



**INSIDE
THIS ISSUE:**

Global Disasters 2

SPIRAL Logo 2
Artist Bio

Study Timelines 3

Photo Wall 4

Contact Us 4



PROJECT ICE STORM



SPIRAL Newsletter

October 2012 - Volume 1, Issue 1

Stress in Pregnancy International Research Alliance

SPIRAL

Who are we?

SPIRAL is an alliance of researchers from around the world committed to understanding how unpredictable stressors encountered during pregnancy affect both mother and unborn child.



Aerial view of the destruction caused by the 2011 Brisbane flooding.

What is our goal?

We know that there are both positive and negative effects of stress in pregnancy, but we do not know what kind of stress or how much stress is good or bad. Therefore, our goal is to identify the short- and long-term effects of maternal stress, caused by a severe stressor, on child development.

Why study a disaster?

Disasters provide opportunities to:

- 1) Study prenatal maternal stress in natural experiments with large numbers of women
- 2) Separate objective hardship (scientific measure) from subjective distress (personal account)

What natural disasters are we studying?

- Québec Ice Storm (Canada, 1998)
- Iowa flood (U.S.A., 2008)
- Queensland flood (Australia, 2011)

What are we looking at in the children?

- Birth outcomes (e.g. a baby's weight and height at birth)
- Mental and physical development
- Maternal attachment
- Hormone levels

Thank you ...

Dear Participant,

We would like to take this opportunity to thank you for your continued support and participation in Project Ice Storm, The Iowa Flood Study, or QF2011.

You are one of almost 700 women who have chosen to embark in a large-scale re-

search initiative, examining the impact of prenatal stress, caused by exposure to a natural disaster, on child development.

The SPIRAL Newsletter was created as a means of connecting with our participants around the globe. Within this newsletter you will find background infor-

mation related to SPIRAL, updates on the progress and stage of assessment for each study, and photos that have been captured throughout the years.

We hope you and your family enjoy our first SPIRAL Newsletter, and we look forward to your continued support and participation!

Global Disasters



The Ice Storm that affected southern Québec in 1998 paralyzed the entire region of 700 municipalities, due to the collapse of 3000 hydro-electric pylons and 24000 wooden electric poles.



Québec, Canada

A series of ice storms struck Southern Québec in January 1998 knocking out electricity for more than 3 million people for as long as 6 weeks during the coldest months of the year. The ice storm caused 27 deaths, and created financial and logistical hardships for everyone. The Insurance Bureau of Canada and Environment Canada count the ice storm as the worst and most costly (\$1.5 billion) natural disaster in Canadian history.

Iowa, United States

In June 2008 Iowa suffered the worst floods in more than 50 years. By June 15, 2008, 1800 blocks of Cedar Rapids, Iowa were under water. By July 22, the Midwest storms and torrential rains had killed at least 24 people. More than 38,000 people were driven from their homes, mostly in Iowa where 83 of 99 counties were declared federal disaster areas. This flooding may rank among the top 10 disasters in U.S. history.

Queensland, Australia

Heavy rainfall in the Australian state of Queensland caused severe flooding in January 2011. At least 70 towns, including the state capital of Brisbane, and over 200,000 people were affected. Three-quarters of Queensland were declared a disaster zone. Residents of 2,100 Brisbane streets were told to evacuate, and 20,000 homes were inundated. 35-40 deaths have been directly attributed to the floods. Damage was estimated at around \$1.5 billion Australian.

The original painting from which the SPIRAL logo was inspired (created by Shirley Vermace)



SPIRAL Logo - Artist Biography

The SPIRAL logo was created by Shirley Jenkins Vermace, an artist from Decorah, Iowa. The original print, from which the SPIRAL logo was derived, was created in the summer of 1988, when Iowa was affected by an extreme drought. At this time, Shirley found herself surrounded by many pregnant women, which inspired her to create an abstract painting of three

women, two of whom were pregnant. This print was given as a thank-you gift to her OB/GYN, Dr. Jane Engeldinger (wife of Alliance researcher Dr. Michael O'Hara). The SPIRAL logo was created by enhancing Shirley's original artwork to bring the pregnant women into greater relief and to incorporate a spiral within the womb of one of the original pregnant

figures. Shirley was enthusiastic to collaborate with SPIRAL due to her own exposure to prenatal maternal stress. Due to the immense flooding of Iowa in 1993, Shirley was displaced from her home and her office, while pregnant with her second child. After briefly moving to Alabama, Shirley now resides in Iowa with her husband and three children.

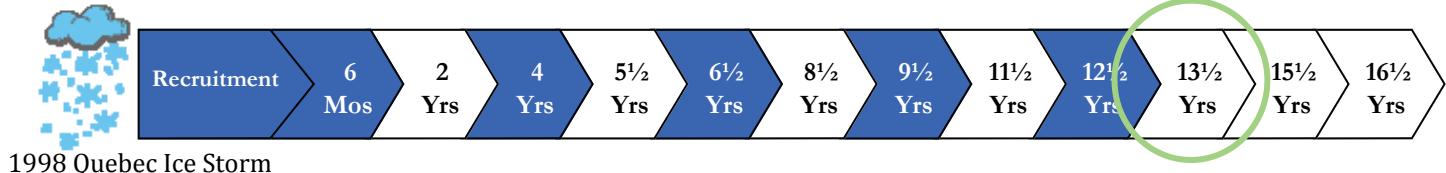
Study Timelines

Our longitudinal studies are currently taking place in Canada, the United States and Australia. Below you will find the Timeline of each study, as well as the current stage of that study (indicated by the green tracker). For your interest, we have outlined some features that make each study unique.

Questionnaires Only Assessment

Face-to-Face Assessment

Project Ice Storm: The effects of prenatal maternal stress on development during adolescence

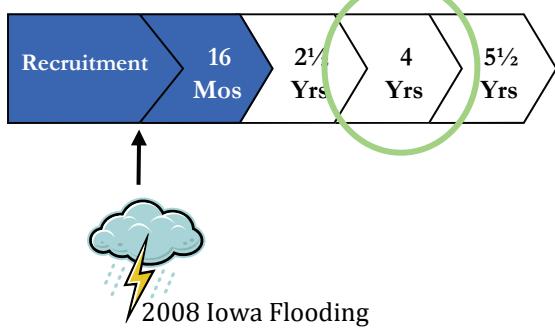


Unique Study Features

World's first, largest and longest prospective study of prenatal maternal stress caused by a natural disaster

Study measured participants' objective hardship (scientific measures) and subjective distress (personal account)

The Iowa Flood Study: Effects of prenatal maternal stress on pregnancy outcomes and infant development



Unique Study Features

Larger sample size than Project Ice Storm

The Iowa Flood Study piggybacked onto an already existing study that recruited women during pregnancy prior to the Iowa flooding

Benefits of recruiting prior to the Iowa Floods:

- 1) Started assessing women sooner after the disaster than Project Ice Storm
- 2) Allowed for a sub-sample of women with data pre- and post- Iowa Flood exposure.

QF 2011: Effects of the Queensland flood on pregnant women, their pregnancies and their children's early development

Unique Study Features

First study to collect birth biologicals (placenta samples, maternal blood, infant saliva, umbilical cord, and cord blood)

QF2011 piggybacked onto a pre-existing study (M@NGO RCT of two forms of prenatal care)

Benefits of recruiting prior to the Queensland flooding:

- 1) Started assessing women faster (less than 3 months after the disaster)
- 2) Allowed for data collection pre- and post- Queensland Flood exposure

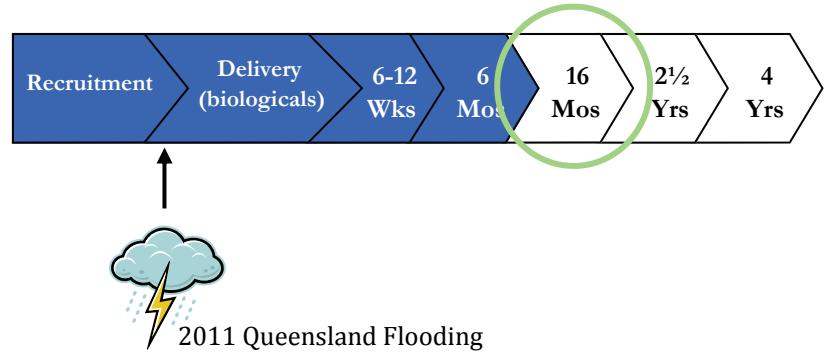


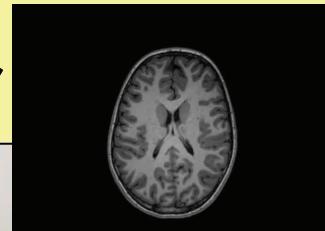
Photo Wall



Gabrielle Simcock & Donna Amaraddio from QF2011 completing the Bayley-III puzzle with little volunteer, Luke



Four young teens from Project Ice Storm participating in an animation workshop hosted by the National Film Board of Canada



MRI brain scan from Project Ice Storm belonging to volunteer, Clara



Volunteer, Emma, completing the Peabody Picture Vocabulary Test for The Iowa Flood Study



Participant Marie-Claude and her son Samuel from Project Ice Storm, pictured in A Brave New World, a TV show hosted by Stephen Hawking



Sandrine, a participant from Project Ice Storm in the Bod Pod (machine that measures how much muscle and fat are in the body)



In Cedar Rapids, Iowa, the flooding of 2008 left approximately 5,390 residential properties damaged or destroyed.

Study findings available online:

www.mcgill.ca/spiral

Contact Us

If you have any comments, questions, or concerns, we welcome your feedback. Please contact us at the following address:

SPIRAL

Psychosocial Research Division

Douglas Institute Research Centre

6875 LaSalle Blvd.

Montréal, QC, Canada, H4H 1R3

E-mail: SPIRAL@douglas.mcgill.ca

Fax: 1-514-762-3049

Suzanne King, PhD, Psychologist

Department of Psychiatry

McGill University and

Douglas Mental Health University Institute

Montreal, Québec, Canada

Michael O'Hara, PhD, Psychologist

Department of Psychology

University of Iowa

Iowa City, Iowa, USA

Sue Kildea, PhD, Nurse & Midwife,

Australian Catholic University and

Mater Medical Research Institute

Brisbane, Queensland, Australia