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Policies from Evidence that Risk Starvation Causes Dementias and Depressions and May Contribute to a Range of Other Brain Morbidities

by

Robin Pope

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Bonn Graduate School of Economics
Department of Economics
University of Bonn
Kaiserstrasse 1
D-53113 Bonn

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Policies from Evidence that Risk Starvation Causes Dementias and Depressions and May Contribute to a Range of Other Brain Morbidities

Robin Pope[†]

Abstract

In rich countries, the population percentage under drug therapy for depressions is rising rapidly decade by decade for children, adolescent and young adults with no evidence of any *long* term success for this chronic ailment. There is also in rich countries relative to most poor ones, for each age cohort, a dramatically higher incidence of dementias. This paper takes a fresh look at these evidences of happiness problems that are so much more prevalent in rich than poor countries.

Risks are chances/challenges. Frequent repetition of particular risks of dire happenings can damage brains. Recognition of this has led to coddling of children (into adulthood), coddling in social security measures and coddling in individualistic therapies combined with drugs. The paper presents a new theory that not all risks are bad, that the downside of such coddling is increased prevalence of depressions and dementias. Brains need exercise from what this paper terms whiffs of danger. Whiffs of danger are sets of risks (ie chances/challenges) with three characteristics, namely that the risks are 1) tiny, 2) varied, and 3) high frequency and are damaged by shortfalls in such exercise. To be adequately varied, the risks must comprehend the range for the human brain is developed, and that include physical, mental, psychological, societal and ethical. It terms shortfalls in such brain exercise "risk starvation".

Progressively, sociological changes over the last 100 years, have, for significant socio-economic and age cohorts, reduced automatic exposure to a range of risks, most particularly those involved in social interaction and lifelong ethical challenges for societal contributions. The paper furnishes sociological evidence that the new whiffs of danger / risk starvation theory explains seven epidemiological puzzles left unexplained by our current theories and associated treatments for the demented and depressed. We should switch prevention/treatment from drugs and coddling to reducing risk starvation. Children of today need to have restored to them the little physical and societal chances and challenges that they received in the preTV, pre-computer games, and pre the current era of "helicopter" parents coddling their children even after these children have graduated from college / university and enter the workforce. It is unkind and dangerous for people's brains to treat with drugs, coddling parents and coddling college / university student counsellors, coddling unemployment benefits and coddling old age pensions when these coddles are not complemented with tiny varied chances and challenges in the form of societal and personal obligations to help the community. A task for society is to facilitate opportunities for those groups facing risk starvation, whether through societal pressures and discrimination (eg against the aged), from boring jobs, through lack of education being unable to invent ways themselves to contribute to society when receiving old age or unemployment or disability pensions), to get sufficient whiffs of danger, ie sufficient varied tiny frequent chances and challenges. Above all society needs to construct ones involving reasonably full-scale societal interaction to counterbalance the minimal societal role afforded to those constantly protected, or who are currently enabled to limit their social interaction to the indirect restricted forms of watching TV, surfing the net and playing computer games. Assistance in learning the German language for non-native Gerrman language origin children for instance could be facilitated and aid in future worker productivity and integration and would be within the ability of many of the risk-starved.

A further task for society is to reduce the bias toward pharmaceutical solutions in research and clinical work by assessing government grants exclusive on articles published in journals receiving no pharmaceutical industry support via advertising or other means and by partitioning eligibility of research funds such that portions go to researchers who undertake substantial, and those who undertake virtually total isolation from the pharmaceutical industry. Virtually total needs to include to the extent of from the beginning of a career and with a commitment for multiple years into the future, of no social contact even in the form of camaraderie over free lunches, diners and so forth in light of human's being social animals who bond strongly.

Keywords: brain morbidities; brain exercise; decision making; dementia; depression; environmental factors; risk processing; risk starvation; whiffs of danger; frequent, tiny, varied chances and challenges, damaging social security welfare, socio-economic changes, societal interactions, societal contributions, pharmaceutical advertising' pharmaceutical sponsorship

[†] Bonn University, ZEIb, Walter Flex Str 3, D-53113 Bonn, Germany
Tels+49(228)731887,+49(228)4462880, Faxes+49(228)731809,+49(228)4462881, Robin.Pope@uni-bonn.de
Experimental Economics Laboratory: http://webserver.econ1.uni-bonn.de/

Introduction

Mental illness can be said to be an extreme form of unhappiness. In many rich countries, the proportion being diagnosed and treated as mentally ill has been rising dramatically. Mental health however has not been one of modern medicine's major success stories. Success has been so elusive that outcome performance in the mental health arena is essentially omitted from the British National Health pay performance measures. Despite a massive upsurge since the 1970s in research and treatment with drugs, for the most common mental illness, depressions, there has been virtually no progress at all as regards long term success. To the contrary, the depression incidence is growing rapidly in many rich countries, and affecting younger and younger age cohorts when previously depressions had been primarily a post college age illness. Depressions are growing at a rate that led a World Health Organisation Report to predict that by 2020 it will be after heart conditions, the primary illness disability burden in the world. Our inability to reduce, even to contain the incidence of unhappiness from depression and other mental health afflictions suggests that modern medicine has been on a false tack. This paper will put the case that indeed we need to change the face of mental health research and clinical practice. The current expensive and dangerous endeavours can actually be making the situation worse. They are grounded in a perspective that ignores why people have brains, namely to process risks, that a human is a social animal, and that human brains need risk exercise at the individual and at the societal level in an environmental as sensually, intellectually, physically, psychologically, sociologically, ethically and spiritually as that in the wild in which the current human brain evolved.

The notion that risk is good for brains and thus for health and happiness is quite foreign to our social engineering endeavours. The development of the artificial intelligence and cognitive science disciplines has led us to think of brains as processing information. But this has not led us to consider the risks underlying the benefit of information, nor the risk processing involved in identifying information. We imagine that somehow the acquisition and benefits from information can happen in the riskless world we seek to engineer.

Thus our Socio-economic policies for the general population are typically devised under the assumption that a good society eliminates risks and a risk-free existence generates healthy bodies and brains. Treatments for the mentally ill are likewise typically devised under this assumption. Parts 1 and 2 of this paper explain why this assumption is false, why the socio-economic and treatment coddling damages brains. Part 3 surveys evidence on how policies and treatments based on efforts to eliminate risk have accelerated the incidence of dementias and

depressions in rich countries. Parts 4 and 5 canvass socio-economic and therapy policies that could reduce or eliminate the brain damage caused by our current mistaken coddling policies.

1 Risks

The future is risk-free, certain, and the brain has nothing to do unless there are possible discoveries. Risks arise from stimuli causing a soft-wired animal to consciously, or more often unconsciously, contemplate its possible discoveries. From encountering a problem, there are successive anticipated discoveries, successive anticipated changes in knowledge ahead.[1] Possible discoveries can include nice surprises, not merely neutral and nasty ones. Ie risks include nice chances, not merely nasty challenges.

A risk processing brain enables: a) register of sensory signals; b) distilling information from these signals; c) analysing the information; and d) deciding. Soft-wired animals have the brain plasticity to reason / learn from experiences – to become better decisionmakers. See figure 1 where a soft-wired animal, a tortoise, faces a succession of "Nows" that yield a succession of risks, decisions[2] and anticipated changes in knowledge ahead.

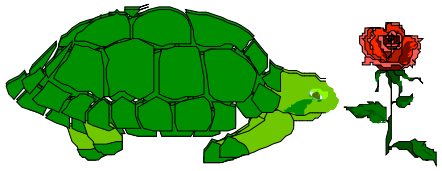
1st "Now" 11.50am **Surprise**	2nd "Now" 11.52am **Risk**	3rd "Now" 11.53am **Choosing**	4th "Now" noon **Choice**	5th "Now" 1pm **Surprise**
 new thing - could reach it by 1pm.	Conflicting Discoveries food not	Conflicting Acts go to it stay put	Decide to Discover start walk to thing	Nasty ouch - thorns, not food

Figure 1:
Risk is Anticipating, Consciously or Unconsciously, a Change in Knowledge — A Discovery

In panel 1 it has resolved its sensual risks and decided it sees a new thing. There was quite a deal of risk processing for its eye brain in reaching this decision!. In panel 2 it has decided that the new thing is either food or not food, but faces the risk of not knowing which. In panel 3, it has decided that it can go to it or stay, but faces the risk of not knowing whether it will decide to go to it. In panel 4 it has decided to start walking,

but still faces the risk of whether the new thing will turn out to be food or not. In panel 5 the succession of risks is passed: it has discovered it was thorns, not food.

2 Whiffs of Danger

For a set of risks with the three characteristics of (i) great variety, (ii) high frequency, and (iii) each individual risk tiny, we here coin the name whiffs of danger (of chances/challenges). What is a risk set with these three characteristics is subject to individual differences. Further experience, including education and culture alters which risks are perceivable, and of those perceived, which are experienced as tiny, even too tiny to be whiffs, and which are experienced as alarmingly huge, too large to be whiffs.

2.1 Deficiencies in Whiffs

In a modern city in a rich country behind the sensually abstracted walls of offices / homes seated on a chair, we lack the tiny *sensory* and physical risks faced each nanosecond by the tortoise in figure 1 and by our ancestors who lived in the wild and so had to check where they put their feet and whether the item ahead might be food or water or a poisonous thorn. The variety and frequency of tiny intellectual, ethical and social risks that we rich moderners encounter are also often far below those of earlier environments in which our brains evolved. This is because we have modified our environment to make it safer, more "controlled" lives, and in so doing deprived some sub-groups of whiffs of danger.

2.2 The Whiffs of Danger Theory / Policy

For where a person lacks whiffs of danger, this paper coins the name risk starvation. Whiffs of danger enhance brains, risk starvation damages them, and some of that damage may be alleviated / reversed by injecting those components of whiffs of danger that an individual lacks. Under a psychoanalytic therapy, the sufferer has the risk (chance/challenge) of analysing her own thinking. Likewise other psychosocial therapies implicitly introduce sufferers to risks, and thus have some overlap with whiffs. Valuable "good" stress theories have been propounded to counterbalance *exclusive*

emphasis on stress as "bad".[3] The whiffs of danger policy implements a specific set of risks that constitute a novel, and more precise concept of "good stress".

Emotions and associated cognitive anticipations affect which risks (chances/challenges) get attention, which decisions get considered, and which decision is chosen.[4] Good decisionmaking from a healthy brain is aided by an *appropriate spectrum* of emotions and associated cognitive anticipations. From Table 1, whiffs elicit such an appropriate spectrum in that their three defining characteristics aid realistic learning.

Table 1: The Three Characteristics of Whiffs of Danger that Aid his Decision Making

each risk is tiny	1 Other things equal, he has a high enough survival probability to warrant him learning. 2 He is not too emotionally distracted by a great chance, or a great danger, to act and learn. 3 Among tiny risks there is a sufficient proportion that are of short enough duration for him to get the rapid feedback that facilitates his discerning of actual cause-effect chains and thus his realistic learning.
great variety	4 He encounters the varieties of decisions for which his brain is designed which in the case of humans include sensual, physical, intellectual, ethical and social risks, each of which needs practice. 5 Variety avoids the physiological adverse stress build-ups that occur when his risk taking is concentrated on too few aspects of his life, as when a depressed person gets nearly all his risks from social gambling. 6 Variety increases the likelihood that he finds ways of slaking his appetite for risk and novelty and brain exercise without needing to choose foolhardy acts. 7 There is a degree of independence amongst the external conditions. This aids in generating a mix of nice, neutral and nasty surprises, and such a mix contributes to him having emotional balance. It precludes the "learned helplessness" of Martin Seligman's dog whose laboratory set-up artificially excluded this mix and thus excluded the dog from discovering that taking risks sometimes brings success, and thus hope remains.
high frequency	8 The cavalcade of new chances / challenges deters him from being obsessed by any individual *past* nice or nasty surprise, or on any individual *future* chance / challenge, and thus aids his overall perspective. 9 With many new tiny risks to attend to all the time, he does not cling to old higher aspirations for too long if encountering bad luck. Eg take someone who anticipated a life-long high paying prestigious post, but then is dismissed after a year. The high frequency of whiffs help prevent him getting stuck with gloom and depression and perpetual unemployment through failure to seek another job as could happen if his family or the unemployment system is too financially supportive. Instead, if he is absorbed in enough other little risks (chances/challenges) that he faces, these distract him and help him adapt over time to a feeling of equanimity with his new situation. 10 The many risks recently encountered keep his brain exercised. 11 The many risks encountered entice him to filter and aggregate enough and thus deter him from becoming too pre-occupied emotionally or intellectually with individual risks and as a consequence too focused on the danger side of each risk, or its chance side 12 The many risks recently encountered furnish him with information from an appropriate spectrum of nice, neutral and nasty surprises with their associated risk-based emotions, and thus assist in realistic learning. 13 Note that what is a high frequency is specific to the individual. It is *not* a higher frequency than, given his risk filtering capacity, enables him to process through to effective action a satisfactory number of risks. Where he has an inadequate risk filtering capacity in a situation, his risks frequency is for him ultra high. He is then aided (eg in getting out of depression) by reducing the frequency of his risks from ultra high to high. One means of bringing the frequency down from ultra high is for him or others to impose more structure on his life. This deletes *some* tiny risks (attractive chances, challenges) to enable him to analyse other tiny risks through to action.

Uncovering the role of whiffs of danger is partly a matter of re-coding past studies for the implicit risks. To illustrate, transgenic mice were created that develop a neurodegenerative syndrome that closely models Huntingon's disease. Those given an environment described as 'enriched' with play items changed every few days, enjoyed

spectacular delays in the onset and progress of the degenerations. As was recognised, the play items add exercise.[5] What passed unnoticed was that they add something else, small varied risks —whiffs of danger – without which the mice environment is virtually risk free — a predictable boring mice lab.

People, not merely mice in a boring laboratory, need whiffs and can suffer risk starvation.

3 Dementias and Depressions

3.1 The Current Research/Treatments Thrusts

These are frequently described as genetically originating chemical abnormalities in the brain. The focus on a genetic origin has happened over the last two decades even though research has yet to connect genetic distributions to epidemiological features of these two morbidities, and in comparisons of normals and sufferers, less than 50% of each morbidity is attributed to genetic predispositions, with the unexplained residual of over 50% attributed to environmental factors. This genetic focus has made sufferers readier to admit their morbidity as nobody can be blamed for their genes[6] – and fostered research that might enable genetic modifications in the future.

The genetic focus has drawbacks. First, it has deflected attention from discovering the environmental factors even though these are the major (greater than 50%) causal factors. Second it has fostered "bandaid" emergency treatment of the chemical imbalances themselves. As therapy, drugs are not merely used in emergencies, instead have risen to centre stage. This is despite mixed evidence on whether drugs make a net contribution, and despite user groups, on examination of the published medical evidence, frequently advising against drugs.[7] The main non-drug treatments are protection from incest / domestic violence and psychosocial activities / therapies.[8]

3.2 Failure from Current Policies

In rich countries, dementias are expensive (informal carers, lost productivity and health services),[9] as are depressions with typically a severe relapse within four years so that the morbidity is chronic.[10] Over the four-year haul, treatment improvement in excess of placebos is modest,[11] and for those on drugs, any improvement is muted by undesired serious side-effects. Dementias escalate and despite multiple new generations of drugs, depressions have become the biggest intellectual disorder in many rich countries, and according to one forecast will become by 2020, after heart disease, the leading cause of disability worldwide.[12] Epidemiological data identifies the policy gap.

3.3 Risk Starvation the missing Causal Link

In discerning epidemiological features of dementias and depressions, problems are that classifications vary and are contentious; preclinical stages are undetectable and reporting is unsystematic.[13] Nevertheless the 11 epidemiological features of Table 2 can be discerned.[14]

Table 2: Groups Prone to Dementias and Depressions

Dementias
1 the high prevalence group is the elderly, with the prevalence increasing for each five year age cohort
2 the age of onset varies by more than 80 years, ranging from the early twenties (primarily uneducated, poor, unemployed), to never (especially for those continuing with hobbies and other cognitive activities)

There is in addition quite a bit of evidence in rich countries of:
3 a decline over time in the age of onset, and
4 the prevalence being more than double that for people in the same five-year age cohort in poorer countries.

Depressions
In rich countries the prevalence is higher:
5 in peace-time
6 for those in lower socio-economic strata
7 for females, and
8 occurring at earlier ages.

There is also quite a bit of evidence that the prevalence in rich countries is:
9 substantially higher than in poor countries,
10 rising over the last century, and

Comorbidity of Dementias and Depressions
11 is between 10 and 50% depending on the definition used for each morbidity.

Only four of these groups of sufferers get help from our current treatment policies, leaving the other seven unexplained, Table 3.

Table 3: Groups Aided by Current Theories / Policies

Feature	Theory / Policy of Why
Dementias 1	age predisposes
Depressions 6,7	prior dire happenings in the form of incest and domestic violence predisposes and these two groups encounter these more.
Unexplained 2,3,4,5,8,9,10,11	

A whiffs of danger policy complements our current policies,[15] allowing us to grapple with those other seven sub-groups, and indeed helps all 11 groups of sufferers, Table 4.[15]

Table 4: Groups Who Could be Aided by Whiffs of Danger Injections Reducing their Risk Starvation

Feature	Details

Dementias	
2	Jobs especially the more challenging jobs of the educated, and hobbies and outside activities when retired) provide whiffs of danger
1, 3 & 4	Rich countries over time gave the elderly and poor state welfare plus (often) forced retirement which avoids some facing *dire* risks like starvation and premature death. But state welfare/forced retirement deprive many in these groups of the *smaller* risks of paid employment or convincing those in their informal network to support them. Further carers often accentuate the elderly's risk starvation via precautions to reduce falls.
Depressions	
5	In war-time there is enough stimulation for most civilians to obtain their whiffs of danger
6,7	The inferior status of the poor with boring jobs and many females with decisions taken by superior males deprives them of enough variety in their risks (chances/challenges)
8	A century back in rich countries, few children lacked the small varied frequent risks of daily physical games coupled with the small varied frequent risks of either crowded city activities (apartment dwellers) or exploring nature (those in the suburbs and rural areas). Few adolescents had their own bedroom in which to spend long hours bereft of a rich variety of sensual stimuli. But from the 1950s children began less risky activities of watching TV indoors, losing most of the sensual, social and physical interaction chances and challenges that previously gave them a wider variety of tiny risks. Over the last decade children are losing even the little risks of muted social interaction in communal TV watching and the limited amount of sport continued after TV arrived as they spend time in solo computer games. The increase in parents driving their children to educational events operates in the same direction – depriving children of the whiffs of walking bicycling or using public transport.
9,10	Increases in the incidence of risk starvation for the poor and women are as follows. In rich countries a century ago, the cityscape afforded more social, visual, aural and olfactory risk processing more akin to that found in poor countries today. The deck entrance functional architecture apartment complexes of the 1960s and more recently are deemed unenticing for the whiffs of danger arising out of social interaction with neighbours. After controlling for other factors, residents of such complexes have a higher chance of being depressed.[16] Prior to functional architecture, buildings had intricate shapes and surfaces. Public areas were generally used, and involved interactions with people and animals carting goods, spitting, urinating, defecating in and out of open sewers, chucking large garbage items. Many lower echelon adults have today, as a century ago, risk starvation in their boring low challenge jobs, but then, unlike today they had adequate whiffs of danger from the varied small frequent risks of subsistence, since little of today's social welfare. Few husbands could afford non-working wives in suburban lab cages minding two children, facing that narrow range of risks of child minding and housekeeping instead of the normal range of risks of adults interacting in the wider world. Few older females lived alone.
11	Both conditions arise from risk starvation.

* Less than about a sixth of the lower incidence in poor countries stems from their shorter life after dementia. More may be accounted for by few surviving in those socio-economic strata with higher dementia rates, namely the lower strata.).

It may be that when, for sufferers of dementias and depressions, we rectify their brains' exercise deficiencies, we obtain substantial long term remedial success. It may even be that we can take preventive measures of giving brain's enough exercise processing whiffs as to largely avoid these morbidities in the future.

4 Policies on Introducing Whiffs (Chances/Challenges)

4.1 Individual Therapies

4.1.1 softly softly initially

In selecting whiffs, remember that risks are in the perception and capacity of the sufferer. Begin with individual therapeutic injections of sensory, physical, mental, social, ethical risks that are likely to be too small to be whiffs. Only later should we increase the risk dosage, after we gauge that what dosages we initially selected really were too tiny to be whiffs.

In selecting the mental varieties of whiffs, be aware of professionals' tendency to overestimate others' mental skills. Most people, as including normals – those without brain morbidities – are incapable of what professionals think of as simple reading and mental arithmetic tasks.[17] Setting non-professionals such tasks is to set major mental challenges coupled with massive social challenges – how to avoid the embarrassment and shame of admitting that one is essentially innumerate or illiterate or both? If the sufferers have angina and coronary diseases they will be prone to silent myocardial ischaemia when confronted with these major risks, meant to be minor ones.[18]

4.1.2 ascending challenge from a low start

The first steps of injecting the whiffs need involve merely ascertaining the sufferer's typical day, then prescribing a missing whiff – a little physical, social, mental or ethical challenge. This whiff might be a walk or going to an aerobics class, or one from the repertoire of tiny challenges entailed in holistic and some cognitive behavioural therapies. As the sufferer's risk processing capacity grows, increase the difficulty (challenge level) of the risks, and their variety and frequency.

For the younger depressed who are literate, some of the whiffs can be attained by vicariously their being set to read biographies in which people went through to success in many of their ambitions despite their successes being interspersed with massive failures. They may then empathise as they read of mighty risks others took, some of which turned out horribly, some well. Thereby these depressed receive whiffs that help them gain hope when so many of the coddled young children and adults of today were

too protected from even tiny nasty surprises, and so never developed a capacity for grappling with life's bigger risks.

4.1.3 Healthy Challenging not Unhealthy Dependency

Understanding sufferers' need for whiffs (chances / challenges) can avoid the problem of carers generating unhelpful dependency through a belief that the primary need of sufferers is to receive protection. McCord found in a thirty year follow up of juvenile delinquents randomly assigned to a social worker or not, that those assigned such a helper were exceedingly grateful and perceived the help to be invaluable. But the objective outcomes of crime, time in gaol, jobs, marriage, health, were the reverse.[19] This suggests that whiffs injections received by sufferers as part of normal societal activity, not ones designed specially for them, may have advantages, despite not being "tailor made".

4.2 Changing Society to Reduce Risk Starvation

We cannot anticipate all the effects of societal changes we initiate to inject whiffs into the risk starved. We should begin with varied pilot field experiments making incremental changes on limited communities who are enticed to participate with government tax concessions, then do a preliminary assessment of these before implementing major uniform nation-wide measures. Many of the changes may be naturally incremental, arising out of media discussions of the risk starvation faced by sufferers. These can gradually change community attitudes and norms in the home and work place and result in non-government organizations introducing whiffs programmes for selected groups.

4.2.1 Parents, Schools, College Counsellors

Our changing culture and social security measures have resulted in rich countries in a progressive increase over the last century in the proportion of children born to the socio-economically deprived. In this strata, a prime problem is neglected children, children left with inadequate sensual and human stimulation in their early years, in recent times,

with mainly TV and computer games as company. Here programmes such as head start, and earlier forms of extensive maternal support from the onset of pregnancy are needed to enable happy health children with enough whiffs in their early years for normal brain development.

Most of the population in rich countries can now be classified a middle class. There are doting parents with on average less than two children a couple. In some of Britain's former colonies, the US, Canada and Australia, among these middle class parents, there is a reverse problem generating risk starvation for the children, that of excessive coddling. (The author has the impression that this problem is much more minor, perhaps non-existent in Europe.) In these former British colonies, children no longer walk, bicycle or take public transport to school, sport and social activities and mess around in parks away from adults. Instead parents drive them to adult supervised activities being obsessed at minor statistical risks of abduction, rape. Abduction, rape of juveniles are minor risks according to the statistics compared to drowning in the family swim pool, being run over by Daddy backing out of his garage and so forth. The coddling continues in other forms through college (university) and into employment in this age of helicopter parents, with their children frequently living at home for extended portions of their adult lives. Associatedly, where spouses find each other less than fuflilling, a child is spousified into a safe family role, rather than taking on the little chances and challenges of a more independent life. Children whose parents protect them so assiduously from the minute risks of being abducted, from many of the stresses of school and college, are likely to be overwhelmed by the normal set-backs that intervene between joys and successes. College and university counsellors are not doing their students a service, by being too empathetic when a student finds facing exams stressful.

Educational classes and media might play a role in containing this coddling. The need for risk taking for happiness, self-confidence and brain development might be presented to parents with illustrated experimental findings on the danger of coddlings. Potential Parents could be challenged to re-think whether they are willing to let go, or whether

they will be pathologically scared to have their children out of their sight. Currently neighbourhood pressure is the reverse in these countries. Parents are telephoned by their neighbours if seen to allow their children and other children to go alone in the neighbour hood park and so forth. Information is needed that over the decades the incidence of pedaphaeliac attacks has been dropping, whiles in English speaking countries, the perception has been of its rising. In order to overcome the media's play on parental emotions by reporting any child abducted virtually anywhere in the world, the information needs to be disseminated via government channels that coddling prevents healthy development of children.

Parents might even be required to attend information classes on the statistically identified common causes of death and injury to children. Such classes should include the information that lack of all the small risks involved in physical exercise – including walkign to school –being replaced by supposed safe TV and computer games is generating extensive dyslexia in reading and writing. The modern child often lacks the requisite muscles for keeping the head sufficiently steady for these intellectual activities. Such classes should also explain the risk of mental illness through overly coddled children not learning to practise decision making, ie risk processing. The reduction in the number of children per household seemingly gives many parents more time to worry, and currently the media directs worries in perverse directions toward excess coddling. Such classes can assist parents to worry about actual problems such as how t ween their children away from computer games, and TV and video watching and out into taking social, psychological and physical risks of playing with their peers and building up and adequate brain for satisfactorily interacting with others.

Schools and universities should also play a role in overcoming coddling. Teachers can be educated to spread the news that some stress helps growth, and that employers, families, society needs people who can go through downs without losing heart. Students should be informed that it is good to feel some fear before an exam and not rush to the doctor for a deferral.

In addition, schools and universities should play a role in ensuring that the range of challenges facing the young is broad enough. They need to counterbalance the messages from the media that everyone is capable of being a top athlete or a doctor and being ultra rich. Teachers need to focus on the human's capacity to contribute in many dimensions to society by lending prestige to a range of other occupations, and providing incentives for school children to discover how to co-opt their fellow school friends into forming short or long term organisations to improve little and bigger features of their school and community life. Whistleblowers could be invited to give presentations, to enable the young to see that people can go through social terrors of being an outsider to their own group. Locals who have made community improvements can be invited to describe the steps that they took. Local notables can be invited to describe some of their failures and the lessons that they learned from these. Literature courses of school children can be selected to give students an understanding that in life typically failures and successes undulate, that exploring is often needed to discover one's niches of contribution in life and of diverse ways of contributing to life.

4.2.3 increasing the contributions of the young adults

Whiffs of danger (chances / challenges) in the form of to help others is fundamental to mental health in social animals like humans – fundamental life-long. But as itemised in Table 4, societal changes over the last century have removed many of the carrots and sticks that facilitated people in obtaining lifelong these whiffs. We need to reinstall them by formal government or informal means of recreating a culture of contributing something no matter what our situation.

Many young adults have missed out on the confidence building whiffs of earlier generations educated in dealing with set-backs. This is partly because of the coddling, partly because of society's growing affluence and in rich countries, over a half century with no war fought on home soil. The upshot is young adults who are prone to depressions and pre-clinical dementias after their first big disappointment, often as regards employment dreams as job competition has accentuated, and finding that they can retreat into contributing nothing. Governments, unions, other non-government

organizations, spouses and parents can combine to provide and enforce a structure of young depressed adults contributing to the community. This can take the form of concerned people learning when their current contract is scheduled to expire, and identifying paid and volunteer jobs available, and of encouraging people to list with such an employment pool. Relatives can be alerted that if, on leaving school their spouse or child's dream job does nor transpire, or an anticipated contract renewal does not take place it is dangerous to leave this young adult living off their beneficence.

While job searching, the distraction of at least part-time volunteer work with its whiffs of danger is helpful. Those tiny chances and challenges of interactions with employer and the employer's clients, can be vital to that young person gaining perspective, hope, as against gloomy obsessions.

In school and university a culture should be created of people being expected to be 1) members of at least one volunteer society, and 2) to discover for themselves eight hours of volunteer work to do each week for that society in any period in which they are not contributing taxes – including in retirement. At school and university, part of a grade can be a volunteer praktikum (time working for the society) with an associated paper on how to that society's aims can be more extensively implemented with more volunteer manhours. This whiff of having a grade on one's entrepreneurial ability in the volunteer sector can help with one common problem of the young depressed and demented, limiting their challenges and chances to individualistic ones, when as social animals, their brains are designed to grapple also with chances and challenges of their broader society.

4.2.4 the contributions of the elderly

Injecting obligations whiffs of danger into retirees not yet demented or depressed (as a preventive measure) and those who are already demented or depressed (to alleviate or slow the progress) depends on the elderly and others (carers, taxpayers) accepting the consequences. The consequences are a higher mishap rate as the trade-off for better brained elderly able to contribute more.

One whiff suitable as a preventive / remedial measure for the retired and also for young depressed/demented people not working full-time is to aid immigrants' grasp of the

local language. This yields the community higher productivity from immigrants, especially their children, who need good native language skills to obtain *good* jobs (and contribute to public health and other services by earning enough to pay *substantial taxes*). Another whiffs would be supervising fine floral patterns of biodiversity in public places, something labourwise far too expensive for public parks services. Retirees are over-represented in gardening clubs, which have higher artistic information than the normal "landscape" architectural firm, and could educate younger volunteers in historical and new designs and plants.

4.3 Contributions from the Community

For many the home, school, workplace environs lack whiffs. Time in nice pre-school, after school or after work places with an array of little sport, adventure, social and cultural challenges might be instituted as a rehabilitation / preventive centre by the local community which loses taxes from a proportion too depressed or with too much pre-clinical dementia to be fully gainfully employed.

Governments may facilitate entry of the depressed/demented into paid work with subsidies to firms who make *net* increments to their full-time equivalent workforce in the form of those previously out of the workforce as this will involve a proportion of those depressed/demented or at risk of becoming so through excess spare time. Governments can reduce the risk of depressions and dementias developing in the longer term unemployed by requiring their participation in courses or in community programmes for nominal (or even no) payment in addition to their unemployment benefits. In this regard, Germany's one Euro extra an hour scheme has been warmly welcomed by many unemployed keen to contribute to society.

Governments can also facilitate by requiring pension funds to modify the work disincentives currently built into the monthly amounts retirees and their dependants receive. As a preventive measure, management and labour representatives should

negotiate to attain appropriate levels of whiffs in the workplace, treating this as a matter of worker health along with fresh air.

4.4 Health Services Inputs

Changes in the mental health curricula given trainee clinicians can enable them to more fully contribute in introducing whiffs of danger. Health insurers can assist the switch to whiffs therapies by increasing the ease of sufferers' access to cheaper general challenge activities and restricting access to questionable drug therapies.

4.5 Research

We need research on the topics itemized in Table 5 for facilitating the introduction of whiffs, and ascertaining whether whiffs injections would help in brain morbidities besides those of dementias and depressions. Our methods should be case histories on whether reductions in particular sorts of risks preceded these brain morbidities, and experiments on injecting particular individual and societal packages of whiffs of danger forestall / alleviate conditions. As with the mice described in section 2, people need a *cavalcade of new* little chances and challenges. In our research agenda therefore, we need to include checks that we have altered sufferers so that they create these *indefinitely* for themselves, or altered their environments so as to *perpetually* provide these. Thus in designing studies, we need a proportion that enable follow up at five, ten, even as in the McCord study, thirty years hence.

even as in the McCord study, thirty years hence.

Table 5
Research Questions

1	What are the different dimensions of a risk?
2	What are individual differences in when risks in the environment are predominantly are big for a particular sufferer and thus cause her risk starvation.
3	How do we identify better and more quickly when the depressed suffer risk starvation from the risks in her environment being too small or too numerous or too few through her inability to filter her risks down to a small enough set to process through to effective action?
4	Does risk starvation underlies brain morbidities such as strokes, epileptic fits, panic attacks and compulsive gambling. There is case study material suggesting that this could be so.[20]
5	Which are the better political / social / psychological ways of altering our society (that we re ever changing) so as to reinstate the once present whiffs for all societal groups, and to discover which sets of carrots and sticks work better for injecting whiffs into those who are already suffering or at risk of suffering from depressions and dementias from risk starvation.
6	Is it better to tackle brain morbidities primarily through societal changes, not via individual therapies so as to avoid the sorts of over-riding adverse effects that McCord discovered from social counselling?

5 Policies on Research directions and Funding

5.1 Reducing the Pharmaceutical Biasses

The slant toward drug solutions should be reduced. This would free up research funds and the imagination and time of scientists for studying better means of injecting whiffs of danger and ending risk starvation.

5.1.1 Partititoned Funds to Researchers

Pharmaceutical companies advertise. They also gift with salaries or extras such as school fees for their children or family holidays, or social events like subsidising conferences or lunch at a presentation of new drugs. Research reveals that 1) contentless pharmaceutical advertisements sway clinicans (and there is no reason to anticipate that researchers are miraculously unswayed),[21] and 2) bonding biasses arise from even trivial gifts of lunch and associated socialising, biasses favourable to the giver at a cost of the wider public (as regards research topics and findings reported). For government funds, we term this corruption. Some intercourse between some in government and some in pharmaceutical firms – and thus some corruption – is not merely unavoidable, but desirable. At present however, the corruption level is too high.

To reduce the corruption impact to a more appropriate level, a portion of government research funds and positions on research assessment committees should be partitioned off to those who undertake to abstain for a period of years from any form pharmaceutical sponsorship, or even fraternisation with this sector. These non-fraternisation conditions for an ethical hands-off objective evaluation of pharmaceutical products has in fact been implemented at one research institute, Monash's Centre for Health Economics. It is therefore feasible, even without government assistance to have some non-fraternising researchers. Some of those researchers have since moved to other institutes and areas of researcher. On the author's last visit to the centre, May 2005, Lilliana Bulfone was continuing with this ethical policy in her pharmaceutical analyses. Partitioned funds for non-fraternisers provides more profitable career opportunities for

such scientists concerned to promote the public good. The partitioned funds also provide a lighthouse, one calling scientists to consider their public duty, and to stop being innocently ignorant, believing that despite pharmaceutical fraternising or even sponsorship, their research is unbiased.

5.1.2 Journal Objectivity

Currently eminent journals are financed partly by subscriptions, partly by advertising revenue from pharmaceutical companies. Their acceptance criteria are two fold: 1,scientific and clinical significance; 2) within the topics currently receiving government medical research funding; and 3) a pro-drugs bias. The conditions imposed for getting government mental health research funds can reduce the pro-drug bias. In grants applications, there can be limits: 1) on the proportion of articles citable from journals dependent on pharmaceutical advertising revenue; 2) the weighting given to these pro drug-biassed journals in determining excellence; and 3) complete exclusion of articles in journals with drugs advertising who do not follow a balanced policy of a non-pro-drug paper for each pro-drug paper published. It can be expected that journals will then attempt a balanced policy, fearing loss of prestige if uncitable in government grants applications.

It might seem that an alternative leader could be PubMed refusing to list abstracts from journals that do not adhere to such a balance policy for countering bias. However, if PubMed adopted the new criteria ahead of general opinion, another abstract service might replace its role. Government funding has in this respect more anti-corruption leadership capacity. The cost to research institutes in setting up new more objective journals and having some non-pharmaceutically sponsored conferences should receive government funds. At least, in the era of the internet, it is less expensive than previously to produce (electronic) journal articles without advertising revenue. The government might cover some of the extra objectivity-in-science funds from medical practitioners and other health carers. Their educations were partly at state expense, and it is common for industries to furnish some of the funds required for industry research

whose fruits typically raise the demand for the services provided those therein employed.

5.2 Increasing the Disciplinary Spread of Research

In researching appropriate ways of injecting whiffs we need neurobiologists with the interdisciplinary skills of co-operating with psychologists, sociologists, educationists, even statisticians, philosophers of science, wisdom philosophers, pastoral theologians, for assessing sets of risks for their characteristics as regards the range for which our brains are designed. We need too those able to bring together unions, employers, school teachers, parents, managers of old-age homes. Through discussions with these representatives of community stakeholder groups, researchers can discover what may be politically feasible, and of these those likely to be better.

The current set-up for allocating funds is biased against interdisciplinary research. Ethics committees too readily judge it unethical for non medical specialists to perform some activities. Committees too readily adversely assess contributions from "outside" disciplines as unscientific. To overcome these anti-interdisciplinary biasses, a portion of the mental health research budget should be reserved for interdisciplinary projects, including some comprising entirely non-medical personnel.

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