

Developing better assessment, interventions,  
and policies in occupational mental health:  
A multi-disciplinary approach  
CIHR funded project  
2007-2012

Alain Marchand  
School of Industrial Relations  
University of Montreal



BC Mental Health &  
Addiction Services

An agency of the Provincial Health Services Authority



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CENTRE FOR APPLIED RESEARCH IN  
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# Research Team and Partner

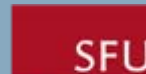
## University of Montreal:

- Andrée Demers: Department of Sociology and Director of GRASP
- Pierre Durand: School of Industrial Relations and Co-director of GRASP
- Victor Haines: School of Industrial Relations and research at GRASP
- Alain Marchand: School of Industrial Relations and research at GRASP
- Marcel Simard: School of Industrial Relations and research at GRASP



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# Research Team and Partner

- **McGill University and Douglas Hospital:**
  - Sonia Lupien: Associate Director of the Centre for Studies in Aging and Director of the Center for Studies on Human Stress
- **Bishops University:**
  - Steve Harvey: Williams School of Business and research at GRASP
- **Laval University:**
  - Marie-Hélène Parizeau: Faculty of Philosophy and Director of Canada's Research Chair in Bio-Ethics and Ethics of the Environment



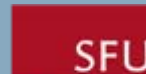
# Research Team and Partner

- Partner
  - Standard Life, Insurance company
  - Assigned representatives: France Morin and Sophie Dubé



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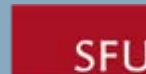
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# The Research Program

- **Two Complementary Phases**
  - Phase I. The development of a comprehensive explanatory model and early assessment tools for occupational mental health, based on a combination of psychosocial and physiological measures
  - Phase II. The experimentation, evaluation and diffusion of workplace preventive interventions related to mental health



# PHASE I: Five Specific Objectives

1. Evaluate the relationships between mental health symptoms and behaviors (psychological distress, depression, burnout, alcohol abuse) and rates of absenteeism for mental health problems
2. Evaluate the relationship between mental health symptoms and behaviors and cortisol and alpha-amylase levels.
3. Examine how both work and non-work factors interplay with individual traits, gender and life cycles, to explain mental health symptoms and behaviors and cortisol and alpha-amylase levels.



# PHASE I: Five Specific Objectives

4. Evaluate to what extent physiological measures (cortisol and alpha-amylase levels) predict mental health symptoms and behaviors, and then could be used as an early detection tool of such problems.
5. Analyze workplaces practices that differentiate firms in terms of low and high absenteeism rate due to mental health problems in order to identify best practices that already exist in workplaces

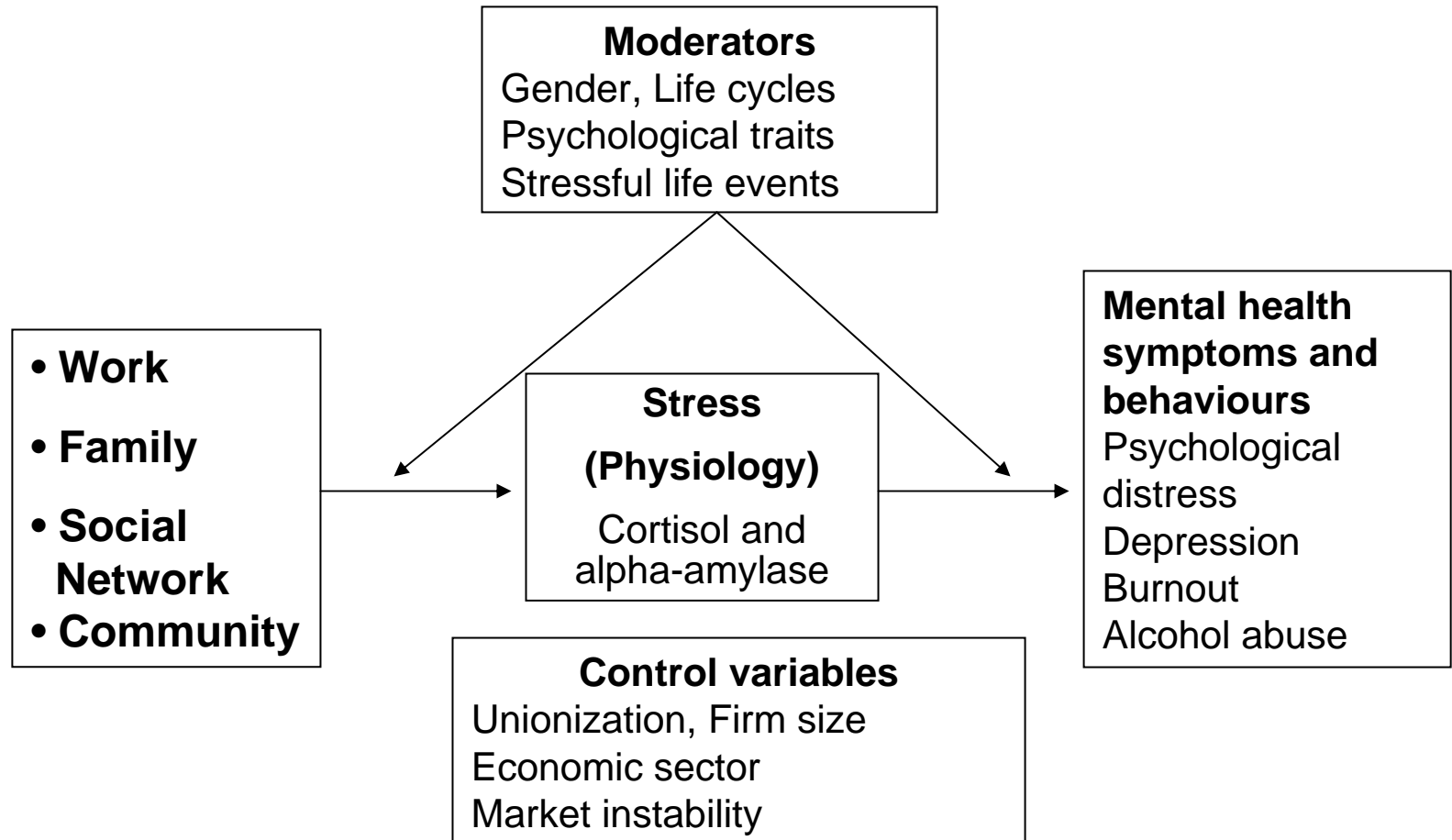


# Phase II: Four Specific Objectives

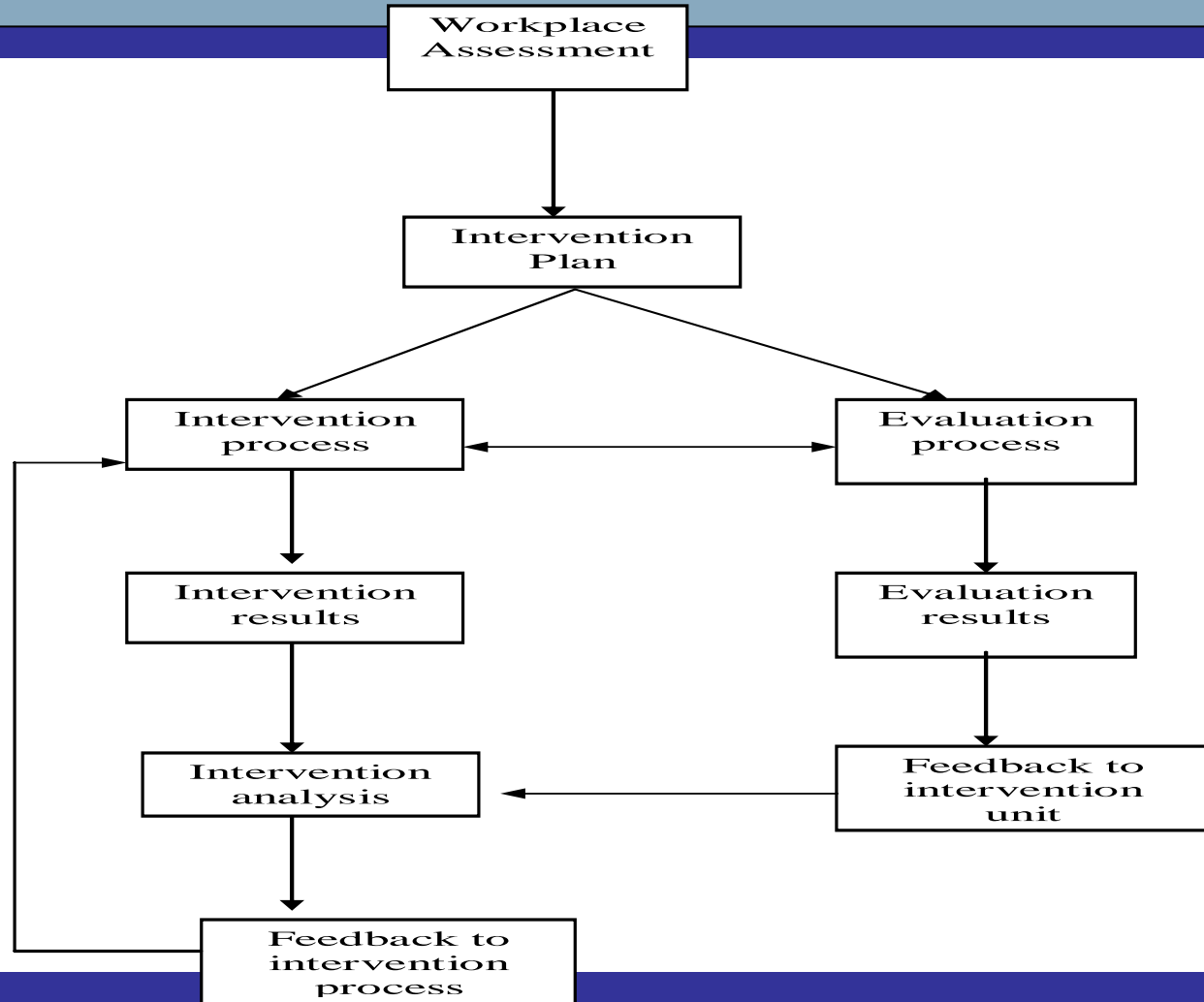
1. Evaluate the effectiveness of the preventive practices in workplaces.
2. Devise and implement with local stakeholders interventions to reduce some specific risks for mental health problems
3. Evaluate the implementation process of these interventions in order to maximize effectiveness.
4. Evaluate the effectiveness (results) of these interventions on the perceptions of stressors, the level of stress and the mental health status of participants, and the costs-benefits of interventions.



# Phase I Conceptual Model

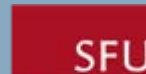


# Phase II Intervention Model



# Measuring Stress Hormones

- 5 saliva samples a day
  - awaking, 30 minutes after awaking, 3 pm, 7 pm, bedtime)
  - Use of “salivette” consisting of a cotton swab in the mouth for 2 minutes and placing it into a tube
- Repeated 3 times
  - Saturday, Tuesday and Thursday over a week, to provide measures at work and non-work times and settings.
- Monitoring of compliance with the Medication Event Monitoring System (MEMS®)



# Measuring Work Factors

- **Worker level**
  - Occupation; Skill utilization and decision authority
  - Physical and psychological demands
  - Working hours and schedule
  - Social support (colleague and supervision) and Job insecurity
  - Harassment/aggression
  - Passive leadership; Efforts and Rewards
  - Non-work to work conflict
- **Workplace level**
  - Organizational culture and politics
  - Work-family culture; Industrial relations climate
  - Organizational learning climate
  - Organizational stress interventions and Individually targeted interventions
  - OHS structures and resources



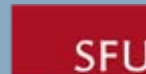
# Measuring Family, Social Network and Community Factors

- **Family**
  - Martial status
  - Parental status (number and age of children)
  - Household economic status
  - Marital strains
  - Parental strains
  - Household chores
  - Work to non-work conflict
- **Social network**
  - Social support
- **Community**
  - Economic status
  - Access to day-care



# Data: Phase I

- Population:
  - The province of Quebec customers list of the insurance company Standard Life
- Stratified random sample of 60 firms
  - 30 firms with low annual absenteeism rate related to mental health claims
  - 30 firms with high annual absenteeism rate related to mental health claims



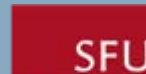
# Data: Phase I

- Sampling of 10% of the workers in each firm, with min=30 and max=150 within a firm,
- Estimated average of 50 workers per firm
- ~1500 workers per strata
- ~3000 workers total
- Questionnaires for workers and upper manager representatives



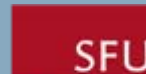
# Data: Phase I

- Physiological data:
  - Random sub-sample of 30 firms (15 per stratum) from the 60 firms
  - Saliva samples over a random sample of 15 workers per firm
    - 450 consenting workers ( 225 per firm strata).
  - Two relatively equal groups of workers will be followed in time to evaluate how changes in psychosocial variables relate to physiological measures.:
    - One group after three months
    - One group after six months



# Data Phase II

- Rational choice sample of 12 firms (from the 30 firms participating into the saliva sampling at Phase I:
  - 6 firms among the “high performers” stratum
  - 6 firms among the “low performers” stratum



# Data: Phase II

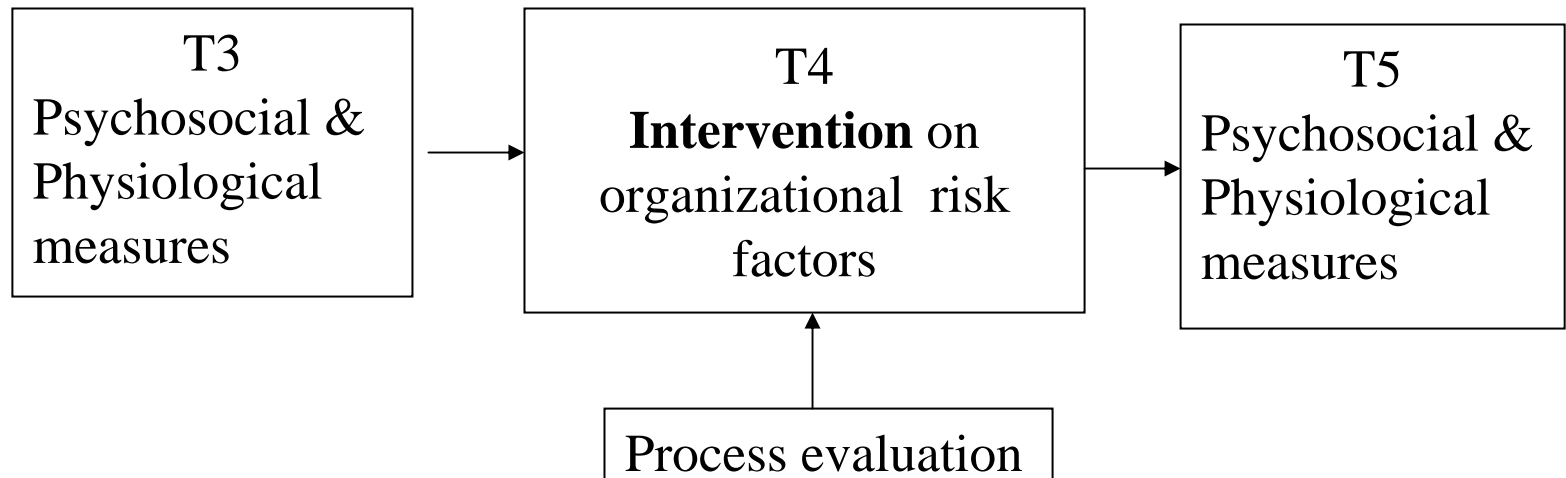
- In the 6 « high performer » firms, case studies of best practices related to:
  - Matching work and family requirements
  - The improvement of work climate/social support and/or prevent harassment
  - Balancing psychological demands and decision authority in job performance



# Data: Phase II

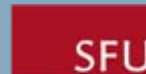
- In the 6 « low performer » firms

Sub-sample 300 workers (50 per firm)



# Diffusion and knowledge transfer: Three specific groups of people

- Participating workplaces:
  - Personalized research report
  - Privileged access to a website on evidence-based best practices
- General public
  - Public and professional conferences
  - Marketing campaign with the collaboration of public media (newspapers, television, radio)
  - Web site
- Scientists and the policy makers
  - Peer-reviewed scientific conferences and articles
  - International conference on “best practices and public policies for occupational mental health”



# Partner involvement

- Standard Life was involved in the development of the research program and will be active in:
  - providing a list of its clients and pertinent information to select the sample of firms
  - contacting the selected clients and encourage them to participate in the project
  - active in the knowledge transfer activities to participating firms and more broadly to workplaces



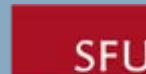
# Leadership and governance

- Steering committee:
  - Drs Marchand and Durand coordinators
  - Standard Life representatives
  - In charge of making operational decisions
- Advisory committee:
  - Oversees the entire project, advice on strategic aspects of the research, validate the conformity of operations with planning, and provide insight with regards to the diffusion of results
  - Dr. Gaston Harnois
  - One Standard Life representative
  - Two representatives of the participating firms
  - Two workers representatives
  - Research team coordinators (Drs Marchand and Durand)
  - Two outside experts
  - Dr. Marie-Hélène Parizeau



# Team expertises and synergy

- Andrée Demers: Social determinants of alcohol abuse and mental health in relationship with gender (Phase I)
- Pierre Durand: Epidemiology and mental health, validation of physiological tests and instruments, evaluation of health promotion program (Phase I-II)
- Victor Haines: Human resources management and work-family conflict (Phase I-II)
- Steve Harvey: Organizational interventions and evaluations (Phase II)



# Team expertises and synergy

- Sonia Lupien:
  - Stress hormones and their impact on cognitive function and mental health in humans (Phase I-II)
- Alain Marchand:
  - Social determinants of mental health at work, research design and methods used for analyzing large data bases, fieldwork in workplaces (Phase I-II)
- Marie-Hélène Parizeau:
  - Bio-ethics and ethics of the environment. Ethical monitoring of the research program (Phase I-II)
- Marcel Simard:
  - Evaluation of OHS programs and policies (Phase II)

