Mental Health Commission of Canada

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The Road to Psychological Safety

Legal, scientific and social foundations for a national standard for psychological safety in the workplace

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THE ROAD TO PSYCHOLOGICAL SAFETY

Legal, scientific and social foundations for a national standard for psychological safety in the workplace

A working paper for the Mental Health Commission of Canada

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OVERVIEW

Over the last 20 years there have been significant developments in both law and various scientific disciplines with regard to defining the need for, and characteristics of, what has been termed the psychologically safe workplace.

A psychologically safe workplace, for these purposes, is defined as one that is the result of every reasonable effort being made to protect the mental health of employees.

Evidence from several disciplines identifies a key set workplace factors that alone, but more typically in combination, can contribute to either the promotion of defeat of psychological safety. These factors can be conceptualized as human needs that, when unmet or thwarted, can become risk factors for psychological distress (Vézina 2010). In this paper the focus is upon the risk factor side of the equation.

From this perspective law and science agree that risks to mental health are more likely to arise and contribute to a psychologically unsafe workplace when:

1. **Job Demands and Requirements of Effort.** Job demands consistently and chronically exceed worker skill levels or exploit them beyond what would be considered reasonable for a particular type of undertaking, or where work is distributed inequitably.

2. **Job Control or Influence.** Discretion over the means, manner and methods of their work (including "voice" or the perceived freedom to express views or feelings appropriate to the situation or context) is withheld from workers by choice rather than because of the intrinsic nature of the work.

3. **Reward.** Praise, recognition, acknowledgement and credit are withheld from workers for no good business reasons.

4. **Fairness.** There is consistent failure or refusal to recognize and accommodate the legitimate needs, rights and claims of workers. Perceptions of such failure can arise from feelings that decisions are made without attention to due process.

5. **Support.** Support with regard to advice, direction, planning and provision of technical and practical resources and information (to the extent that they are available within the organization) is withheld from workers by choice rather than because of some systematic constraint within the organization.

In **Part 1** of this paper it is shown that the convergence of evidence from legal and scientific perspectives creates a powerful case for the development of national standards built around the five factors outlined above. The scope and content of these standards will allow employers to understand the nature of the psychologically safe workplace and how it may be achieved.

In **Part 2** of this paper it is proposed that the introduction of national standards can be expected in the long run to have positive social benefits since the health or harm that is generated in the workplace does not remain there but migrates into families, communities and society at large in the form of either social capital or social exhaust.

Psychological safety is in fact a concept that connects the dynamics of the workplace to the health, resilience and wellbeing of society at large.

A NOTE ABOUT LANGUAGE

Since this paper is predominantly about the risk of mental injury at work, it is relevant to position the evidence that will be presented in an epistemological context. There are in fact two such contexts: the one *from* which the evidence emerges, which is scientific and legal, and the other *for* which the evidence provides a rationale, namely the development of a national standard for the psychologically safe workplace. This standard is conceived within the framework of occupational health and safety, which itself is supported by a corpus of scientific and legal evidence.

The challenge we face, however, is that for scientific and legal evidence to provide the basis for a standard conceived within the framework of occupational health and safety, there has to be a bridge language that permits the delivery to take place. The following is an attempt to create such a bridge language.

The point of departure is the social and medical research that drives the rationale for standard development in the first place. In social and medical research, the risk that harm will occur is measured frequently as a statistical probability typically known as an *odds ratio* or *relative risk assessment* (Agresti, 2007; Goldin, 2008). While these are distinct and easily confused statistical concepts, these two forms of assessment allow us to compute in different ways the statistical probability that a given set of circumstances will lead to an adverse outcome.

The diagrams contained in Appendix 1 of this paper are expressions of such findings. An example in these diagrams is "Outcome X (such as harm to mental health) is 2 to 3 times more likely to occur under Y circumstances than under Z circumstances". Otherwise put, the adverse outcome is likely to occur at a much higher rate under Y circumstances than under Z circumstances.

The language used in this paper respects the fact that most of the research cited here is based on one or other such form of probability testing. Typically too, the variables identified as distally and proximally related to adverse outcomes are referred to as "risk factors".

That said, the purpose of this paper is to show how the science and law discussed herein provides a rationale for the development of national standards for a psychologically safe workplace in the context of occupational health and safety. This area of professional practice has evolved its own language and forms of measurement. Prominent within this discourse is the use of the terms "hazard and risk" which are used in as follows: hazard = the **capacity** to cause harm; risk = the **likelihood** that it will occur.

When we translate the language of medical and social research into this framework, we conclude that when certain conditions of work prevail, a hazardous situation arises. i.e. the potential or capacity to cause or contribute to harm (e.g. mental injury).

The *risk* that such hazardous situations will actually give rise to harm or injury, however, is still assessed by reference to the extant medical and social research, since it is this body of science that addresses the question: under what circumstances does a hazard become an actualized risk? In other words, what is the statistical probability that the risk will eventuate?

To complicate matters further, the law frames this question in yet another way. In so far as it concerns itself with attribution of causes and fault, the law tends to ask: should the harm about which the complaint is being made have been foreseen by a reasonably prudent person in the same situation? This too is a sort of probability test, but one that is grounded in popular as opposed to scientific standards of evidence.

Occupational health and safety discourse, however, adds another dimension to the picture in that it directs attention to both of the following questions: 1.) *Can the hazard itself be eliminated or controlled at source?*; and, 2.) *Can the residual risk still associated with a hazard that has been controlled to the extent practicable be further reduced through the application of recognized risk control measures?*

These are important questions but they are not addressed in this paper which attempts only to provide the scientific and legal foundations of the rationale for a national standard on psychological health and safety at work, which, in and of itself, will provide the framework to respond to these to questions.

1 Convergence of Legal and Scientific Evidence

Introduction

The concept of the psychologically safe workplace in Canada and the United Kingdom (UK) as a legal and social vehicle for the protection of employee mental health has long and deep roots. While today it is poised to form the basis of corporate and social policies directed toward the protection of employee mental health, psychological safety at work was until recently a little known term.

Psychological safety at work, for these purposes, is defined as the result of every reasonable effort being made to protect the mental health of employees.

A psychologically safe workplace, accordingly, is one that allows no significant harm to employee mental health in negligent[1], reckless or intentional ways. This term is used to summarize trends in several branches of Canadian and English law including torts, contract, collective bargaining, human rights and occupational health and safety[2].

Mental injury in this context is the realization of risk to employee mental health that results from negligent, reckless and intentional acts or omissions on the part of employers, their agents and other employees and frequently takes the form of debilitating anxiety, depression and burnout. It is not, however, the same as mental illness although it may amount to that sometimes. The difference is that according to the law in Canada and the UK as it stands today, mental injury is more akin to any significant impact on mental health that leads to a chronic inability to function as usual at work and/or at home.

Note that the focus of these definitions is on those *discretionary* acts and omissions that go to create the organization and design of work. In other words, the emphasis is on human *choices and decisions* about work.

So, by definition, those aspects of the organization and design of work that are in some fundamental way intrinsic to the nature of an occupation, industry or profession are excluded. There are, for example, certain features of work in emergency services that many would regard as unpleasant and stressful: dealing with severely injured victims of accidents or crimes is not something that many, perhaps most people can deal with. But this is the intrinsic nature of the work. What is *not* intrinsic, but rather a matter for discretionary decision-making is how the work is managed and supervised. The psychologically traumatic potential of dealing with accident victims for EMS workers is increased by management styles that are insensitive to the emotional labour involved in the tasks related to helping people in dire situations.

That said, however, if those features of the job which could induce mental injury are not recognized ahead of time as bona fide occupational health requirements and efforts are not made to protect those who may be particularly vulnerable, then this could represent a failure to appropriately manage the work (negligence) and, in this case, provide appropriate accommodation up to and including assignment to other work.

How then has this situation come about, what can be learned from its history, and how can the development of standards in this area support the future protection of mental health at work?

[1] The extent to which negligent harm to mental health is actionable depends at this time on where one happens to live in Canada. For example, while reckless and intentional infliction of mental suffering can attract liability in all jurisdictions, negligent infliction is actionable in B.C. but not in Ontario. It may be actionable in Newfoundland and Labrador. Elsewhere, it remains to be seen. See note 2 for more detail.

[2] See : Shain M. (2009) Stress, Mental Injury and the Law in Canada; Shain M. (2010) Tracking the Perfect Legal Storm. www.mentalhealthcommission.ca

A Short History of Psychological Safety as a Legal Concept

Canada and the UK in large measure share a common history of employment law, which forms the context for the present discussion. Not surprisingly, the two countries are developing highly compatible approaches to the prevention and management of mental injury as described below, while developments in both countries reflect and are reflected in similar trends in Europe.

Legal background and social context

The proposition that work organization may create or aggravate risk to mental health is relatively new. 150 years ago the relationship of employment was seen as a purely commercial contract[3], an exchange of wages for services, and at that time the issue of mental injury as a category of remediable harm at work was raised only in order to dismiss it (Shain 1991,1992). Provision for psychological comfort or for the protection of mental health played no role in the terms of this contract, either express or implied.

We must remember the context. At this time, it was still difficult to prove that employers had even a duty to protect life and limb, let alone mental health. 150 years ago the great defenses of common law available to employers made it very unlikely that employees or their survivors could sue successfully even to redress negligence or recklessness leading to injury or death[4].

Over the next 50 years or so these defenses began to weaken and by the turn of the 20th century many holes were appearing in the defenses that had employers worried enough to begin advocating for some form of state-run insurance to protect them against the uncertain outcomes of employees' legal actions. Employees were winning in court more often (see for example, Risk, 1983).This erosion of the defenses continued at a gathering pace and finally gave rise to the system of no-fault workers' compensation insurance that is still essentially intact today. That system still contains a very strong flavour of the original enactments, which were driven by considerations of contemporary social policy.

This policy in essence saw social justice for the most part as the need to protect the interests of capital as represented by employers against the interests of those who provided labour within a highly prescribed framework of basic compensation for loss of life, limb and capacity to earn income. In that sense, it tended to mean justice for the master, not for the servant, although clearly employees and their families were beneficiaries of the new system, albeit at a lower level of compensation than often obtained under common law. Essentially, the new system traded uncertainty of outcome in the courts, where compensation could be on a more generous scale, for certainty of outcome in a no-fault regime where compensation tended to be on a lower scale.

At no time during this early evolution of thinking about the rights of employees to a safe system of work, however, did it occur to anyone that the protection of *mental* health (or, for that matter, other multi-

[3] Hadley v. Baxendale (1854) 9 Ex. 341, 156 E.R. 145
[4] These defences were: contributory negligence, voluntary assumption of risk and the fellow servant rule (Shain, 1991).

factorial diseases such as cancer and heart disease), or compensation for its loss or impairment might have been contemplated by the legislation.

Again, however, we need to recall the social context of the mid to late 19th century in which this thinking prevailed. It was not until 1897, for example, that willful infliction of nervous shock became an actionable wrong in the law of torts generally[5]. This was actionable only *outside* the employment context and it would be many years before any such concept arose within it.

In this regard, one paradoxical, if theoretical advantage to the exclusion of harm to mental health as a category of loss under workers compensation systems existed. This was that at least it left open the possibility that employees could institute private law suits since they could not be prevented by the "tort bar" raised against those who were otherwise eligible for compensation under the legislation.

This advantage was nonetheless slow to reveal itself. In fact, it was only in the 1970's that signs began to appear that the law would contemplate insult or injury to mental health as a cause of action in the context of employment even though such claims had seen modest success in other settings [6].

Indeed, the same social policy that drove the original development of the workers' compensation system was behind the chronic reluctance of the law to entertain private suits based on mental injury at work. Once the bulwark of protection against claims of mental injury gave way, it was thought, there would be no way of saving the commercial relationship of employment from the rot of entitlementarianism.

Today, however, claims of mental injury have a modest chance of succeeding if the plaintiff or claimant can establish that the harm suffered was in whole or in part the result of reckless or intentional acts or omissions, the injurious outcomes of which were reasonably foreseeable[7].

An area of active legal ferment surrounds the issue whether or to what extent this liability extends to *negligent*, as opposed to reckless or intentional omissions or actions. While there is no hard and fast line between negligent and reckless conduct, the former term is typically used to describe a situation in which the actor does not take reasonable care to discover if there even is a risk, when a "normal" person in that situation *would* have taken such care. Reckless conduct is a term usually reserved for those who know that a risk exists but choose to expose others to it anyway.

While the focus of many such negligence and recklessness cases is on the point where the employment relationship is in danger of dissolution or indeed has ended, the jurisprudence consistently points to and inculpates the manner in which the relationship was managed *over its duration*. There are inescapable implications in the body of law as a whole concerning the way in which the employment relationship must be managed if mental injury is to be avoided. These implications are reviewed in a later section.

That said, it is still onerous for employees to decide which branch of the law to use in framing such claims. And this difficulty is compounded by the fact that where people live in Canada influences the kinds of remedies available to them.

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[5] Wilkinson v. Downton [1897] 2 Q.B. 57 Only flagrant and extreme conduct leading to nervous shock as manifested in physical as well as mental incapacitation was actionable.
[6] Jarvis v. Swans Tours Ltd., [1973] 1 All E.R. 71
[7] For a review see: Shain M. Stress, Mental Injury and the Law (2009) and Tracking the Perfect Legal Storm (2010) www.mentalhealthcommission.ca

The gradual, almost imperceptible erosion of resistance to admitting claims of mental injury during the 1970's and 1980's can be linked to a parallel evolution in the concept of the employment contract itself. As noted earlier, the traditional legal model of the employment contract was and is that of master and servant – even in collective bargaining. Legal tests to determine who is an employee for various purposes (e.g. to determine eligibility for benefits) are to this day based on the extent to which the party claimed to be the employer can or does control the means, methods and manner of the claimant's work. A master (employer) is one who controls these aspects of the servant's (employee's) work in significant ways[8]. This point is made simply to underscore the context in which claims of mental injury in the employment relationship are made.

Many non-lawyers, usually disposed to believe the worst of the legal profession anyway, are nonetheless still shocked to learn that the employment contract is not only seen as primarily commercial but also as fundamentally feudal, in other words, governed by the master-servant paradigm.

This context notwithstanding, many social and academic legal initiatives can be found over the last century, which attempt to reframe employment and the contract governing it more in terms of a participative relationship[9]. Collective bargaining is often touted as the leading example of the participative approach and although this is valid to some extent, the governing paradigm underlying this legal regime is the same as that underlying the common law regime. And paradoxically, collective bargaining law by its very nature raises significant barriers to a participative model because employers are prohibited by statute from dealing directly with employees, being mandated rather to deal exclusively through bargaining agents[10].

Indeed, when one undertakes a review of the law to determine where a right to participate exists in practice, only a few areas can be shown to reveal any substantive developments (Shain 1991). Probably the best example of such an area is occupational health and safety where the internal responsibility system (IRS) that is in place in some form in most jurisdictions requires active participation on the part of employees in the identification of hazards and in the assessment and management of risks to employee wellbeing.

Within this context, some judges and arbitrators are demonstrating a willingness to interpret occupational health and safety legislation as including provisions for the protection of mental health (most jurisdictions in Canada do not provide definitions of "health" at all in their OH&S legislation). Some are even prepared to say that all collective agreements should be deemed to incorporate relevant occupational health and safety legislative provisions as interpreted in these broader terms.

Indeed, the Supreme Court of Canada has affirmed this principle in the case of Human Rights provisions and has declared that it applies to other fundamental statutory rights such as those enshrined in Employment Standards and Occupational Health and Safety legislation[11].

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[8] See for example the language in *Ontario (Ministry of Labour) v. United Independent Operators Limited*, 2011 CarswellOnt 287 (Ont. C.A.); *Lockerbie & Hole Industrial Inc. v. Alberta (Director, Human Rights & Citizenship Commission)* 2011 CarswellAlta 9 (Alta. C.A.).

[9] This story can also be told within the framework of how the idea of the psychological contract of employment arose and developed. See in particular: Rousseau, D.M. (1989) Psychological and implied contracts in organizations. *Employee Rights and Responsibilities Journal, 2*, 121-139; Rousseau, D.M. (2000) Psychological contracts in the United States: Associability, Individualism and Diversity. In D.M. Rousseau and R. Schalk (eds.) Psychological contracts in employment: Cross-national perspectives. Newbury Park, CA: Sage.

[10] See: Paul C.Weiler (1990) Governing the Workplace: the future of labor and employment law. Harvard University Press, Cambridge. Mass.and Edward S.Greenberg (1986) Workplace Democracy: the political effects of participation. Cornell University Press, Ithaca. New York

[11] Parry Sound (District) Social Services Administration Board *v.*O.P.S.E.U., Local 324 [2003] SCC 42.

Across Canada at this time we can see important developments in legislative initiatives that broaden the definitions of violence, harassment and bullying to embrace a much wider landscape of mental injury than before.

The net effect of all this is that, potentially at least, employees have a doorway of opportunity to influence the very nature of the employment contract through the vehicle of health and safety law.

It must be acknowledged, however, that this is as yet an opportunity open to only a few members of occupational health and safety committees and that many such members are less than well equipped to wrestle with the practical and political issues that attend the provision of a psychologically safe workplace as defined earlier.

Beyond this, there are other gradual developments whereby some arbitrators and judges are increasingly inclined to see fairness and reasonableness as implied terms of the employment contract. The duty to be fair and reasonable – in so far as it can be said to exist – typically takes the form of requirements to share crucial information in timely ways and to consult with employees in matters of material importance to them.

Some Canadian judges are making even bolder statements and saying that the common law contract of employment now contains implied terms for the protection of mental health and psychological comfort.[12] This is the general employment law context in which by the mid-1980's several cases had been heard where the notion of psychosocial risk resulting in actual mental injury had been at least taken seriously and in some instances recognized as a legitimate basis for financial remedy.

But alongside of financial remedies, which themselves are increasingly large, is emerging a new class of legal intervention – the public interest or systemic remedy. These forms of remedy have been in use for some time as tools that some arbitrators use to supplement and give an additional dimension to individual remedies involving financial awards. However, in recent years they have received a fresh injection of energy as human rights legislation is amended to incorporate or augment these powerful remedies. Essentially, the exercise of such remedies amounts in many cases to an incursion by the judicature and legislature into the realm of management rights because they allow tribunals to dictate in some measure the way in which the enterprise is run.

The essential point here is that the emergence of mental injury as a legal cause of action in Canada and the UK is not an isolated occurrence but rather an expression of a profound and progressive evolution of the employment relationship itself. It is therefore unlikely that the tide will be turned back given the natural history of legal and social developments.

Scientific Evolution: Identification of Human Agency in Mental Injury

Meanwhile, science has been moving in a direction parallel to the law and has reached conclusions similar to it in some important ways. Ironically, however, these parallel developments have informed one another very little, to the disadvantage of both. So, while their existence was largely unknown in legal circles, by the late 1970's scientific studies were demonstrating with some consistency that certain conditions of work were associated with a wide variety of adverse mental and physical health outcomes.

[12] Fidler v. Sun Life Assurance Co. of Canada, 2006 SCC 30, [2006] 2 S.C.R.

More recent studies in business and marketing contexts confirm that these same factors are strong influences on profitability and sustainability. Many of these studies, like the law, have long social roots. In fact, studies of one sort or another had been around for over a century by the time that mainstream sociology and social psychology began to quantify the harms that earlier commentators had described in largely political terms[13]. Some of these earlier polemic accounts showed little reluctance to attribute human agency to the mental harms observed.

Political commentators were not shy about laying blame at the doorsteps of employers who were cast as villains in the history of man's exploitation of man[14]. By those standards, the scientific research of the late 1980's and early 1990's was tame in comparison[15]. But it had one big advantage: it was empirical. While it avoided to a large extent the attribution of responsibility for injury to mental health, it relied instead on correlational evidence to support claims of the harmfulness of certain conditions of work.

In fact, it took another 20 years for researchers to fully open the black box of connections between identified conditions of work and adverse health outcomes. But once opened, the box could not be closed again. The secret – that was no secret – was out: human agency is at the root of the connections between mental injury and the organization of work. People are to blame for their negligence, their recklessness and their harmful intentions.

So in this domain, scientific and legal forms of evidence tend to converge, even though science uses the language of statistical probability and law uses the language of reasonable foreseeability to evaluate the likelihood of harm arising from human agency.

The framework within which this convergence of thinking has taken place is *organizational justice*, a unifying concept to which I return at the conclusion of this paper. The following is a brief account of how the scientific ideas noted above have evolved over the last 30 years.

Research related to the psychological safety and health culture of an organization.
For present purposes, the influences on wellbeing described below can be regarded usefully as descriptors of the "psychological safety and health culture" of an organization, which is defined here as a system of shared beliefs, understandings and daily experiences concerning demand, control, support, effort, reward and fairness. These six factors are elements of the major models that have been, and continue to be used to conduct research on psychosocial influences on wellness at work (Leka and Jain, 2010, Vézina, 2010). Other models exist and, as suggested later, some of these might be brought usefully into closer alignment with the psychological safety and health models.

With regard to psychological safety and health culture measures, by the late 1980's research had identified two major processes through which the organization and design of work can lead to a wide range of adverse mental and physical health outcomes among employees. These outcomes were also found to cascade into predictable losses in profitability and sustainability.
These processes are described in what are known as the Demand/Control/Support Model and the Effort/Reward Imbalance Model. They are often referred to as "stress models".

The basic Demand/Control model is an empirically verified theoretical paradigm that says low control (having too little influence over the day-to-day organization of your own work) *combined with* high demand

[13] See, for example: Cole (1919) and Pateman (1971) for historical perspectives
[14] See for example, Marx (1964)
[15] See Karasek and Theorell (1990) for a review

(having too much to do over too long a period with constantly imposed pressures or deadlines) contribute to a variety of adverse health and safety outcomes. These outcomes will be detailed shortly, but in brief they include higher rates of infectious disease, cardiovascular disease, mental health problems, alcohol and drug dependence and certain types of injuries (Karasek & Theorell, 1990). Moderators of these variables include social support in the so-called Extended Demand Control Model (Rick et al., 2002).

The Effort/Reward Imbalance model is similarly an empirically verified theoretical paradigm that says low reward (perceiving too little compensation for, or acknowledgement of effort in terms of bestowed status, financial gain or career advancement) *coupled with* high effort (high levels of mental and/or physical energy expended to achieve an organizational goal) contribute to a variety of adverse health outcomes prominent among which are cardiovascular disease and mental health problems such as anxiety and depression (Siegrist,1996; Bosma, Siegrist & Marmot, 1998).

With regard to the process linking high demand/low control and high effort/low reward to adverse health outcomes, it is necessary to conceptualize demand and effort as stressors that, when sustained over long enough periods of time, produce strain in those subject to them, while control and reward are satisfiers or resources that, depending on the degree to which they are present, moderate or potentiate the probability that these stressors will be translated into strain. Strain, in turn, is thought to bring about changes in brain chemistry that are experienced as various negative affects - depression, anxiety or anger (depending on the individual). In turn, negative affects launch a variety of complex attacks on the immune system, the defeat of which renders the individual more susceptible to bacterial and viral assaults (Cohen et al., 1991; Jemmott & Locke; 1984; Kiecolt-Glaser & Glaser, 1995; McEwan 2006)[16].

Since the health and safety outcomes attributed to high effort/low reward conditions are very similar to those attributed to high demand/low control conditions they are summarized together below. Increasingly, it seems that both pairs of conditions are likely to co-exist in the same workplaces although not all adverse outcomes are simultaneously observed, given differences in type of work and means of production.

[16] This type of mind body research is the domain of psychoneuroimmunology.

Health and Safety Related Effects of Adverse Working Conditions

Summary

Note: the research showing the effects of high demand/low control and high effort/low reward conditions on physical as well as mental states and disorders is shown here to indicate the range of harms associated with these toxic working environments. But it should be noted too that there is increasing research interest in the relationships between mental and physical health outcomes particularly in the areas of cardiovascular health, infectious diseases and musculoskeletal disorders.

1. High demand/low control conditions at the extreme (highest 25% demand level, lowest 25% control level) compared with high demand/high control and low demand/high control conditions are associated with:
    - more than double the rate of heart and cardiovascular problems
    - significantly higher rates of anxiety, depression and demoralization
    - significantly higher levels of alcohol and prescription/over-the-counter drug use
    - significantly higher susceptibility to a wide range of infectious diseases

    (Gardell, 1982; Greenberg & Grunberg, 1995; Johnson et al., 1996; Karasek & Theorell, 1990; Matthews et al., 1987; Theorell et al., 1997; Kivimaki 2002; Head et al., 2004; Everson-Rose & Lewis, 2005; Kornitzer et al., 2006; Bonde, 2008; Bonde et al., 2009; Eller et al., 2009).

2. High effort/low reward conditions at the extreme (highest 33% effort level, lowest 33% reward level) compared with high effort/high reward conditions are associated with:
    - more than triple the rate of cardiovascular problems
    - significantly higher incidence of anxiety, depression and conflict-related problems

(Bosma et al., 1998; Siegrist, 1996; Peter & Siegrist, 2000; Peter et al. 2002 ; Wang, 2005; Wang, Lesage et al., 2008; Wang et al., 2009; Stansfeld & Candy, 2006; Wieclaw et al., 2008; Siegrist et al., 2009).

3. High demand/low control conditions and high effort/low reward conditions are associated with:
    - higher incidence of back pain (up to 3 times the rates found in high demand/high control and high effort/high reward conditions)
    - higher incidence of repetitive strain injuries and musculoskeletal disorders(excess rates of up to 150% have been reported)
    - higher incidence of sleep disorders

    (Polanyi et al., 1997; Shannon et al., 1996; Shannon et al., 1997; Smith, 1997; Warren, 2001; Devereux et al., 1999, 2002, 2004 ; Fjell et al., 2007; Norman et al., 2008; Rugulies & Krause 2005, 2008; Rugulies et al., 2009).

In addition to the health effects just described, a variety of cognitive or "capacity" deficits have also been associated with sustained low control conditions. These include:

- reduced ability to cope with change
- reduced adaptability
- impaired learning
- impaired memory
- increased helplessness
- increased passivity, or,
- increased aggression/conflict

(LaMontagne et al., 2008; Elovainio et al. 2009)

More recently, it has been proposed that one of the key factors linking psycho-toxic conditions of work to physical harm is the common perception and feeling among employees that such conditions are unfair. This "sense" is thought to arise from a predisposing belief that, to a significant extent, such conditions of work come about not by chance but by choice - the choice of managers and supervisors in particular. When employees believe that alternative choices could be made that reduce demand and effort and increase control and reward without economic loss to the employer they have an inclination to define the situation as unfair (Shain, 1999).

The fairness connection has also been shown in various studies to be a powerful dynamic in the process linking adverse mental health outcomes and a variety of productivity/profitability deficits. While this is not the focus of the present review these studies serve as further incentives for employers to create and sustain more psychologically safe workplace environments[17]. Workplaces with a positive approach to psychological health and safety are better able to recruit and retain talent, have improved employee engagement, enhanced productivity, are more creative and innovative, and have higher profit levels. Other

[17] See, for example: Bettencourt & Brown (1997); Bowen, Gilliland & Folger (1999); Chami & Fullenkamp (1999); Fukuyama (1995); Heskett, Sasser & Schlesinger (1997).; Lowe (2010); Pratt (2001); Rucci, Kirn and Quinn (1998); Towers Watson (2010); Watson Wyatt Worldwide (2000).

positive impacts include a reduction of several key workplace factors including the risk of conflict, grievances, turnover, disability, injury rates, absenteeism and performance or morale problems.

In summary, research has shown that those organizations that implement psychologically healthy and safe workplace strategies are, on average, better performers in all key performance categories from health and safety to key human resource measures to shareholder returns. A graphic summary of such studies and of the ones cited above and in note 17 is included in Appendix 1.

The Socio-Biological Translation

In order to understand how fairness at work affects both the chances of getting sick and of getting injured, we need to look more closely at what is termed the "Socio-Biological Translation" (Tarlov, 1996). This meta-theory of mind–body interactions describes the socio-biological mechanisms through which human beings receive messages about their social environment and convert these messages, via emotions, into biological signals that trigger the processes of disease development or health promotion. Key to the Socio-Biological Translation is the biochemistry of emotions. In recent years much has been learned about emotions and their effect on the body (McEwan, 1997, 1998a, 1998b, 1999, 2006a, 2006b). See Appendix 2 for a visual representation of this process.

For present purposes, our interest lies in what we might call the biochemistry of fairness. Fairness is a term we encounter or use just about every day, but it is nonetheless invested with many different meanings. Here, we focus on the essential ingredient of *fairness as the keeping of promises* and on that of *unfairness as the breaking of promises.* The employment contract is in essence a set of express and implied promises (Tyler et al., 1997).

When employees perceive that one or more of these express or implied promises have been broken, they are likely to experience a range of negative emotions[18]. If it is correct, as it appears to be, that conditions of work characterized by high demand/high effort and low control/low reward are seen by many employees as breaches of the employment contract ("I didn't sign on for this: this is unfair") then a cascade of emotions can be predicted to flow from this perception that include feeling to one degree or another:

- excluded
- tricked
- rejected/abandoned
- disliked
- unworthy/worthless
- diminished/humiliated
- shamed
- anxious/agitated/insecure
- depressed
- angry/enraged
- suspicious
- helpless

[18] See, for example: Frost P.J. (2003). *Toxic Emotions at Work.* Harvard Business School Press. Boston, Massachusetts.

These mental states are unpleasant and undesirable in themselves and beyond a certain point they can turn into mental disorders or even illnesses that keep people from functioning normally. Even worse, if sustained over a lengthy period, or if there are one or more acute episodes of unfairness, these feelings, among some people, can lead to a sense that:

- nothing and no one can be trusted
- there is no order, purpose or meaning in life
- the world, and events in it, make no sense
- all is not right with the world.

Antonovsky (1993) describes this set of perceptions and emotions as a lack of sense of coherence. Another way of saying this is that when people feel they have been treated in a seriously unfair way they no longer feel quite whole and crave some kind of remedy that will make them feel whole again. (Essentially this is why some people who believe they have been treated in this way seek legal remedies since the law of obligations (contract and tort) offers them some hope of being made whole again.)

The results referred to above resonate with those from a series of studies conducted in Finland by Elovainio, Kivimäki and colleagues (2001-2010) and Ferrie and colleagues (2006, 2007) over the last ten years. The sophistication of these studies is such that we can have considerable confidence in the validity of the stress-fairness-illness connection even though more remains to be learned about the link mechanism. The Finnish studies, for example, leave us still undecided whether the link is of a mediating or moderating variety (see also: Baron & Kenny, 1986). However, in the absence of strong evidence to the contrary, there is intuitive support for the view that the link is of a *mediating* variety in the sense that the perception of unfairness acts as a kind of chill factor when applied to already negative conditions of work. That is to say, unfairness makes bad situations feel worse.

Research Related to the Learning Culture of an Organization

An emerging but still largely ignored influence on mental health at work is the learning culture of the organization. Learning Culture can be defined as a set of shared beliefs, attitudes and understandings about the degree to which the organization and its business or work units support:

- the timely and appropriate collection, sharing and exchange of information and knowledge ("flow")
- the pursuit of learning and career opportunities
- the provision of organizational resources to achieve these ends

The influence of learning culture on mental health appears to be mediated by the role of supervisors in that, to a significant degree, supervisors are perceived as brokers of information and of opportunities for learning and development.

Supervisors can impede or facilitate the flow of information in two directions: from the employee to the organization as a whole and vice versa. The free flow of information in both directions is arguably essential to the effectiveness and efficiency of an organization that is constantly challenged to do more with less and to be increasingly adaptive and creative.

The impedance of information flow is likely to be negatively synergistic with existing stressors in which chronic lack of control may lead, via complex brain chemistry, to an impaired ability to process information and adapt to change (see, for example, McEwan, 1998, 2006a, b). Lack of information therefore may potentiate the already negative consequences of inability to process information as noted under “cognitive and capacity deficits” in the preceding section.

Conversely, the facilitation of information flow appears to occur under supervisory conditions that also foster employee control and reward while moderating demand and effort. Supervisors who facilitate bidirectional information flow support the organization's ability to be proactive, creative and adaptive. They also achieve this result by fostering high control/high reward conditions that in turn nurture the creative, innovative and adaptive capacities of the people who report to them (see for example: Carmeli et al.,2009; Walumbwa & Schaubroeck, 2009).

These observations are consistent with recent research findings that identify a "psychosocial filter" in the context of information flow in "knowledge" organizations - that is, organizations whose main product is knowledge, such as medical research and development facilities. Free flow of information and knowledge in such organizations has been associated as much with the social competence of knowledge holders as with their technical competence. Social competence in those contexts refers to perceived trustworthiness, reliability and approachability (Andrews & Delahaye, 2000; Alvesson, 1995). These observations are also consistent with what Csikszentmihalyi (1990) has termed “flow” in an organization.

The ability of an organization to respond to challenges and change by virtue of its internal capacity for facilitating the timely, accurate and full disclosure, transfer and exchange of information is therefore intimately related to the quality of its supervisory and managerial practices.

This disclosure, exchange and transfer are multidirectional in that they refer to the movement of ideas and information (both processed and unprocessed) along both vertical and horizontal organizational axes (up, down and sideways).

Information, of course, is of most relevance to those who have a material interest in it.
Material interest in this context refers to the degree to which information is pertinent to the legitimate needs, interests, claims or rights of the parties involved (the relationship of information flow to fairness stands out in this regard).

The transfer of information in this model is seen to be optimal when it is not impeded by screening, over-processing, editing, censoring or manipulation and when it is not bent or back fitted to the perspectives or ideologies of a particular group or individual. Optimal “flow” of this kind is a characteristic of what Senge (1990) calls the learning organization and Argyris (1993) calls double loop learning.

On a broader canvas, the learning culture of an organization defines in significant measure its *regenerative capacity* which is the capacity to so treat human beings that they become more, rather than less than what they were at the point of employment (see, for example: http://johnhardman.wordpress.com for John Hardman’s Regenerative Capacity Index for workplaces.)

Legal and Scientific Convergence: The Need for a New Standard of Conduct to Promote Psychological Safety

Reviewing the main points of legal and scientific evolution and convergence covered in the preceding sections some common principles emerge from these different perspectives and areas of practice. These common principles can be expressed as implications for action.

Implications for action from the law

Beneath the daunting minutiae of the various branches of law pertaining to mental injury, there are thankfully some recurring, generic principles. These may be stated as follows:

> Conduct leading to legal actions based on claims of mental injury can be avoided in large measure by ensuring that:
>
> - job demands are kept within reasonable bounds (which means that work demands are appropriately identified, monitored, and controlled)
> - employee voice is enabled and protected (which means that freedom of expression, participation and the multidirectional flow of materially relevant information is actively facilitated for all employees)
> - those in managerial and supervisory positions adhere, and are held accountable to an ethic of carefulness in their dealings with employees (which means that every effort to avoid reasonably foreseeable harm is made and that accordingly a floor standard of interpersonal competence is established and monitored)

Implications for action from science

Science, too, has identified some broad principles, adherence to which makes it feasible to regulate the workplace in ways that tend to avoid unnecessary conflict, reduce the odds of mental injury and enhance personal and organizational performance. These conditions reside in psychologically safe, healthy working and learning environments in which:

- Job demands are maintained at a reasonable level, most of the time
- Job demands reflect bona fide occupational health requirements
- Work is allocated and distributed equitably with the input of all who work together, to the extent feasible
- Important information is conveyed in a timely and complete manner to facilitate employees' participation in the organization and execution of their own work
- Reasonable levels of discretion (to the extent they are consistent with the intrinsic nature of the work) over how employees do their jobs are facilitated
- Adequate and regular acknowledgment for contributions in terms of credit and recognition is normative
- Personal support by supervisors with regard to advice, direction, planning and provision of technical and practical resources (to the extent that they are available within the organization) is offered as a matter of course without prejudice or favour

It can be seen from the synthesis above that there is considerable overlap between what the law and science have to say about how to create and maintain a psychologically safe and healthy workplace. The prescriptions just discussed are *minimal* conditions that form the bedrock of a psychologically safe workplace.

Essentially these conditions are characteristics of organizational justice (Tyler et al., 1997; Rawls, 2001). Framed in this manner it appears that both law and science call in somewhat different voices for conditions of *organizational justice* in which *fairness* must be the norm for conduct if a wide range of harms to individuals is to be prevented.

In law, this directive is sometimes overt, but more often it is implied. The fact is, the law is not for the most part very prescriptive (being by nature largely *pro*scriptive) and it might be said that the desirable end point – a psychologically safe workplace – cannot be reached, or even deduced directly from its decisions. Rather, in most situations, we must jump tracks and look to social science for direction.

Until recently we might have looked in vain. But in fairly recent times a set of clearer implications has emerged in the form of organizational justice theory. At the heart of this theory lies a concept of fairness with long social and cultural roots.

Fairness in this context is, much as John Rawls sees it, the duty that falls upon all of us to recognize and accommodate up to a standard of reasonableness the legitimate interests, claims and rights of others (Rawls, 1971; 2001).

The practice of fairness defined in this way is a solid basis for organizational and personal conduct in a just and psychologically safe workplace.

Evolving Responses to the Management and Prevention of Psychosocial Risk

Evolving legal and scientific evidence about psychosocial risks to mental health embedded in the organization and design of work call for a revised concept of how we should respond to such risks at both a corporate and a social level.

Corporate Responses

A comprehensive corporate approach to the abatement and management of psychosocial risks requires that we build on what we know, or can reasonably surmise about the nature of such risks.

First and foremost we need to get beyond the notion that *all* manifestations of mental distress in working environments are functions of individual, personality-driven idiosyncrasies that are imported into the workplace. While there is some validity to this proposition it needs to be balanced out by the acknowledgement that normal and typically resilient people can be brought to the brink of mental distress and sometimes pushed over, by conditions of work over which employers have significant control while they as employees have very little. Reasonable accommodation (protection) also must be provided for those individuals who do have physical and mental conditions that may predispose them to risk from hazards beyond those that may affect a "normal and typically resilient" individual.

Consequently a comprehensive corporate approach should contain the following key elements:

- A routine identification of psychological job hazards as well as those physical aspects of the job that may lead to psychological risks;
- a routine internal audit that reviews all available data pertaining to mental health among employees;
- A system for responding to identified risks in an organized, prioritized manner;
- A resource compendium of validated, practical responses to identified risks; and,
- Policies and procedures concerning the prevention and management of mental disorders that address
  - accommodation;
  - return to work;
  - access to treatment by trained and certified service providers;
  - employee assistance programs that involve education and training of all supervisors;
  - selection and recruitment of managerial staff using emotional intelligence (interpersonal competence) as an additional, but key criterion;
  - staff sensitization to the nature of mental disorder; and,
  - cultural processes to address respectful workplace requirements.

Presently "Guarding Minds at Work"[19], The Healthy Enterprise Standard from Quebec[20] and the National Quality Institute's Progressive Excellence Program[21] are examples of broad approaches to the prevention of mental injury and the promotion of mental health in Canada.

[19] www.guardingmindsatwork.ca. The free resource available through this website was developed by the Consortium for Organizational Mental Healthcare at Simon Fraser University. It was funded by the "Key to Giving" corporate citizenship program of Great West Life, London Life and Canada Life. It was commissioned by Great West Life's Centre for Mental Health in the Workplace.
[20] BNQ 9700-800 - Prevention, Promotion and Organizational Practices Contributing to Health in the Workplace – Healthy Enterprise Standard 2008. An account of this standard is given in: Pelletier M-C and Shain M. Promoting health in the workplace: GP2S and the Healthy Enterprise Standard.Chapter 10 in I. Rootman et al. (eds.) Health Promotion in Canada. 3rd Edition. Forthcoming, 2012.
[21] See:www.nqi.ca Progressive Excellence Program PEP®

Social responses[22]

The development of national standards for the identification of hazards and the assessment, prevention and management of psychological risks in the workplace is a natural, if difficult progression from the call for new corporate responses.

Certainly the UK provides an excellent model for Canada to examine as we move forward and contemplate how to approach the issue of standards development for the assessment and management of psychosocial risks in the context of occupational health and safety (Shain, 2009). The new BSI standard is an evidence-based model that arises from over 15 years of experience with earlier versions[23].

However, another model can be seen in the province of Quebec, which has expanded its Employment Standards Act to incorporate a broad definition of harassment, supplemented by comprehensive training and awareness-building resources.

While the Quebec legislation does not go beyond harassment to cover all forms of psychosocial risk, its definition of harassment is sufficiently wide that much should be accomplished using this as a tool of remediation and prevention in the context of employment standards.

Conclusion: Part 1

The emergence of mental injury as a legal cause of action in Canada and the UK is not an isolated occurrence but rather an expression of a profound and progressive evolution of the employment relationship itself.

Changes in attitudes and beliefs concerning the responsibilities of employers with regard to the protection of employee mental health, which have taken 150 years to evolve, are not likely to be easily turned back or reversed.

The roots of these changes are long and deep and we should see the current convergence of legal and scientific opinion as signaling a need to take psychological safety and health as seriously as we take physical safety and health.

By the year 2020 we should expect to see the identification of hazards and the assessment and control of psychological risks in the workplace as a commonplace, indeed normative function of sound business practices and stewardship of human resources.

The development of national standards in this area can be expected to have a catalytic effect on this process.

[22] For a discussion of social policy implications, see: Shain, 2009
[23] British Standards Institution. Publicly Available Specification 1010 "Guidance on the management of psychosocial risks in the workplace": 2010

2 Fountains of Wellbeing, Cascades of Harm: Workplace Standards and Population Mental Health

Introduction: The Role of Workplace Standards in Building Population Mental Health

This second part of *The Road to Psychological Safety* presents evidence and arguments for the propositions that:

- there is a net transfer of mental health or harm from the workplace to society;
- this transfer is potentially measurable;
- the transfer of such social capital or social exhaust is of great social significance; and,
- the introduction of a workplace standard for psychological safety can be predicted in the long run to reduce the burden of social exhaust and increase the net social capital generated by the workplace.

While the foregoing propositions are not new, they have failed to capture the interest or imagination of researchers and policy makers alike until fairly recently. Earlier efforts to conceptualize the issue can be found in Shain (1999, 2004a,b) and Karasek (2004) while more recent arguments are presented by Eurofound (2007), Leka et al. (2008) and Black (2008).

Should it be accepted that there is a net transfer of mental health or harm from the workplace to society - notwithstanding the difficulties of measurement - it follows that whatever policies and practices are implemented in the former will have a positive or negative impact on the health of the latter. There is never likely to be a neutral effect except during a fleeting stage in which the workplace moves from producing net social harm to net social capital, or vice versa. This fact lends the development of a workplace standard for psychological safety further significance as a population health initiative.

The purpose of the following discussion is to describe the nature and extent of this transfer and to confirm the significance of workplace standards in general and of a psychological safety standard in particular as important measures that contribute to net population health.

The Nature of the Problem

In Part 1 of this paper it was asserted that certain ways of organizing and managing work are more likely than others to increase the risk or probability of harm to the psychological health of those who perform the work (see Leka and Jain, 2010, for a recent and encyclopedic review of the evidence).

This phenomenon is particularly evident when departments or units within a single organization are performing the same type of work, have the same hazards and related risks, and where the same sorts of people are employed to do it - but mental health outcomes are markedly different. Here we would expect a relatively high degree of homogeneity so that in such situations, we can be reasonably confident that independently observed ongoing differences in mental health outcomes can be explained to a significant degree by observed variations in management and governance practices, since other critical variables – namely type of work and characteristics of employee - are controlled as if in a natural experiment. To the extent that between-unit variations in workplace culture exist in such situations and themselves exert an influence on employee mental health it might be expected that they themselves flow at least to some extent from differences in management practices.

However, this argument has its limits and it must be acknowledged that sometimes cultures and subcultures have lives of their own that owe little or nothing to the nature and quality of management practices.

That said, for purposes of this paper it is proposed that for most practical purposes it should be possible to operate on the assumption that *observed* variations in management practices across units performing similar or identical work (with similar or identical hazards and their related risks) exert an influence on *observed* mental health outcomes among employees. Consequently, such work environments should be ideal for the study of not only how psychological safety is created and sustained but also of how and why it varies[24].

Again from a practical point of view, differences in the psychological safety risk levels of units performing similar or identical work (with similar or identical hazards and related risks) are of considerable interest since they have the potential to show us how management and governance practices can be optimized to promote mental health and prevent mental injury among employees.

Otherwise stated, a comparison of like units performing like work with the same inherent hazards and risks allows us to isolate to a large degree the roles of management and governance practices in the production and precipitation of threats to employee mental health.

Correspondingly, significant differences in indicators of mental health between organizations or units performing similar or identical work provide sharp insight into the degree to which we can anticipate gains in mental health from interventions aimed at improvements in management and governance practices.

These available gains are essentially an estimate of the potential for increasing the net social capital production of the workplace with regard to population mental health. The study of such differences requires measurement at a local level of what is called at a population level an "etiologic fraction" (for a relevant application see: Levi and Lunde-Jensen, 1996).

An etiologic fraction (EF) is the proportion of a disease or state that would not have occurred had a risk factor been absent in the population. While it is possible to estimate EFs (also known as attributable fractions or AFs) through *population level* statistics (see Nielsen et al (2006) and Sultan-Taieb et al (2011) for data and discussion of such methods) the alternative or complementary method proposed here calls for *local* estimates of within-workplace variations of the fraction so that organizations can identify "corporate bests" to which other units can aspire.

In the present context, the pertinent risk factor is certain types of discretionary management and governance practices that are to some degree modifiable, so as in effect, to control risks. The observed range of practices and mental health outcomes in a given set of units performing the same kind of work provides a basis for estimating this modifiability.

In other words, if several units are seen to be doing the same kind of work, the distance between the best performers and the worst performers can be used as a local indicator of the etiologic fraction.
The correct identification and attribution of causal and contributory sources (etiology) is of practical importance because it provides a basis for discussing the allocation of responsibility for reducing the burden of impaired mental health on individuals, families, communities and society at large.

[24] Assessment and comparison of organizational cultures/sub-cultures will also be important in order to sort out management practices from other deeply embedded aspects of the organization – even the best manager will struggle in a culture that is not conducive to psychological safety for such embedded reasons

To the extent that the role of the organization of work can be conceptualized and isolated as a cause of, or contributor to mental health problems, we have in hand the information we need to determine both the degree to which this role can be modified in order to reduce its negative impact (control risk or eliminate the hazard) and also who holds the responsibility for doing this.

In this context it is important to note in advance that governmental agencies may well be found to share this responsibility with private and public employers. For example, governmental responsibilities might take the form of education, training and consultation services in support of employer initiatives to advance psychological safety in individual workplaces. Additionally, workers compensation authorities might consider premium discount incentives for employers who could demonstrate that they were pursuing psychological safety according to recommended standards.

Context: Externalities and Corporate Social Responsibility

There are parallels between the transfer of mental health or harm from the workplace to society and the production of "externalities" from industrial processes that may lead to pollution of the physical environment (Dahlman, 1979).

For present purposes we can conceptualize negative mental health outcomes from workplace conduct as "externalities" defined as outcomes of private employment contracts that affect third parties in adverse ways to which they have not consented, or for which they have not been compensated in some acceptable manner. Third parties in this context are, amongst others, the partners and families of mentally injured workers. While the term "externalities" is used here to connote adverse impacts, it must be also recognized that organizations with more positive mental health strategies can equally exert a positive effect on local communities to the point that they become communities of choice. Workplaces that produce positive mental health outcomes, as many undeniably do, are essentially creating social capital

Responsibility for both physical and mental externalities can be appropriately located within the ethical framework of corporate social responsibility (Wexler 2000) and often has a profound effect on overall employee, corporate, and community sustainability. While the burden of physical pollutants can be measured with some degree of accuracy, the same is not generally true of mental or psychological exhaust from adverse governance and management practices – although organizations that perform well in one sphere (e.g. with respect to psychological health and safety) also are shown to perform well in all spheres (Towers Watson 2010). And while it has become fairly well accepted that there is a duty upon the workplace to abate physical pollution, there is so far less corresponding acceptance, nor yet understanding of a parallel duty to abate social pollution.

This situation appears poised to change. With the rapid development of a broad jurisprudence of psychological safety at work and the parallel development of a compelling body of scientific evidence relevant to the same concept (see Part 1 of this paper) it will become more difficult to avoid the question, to what extent are governors of the workplace responsible for conserving or at least not damaging the precious asset of worker mental health? And to what extent are public health agencies responsible for providing leadership and support to those governors?

Relevant Developments

1. Extended Corporate Governance

Some larger corporations have been introducing or reinforcing 'reputational risk surveillance' functions, the goal of which is to scan for, and avoid organizational practices that could threaten their market position (see for example: Shecter, 2004). Other initiatives take the form of risk intelligent governance with broad mandates to consider a range of previously discounted threats such as those in the psychosocial domain (Deloitte, 2011). As noted above, to some extent this type of function can be seen as a pragmatic manifestation of corporate social responsibility or CSR. In the last decade, CSR has taken a new turning in the direction of what is sometimes called "extended corporate governance" or ECG (Wexler 2000). ECG refers to the inclusion of *social* goods such as employee health within the purview of corporate outcomes about which directors should be concerned.

A growing incentive for ECG is the evaluation of organizational behaviour by credit rating companies such as Standard and Poors (2004) who increasingly look at employee health as a capital asset that, if protected, can influence the long term credit-worthiness, sustainability and market position of a corporation (see also: RBC Financial Group 2003). This trend is also reflected to some extent in the Dow Jones Sustainability Index[25] and the financial industry's Equator Principles[26].

2. Market Connections

It is no news to credit rating companies like Standard and Poors (S&P) that the fate of large workplaces is tied up with the fate of the communities in which they are located. This connection involves the health of not only actual employees but also their families. For example, some years ago S&P delivered two strikingly juxtaposed reports on the intertwined fates of Algoma Steel Inc. and that company's home community, Sault Ste. Marie, Ontario.

Due to Algoma's filing for bankruptcy protection, the credit rating for the company was downgraded from CCC+/Negative/- to D/-/-. Algoma at that time was the third largest integrated steel producer in Canada, employing 4000 local residents and providing pension benefits to another 8000, many whom lived in and around the city, which had a population of approximately 83,000. Given the significant predicted impact of Algoma's bankruptcy and the resultant impending unemployment on the community, S&P placed Sault Ste. Marie's credit rating (which was A-) on "credit watch with negative implications". S&P's reasoning was as follows: the loss of employment created by the bankruptcy would reduce the amount of disposable income available to at least the 4000 families affected by the impending closure. The viability of local businesses would therefore be impacted because of reduced spending.

The City's ability to raise taxes at the current rate and to continue with its program of capital expansion would be compromised by a predicted deflation of property values and by virtue of the fact that Algoma was the City's largest municipal taxpayer. The numerous businesses that were in some way dependent on Algoma as suppliers of goods and services and therefore adversely affected by the closure would be trapped in the domino effect of Algoma's bankruptcy by leading to default at worst and to restructuring at best among some of these dependent businesses, thus increasing the rate of unemployment with its subsequent impact on the community. The cutback to capital expansion projects would mean less future

[25] http://www.sustainability-index.com/

[26] http://www.equator-principles.com/

employment in construction and related trades while *health and social service obligations on the part of the City were expected to increase* (Calder, Ogilvie and Blair 2001; Bill and Khan 2001).

Bleak forecasts on the part of S&P in themselves affect the probability that some of its predictions will eventuate, since credit ratings affect – and are expected to affect – investor confidence. In this case, the confidence of investors was relevant for both Algoma (and any kind of rescue plan that might have been advanced) and the City, which was then expected to become even more dependent on provincial grants to support its tax revenue base.

In short, the Algoma/Sault Ste. Marie situation is a chilling illustration of the process by which the fate of a single workplace can affect not only the economy but also the health status of, and use of health and social services by the local population. It draws attention to the dynamics underlying the relationships between unemployment/job insecurity and health/disability confirmed by Lavis et al. (2001) and it draws the workplace squarely into the framework of social and economic determinants of health that are frequently discussed at more general levels (see, for example, Townson,(1999) for an overview).

It is important to note that the analysts who rate the credit-worthiness of companies and who analyze the reasons for default often point, in their reports, to problems with the governance structures of troubled organizations. They refer in this regard to shortcomings in the actions of boards and management with regard to governing their companies in ways that involve the workforce around crucial decisions concerning expansions, restructuring, new product/market development, diversification etc. (Standard and Poors, 2001; 2004). Even when unions take over the governance of the organization, as in the case of Algoma in 1992, there is no guarantee that this principle of workforce involvement will be honoured or even recognized.

Calculating the Health/Harm Transfer Cost

The background just presented is useful as a framework for interpreting the types of cost estimates that are required in an effort to determine the social significance of adverse conditions of work. For example, the present writer (Shain 2004a) presented figures for the "etiologic fraction" (defined in that case as the proportion of total health care costs attributable to adverse conditions of work that could be prevented) of a limited category of disorders based on a formula provided by Levi and Lunde-Jensen (1996) and cost estimates provided by CIHI (2000). The latter figures refer to avoidable workplace stress resulting in depression, hypertension and anxiety requiring visits to physicians. The etiologic fraction of the total costs in these limited categories as applied to Canada was anywhere between $0.224 and $0.336 billion per annum, based on the data available at that time.

Duxbury and Higgins (2004) using a measure of "High Role Overload" that clearly intersects with the job demands dimension of work stress, estimated that those with such overload accounted for $1.8 billion in physician visits for all reasons, $3.8 billion in hospital stays for all reasons and $0.25 billion in emergency room visits for all reasons, a total of $5.85 billion per annum in Canada.

The only part of these two estimates that are comparable are physician visits. Even then, Duxbury and Higgins included all the visits for all reasons by those with high role overload while this writer's estimate referred only to the avoidable component of costs related to three very specific disorders, two of which are directly mental health related and one of which (hypertension) is indirectly related. Consequently, there may be more similarity between the two sets of figures than first meets the eye.

Neither of the two estimates accounted for costs associated with drugs, Workers' Compensation, use of other health services and use of social services. Clearly, however, the potential scale of the externalities generated by the workplace in connection with modifiable psychosocial conditions of work is significant and far more effort needs to be expended on measurement of their consequences.

Externalities aside, the net cost of adverse health outcomes such as depression, anxiety and substance abuse on *productivity* that are thought to be borne by *employers* is undoubtedly very large (see for example, Moore et al. 1997, Norton 2004, Pratt 2001, Rucci et al., 1998). A conservative estimate of productivity losses alone, based on the prevalence and impact of clinical depression, anxiety and substance abuse in the Canadian workplace was around $11.1 billion per annum in 2002 (Global Business and Economic Roundtable on Addictions and Mental Health, 2002). (See also: Stephens and Joubert 2001.) However, these very productivity losses can also be seen as *social* losses, since they can lead to economic adversity in individuals and families that are reflected in a broad range of costs to health and social service systems.

The actual distribution of the cost burden between potential payers, private and public, is quite problematic. We have little evidence to assist us in the matter of cost distribution. One estimate of the burden of workplace generated, but preventable mental disorders related to excessive stress, places the annual cost in Canada at anywhere between 5.5 and 13.75 billion in present day Canadian dollars (Levi and Lunde-Jensen, 1996). This was based on a projection that between 10% and 25% of total societal costs related to mental disorder were generated in and by the workplace (in other words, the etiologic fraction of social costs attributable to workplace dynamics). The range of the projection resulted from observations that different workplaces generated different levels of mental harm.

More recent estimates using rigorous criteria show ranges for preventable mental disorders in an even wider range and with higher outliers (Sultan-Taieb et al., 2011). This study is of particular note because it used Karasek's Demand/Control model as its basic conceptual framework (see Part 1 of this paper for more on this model).

We do not know what proportion of such harm could be considered mental injury in the sense that it occurred as a result of negligent, reckless or intentional acts and omissions; neither do we know from such estimates what types of containments or offsets should be taken into account when considering the transfer of harm to society. For example, it could be argued that employee assistance programs to some extent reduce the transfer and that some workers even in a high harm transfer organization are beneficiaries of enlightened management practices in certain pockets of the enterprise (Zarkin, Bray & Qi, 2000).

Toward a practical method of estimating psychological risk reduction potential

As noted already, given the acknowledged difficulties of population level research, the determination of this responsibility is best undertaken at a local individual workplace level. We may be assisted in this undertaking by a method of estimation that allows us to compare like units performing like work according to the relative risk they present to the mental health and safety of employees. This method might be called

Psychological Risk Differentiation and the metric used to estimate it might be called the *Risk Reduction Potential (RRP).* Such a method could be used to estimate the gap between the best and worst performers among like units doing like work.

While the existence and extent of this gap must be based on empirical evidence, the incentive to pursue its measurement and reduction is increasingly legal, as noted in Part 1 of this paper. So when the RRP is conceptualized as a function of different choices about the organization of work made by managers and employers, we find that the law is taking a keen interest in how these choices are being exercised. And as shown in Part 1, the law of employment is a growing constraint upon choices that can foreseeably harm mental and physical health. The law can therefore be seen as an indirect influence on population health and hopefully population health policy.

The rapidity of legal developments in this area adds a note of urgency to the need to find an adequate system of measurement and accountability for addressing the abatement of certain types of psychosocial hazards or threats to mental safety. The law itself has various ways of assessing such hazards that in some ways parallel the empirical method of estimating the RRP proposed above. The similarity arises from the fact that some branches of law invoke a type of relativistic community standards test to determine if a risk is reasonably foreseeable when the norms of a given industry or sector are used as a referent for what is reasonable.

The RRP uses community standards too in that conduct within the best performing unit among several like units is taken as an indication of what is reasonably achievable within a given industrial, commercial or service context.

Use of the RRP approach, then, may be a particularly expedient way of addressing psychosocial hazards since it has a direct bearing on legal tests of the extent to which such hazards are foreseeable and manageable in specific settings. In this sense, too, the RRP may be seen as a tool that can be used in the framework of emerging standards for psychological safety at work.

Measuring the RRP

For purposes of this discussion let us assume that short but valid survey instruments exist and can be used to estimate RRP for units performing the same or similar work. In one study for instance, the combined scores derived from such an instrument fell between -2 and +6, a range of 8 points (Shain and Suurvali, 2006). Higher scores reflected less risk to mental and physical health. In this study where five comparable units of a single hospital site were contrasted using measures of the sort described, the authors found scores ranging from +0.40 to +4.20. The gap between best and worst performers was therefore 3.8, which is 47.5% of the total range of 8 points. Otherwise stated, the RRP for the worst performing unit was 47.5% when compared to the highest performing unit. RRPs for the remaining units ranged from 45.3% to 22.15%.

The approach just described is a relativistic, local norm-based approach to the estimation of Risk Reduction Potential. An absolute approach would compare the scores of the units to an industry or sector specific norm using the same metric. However, for workplaces undertaking to address organization of work issues that might be having a negative impact on the psychological safety of employees, the use of local risk estimation and within class comparisons provides useful and meaningful information within a given cultural context. Another advantage of this method is that typically it controls for risk attenuation and

containment measures (such as EAPs and benefits packages) that might be seen to confound more disparate comparisons because like units doing like work in a common organizational environment are more than likely to have the same programs and policies in place.

Toward Psychological Safety Risk Reduction

The results of the study briefly sketched above provided practical direction for planners in one health care setting about how to reduce observed risks to psychological safety arising in whole or in part from the organization of work.

It was determined in this instance that the principal methods available for achieving psychological risk reduction were likely to be through effecting one or more of the following changes, with an emphasis on the third element:

1. a decrease in excessive job demands and requirements of effort;
2. an increase in discretionary job control and reward; and/or,
3. a positive change in perceptions of fairness.

Typically these risk reduction methods are related in that, as noted in Part 1, perceptions of fairness are frequently linked in some manner to the distribution of demands, effort, control and reward within a work group. Interventions that seek to examine and adjust the equity of division of labour within work groups have been shown to offer some promise of success with regard to psychological safety risk reduction (e.g. Shain and Suurvali, 2006).

Summary and Conclusion Part 2

The relevance and feasibility of anchoring broad epidemiological notions about the role of working conditions in the genesis and precipitation of employee mental health problems in a site-specific, organizational approach to the assessment of risk has been described. The purpose of assessing Risk Reduction Potential among like units performing like tasks (as well as like hazards with like risk potentials) was to generate information that could be used to isolate the extent to which employers, largely through initiatives directed at managerial and supervisory practices, could reduce the burden of mental health problems on their own organizations and avoid transferring such burdens to society at large.

This "local" approach using a relativistic method for estimating Risk Reduction Potential (RRP) allows employers to use their own internal best practices as goalposts for planned interventions that they themselves devise.

Regardless of which metrics and which interventions are used, it is imperative that employers seek ways to abate threats to psychological safety that originate in aspects of the organization and design of work over which they have control and for which they are responsible and potentially liable. The work that employers do in this regard will deliver predictable benefits not only for themselves but also for society at large in the form of transferred social capital.

The adoption and effective implementation of a workplace standard for psychological safety can be confidently predicted to have a positive effect on the delivery of this social good.

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Appendix 1

Costs of the Psychologically Unsafe Workplace

These figures are representations of the research evidence cited in the text of Part 1

Figure 1. Psychologically Unsafe Workplace Costs to Mental and Physical Health

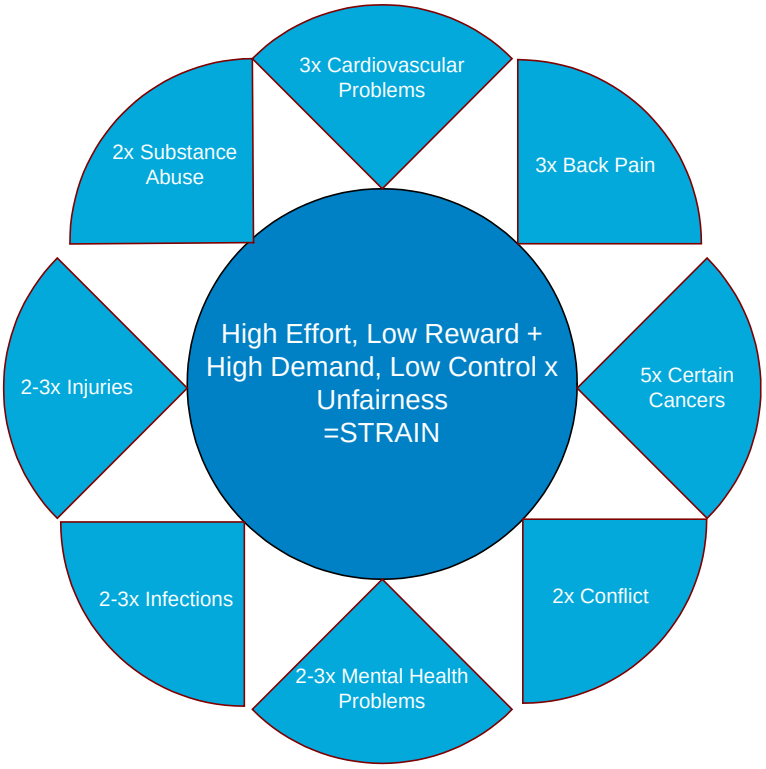
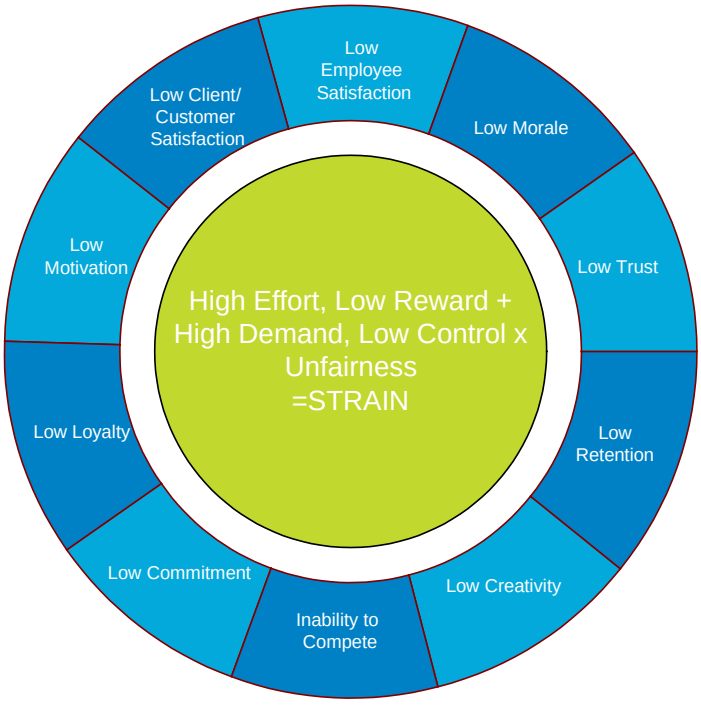


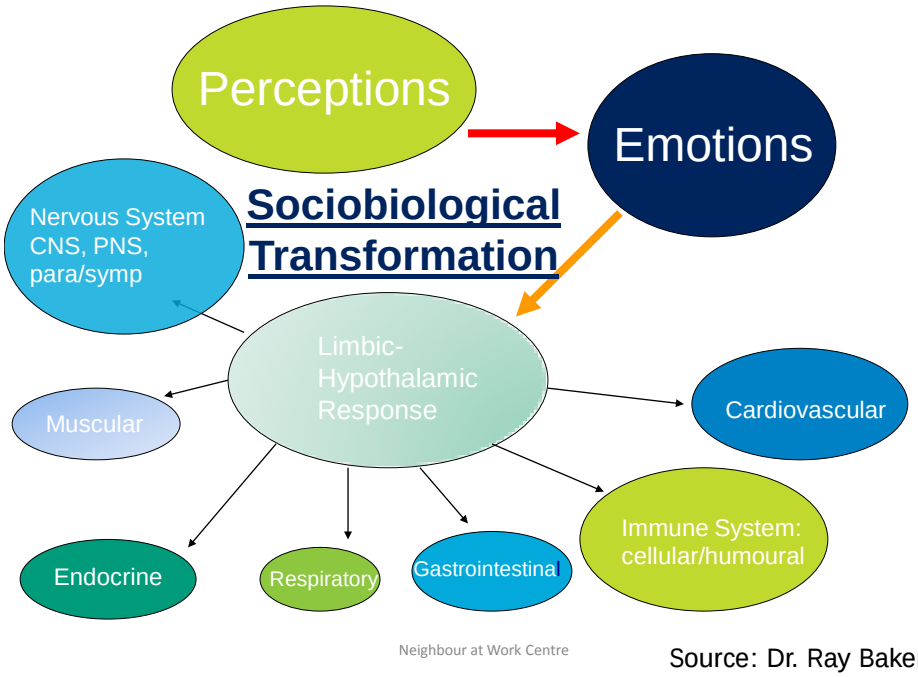
Figure 2. Psychologically Unsafe Workplace Costs to Productivity and Re-generation



Appendix 2

The Socio-Biological Translation

Figure 3: The Socio-Biological Translation (as depicted by Ray Baker M.D)



Source: Dr. Ray Baker

Dr. Ray Baker is medical director of Health Quest, a BC based agency specializing in addictions medicine.