

Max Jacob Owens, Ph.D.

Curriculum Vitae

Department of Psychology,
University of South Florida Saint Petersburg
Saint Petersburg, FL. 33701
Email: mjowens@usf.edu

HIGHLIGHTS

Research Interests: mood disorders, cognitive control, emotion regulation, working memory training.

Expertise and Experience: EEG/ERPs, eye-tracking, optical imaging, neuropsychological genetics, programming in MATLAB and Python, adult and child structured clinical interviews.

EDUCATION

Ph.D. 2012 Birkbeck, University of London, London, United Kingdom

Department of Psychological Sciences, Thesis: *Attentional Control and Working Memory Capacity in Dysphoria*

- (Supervisors: Prof. Nazanin Derakshan and Prof. Anne Richards)
- Funding: Birkbeck College PhD Studentship

2008 **Oxford Masters of Research (MRes) in Psychology**, Oxford Brookes University and University of Oxford, Oxford, United Kingdom

- *Classification:* Merit on dissertation: *Sustained attention deficit in dysphoria: An Electrophysiological GO/NO-GO study* (Supervisors: Prof. Gert Westermann and Jim Barnes Ph.D.)

2005 **Bachelors of Arts (Psychology)**
University of South Florida Saint Petersburg
Saint Petersburg, Florida

EMPLOYMENT

2023 – Current **Associate Professor**, Department of Psychology, University of South Florida Saint Petersburg campus

2016 – 2023 **Assistant Professor**, Department of Psychology, University of South Florida Saint Petersburg

- 2013 - 2016 **Clinical Post-Doctoral Fellow**, Mood Disorders Institute and Center for Affective Science, Binghamton University (SUNY), Binghamton, NY, USA (Mentor: Prof. Brandon Gibb)
- 2012 - 2013 **Post-Doctoral Research Assistant in Experimental Psychopathology**, Birkbeck, University of London, London, United Kingdom (Mentors: Prof. Nazanin Derakshan and Prof. Anne Richards)

AWARDS

- 2011 **Summer Institute in Cognitive Neuroscience Fellowship, UC Santa Barbara**
- Competitive Fellowship, the two-week course (costs of tuition, room and board paid by fellowship) which examined how information about brain structure and function interacts with issues in Cognitive Control (Basic and Translational Approaches) and Higher Cognition (Numerical and Relational Processing).

RESEARCH GRANTS

- 2022 Overall Award: *Testing & Evaluation For Soldier-Device Teaming Compatibility, Vulnerability, And Durability In Emergent Situations*
 Sub-Award: *Psychologically-grounded, artificially intelligent models of soldier performance*
 Role: Co-Principle Investigator (PI: Sudeep Sarkar)
 Amount: \$500,000 per year
 Status: Funded.
- 2019 *Attention and Learning in Depression*
 Role: Principle-Investigator
 Funding source: McKnight Foundation
 Amount: \$70,000
 Status: Not Funded
- 2019 *The Mechanisms of Cognitive Control and the Transfer of Learning in Depression*
 Role: Principle-Investigator
 Funding source: McKnight Foundation
 Amount: \$300,000
 Status: Not Funded
- 2018 *Adaptive Neurofeedback Training of Cognitive Control in Depression*
 Role: Principle-Investigator
 Funding source: Ralph E. Powe Junior Faculty Award (refereed)

Amount: \$10,000
Status: Not Funded

2018 *Emotional Interference and Cognitive Control in Depression*
Role: Principle-Investigator
Funding source: USF St. Petersburg Internal Research Grant (refereed)
Amount: \$10,000
Status: Not Funded

2017-2018 *Using electroencephalography to evaluate cognitive control deficits related to depression*
Role: Principle-Investigator
Funding source: USF St. Petersburg Internal Research Grant (refereed)
Amount: \$10,000
Status: Complete

2008 - 2012 Birkbeck College International Studentship for PhD research (£8,944 per year)

PUBLICATIONS (*denotes mentored student authors)

Papers in Peer-Reviewed Journals (7/29, first author)

1. Partan, S.R., Larco, C.P., & **Owens, M.J.** (2009). Wild tree squirrels respond with multisensory enhancement to conspecific robot alarm behaviour. *Animal Behaviour*, *77*, 1127-1135. (5-Year Impact Factor: 3.42).
2. **Owens, M.**, Koster, E.H.W., & Derakshan, N. (2012). Impaired filtering of irrelevant information in dysphoria: An ERP study. *Social Cognitive and Affective Neuroscience*, *7*, 752-763. (5-Year Impact Factor: 4.887).
3. **Owens, M.**, Koster, E.H.W., & Derakshan, N. (2013). Improving attention control in dysphoria through cognitive training: transfer effects on working memory capacity and filtering efficiency. *Psychophysiology*, *50*, 297-307 (5-Year Impact Factor: 4.01).
4. **Owens, M.**, & Derakshan, N. (2013). The effects of dysphoria and rumination on cognitive flexibility and task selection. *Acta Psychologica*, *142*, 323-331. (5-Year Impact Factor: 2.40).
5. Burkhouse K.L., Woody M.L., **Owens, M.** & Gibb, B.E. (2015). Influence of worry on neural reactivity to emotional stimuli: evidence from the late positive potential. *Neuroscience Letters*, *588*, 57-61. (5-Year Impact Factor: 2.27).
6. **Owens, M.**, Derakshan, N., & Richards, A. (2015). Trait susceptibility to worry modulates the effects of cognitive load on cognitive control: An ERP study. *Emotion*, *15*, 544-549 (5-Year Impact Factor: 5.24).

Papers in Peer-Reviewed Journals, continued.

7. Miskovic, V., Ma, X., Chou, C. A., Fan, M., **Owens, M.**, Sayama, H., & Gibb, B. E. (2015). Developmental changes in spontaneous electrocortical activity and network organization from early to late childhood. *NeuroImage*, 118, 237-247. (5-Year Impact Factor: 7.28).
8. Woody, M. L., **Owens, M.**, Burkhouse, K. L., & Gibb, B. E. (2015). Selective attention toward angry faces and risk for major depressive disorder in women converging evidence from retrospective and prospective analyses. *Clinical Psychological Science* (5-Year Impact Factor: N/A).
9. Burkhouse, K.L., Woody, M.L., **Owens, M.**, McGeary, J.E., Knopik, V.S., & Gibb, B.E. (2016). Sensitivity in detecting facial displays of emotion in children of depressed mothers: Impact of oxytocin receptor genotype. *Cognition and Emotion*, 30(2), 275-287. (5-Year Impact Factor: 3.42).
10. **Owens, M.**, Harrison, A.J., Burkhouse, K.L., McGeary, J. E., Knopik, V.E., Palmer, R.H.C., & Gibb, B.E. (2016). Eye tracking indices of attentional bias in children of depressed mothers: polygenic influences help to clarify previous mixed findings. *Development and Psychopathology*, 28(2), 385-397. (5-Year Impact Factor: 6.69).
11. Kudinova, A.Y., **Owens, M.**, Burkhouse, K.L., Barretto, K.M., Bonanno, G.A., & Gibb, B.E. (2016). Differences in emotion modulation using cognitive reappraisal in individuals with and without suicidal ideation: An ERP study. *Cognition and Emotion*, 30(5), 999-1007. (5-Year Impact Factor: 3.42).
12. Gibb, B.E., Pollak, S.D., Hajcak, G., & **Owens, M.** (2016). Attentional biases in children of depressed mothers: An ERP study. *Journal of Abnormal Psychology*, 125(8), 1166-1178. (5-Year Impact Factor: 6.28).
13. Miskovic, V., **Owens, M.**, Kuntzleman, K & Gibb, B.E. (2016). Charting moment-to-moment brain signal variability from early to late childhood. *Cortex*, 83, 51-61. (5-Year Impact Factor: 4.703)
14. Kudinova, A. Y., Burkhouse, K. L., Siegle, G., **Owens, M.**, Woody, M. L., & Gibb, B. E. (2016). Pupillary reactivity to negative stimuli prospectively predicts recurrence of major depressive disorder in women. *Psychophysiology*, 53(12), 1836-1842. (5-Year Impact Factor: 4.01).
15. Woody, M. L., Miskovic, V., **Owens, M.**, James, K. M., Feurer, C., Sosoo, E. E., & Gibb, B. E. (2017). Competition Effects in Visual Cortex Between Emotional Distractors and a Primary Task in Remitted Depression. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 2(5), 396-403.). (5-Year Impact Factor: N/A).

Papers in Peer-Reviewed Journals, continued.

16. Tsypes, A., **Owens, M.**, Hajcak, G., & Gibb, B. E. (2017). Neural responses to gains and losses in children of suicide attempters. *Journal of Abnormal Psychology*, 126(2), 237-243. 5-Year Impact Factor: 6.28).
17. Burkhouse, K. L., **Owens, M.**, Feurer, C., Sosoo, E., Kudinova, A., & Gibb, B. E. (2017). Increased neural and pupillary reactivity to emotional faces in adolescents with current and remitted major depressive disorder. *Social cognitive and affective neuroscience*, 12(5), 783-792. (5-Year Impact Factor: 4.887).
18. Koster, E. H., Hoorelbeke, K., Onraedt, T., **Owens, M.**, & Derakshan, N. (2017). Cognitive control interventions for depression: a systematic review of findings from training studies. *Clinical Psychology Review*, 53, 79-92. (5-Year Impact Factor: 10.662).
19. Tsypes, A., Owens, M., & Gibb, B. E. (2017). Suicidal ideation and attentional biases in children: An eye-tracking study. *Journal of Affective Disorders*, 222, 133-137. (5-Year Impact Factor: 3.845).
20. **Owens, M.**, & Gibb, B.E (2017). Brooding Rumination and Attentional Biases in Currently Non-depressed Individuals: An Eye-Tracking Study. *Emotion*, 31(5). (5-Year Impact Factor: 4.402).
21. Tsypes, A., **Owens, M.**, Hajcak, G., & Gibb, B. E. (2018). Neural reward responsiveness in children who engage in nonsuicidal self-injury: An ERP study. *Journal of Child Psychology and Psychiatry*.). (5-Year Impact Factor: 7.321).
22. James, K. M., **Owens, M.**, Woody, M. L., Hall, N. T., & Gibb, B. E. (2018). Parental expressed emotion-criticism and neural markers of sustained attention to emotional faces in children. *Journal of Clinical Child & Adolescent Psychology*, 47(sup1), S520-S529.
23. Woody, M. L., James, K., Foster, C. E., **Owens, M.**, Feurer, C., Kudinova, A. Y., & Gibb, B. E. (2019). Children's sustained attention to emotional facial expressions and their autonomic nervous system reactivity during parent-child interactions. *Biological psychology*, 142, 37-44.
24. Tsypes, A., **Owens, M.**, & Gibb, B. E. (2019). Blunted neural reward responsiveness in children with recent suicidal ideation. *Clinical Psychological Science*, 7(5), 958-968.
25. Burkhouse, K. L., **Owens, M.**, James, K., & Gibb, B. E. (2019). Age differences in electrocortical reactivity to fearful faces following aversive conditioning in youth. *Journal of experimental child psychology*, 188, 104676.

Papers in Peer-Reviewed Journals, continued.

26. Foster, C. E., **Owens, M.**, Kudinova, A. Y., & Gibb, B. E. (2020). Attentional biases to emotional faces among women with a history of single episode versus recurrent major depression. *Cognition and Emotion*, 5,1-6.
27. Tsypes, A., **Owens, M.**, & Gibb, B. E. (2021). Reward responsiveness in suicide attempters: An electroencephalography/event-related potential study. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*. (2019 Impact Factor: 5.33).
28. **Owens, M.**, Renaud, J.* , & Cloutier, M.* (2021). Neural correlates of sustained attention and cognitive control in depression and rumination: An ERP study. *Neuroscience Letters*, 756, 135942. (2019 Impact Factor: 3.05).
29. Gibb, B.E, Tsypes A., Israel, E., & **Owens, M.**, (2022). Age differences in neural response to reward and loss in children. *Psychophysiology*, 59(8), e14039.
30. Gibb, B. E., Owens, M., & Brick, L. A. (In Press). Attentional biases for sad faces in offspring of mothers with a history of major depression: trajectories of change from childhood to adolescence. *Journal of Child Psychology and Psychiatry*.
31. James, K. M., Miskovic, V., Woody, M. L., Owens, M., Connolly, E., & Gibb, B. E. (In Press). Attentional capture by angry faces in girls who self—injure: Evidence from steady state visual evoked potentials. *Suicide and Life—Threatening Behavior*.

Papers under review and in preparation

30. **Owens, M.**, Cloutier, M.* , & Healy, A.* (under revision). Reflection rumination increases cognitive inefficiency in a working memory task. Manuscript submitted for publication.
31. **Owens, M.**, & Renaud, J.* (under revision). Reflection Rumination Reduces Negative Emotional Processing During Goal-Directed Behavior. Manuscript submitted for publication.
32. **Owens, M.**, & Gibb, B.E (in preparation). A prospective study on the moderating role brooding rumination for negative attentional biases across childhood to adolescence.
33. **Owens, M.** (in preparation). Resting state pupil dilation in rumination
34. **Owens, M.**, Butler, S.* & Kasenetz, W.* (in preparation). Spontaneous electrophysiological correlates of trait rumination: A Multivariate Pattern Analysis Study.
35. Owens, M. (in preparation). Resting state pupil dilation in rumination.

CONFERENCE TALKS

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1. **Owens, M.**, & Derakshan, N. (2010, April). *Impaired inhibition of irrelevant information over time in depression: evidence from eye-movements*. In Ernst H.W. Koster & Evi De Lissnyder (Chairs)

Understanding depressive rumination: A cognitive science perspective. Symposium conducted at the annual meeting of the Consortium of European Research on Emotion, Lille, France

2. **Owens, M.**, & Derakshan, N. (2011, October). *Task switching in dysphoria: The specific effects of dysphoric rumination on task selection*. In Stefanie Schuch and Iring Koch (Chairs) Affective modulation of cognitive control processes. Symposium conducted at the annual meeting of the European Society for Cognitive Psychology, San Sebastian, Spain.
3. **Owens, M.** & Derakshan, N. (2014, October). *Working Memory Training Improves Attentional Control in Dysphoria*. In Nazanin Derakshan (Chair) Pathways to Intervention: The Impact and Mechanisms of Working Memory Training. Symposium conducted at the annual meeting of the Society for Psychophysiological Research, Florence, Italy.
4. **Owens, M.** & Derakshan, N. (2014, October). *Impaired Inhibition and Reduced Working Memory Capacity in Dysphoria*. In Christine Larson & Daniel Stout (Chairs) Controlling cognition: implications of cognition-emotion interactions for internalizing psychopathology. Symposium conducted at the annual meeting of the Society for Psychophysiological Research, Florence, Italy.
5. **Owens, M.**, Johnson, A.L., McGeary, J.E., Knopik, V.S., & Gibb, B.E. (2014, March). *Eye tracking indices of attentional bias in children of depressed mothers: Polygenic influences help to clarify previous mixed findings*. In B.E. Gibb (Chair) Using multiple levels of analysis to develop a more fine-grained understanding of depression risk: Animal models, genetic influences, physiology, and environmental context. Symposium conducted at the annual meeting of the Anxiety and Depression Association of America, Chicago, IL.
6. Gibb, B.E., Burkhouse, K.L., **Owens, M.**, Hastings, P., & Siegle, G. (2014, March). *Synchronization of neural activity during parent-child interactions*. In J.M. Kuckertz (Chair) Aberrant information processes implicated in youth emotional disorders: The role of parental factors. Symposium conducted at the annual meeting of the Anxiety and Depression Association of America, Chicago, IL.
7. Burkhouse, K.L., **Owens, M.**, & Gibb, B.E. (2014, March). *Neural markers of emotional reactivity in children of depressed mothers*. In B.E. Gibb (Chair) Using multiple levels of analysis to develop a more fine-grained understanding of depression risk: Animal models, genetic influences, physiology, and environmental context. Symposium conducted at the annual meeting of the Anxiety and Depression Association of America, Chicago, IL.
8. Gibb, B.E., **Owens, M.**, Knopik, V., & McGeary, J.E. (2014, May). *Children's attentional biases: A key component of negative valence systems*. In L. Williams (Chair) Dimensions of negative emotional states defined by circuits, genetics, and behavior. Symposium conducted at the annual meeting of the Society for Biological Psychiatry, New York, NY.
9. **Owens, M.**, Harrison, A.J., Burkhouse, K.L., McGeary, J.E., Knopik, V.S., Palmer, R.H.C., & Gibb, B.E. (2014, September). *Eye-tracking indices of attentional bias in children of depressed mothers: Polygenic influences help to clarify previous mixed findings*. In B.E. Gibb (Chair) Biomarkers of risk in children of depressed mothers. Symposium conducted at the annual meeting of the Society for Psychophysiological Research, Atlanta, GA.

10. Gibb, B.E., **Owens, M.**, & Burkhouse, K.L. (2014, September). *Aversive conditioning to angry facial cues affects neural responses to novel facial stimuli*. In L. O'Toole (Chair) Using EEG/ERP methods to disentangle the impact of novel experimental manipulations on anxiety-related processes. Symposium conducted at the annual meeting of the Society for Psychophysiological Research, Atlanta, GA.
11. Gibb, B.E., Burkhouse, K.L., **Owens, M.**, Hastings, P., & Siegle, G. (2014, September). *Parent and child depression impact EEG alpha level and alpha synchrony during parent-child interactions*. In B.E. Gibb (Chair) Biomarkers of risk in children of depressed mothers. Symposium conducted at the annual meeting of the Society for Psychophysiological Research, Atlanta, GA.
12. Burkhouse, K.L., **Owens, M.**, Kudinova, A., & Gibb, B.E. (2014, September). *Neural markers of emotional reactivity in children of depressed mothers*. In B.E. Gibb (Chair) Biomarkers of risk in children of depressed mothers. Symposium conducted at the annual meeting of the Society for Psychophysiological Research, Atlanta, GA.
13. Gibb, B.E., **Owens, M.**, & Proudfit, G.H. (2014, November). *Children's attentional biases and symptoms of depression versus anxiety: Evidence from eye tracking and event-related potentials*. In J.G. Suway (Chair) Psychophysiological biomarkers of anxiety. Symposium conducted at the annual meeting of the Association for Behavioral and Cognitive Therapies, Philadelphia, PA.
14. Gibb, B.E., **Owens, M.**, Knopik, V.S., & McGeary, J.E. (2014, November). *Children's genotype moderates the impact of maternal depression on trajectories of children's attentional biases: An eye-tracking study*. In R.P. Auerbach & J.M. Chango (Chairs) Neural and genetic mechanisms underlying adolescent psychopathology. Symposium conducted at the annual meeting of the Association for Behavioral and Cognitive Therapies, Philadelphia, PA.
15. **Owens, M.**, Derakshan, N. & Koster, E.H.W (2015, April). Using adaptive working memory training to improve the prefrontal control of attention in depression. In Rudi De Raedt & Laura de Putter (Chairs) Cognitive Training and Transcranial Direct Current Stimulation: New Neurocognitive Approaches to the Treatment of Depression. Symposium conducted at the annual meeting of the Anxiety and Depression Association of America, Miami, FL.
16. **Owens, M.** (2020). Deconstructing Depression: A Cognitive Neuroscience Perspective [keynote address]. Keynote address at the 8th Annual USF Psychology Expo, October, 2020

CONFERENCE POSTERS

1. **Owens, M.**, & Derakshan N. (2013, April). Working Memory Training Improves Attention Control in Dysphoria. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, California.

2. Gibb, B.E., & **Owens, M.** (2015, October). Attentional bias and children's symptoms of depression and anxiety: An eye tracking study. Poster presented at Society for Research in Psychopathology, New Orleans, LA.
3. Feurer, C., **Owens, M.**, & Gibb, B.E. (2015, October). Life stress moderates the impact of attentional biases for emotional stimuli on prospective symptom changes children. Poster presented at Society for Research in Psychopathology, New Orleans, LA.
4. Burkhouse, K.L., & **Owens, M** & Gibb, B.E. (2015, October). Disrupted Neural Reactivity to Emotional Stimuli: State or Trait-Like Marker of Adolescent Depression? Poster presented at Society for Research in Psychopathology, New Orleans, LA.
5. **Owens, M.**, & Gibb, B.E. (2016, April). Brooding Rumination Independently Moderates Sustained Attention Biases to Emotion: An Eye Tracking Study. Poster to be presented at the annual meeting of the Anxiety and Depression Association of America, Philadelphia, PA, USA.
6. **Owens, M.** (2019). Influences of Depression on Sustained Attention and Cognitive Control. Poster presented at the Annual Meeting of the Vision Sciences Society, St. Pete Beach, Florida, May 2019.
7. Cloutier, M. & **Owens, M.** (2020). Reflection rumination increases cognitive inefficiency in a working memory task. Poster accepted for the Annual Meeting of the Southeastern Psychological Association, New Orleans, LA, April 2020.
8. Renaud, J., & **Owens, M.**, (2020). Reflection rumination reduces negative emotional processing during goal-directed behavior. Poster presented at the Virtual Annual Meeting of the Visual Science Society, St. Petersburg, Florida, May 2020.
9. Ellison, C., Cooper, J., Rote, W., **Owens, M.** (2019). Guilt Induction in Parent-Child Conflict: An Eye Tracking Study. Poster presented at the Annual USFSP Student Research Symposium, St. Petersburg, Florida, April 2020.
10. Rocek, G. & **Owens, M.** (2020). Is Depression Complex? An Examination of Spontaneous Brain Activation and moment-to-moment variability in EEG signals. Poster presented at the Annual USFSP Student Research Symposium, St. Petersburg, Florida, April 2020.
11. Ellison, C., Cooper, J., Rote, W., **Owens, M.** (2019). Eye-Tracking Guilt Induction. Poster presented at the 8th Annual USF Psychology Expo, October, 2020.
12. Healy, A. & **Owens, M.** (2020). Rumination Decreases Cognitive Efficiency in a Working Memory Task. Poster presented at the 8th Annual USF Psychology Expo, October, 2020
13. **Owens, M.** (2020). Deconstructing Depression: A Cognitive Neuroscience Perspective [keynote address]. Keynote address at the 8th Annual USF Psychology Expo, October, 2020
14. **Owens, M.**, Cloutier, M. & Healy, A. (2021). Rumination reduces processing efficiency in visual working memory. Poster presented at the Virtual Annual Meeting of the Visual Science Society, St. Pete Beach Florida, May 2022.
15. Perez, I., George B., DeRosa C., Latibeaudiere A., Owens, M. (2023). Reflection Rumination increases Eye Saccade Curvature towards distractors in a Looking Task. Poster presented at the Virtual Annual Meeting of the Visual Science Society, St. Pete Beach Florida, May 2023.

TEACHING

- 2024 - **Instructor, Cognitive Psychology** (Online, Undergraduate)
University of South Florida Saint Petersburg
- 2023 - **Instructor, Physiological Psychology** (Graduate) University
of South Florida Saint Petersburg campus
- 2016 - **Instructor, Cognitive Psychology** (Graduate) University of
South Florida Saint Petersburg campus
- 2016 - **Instructor, Physiological Psychology** (Undergraduate)
University of South Florida Saint Petersburg campus
- 2016 - **Instructor, Psychological Statistics** (Undergraduate)
University of South Florida Saint Petersburg campus
- 2012 - 2013 **Demonstrator, Advanced Quantitative Methods (MSc)**
Birkbeck, University of London, London, United Kingdom
- 2012 - 2013 **Teaching Assistant/Lecturer, Intermediate Research Methods (MSc)**
Birkbeck, University of London, London, United Kingdom
- 2010 - 2013 **Sessional Lecturer, Core Topics in Psychology I (MSc)**
Birkbeck, University of London, London, United Kingdom
- 2008 - 2012 **Demonstrator/Lecturer, Research Methods in Psychology II (BSc)**
Birkbeck, University of London, London, United Kingdom

Ad Hoc Reviewer

Biological Psychology, Cognition and Emotion, Journal of Cognitive Psychology, Journal of Behavior Therapy and Experimental Psychology, Emotion, Cognitive Affective Behavioral Neuroscience, Acta Psychologica, Cognitive Therapy and Research

TECHNICAL KNOWLEDGE AND SKILLS

Statistical Software: SPSS, MINITAB, JMPIN, R.

Programming/Presentation Software: DMDX, MATLAB, E-PRIME, PYTHON.

Physiological/Neurophysiological analysis software: EEGLAB, ERPLAB, ILAB.

EEG acquisition and analysis environments: ActiCHamp (BrainVision software), EGI Geodesic, 128 channel dense electrode (NetStation software), Biosemi Active Two.

Eye-tracking acquisition and analysis environments: EyeLink 1000 (Experiment Builder software), TOBII T60XL.

Functional imaging acquisition and analysis environments: Functional Near-Infrared Spectroscopy (fNIR) Imager 1000 (COBI data collection software suite).

Clinical Interviews: Structured Clinical Interview for DSM Disorders (SCID-I), Schedule for Affective Disorders and Schizophrenia for School-Age Children Present and Lifetime Version (K-SADS-PL).