Mélissa Lévesque

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# Education

Doctorate, Biomedical Sciences, Psychiatry Expected December 2014

Université de Montréal, Montreal, Quebec

* Cumulative GPA: 4.1/4.3

Masters of Science, Neuroscience 2007-2010

McGill University, Montreal, Quebec

* Cumulative GPA: 4.0/4.0

Bachelor of Science, Psychology, Honours 2001-2005

McGill University, Montreal, Quebec

* Graduated with First Class Honors in Psychology with a cumulative GPA of 3.81/4.0

# Research Experience

Postdoctoral fellow with A. Voineskos, MD PhD Current

Research Imaging Centre, Centre for Addiction and Mental Health, Toronto, ON

* Assessing white matter structural integrity and markers of oxidative stress in young and older schizophrenia patients and controls.

Doctoral Student with L. Booij, PhD and R.E. Tremblay, PhD Expected 2014

Department of Psychiatry, Université de Montréal, Montreal, QC

* Investigated the impact of perinatal adversity on the epigenome (especially serotoninergic genes), brain structure and function as well as behaviour and emotion regulation in adolescence.

Master’s Student with C. Benkelfat, MD-DERBH and L. Descarries, MD 2007-2010

Department of Psychiatry, McGill University, Montreal, QC

* Studied the function of the serotonin 1A receptor following acute administration of fluoxetine, using positron emission tomography (PET) with [18F]MPPF in healthy populations of both rats and humans.

Laboratory Coordinator for C. Benkelfat MD PhD 2006-2007

Department of Psychiatry, McGill University, Montreal, QC

* Collaborated in running a study assessing serotonin function using neuroimaging in a group of young men with or without high impulsivity and/or impulsivity levels, and in a study evaluating the impact of tryptophan depletion in individuals with borderline personality disorder.

Research Assistant for D.S. Moskowitz PhD 2005-2007

Department of Psychology, McGill University, Montreal, QC

* Coordinated a four month long study investigating the effects of regular Paxil use on interpersonal behaviour in socially anxious individuals.

Honours Student under the supervision of K. Bruce PhD 2004-2005

Douglas Hospital, Department of Psychology, McGill University, Montreal, QC

* Utilized the tryptophan depletion method to assess changes in affect, cognition and behaviour in individuals with and without bulimia nervosa.

Research Assistant for D. Klein PhD 2004

Montreal Neurological Institute, Montreal, QC

* Participated in the design of two language batteries and assisted in administering linguistic tasks during PET scans for pre-surgical cases.

Honours Student under the supervision of M. Leyton PhD 2003-2004

Department of Psychology, McGill University, Montreal, QC

* Studied the effect of amphetamine on impulsivity.

## Awards and Distinctions

* Excellence award of $250 for poster presentation from CINP (2014).
* Top up award from the University of Montreal Biomedical Sciences program of $3,500 (2013).
* Excellence award for graduate students from the Fondation des Étoiles of $5,000 (September 2012).
* Excellence award of $250 for poster presentation from the Quebec Brain Imaging Network (QBIN) at the Student Conference of the CHU Sainte-Justine (May 2012).
* FRSQ bourse de formation of $20,000 per year (May 2012-April 2014: ranked 1st in group).
* Award of $1000 from the University of Montreal Faculty of Graduate Studies (2010).
* Excellence award of $150 for poster presentation at the 25th Student Conference of the CHU Sainte-Justine (Mai 2010).
* Award from the CHU Sainte-Justine Foundation and Fondation des Étoiles of $17,500 per year (September 2010-August 2013).
* GPNS Top-Up Award of $2,500 (fall 2008).
* FRSQ bourse de formation of $15,000 per year (September 2008 to August 2010; ranked 1st in group).
* CIHR Master’s Award of $17,500 (September 2007 to August 2008).
* MUHC studentship of $15,000 (September 2007 to August 2008, declined due to receipt of funding from CIHR).
* Recruitment Excellence Fellowship (REF) of $5,000 (September 2007 to April 2008).
* CRLMB summer studentship award of $5,000 (2004).

**Teaching Experience**

Part-time cegep teacher for human development and communication courses (305-202 & 510) 2013

Department of Psychology, College Marie-Victorin, Montreal, QC

* Preparing the course syllabus, lessons, assignments and exams.
* In class lecturing and answering questions both in class and during office hours.
* Correcting assignments and exams.

Teaching assistant for introductory Psychology and psychopathology courses (PSY 1983 & 2115) 2012

Department of Psychology, University of Montreal, QC.

* Invigilating and correcting exams and answering students’ questions.

# Volunteer Experience

Judge, Regionals, Expo-Science, Montreal, QC 2011-2012

* Judged 4-5 Science projects (elementary school: 2011; high school: 2012).

Presenter, Brain Awareness Week, Montreal, QC 2009, 2012

* Gave a presentation to a grade 6 class to stimulate interest in neuroscience research (2009: English; 2012: French).

Volunteer, Compeer Organization, Montreal, QC 2004-2005

* Volunteer companion for two individuals with severe psychological disorders.

**Publications**

Lévesque ML, & Booij L. Epigenetics in depression. Invited book chapter to be published by Elsevier. In preparation.

Lévesque ML, Fahim C, Ismaylova E, Verner MP, Casey KF, Vitaro F, Brendgen M, Dionne G, Boivin M, Tremblay RE, Booij L. The impact of the in utero and early postnatal environment on grey and white matter volume: A study in adolescent monozygotic twins. In preparation.

Lévesque ML, Ismaylova E, Marble K, Verner MP, van der Wal M, Casey KF, Brendgen M, Dionne G, Vitaro F, Boivin M, Tremblay RE, Booij L. Early adversity and neural responses to emotions in adolescence: A study in a longitudinal sample of monozygotic twins. In preparation.

Ottenhof KW, Lévesque ML, Ruhé GH, Booij L. TPH2 polymorphisms and psychiatric morbidity: A systematic review and meta-analysis of candidate gene studies. In preparation.

Lévesque ML, Casey KF, Szyf M, Ly V, Ismaylova E, Verner MP, Provencal N, Suderman M, Brendgen M, Dionne G, Vitaro F, Boivin M, Tremblay RE, Booij L. (2014). Genome-wide DNA methylation variability in adolescent monozygotic twins followed since birth. Epigenetics. In press.

Booij L, Wang D\*, Lévesque ML\*, Tremblay RE, Szyf M. (2013). Looking beyond the DNA sequence : the relevance of DNA methylation processes for the stress-diathesis model of depression. *Phil Trans R Soc B,* *368*(1615):20120251 (\*equal contributions).

Booij L, Benkelfat C, Leyton M, Vitaro F, Gravel P, Levesque ML, Arseneault L, Diksic M, Tremblay RE. (2012). Perinatal effects on in vivo measures of brain serotonin synthesis in adulthood: a 27 year longitudinal study, *European Neuropsychopharmacology*, *22*(6):419.

Lévesque ML, Beauregard M, Ottenhof KW, Fortier E, Tremblay RE, Brendgen M, Pérusse D, Dionne G, Robaey P, Vitaro F, Boivin M, Booij L. (2011). Altered Patterns of Brain Activity During Transient Sadness in Children at Familial Risk for Major Depression. *J Affect Disord, 135,* 410-413.

Booij L, Tremblay RE, Leyton M, Séguin J, Vitaro F, Gravel P, Perreau-Linck E, Lévesque M, Durand F, Diksic M, Turecki G, & Benkelfat C. (2010). Brain serotonin synthesis in adult males characterized by physical aggression during childhood: A 21 year longitudinal study. *Plos One, 5*(6), e11255.

Bruce K, Steiger H, Young S, Ng Ying Kin NMK, Israel M, Lévesque M. Impact of acute tryptophan depletion on mood and eating-related urges in bulimic and nonbulimic women. (2009). *Journal of Psychiatry and Neuroscience, 34*(5), 376-382.

**Talks**

Lévesque ML, Tremblay RE, Booij L. (2013). À la recherche de biomarqueurs: alterations neurales et épigénétiques résultant de l’adversité précoce. Oral presentation at the ‘Association francophone pour le savoir’ (ACFAS), Quebec, QC, May 8-9 2013.

**Poster presentations**

Fahim C, Levesque ML, Yoon U, Casey KF, Vitaro F, Brendgen M, Dionne G, Boivin M, Tremblay RE, Booij L. Cortical morphological correlates of internalizing and externalizing behaviors: A study in healthy adolescent monozygotic twins. SRCD. Submitted.

Ismaylova E, Lévesque ML, Verner MP, van der Wal M, Boivin M, Brendgen M, Dionne G, Vitaro F, Tremblay RE, Booij L. La réponse neurale aux emotions chez des adolescents en santé à risque pour la depression. (2014). ACFAS. May 15th 2014.

Lévesque ML, Ismaylova E, Marble K, Verner MP, Casey KF, Brendgen M, Dionne G, Vitaro F, Boivin M, Tremblay RE, Booij L. In utero environment and function of fronto-limbic regions in adolescence : a study in a longitudinal sample of monozygotic twins. (2014). CINP. Vancouver, BC, June 22-26 2014.

Lévesque ML, Casey KF, Szyf M, Ly V, Ismaylova E, Verner MP, Provencal N, Suderman M, Brendgen M, Dionne G, Vitaro F, Boivin M, Tremblay RE, Booij L. (2013). Variabilité de méthylation d’ADN chez des jumeaux. Journée annuelle de la recherche du Département de psychiatrie de l’Université de Montréal, September 24, 2013.

Lévesque ML, Casey KF, Szyf M, Ly V, Ismaylova E, Verner MP, Provencal N, Suderman M, Brendgen M, Dionne G, Vitaro F, Boivin M, Tremblay RE, Booij L. (2013). Variabilité de méthylation d’ADN à travers le génotype chez des jumeaux monozygotes adolescents suivis depuis la naissance et association potentielle avec la fonction du cerveau. Congrès de la recherche des étudiants gradués et post-gradués du centre de recherche du CHU Sainte-Justine, Montréal, QC, May 30 2013.

Lévesque ML, Casey KF, Szyf M, Ly V, Ismaylova E, Verner MP, Provencal N, Suderman M, Brendgen M, Dionne G, Vitaro F, Boivin M, Tremblay RE, Booij L. (2013). Genome-wide DNA methylation variability in adolescent monozygotic twins followed since birth and potential association with brain function. Canadian College of Neuropsychopharmacology. Mai 29-June 1 2013. \*Presented by Victoria Ly.

Lévesque ML, Casey KF, Szyf M, Ly V, Ismaylova E, Verner MP, Provencal N, Suderman M, Brendgen M, Dionne G, Vitaro F, Boivin M, Tremblay RE, Booij L. (2013). Genome-wide DNA methylation variability in adolescent monozygotic twins followed since birth and potential association with brain function. Society of Biological Psychiatry. San Francisco, California, May 16-18 2013.

Ismaylova E, Lévesque ML, Casey KF, Beauregard M, Tremblay RE, Booij L. (2012). The impact of early adversity on brain development and emotions in adolescents followed since birth. Congrès de la recherche des étudiants gradués et post-gradués du centre de recherche du CHU Sainte-Justine, Montréal, QC, May 30 2012.

Lévesque ML, Casey KF, Ismaylova E, Boivin M, Tremblay RE, Booij L. (2012). L’adversité précoce et le fonctionnement du cerveau à l’adolescence : une étude chez des jumeaux monozygotes. Congrès de la recherche des étudiants gradués et post-gradués du centre de recherche du CHU Sainte-Justine, Montréal, QC, May 30 2012.

Lévesque ML, Beauregard M, Ottenhoef K, Fortier E, Tremblay RE, Brendgen M, Pérusse D, Dionne G, Robaey P, Vitaro F, Boivin M, Booij L. (2011). Altered Patterns of Fronto-Limbic Activation in Children with Familial Risk of Depression. Journée annuelle de la recherche du Département de psychiatrie de l’Université de Montréal. October 7 2011.

Lévesque ML, Beauregard M, Ottenhoef K, Fortier E, Tremblay RE, Brendgen M, Pérusse D, Dionne G, Robaey P, Vitaro F, Boivin M, Booij L. (2011). Altered Patterns of Fronto-Limbic Activation in Children with Familial Risk of Depression. Congrès de la recherche des étudiants gradués et post-gradués du centre de recherche du CHU Sainte-Justine, Montréal, QC, June 8 2011.

Booij L, Benkelfat C, Szyf M, Wang D, Levesque ML, Gravel P, Leyton M, Vitaro F, Arseneault L, Diksic M, Tremblay RE (2011). Early environmental effects on in vivo measures of human brain serotonin synthesis in adulthood. Canadian College of Neuropsychopharmacology (CCNP). May 2011.

Lévesque ML, Beauregard M, Fortier E, Tremblay RE, Brendgen M, Pérusse D, Dionne G, Robaey P, Vitaro F, Boivin M, Booij L. (2011). Altered Patterns of Fronto-Limbic Activation in Children with Familial Risk of Depression. SRCD 2011 Biennial Meeting, Montreal QC.

Lévesque ML, Tremblay RE, Boivin M, Brendgen M, Dionne G, Pérusse D, Vitaro F, Booij L. (2010). Early adversity predicts externalised problem behaviour in monozygotic twins during childhood. Journée annuelle de la recherche du Département de psychiatrie de l’Université de Montréal. October 29 2010.

Lévesque ML, Tremblay RE, Boivin M, Brendgen M, Dionne G, Pérusse D, Vitaro F, Booij L. (2010). Early adversity predicts externalised problem behaviour in monozygotic twins during childhood. Life History Research Society 2010 Meeting, Montreal, QC, October 14-17 2010.

Booij L, Tremblay RE, Leyton M, Seguin JR, Vitaro F, Gravel P, Perreau-Linck E, Levesque ML, Durand F, Diksic M, Turecki G, & Benkelfat C. (2010). Perinatal influences on in vivo measures of brain serotonin synthesis in adulthood: a 27 year longitudinal study. Serotonin club meeting, Montreal, July 9-11.

Lévesque ML, Tremblay RE, Boivin M, Brendgen M, Dionne G, Pérusse D, Vitaro F, Booij L. (2010). L’adversité périnatale prédit les comportements externalisés chez les jumeaux monozygotes au primaire. 25e congrès de la recherche des étudiants gradués et post-gradués du centre de recherche du CHU Sainte-Justine, Montréal, QC, May 26 2010.

Booij L, Tremblay RE, Gravel P, Durand F, Perreau-Linck E, Lévesque M, Leyton M, Séguin JR, Vitaro F, & Benkelfat C (2008). Serotonin synthesis capacity in male subjects followed since childhood: A prospective cohort. 7th Dutch Endo-Neuro-Psycho Meeting, Doorwerth, The Netherlands.

Booij L, Tremblay RE, Gravel P, Durand F, Perreau-Linck E, Levesque M, Leyton M, Diksic M, Seguin J, Vitaro F, Turecki G, & Benkelfat C (2007). Serotonin synthesis capacity in male subjects with high and low physical aggression during childhood: a prospective cohort study. ISAPP Conference, Montréal, Canada.

Booij L, Tremblay RE, Gravel P, Durand F, Perreau-Linck E, Levesque M, Leyton M, Diksic M, Seguin J, Vitaro F, Turecki G, & Benkelfat C (2006). Reduced serotonin synthesis in males with enduring aggressive traits since childhood. Neuropsychopharmacology, 31, S152.

Bruce K, Young S, Ng Ying Kin, NMK, Israel M, Hakim J, Steiger H, Richardson J, Gauvin L, Lévesque M (2005). Subjective mood effects of acute tryptophan depletion in bulimic women are mediated by affective instability. Presented to the International Conference on Eating Disorders, Barcelona, Spain.