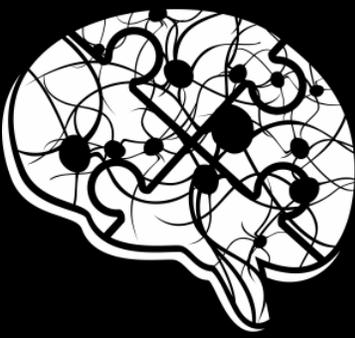
Clinical Affective Neuroscience Laboratory

- Environmental contributions to negative symptoms 2
- Affective and cognitive mechanisms of negative symptoms 4
- Advances in negative symptom assessment 6
- Emotion regulation in schizophrenia 7
- Mindfulness in schizophrenia and bipolar disorder 8
- Ongoing Studies 9
- Lab Member Accomplishments, Departures, and Arrivals 10



We wish to thank the individuals who participated in our studies, those who made referrals, and our team at the Owens Institute for Behavioral Research. Your contributions are invaluable and help us understand psychosis.

We conduct research on mechanisms underlying symptoms of schizophrenia and factors that predict conversion to psychosis in at-risk youth. We aim to use the knowledge gained from these studies to develop novel interventions and risk prediction methods for psychiatric conditions.



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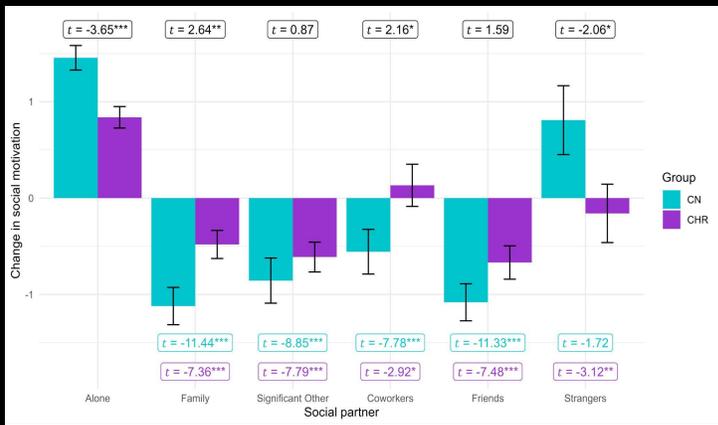
ENVIRONMENTAL CONTRIBUTIONS TO NEGATIVE SYMPTOMS

Negative symptoms dynamically change across location, social, and activity contexts in individuals diagnosed with schizophrenia and those at-risk for psychosis. Social interaction partner type also differentially influences social motivation in those at risk for psychosis. Thus, negative symptoms are not stable trait like factors that are consistent across time and context as has long been assumed—environmental factors are capable of both exacerbating and reducing negative symptoms.

Luther, L., Raugh, I.M., Collins, D.E., Knippenberg, A., Strauss, G.P. (2023). Negative symptoms in schizophrenia differ across environmental contexts in daily life. *Journal of Psychiatric Research*, 161, 10-18.

Luther, L., Raugh, I.M., Collins, D.E., Berglund, A., Knippenberg, A.R., Mittal, V.A., Walker, E.F., Strauss, G.P. (in press). Environmental context predicts state fluctuations in negative symptoms in youth at clinical high risk for psychosis. *Psychological Medicine*.

Strauss, G.P., Raugh, I.M., Luther, L., Walker, E.F., Mittal, V.A. (in press). Temporal interactions and behavior in daily life among individuals at clinical high-risk for psychosis. *Schizophrenia Bulletin*.



Back

Please complete the following:

How interested are you in the activity?

Not at all (0) Extremely (100)

How much are you enjoying the activity?

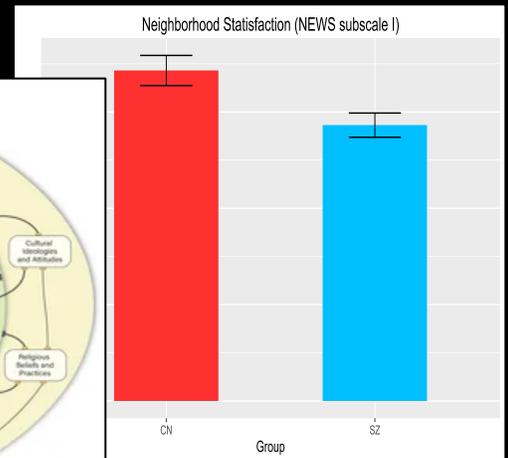
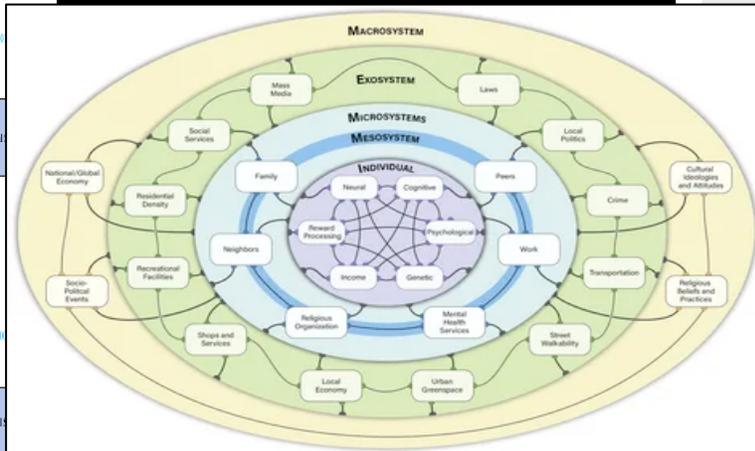
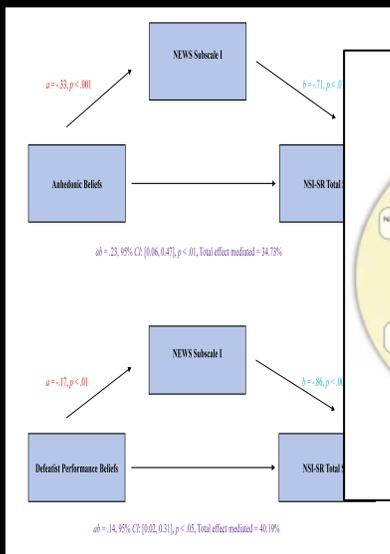
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ENVIRONMENTAL CONTRIBUTIONS TO NEGATIVE SYMPTOMS



Negative symptoms are associated with reduced satisfaction with environmental resources, lower access to shops/stores, poorer neighborhood aesthetics, greater crime, and having fewer social and activity settings. These associations do not appear to be due to depression. Satisfaction with environmental resources also mediates the association between negative symptoms and defeatist beliefs, suggesting that dysfunctional beliefs contribute to negative symptoms more prominently in impoverished environments. Environmental factors may therefore be a key treatment target for negative symptoms.

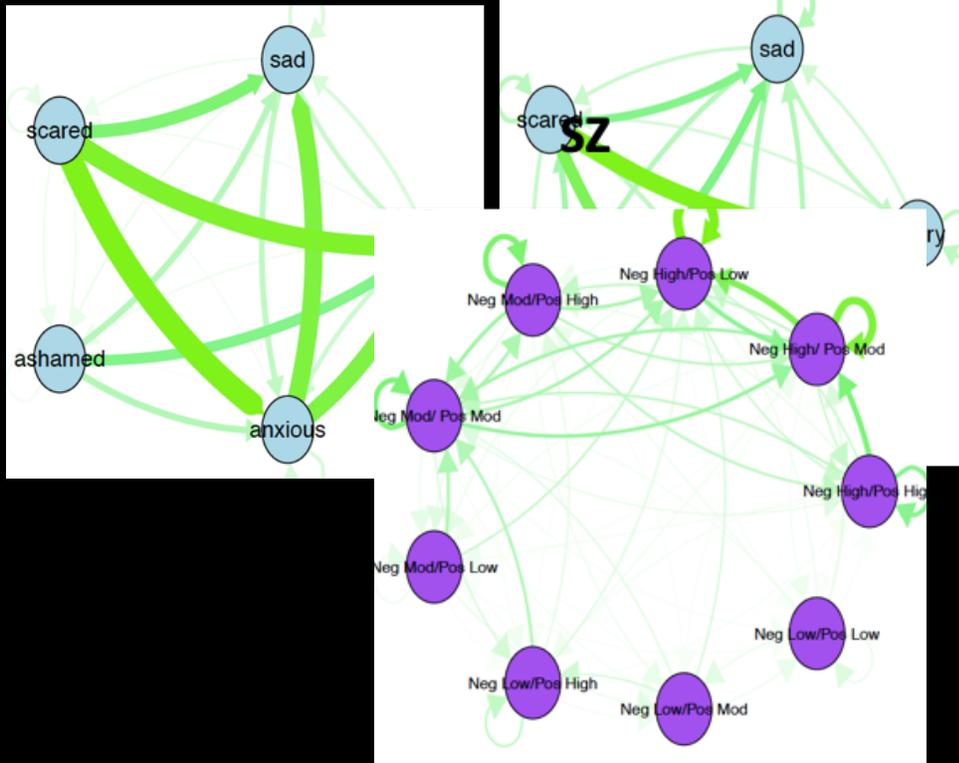
Strauss, G.P.(2023). Environmental factors contributing to negative symptoms in youth at clinical high-risk for psychosis and outpatients with schizophrenia. *Social Psychiatry and Psychiatric Epidemiology*.

Zhang, L., James, S.H., Strauss, G.P. (2024). Environmental resource reductions predict greater severity of negative symptoms in schizophrenia. *Schizophrenia Research*.



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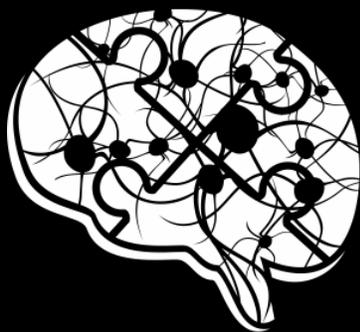
AFFECTIVE CONTRIBUTIONS TO NEGATIVE SYMPTOMS



Strauss, G.P., Esfahlani-Zamani, F., Raugh, I.M., Luther, L., Sayama, H. (2023). Network analysis of discrete emotional states measured via ecological momentary assessment in schizophrenia. *European Archives of Psychiatry and Clinical Neuroscience*.

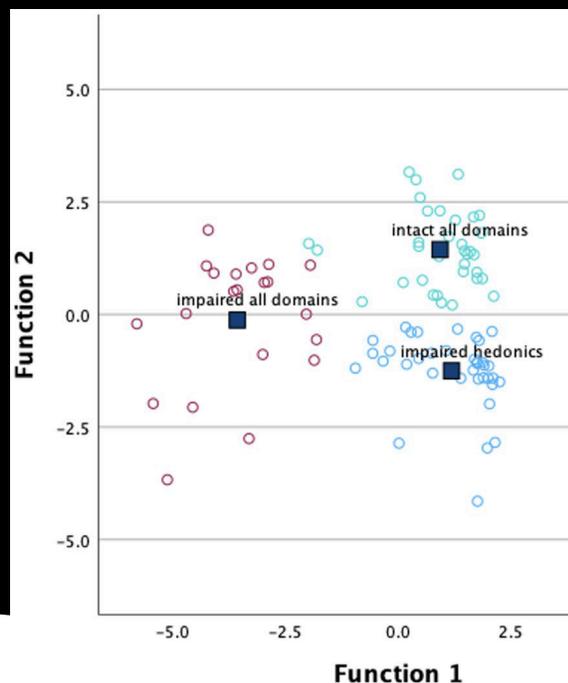
Strauss, G. P., Esfahlani, F. Z., Raugh, I. M., Luther, L., & Sayama, H. (2023). Markov chain analysis indicates that positive and negative emotions have abnormal temporal interactions during daily life in schizophrenia. *Journal of Psychiatric Research*.

Among persons with schizophrenia, less densely connected emotional experience networks are associated with greater severity of negative symptoms, whereas more densely connected emotion networks are associated with more severe positive symptoms and mania. Individuals with schizophrenia are more likely to evidence emotional co-activation, where they experience positive and negative emotions simultaneously, and these experiences predict less stable emotional experiences and greater symptoms in the future.



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COGNITIVE CONTRIBUTIONS TO NEGATIVE SYMPTOMS



Whearty, K.M., Ruiz, I., Knippenberg, A.R., Strauss, G.P. (2024). Anhedonia reflects an encoding deficit for pleasant stimuli in schizophrenia: Evidence from the emotion-induced memory trade eye tracking paradigm. *Neuropsychology*.

Luther, L., Jarvis, S.A., Spilka, M., Strauss, G.P. (2024). Global reward processing deficits predict negative symptoms transdiagnostically in a severe illness-spectrum sample. *Archives of Psychiatry and Neuroscience*.

Luther, L., Westbrook, L., Ruiz*, I., Raugh, I., W.C., Strauss, G.P. (2024). Defeatist performance and cost decision-making in schizophrenia. *Schizophrenia Research*.

Negative symptoms are associated with reward processing deficits in hedonic reactivity, value representation, effort-cost computation, and reinforcement learning. Individuals with schizophrenia who have global reward processing deficits in all of these domains are most likely to have negative symptoms. Defeatist beliefs are associated with over-weighting the costs of cognitive effort. Anhedonia is associated with a selective deficit in encoding pleasant stimuli.

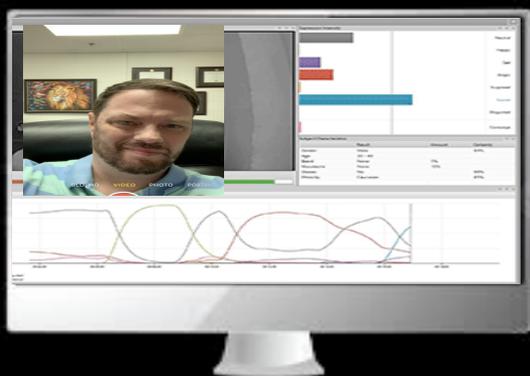


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ADVANCES IN NEGATIVE SYMPTOM ASSESSMENT

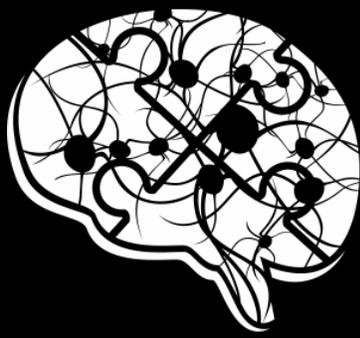


Strauss, G.P., Walker, E.F., Pelletier-Baldelli, A., Carter, N.T., Ellman, L.M., Schiffman, J., Luther, L., James, S.H., Berglund, A.M., Gupta, T., Ristanovic, I., Mittal, V.A. (2023). Development and Validation of the Negative Symptom Inventory-Psychosis Risk (NSI-PR). *Schizophrenia Bulletin*.

Cowan, T., Rodriguez, Z., Strauss, G.P., Raugh*, I.M., Cohen, A.S. (2024). Computerized analysis of facial expression reveals objective indices of blunted facial affect: A short communication. *European Archives of Psychiatry and Clinical Neuroscience*

Raugh, I.M., Luther, L., Bartolomeo*, L.A., Gupta, T., Ristanovic, I., Pelletier-Baldelli, A., Mittal, V.A., Walker, E.F., Strauss, G.P.(2023). Negative Symptom Inventory- Self-Report: Initial Development and Validation. *Schizophrenia Research*..

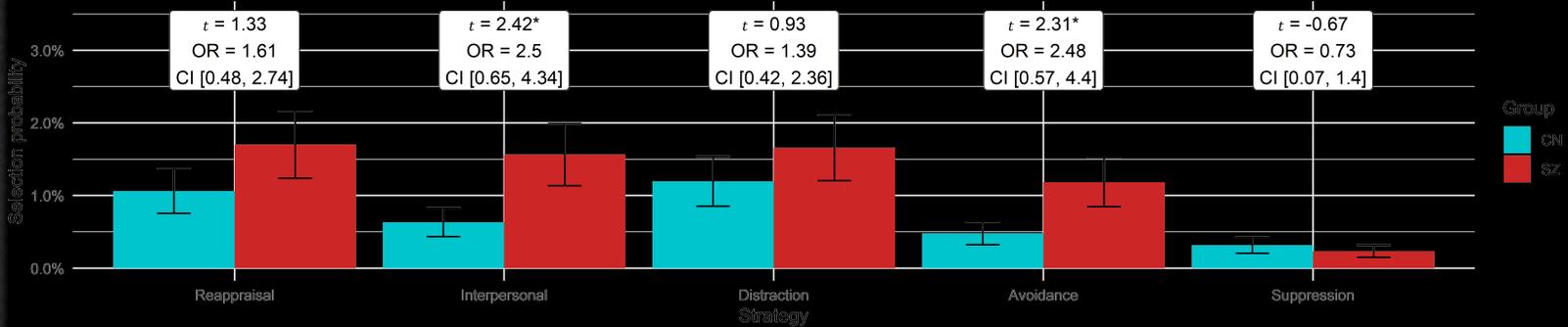
The Georgia and Illinois Negative Symptom Study (GAINS), conducted in collaboration with Northwestern University (Vijay Mittal) and Emory University (Elaine Walker), developed two measures: (1) Negative Symptom Inventory Psychosis Risk (NSI-PR) which is a brief 11-item clinician administered interview designed for youth at clinical high-risk for psychosis; (2) Negative Symptom inventory Self-Report (NSI-SR): A brief patient reported outcome (PRO) self-report questionnaire designed for youth at clinical high-risk for psychosis and adults with schizophrenia. We have also continued developing and validating digital phenotyping measures of blunted facial and vocal affect from ambulatory videos in collaboration with Alex Cohen at Louisiana State University.



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EMOTION REGULATION IN SCHIZOPHRENIA

C. Selection rate between groups

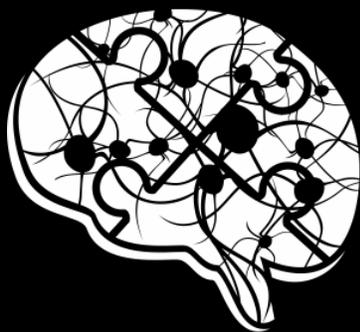


Raugh, I. M., Bartolomeo, L. A., Zhang, L., James, S. H., Strauss, G. P. (2024). Deconstructing Emotion Regulation In Schizophrenia: The Nature Of Abnormalities At The Selection And Implementation Stages. *Journal of Psychopathology and Clinical Science*

Berglund*, A.M., James*, S.H., Raugh*, I.M., Strauss, G.P. (2023). Beliefs about the uncontrollability and usefulness of emotion in the schizophrenia-spectrum: Links to emotion regulation and negative symptoms. *Cognitive Therapy and Research*, 47, 282-294.

Macfie*, W.G., Spilka*, M., Bartolomeo*, L.A., Gonzalez*, C.M., Strauss, G.P. (2023). Emotion Regulation And Social Knowledge In Youth At Clinical High Risk For Psychosis And Outpatients With Chronic Schizophrenia: Associations With Functional Outcome And Negative Symptoms. *Early Intervention in Psychiatry*, 17, 21-28.

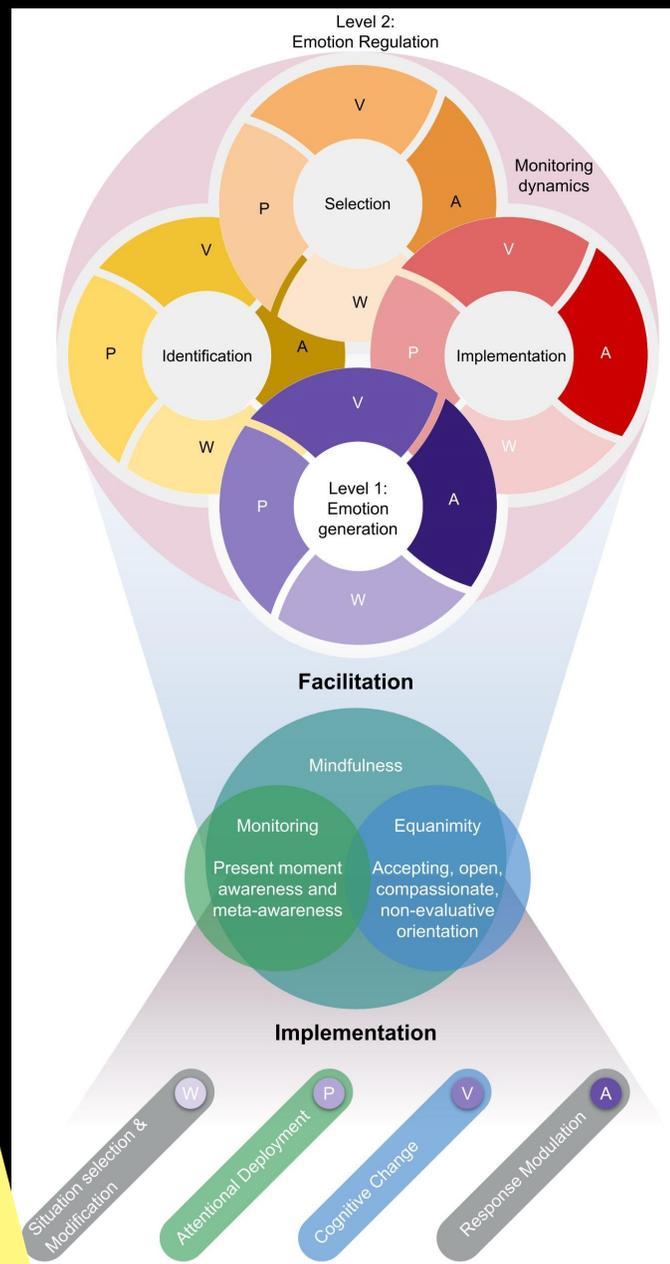
Individuals with schizophrenia display a specific profile of emotion regulation abnormalities characterized by a lower threshold for identifying the need to regulate, which leads to selecting a greater number of strategies and more poly-regulation (attempting >1 strategy at once), and less effective attempts at implementing a variety of strategies to decrease negative emotion. Beliefs that emotions are uncontrollable are linked to this pattern of emotion regulation and greater severity of negative symptoms.



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MINDFULNESS IN SCHIZOPHRENIA AND BIPOLAR DISORDER

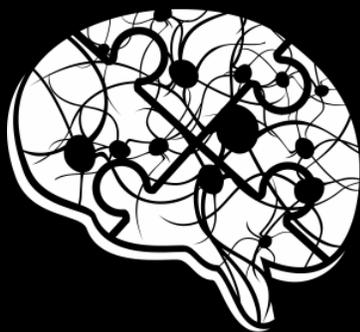
Ian Raugh proposed the dual mode model of mindful emotion regulation to account for a series of findings on state and trait mindfulness in those with psychopathology. This model proposes two “modes” of mindfulness: Implementation and facilitation. Implementation posits that mindfulness skills can be used as emotion regulation strategies through attentional deployment and cognitive change. Facilitation posits that mindfulness as a state or trait affects emotion generation and regulation through effects on cognitive processes and positive or negative valence systems.



Raugh, I.M., Strauss, G.P. (2024). Integrating Mindfulness Into The Extended Process Model Of Emotion Regulation: The Dual-Mode Model Of Mindful Emotion Regulation. *Emotion*.

Raugh, I.M., Strauss, G.P. (2024). Trait Mindfulness in Psychotic Disorders: Dimensions Predicting Symptoms, Cognition, and Functional Outcome. *Behavior Therapy*.

Raugh, I.M., Spilka, M.J., Luther, L., Suveg, C.M., Strauss, G.P. (2024). Ecological momentary assessment of state fluctuations in mindfulness and symptoms in psychotic disorders. *Journal of Contextual Behavioral Science*.



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ONGOING STUDIES

Our R61/R33 grant examines the efficacy of a cognitive training program for enhancing emotion regulation via a direct mechanistic effect on the prefrontal cortex.

The Georgia and Illinois Negative Symptom Study (GAINS) is a 3-site study that develops and validates novel methods for assessing negative symptoms in youth at clinical high-risk for psychosis.

CAPR is a 5 site study that develops and validates a novel computerized screening battery for the early identification of psychosis.

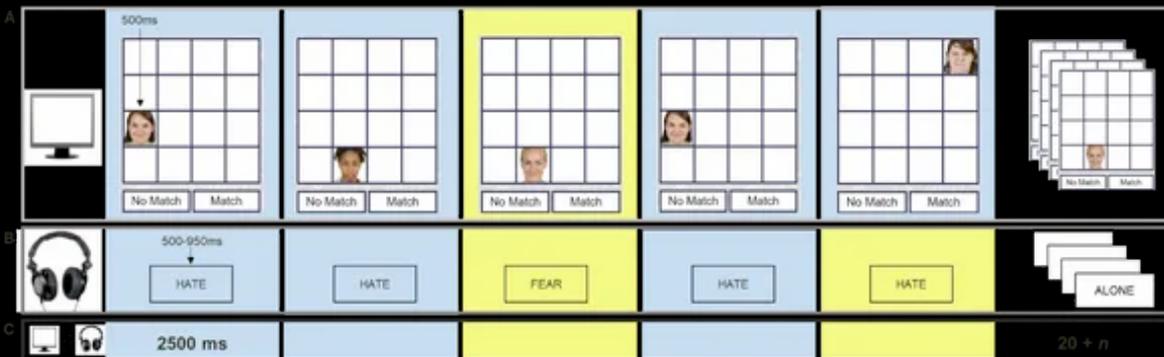
ProNET is a 26 study that evaluates biomarkers and clinical factors predicting conversion to psychosis.

U01-MH124639 (PI: SW Woods)
09/08/2020-06/30/2025
NIMH \$1,732,983;
ProNET: Psychosis Risk Outcomes Network

R01-MH120092 (PI: GP Strauss)
04/01/2020-03/31/2025
NIMH \$2,080,177
4/5 CAPER: Computerized Assessment of Psychosis Risk

R61-MH121560 (PI GP Strauss)
04/01/2020 - 03/31/2025
NIMH \$2,997,345
Cognitive training for emotion regulation in psychotic disorders.

R01-MH116039 (PI GP Strauss)
03/01/2019-11/30/2024
NIMH \$2,969,883
Prodromal Inventory for Negative Symptoms (PINS): A Development and Validation Study





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LAB MEMBER ACCOMPLISHMENTS, DEPARTURES, ARRIVALS



LAB MEMBER ACCOMPLISHMENTS:

- 1st first author publication (Gifty Ayawvi, Delaney Collins, Alysia Berglund, Sydney James, Luyu Zhang)
- Dissertation defense (Ian Raugh, Lisa Bartolomeo)
- Thesis Proposal (Sydney James)
- 1st year project completed (Anna Knippenberg)
- Promoted to Faculty Research Scientist (Dr. Luther)
- Masters degree (Melissa McDowell, Lauren Jennings)
- Bachelors degree (Ada Hutcheson, Zach Carter)
- CAN Lab Triple Crown Award (Ashley Zollicoffer)

DEPARTING LAB MEMBERS:

- Gifty Ayawvi (UCLA: clinical psych PhD)
- Alysia Berglund (Illinois: clinical psych PhD)
- Sierra Jarvis (UNLV: clinical psych PhD)
- Delaney Collins (UNLV: clinical psych PhD)
- Lisa Bartolomeo (UCLA internship)
- Ian Raugh (Ann Arbor VA internship)



NEW LAB MEMBERS:

- Melissa McDowell (lab manager)
- Lauren Arnold (coordinator)
- Zachary Carter (coordinator)
- Zhixin Zhang (coordinator)
- Lauren Jennings (coordinator)
- Ada Hutcheson (coordinator)