Science advisory report on effective interventions in mental health promotion and mental disorder prevention

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Science advisory report on effective interventions in mental health promotion and mental disorder prevention

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INTRODUCTION

The Ministère de la Santé et des Services sociaux (MSSS) gave the Institut national de santé publique du Québec the mandate to produce a science advisory report on the interventions to advocate in the areas of mental health promotion and mental disorder prevention. This request was issued following recommendations made by several partners during the consultation on the MSSS's *Plan d'action en santé mentale 2005-2010, la force des liens* (in 2005)[1] and in the context of a review of the provincial public health program (Programme national de santé publique) in terms of mental health. These recommendations raise the importance of adding elements of mental health promotion and mental disorder prevention to the program. The Ministry demonstrated that it was sensitive to concerns regarding a better balance between promotion and prevention measures and those related to the orientation of services for individuals with mental disorders. More specifically, the mandate from the MSSS had three objectives:

- select and present a conceptual model for mental health promotion and mental disorder prevention;
- conduct a review of the scientific literature on effective measures;
- develop recommendations for mental health promotion and mental disorder prevention measures to promote in Québec.

A scientific committee composed of seven members known for their mental health expertise in Québec was set up to provide assistance in developing the science advisory report. These members came from different institutions, such as: a hospital, a university, the Ministère de la Santé et des Services sociaux, regional public health authorities and the Institut national de santé publique du Québec. During their mandate the members met about a dozen times and were assigned a number of tasks including:

1. provide support in seeking information on mental health promotion and mental disorder prevention;
2. validate the definitions of mental health, mental health problems and mental disorders, and mental health promotion and prevention;
3. comment on the conceptual model selected;
4. comment on the measures chosen according to age group.

This document has seven sections. The first informs the reader of the limitations of the science advisory report. The second addresses the relevance of investing in mental health promotion and mental disorder prevention and briefly describes the heavy burden that mental health problems and mental disorders place on our society. The third defines the principal concepts used in this advisory. In particular, it presents the definitions of mental health, mental disorders and the concepts of promotion and prevention. The fourth describes the methodology used in choosing the conceptual model and carrying out the literature survey, and clarifies the concept of effective measures. The fifth reports on the conceptual model

[1] (Ministère de la Santé et des Services sociaux, 2005)

adopted to support the selection of the various mental health promotion and mental disorder prevention measures. The sixth identifies the effective measures for children (0 to 5 years of age), youth (6 to 17 years of age) and adults (18 to 65 years of age), and presents recommendations for each age group. The conclusion provides a broad overview of the main observations from this endeavour.

1. LIMITATIONS OF THE SCIENCE ADVISORY REPORT

Addressing mental health and mental disorders, as defined in the initial mandate, implies covering the entire population, all problems and, thus, all measures. For the purposes of effectiveness and efficiency, at the beginning of this process, work parameters were established with the MSSS.

From the outset, let us state that suicide will not be addressed in the current science advisory report. Suicide is a significant problem in Québec and this issue has already been the topic of a number of guidance documents in the province. *Quebec's Strategy for Preventing Suicide* (1998) presents key measures to be implemented in Québec, including prevention measures. In addition, the INSPQ (2004) has published a science advisory report on suicide prevention among youth. Action pertaining to suicide is also part of the MSSS mental health action plan, *Plan d'action en santé mentale 2005-2010 : la force des liens*.

Since work on the health of seniors was planned to begin shortly, ministerial authorities agreed that the science advisory report would address specific measures for three age groups only: children, youth, and adults under the age of 65, including young adults.

In the context of mental disorders, it was agreed that this science advisory report would address only depressive and anxiety disorders, and the problems most often associated with them, i.e. substance abuse and behavioural problems among children and youth. These disorders and problems were chosen because they affect the greatest number of individuals and, according to current knowledge, they can be prevented.

The measures chosen are those identified within the framework adopted for this science advisory report and whose implementation falls under either the direct responsibility of the MSSS or the joint responsibility of the MSSS and another ministry. Thus, certain measures such as those pertaining to employability, support during job loss, and assistance to new immigrants were not selected. Although we recognize the important contribution of action on social determinants in promotion and prevention, certain measures, such as anti-poverty measures, were not addressed in the context of this science advisory report. These measures require a major cross-sectoral analysis and could be the subject of a subsequent science advisory report.

In conclusion, it is important to specify that the recommendations provided by the INSPQ do not aim to favour one measure over another, but rather to provide information that will enable decision makers to make relevant choices in promoting mental health and preventing mental disorders, according to their own priorities.

2. WHY INVEST IN MENTAL HEALTH PROMOTION AND MENTAL DISORDER PREVENTION?

There is now a consensus that the mental health of a population is essential not only to its overall health, but also for its economic, social and human development. Nonetheless, in recent years, the prevalence of mental disorders has continued to rise although significant amounts of money have been devoted to curative interventions for mental disorders and the physical health problems that are increasingly linked to them. To counteract this phenomenon before it takes on the semblance of an epidemic, experts agree that major investment in mental health promotion and mental disorder prevention is a must.[2]

2.1. BURDEN AND COSTS ASSOCIATED WITH MENTAL DISORDERS

All the epidemiological studies conducted in Québec, elsewhere in Canada, and in other parts of the world have confirmed an increase in mental health problems and concluded that mental disorders are a major cause of disability. The World Health Organization anticipates that in 2020 the global burden of mental disorders will be responsible for 15% of all diseases and that depression will become the principal cause of disability.[3] In Canada, in 1998, this burden was already evaluated at 23%[4] of all diseases. The data in Table 1 illustrates the scope.

Moreover, an increasing number of scientific studies demonstrate a close relationship between mental disorders and physical health problems. The link between depression and the risk of heart disease is gaining increasing recognition.[5] Two recent meta-analyses[6] demonstrated that the risk of cardiac mortality doubles between three months and two years after a depression, and, depression increases the risk of heart disease by 50% in patients who previously were in good cardiovascular health. Mental illnesses also have an impact on an individual's lifestyle: smoking, sedentariness, eating disorders, high-risk sexual practices, alcoholism.[7] The coexistence of physical and mental illnesses worsens the prognosis and leads to serious repercussions in terms of the recovery of the individuals affected, the burden placed on those who support them, and related costs.

2 (Moodie & Jenkins, 2005)
3 (Conseil médical du Québec, 2001; OMS, 2000)
4 (Conseil médical du Québec, 2001)
5 (Frasure-Smith et al., 1995; Hemingway & Marmot, 1999)
6 (Barth & Schumacher, 2004)
7 (OMS, 2001)

Table 1. Data on the scope of mental problems and disorders in Canada and in Québec[8]

In Canada:[9]

- One Canadian in 10 reports symptoms consistent with a mood disorder or anxiety disorder, or dependency on alcohol or illicit drugs.
- One Canadian in 20 meets the criteria for a mood disorder consistent with major depression or a bipolar disorder.
- One Canadian in 20 meets the criteria for an anxiety disorder consistent with a panic disorder, agoraphobia or a social phobia.

In Québec:

- Close to 8% of the Québec population 12 years of age and over has experienced a major depressive episode over a 12-month period.[10]
- About 3% of Quebecers have serious thoughts of suicide.[11]
- About 1300 people in Québec die by suicide every year. The suicide mortality rate is three to four times higher among men than women. From 2000 to 2002, Québec had the highest suicide rate in Canada.
- About 28% of the Québec population aged 15 and over experience high stress levels daily and 14.4% of the population aged 12 and over do not have a high degree of social support.

Nonetheless[12]

- Only 40% of Canadians, having reported mental health disorders, reported having accessed health services for their mental health.
- Only 10% of Canadians accessed services for their mental health during the course of one year.

[8] These data are not exhaustive; they are presented for illustration purposes. The majority of these results are based on statistics from the 12 months preceding the study.

[9] (Statistique Canada, 2004a)

[10] (Agence de la santé publique du Canada, 2002)

[11] (Institut national de santé publique du Québec et al., 2006)

[12] (Statistique Canada, 1994)

Mental health is definitely very costly to the health care system. Recently, the Canadian Institute for Health Information (CIHI)[13] drew attention to the fact that 30% of all hospital stays in 2003-2004 involved a primary or secondary diagnosis of mental illness. It also stressed that more than 37% of patients released from hospital with a diagnosis of mental illness were readmitted in the year following their release. According to Health Canada's report on the economic burden of illness,[14] the direct and indirect annual costs associated with mental disorders had already been evaluated at over $8 billion in 1998. According to the Standing Senate Committee on Social Affairs, the loss of productivity associated with mental disorders now amounts to $33 billion.[15]

These statistics illustrate only a minute part of the economic burden associated with mental disorders since the costs they represent do not include such elements as the losses caused by delayed consultations or even the absence of consultation, both often related to the stigma of mental health, and the subsequent aggravation of the severity and duration of mental disorders. Nor do they not take into account losses in productivity that, according to Health Canada (2003),[16] correspond to close to 14% of the net yearly profits of Canadian companies, i.e. $16 billion per year, not including the costs of hiring and training replacement workers or the additional hours and reduction in productivity of the people remaining on the job. Neither do they include the costs associated with caring for persons with co-morbidity.

[13] (Institut canadien d'information sur la santé, 2007)
[14] (Santé Canada, 1998)
[15] (Comité sénatorial permanent des affaires sociales, 2006)
[16] Health Canada: www.hc-sc.gc.ca

3. DEFINITION OF THE PRINCIPAL CONCEPTS USED IN THE SCIENCE ADVISORY REPORT

3.1. MENTAL HEALTH

In 1989, the Comité de la santé mentale du Québec[17] adopted a positive definition of mental health that is still supported by the majority of local and national experts:

> Mental health, briefly defined as a person's psychological balance at a given moment, is positively related to the following elements, among others: degree of subjective well-being, use of his or her mental abilities, and the quality of relationships with his or her surroundings. Mental health results from interactions among three types of factors: organic factors – related to the person's genetic and physiological characteristics, psychological factors – related to cognitive, affective and relational dimensions, and contextual factors – the relationships between an individual and his or her environment. These factors are in constant evolution and become integrated within a person in a dynamic way.
>
> Mental health is related to both the collective values dominant in a given milieu and the values specific to each individual. It is affected by multiple, interdependent conditions including those of an economic, social, cultural, environmental and political nature. Any condition that hinders mutual adaptation between a person and his or her environment, for example, poverty, pollution or discrimination, is an obstacle to mental health. Conversely, any condition that facilitates this mutual adaptation, such as the equitable distribution of collective wealth, access to quality education or a healthy environment, fosters and supports mental health. From this perspective, mental health can also be considered a collective resource, to which social institutions and the entire community contribute as much as people do on an individual basis.

This definition recognizes that mental health is not just the absence of illness. It takes into account the combination of individual determinants, conditions and social processes as well as the temporal space in which the person evolves. This multifactorial conception of mental health is found in most of the recent definitions in the literature, including those of the World Health Organization.[18] It also reflects O'Neill's concept of health (2006)[19] that adopts a positive, expanded definition of health and proposes an integration of the mental and physical dimensions.

[17] CSMQ, 1993 cited in (Blanchet et al., 1993b)
[18] World Health Organization, 2004
[19] (O'Neil et al., 2006)

3.2. MENTAL HEALTH PROBLEMS AND MENTAL DISORDERS

Mental health problems relate specifically to symptoms of a mental and social nature that cause disruption and hinder personal functioning. They may include the same symptoms as mental disorders, but with lesser severity and a shorter duration.[20]

Mental disorders are characterized by clinically recognizable alterations in thinking, mood or behaviour (or a combination of the three), in most cases associated with major distress and significant interference in personal and social functioning.[21]

Two classifications of mental disorders are currently recognized and used in clinical and research contexts. The World Health Organization, in its International Classification of Diseases (ICD-10), assembled a description of various mental illnesses and the American Psychiatric Association produced the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV). These classifications, for which there is consensus at the international level, enable physicians and other professionals to talk about the same realities, share information, and conduct research on well-defined entities, thus facilitating the evolution of knowledge. The diagnosis of a mental disorder takes into account the type of symptoms (emotional, behavioural, cognitive or somatic) as well as their frequency, intensity and duration.

3.3. MENTAL HEALTH PROMOTION AND MENTAL DISORDER PREVENTION

Mental health promotion refers to measures that contribute to maximizing the mental health and well-being of individuals and communities. It targets the entire population and focuses its efforts on the determinants of mental health that contribute to enhancing the empowerment and the ability to adapt of both communities and individuals.[22] Mental health promotion thus refers to establishing individual, social and environmental conditions that support the development of optimal mental health.[23] Since mental health promotion targets the global population, its endeavours may also target people afflicted with mental disorders as well as those whose mental health is not threatened. However, health promotion measures for specific populations (ex.: employability programs for people suffering from mental disorders) are not addressed in this science advisory report.

[20] (World Health Organization, 2005)

[21] (World Health Organization, 2005)

[22] Wood & Wise, 1997 cited in (Commonwealth Department of Health and Aged Care, 2000); (Herman & Jané-Llopis, 2005)

[23] Hosman & Jané-Llopis, 1999 cited in (OMS, 2004a)

The **prevention of mental disorders** strives to reduce the prevalence of illness by addressing the risk factors that threaten the mental health of individuals before problems appear.[24] It includes action on risk factors associated with mental disorders and pathogenic conditions, and efforts targeting groups of people at risk of developing mental health problems.[25] Universal prevention measures affect the entire population regardless of vulnerability factors whereas selective measures target individuals or sub-groups at higher risk of developing mental disorders because of their personal characteristics or family, social or environmental factors. Indicated measures target individuals at risk, with detectable signs or symptoms that predispose them to mental disorders even though these individuals do not meet diagnostic criteria.

Mental health promotion and prevention differ in their respective goals but some of their efforts are interrelated. Mental health promotion generally constitutes a global approach, within which mental disorder prevention activities are included.[26]

Improving the mental health of the population at times requires the introduction of case identification and screening measures. These measures, if they lead to a diagnosis, enable early intervention to prevent complications or the deterioration of the condition. The objective of **screening** is to identify asymptomatic individuals in a targeted population who are in the early stages of an illness.[27] It may be done in a systematic manner, during a routine annual exam or in an opportunistic manner. The efficiency of the screening depends on the availability of valid tools, the appropriate use of these tools, and the ability of primary health care services to respond to an increased demand for diagnostic evaluation and treatment. **Case identification** targets individuals deemed by clinicians to be at risk due to the presence of a number of risk factors.[28]

[24] (Blanchet et al., 1993a); (OMS, 2004a)
[25] (Ministère de la Santé et des Services sociaux, 1989)
[26] Lehtinen, Riikonen & Lahtinen, 1997 cited in (Herman & Jané-Llopis, 2005)
[27] (Shah, 2003)
[28] (Shah, 2003)

4. METHODOLOGY

This section presents the process and steps that led to the selection of the model and the identification of the measures reviewed, as well as the steps involved in the assessment of the relevance and effectiveness of the measures.

4.1. CHOICE OF MODEL AND MEASURES

4.1.1. Literature review

Starting with Internet search tools (ex.: *Google Scholar*, *PubMed* and *PsycINFO* databases), and suggestions from members of the scientific committee, an initial literature search was carried out with the following two objectives:

- choosing a conceptual model that provides a framework for mental health promotion and mental disorder prevention;
- identifying effective, accepted intervention measures.

Some 40 works were selected, based on the following criteria:

1) directly linked to at least one of the two objectives;
2) published by a governmental authority, international organization or a team of researchers working within recognized institutions;
3) published in English or French;
4) published after 1997.

These documents were then analyzed to evaluate their scientific quality and in particular, the quality of the methodology. A total of 16 articles were deemed pertinent. Of those, 6 featured a conceptual model and 16 reported mental health promotion and mental disorder prevention measures. The list of these key articles may be found in Appendix 1.

4.1.2. Model selection criteria

The conceptual model sought had to allow for:

1) the integration of the elements required for mental health promotion and mental disorder prevention;
2) the identification of effective measures;
3) the determination of their theoretical relevance.

Among the various models examined in the six articles selected, those of MacDonald and O'Hara (1998) and Albee and Finn (1993) were deemed most suitable for our purposes.

4.1.3. The measure selection process

All the measures[29] identified in the key articles were extracted and compiled in a database by an intern in social and preventive medicine trained by one of the authors.

The information collected included:

- name of the measure;
- description of the measure;
- type(s) of evaluation(s) conducted;
- results obtained;
- sources of the measure;
- programs related to the measure.

Once the information gathering was completed, some measures were eliminated if they had not been addressed by other authors, and some were grouped together or renamed to make their scope and terminology consistent with Québec reality.

International experts[30] were then consulted on the measures identified. In particular, we sought to determine whether these measures reflected what is being done currently in the field of mental health promotion and mental disorder prevention.

The measures selected for the current science advisory report have thus been mentioned in at least two key documents and were supported by the experts consulted.

4.2. EVALUATION OF THE RELEVANCE AND EFFECTIVENESS OF THE MEASURES

4.2.1. Literature review

A second review of the main scientific articles was conducted to document the relevance and effectiveness of each of the measures selected. This review was carried out through searches in the *PubMed*, *PsychInfo* and EBM Review/Cochrane databases, using key words associated with each of the measures.

4.2.2. Criteria for defining relevance

In the present science advisory report, relevance refers to the appropriateness of the measures with respect to the theoretical models and principles of mental health promotion and mental disorder prevention. It refers to the potential of these measures to influence generic factors; act on a combination of risk and protective factors associated with mental health and mental disorders; and finally, use a multi-strategy approach (Appendix 2).

[29] By measure, we mean interventions, policies and programs conducive to health.

[30] Dr. Eva Jané-Llopis, of the World Health Organization, European division and Dr. John Wiseman, Irene Verins and Lyn Walker, of the Victorian Health Promotion Foundation of Australia.

1. Generic factors

Certain risk factors are considered generic, meaning that they can foster the development of more than one problem. A number of authors believe that prevention efforts should focus on reducing generic risk factors, which would have an impact on several types of problems.[31] The generic factors enabling us to determine the relevance of the measures are the 10 factors identified by the conceptual model presented in Section 5.

2. Combination of factors

There is consensus that it is the combination of risk and protection factors rather than factors taken individually that determines their impact on mental health. It should be noted that the risk and protection factors that affect mental health are usually multiple, non exclusive and interactive. Thus to intervene effectively, all the bio-psychosocial factors at play[32] must be considered simultaneously and measures that take into account their many influences must be used.

The conceptual model enables the determination of the relevance of the measures, based on the number of factors targeted by the measure. An illustration of the model accompanying each measure identifies the factors upon which it can act.

3. Importance of multiple strategies

To alter the impact of mental health factors, a number of authors believe that measures involving multiple strategies with different levels of influence are the most relevant. In this regard, we reiterate the relevance of the Ottawa Charter, established in 1986, which identifies the following five health promotion strategies: establishing healthy public policy, creating supportive environments, strengthening community action, acquiring skills conducive to health, and including promotion and prevention in the organization of health services. These strategies are presented in Appendix 2.

A graphic representation such as this enables the identification of the strategies targeted by each of the measures reviewed.

Public policy	Supportive environment	Community action	Personal skills	Health services

[31] Coie et al., 1993 cited in (Morin & Chalfoun, 2003)

[32] (Morin & Chalfoun, 2003)

4.2.3. Criteria for defining effectiveness

It is widely acknowledged that public health measures should be based on the best evidence. However, in the mental health field, recognition of the best evidence is still up for debate.[33] For the last 25 years, the important contribution of systematic reviews and meta-analyses in the area of prevention and intervention has been widely recognized.[34] But, the usefulness of experimental and quasi-experimental methodologies in health promotion is questioned.[35] Correspondingly, some researchers are worried about overdependence on data generated by systematic reviews. They condemn the lack of qualitative studies on the social and environmental determinants of health in systematic reviews.[36] They also believe that some authors do not consider the quality of the interventions themselves, their theoretical bases or the implementation process.[37] Add to this the fact that some health promotion measures, such as public policies or community action, are difficult to evaluate by experimental means.

With these issues and criticisms in mind, the *National Service Framework*[38] developed an evidence scale that recognizes the value of expert consensus and qualitative methodologies. The scale proposed by these authors is based on recognizing the contribution of the various methodologies when there is a need to better understand the impacts of both prevention and health promotion measures. This scale, presented below, was adopted for the present science advisory report. All evidence levels therein have their strengths and their limitations.[39] They are presented in Appendix 3.

[33] (Department of Health-UK, 2001)
[34] Fields, 2003 cited in (Fortin et al., 2007)
[35] (Green, 2002)
[36] (Green, 2002)
[37] Tilford, 2000 cited in (Green, 2002)
[38] (Department of Health-UK, 2001)
[39] For more details on these limitations, see Department of Health-UK, 2001.

Table 2. Level of evidence scale[40]

①	Systematic review or meta-analysis	The measure or intervention has been the subject of a systematic review or meta-analysis with at least one randomized control trial.
②	At least one randomized control trial	The measure or intervention has been the subject of at least one randomized control trial.
③	At least one well-designed study without randomization	The measure or intervention has been the subject of at least one study minimizing the possibility of biais in the interpretation of the results.
④	At least one well-designed observational study	The measure or intervention has been the subject of a study that minimizes the possibility of biais in the interpretation of the results by observing the participants.
⑤	Expert opinion	The measure or intervention is the subject of consensus among experts.

In addition to identifying the type of evidence available for a measure, it is important to summarize the researchers' conclusions in the evaluative studies that have been used. The National Institute for Heath and Clinical Excellence (2007) put forward a scale of evidence statements concerning the effectiveness of interventions. We have adapted this scale to take into account the effectiveness of certain health promotion measures that are difficult to assess by randomized studies and whose effectiveness are based more on the consensus of experts.

Table 3. Opinion scale regarding evidence[41]

	Effectiveness	Researchers conclude the measure or intervention is effective.
	Contradiction regarding effectiveness	Some researchers conclude the measure or intervention is effective, others that it is ineffective.
	Lack of evidence of effectiveness	Researchers conclude that there is insufficient evidence to come to a conclusion on the effectiveness or ineffectiveness of the measure or intervention.
	Ineffectiveness	Researchers conclude the measure or intervention is ineffective.

[40] Adapted from (Department of Health-UK, 2001)

[41] Adapted from (Taylor et al., 2007)

5. CONCEPTUAL MODEL

5.1. CHOICE OF A MODEL

The review of conceptual models resulted in the identification of two particularly interesting models matching the criteria selected: 1) the Albee model[42] for mental disorder prevention and 2) the MacDonald and O'Hara model[43] for mental health promotion. The Albee model was selected because its goal is to focus mental disorder prevention efforts around a limited list of generic factors.[44] It was developed from a systematic review of effective interventions in mental disorder prevention conducted by the Task Panel on Prevention of the Carter Commission on Mental Health. Albee identified six main factors that can have positive or negative effects on the incidence of mental disorders. Mental disorder prevention is illustrated by the following formula (see Figure 1):

Figure 1. Albee's formula[45]

Incidence of mental disorders =	Organic factors	+	Stress	+	Exploitation
	Coping skills	+	Self-esteem	+	Social support[46]

According to this formula, the incidence of mental disorders can be reduced by lessening the impact of negative factors: organic factors, stress and exploitation or increasing the impact of positive factors: coping skills, self-esteem and social support, or a combination of the two.[47] This model is of interest because it is based on empirical data, and it serves as a guide for prevention efforts.

The MacDonald and O'Hara model (1998) also proves to be interesting (see Figure 2). Using Albee's prevention model as a starting point, it includes aspects of mental health promotion. Describing Albee's model as too focused on individual factors, MacDonald and O'Hara suggest giving more weight to social conditions and social processes, without neglecting individual and environmental factors. Their model contains 10 elements related to the individual, environment and social process. This model was selected in the development of a number of national programs and has been the source of inspiration for other health promotion models.

42 (Albee & Ryan Finn, 1993); (Hay, 1987)
43 (MacDonald & O'Hara, 1998)
44 (Hay, 1987)
45 (Hay, 1987), p. 199
46 In time, the term "Support groups" originally chosen by Albee and Finn (1993), has been replaced by "Social support" in order to better reflect the definition given by the authors.
47 (Albee & Ryan Finn, 1993)

Figure 2. The MacDonald and O'Hara formula (1998)[48]

$$\text{Mental health} = \frac{\text{Environmental quality} + \text{Self-esteem} + \text{Emotional processing} + \text{Self-management skills} + \text{Social participation}}{\text{Environmental deprivation} + \text{Emotional abuse} + \text{Emotional negligence} + \text{Stress} + \text{Social exclusion}}$$

In their models, Albee and MacDonald/O'Hara identified the key elements in mental health promotion and mental disorder prevention. The following table presents our analysis of each of them.

Table 4. Analysis of the key elements of mental health promotion and mental disorder prevention

Elements from the Albee and MacDonald/O'Hara models	Analysis
Environmental quality	Like MacDonald and O'Hara, we recognize that a population's mental health improves with the quality of environmental factors of a socio-economic, physical and policy-related nature.
Environmental deprivation	Like MacDonald and O'Hara, we recognize the harmful impact environmental deprivation such as poor housing and lack of transportation can have on health.
Organic factors	MacDonald and O'Hara integrated organic factors into environmental deprivation. However, like Albee, we believe that organic factors should constitute a separate category. These factors, whether or not they can be modified, play a significant role in the development of illness and enable the identification of groups at risk. In particular, these include fetal exposure to toxins as well as food, cognitive and social deprivation at a young age.
Self-esteem	Like Albee and MacDonald/O'Hara, we recognize the importance of self-esteem in maintaining mental health.
Emotional abuse	According to MacDonald and O'Hara, the emotional abuse category refers to a group of factors that may harm self-esteem, such as physical and psychological violence. In our opinion, these elements relate more to the dimensions of stress and environmental deprivation.
Emotional processing and self-management skills	MacDonald and O'Hara place an emphasis on two personal resources: emotional processing and self-management skills. Although these resources are important in contributing to an individual's mental health, they are not the only ones. In our opinion, a more inclusive vision grouping together all personal and social skills and abilities is required. These are the basic personal resources that enable an individual to handle the demands and challenges of daily life.[49]

[48] (MacDonald & O'Hara, 1998)

[49] (Hamel et al., 2001); (OMS, 2004a)

Table 4. Analysis of the key elements of mental health promotion and mental disorder prevention (continued)

Elements from the Albee and MacDonald/O'Hara models	Analysis
Emotional negligence	To MacDonald and O'Hara, emotional negligence refers to the way in which institutions or individuals prevent people from developing and expressing their emotional lives. In a public health approach, this is not identified as an infuential factor.
Stress	Like Albee and MacDonald/O'Hara, we recognize that periodic, daily or major stress can harm mental health. For example, stress experienced in the workplace is a factor very closely associated with the development of mental disorders.
Social participation	Contrary to MacDonald and O'Hara who place an exclusive emphasis on social participation, i.e., an individual's involvement in the activities in his or her community, we prefer to speak of social inclusion to take into consideration individual characteristics of social participation and those of the community that contribute to participation.
Social exclusion	Like MacDonald and O'Hara, we recognize that the exclusion of certain segments of society from decision-making power and at times even from certain spheres of socio-economic activity, due to discrimination or stigmatization, constitutes a factor that can compromise the mental health of the population.
Social support	Like Albee, we recognize that social support is a protection factor that is widely recognized in mental health. It is our opinion that it should be an important category in a model for mental health promotion and mental disorder prevention.
Exploitation	Like Albee, we recognize that living in a situation of extreme poverty increases the risk of suffering from mental disorders.[50] This risk is the result of the interaction of a number of factors such as nutrition, education, family instability and income gaps. We believe that poverty, and to a greater extent the gaps between the poor and the rich, which are now called socio-economic inequalities, are one of the major risk factors associated with mental health.[51] Therefore, to take into account factors associated with socio-economic conditions (poverty), we prefer to create a new category called socio-economic inequalities.

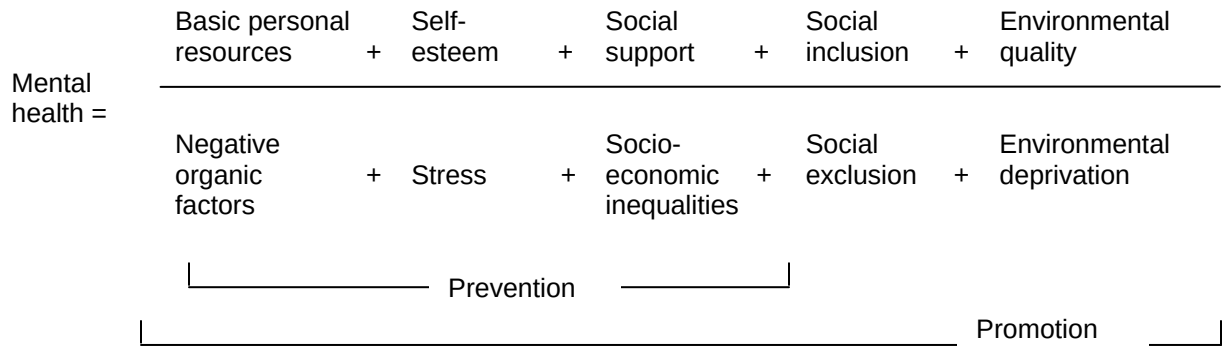
[50] (Hay, 1987)
[51] (Hay, 1987)

5.2. CONCEPTUAL MODEL ADOPTED

The conceptual model adopted (Figure 3) combines the prevention elements of the Albee model and the promotion elements of the MacDonald and O'Hara model. It targets the entire population, while paying particular attention to individuals considered at greater risk of developing mental disorders. It is based on a mental health promotion approach that integrates prevention elements. Like MacDonald and O'Hara, we believe that improving the mental health of the general population involves addressing a set of social determinants, enhancing protection factors and reducing the negative impact of risk factors associated with mental disorders.

This model has 10 categories of factors that must be addressed to promote mental health and prevent mental disorders in the general population.

Figure 3. New formula adopted

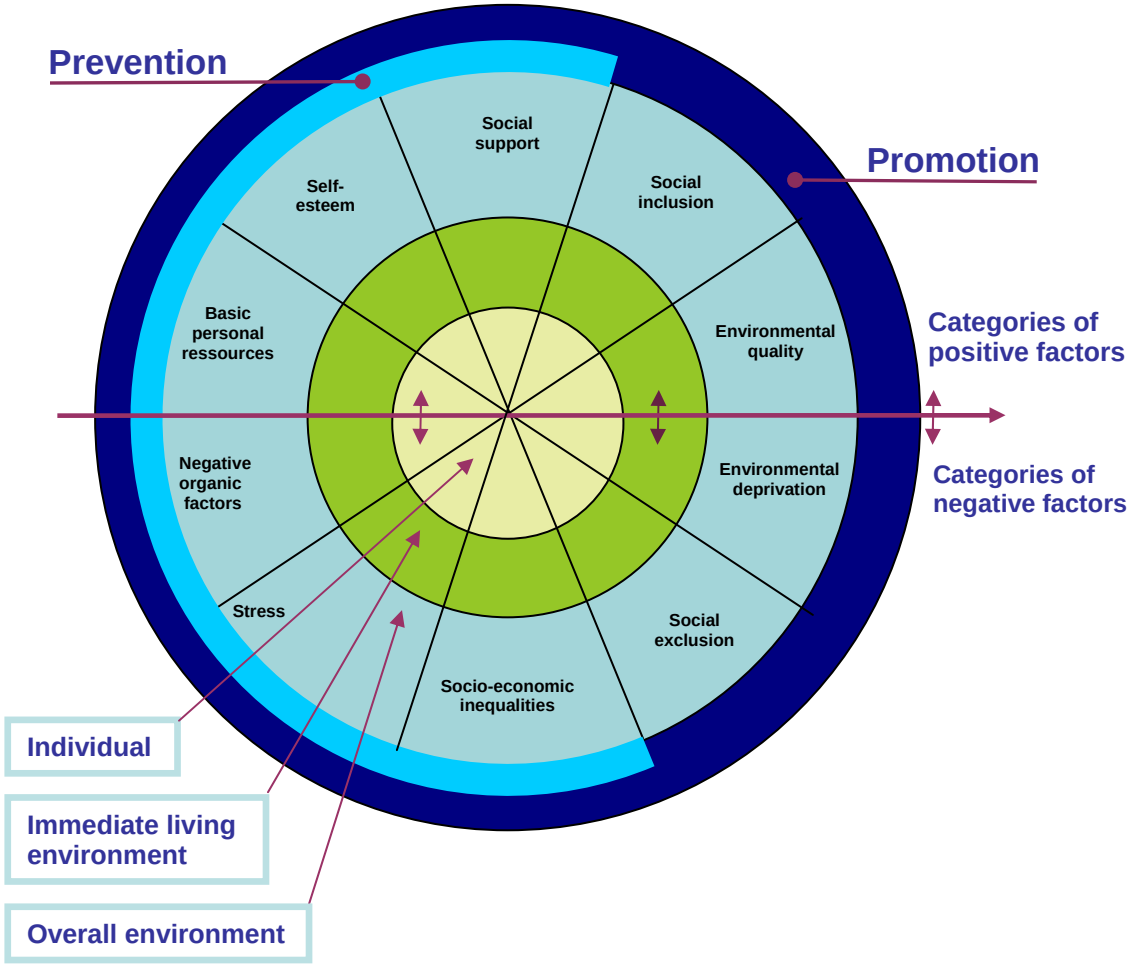


The model indicates that to promote mental health while preventing mental disorders, the impact of positive factor categories – basic personal resources, self-esteem, and social support – must be enhanced, and the effects of negative factor categories – negative organic factors, stress and socio-economic inequalities – reduced. It also places an emphasis on the importance of addressing the four other categories of factors more specifically related to health promotion. This consists of both strengthening the positive influences of supportive environments and social inclusion, while reducing the negative influences of environmental deprivation and social exclusion.

The following figure provides an alternate illustration of the elements in the mental disorder prevention and mental health promotion model adopted by the INSPQ.

Figure 4. Conceptual model[52]

Illustration of the model:



As in the model developed by MacDonald and O'Hara, the model adopted in the present science advisory report falls within an ecological perspective, and offers a reminder that mental health and efforts to promote it and to prevent disorders rely not only on individual and environmental factors but also on their interaction.[53] This model also highlights the importance of acting at various systemic levels: those of the individual, his or her immediate living environment and his or her overall environment. Lastly, this model is based on a developmental approach, in other words, it recognizes that maturation and development result from the interaction of all individual and environmental factors.[54] Thus, it recognizes that an individual's experiences during critical developmental or transition periods can have an impact on the individual's mental health later in life.

[52] Adaptation of the Albee and MacDonald/O'Hara models
[53] (Orford, 1992)
[54] (Weissberg & Greenberg, 1998); (Coie et al., 1993)

Table 5 provides a definition for each category of factors in the conceptual model. These definitions identify targeted promotion and prevention efforts on which to focus. It must be noted, however, that there is a strong interdependence among factors. For example, one can see that socio-economic inequalities caused by poverty can be a significant source of stress for individuals, and that these inequalities can also contribute to the social exclusion of certain groups. The example of the impact of poverty on mental health reminds us that prevention efforts must concurrently address socio-economic inequalities, the reduction of stress caused by poverty, and the social exclusion of socio-economically impoverished groups.

Table 5. Definition of categories of factors

Category of factors	Definition
Basic personal resources	Knowledge, skills and attitudes enabling an individual to cope with life's demands and challenges.[55] They are acquired throughout one's life and normally adjust according to one's development.
Self-esteem	Perception an individual has of his or her value, unique identity, and skills in the various aspects of his or her life.[56]
Social support	Response from an individual's environment to his or her request for help, information, and emotional and/or material support. Perception the individual has of the comfort, care, appreciation and assistance received from those in his or her circle.[57] Also included is the range of the meaningful relationships an individual has established with people in his or her environment measured in terms of social relationships, participation in organizations, the wealth and complexity of the network of family and friends, and the accessibility and adequacy of this support.
Social inclusion	Process of involving individuals or groups in contributing actively to the economic, social, cultural and political aspects of society.[58]
Environmental quality	Socio-economic, physical, political and community environments contributing to the mental health of individuals in a positive manner.[59] These environments include infrastructure and services, as well as access to healthy, stimulating and safe environments.
Negative organic factors	Factors hindering the development and normal functioning of the brain.[60] These factors include exposure to toxins as well as nutritional, cognitive and social deprivation, in particular.
Stress	Situations or events contributing to the creation of disequilibrium between the demands of the environment and the individual's resources to respond to them.[61] Stressors may be daily (ex.: work/family balance), chronic (ex.: diseases), major (ex.: moving) or transitional (ex.: changing jobs).
Socio-economic inequalities	Socio-economic differences (discrepancies in income, education, knowledge…) between groups, of which poverty is at the forefront.[62]
Social exclusion	Situations resulting in the stigmatization and social exclusion of certain individuals on the basis of race, gender, social class, mental health or other discriminatory reasons. Social exclusion refers to factors that reduce the access of certain individuals to social, economic and political resources.[63]
Environmental deprivation	Socio-economic, physical, political and community environments having a negative impact on the mental health of individuals. Environmental deprivation includes, namely, elements related to living conditions.

[55] (Hamel et al., 2001)
[56] (MacDonald & O'Hara, 1998)
[57] Sarafino, 1994 cited in (MacDonald & O'Hara, 1998)
[58] (MacDonald & O'Hara, 1998)
[59] (MacDonald & O'Hara, 1998)
[60] (Albee & Ryan Finn, 1993)
[61] (Lazarus & Folkman, 1984)
[62] www.beta.centrelearoback.org/fr/coup_d_oeil
[63] (Agence de la santé publique du Canada, 2005)

6. MEASURES AND RECOMMENDATIONS FOR CHILDREN AGED 0 TO 5 YEARS AND THEIR FAMILIES

Everyone recognizes that a good start in life contributes to future development throughout childhood, adolescence and adulthood.[64] The prenatal phase and the first years of a child's life are crucial periods for establishing the foundation for his or her mental health. The protection and risk factors to which a child is exposed, although they may eventually be altered by other factors, play a role in making him or her stronger or more vulnerable in the short, medium and long term. Thus, these early periods are particularly favourable for both promoting mental health and preventing mental disorders.

6.1. MEASURES SELECTED

Seven measures were selected to support the development of good mental health among young children and reduce the risks associated with mental disorders.

1. Nutritional interventions for at-risk children
2. Public policy and measures targeting work/family balance
3. Home visiting programs for at-risk families
4. Group training programs in parenting skills
5. Preschool interventions for at-risk families
6. Pre- and postnatal depression screening and intervention
7. Brief interventions to prevent substance abuse among pregnant women

[64] (Jané-Llopis & Anderson, 2005)

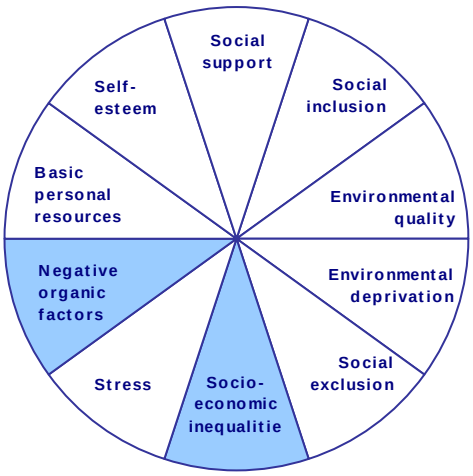
6.1.1. Nutritional interventions for at-risk children

Nutrition-based measures aim to improve the health of children from underpriviledged milieus with food supplements, among other things.

Relevance

Public policy	Supportive environment	Community action	Personal skills	Health services

According to the World Health Organization, this measure has a positive impact on the cognitive development and educational outcome of young children living in at-risk situations. Many researchers recognize that adequate nutrition in early childhood helps prevent mental health problems later in life.[65] Conversely, malnutrition, especially deficiencies in iodine, iron and zinc, can cause developmental delays and present a risk to cognitive development, and ultimately to the mental health of young children.[66] At an extreme level, malnutrition can become a serious threat to health, increase vulnerability to disease, and even cause death.[67]



Effectiveness

Level of evidence: ③

Level of effectiveness: 👍

Although malnutrition-related failure to thrive is associated with cognitive and educational deficiency later in childhood, some studies indicate that early intervention can counter its effects.[68] In the United States, the Supplemental Nutrition Program for Women, Infants and Children (WIC) provides dietary supplements, nutrition education, and references to health and social services for pregnant women, mothers, babies and children less than 5 years of age who are at nutritional risk and who live in low-income families.[69] Studies on the effectiveness of this program suggest positive impacts such as: increased absorption of nutrients by women and children; improved birth outcomes (reduction in low birth weights), reduced health costs, and increased use of health services.[70] According to the WHO, the most effective interventions are those that combine nutritional interventions (food supplementation) with support to the mother's child care skills (warmth, attentive listening).[71]

[65] (Commonwealth Department of Health and Aged Care, 2000)
[66] WH(OMS, 2005b)
[67] (Stevenson, 2006)
[68] (Stevenson, 2006)
[69] (Kowaleski-Jones & Ducan, 2002)
[70] (Devaney, 2003); (Kowaleski-Jones & Ducan, 2002)
[71] (OMS, 2004b; OMS, 2004a)

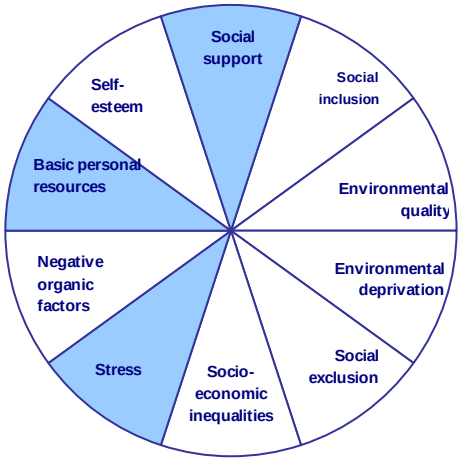
6.1.2. Public policy and measures targeting work/family balance

The objective of public measures to achieve work/family balance is to reduce parental stress by facilitating time management and the handling of family, professional, and social responsibilities and activities.

Relevance

Public policy	Supportive environment	Community action	Personal skills	Health services

According to some authors, problems related to balancing work with family obligations can be a source of stress and hamper the emotional availability of parents to their children.[72] Children whose parents are emotionally available to respond to their physical and psychological needs acquire a feeling of confidence in their family and friends, and develop a secure attachment and better interpersonal skills.[73] Conversely, a lack of parental availability due to a high level of stress increases the risk of the child developing mental health problems.[74] In addition, when work/family balance conflicts have an impact on the emotional state of parents, especially fathers, they may cause an atmosphere of family conflict[75] and have a negative impact on the behaviour of the child.[76]



Effectiveness

Level of evidence: ⑤

Level of effectiveness: 👍

There is currently no systematic evaluation of the impact of measures to reconcile work and family life on the health of children and families. Nonetheless, experts agree on their benefits for family functioning[77]. A survey of various countries by the Ministère de l'Emploi, de la Solidarité sociale et de la Famille[78] identified a number of interesting measures to reconcile work and family life such as: tax measures that for the purposes of calculating retirement pensions take into account the years devoted to educating children in the home; paid leave to take care of sick children; and income supplements to encourage parents to maintain their employee/employer relationship. The existence of time management offices in some countries, to help with family

[72] (Institut national de santé publique du Québec, 2005); (St-Amour et al., 2005); Higgins, Duxbury, & Johnson, 2004)
[73] (Institut national de santé publique du Québec, 2005); (St-Amour et al., 2005)
[74] (Mrazek & Haggerty, 1994)
[75] Koleric, 1995 in (St-Amour et al., 2005)
[76] (St-Amour et al., 2005)
[77] (Commonwealth Department of Health and Aged Care, 2000)
[78] (St-Amour et al., 2005)

time management, has also been reported. These offices analyze time management constraints and propose the implementation of family support measures (longer store hours, classroom hours changed to accommodate parents with jobs, ex.: start of classes spread over two hours to reduce traffic, etc.). More research is required to determine interventions that result in better work/family balance and to better understand their impacts on the health and well-being of families.

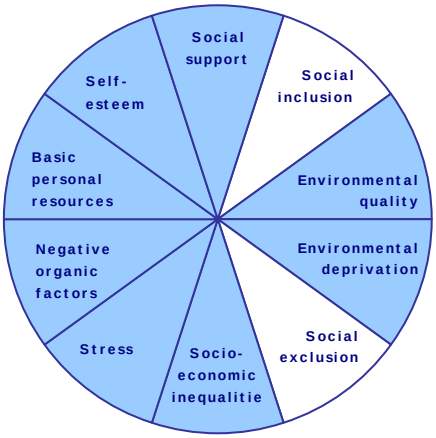
6.1.3. Home visiting programs for at-risk families[79]

The goal of home visiting programs is to contribute to child development by improving parenting practices and, depending upon the programs, improving the quality of the child's social and physical environment, the parent-child relationship, healthy lifestyles and social support.[80] A number of programs also aim to reduce the risks of abuse and neglect. Others have added a community component to reduce social inequalities and improve the resources available to families and the quality of life in neighbourhoods.[81]

Relevance

Public policy	**Supportive environment**	**Community action**	**Personal skills**	Health services

Prematurity, intrauterine growth retardation (IUGR) or low birth weight (LBW) and congenital defects are linked to various risks to a child's health, including neurological and behavioural problems, and learning difficulties.[82] These abnormalities have serious consequences on a child's quality of life, especially due to the intellectual and physical handicaps and the social and professional difficulties associated with them.[83] They also put such children at greater risk of abuse and neglect. [84] Congenital defects can be caused by genetic factors upon which it is difficult to intervene, but they may also be caused by environmental factors such as fetal exposure to harmful substances. Moreover, the effects of substance abuse by mothers during pregnancy and its effects on the mental health of children are well documented, especially as it pertains to smoking and alcohol. Home visits allow for interventions related to these environmental factors.



In contrast, the more a child's living environment provides rich, diverse experiences and the more these occur in a positive emotional atmosphere, the more likely the child is to develop his or her basic personal resources.[85] Thus, a positive relationship with parents is recognized as an important determinant in a child's development.[86] The early experiences a child has in his or her family play a key role in the formation and reinforcement of synaptic links among

[79] At-risk familles are those with risks related to the characteristics of the family or the environment that predispose the child to developmental delays.
[80] (Drummond et al., 2002)
[81] (Drummond et al., 2002)
[82] Kilbridge et al., 2004 cited in (Ministère de la Santé et des Services sociaux, 2006)
[83] (Ministère de la Santé et des Services sociaux, 2006)
[84] (Guay, 2004; Guay, 2004)
[85] (Grossmann & Grossmann, 1998); (Institut national de santé publique du Québec, 2005)
[86] (Osofsky & Thompson, 2000); (Moss et al., 2000; Osofsky & Thompson, 2000; Sroufe et al., 1996)

neurons.[87] Sroufe and his colleagues[88] add that in addtion to promoting brain development, children's initial relationships provide them with the first opportunities to create social connections in addition to stimulating the development of language and other cognitive skills. Children's self-esteem develops gradually during childhood, starting with the relationship they have with their parents.[89] Results from Chao and Williams[90] indicate that parents who closely monitor the development of their child, who provide warm surroundings and encourage autonomy have children who exhibit fewer behavioural problems.

Any type of violence [91] inflicted on children results in serious short- and long-term consequences, which are likely to affect their physical and mental health, behaviour, school success, sexual life, interpersonal relationships, and self-esteem. A preschool-aged child who grows up in a community where violence is always present shows more symptoms of distress and more aggressive behaviour.[92] A study by Hurt et al.[93] reveals that children who were exposed to a high level of violence in the community before the age of 7 are less successful in school, show more symptoms of anxiety and depression, and have lower self-esteem than other children.

Lastly, it is recognized that children who have experienced a number of years of poverty are more likely to have health problems (ex.: higher rates of prematurity and low birth weight),[94] a higher incidence of basic disability (ex.: sight, hearing, speech or motor skill impairments)[95] and developmental delays,[96] even when controlling for parenting practices, family structure, age, and the educational level of the mother. Poverty produces negative effects on the daily lives of families by creating stress, insecurity, frustrations, and reduced access to the resources essential to the health and well-being of all their members.[97]

[87] For more information, consult the guide: *L'attachement au cœur du développement du nourrisson*, Ministère de la Santé et des Services sociaux, 2005.

[88] (Sroufe et al., 1996)

[89] (Duclos, 2000)

[90] (Chao & Williams, 2002)

[91] Maltreatment groups together acts of abuse and neglect perpetrated by adults or older children on those who are younger. It can take the form of neglect or physical, psychological or sexual abuse.

[92] (Farver et al., 2003)

[93] (Hurt et al., 2001)

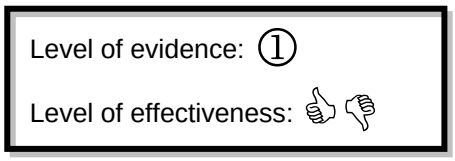
[94] (Brooks-Gunn & Duncan, 1997)

[95] (Brooks-Gunn & Duncan, 1997)

[96] (Ross & Roberts, 1999)

[97] (Guay, 2004)

Effectiveness



Several randomized trials of home visiting programs have demonstrated their positive effects on the physical health of the child and the mental health of parents, as well as on parenting practices and the quality of parent-child interactions.[98] Some programs also show interesting benefits from an economic and social perspective.[99] Others report positive effects on the physical health of children with regard to respiratory problems and the number of visits to a physician due to an accident or poisoning.[100] Lastly, some studies demonstrate that home visits can prevent maternal anxiety and depression and can help improve mothers' self-esteem.[101]

Nevertheless, some recent studies,[102] although controversial,[103] shed doubt on the effectiveness of home visits, demonstrating little or no impact on a number of variables studied with underprivileged clienteles. In addition, according to Kearney's systematic review (2000), it would appear that home visiting programs that aim to modify behaviour are less effective for families with problems such as substance abuse or child maltreatment.

It must be kept in mind that not all home visiting programs obtain conclusive results.[104] For maximum effectiveness, it is recommended that the program begin during pregnancy, provide support for more than one year, use trained personnel, work on building a trusting relationship with the parent, and support the parent in his or her interactions with the child.[105] In addition, the interventions carried out during the visits must actually be linked to the objectives to be attained.[106] In all these respects, the Olds (Nurse-Family Partnership) and Fields programs remain references in the field.[107]

[98] (Kearney et al., 2000), (McNaughton, 2004)
[99] (OMS, 2004b)
[100] (McNaughton, 2004)
[101] (Kearney et al., 2000); (Shaw et al., 2006)
[102] (MacDonald et al., 2007); (Bennett et al., 2007)
[103] Following critiques they received, the authors withdrew their meta-analyses of Cochrane's database and are working on a new version.
[104] (Kearney et al., 2000)
[105] (Kearney et al., 2000)
[106] (Kearney et al., 2000)
[107] (MacDonald et al., 2007)

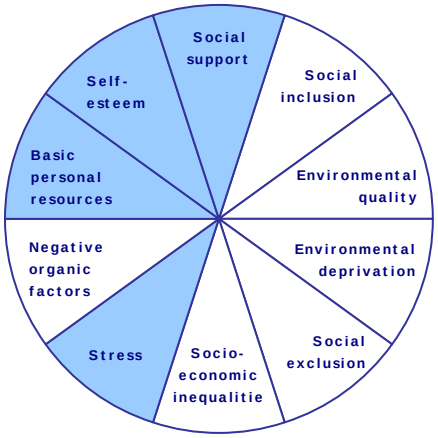
6.1.4. Group training programs in parenting skills

Group programs for parents focus on parenting practices, basic skill development in children, and parental stress.

Relevance

Public policy	**Supportive environment**	Community action	**Personal skills**	Health services

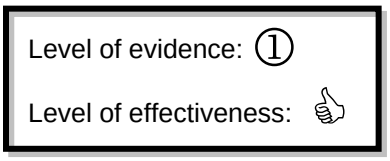
Parents using positive practices are twice as likely to have children with no behavioural problems.[108] Conversely, children whose parents use punitive practices are more likely than others to behave aggressively[109] whereas a controlling parental style increases the risk of depression and anxiety in the child.[110] Moreover, the NLSCY study[111] reveals that children at risk due to low income or the low education of their parents have fewer behavioural problems if their parents use positive parenting practices.



Positive parenting practices refer to the collection of attitudes and behaviours conducive to the optimal development of the child.[112] Certain parenting practices such as positive discipline, child-parent reciprocity, monitoring and warmth are all linked to self-esteem and the development of the child's personal resources.[113] Negative parenting practices refer to arbitrary and hostile parental conduct,[114] insufficient or inconsistent discipline, ineffective conflict resolution strategies, rare verbal and physical interactions with the child, and interactions of a non-affectionate nature.[115] Parents who suffer from significant stress in their lives are at greater risk of adopting negative parenting practices.[116] The stress experienced by parents is also felt by their children without them understanding the meaning. It has also been noted that a high level of parental depression is associated with greater frequency of family dysfunction and a higher level of ineffective parenting practices. High levels of dysfunction are associated with a lower frequency of positive parenting practices and a higher level of ineffective parenting practices.[117]

[108] (Lapointe et al., 2003)
[109] (Statistique Canada, 2004b)
[110] (Institut national de santé publique du Québec, 2005)
[111] (Chao & Williams, 2002)
[112] (De Rancourt et al., 2004)
[113] (Landy & Kwan Tam, 1996)
[114] Campbell, 1989 cited in (Guay, 2004)
[115] Hemphill, 1996 cited in (Guay, 2004)
[116] Human Resources and Social Development Canada, 1999
[117] Human Resources and Social Development Canada, 1999

Effectiveness



Group programs for parents in the general population or for groups at risk can have interesting preventive effects for both children and mothers.[118] In fact, a meta-analysis by Barlow and Parsons [119] concludes that group parent training programs can improve the emotional adjustment and behaviour of children from birth to the age of 3 years in the short term, according to independent and systematic observations of behaviour. Three types of programs seem most promising: those adopting a behavioural, cognitive-behavioural or modeling by video-feedback approach (ex.: Webster-Stratton's program The Incredible Years). Despite the short-term results obtained, however, it is impossible to make a statement about the effectiveness of these programs to prevent emotional and behavioural problems in children over the long term.

On the other hand, Barlow et al.'s meta-analysis[120] demonstrates that both advantaged and disadvantaged parents benefit from these measures. It also shows that these programs offered to a clinical or general population contribute to improving the psychosocial functioning of the mother over the short term. All of the results support group intervention with parents for the purpose of preventing problems related to depression, anxiety, stress, self-esteem and in the couple's relationship. No impact has been shown on social support. At the time of the follow-up (two, three or six months after the intervention), the improvement to self-esteem remained significant. It remained positive, although not significantly so, for depression and marital adjustment.

Additional studies would provide documentation on the impact of these measures on behavioural problems in children over the long term, and a better understanding of the conditions that ensure the effectiveness of the interventions for all parents.

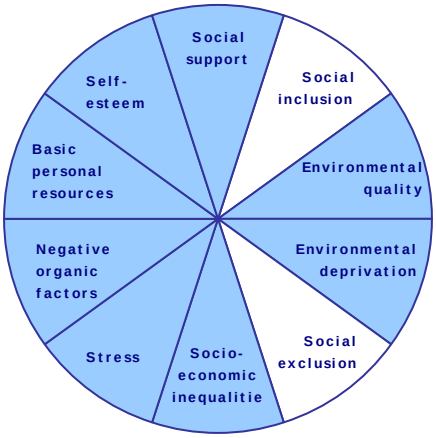
[118] (Barlow & Parsons, 2003)
[119] (Barlow & Parsons, 2003)
[120] Barlow, Coren & Stewart-Brown, 2003

6.1.5. Preschool interventions for at-risk families

The goal of preschool interventions is optimal child development through an organized environment and a curriculum of activities covering all areas of development, combined with parental interventions including home visits, parent-child activities, parent groups or other ways of reaching and engaging parents.[121]

Relevance

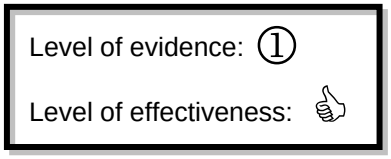
Public policy	**Supportive environment**	Community action	**Personal skills**	Health services



Combining an intervention with the child and an intervention with the parents addresses protection and risk factors associated with both parents and children. Integrating children into preschool activities has positive repercussions on their behaviour and their social and cognitive skills. For example, it promotes the development of their emotional management skills. Emotional management skills refer to the ability to be aware of and respect one's own emotions and those of others.[122] They also involve the ability to adjust one's behaviour and attention according to the social context[123] and to express emotions in a way that is adapted to the context.[124] Such skills must be acquired early in life, because they enable the individual to develop, namely, positive social relationships and effective problem-solving skills. For some children, a preschool setting complements and enriches the experience they acquire in the family setting, while for others, who are more at risk, it provides a quality environment essential to their development.[125]

[121] (Yoshikawa, 1995)
[122] (Hamel et al., 2001; MacDonald & O'Hara, 1998)
[123] (Institut national de santé publique du Québec, 2005)
[124] (MacDonald & O'Hara, 1998)
[125] (Edwards & Liu, 2002)

Effectiveness



There is strong evidence indicating that preschool interventions providing high quality care and education to children have a significant impact on social, cognitive and language development and ease the transition to school.[126] The Carolina Abecedarian Project is a typical example of this kind of intervention. This program focuses on stimulating all areas of development and is intended for high-risk mothers and their children. At the preschool level, the intervention provides full-time educational activities targeting the socio-emotional, cognitive and language development of the child. Children attend a centre eight hours a day, 50 weeks per year, until they begin school. Then, at the elementary level (ages 5 to 8), the children benefit from individual activities at home twice a week. As a part of the program's evaluation, children's progress was measured at ages 12, 15 and 21. The main results demonstrate better results on cognitive tests for children having participated in the program, and this trend was maintained until the age of 21. School scores in reading and math were also higher up to adulthood. Also, more of these children reached high school.[127]

Furthermore, recent results from the two-year follow-up study of the Early Head Start[128] initiative show that children from areas where centre-based preschool programs are offered in conjunction with home visits do better in terms of cognitive and language development than children from areas providing only home visits or centre-based programs.[129]

Finally, a systematic review by Zoritch et al.[130] on the impact of non-parental childcare combined with parental interventions, demonstrates positive effects on the child's cognitive development and conduct, parent-child communication, school success, and adult lifestyle (ex.: working, getting arrested, selling drugs). Caution must be exercised regarding the conclusions of this review since nearly all the programs targeted underprivileged children and all were conducted in the United States. Moreover, the programs varied greatly from one area to another, in terms of the child/educator ratio, frequency of participation, duration, the presence or absence of a curriculum, age of integration into the program, etc.

[126] (OMS, 2004b); (Kagan & Kauerz, 2007)
[127] (Campbell et al., 2002)
[128] (USDHHS, 2001)
[129] (Daro, 2004; Gomby, 2003)
[130] (Zoritch et al., 2004)

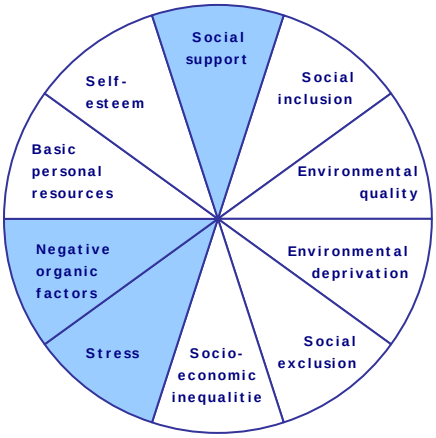
6.1.6. Pre- and postnatal depression screening and intervention

The goal of this measure is to prevent depression or reduce its effects through systematic screening combined with a psychosocial or pharmacological intervention.

Relevance

Public policy	Supportive environment	Community action	**Personal skills**	**Health services**

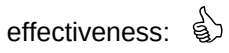
The impact of parental depression on the development of the child is well documented. Depression has adverse consequences not only for the mother, but also other family members as well as the mother/child relationship when children are young.[131] It has been noted that women suffering from depression during the prenatal period tend to receive less prenatal care and eat less well. It is also more difficult for them to get some rest.[132] They have a greater risk of miscarriage, of having a premature delivery, and of having a low birthweight baby. Mothers with depression are more likely to act with hostility, withdraw or use inconsistent parenting practices.[133] The children of mothers having suffered from postpartum depression have a higher risk of developing behavioural problems and mental disorders. [134] Depression that lasts well beyond the postnatal period may also have other repercussions on children. The latter are more at risk of experiencing behavioural problems, social and academic difficulties, and a high degree of stress and depression themselves.[135] Generally speaking the more severe and chronic the parent's illness the higher the risks to the mental health of the child.[136] It is known that social support during pregnancy may reduce the risks of depression in mothers living in poverty.[137] Early intervention provided to women with symptoms of depression can reduce the harmful effects of depression on the mother and on her children, by reducing the stress to the infant caused by an absence of maternal care.



[131] (Commonwealth Department of Health and Aged Care, 2000); (Beck, 1999)
[132] www.soinsdenosenfants.cps.ca/grossesse/depression.htm#enceintes
[133] Goodman & Gotlib, 1999 cited in (Forman et al., 2007)
[134] (Beck, 1999)
[135] (Ellis & Collings, 1997)
[136] (Ellis & Collings, 1997)
[137] (Collins et al., 1993)

Effectiveness

Level of evidence: ①

Level of effectiveness: 

According to a systematic review by the University of North Carolina (2005),[138] there is no evidence that screening for pre- and postnatal depression using standardized tools alone reduces the duration or intensity of the illness.

Nonetheless, there is consensus that screening combined with a psychosocial or pharmacological intervention is promising for the mother, despite mixed results. According to the systematic review by the University of North Carolina, a screening measure combined with a prenatal psychosocial intervention, such as parent groups, prenatal classes or therapy groups, does not seem to have any impact. However, the results are promising for the same intervention during the postnatal period. Six of nine studies reviewed report significant results when a psychosocial intervention such as home visiting or support groups is used, whereas one of two studies using a pharmacological intervention shows significant results on the well-being of the mother.

Yet, according to a study by Forman et al. (2007), early intervention of a psychotherapeutic nature with the goal of reducing symptoms of depression in the mother is not sufficient to change the parent-child relationship or the parent's perception vis-à-vis the child. The authors conclude that to ensure the greatest effectiveness, an intervention with depressed mothers must simultaneously address the reduction of symptoms and the improvement of the quality of the mother-child relationship.[139]

A meta-analysis by Pignone et al. (2002)[140] drawn upon by the Canadian Task Force on Preventive Health Care[141] suggests that, in general, screening for depression among adults in primary health care services reduces the risk of persistent depression if the screening is combined with an integrated intervention providing feedback to patients and access to case management or mental health care. Such an intervention must include the determination of a diagnosis, effective treatment, attentive monitoring, and referrals among professionals and health care workers involved with the adult benefitting from the intervention. Treatments considered effective are antidepressants and/or cognitive-behavioural and interpersonal psychotherapy.[142]

In conclusion, a systematic screening of depression, especially in the postnatal period, combined with a psychosocial or pharmacological intervention, is conducive to reducing the duration and intensity of the illness. Moreover, to lessen the impact of maternal depression on the infant, an intervention to improve the quality of the mother-child relationship should also be provided.

[138] (Gaynes et al., 2005)
[139] (Forman et al., 2007)
[140] (Pignone et al., 2002)
[141] (MacMillan et al., 2005a)
[142] (Gaynes et al., 2005)

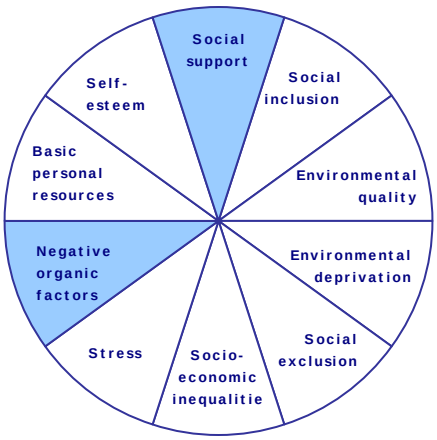
6.1.7. Brief interventions to prevent substance abuse among pregnant women

This measure aims to reduce the use of harmful substances during pregnancy through an educational intervention.

Relevance

Public policy	Supportive environment	Community action	Personal skills	Health services

The relationship between substance abuse by the mother during pregnancy and its effects on the mental health of the young child is well documented, especially with respect to smoking and alcohol. Children exposed to nicotine during the prenatal period are at risk of prematurity, low birth weight, neuro-developmental problems, and cognitive delays.[143] Such exposure can also increase the risk of learning difficulties, behaviour disorders, hyperactivity, and delinquency in the child.[144] Early intervention that supports smoking cessation can reduce prematurity, low birthweight, and perinatal death.[145]



Many research efforts indicate that prenatal exposure to alcohol is associated with cognitive and social deficiencies such as disturbed attachment and emotional dysregulation in early childhood, inappropriate sexual behaviour, depression, suicide, and, in adulthood, poor care of one's children.[146] Fetal alcohol syndrome is one of the main causes of avoidable congenital abnormalities and developmental delays.[147]

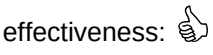
The effects of the prenatal use of drugs other than alcohol and tobacco (cannabis, opiates, stimulants, inhalants, hallucinogens) on the child are less well documented due to the difficulty of knowing with certainty the prevalence of the use of these drugs among pregnant women.[148] However, studies suggest that the effects of such substance abuse may be similar to those associated with alcohol, but may also vary according to the products used and the period when the fetus is exposed to them.[149]

In addition, it is known that parents who use alcohol or drugs after the birth of a child have less emotional availability and less consistent parenting practices.[150]

[143] (OMS, 2004b; OMS, 2004a)
[144] (Institut national de santé publique du Québec, 2006)
[145] (Lumley et al., 2004)
[146] (Jacobson & Jacobson, 2003)
[147] Ministère de la Santé et des Services sociaux, 2006
[148] (Guyon et al., 2002; Santé Canada, 2003)
[149] (Guyon et al., 2002; Santé Canada, 2003)
[150] (Vitaro et al., 2004)

Effectiveness of smoking cessation programs

Level of evidence: ①

Level of effectiveness: 

Interventions that encourage pregnant women not to smoke during pregnancy can have long-term beneficial effects on the mental health of children due to their impact on birth weight, among other things.[151] According to a systematic review by Lumley (2004),[152] various smoking cessation programs during pregnancy reduce the proportion of women who smoke, low birth weights, and prematurity. Windsor et al. (1993) suggest that a behavioural intervention of at least 15 minutes with pregnant women who smoke increases the number of those who stop smoking by 6% and increases birth weight by 200 grams.[153] A 1993 meta-analysis[154] on counselling within primary health care services demonstrates that such an intervention reduces the proportion of smokers who continue to smoke during pregnancy.

Effectiveness of brief interventions for alcohol use

Level of evidence: ①

Level of effectiveness: 

Studies on the effectiveness of screening combined with brief interventions for alcohol use among pregnant women are very limited.[155] Most systematic reviews and meta-analyses deal with adults in general.

According to the results of a systematic review by Whitlock et al. (2004),[156] screening combined with a brief intervention (counselling, feedback, monitoring) significantly reduces alcohol abuse and the risks associated with it in both men and women. However, in a meta-analysis on the same topic, Balleteros et al. (2004) observe that brief interventions (10- to 15-minute information sessions on risks, including advice to reduce use, plus a three- to five-minute reinforcement during subsequent visits) in primary health care services are moderately effective with abusive drinkers,[157] both men and women.[158] A systematic review by Kaner et al. (2007)[159] on the same topic demonstrates that long-term results (one year after the intervention) are uncertain with regard to women. These authors conclude that it is premature to recommend a brief intervention for women.

Nonetheless, based on the systematic review by Whitlock et al. (2004)[160] and on the fact that a brief intervention can be more beneficial than harmful, the US Preventive Services Task Force (2004) recommends screening and counselling for adults, including pregnant women, in primary health care services.

[151] Cited in (OMS, 2004a)
[152] (Lumley et al., 2004)
[153] (Jané-Llopis et al., 2005a)
[154] Cited in (Moner, 1994)
[155] (U.S Preventive services task force, 2004)
[156] (Whitlock et al., 2004)
[157] (Ballesteros et al., 2004)
[158] (Ballesteros et al., 2004).
[159] (Kaner et al., 2007)
[160] (Whitlock et al., 2004)

6.2. RECOMMENDATIONS

This section is divided into two parts. The first comments on the measures that already exist in the province's public health services program for children from birth to age five. The second part addresses measures selected for which adaptation, development or further research is required.

6.2.1. Measures to be consolidated in the province's public health services program

Table 6. Measures for children from birth to age 5 to be consolidated in the province's public health services program

Measures	Factors targeted	Strategies used	Evidence and effectiveness	Québec's Public Health Services Program (PNSP 2007-2012)
Nutritional interventions for at-risk families	2	2	③ 👍	Integrated services in perinatality and early childhood for families living in at-risk situations, which include the following components: supportive care for families and support in creating environments that promote health and well-being
Home visiting for at-risk families	8	3	① 👍👎	Integrated services in perinatality and early childhood for families living in at-risk situations, which include the following components: supportive care for families and support in the creating environments that promote health and well-being
Preschool interventions for at-risk families	8	2	① 👍	Integrated services in perinatality and early childhood for families living in at-risk situations, which include the following components: supportive care for families and support in creating environments that promote health and well-being
Pre-and postnatal depression screening and intervention	3	2	① 👍	Screening for depression among seniors and other adults, particularly pregnant women and women during the postnatal period, and referrals to diagnostic, treatment or follow-up services.
Brief interventions to prevent substance abuse among pregnant women (tobacco and alcohol)	2	1	Smoking ① 👍 Alcohol 👍 ✋	Case finding and counselling on the use of alcohol and tobacco among pregnant women

Each measure presented in Table 6 is included in the perinatal and early childhood services provided in Québec, particularly through the ***Services intégrés en périnatalité et pour la petite*** enfance ***à l'intention des familles vivant en contexte de vulnérabilité (*****SIPPE).** These services have been offered throughout Québec since 2004, and have been largely inspired by the Olds program (Nurse-Family Partnership). They aim to reduce mortality and morbidity among unborn babies, children, pregnant women, mothers, and fathers; encourage the optimal development of children living in at-risk situations; and improve living conditions for families from the beginning of pregnancy until the child reaches five years of age. These services are intended for young parents under the age of 20 and families living in extreme poverty. They provide supportive care to families, and support early educational interventions for children and intersectoral endeavours in order to improve living conditions for families and their social participation. An evaluation, funded by the MSSS, of the implementation and the impact of this measure with parents under the age of 20 is currently under way. The results should provide the necessary information to identify which service components require consolidation.

Nutritional interventions for at-risk families have been provided in Québec for several years through a food assistance program for pregnant women (Fondation OLO) (œufs, lait et oranges – eggs, milk and oranges). This measure, now included in the SIPPE, helps improve the health of children from underprivileged backgrounds by providing a combination of dietary supplements and support to parents, among other things. However, the program ends upon the birth of the child. As the effects of the WIC program demonstrate, nutritional support until the age of five should be provided for at-risk children.

SIPPE home visiting for at-risk families offer families specific intervention components, particularly pertaining to family lifestyles, parenting skills, the development of a secure attachment in the child, and support for his or her overall development. The INSPQ has developed intervention guides and activity sheets for this purpose. Specific content pertaining to the mental health of parents should be developed.

Preschool interventions for at-risk families are foreseen in the SIPPE. Currently, only a few regions provide early education interventions for preschool-aged children from underprivileged backgrounds, two and a half days a week in an institution. These interventions are combined with home visits and group meetings for parents. Work is in progress to harmonize current practices and help develop this component in all regions of Québec.

Brief interventions to prevent substance abuse among pregnant women (alcohol and tobacco) are part of the preventive clinical practices used particularly by primary health care physicians. The effectiveness of these measures in the general population has been demonstrated time and time again in terms of smoking. The results of Kaner's work (2007) raise doubt as to the effectiveness of a brief intervention in the area of alcohol abuse prevention among women. Nevertheless, the US Preventive Task Force recommends screening and a brief intervention for pregnant women. The evolution of knowledge must thus be monitored in view of the 2012 revision of the PNSP.

Pre- and postnatal depression screening and intervention

This preventive clinical practice will be added to the new version of Québec's 2007-2012 public health program. It targets all adults, as suggested by the Canadian Task Force on Preventive Health Care.[161] The recommendation is to screen during periodic annual check-ups combined with proper diagnosis, effective treatment and attentive monitoring including referrals among the professionals and health care workers involved, as certain authors recommend.[162]

With the goal of reducing the harmful effects of parental depression on children, interventions with mothers should concurrently address reducing the symptoms of depression (ex.: psychotherapeutic or pharmacological approaches) and improving the quality of the mother-child relationship.

6.2.2. Measures requiring adaptation, development or further research

Table 7. Measures requiring adaptation, development or further research for children from birth to age 5

Measures	Factors targeted	Strategies used	Evidence and effectiveness
Parenting skills training programs	4	2	① 👍
Public policy and measures targeting work/family balance	1	3	⑤ 👍

Parenting skills training programs

Group programs for parents produce interesting short-term effects on both the development of the child and the psychosocial functioning of the parents, particularly that of mothers. This approach also has the advantage of addressing the needs of all families. There are currently a number of effective programs, including The Incredible Years by Webster-Stratton, which could be tested and adapted to Québec reality. More research is needed to identify the conditions under which this type of intervention is most effective.

Public policy and measures targeting work/family balance

Public policy and measures targeting work/family balance focus on reducing parental stress by facilitating time management and the handling of family, professional and social responsibilities and activities. To our knowledge, no study has been conducted to document the effect of these measures on the mental health of children and family functioning. It is therefore very important that research be conducted in this area to better understand which measures are effective and how they impact the health and well-being of families.

[161] (MacMillan et al., 2005a)
[162] (Pignone et al., 2002)

7. MEASURES AND RECOMMENDATIONS FOR YOUTH AGED 6 TO 17 YEARS

Starting elementary school marks an important transition period that brings with it its own set of adjustments for the young person and his or her family. This period is characterized by the rapid development of physical, cognitive, emotional and social skills. It is at this crucial stage of development that children between the ages of 5 and 12 learn to read, write, count, solve problems, manage conflicts, and interact with their peers.[163] These skills enable them in the short and long term to effectively manage their thoughts and emotions, develop their resilience, understand and adapt to the demands and standards of their social environment, and finally, to establish good interpersonal relationships. Successes along with failures during this period have an impact on the ability to adapt, and ultimately, on mental health.

Entering high school, puberty, the growing need for independence, the increased importance of the influence of peers, the challenges related to the development of one's identity and sexual orientation, and those associated with school success characterize adolescence. During this period, experiences enable youth to strengthen their basic skills. They are also increasingly exposed to phenomena such as violence, bullying, and alcohol and drug use, which can constitute risk factors to their mental health. It is also during this period that the first signs of anxiety, depression, eating disorders, psychoses, substance abuse, and self-mutilation generally appear.[164]

Schools are the ideal place to promote health, well-being and educational success[165] because of the high proportion of youth found therein,[166] the number of hours they spend there,[167] and the influence of this environment, which is second in importance to that of the family. Schools also provide the double possibility of reaching and engaging parents who generally want their children to have the best conditions to ensure their development. Schools are also an ideal place because their mission is to contribute to the development of basic skills promoting the full development of children, both in terms of health and school success.

[163] (Mrazek & Haggerty, 1994)
[164] (Commonwealth Department of Health and Aged Care, 2000)
[165] (Jané-Llopis & Barry, 2005)
[166] (Jané-Llopis & Barry, 2005)
[167] (OMS, 2004b)

7.1. MEASURES SELECTED

One approach and nine measures were selected for youth aged 6 to 17.

1. Health Promoting School approaches
2. Mental health promotion programs in school settings
3. Interventions to improve the school environment
4. Parenting skills training programs for parents of youth with behavioural problems
5. Interventions to prevent violence (among peers and dating violence)
6. Interventions to prevent substance abuse
7. Interventions for youth at risk for depression or anxiety
8. Interventions for grieving youth
9. Interventions for youth with separated parents
10. Interventions for youth with a parent suffering from a mental disorder

7.1.1. Health Promoting School approaches

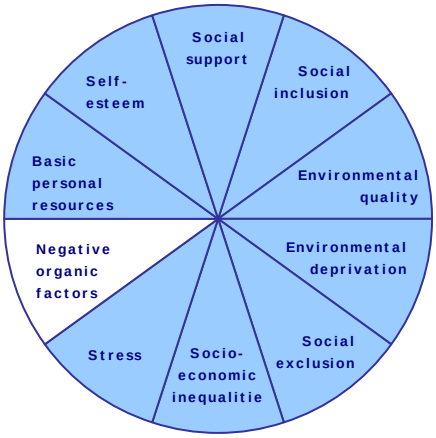
Health Promoting School approaches and the Comprehensive School Health Program model have inspired many ways of integrating health interventions into school settings. Regardless of the term used, general agreement is on the rise regarding the characteristics of these approaches. To facilitate reading, the term Health Promoting Schoolis used herein to designate this type of approach.

Health Promoting School approaches call upon the whole school so that the entire school experience is health-promoting.[168] These approaches address values, policies, standards, the physical environment, class curricula, pedagogical practices, relationships between individuals, and links between the school, the family and the community.[169] From this perspective, health promotion in general and mental health promotion in particular are fundamental elements of a global vision of health[170] and become the business of the entire school.[171] In fact, the health promotion principles in the Ottawa Charter led to the development of these approaches.[172]

Relevance

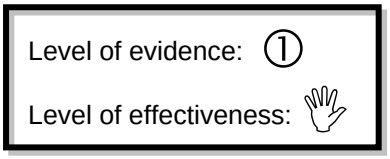
Public policy	Supportive environment	Community action	Personal skills	Health services

Schools that adopt a Health Promoting School approach cooperate with families, primary health care services, and other organizations working with youth. This context provides the opportunity to act not only in mental health promotion, but also in mental disorder prevention with all students and staff. Thus, in addition to responding to the needs of those in the school, a health promoting school includes, in its activities, prevention programs for at-risk clienteles and early interventions for those with symptoms of mental disorders.[173] In the same vein and in cooperation with other authorities such as health institutions, it helps with the identification, interventions and follow-up of youth at risk of experiencing mental disorders.[174]



[168] (Réseau suisse d'écoles en santé, 2005)
[169] (Wear & Markham, 2005)
[170] (Policy Leadership Cadre for Mental Health in Schools, 2001)
[171] (Réseau suisse d'écoles en santé, 2005)
[172] (Mukoma & Flisher, 2004)
[173] Policy Leadership Cadre for Mental Health in Schools, 2001
[174] (Jané-Llopis & Anderson, 2006)

Effectiveness



Studies on the effectiveness of Health Promoting School approaches are sparse and are confronted with methodological issues, but the results are promising.[175] Although there has not been an evaluation of the approach with all its components, a systematic review by Lister-Sharp et al. (1999) constitutes a good evidence base. These authors identified eight evaluation studies on interventions resembling those of Health Promoting Schools. The interventions included activities in one or more of the following areas: school curriculum, school climate and the school-family-community partnership. The authors conclude that there can be an impact on the health and well-being of a young person and his or her environment. In particular, the interventions are able to influence the school's physical and social environment, family-community-school relationships, the school curriculum, and the young peoples' knowledge. Some studies also show that these approaches can have a positive impact on self-esteem and aggressive behaviour, as well as some health-related behaviour. However, studies have also demonstrated that these approaches are less effective at modifying behaviour associated with tobacco and alcohol use. Unfortunately, no study reviewed by Lister-Sharp et al. (1999) included all the elements of these approaches. Moreover, none of them succeeded in reaching all the goals. The studies also differed in terms of design, implementation, and goal. The authors conclude that only rigorous and skillfully applied interventions and those that fully respect the principles of Health Promoting Schools have the potential to affect the mental health of youth.

In her review of evidence on the effectiveness of health promotion in schools and the Health Promoting School approach, Stewart-Brown (2006) concludes that the most effective mental health promotion interventions in school settings in terms of behavioural changes are those that are complex, multifactorial and multi-modal. This systematic review conducted for the World Health Organization revealed that the most effective interventions are based on the principles of Health Promoting Schools. Stewart-Brown (2006) recognizes that certain elements of the approach are effective, but also maintains that more evidence is needed before concluding that this approach is more effective than others for mental health promotion in school settings. Mukoma and Fischer (2004) reviewed nine evaluation studies on the Health Promoting School approach. They conclude that it is currently difficult to take a definitive position on the effectiveness of this approach, given the methodological differences among the evaluation studies and given that, with most of these methodologies, the results obtained cannot be definitively attributed to the intervention. They therefore recommend the development of appropriate methods to evaluate the global impact of this type of approach with respect to each area of intervention.

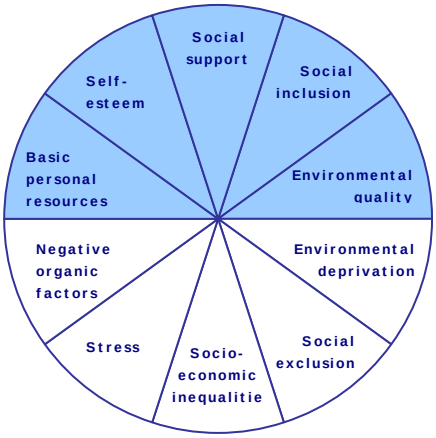
[175] (Stewart-Brown, 2006a); (Wear & Markham, 2005); (Lister-Sharp et al., 1999)

7.1.2. Mental health promotion programs in school settings

The goal of mental health promotion programs in school settings is to enhance the impact of the protection factors associated with mental health such as basic personal resources and self-esteem among youth. They mostly include health education and skills development programs in the classroom, but also programs combining direct interventions with individual young people and measures targeting the involvement of parents and the community in a health promotion exercise along with the young person.

Relevance

Public policy	Supportive environment	Community action	Personal skills	Health services



Good basic personal resources and positive self-esteem help one effectively cope with the demands and challenges of daily life;[176] they are associated with school success, well-being, the development of positive interpersonal relationships, a positive perception by peers and the acquisition of good coping skills.[177] Conversely, a delay or a deficiency in the development of certain basic skills such as cognitive, communication, problem-solving or coping skills, and low self-esteem, affect the motivation and school performance of youth[178] and increase the risks of social, behavioural[179] and mental problems.[180] In fact, youth who did not have opportunities to acquire these basic skills early in life are more at risk of being in a depressive state,[181] being rejected by their peers, and engaging in destructive behaviour, such as violence, drug and alcohol abuse or suicide.[182]

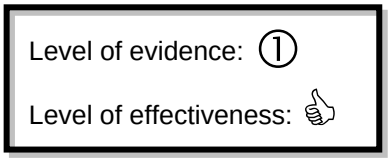
Social support is also very important to the mental health of school-aged youth. In fact, youth with a number of concurrent family risk factors who have the possibility of maintaining a significant relationship with another adult are more often resilient to adversity experienced in their family setting.[183] Thus, having a confidant, model or mentor helps protect their mental health.[184] Teachers and other school personnel, particularly when they are in good mental health, may play this role.

[176] (Hamel et al., 2001); (OMS, 2005a)
[177] Trzesniewski et al., 2003 cited in (Biro et al., 2006)
[178] (Hamel et al., 2001)
[179] Crocker & Wolfe, 2001 cited in (Biro et al., 2006); (Hamel et al., 2001)
[180] (Landazabal, 2006)
[181] Masten & Coatsworth, 1995 cited in (Hamel et al., 2001)
[182] (Payton et al., 2000)
[183] Jenkins & Smith, 1990 cited in (Ellis & Collings, 1997)
[184] (Commonwealth Department of Health and Aged Care, 2000)

Interpersonal relationships with peers are also an important source of social support for youth and can be a determining factor to their well-being.[185] Friendship assumes greater and greater importance as they grow. It provides them with a space within which they have the possibility to enhance their social and emotional skills. Belonging to a group of positive peers is a protection factor for them.[186] Friendship, when it contributes positively to the socialization process, is associated with better academic results, better coping skills, fewer emotional problems, and greater cognitive skills.[187] Young people who have positive relationships with their peers engage less in aggressive and anti-social behaviour.[188] Generally speaking, they identify themselves as happier and more satisfied with their lives.[189]

Mental health promotion also involves measures aimed at providing school-aged children with environments conducive to mental health. Studies show that a quality, healthy, stimulating and safe school environment is associated with better physical and emotional health[190] and the adoption of safe behaviour.[191] The school can also promote the community involvement of youth and their sense of belonging to the community through extracurricular and community-oriented activities. Participation in such activities fosters social inclusion and is associated with better perceived health, positive socio-emotional development, better self-perception, and a feeling of independence.[192]

Effectiveness



Mental health promotion programs in school settings can influence young peoples' behaviour and health.[193]

In their systematic review of universal approaches to mental health promotion in schools, Wells et al. (2003) conclude that there is sufficient evidence of the effectiveness of these programs. Generally speaking, the studies reviewed by Wells et al. (2003) demonstrate that these programs foster a better self-concept, reduce aggressive behaviour, and contribute to the development of problem-solving and negotiation strategies. Durlak et al. (1997) also report significant results for these programs especially when their goal is the acquisition of emotional management and problem-solving skills.[194] These studies identify many effective programs in school settings. The Promoting Alternative Thinking Strategies (PATHS) program is an example. Its goal is to promote social and emotional competence by teaching basic skills in the classroom. The results of numerous randomized design evaluation studies on this program indicate

[185] (Lindberg & Swanberg, 2006)
[186] (Commonwealth Department of Health and Aged Care, 2000)
[187] McLaren, 2002 cited in (Institut canadien d'information sur la santé, 2005)
[188] Van Lieshout et al., 2005 cited in (Hartup, 2005)
[189] Meehan, Durlak & Bryant, 1993 cited in (Hamel et al., 2001)
[190] Ross & Wu, 1995 cited in (Institut canadien d'information sur la santé, 2005)
[191] Resnick et al., 1997 cited in (Institut canadien d'information sur la santé, 2005)
[192] Murphey et al., 2004 cited in (Institut canadien d'information sur la santé, 2005), (Jané-Llopis & Anderson, 2005)
[193] (Wells et al., 2003)
[194] (Durlak & Well, 1997)

significant improvement in behaviour and in emotional management and problem-solving skills. These improvements were maintained two years after the end of the intervention.[195]

The systematic reviews of Browne et al. (2004), Mann et al. (2004), Wells et al. (Wells et al., 2003) and Tilford et al. (1997) indicate that mental health promotion interventions in the classroom (programs with multiple components or specific to certain skills) lead to improvement in young peoples' self-concept, self-esteem and coping strategies. Some authors suggest that programs specifically targeting the development of self-esteem have more impact than programs with multiple components.[196] According to a meta-analysis by Haney and Durlak (1998) on 120 interventions to increase self-esteem, programs specifically targeting self-esteem are more effective than those targeting an improvement in social skills in general. Note that the development of self-esteem is a complex process that is dependent upon a set of factors, including the young person's level of confidence in his or her skills, a positive attitude of the teacher vis-à-vis the student and a positive and stimulating classroom and school climate, etc. [197]

A number of authors[198] stress that programs using a behavioural approach based on individuals or focused on a specific mental health curriculum are less effective than those using multiple strategies such as an educational intervention in the classroom along with efforts to modify the school environment and foster the involvement of parents and the community. The most effective programs are those implemented in an ongoing manner, over a period of more than one year.[199]

[195] Greenberg & Kische, 1997 cited in (Greenberg et al., 2001)
[196] (Stewart-Brown, 2006b); (Harden et al., 2006)
[197] (Browne et al., 2004); (Wells et al., 2003); (Lawrence, 2006)
[198] (Wells et al., 2003); (Lister-Sharp et al., 1999), (Stewart-Brown, 2006a)
[199] (Wells et al., 2003)

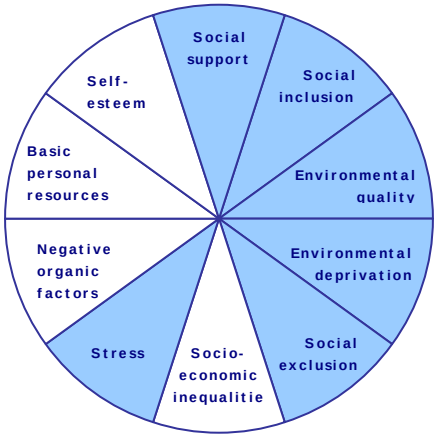
7.1.3. Interventions to improve the school environment

Interventions developed to improve the school environment address mainly the physical and social environment. The creation of a physical environment conducive to learning and healthy behaviour at school involves efforts targeting the buildings, grounds, play areas, and equipment, inside and around the school, as well as basic facilities conducive to the adoption of an active lifestyle.[200] The creation of an effective social environment at school refers to the creation of a climate that encourages learning, in other words, which is non-violent, where the relationships between the various players onsite, whether between school staff, between students or between students and staff, are open, harmonious and respectful.[201] The creation of a healthy social environment includes the relationships that are developed with parents and the community in the broad sense[202] and the development of extracurricular activities that promote a sense of belonging to the school.

Relevance

Public policy	**Supportive environment**	**Community action**	Personal skills	Health services

Young people who develop in a quality school environment without violence generally are in better health and obtain better results in school.[203] The quality of the social environment at school is particularly important for promoting the mental health of young people. A number of authors believe that interventions with the goal of positively modifying the social environment should be favoured and also be part of a global approach to health promotion at school.[204] An environment conducive to mental health promotes the development of reciprocal, trusting relationships between peers and between youth and school personnel. It is now known that a cohesive, non-violent school setting contributes to the development of a strong sense of belonging to the school and constitutes a mental health protection factor. Moreover, feeling safe at school is associated with better physical and emotional health and with a lower tendency to take risks,[205] especially in terms of sexual or violent behaviour.[206] Conversely, a negative social atmosphere at school can increase the risks of mental disorders independently of the nature of other influences (social, community or family) to which the young person is exposed. A weak emotional connection between the young person and his or her teachers,



[200] (St-Léger, 2005)
[201] (OMS, 2004b)
[202] (St-Léger, 2005)
[203] (St-Leger, 1999)
[204] (St-Leger, 1999)
[205] Ross & Wu,1995 cited in (Institut canadien d'information sur la santé, 2005)
[206] Resnick et al., 1997 cited in (Institut canadien d'information sur la santé, 2005)

lack of monitoring and supervision, and punitive and inconsistent teaching practices, for example, may be risk factors for the mental health of youth.[207]

From another perspective, research reveals that community involvement and a feeling of belonging to the community are fostered by the opportunities offered to youth to participate in extracurricular community activities, such as belonging to clubs, taking part in sports, pursuing artistic activities or volunteering. Participation in extracurricular activities and community life is associated with a better perception of one's health and of oneself, and a feeling of independence.[208] Involvement in a variety of activities has been linked to positive socio-emotional development in the medium term and, in the longer term, to an increase in the number of youth employed, earning a salary and with access to social and health resources.[209]

According to the Canadian Population Health Initiative (CPHI),[210] youth aged 12 to 15 who state that they are very involved with their school, report having more self-confidence, and being in better physical health than youth who do not volunteer. They also have fewer connections with people associated with criminal activities. However, youth who are active in their school and community experience more anxiety than less active youth. This result is consistent with those of recent studies that demonstrate that in the past few decades, the time adolescents devote to recreation, sports and other phyiscal activities has increased significantly, accentuating their feeling of not having enough time, as well as their stress.[211]

Youth are not exempt from discrimination, at times even in school, because of their ethnicity, religious affiliation or sexual orientation.[212] Discrimination limits the participation of young people in school and community activities. In addition to experiencing social rejection, youth who are victims of discrimination, have less access to a wealth of activities that would enrich their development. The feeling of experiencing discrimination at school may have negative repercussions on self-esteem and academic motivation, and enhance anger and aggressive behaviour as well as depressive symptoms.[213]

[207] (Rutter, 1983); (Kasen et al., 1990)
[208] Murphey et al., 2004 cited in (Institut canadien d'information sur la santé, 2005)
[209] (Jané-Llopis & Anderson, 2005)
[210] (Institut canadien d'information sur la santé, 2005)
[211] Zuzanek, 2005 cited in (Institut canadien d'information sur la santé, 2005)
[212] Fisher, Wallace & Fenton, 2000 cited in (Brown, 2006)
[213] Fisher et al., 2000; Wong et al., 2003 cited in (Brown, 2006)

Effectiveness

Level of evidence: ②

Level of effectiveness: 👍

The few studies that have looked into the effectiveness of interventions to improve the school environment have obtained positive results. A study by Hawkins and his colleagues on teacher training programs to foster the development of positive contacts with their students shows that this can contribute significantly to reducing aggressive behaviour among boys and self-destructive behaviour among girls.[214] Moreover, violence prevention programs aiming to restructure the school environment and address the classroom climate at the same time have a positive impact.[215] Studies indicate that modifying psychosocial aspects of the classroom climate is an effective strategy for addressing youth behaviour and contributes to good educational pathways.[216]

In Wells' systematic review on universal interventions in mental health promotion at school, Barlow and Stewart-Brown (2003) identify four studies dealing specifically with the effectiveness of programs aiming to modify certain aspects in the school environment. Three of them (ex.: the STEP program[217]) demonstrate positive impacts, especially on self-esteem and the reduction of aggressive behaviour, but no significant impact was revealed in the fourth. According to the results of this systematic review, programs that aim to ease the transition from elementary to high school through efforts pertaining to the school environment (ex.: reorganizing the environment so that it promotes stable social relationships, providing group-class stability, and more opportunities to create connections between the school, parents and the community) are effective on several fronts. They improve self-esteem, coping with school-related changes, and also reduce anxiety, depression and delinquent behaviour during this transition period. The long-term impact of these programs has also been shown in terms of persistence in school.[218]

Prevention programs for all youth and at-risk groups

This category includes parenting skills training programs for the parents of children with behavioural problems, and programs that aim to prevent violence, substance abuse and mental disorders among at-risk youth.

[214] (Hardern et al., 2001)
[215] (OMS, 2004a)
[216] (Durlak & Well, 1997)
[217] Felner et al., 1993, cited in (Wells et al., 2003)
[218] (Wells et al., 2003)

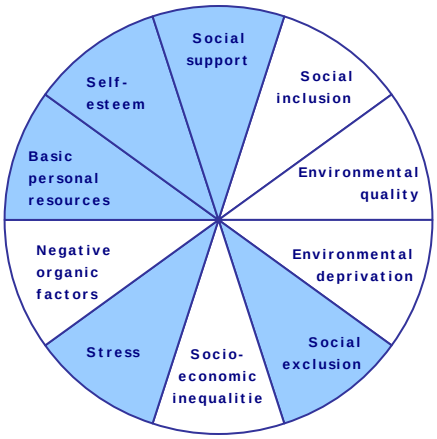
7.1.4. Parenting skills training programs for parents of youth with behavioural problems

The objectives of these interventions are to support parents in their parenting role, thus reducing their stress, and to contribute to the development of the young person's basic resources. These interventions are particularly aimed at parents of youth with behavioural problems.

Relevance

Public policy	**Supportive environment**	Community action	**Personal skills**	Health services

The family is the environment with the most influence on a young person. Research results from numerous studies indicate that the support of a parent or another loved one protects youth from psychosocial adjustment problems and helps them develop resilient behaviour to confront adversity. Parental support is also associated with higher self-esteem among youth and the development of good basic skills.[219]

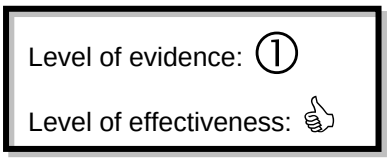


The positive impact of parental support nevertheless depends on the emotional availability of parents and the quality of their parenting practices. A lack of parental availability due to a high level of stress or physical or psychological illness presents a risk for the young person of developing mental health problems. In this regard, certain occurrences such as separation, marital conflict, mental disorders or dependency problems in parents[220] contribute to the presence of antisocial behaviour and substance use in young people.[221]

There is also evidence linking certain parenting practices to the development of behavioural problems. The lack of a warm, positive bond between a parent and the young person or disciplinary practices that are authoritarian, rigid, inflexible or inconsistent are factors that increase the risk of behavioural and emotional problems in youth.[222]

[219] Franco & Levitt, 1998 cited in (Hamel et al., 2001)
[220] (Ellis & Collings, 1997)
[221] (Commonwealth Department of Health and Aged Care, 2000; Ellis & Collings, 1997)
[222] (Sanders, 2002)

Effectiveness



Programs for parents are based on the premise that enhancing parenting skills will have an impact on parent-child relationships and the development of youth, and reduce the risk of maltreatment. In their systematic reviews on the effectiveness of group programs with parents of young people with behavioural problems (aggression, violent outbursts of anger, and disobedience), Barlow (1999)[223] and Barlow and Stewart-Brown (2000) reveal that such programs have positive impacts on youth's behaviour as shown by objective measures and as perceived by their parents. These changes are long-lasting.

Triple P is an example of an effective program to prevent behavioural and emotional problems in young people by enhancing the knowledge, skills and confidence of parents. This program has a number of components including some that provide parent training sessions and family-based behavioural interventions based on the family's needs. The results of an evaluation of this program aimed at the parents of youth with behavioural problems demonstrate that, in the short term, participating families report fewer behavioural problems among youth and better parenting skills. In the long term, the prevalence of behavioural disorders among youth was reduced by 30%.[224]

[223] (Barlow, 1999); (Barlow & Stewart-Brown, 2000)

[224] (Sanders et al., 2000), (Sanders et al., 2004), (Sanders & Morawska, 2006)

7.1.5. Interventions to prevent violence

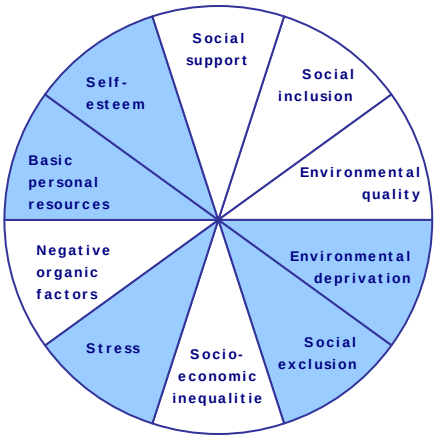
Generally speaking, these interventions target youth and one or more of their living environments. They rely on various methods and strategies.[225] On one hand, they enable direct interventions with the child at school and, on the other, they act indirectly on youth by addressing, among other things, the quality of their relationships with their living environments[226] or educational consistency among the various settings concerned.[227]

Relevance

Public policy	**Supportive environment**	Community action	**Personal skills**	Health services

Violence among peers can be expressed in a variety of ways. Be it through aggressive actions, bullying, extortion, or dating violence, it has a negative impact on the mental health of young victims.

Bullying refers to any aggressive act (physical, verbal or written) committed with the intention of hurting a victim and having power over him or her.[228] Extortion is a form of bullying in which the victim is compelled, through aggressive or repressive actions, to part with goods or money.[229] The phenomenon of Bullying is found at both the elementary[230] and high school level[231] and any young person can be a victim. Some youth, however, are more at risk of being victims of violent acts because they belong to a minority, are homosexual, physically disadvantaged, homeless, have a different ethnicity or religious affiliation or because they suffer from a mental illness.[232]



There are many consequences of violence. It negatively affects self-esteem,[233] mental health[234] and school performance.[235] Victims of bullying also may adopt violent behaviour[236] and may have suicidal thoughts.[237] The impact of bullying is not limited to the victims. The aggressors are also affected by their aggressive behaviour.[238] Aggressors have more

[225] (OMS, 2004a)
[226] (Wear & Markham, 2005)
[227] (Martin & Arcand, 2005)
[228] (Flores et al., 2005a)
[229] (Bouchard et al., 2005)
[230] (Glew et al., 2005)
[231] (Nansel et al., 2001)
[232] (Hinshaw, 2005)
[233] (Flores et al., 2005a)
[234] (Juvonen et al., 2003)
[235] (Flores et al., 2005a)
[236] (Juvonen et al., 2003)
[237] (Flores et al., 2005a)
[238] (Flores et al., 2005a)

behavioural problems at school and have more difficulties in their relationships with peers, even though at times they may experience popularity.[239] Youth who are both victims and aggressors are the most troubled. They are the ones who demonstrate the most internalized and externalized behavioural problems,[240] difficulty at school, and problems in dealing with their peers.[241]

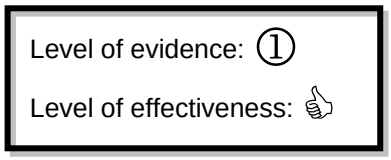
Dating violence among youth is another form of violence with a significant impact on their mental health. As in domestic violence, dating violence in youth is expressed via psychological, sexual or physical aggression.[242] This type of violence particularly affects the development of the adolescent's identity and has an impact on his or her future romantic relationships.[243] In addition, having been a victim of dating violence is related to a loss of self-confidence, anxiety, and depression as well as an increased risk of unwanted pregnancies and sexually transmitted infections.[244] The victims, like the aggressors, show significant impairment in terms of their communication and problem-solving skills.[245] The impact of dating violence is also felt in the school context in terms of absenteeism, behavioural disorders, and a change in school performance.[246]

Assaults in the community may be linked to mental health problems among young people. These assaults are often associated with high rates of vandalism, delinquency, physical and sexual abuse, and homicides.[247] It is known that young people who live in neighbourhoods where there are high rates of crime and violence are more at risk of both being victims of violence and committing violence against others.[248]

Violence experienced at school or in the community increases stress and vulnerability to mental disorders such as depression and anxiety.[249]

[239] (Juvonen et al., 2003)
[240] (Arseneault et al., 2006)
[241] (Juvonen et al., 2003)
[242] Price et al., 2000 cited in (Université de Calgary, 2007); Silverman et al., 2001 cited in (Whitaker et al., 2005)
[243] O'Leary et al., 1994 cited in (Whitaker et al., 2005)
[244] (Université de Calgary, 2007), Silverman et al., 2001 cited in (Whitaker et al., 2005)
[245] (Cornelius & Resseguie, 2007)
[246] (Flores et al., 2005b)
[247] (Jané-Llopis & Anderson, 2005)
[248] (Jané-Llopis & Anderson, 2005)
[249] (Jané-Llopis & Anderson, 2005)

Effectiveness of peer violence prevention



Universal violence prevention programs in school settings have shown significant results, although their impact is often moderate and tends to fade with time.[250] Selective prevention programs are also effective, especially for reducing aggressive behaviour and improving the response of schools to acts of aggression.[251] The effects of these programs intended for youth with behavioural problems last for 12 months after the intervention. However, there is no evidence that the effects last beyond this time period.

There is consensus that the most effective programs, be they universal or selective, are those that target the youth's social skills and their living environments (family, school or community) at the same time. For example, interventions that combine efforts pertaining to the acquisition of basic personal resources among youth with a parenting skills training program obtain significant results in terms of reducing the number of aggressive acts in the school yard and various behavioural problems including rejection, theft and vandalism.[252] The evaluation of an intervention targeting school administrators and professionals as well as parents showed it to be effective in reducing behavioural problems and improving students' perception of their skills.

In the same vein, the most effective bullying prevention programs at school generally target the aggressor, the victim and the witnesses, as well as teaching staff and school administrators. A systematic review by Vreeman and Caroll (2007) identified 28 studies on the effectiveness of these interventions. The results suggest that educational programs and social skills training are less effective that those that adopt a global approach and involve teachers and school administrators as well as students and student organizations working together to create an bullying-free school environment. The authors of this systematic review conclude that the most effective way to reduce bullying in school is to involve the entire school so that everyone changes his or her attitude and behaviour with respect to this problem.[253]

It has been observed that programs targeting a number of youth settings obtain interesting results. A review of effective programs reveals that interventions that mobilize parents, the school, the local community and organizations from the community are more likely to produce results affecting the behaviour, learning and mental health of youth than those targeting only one setting.[254] The Communities that Care program implemented in a number of American states is a good example of this type of approach. This program has been evaluated using a pre- and post-test design in more than 40 communities. The results indicate an improvement in the behaviour of youth, the skills of the parents, and relationships within the family and the community. A significant reduction in school problems and criminal

[250] (Greenberg et al., 2001)
[251] (Mytton et al., 2006)
[252] (OMS, 2004a)
[253] (Vreeman & Carrol, 2007)
[254] Durlak, 1995 cited in (Wear & Markham, 2005)

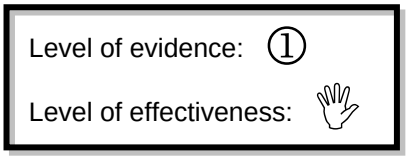
acts, especially those associated with possession of firearms, theft, possession and use of drugs, and assault was also observed.[255] Communities that Care has been adopted by a number of other countries including the Netherlands, England, Scotland, Wales and Australia.

The success of these programs may be due to the fact that they place equal importance on the behaviour of the young person and that of teachers and parents, and because they pay particuliar attention to the relationship between the family and the school. They also take into account the needs of the school environment and the community in terms of their role in the development of youth's positive social and health behaviour. In short, these programs, in particular those with a strong community component, have a greater chance of having an impact.[256]

Finally, according to Mytton et al. (2006), interventions with at-risk youth aiming to improve social and interpersonal skills are more effective than those with the goal of teaching youth not to react or respond to provocations or situations involving conflict. The effectiveness of these selective prevention programs is the same for elementary school children as it is for those in high school. The positive impacts of these programs are the same for mixed groups as for groups made up only of boys. However, it is not known which prevention program components ensure the best results.

[255] (Jané-Llopis et al., 2005b); (OMS, 2004b)
[256] (Greenberg et al., 2001)

Effectiveness of dating violence prevention



The dating violence prevention programs use diverse approaches. These programs obtain contradictory results, depending on the approach they use.[257] A systematic review by Whitaker et al. (2005) [258] of primary dating violence prevention programs among youth includes 11 short programs (less than five hours), generally given in school. Only two of the four programs measuring behavioural changes obtained significant results. Fewer youth participating in the Safe Dates program [259] compared to those in a control group reported having committed or been the victim of physical or sexual violence. This effect was still prevalent four years after the end of the program. Youth participating in the Youth Relationships Project community program[260] also reported having committed fewer acts of violence. These two programs are based on a global intervention approach that features an individual and a community component. The authors conclude that it is premature to reach a conclusion about the effectiveness of this type of program in preventing dating violence, but that these programs are promising. An analysis by Hickman et al. (2004) also concludes that evidence of the effectiveness of these programs is limited and that the results are at times conflicting.[261] The main limitations of the evaluation studies are the scarcity of data on changes in attitudes and behaviour, and the lack of longitudinal studies.[262]

[257] (Cornelius & Resseguie, 2007)
[258] (Whitaker et al., 2005)
[259] (Foshee et al., 2004)
[260] Wolfe et al., 2003 cited in (Whitaker et al., 2005); (Hickman et al., 2004)
[261] (Hickman et al., 2004)
[262] (Cornelius & Resseguie, 2007)

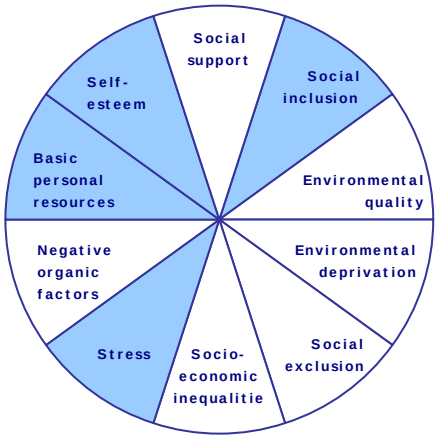
7.1.6. Interventions to prevent substance abuse

The goal of these interventions is to prevent substance abuse – both alcohol and drugs – among school-aged youth. Generally speaking, these interventions target both youth and one or more of their living environments. School programs are aimed primarily at increasing knowledge of the effects of drugs, improving self-esteem and self-efficacy, developing social skills, enhancing the status of alternatives to drug use, etc.[263] Other programs target the school environment, the media or the community.

Relevance

Public policy	**Supportive environment**	Community action	**Personality skills**	Health services

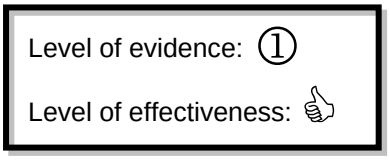
There is general agreement on the importance of delaying one's first exposure to alcohol[264] and drugs[265] and of preventing the transition from experimentation to dependency. In fact, since the neurological and psychological factors that increase the risk of developing drug dependency are still relatively unknown, even occasional substance use can lead to dependency[266]. Grant (1997)[267] adds that there is evidence that drinking alcohol at a young age is related to dependency in adulthood. Moreover, it has been shown that alcohol abuse is associated with delinquency and violent behaviour among youth, even when personality is taken into account.[268] The relationship between dependency disorders and certain psychiatric problems has been demonstrated on numerous occasions.[269]



[263] (Faggiano et al., 2005)
[264] (Foxcroft et al., 2002)
[265] (Faggiano et al., 2005)
[266] Leshner, 1999 cited in (Faggiano et al., 2005)
[267] (Foxcroft et al., 2002)
[268] Komro, 1999 cited in (Foxcroft et al., 2002)
[269] (Rao, 2006)

Youth with low self-efficacy, fewer skills, and impulsive and aggressive behaviour are at greater risk of developing mental disorders and associated problems such as substance abuse.[270] Moreover, certain situations such as separation, marital conflict, mental disorders or dependency problems in parents[271] contribute to the emergence of anti-social behaviour and substance use in children and youth.[272] Among youth aged 12 to 15, students who say they feel very involved in their school report less inclination to use marijuana and alcohol and to smoke.[273]

Effectiveness



Although the consequences and the severity of drug and alcohol abuse problems are noted to a greater extent among adults, according to scientific literature, school-aged youth are generally the group most often targeted by prevention programs. The results of a systematic review by Faggiano et al. (2005) on the effectiveness of primary drug abuse prevention programs in school settings demonstrate that programs focused on the acquisition of social skills and skills to resist peer pressure are the most effective in improving decision-making skills, self-esteem, and resistance to peer pressure, and in reducing the use of drugs such as marijuana and heroin. Although significant, the effectiveness of these programs is nonetheless limited. There are few quality studies on the long-term effects of this type of program. Measures to improve self-esteem have an impact on decision-making skills, but seem to increase the risk of marijuana use.

Meta-analyses by Tobler et al. (2000) and Faggiano et al. (2005) on school-based drug abuse prevention programs indicate that programs to educate youth on the physical, psychological and social effects of drug abuse show very litle impact. According to Tobler et al. (2000), it is programs that target interpersonal skills and seek to change the school environment and involve teachers, parents and the community that obtain the best results.

As for alcohol abuse specifically, the results of a systematic review by Foxcroft et al. (2002) on the effectiveness of primary alcohol abuse prevention programs provide less evidence. However, some programs such as the Strengthening Family Program[274] and others focused on skills acquisition are promising in the longer term.

Faggiano et al. (2005) consider that the results of the two reviews regarding alcohol and drugs obtain similar results in the short term. They thus conclude that common prevention programs for the two problem areas are useful. Other more rigorous studies evaluating long-term effects are needed.

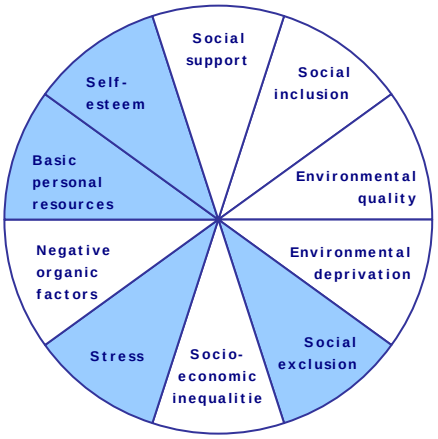
[270] (Mrazek & Haggerty, 1994)
[271] (Ellis & Collings, 1997)
[272] (Ellis & Collings, 1997); (Commonwealth Department of Health and Aged Care, 2000)
[273] (Institut canadien d'information sur la santé, 2005)
[274] Spoth, 2001 cited in (Foxcroft et al., 2002)

7.1.7. Interventions for youth at risk for depression or anxiety

This measure aims to identify youth with early signs of depression or anxiety and provide them with a psychological or educational intervention. These interventions are generally of a selective nature, although some universal interventions have also been developed.

Relevance

Public policy	Supportive environment	Community action	**Personal skills**	**Health services**

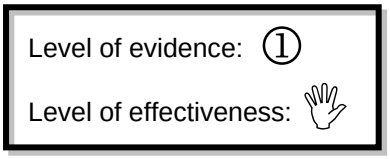


Depression among youth is associated with poor school performance, social dysfunction, addiction and suicide.[275] Rapid intervention at the very beginning of a problem can halt its progress and, in certain cases, reduce the incapacities that can be associated with it over the long term. Group interventions targeting youth at high risk of depression or anxiety are generally based on cognitive-behavioural approaches and address basic personal resources and self-esteem. Other interventions rely on health education strategies to prevent depression and anxiety disorders.[276] Recent research on brain functioning suggests that screening and early intervention can both reduce the accumulation of iatrogenic effects caused by long periods of abnormally negative and maladjusted thoughts and behaviour, and produce positive results in the short term.[277]

The fear of being stigmatized is one of the factors that most limits the use of mental health services. In the case of youth experiencing mental health problems, their parents are often fearful of services because of the fear of being blamed for their child's difficulties. Young people themselves fear stigmatization by their peers and friends.[278]

[275] (Merry et al., 2004)
[276] (Merry et al., 2004)
[277] (New freedom commission on mental health, 2003)
[278] (Gonzalez, 2005)

Effectiveness



The effectiveness of early interventions that include a case identification procedure for youth at risk of depression is limited but promising. Despite the limited number and limited quality of studies identified, a meta-analysis by Cuijpers et al. (2006) concludes that early intervention in school settings is effective in reducing the consequences of depression among children and adolescents. However, the long-term effectiveness of these measures has not been demonstrated.

In their systematic review of the effectiveness of psychological and educational approaches to prevent depression (universal and selective), Merry et al. (2004) arrive at similar conclusions. According to them, a psychological approach enables a significant reduction in the symptoms of depression. Studies by Clarke et al. (1995) and Clarke (2001) on selective intervention using a cognitive-behavioural group approach with adolescents at high risk of depression reveal that such an approach can prevent short-term depression. This type of intervention led to a reduction in the prevalence of depression 6 and 12 months after the intervention. The prevalence of new cases in the intervention group was 14.5%, whereas in the control group it was 25.7%.[279] Neither educational nor universal approaches, however, have had a significant impact in reducing depression among youth.

Although the results of these studies are encouraging, Cuijpers et al. (2006) and Merry et al. (2004) call for caution, since methodological problems must be taken into consideration. For instance, studies that addressed the effectiveness of depression prevention programs based on a selective approach had no comparison group (control group).[280] According to Shapiro and Shapiro (1997), the placebo effect is particularly high in studies on psychotherapy, especially in studies on depression.[281] It is thus important to consider this effect in the analysis of results, which was not the case for the studies reviewed by Merry et al. (2004). Cuijpers et al. (2006) also suggest evaluating the impact of these measures on the stigmatization of youth before systematically introducing them in all schools.

It must be stressed that systematic screening is not recommended in primary health care services for youth. In fact, the Canadian Task Force on Preventive Health Care[282] does not recommend screening for depression among children and adolescents during periodic medical exams. This recommendation is based on the results of a meta-analysis by Pignone et al. (2002), which concludes that current data do not conclusively show the effectiveness of systematic screening for depression among children or adolescents in the context of primary health care.

[279] (Clarke et al., 1995)
[280] (Cuijpers et al., 2006); (Merry et al., 2004)
[281] (Merry et al., 2004)
[282] (MacMillan et al., 2005b)

As for the prevention of anxiety disorders, a strategy that has proven effective consists of enhancing emotional resilience and cognitive skills,[283] as in the Friends program, for example. There is, however, less evidence on the effectiveness of anxiety prevention programs than on the effectiveness of depression prevention programs.

[283] (James et al., 2005); (OMS, 2004a)

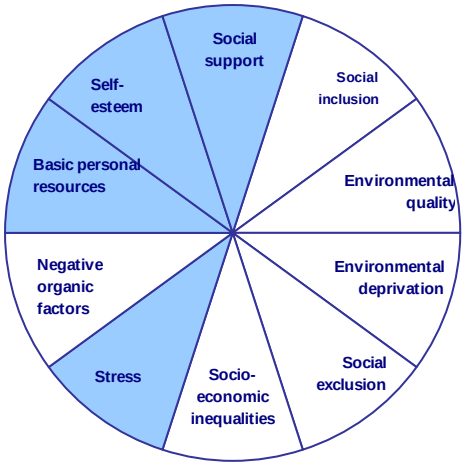
7.1.8. Interventions for youth with separated parents

Interventions with youth whose parents are separated generally aim to enable youth to talk about their difficulties and develop strategies to manage their emotions and solve problems.

Relevance

Public policy	Supportive environment	Community action	**Personal skills**	**Health services**

Youth with separated parents are at greater risk of developing mental disorders.[284] Firstly, separation may affect the emotional availability of some parents and thus negatively affect their ability to respond to the psychological needs of their children. Secondly, a family break-up creates a period of instability for children. Since the family is the most influential environment for a child, any change in its structure requires significant effort on the part of the child to adjust, which is likely to cause a high degree of stress. In fact, it has been observed that parental separation increases a child's risk of depression, especially when the separation occurs between the ages of 11 and 16.[285] The self-esteem of young people and their ability to manage intense emotions may be affected by the separation of their parents.[286]



Effectiveness

Level of evidence: ②

Level of effectiveness: 👍

Two types of program aiming to prevent psychological problems among youth with separated parents have been identified in scientific literature: programs intended for youth and those directed at parents. Programs for the children of separated parents are generally short, offered in a group setting, and aim to help young people understand what is happening to them and manage the changes caused by the separation of their parents.[287] The group programs in school settings demonstrating the highest effectiveness are those based on the development of emotional management skills (anger control), self-esteem, problem solving and communication. Evaluation studies have shown that children between the ages of 8 and 12 had fewer symptoms of depression and fewer behavioural problems one year after having taken part in this type of intervention.[288] In the short term, group interventions also allow youth to benefit from the support of other children and to be less isolated.[289] As an example,

[284] (Morin & Chalfoun, 2003)
[285] Chase-Lansdale, Cherlin & Keirman, 1995 cited in (Morin & Chalfoun, 2003)
[286] (Commonwealth Department of Health and Aged Care, 2000)
[287] (Durlak & Well, 1997)
[288] Wolchik et al., 2000 cited in (OMS, 2004a)
[289] (OMS, 2004a)

the Children of Divorce Intervention Program in school settings has shown interesting results, especially in terms of the child's adjustment.[290]

Programs intended for divorced parents focus on parenting skills and managing emotions. These programs have demonstrated a positive impact on the parent-child relationship, discipline, and the reduction of internalized and externalized problems in the child.[291] A study by Wolchik et al. (2002) on the short-and long-term effects of this type of program shows especially positive effects. This randomized, six-year longitudinal study aimed to evaluate the effectiveness of two types of intervention, one targeting only mothers (11 group sessions and 2 individual sessions) and the other mother-child dyads (same program as that offered to the mothers with an additional 11 group sessions with the children). According to the results of this study, the two types of programs are associated with a long-term reduction in the symptoms of mental disorders, externalized problems, marijuana, alcohol and other drug use, and risky sexual behaviour. At the time of the follow-up, six years after the intervention, 11% of the adolescents in the experimental group had been diagnosed with a mental disorder in the previous year, compared to 23.5% of the control group.[292] The program also revealed short-term effects measured by parental and teacher observations on problem behaviours, coping, and anxiety among children and adolescents.[293]

[290] (Greenberg et al., 2001)
[291] (OMS, 2004a)
[292] (Wolchik et al., 2002)
[293] (Wolchik et al., 2002)

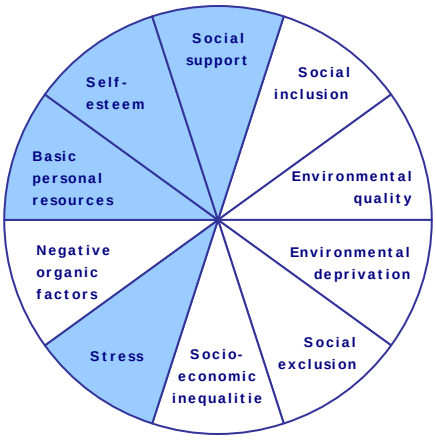
7.1.9. Interventions for grieving youth

Interventions for youth who have lost a parent generally have the goal of enabling young people to talk about their difficulties and adopt emotional management strategies. These programs may be directed at the child only or at the remaining parent and their child.

Relevance

Public policy	Supportive environment	Community action	**Personal skills**	**Health services**

The loss of a parent is a life-changing event for a young person. According to the results of numerous studies, grieving youth, especially girls, are at greater risk of mental disorders.[294] A longitudinal study by Reinherz et al. (1999) shows that the death of a parent significantly increases the risk among women of developing a major depression at the beginning of adulthood.[295] The quality of the relationship between the surviving parent and the child, the accumulation of stressors experienced during the mourning period, the mental health of the surviving parent and the self-esteem of the child are all factors that affect the relationship between the loss of a parent and the mental health problems of the child.[296]



Effectiveness

Level of evidence: ③

Level of effectiveness: 👍

Although a number of interventions have been designed to respond to the needs of mourning children, few have been rigorously evaluated.[297] An approach that has shown promise combines a group intervention with children and adolescents with a group intervention with surviving parents. For example, the Family Bereavement Program offers an intervention with the young person and his or her family. The objective is to support the entire family in managing the grieving process using an educational and social approach.[298] The results of these programs demonstrate positive short-term effects on the parent-child relationship, stress management skills, the parent's mental health, discipline, and the sharing of emotions. In the long term, the intervention leads to a reduction in internalized and externalized problems among girls. The effects are also more apparent among youth and parents who are the most at risk, i.e. those who were already showing symptoms at the beginning of the program.[299]

[294] (Tein et al., 2006)
[295] Cited in (Tein et al., 2006)
[296] (Tein et al., 2006)
[297] (OMS, 2004a)
[298] (OMS, 2004a)
[299] (OMS, 2004a)

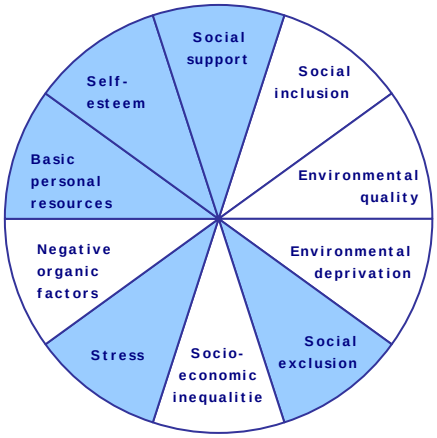
7.1.10. Interventions for youth with a parent suffering from a mental disorder

Interventions for youth with a parent suffering from a mental disorder generally aim to enable them to express their emotions regarding their parent's illness, ask questions, and break their feeling of isolation.

Relevance

Public policy	Supportive environment	Community action	**Personal skills**	Health services

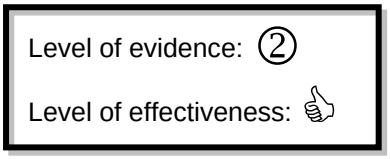
Youth with a parent suffering from a mental disorder have a high risk of developing psychological problems and disorders.[300] The more severe and chronic the parent's illness, the greater the probability that the young person will have a mental disorder.[301] For example, a young person whose mother is in a depressive state is more likely to have behavioural problems, social and school difficulties, poor physical health, and a depression disorder than a young person whose mother is not experiencing depression.[302] The impact of depression and other mental disorders among fathers has been given less attention. However, it appears that young people whose fathers suffer from clinical depression have more emotional and behavioural problems.[303]



It is estimated that 50% of young people whose parents experience depression develop a depression disorder before the age of 20.[304] Other authors are of the opinion that the diagnosis of depression in a parent may also be associated with anxiety, conduct disorder, attention problems, and dependencies.[305] Families in which one of the parents suffers from mental illness are also at risk of experiencing separations and family disruptions resulting from frequent psychiatric hospitalizations.[306] A stable, supportive family environment may however reduce the risks associated with the parent's mental illness.[307]

[300] (Beardslee et al., 2003; Ellis & Collings, 1997)
[301] Keller et al., 1987 cited in (Ellis & Collings, 1997)
[302] Lee & Gotlib, 1990 cited in (Ellis & Collings, 1997)
[303] (Ellis & Collings, 1997); (Clarke et al., 1995)
[304] (Beardslee & MacMillan, 1993)
[305] Anderson & Hammen, 1993 ; Kramer et al., 1997, both cited in Morin & Chalfoun, 2003
[306] (Hinden et al., 2005)
[307] (Ellis & Collings, 1997)

Effectiveness



Clarke et al.[308] propose a group approach in which youth with a parent suffering from a mental disorder learn to identify and modify their negative and irrational thoughts. The results of the evaluation carried out using a randomized controlled design revealed that 15 months after the intervention, participants in the experimental group had an incidence of depression three times less than those in the control group (9.3% versus 28.8%).

The other promising approach targets families in which one of the parents suffers from a mental disorder.[309] This approach may be used by workers from various disciplines including pediatricians, nurses, social workers, and those working in a school setting. It operates from a developmental perspective and interventions are carried out at the age at which youth are most at risk of developing a depression disorder – adolescence. The objectives are to reduce the risk factors and enhance the protection factors by fostering an increase in the positive interactions between parents and adolescents while also enhancing all family members' understanding of mental disorders. The intervention helps parents communicate this information to their children and initiate a dialogue with them on the effects of depression. The results of an evaluation using a quasi-experimental design show that this type of program produces positive effects on the way that parents and youth comprehend parental depression and leads to a significant reduction in risk factors and an increase in protection factors among adolescents for up to two and a half years after the intervention.[310]

[308] (Clarke et al., 2001)
[309] (Beardslee et al., 2003)
[310] (Beardslee et al., 2003)

7.2. RECOMMENDATIONS

This section is divided into two parts. The first comments on measures for youth between the ages of 6 and 17 to be consolidated in the province's public health services program (Programme national de santé publique 2007-2012). The second addresses the measures chosen for which adaptation, development or further research is required.

7.2.1. Measures to be consolidated in the province's public health services program

Table 8. Measures for youth between the ages of 6 and 17 to be consolidated in the province's public health services program

Measures from mental health science advisory report	Factors targeted	Strategies used	Evidence and effectiveness	Québec's Public Health Services Program (PNSP 2007-2012)
Health Promoting School program	9	5	① 	Planning and implementation of health and well-being promotion and prevention interventions in schools as per the Healthy Schools program, in partnership with the Ministère de l'Éducation, du Loisir et du Sport and its network
Mental health promotion programs in school settings	5	4	① 	Planning and implementation of health and well-being promotion and prevention interventions in schools as per the Healthy Schools program, in partnership with the Ministère de l'Éducation, du Loisir et du Sport and its network
Interventions to improve the school environment	6	2	② 	Planning and implementation of health and well-being promotion and prevention interventions in schools as per the Healthy Schools program, in partnership with the Ministère de l'Éducation, du Loisir et du Sport and its network
Interventions to prevent violence among peers in school settings	5	2	Violence in schools: ① 	Intervention targeting the development of children's social skills and the prevention of behavioural disorders in kindergarten and Grade 1 classes in underprivileged schools (for example, the Fluppy program) including a component focused on the child, one focused on the parents, and another focused on the classroom. (This measure must be implemented within the framework of the Healthy Schools program.)
Interventions to prevent substance abuse	4	2	① 	Planning and implementation of health and well-being promotion and prevention interventions in schools as per the Healthy Schools program, in partnership with the Ministère de l'Éducation, du Loisir et du Sport and its network

Health Promoting School programs

In Québec, these programs are identified by the term Healthy Schools. This approach has been introduced in every region of Québec since 2003 thanks to a complementary services agreement between the Ministère de l'Éducation, du Loisir et du Sport and the Ministère de la Santé et des Services sociaux and their respective networks.[311] Through this agreement, the two ministries agree to support the development and implementation of a global, concerted school-based intervention in health and well-being promotion and in prevention, at the provincial, regional and local levels.[312]

The two networks share the same concern: enhancing the effectiveness of promotion and prevention endeavours with youth in school settings using a global, concerted approach. For them, the solutions are focused on factors key to a young person's development. More specifically, the program aims to promote school success and the health and well-being of youth in school settings. The plan is to support the development of young people's personal and social skills, create environmental quality (healthy, stimulating and safe environments) and establish harmonious relationships between the school, the family and the community. The concerns at the core of the approach are to: ensure that the basic needs and physical and psychological safety of youth are met; foster healthy lifestyles (diet, physical activity, not smoking, personal and dental hygiene) and healthy, responsible behaviour (during sports and recreational activities, when traveling by vehicle or walking and in terms of sexuality); and finally, prevent dependencies (alcohol, drugs, gambling), dropping out of school, blood-borne and sexually transmitted infections, pregnancy and infectious diseases in school settings, violence, unintentional injuries, psychological distress and suicide, in concert with families and the community.

Mental health promotion programs in school settings are consistent with the Healthy Schools approach because they first and foremost advocate supporting the development of young people's personal and social skills, creating environmental quality (healthy, stimulating and safe environments), and establishing harmonious relationships between the school, the family and the community. In fact, programs that use multiple strategies such as an educational intervention in the classroom and efforts to modify the school environment and foster the involvement of parents and the community show greater effectiveness that those focused on individuals or a mental health curriculum.[313] An exception to this rule is self-esteem. According to some, programs specifically targeting self-esteem promotion have better results that those targeting self-esteem along with other components.[314] This information should be taken into consideration when developing mental health promotion programs.

[311] (Ministère de l'Éducation et ministère de la Santé et des Services sociaux, 2003)
[312] (Comité National d'Orientation, 2005)
[313] (Wells et al., 2003); (Lister-Sharp et al., 1999); (Stewart-Brown, 2006a)
[314] (Stewart-Brown, 2006a); (Hardern et al., 2001)

Interventions to improve the school environment

Interventions promoting the creation of environmental quality (healthy, stimulating and safe environments) are also an integral part of the Healthy Schools program. The few studies that have looked into the effectiveness of interventions that aim to improve schools' physical and social environment report positive results, especially in reducing aggressive behaviour in boys and self-destructive behaviour in girls.[315]

According to the authors, programs aiming to ease the transition from elementary to high school by addressing the school environment (ex.: reorganizing the environment to promote the formation of stable social relationships; maintaining stable class groups, providing more opportunities to create connections between the school, parents and the community) should be a particular area of focus. In fact, such programs would be particularly effective in enhancing self-esteem and the ability to cope with changes at school, and in reducing anxiety, depression and delinquent behaviour during transition periods. The long-term impact of these programs has been shown in terms of persistence in school.[316]

Interventions to prevent violence among peers in schools

Interventions to prevent violence in schools are an integral part of the Healthy Schools program. In addition, in the province's public health program, preventing violence in kindergarten and Grade 1 is based on Québec's social skills promotion program known as Fluppy.

Interventions with at-risk youth targeting the improvement of social and interpersonal skills are more effective than those aimed at teaching youth not to react or respond to provocations or conflictual situations.[317] Thus, violence prevention programs that include a community component have a greater chance of having an impact[318] on the behaviour of young people, their learning, and their mental health than those targeting solely one setting.

According to a number of authors, community programs that involve the school, parents, the local community and local organizations result in an improvement to young peoples' behaviour, parental skills, and relationships within the family and the community as well as a significant reduction in school-related problems and criminal acts.[319] This type of program, adopted by several countries, including the Netherlands, England, Scotland, Wales and Australia, should be considered to prevent violence in schools.

[315] (Hardern et al., 2001)
[316] (Wells et al., 2003)
[317] (Mytton et al., 2006)
[318] (Greenberg et al., 2001)
[319] (Jané-Llopis et al., 2005b); (OMS, 2004b)

Interventions to prevent substance abuse

These interventions also fall within the context of the Healthy Schools program since those that are the most effective target, as the approach recommends, factors such as self-esteem, decision-making skills, interpersonal skills and the school environment, while also involving the parents and the community. Moreover, particular attention should be paid to the development of skills to resist peer pressure because, especially for preventing drug abuse in schools, the evaluation results show that programs focused on the acquisition of these skills are the most effective in reducing drug use.[320]

7.2.2. Measures requiring adaptation, development or further research

Table 9. Measures for youth aged 6 to 17 years requiring adaptation, development or further research

Measures from mental health science advisory report	Factors targeted	Strategies used	Evidence and effectiveness
Parenting skills training programs for parents of youth with behavioural problems	5	2	①
Interventions to prevent dating violence	5	2	①
Interventions for youth at risk for depression and anxiety	4	2	①
Interventions for grieving youth	4	2	③
Interventions for youth with separated parents	4	2	②
Interventions for youth with a parent suffering from a mental disorder	5	2	②

Parenting skills training programs for parents of youth with behavioural problems

Parental support and parenting practices are factors that can reduce or increase a young person's risk of developing behavioural or emotional problems.[321] Parenting skills training programs for parents of youth with behavioural problems aim to empower parents in their parenting role while also having an impact on the quality of the parent-child relationship. These programs generally have several components, with some providing parenting skills

[320] (Faggiano et al., 2005)
[321] (Sanders, 2002)

sessions or a behavioural family intervention according to each family's needs. Families having participated in these programs report fewer behavioural problems among young people and better parenting skills. Implementing this measure with at-risk families is thus recommended. Programs developed in this area such as the Webster-Stratton or the Triple P program could be adapted to the Québec reality and tested in the context of Healthy Schools.

Interventions to prevent dating violence

Dating violence affects the well-being and mental health of youth in multiple ways. Young people who are victims of dating violence experience more anxiety and depression, loss of self-confidence, and a lack of communication and problem-solving skills. This violence also affects the development of adolescents' identity, has an impact on their future dating,[322] and can have repercussions at school due to absenteeism, behavioural disorders and changes in academic performance.[323] Researchers who have looked into the effectiveness of short-term programs[324] believe that additional studies are needed to better identify the conditions under which these programs can be most effective.

Interventions for youth at risk for depression and anxiety

Interventions in school settings with youth identified at risk of depression seem to be promising in the short term. Work done by Clarke based on a group program with at-risk children and adolescents has produced interesting results. Researchers report a reduction in the prevalence of depression 6 and 12 months following the intervention. The results show that the prevalence of new cases in the intervention group was 14.5% whereas it was 25.7% for the control group, during follow-ups carried out after the intervention. Programs of this kind could be adapted and tested in Québec. However, more research, including an active comparison aspect (placebo effect) and a focus on long-term effects, is needed.

Interventions for grieving youth

There is no doubt that support for children in mourning and their surviving parent can reduce the risk of the young person developing a mental disorder. Although interventions are promising, more studies are required before offering this intervention throughout Québec. The Family Bereavement Program,[325] one of the programs backed by the World Health Organization, could be a model to adapt and test in the Québec context.

[322] O'Leary et al., 1994 in (Whitaker et al., 2005)
[323] (Flores et al., 2005b)
[324] (Cornelius & Resseguie, 2007)
[325] (Tein et al., 2006)

Interventions for youth of separated parents

The separation of a young person's parents increases the risk of depression, especially if the separation occurs when the child is between 11 and 16 years of age.[326] The young person's self-esteem and ability to manage intense emotions can be affected by such a family reorganization.[327] Programs targeting youth and separated parents show interesting results on the young person's adjustment. These programs could be adapted and tested in Québec. They would be part of the preventive services component to be provided to youth and their families as part of the Healthy Schools program. These programs can be provided at school or in the community, but a connection to the school setting is recommended.

Interventions for youth with a parent suffering from a mental disorder

The probability that a young person develops a mental disorder is greater among those with a parent with such a disorder. Interventions with youth who have a depressed parent generally aim to enable young people to express their emotions regarding their parent's illness, ask questions, and break their isolation. Programs by Clarke[328] and by Beardslee[329] could be models to adapt and try in the Québec context. They would be part of the preventive services component to be provided to youth and their families through the Healthy Schools program. These programs can be provided at school or in the community.

[326] Chase-Lansdale, Cherlin & Keirman, 1995 cited in (Morin & Chalfoun, 2003)
[327] (Commonwealth Department of Health and Aged Care, 2000)
[328] (Clarke et al., 2001)
[329] (Beardslee et al., 1997)

8. MEASURES AND RECOMMENDATIONS FOR YOUNG ADULTS AND ADULTS

The beginning of adulthood marks a new life cycle.[330] The social and emotional development during this transition period is fraught with numerous challenges that can bring about significant stress, especially in developing interpersonal relationships and establishing social and professional commitments.[331] For the most part, rising to these challenges is beneficial to the accomplishments and the mental health of young adults. It often leads to feelings of security, well-being and social recognition. In addition, it is likely to contribute to the development of the young person's identity and to achieving financial security.[332] However, the absence of certain protection factors or the cumulative presence of certain risk factors may hamper their accomplishments and jeopardize their mental health. In fact, young adults are the group most at risk of developing a mental disorder.[333] Unfortunately, for reasons that remain unknown, few measures have been undertaken, evaluated or recommended specifically for this age group.[334]

Adulthood is also accompanied by its own set of challenges often linked to interpersonal relationships and making social and professional commitments. In this age group, some measures have shown evidence of being effective. A number of them can also be applied to young adults.

Mental health promotion and mental disorder prevention measures for young adults and adults are very diverse. A number of measures have not been documented here because we have opted to focus on measures that directly concern the health and social services system.

8.1. MEASURES SELECTED

Seven measures have been selected for adults between the ages of 18 and 65.

1. Interventions to improve mental health literacy
2. Interventions to promote mental health and prevent mental disorders in the workplace
3. Interventions to support informal caregivers
4. Interventions to support community development
5. Interventions to promote physical activity
6. Screening and interventions to prevent domestic violence
7. Systematic screening for depression and interventions with adults

[330] (Commonwealth Department of Health and Aged Care, 2000)
[331] (Commonwealth Department of Health and Aged Care, 2000)
[332] (Commonwealth Department of Health and Aged Care, 2000); (Taylor et al., 2007)
[333] (Poulin et al., 2004); (Fournier et al., 2002); (Commonwealth Department of Health and Aged Care, 2000)
[334] (Commonwealth Department of Health and Aged Care, 2000)

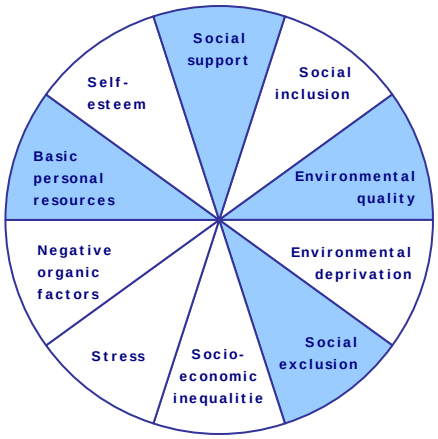
8.1.1. Interventions to improve mental health literacy

Mental health literacy refers to "knowledge and belief about mental disorders which aid their recognition, management and prevention."[335] Measures aiming to improve public literacy target the ability to access and manage information on mental health. They include improving the ability to recognize certain disorders and various types of mental health problems as well as enhancing knowledge and modifying beliefs and attitudes in terms of risk factors, asking for help, and treatment.[336]

Relevance

Public policy	Supportive environment	Community Action	Personal skills	Health services

Mental health researchers attribute increasing importance to literacy, particularly among young adults, likely due to the fact that the first symptoms of mental disorders generally appear before the age of 26 [337] and too long a delay in treatment increases the risk of subsequent, more serious episodes. [338] Lack of knowledge and negative attitudes about mental disorders may also hinder the implementation of promotion and prevention measures as well as the public's ability to recognize and quickly and adequately respond to the need for help in those suffering from mental disorders. They also lead to stigmatization and discrimination towards these individuals.[339]



According to the results of Australian, European and American studies, mental health literacy among the public is lacking in several regards.[340] For example, in the study by Jorm et al. (1997), two clinical vignettes were presented to over 2000 Australians. Only 39% of the Australians questioned were able to correctly identify depression in these vignettes.[341] A similar study in Switzerland arrived at the same result.[342] This limited ability to recognize the symptoms of a mental disorder, both in oneself and in others, may contribute to prolonging the delay in treatment and, in some cases, lead to seeking inappropriate help.

[335] Jorm et al. 1997, cited on p. 396 in (Jorm, 2000)
[336] (Jorm, 2000)
[337] (Moon et al., 1999)
[338] (OMS, 2004a)
[339] (OMS, 2004a)
[340] (Jorm et al., 1997); (Lauber et al., 2003)
[341] (Jorm et al., 1997)
[342] (Lauber et al., 2003)

Moreover, the mental health literacy of young men is lower than that of young women. The study by Cotton et al. (2006) of young Australians between the ages of 12 and 25 has shown that not only do young men have less ability to recognize symptoms associated with depression but they are also more predisposed to choose alcohol as treatment.[343]

The discrepancy between public opinion and that of health professionals with respect to treatment, particularly relating to the effectiveness of drug therapy approaches, [344] has been documented by a number of researchers.[345] The public's negative perception of medical treatment may hamper the request for help and contribute to the improper use of pharmaceutical approaches.[346] Lastly, those whose mental health literacy is lacking risk not being able to provide adequate, effective help to a loved one in distress.

Effectiveness

Level of evidence: ②

Level of effectiveness: 👍

Evidence of the effectiveness of literacy measures is rather limited. Nonetheless there is consensus among experts that knowledge of mental disorders must be enhanced and public beliefs and attitudes changed, particularly among young adults.[347]

A number of researchers have investigated the extent to which information campaigns can convey positive messages on mental health and promote attitude changes towards mental disorders.

Australian research is particularly interesting in this regard. Facing ever-growing mental health problems amid its population, the Australian government decided to implement a series of measures to inform the public about mental disorders, especially depression, and the effectiveness and availability of treatment. These measures included the development of the National Mental Health Strategy [348] and the launching of a national campaign on depression, BeyondBlue: the National Depression Initiative.[349] Several researchers have attempted to identify changes in knowledge and attitudes regarding mental health that may have resulted from these measures. The study by Goldney et al. (2005) compares the results of face-to-face interviews conducted with more than 6000 Australians in 1998 and in 2004. The results show a definite improvement between 1998 and 2004 in the public's ability to recognize the symptoms of depression. The authors also point to a better perception of the effectiveness of professional services and drug therapy.

Results from the Jorm et al. (2005, 2006) studies on the impact of the national BeyondBlue campaign indicate that this measure can have a positive influence on mental health literacy. In comparing the results of two surveys conducted in 1995 and in 2003-2004 of the

[343] (Cotton et al., 2006)
[344] (Jorm et al., 1997); (Lauber et al., 2003)
[345] (Jorm, 2000)
[346] (Jorm et al., 1997)
[347] (OMS, 2004a); (Commonwealth Department of Health and Aged Care, 2000); (Jané-Llopis & Anderson, 2005)
[348] Australian Government Department of Health and Aging, 2005, cited in (Goldney et al., 2005)
[349] Hickie, 2004, cited in (Goldney et al., 2005)

population of two States (one of individuals who were greatly exposed to the campaign and the other only slightly exposed to it), the authors conclude that the areas that were greatly exposed to the BeyondBlue campaign show better improved knowledge of the symptoms of depression and perception of treatment.[350] Individuals surveyed in areas with high exposure also demonstrated greater sensitivity to the discrimination experienced by people suffering from mental disorders.[351]

The Compass Strategy implemented in Australia since 2001 is another example of a public awareness campaign that has demonstrated its effectiveness.[352] The goal of the Compass Strategy is to improve the literacy of young adults, their families and community members; increase the rate of requests for help; and reduce treatment delays among youth between 12 and 25 years of age with early symptoms of mood or psychotic disorders.[353] The results of a quasi-experimental control-group study indicate that the campaign had an impact on a number of variables including: knowledge of mental health campaigns, identification of the symptoms of depression, an increase in requests for help, an estimate of the prevalence of mental disorders, an awareness of suicide risks, and a reduction in perceived constraints regarding requests for help.[354]

The study by Christensen, Griffiths and Jorms (2004) on the effectiveness of two interventions with Internet users with symptoms of depression also shows promising results. The goal of this randomized study was to evaluate the effectiveness of two Web sites, one providing information on depression (BluePages) and the other offering cognitive-behavioural therapy based on an interactive approach (MoodGYM). The authors concluded that these interventions resulted in a significant improvement in the knowledge Internet users have of the effectiveness of treatment and a reduction in dysfunctional cognitive thoughts, while enhancing knowledge of cognitive-behavioural therapies. [355]

However, the tools to measure literacy focus mainly on the ability to recognize the clinical symptoms of mental disorders, and knowledge of treatment. This does not take into account the complexity of this concept and many studies completely ignore important elements in literacy, such as beliefs and attitudes towards mental disorders.

[350] (Jorm et al., 2005), (Jorm et al., 2006)
[351] (Jorm et al., 2006)
[352] (Wright et al., 2006)
[353] (OMS, 2004a)
[354] (Wright et al., 2006)
[355] (Christensen et al., 2004)

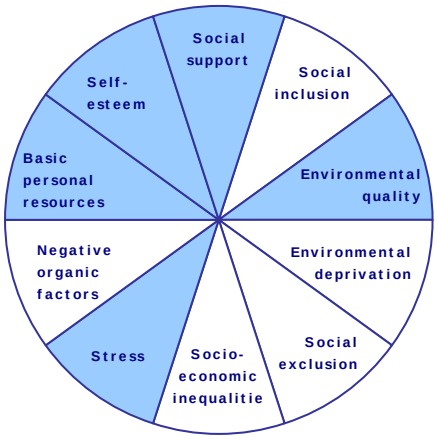
8.1.2. Interventions to promote mental health and prevent mental disorders in the workplace

Two key approaches are used for interventions in the workplace: individual approaches and organizational approaches. The main objectives of individual approaches are to improve individuals' ability to adapt to situations and better manage their stress. Organizational approaches aim to reduce pathogenic factors and increase protection factors related to the organization. In particular, they include interventions to modify the organization of work and methods of communication, increase support among colleagues, and implement participatory approaches to decision making.[356]

Relevance

Public policy	**Supportive environment**	Community action	**Personal skills**	Health services

The workplace has the potential to have a positive impact on the mental health of workers by providing opportunities to develop new skills or create a social network. The stress it can cause has the potential to exacerbate an existing mental health problem or to contribute to the development of an illness.[357]



Workplace stress is recognized as being a potential source of problems that expresses itself through various symptoms and illnesses grouped together such as psychological distress, anxiety, depression, burn-out, psychotropic drug abuse, [358] and cardiovascular diseases. Any problem related to stress in the workplace represents a considerable cost to society, due to absenteeism, presenteeism, [359] loss of productivity and health costs.[360]

Many psychosocial factors are related to stress in the workplace. These factors are: control (autonomy, participation, skill use and development), workload (quantity, complexity, time constraints), roles (conflicts, ambiguity), relationships with others (social support, harassment, recognition), career prospects (promotion, precariousness, demotion), organizational climate and culture (communications, hierarchical structure, equity); and the interaction between work and one's private life.[361] These factors are particularly important to mental health. Stansfeld and Candy (2006) provide consistent results demonstrating that

[356] (Marine et al., 2006)
[357] (World Health Organization, 2005)
[358] (Jané-Llopis & Anderson, 2005); (Vézina et al., 2004)
[359] Presenteeism occurs when an employee goes to work despite his or her physical or mental inability to perform his or her tasks.
[360] (Van der Klink et al., 2001);(World Health Organization, 2005)
[361] (Vézina et al., 2004); (Michie et al., 2003); (World Health Organization, 2005)

increased demands and little decisional latitude as well as significant effort and little compensation are risk factors for the development of the most common mental disorders.

Effectiveness of individual approaches

Level of evidence: ①

Level of effectiveness: 👍

According to the results of meta-analyses and systematic reviews in the field, individual stress management approaches are effective in preventing mental disorders in the workplace.[362] It should be noted that most studies in this area have been conducted on nurses and other caregivers in the health care network.

A meta-analysis by Van der Klink et al. (2001) on different approaches to mental disorder prevention in the workplace allows a comparison of the effectiveness of these approaches based on the objectives sought. According to the results of this meta-analysis, cognitive-behavioural approaches significantly improve perceived quality of life in the workplace, self-esteem, the feeling of effectiveness, and work-related skills and lead to fewer complaints from workers. To reduce the symptoms of stress, the most effective interventions include a relaxation component. Interventions with multiple components (ex.: stress management and relaxation) are effective in reducing psychological stress but not in enhancing self-esteem, self-efficacy or workers' skills. In addition, the effectiveness of individual stress management approaches is the same for workers dealing with a high level of stress as it is for those with lower stress levels.[363]

A systematic review by Mimura and Griffiths (2003) on effective measures to reduce workplace stress among nurses identified six randomized evaluation studies. The authors concluded that several types of interventions facilitate stress reduction among nurses but the studies did not determine if the reduction in stress was accompanied by fewer clinical symptoms. The most effective interventions are those of a cognitive nature, those providing social support, and those including a number of components such as physical activity, music, education and relaxation.

For example, a randomized study by Mino et al. (2006) on the effectiveness of a stress management program in the workplace provided interesting results. The program involves group sessions including stress management and relaxation activities as well as individual interventions using a cognitive-behavioural approach. The results show a significant decrease in symptoms of depression. However, the program does not contribute to changing the perception of workplace stress.

A systematic review by Marine et al. (2006) on workplace stress prevention measures with employees in the health system[364] also indicates that interventions focusing on individuals reduce stress and have a positive impact on burnout and anxiety. The meta-analyses and studies covered in this review demonstrate, however, that evidence on the effectiveness

[362] (Van der Klink et al., 2001); (Marine et al., 2006); (Mimura & Griffiths, 2003)
[363] (Van der Klink et al., 2001)
[364] (Marine et al., 2006)

of these interventions is rather limited. Most studies are of lower quality and the extent of the changes reported is not defined. The authors conclude that further, better quality studies are required in this area.

Effectiveness of organizational approaches

Level of evidence: ①

Level of effectiveness: 

Interventions favouring an organizational approach are increasingly recommended[365] since, from a public health perspective, individual approaches are considered insufficient to eliminate the cause of problems, i.e. the pathogenic factors related to the organization.[366]

Even though the corpus of data on these approaches is still slim, the results of various studies indicate that they produce interesting effects such as a decline in the prevalence of burnout,[367] psychological distress,[368] biological stress markers,[369] health-related complaints,[370] musculoskeletal symptoms,[371] and absenteeism.[372]

Marine et al. (2007) conducted a systematic review of interventions (individual and organizational) contributing to a reduction in the workplace stress of health professionals. Although limited, data on the effectiveness of organizational approaches are positive, especially with respect to their ability to reduce stress, general symptoms and burnout. The authors report that, generally speaking, the effects obtained with individual and organizational approaches last at best from six months to two years after the intervention. They lament the fact that the limited questions asked in the studies, the size of the samples used, and weaknesses in the evaluation designs do not allow a causal relationship to be established or conclusions on the effectiveness of organizational approaches to be drawn.

Moreover, according to a systematic review by Michie et al.[373] on factors and interventions to prevent mental health problems and absenteeism at work, organizational approaches may reduce psychological problems among employees. The most effective approaches are those with the goal of enhancing: 1) the support/help and feedback managers provide to employees, 2) employee participation in decision making and problem solving and 3) communication within the organization.

[365] (Vézina et al., 2004); (Department of Health-UK, 2001); (OMS, 2004a)
[366] (Vézina et al., 2004)
[367] (Michie et al., 2003)
[368] (Kawakami et al., 2005)
[369] (Theorell et al., 2001)
[370] (Logan & Ganster, 2005); (Mikkelsen & Gundersen, 2007); (Nielsen et al., 2006)
[371] (Eklof & Hagberg, 2006)
[372] (Dahl-Jorgensen & Saksvik, 2005); (Michie et al., 2003)
[373] (Michie et al., 2003)

For example, a quasi-experimental study[374] on the impact of a program aiming to educate and equip supervisors so they are able to support their employees has shown promising results. The results reported indicate that the psychological distress of employees declined in departments in which a third or more of those in charge had received training in mental health in the workplace and active listening techniques, even if no individual measure had been undertaken.

Another example: a quantitative and qualitative study conducted in Québec to increase employee participation in decision making and problem solving among nurses working in a hospital also reports positive results.[375] The objective of this intervention was to address four risk factors related to the mental health of nurses: high psychosocial demands, limited latitude in decision making, weak social support, and an effort-reward imbalance. The goal of the participative approach used was to involve nurses and decision makers in determining the changes that needed to be made to reduce the negative psychosocial factors revealed during a preliminary assessment of the work environment. The results of the evaluation after one year of implementation, carried out using a quasi-experimental control-group design, suggest the intervention had a positive impact on all psychosocial factors except decision-making latitude.

[374] (Tsutsumi et al., 2005)
[375] (Bourbonnais et al., 2005)

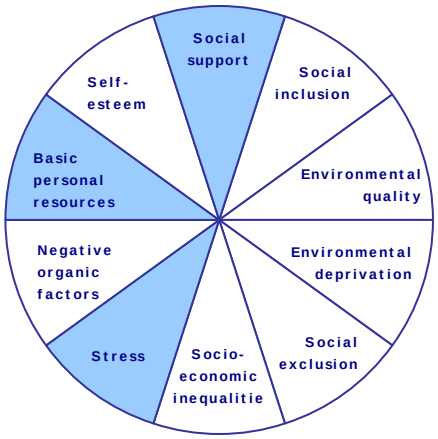
8.1.3. Interventions to support informal caregivers

Over the past several years, a number of interventions with the goal of preventing burnout and improving the mental health of informal caregivers have been developed and tested. These interventions are diverse in nature: concrete help, education, support groups, stress management, training, individual and group therapy.[376] They can be divided into two groups based on their purpose: 1) those with the goal of reducing the burden on caregivers;[377] and 2) those with the goal of improving the well-being of individual caregivers and enhancing their ability to cope with their situations.[378]

Relevance

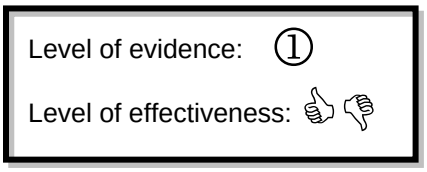
Public policy	**Supportive environment**	Community action	**Personal skills**	Health services

Research shows that informal caregivers who care for individuals who are elderly and/or ill have an increased risk of suffering from physical and mental health problems, isolation, feelings of powerlessness, and financial problems.[379] Moreover, the stress experienced by informal caregivers may make them more likely to seek an institution for the person under their care.[380] Caregivers looking after people with dementia experience more psychological distress than other caregivers and adults in general.[381] The burden and threats to mental health of those who care for schizophrenic individuals are particularly high.[382] Although some caregivers benefit from their caring role, many feel the need for psychological and concrete support.[383]



[376] (Brodaty et al., 2003); (Stoltz et al., 2004)
[377] Cuijpers, 1999, defines objective burden as disruptions in routine, less leisure time, disruptions to the functioning of the family, less social support, disruptions at work. Subjective burden is defined as the change in mental health.
[378] (Sörensen et al., 2002)
[379] (OMS, 2004a)
[380] (Brodaty et al., 2003)
[381] (Pinquart & Sörensen, 2006)
[382] (Cuijpers, 1999)
[383] (Sörensen et al., 2002)

Effectiveness of support for informal caregivers caring for the elderly



The few systematic reviews and meta-analyses on interventions to improve the mental health of individuals who care for the elderly reveal contradictory results.

Stoltz et al. (2004), in their systematic review of support provided to caregivers, maintain that evidence pertaining to the benefits is unclear, likely due to the poor quality of the studies available. The same conclusion is reached in a systematic review by Lee and Cameron (2004) on the effectiveness of respite care offered to caregivers of people suffering from dementia. They find that respite care has neither a positive nor a negative impact on either the caregiver or the person afflicted. The small number of quality studies limits the scope of the conclusions. Finally, Yin et al. (2002) in their meta-analysis on individual and group interventions conclude that, although the interventions may have a positive impact on caregivers, evidence regarding the perception of the burden of the illness remains unclear.[384]

Other authors, such as Sörensen et al. (2002), indicate in their meta-analysis that in the short term, the various forms of caregiver support result in a slight or moderate improvement in dimensions including: depression, subjective well-being, and perceived level of satisfaction, knowledge, and skills as well as the elderly person's symptoms.[385] In the medium term (about seven months after the intervention), the effects remain positive in terms of measures pertaining to burden, depression, subjective well-being, skills and knowledge.[386] The impact of the interventions varies, however, depending on the characteristics of the intervention, the caregiver's situation, and his or her perception of the burden. According to Sörensen et al. (2002), psychotherapeutic or psychoeducational interventions and those using multiple interventions produce results on the greatest number of dimensions. Moreover, programs providing more than nine sessions have a greater impact on depression.[387] Individual interventions seem more effective in affecting subjective well-being whereas group interventions are more prone to reducing symptoms in the senior.[388] A number of authors conclude that interventions with these caregivers are more likely to have an impact when they are structured (ex.: teaching problem-solving skills),[389] actively involve the sick person in the intervention[390], and provide long-term support[391] adapted to the needs of the caregivers and the people receiving care.[392]

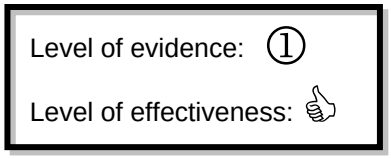
[384] (Yin et al., 2002)
[385] (Pinquart & Sörensen, 2006); (Sörensen et al., 2002)
[385] (Sörensen et al., 2002)
[386] (Sörensen et al., 2002)
[387] (Sörensen et al., 2002)
[388] (Sörensen et al., 2002)
[389] (Brodaty et al., 2003)
[390] (Brodaty et al., 2003); (Pinquart & Sörensen, 2006)
[391] (Brodaty et al., 2003); (Pinquart & Sörensen, 2006)
[392] (Brodaty et al., 2003)

In addition, a recent meta-analysis by Pinquart and Sörensen (2006) on caregivers helping people suffering from dementia confirms the conclusions of Sörensen et al. (2002). It nevertheless presents more convincing results pertaining to the burden. This meta-analysis also demonstrates long-term effects on the burden (11 months after the end of the intervention), depression, and knowledge and skills. These are interventions with multiple components (respite care, support and education) that address the risks of institutionalization of the afflicted person.[393]

Finally, the results of a meta-analysis by Brodaty et al. (2003) on psychosocial interventions among informal caregivers helping people suffering from dementia follow a similar pattern. The authors demonstrate modest effects on depression, knowledge, social support, and coping skills, but no impact on the burden.

The authors all agree that more quality studies (methodology, variables, indicators, measurement tools) with a longer follow-up period are required to determine the long-term effectiveness of interventions aiming to promote the mental health of informal caregivers caring for the elderly.[394]

Effectiveness of support for informal caregivers caring for people with a mental disorder



The results of a meta-analysis by Cuijpers (1999) on family-based interventions (ex.: education, discussion, counselling, family therapy) with caregivers caring for schizophrenic people show moderate effects on the psychological distress of the caregiver, the relationship between the caregiver and the person afflicted, and family functioning, as shown by post-test measures.[395] However, the effects were weak at the time of the follow-up. Barbato and D'Avanzo (2000) conclude that family-based interventions for families with a schizophrenic member have little effect. Interventions providing fewer than 10 sessions have no impact on the burden.[396] The most promising interventions are those of long duration providing information to families on the illness in a supportive context.[397] Other studies are needed on the effectiveness and types of intervention to favour according to caregiver needs.

[393] (Pinquart & Sörensen, 2006)
[394] (Yin et al., 2002); (Stoltz et al., 2004); (Lee & Cameron, 2004)
[395] (Cuijpers, 1999)
[396] (Cuijpers, 1999)
[397] (Barbato & D'Avanzo, 2000)

8.1.4. Interventions to support community development

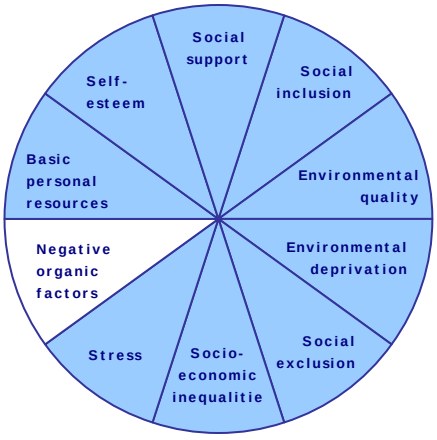
The objective of community development support is to help individuals and communities increase their sense of control over their own health and the means to improve it.[398] Community development has been defined as a process of voluntary cooperation, mutual support, and building social connections between residents and local community institutions.[399] This measure specifically aims to create environments that contribute to the health and well-being of the whole population, and establish and maintain mutual trust and reciprocal relationships between citizens, civil society, and local development players while directly addressing social determinants of health.[400]

From a mental health perspective, supporting community development enhances the social capital of communities. Social capital refers to the elements of an organizational structure that foster meaningful, good quality social interactions (formal and informal), citizen participation, and the establishment of norms of reciprocity, a feeling of belonging, solidarity and trust.[401] It is understood that social capital is built at multiple levels (family, community, school, institution, society) using various approaches: strengthening social networks, creating social organizations (ex.: community organizations), strengthening community connections(encouraging the mobilization of all community players around common goals), and enhancing citizen participation.[402]

Relevance

Public policy	Supportive environment	Community action	Personal skills	Health services

More and more, studies show that the characteristics of certain neighbourhoods, living environments, and communities may harm the mental health of citizens. Socio-economic inequalities, with poverty at the top of the list, are one of the main risk factors associated with mental health.



A study by Lorant et al. (2003) provides some clarity in terms of socio-economic inequalities and their association with depression. According to the results of their meta-analysis, people living in a deprived socio-economic context have a slightly higher risk of experiencing a first episode of depression and there is a moderate risk that it becomes persistent. In the same vein, in their systematic review of the relationship between social position and mental disorders, Fryers, Melzer and Jenkins (2003) maintain that individuals

[398] (Institut national de santé publique du Québec, 2002)
[399] p.16, (Institut national de santé publique du Québec, 2002)
[400] (Institut national de santé publique du Québec, 2002)
[401] (Putnam, 1993); (De Silva et al., 2005)
[402] Grant, 2000 cited in (Whiteford et al., 2005)

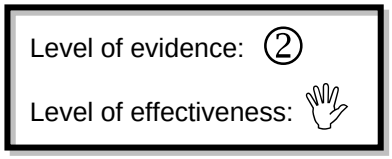
with low levels of education, without jobs, and with low incomes are more at risk of suffering from mental disorders, such as anxiety and depression.[403]

Although it is impossible to confirm that there is a causal relationship between socio-economic status and mental disorders, certain factors appear to contribute to such a relationship. For example, an increased risk of depression is associated with low self-efficacy and a sense of having little influence over one's destiny together with limited access to personal and community resources.[404] However, a strong feeling of influence and high self-efficacy along with active social participation help counteract the relationship between poverty and mental disorders.[405]

The social disorganization[406] that characterizes communities with low social capital is also associated with a higher prevalence of mental disorders.[407] In fact, communities where mistrust and disorder are predominant are associated with higher rates of suicide and criminal acts.[408] Along the same line, living in a neighbourhood that experiences violent crime and has readily accessible drugs is associated with depression, anxiety, conduct and oppositional disorders,[409] and aggressive behaviour.[410] Conversely, communities that promote social participation and reciprocal, trusting relationships, and encourage cooperation and mutual support to attain a common goal can have a positive impact on a population's health.[411] Such communities have better mechanisms for distributing information on mental health, promote better access to health services, are more likely to adopt healthy social standards, and apply better social control of deviant behaviour (ex.: Block Parents program).[412] Communities that encourage trusting, reciprocal relationships among citizens also support the development of resilient behaviours such as the ability to ask for help during important life events.[413]

[403] (Fryers et al., 2003)
[404] (Dupéré & Perkins, 2007)
[405] (Dupéré & Perkins, 2007)
[406] Social disorganization is defined as the inability of a community to collectively reach its potential, mobilize itself around common values, and effectively maintain social control.
[407] (Whiteford et al., 2005)
[408] Sampson & Groves, 1989 cited in (Whiteford et al., 2005)
[409] (Latkin & Curry, 2003)
[410] (Patchin et al., 2006)
[411] Kawachi et al., 1997 cited in (Whiteford et al., 2005)
[412] Baum, 1999 and Kawachi, Kennedy & Glass, 1999 cited in (Whiteford et al., 2005)
[413] (Whiteford et al., 2005)

Effectiveness



There is little evidence of the effectiveness of community development support approaches in health promotion, particularly due to the methodological challenges associated with evaluating these measures. In their review of the relationships between social capital and mental health, De Silva et al. (2005) conclude that evidence of the effectiveness of these measures is still uncertain. According to them, the studies in this area are too heterogeneous in terms of methodology, target population, and measurement of mental disorders, making them difficult to compare.

Similarly, in their review of evidence on health promotion programs for the Victorian Health Promotion Foundation, Rychetnik and Todd (2004) conclude that there is currently no rigorous evaluation of community development projects explicitly targeting an improvement in mental health and well-being.[414] In fact, the little evidence there is of the effectiveness of these approaches is found in non-health sectors. For example, they cite the Beacon Project, a community development project with the goal of improving the living conditions of residents in a poor neighbourhood in England.[415] Although the methodology was not specified, Duggan reports that this project resulted in a significant improvement in health indicators between 1995 and 1998 for the entire population in this neighbourhood, including a reduction in the crime rate, postnatal depression, and cases of child abuse and negligence; an increase in persistence in school; and a reduction in teenage pregnancy rates.[416]

Communities that Care*,* outlined briefly in the previous section, is an example of a promising project noted in scientific literature.[417] The objective of this project, implemented in several countries including the United States, England, Scotland, Denmark and Australia, is to mobilize and support communities to help them establish a violence prevention system. The preferred community approach ensures the participation of local leaders and citizens in seeking solutions with respect to the problem of violence, and promotes cooperation among sectors.[418] The results of the evaluation obtained from a quasi-experimental design, show that communities having participated in the project were more capable of identifying the risk and protection factors associated with the problems that concerned them and of implementing measures recognized as being effective.[419] An improvement in the behaviour of youth and in parenting skills, and a decline in criminal acts were also noted in independent, non-experimental studies.[420]

[414] (Rychetnik & Todd, 2004)
[415] (Duggan, 2007a)
[416] (Duggan, 2007b)
[417] (Hosman & Jané-Llopis, 2005)
[418] (Hawkins et al., 2002)
[419] (Hawkins et al., 2002)
[420] OJJDP, 1996 and Jenson et al., 1997 cited in (Hawkins et al., 2002)

Lastly, Leventhal and Brooks-Gunn (2003) examined the impact of a community project with the goal of establishing a link between place of residence and mental health. The Moving to Opportunity project aimed to relocate families living in subsidized housing in very poor neighbourhoods into less disadvantaged neighbourhoods. The study compared the mental health indicator results obtained among three groups of families: one group that remained in housing in very poor neighbourhoods and two groups that were relocated into slightly-to moderately disadvantaged neighbourhoods. The results of this randomized control trial indicate that the families that were relocated into less disadvantaged neighbourhoods had significantly fewer symptoms of distress than those that stayed in very disadvantaged neighbourhoods.

Despite the absence of clear results, experts nonetheless agree that greater investment is needed in social capital and community development support approaches. In fact, the importance experts attach to this measure is based in particular on epidemiological data linking social capital elements to the prevalence of certain mental disorders such as depression and anxiety.

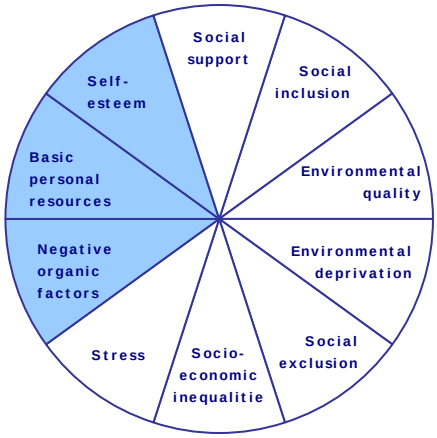
8.1.5. Interventions to promote physical activity

Since the US Surgeon General's report[421] was published, more and more researchers have been studying the potential benefits of physical activity on mental health. Interventions in this field primarily target an improvement in individual overall health, but some researchers are particularly interested in the impact of physical activity on mental health. The studies have focused mostly on the reduction in symptoms of depression and anxiety among individuals already suffering from these disorders. Others address the impact of regular physical activity on mental health promotion and mental disorder prevention among the population as a whole.[422]

Relevance

Public policy	Supportive environment	Community action	**Personal skills**	Health services

In epidemiological studies, regular physical activity is associated with a state of well-being, better self-esteem, a more positive assessment of one's physical and mental health, and a lower incidence of mental health problems.[423] It is also associated, especially among young adults, with less risky behaviour such as drug and alcohol abuse and violent behaviour.[424]



Contrary to the clearly established causal relationship between physical activity and cardiovascular health, the relationship between physical activity and mental health is less well-known. According to Stathopoulou et al. (2006), one of the most popular hypotheses suggests that physical activity protects individuals from mental disorders by acting on metabolism, neurotransmitters (ex.: serotonin, endogenous opioids), and sleep regulation. A second hypothesis suggests that physical activity produces a positive psychosocial effect by promoting the development of a feeling of self-efficacy and self-esteem, while interrupting negative thoughts associated with physical reactions due to stress.[425] Additional research is needed to better understand these associative mechanisms.

In some cases, mental health problems also arise from physical health problems (ex.: chronic pain, heart disease) or the treatment of physical problems (ex.: cancer), for which it is known that physical activity plays a beneficial role.

[421] (U.S Departement of Health and Human Services, 1996)
[422] (Lawlor & Hopker, 2001) (Penedo & Dahn, 2005)
[423] Ekelane et al., 2004; Strawbridge et al., 2002; Biddle, Fox & Boutcher, 2000; Biddle, 2000; Morgan, 1997, all cited in (Department of Health-UK, 2001); (Scully et al., 1998)
[424] (OMS, 2007)
[425] (Stathopoulou et al., 2006)

Effectiveness for the general population

Level of evidence: ①

Level of effectiveness: 👍👎

Despite growing interest, at this point few researchers have studied the effectiveness of physical activity in the general population from the perspective of mental health promotion and mental disorder prevention. Evidence on the effectiveness of this measure is still embryonic and at times even contradictory. This is what Bauman (2004) maintains in a review of evidence published between 2000 and 2003. According to the author, although early studies in the field note a lower risk of depression among people who are physically active, more recent longitudinal studies of better methodological quality report mixed results.[426] This is also what Paluska and Shwenk (2000) conclude in a review of scientific literature on the relationship between physical activity and mental health. According to them, regular physical activity does not prevent depression in the general population.[427]

Other authors have the opposite view.[428] Biddle (2000) who conducted a literature review states that, in his view, there is probably a moderate association between physical activity and certain indices of subjective well-being. He reports that the results of the experimental studies he analyzed confirm the existence of a moderate positive effect of physical activity on mood, particularly when the people involved in physical activity focus on improving their personal goals.

A scientific literature review conducted by Teychenne et al. (2008)[429] also concludes that physical activity protects adults from depression disorders. This review identifies 67 epidemiological and evaluative studies (with and without randomized designs) published between 2006 and 2007 dealing with the impact of physical activity on mental health. The results show that greater intensity and a longer activity period are associated with the most significant effects, although some data indicates that even a low amount of physical activity has a positive impact on reducing the risks of depression in adults. The association between physical activity and mental disorders in the adult population was also examined in the United States by Goodwin (2003), based on data from an epidemiological survey. The results of this study indicate that regular physical activity is associated with a significant decrease in the prevalence of major depression and anxiety disorders. This association persists even after adjustments for demographic differences, self-reported physical problems, and concomitant mental disorders. However, physical activity is not significantly associated with other affective or psychotic disorders or substance abuse.[430]

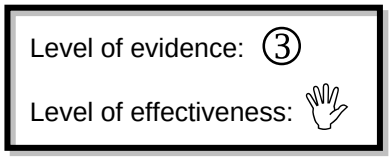
Other studies have also shown the positive effects of physical activity programs carried out among populations with no mental disorder diagnosis. For example, Murphy et al. (2002), using a randomized design, compared the effect of various speed walking programs on fitness, the risk factors associated with cardiovascular diseases, and the psychological well-

[426] (Bauman.A.E, 2004)
[427] (Paluska & Schwenk, 2000)
[428] (Biddle, 2000); (Fox, 1999)
[429] Teychenne et al., 2008
[430] (Goodwin, 2003)

being of sedentary adults. The results show that a speed walking program significantly reduces feelings of tension and anxiety in sedentary people. However, the program had no effect on depression, anger, confusion, fatigue or vigour.[431]

Even though the results are not sufficient to determine the effectiveness of physical activity programs on mental health promotion and mental disorder prevention, recent studies support the notion that regular physical activity can be beneficial for mental health, and that it is not associated with negative side effects but rather with positive effects on health in general.

Effectiveness for a population with early symptoms of mental disorders (preclinical population)



Studies have shown that physical activity programs reduce the symptoms of depression among depressed people. However, the impact of these programs in a population with early symptoms of depression or anxiety (preclinical population) is limited. Lane and Lovejoy (2001) report that a group physical activity program can have positive effects not only on mood but also on anger, confusion, fatigue, tension and vigour, both among non-depressed participants and among those with preclinical symptoms of depression. They believe that the positive effect of this program would be more pronounced among individuals with symptoms than among those with no symptoms. However, the study by Lane and Lovejoy, based on pre- and post-test measures with no control group, has certain methodological limits. [432]

According to the most recent evidence, physical activity programs to reduce symptoms of depression and anxiety among individuals suffering from disorders also demonstrate positive results. In a meta-analysis on the effectiveness of physical activity in treating depressed individuals, Stathopoulou et al. (2006) take into account the results of 11 studies and reveal significant positive effects. Although these research efforts were conducted with individuals already suffering from mental disorders, it is possible that the same effects could be observed in individuals with preclinical symptoms.

Results of a systematic review by Dunn et al. (2001) on scientific evidence of the relationship between physical activity and depression and anxiety disorders are similar. Physical activity, be it of low, moderate or high intensity, can reduce symptoms of depression.[433] However, the evidence is less solid for people suffering from anxiety disorders. Despite these promising results, the authors suggest caution given the limited quality of the studies. In response to this methodological shortcoming, Dunn, Trivedi and O'Neill (2006) conducted a randomized controlled trial. The goal of their study was to measure the intensity required to ensure the effectiveness of physical activity treatment to reduce the symptoms of depression

[431] (Murphy et al., 2002)
[432] (Lane & Lovejoy, 2001)
[433] (Dunn et al., 2007)

(dose-response). They conclude that physical activity three or five times a week reduces symptoms significantly.[434]

On the other hand, a recent epidemiological study of depressed patients examined the relationship between physical activity and depression.[435] The authors of this study monitored 424 people having been diagnosed with depression at the beginning of the study over a 10-year period. An analysis of measurements taken at four times shows that an increase in the frequency of physical activity is associated with a reduction in depression. Moreover, the authors note that physical activity seems to have a particularly beneficial effect on individuals who are experiencing medical problems or major events in their lives. According to them, from a clinical perspective, encouraging people suffering from depression to get involved in physical activity can only be beneficial and involves little risk.

Regarding effects on anxiety, the study by Broocks et al. (1998) using a randomized design with patients suffering from a panic disorder compares the therapeutic impact of a physical activity program with a pharmaceutical treatment (clomipramine) and a placebo treatment. The results suggest that aerobics alone compared to a placebo treatment is associated with a significant decrease in the symptoms of panic disorder but is less effective than treatment with clomipramine. Aerobics alone also seems to be associated with a significant clinical improvement in panic disorders.[436]

Although these studies focused on the effectiveness of physical activity in reducing symptoms of depression and anxiety among clinically ill individuals, they suggest the possibility that physical activity is also beneficial to individuals with preclinical symptoms. Physical activity also improves the overall health of individuals and provides more health benefits than risks. Quality studies of this particular population are still needed.[437]

[434] (Dunn et al., 2007)
[435] (Harris et al., 2006)
[436] (Broocks et al., 1998)
[437] (Penedo & Dahn, 2005)

8.1.6. Screening and interventions to prevent domestic violence

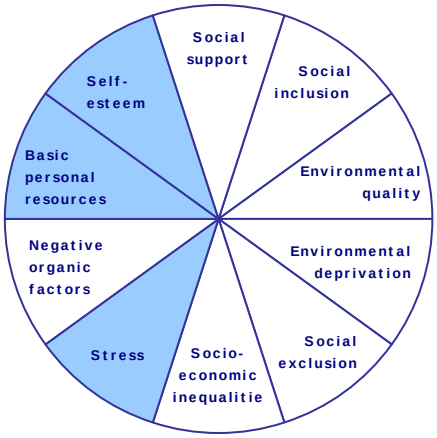
According to Québec's domestic violence intervention policy,[438] domestic violence is characterized by a series of repetitive acts that often occur in an ascending curve, i.e. escalating violence. This type of violence includes psychological, verbal, physical and sexual abuse in addition to economic domination. Domestic violence does not result from a loss of control; on the contrary, it is a chosen way of dominating the other person and asserting authority over him or her.[439]

There are a number of categories of intervention for preventing domestic violence. The interventions documented in this section deal solely with the identification of cases and interventions with abused women.

Relevance

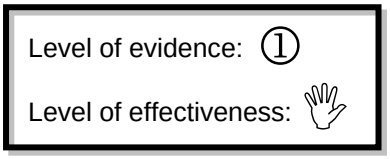
Public policy	Supportive environ.	Community action	Personal skills	Health services

Domestic violence can result in short- and long-term effects, such as problems of a physical (chronic pain, bowel disorders) or psychological nature (stress, depression, post-traumatic stress, suicide and substance abuse).[440] These harmful effects may persist long after the abuse has ended.[441] Domestic violence can also be associated with homicide and suicide. Certain risk factors, such as low self-esteem, depression and anxiety or an anti-social personality, increase the risk of being a victim or an aggressor[442]. Other factors include drug and alcohol abuse and having a history of physical or sexual abuse.[443]



[438] (Gouvernement du Québec, 1995)
[439] (Gouvernement du Québec, 1995)
[440] (U.S Preventive Services Task Force, 2004); (World Health Organization, 2007a)
[441] (Ramsay et al., 2005)
[442] (World Health Organization, 2007b)
[443] (U.S Preventive Services Task Force, 2004)

Effectiveness



The Canadian Task Force on Preventive Health Care concludes that there is insufficient evidence to conduct systematic screening for violence among women who go to a physician's office.

The US Preventive Services Task Force and systematic reviews by Ramsay et al. (2002) and Coulthard et al. (2004) come to the same conclusion.[444] They base this recommendation on the fact that there is currently no solid study demonstrating the effects of screening on the recurrence of the violence.[445] However, it is suggested that physicians be alert to signs of abuse during their examinations and ask women if they are exposed to domestic violence.[446]

Currently, there is insufficient data to recommend that physicians[447] and other health professionals (dentists, maxillofacial surgeons)[448] systematically propose a specific intervention (counselling, shelter, individual therapy or other community resources)[449] to abused women in order to prevent recurrence. Nonetheless, it is obvious that the physician and his or her patient may agree upon an appropriate intervention for other reasons. According to the Canadian Task Force on Preventive Health Care, there are very few good quality studies in this field involving long-term follow-up and using objective measurements (medical files, police reports).

[444] (U.S Preventive Services Task Force, 2004); (Ramsay et al., 2002); (Coulthard et al., 2004)
[445] (Wathen & MacMillan, 2003); (Nelson et al., 2004)
[446] (Wathen & MacMillan, 2003)
[447] (Wathen et al., 2003); (Wathen & MacMillan, 2003)
[448] (Coulthard et al., 2004)
[449] (Wathen et al., 2003); (Wathen & MacMillan, 2003)

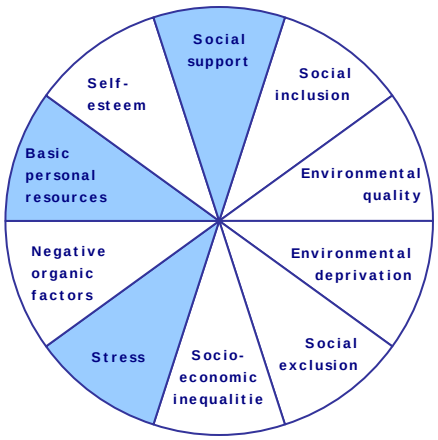
8.1.7. Systematic screening for depression and interventions with adults

This measure targets the prevention of depression and the reduction of its effects through systematic screening during routine examinations, combined with effective intervention.

Relevance

Public policy	Supportive environment	Community action	**Personal skills**	**Health services**

Depression is one of the most frequent mental disorders found in the Canadian population. Unfortunately, only 38.5% of Canadians suffering from depression use mental health services during the course of a year.[450] Among people suffering from a mental disorder, only 20% to 30% of them receive the treatment they need.[451]

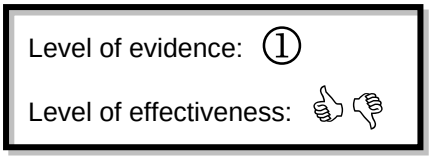


Such a disorder may result in significant functional disabilities, physical health problems, and negative repercussions on the quality of life of those afflicted and that of their loved ones, especially young children. Moreover, it increases the risk of premature death by suicide, accident or complications due to substance abuse.[452] It also results in more frequent use of primary and secondary health care services. Depression is known as a mental disorder with a high risk of recurrence, especially when residual symptoms are present,[453] and it frequently becomes chronic.[454]

However, certain protection factors enhance the probability that an individual is able to thrive despite being faced with adversity. These factors are: intelligence, social competence, and the quality of the family environment.[455] Similarly, the presence of a low level of neuroticism, a high level of self-esteem, an internal locus of control, and a strong perception of one's capacity to solve problems may weaken or eliminate the relationship between negative life events and depression.[456] Screening and effective intervention should contribute to the development of these factors in the individual and his or her living environment.[457]

[450] CCHS 1.2; Statistics Canada, 2002 cited in (Fournier et al., 2007)
[451] (Kessler et al., 2005)
[452] (Agence de la santé publique du Canada, 2002)
[453] Angts cited in (Kavanagh et al., 2006)
[454] (Kavanagh et al., 2006)
[455] Masten, Best & Garmezy, 1990; Masten, Hubbard, Gest, Tellegen, Garmezy & Ramirez, 1999; Rutter, 1985; all cited in (Morin & Chalfoun, 2003)
[456] Adams & Adams, 1991; Ormel, Stewart & Sanderman, 1989, all cited in (Morin & Chalfoun, 2003)
[457] (Morin & Chalfoun, 2003)

Effectiveness



The effectiveness of systematic screening measures is a source of controversy.[458] On one hand, a meta-analysis by Pignone et al. (2002) conducted for the US Preventive Task Force, based on studies carried out between 1976 and 2001, indicated that systematic screening for depression among adults in the general population using routinely administered questionnaires may be more effective in reducing the effects of depression than a simple medical follow-up, particularly when this screening is an integral part of a program that provides appropriate treatment and follow-up.[459] Based on this meta-analysis and on a complementary systematic review including studies published in 2001 and 2002, the Canadian Task Force on Preventive Health Care[460] recommends systematic screening if it is accompanied by follow-up (feedback regarding the depression to the physician) and effective treatment (medication or psychotherapeutic intervention).

On the other hand, the results of systematic reviews by Gilbody et al. (2001 and 2005) somewhat qualify the results of Pignone et al. (2002). These reviews covered randomized controlled trials addressing the effectiveness of the systematic use of routinely administered tests to screen for depression, combined with a process providing feedback to primary care physicians. The results indicate that screening and feedback do not increase[461] or increase very little[462] the rate of recognition of depression, do not point to any clear action afterwards[463] and, ultimately, do not contribute to an improvement[464] in the patient's state as evaluated 6 to 12 months after the screening. Moreover, according to the authors, the costs associated with systematic screening for depression are considerable. Thus this is not an effective measure for improving the mental health of the population.[465] The authors nonetheless recognize that systematic screening may be beneficial to certain individuals, particularly those with high scores on routinely administered tests[466] or who are at high risk.[467] They also acknowledge that, compared with regular medical care, the systematic screening activities that have an impact are those that are part of an enhanced collaborative care program for depression.[468]

[458] (Pignone et al., 2002)
[459] (Pignone et al., 2002)
[460] (MacMillan et al., 2005a)
[461] (Gilbody et al., 2001)
[462] (Gilbody et al., 2005)
[463] (Gilbody et al., 2005)
[464] (Gilbody et al., 2001); (Gilbody et al., 2005)
[465] (Gilbody et al., 2006)
[466] (Gilbody et al., 2001)
[467] (Gilbody et al., 2006)
[468] (Gilbody et al., 2006)

Despite the criticisms raised by Gilboby et al., it does appear that systematic screening may be beneficial when it is the first step in a more comprehensive patient management process that includes effective treatment and appropriate follow-up.[469]

[469] (MacMillan et al., 2005a)

8.2. RECOMMENDATIONS

This section is divided into two parts. The first comments on the measures for adults to be consolidated in the province's public health services program (Programme national de santé publique 2007-2012). The second part deals with the measures chosen in terms of adaptation, development or further research required.

8.2.1. Measures to be consolidated in the province's public health services program

Table 10. Measures for adults to be consolidated in the province's public health services program

Measures from mental health science advisory report	Factors targeted	Strategies used	Evidence and effectiveness	Québec's public health services program PNSP 2007-2012
Interventions to improve mental health literacy	4	4	②	Communication campaigns based on development, adjustment and social integration: - healthy development and personal and social skills among children and adolescents - mental health, domestic violence, gambling among adults
Interventions to support community development	9	5	②	Community Development Support strategy
Interventions to promote physical activity	3	1	General population ① Clinical population ③	Communication campaigns based on **lifestyles** and chronic diseases: - acquisition of healthy lifestyles, including healthy eating, regular physical exercise, not smoking and oral health Support for the development and implementation of dietary and physical activity policy frameworks for the workplace, educational and recreational settings, municipalities and health and social services institutions Education and support in workplaces to promote and foster the development of healthy lifestyles among employees Education and support for municipalities in creating environments that foster healthy eating and physical activity – access to areas for physical activities, urban designs encouraging active movement, by-laws, etc.

Table 10. Measures for adults to be consolidated in the province's public health services program (continued)

Measures from mental health science advisory report	Factors targeted	Strategies used	Evidence and effectiveness	Québec's public health services program PNSP 2007-2012
				Support to communities and various settings in creating groups and networks (for example, integrated approach by organizations, young leaders, walking and cycling groups, seniors' physical activity groups) to promote access to physical activities Recommendation for regular physical activity
Screening and interventions to prevent domestic violence	4	3		Domestic violence case finding among adults
Systematic screening for depression and interventions with adults	3	2		Screening for depression among seniors and other adults, particularly pregnant and postnatal women, and referral to diagnostic, treatment or follow-up services

Interventions to improve mental health literacy

Mental health literacy, which refers to "knowledge and beliefs about mental disorders which aid their recognition, management or prevention,"[470] is attracting more and more attention among researchers, particularly with respect to young adults, especially young men whose mental health literacy is lower than that of young women.[471] Evidence of the effectiveness of awareness campaigns, especially those conducted in Australia, is limited but encouraging.[472] These campaigns enhance identification of symptoms of mental disorders, an estimate of their prevalence, an increase in requests for help, a reduction in perceived constraints to asking for help, and an improvement in public perception of the effectiveness of professional services and pharmaceutical approaches.

The PNSP plans to introduce various awareness campaigns on multiple psychosocial problems. It also plans to make the general public and health and social services professionals more aware of the early signs of anxiety and depression disorders and to distribute information on the activities and services offered. To take into account the effective elements revealed in scientific literature, MSSS communication campaigns on the topic of mental health must plan to use a number of communication tools (posters, the Internet, etc.) and target several objectives including countering the stigma associated with mental disorders; helping individuals better identify their symptoms; informing the public of the effectiveness and accessibility of treatment; and encouraging people to ask for help.

[470] Jorm et al., 1997, cited on p. 396 in (Jorm, 2000)

[471] (OMS, 2004a)

[472] (Wright et al., 2006); (Jorm et al., 2005); (Jorm et al., 2006); Australian Government Department of Health and Aging, 2005, cited in (Goldney et al., 2005); Hickie, 2004, cited in (Goldney et al., 2005)

Interventions to support community development

This measure specifically aims to create environments that foster the health and well-being of the whole population and to establish and maintain mutual trust and reciprocal relationships between citizens, civil society and local development stakeholders while directly addressing social determinants of health.[473] From a mental health perspective, supporting community development also increases a community's social capital, which is created at multiple levels (family, community, school, institutions, society) using various approaches: strengthening social networks, creating social organizations (ex.: community organizations), strengthening community ties (encouraging the mobilization of all community players around common goals), and enhancing citizen participation.[474]

Experts in mental health promotion agree that additional investments in social capital and approaches that support community development are needed. This is one of the strategies that is part of the provincial public health program and one that must be maintained and enhanced in all regions of Québec. It is important to reaffirm the key role the health and social services system plays in community development, especially by ensuring that this measure is integrated into government orientations and by ensuring that regional and local teams have the capacity to effectively support community development. In addition, process and results indicators specific to community development support must be developed in order to better document the effectiveness of this approach. Additional research with appropriate methodologies explicitly targeting an improvement in mental health is needed[475] to solidify the evidence.

Programs to promote physical activity

Research on the effectiveness of physical activity programs promoting mental health and preventing mental disorders in the general population is sparse.[476] It is thus difficult to present clear conclusions on the effectiveness of physical activity in promoting mental health and preventing mental disorders in the general population. However, recent studies concur that regular physical activity can be beneficial to mental health and is not associated with negative side effects, but rather with positive effects on health in general. More support exists for the effectiveness of physical activity in reducing symptoms of depression and anxiety.[477] It is beneficial for individuals who have been diagnosed with depression and possibly for those with milder or preclinical symptoms of depression.

The PNSP contains a number of physical activity promotion measures from the perspective of promoting healthy lifestyles. More research is needed to better comprehend the benefits of physical activity on mental health.

[473] (Institut national de santé publique du Québec, 2002)
[474] Grant, 2000, cited in (Whiteford et al., 2005)
[475] (Rychetnik & Todd, 2004)
[476] (Lawlor & Hopker, 2001) (Penedo & Dahn, 2005)
[477] (Stathopoulou et al., 2006)

Screening and interventions to prevent domestic violence

A number of authors[478] state that there is insufficient evidence to support systematic screening of domestic violence among women in primary health care services. However, it is recommended that physicians keep an eye out for signs of abuse during their examinations and, if the situation warrants, that they ask women if they are experiencing domestic violence.[479] These guidelines come from the PNSP, which advocates detection at the slightest sign of domestic violence in terms of preventive clinical practices, and the offering of help to ensure the victim's safety, taking into account the risks involved, especially, those associated with firearms kept in the home.

Systematic screening of depression and effective interventions

This measure is a new preventive clinical practice in the province's public health program, the Programme national de santé publique du Québec 2007-2012. Although the results obtained are mixed, the Canadian Task Force on Preventive Health Care[480] recommends screening adults when accurate diagnoses, effective treatment and careful follow-up can be provided. More evaluation studies are needed to consolidate the data in this area.

[478] (Wathen & MacMillan, 2003); (U.S Preventive Services Task Force, 2004); (Ramsay et al., 2002); (Coulthard et al., 2004)

[479] (Wathen & MacMillan, 2003)

[480] (MacMillan et al., 2005a)

8.2.2. Measures for adults requiring adaptation, development or further research

Table 11. Measures for adults requiring adaptation, development or research work

Measures from mental health science advisory report	Factors targeted	Strategies used	Evidence and effectiveness
Interventions to promite mental health and prevent mental disorders in the workplace	5	2	⓵👍
Interventions supporting informal caregivers	3	2	⓵👍👎 (seniors) ⓵👍 (mental disorders)

Interventions to promote mental health and prevent mental disorders in the workplace

Two key approaches are used for interventions in the workplace: individual approaches and organizational approaches. The main objectives of individual approaches are to improve the ability of individuals to adapt to situations and better manage their stress. Organizational approaches aim to reduce pathogenic factors and increase protection factors related to the organization. According to the results of meta-analyses and systematic reviews, individual stress management approaches are effective in preventing mental disorders in the workplace.[481] However, from a public health perspective, individual approaches are considered insufficient to eliminate the cause of the problems (pathogenic factors related to the organization).[482] Therefore, interventions that combine an individual approach with an organizational approach are recommended.[483] Even though the corpus of data on these approaches is still slim, the results of various studies indicate that they produce interesting effects such as a decline in the prevalence of burnout,[484] psychological distress,[485] biological stress markers,[486] health-related complaints,[487] musculoskeletal symptoms[488] and absenteeism.[489] In this context and given the pandemic nature of mental health problems in the workplace in the Western World, the development of practices that support health in the workplace should be encouraged. Therefore, in Québec, it seems important to develop and assess the various types of individual and organizational approaches in the workplace and in various sectors based on individual measures already offered to employees, including employee assistance programs (EAPs).

[481] (Van der Klink et al., 2001); (Marine et al., 2006); (Mimura & Griffiths, 2003)
[482] (Vézina et al., 2004)
[483] (Vézina et al., 2004); (Department of Health-UK, 2001); (OMS, 2004a)
[484] (Michie et al., 2003)
[485] (Kawakami et al., 2005)
[486] (Theorell et al., 2001)
[487] (Logan & Ganster, 2005); (Mikkelsen & Gundersen, 2007); (Nielsen et al., 2006)
[488] (Eklof & Hagberg, 2006)
[489] (Dahl-Jorgensen & Saksvik, 2005); (Michie et al., 2003)

In accordance pilot projects will be carried out on organizational environment and management practices that foster health in the workplace. In conjunction with these projects, people who work in the area of workplace health will be trained in evaluating risky situations for employees. Mental health indicators for workers are currently being developed

Interventions to support informal caregivers

Informal caregivers who care for individuals who are elderly and/or ill have an increased risk of suffering from physical or mental health problems, isolation, feelings of powerlessness, and financial problems.[490] Moreover, the stress experienced by informal caregivers may make them more likely to seek an institution for the person under their care.[491] Numerous interventions, that without a doubt contribute to the provision of health services, have been developed and tested to improve the mental health of informal caregivers.

Nonetheless, the results on the effectiveness of these interventions on both the mental and physical health of caregivers and that of individuals suffering from mental disorders are limited and at times even contradictory. More quality research with extended follow-up is needed to be able to reach a conclusion on their effectiveness in the long term and to determine their essential components.

[490] (OMS, 2004a)
[491] (Brodaty et al., 2003)

CONCLUSION

The literature review undertaken for this science advisory report demonstrates that there are currently a number of effective mental health promotion and mental disorder prevention measures. Moreover, some of these measures, particularly those targeting children and youth, are already part of the province's public health services program. These measures are therefore ripe for stakeholders from various sectors involved with each age group to consolidate their efforts, given the numerous interests they share. Other promising measures need to be adapted to the Québec reality or studied further to better grasp their impact on mental health.

The work carried out has brought certain facts to light:

1. The importance of taking action early in life because the prenatal phase and the first years of a child's life are critical periods in establishing the foundations of an individual's mental health. In fact, the protection and risk factors to which children and youth are exposed, though they may eventually be influenced by other factors, help make them stronger or more vulnerable over the short, medium and long terms.

2. The necessity of developing the personal and social skills of all individuals, given their protective effect on mental health, especially in situations of adversity. Children and youth in particular could benefit from such mental health promotion measures because they are complementary to other preventive measures.

3. The importance of supporting adults in their professional, social and parental tasks and responsibilities. Support for employees is particularly critical, given the influence of this environment on adults' mental balance.

4. The need to act early and effectively with certain at-risk groups such as children who have a parent with a mental disorder, individuals dealing with significant stress and any other individuals at risk of depression or anxiety.

5. The relevance of encouraging the creation of environments that foster mental health be it for school-aged children, workers or the entire community.

6. The urgency of increasing the public's mental health literacy, on one hand, to improve knowledge and beliefs regarding mental disorders particularly among young adults, enabling their prevention, recognition and treatment[492] and, on the other, to reduce stigmatization and discrimination towards individuals with mental disorders.[493]

[492] Jorm et al. 1997, cited on p. 396 in (Jorm, 2000)
[493] World Health Organization, 2004a

7. Lastly, although we have increasing evidence on the effectiveness of promotion and prevention measures in the area of mental health, it is imperative that research in this field be encouraged. Despite the scientific advances noted, research on the effectiveness and efficiency of programs should be a priority to increase the level of evidence pertaining to some of the measures identified.

Major developments have taken place in recent years regarding knowledge about mental health promotion and mental disorder prevention, especially following the publication of several key international reports. It is clear that the effectiveness of our efforts is dependent in large part on our collective ability to develop a global, systemic and integrated vision of mental health promotion and prevention. The effectiveness of interventions developed in partnership using strategies from the Ottawa Charter confirms the relevance and effectiveness of joint efforts in mental health among all stakeholders. This science advisory report thus lays the groundwork for further reflection on effective interventions in mental health promotion and mental disorder prevention. It also invites researchers, practitioners and decision makers to become involved in common efforts conducive to maintaining and improving our collective social good: the mental health of the population.

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APPENDIX 1.

KEY DOCUMENTS

KEY DOCUMENTS

Selected Sources	Model	Measures
1. Commonwealth Department of Health and Aged Care (2000). National Action Plan for Promotion, Prevention and Early Intervention for Mental Health Canberra. Australia: Mental Health and Special Programs Branch, Commonwealth Department of Health and Aged Care.		X
2. European Communities (2005). Green Paper. Improving the mental health of the population: Toward a strategy on mental health for the European Union. European Commission.	X	X
3. WHO (2004). Promoting mental health: Concepts, emerging evidence, practice: summary report. Geneva: World Health Organization, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne, 67 p.	X	X
4. WHO (2004). Prevention of mental disorders. Effective interventions and policy options: Summary report. Geneva: World Health Organization, Department of Mental Health and Substance Abuse in collaboration with the Prevention Research Centre of the Universities of Nijmegen and Maastricht, 66p.		X
5. WHO (2005). Promoting mental health: Concepts, emerging evidence, practice. Geneva: World Health Organization, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne, 288 p.		X
6. Jané-Llopis, E., Barry, M., Hosman, C. & Patel, V. (2005). The evidence of mental health promotion effectiveness: Strategies for action. Promotion and Education, S. 2, 69 p.		X
7. Keleher, H. & Armstrong, R. (2006). Evidence-based mental health promotion resource. Report for the Department of Human Services and VicHealth.	X	X
8. Ellis, P. M. & Collings, S. C. D. (1997). Mental health in New Zealand from a public health perspective. Ministry of Health.		X
9. Shekhar Saxena & Garrison. P. J. (2004). Mental health promotion: Case studies from countries. A joint publication of the World Federation for Mental Health and the World Health Organization, France.		X
10. Jané-Llopis, E. & Anderson, P. (Eds). (2005). Mental health promotion and mental disorder prevention. A Policy for Europe. Nijmegen: Radboud University Nijmegen.		X
11. Jané-Llopis, E. & Anderson, P. (Eds). (2006). Mental health promotion and mental disorder prevention across European Member States: A collection of country stories. Luxembourg: European communities.		X
12. Department of Health-UK (2001). Making it happen: A guide to delivering mental health promotion. London.	X	X
13. Tilford, S., Delaney, F. & Vogels, M. (1997). Effectiveness of mental health promotion interventions: A review. Health Education Authority.		X
14. EPPI-Center (2001) Young people and mental health: a systematic review of research on barriers and facilitators, UK.	X	X
15. National Institute for Health and Clinical Excellence (2007). Public health interventions to promote positive mental health and prevent mental health disorders among adults, Evidence Briefing, Health Development Agency (HAD), UK.	X	X
16. Ministry of Health (2002), Building on strengths. A new approach to promoting mental health in New Zealand/Aorearoa. New Zealand, 56 p.		X

APPENDIX 2.

OTTAWA CHARTER STRATEGIES

OTTAWA CHARTER STRATEGIES[494]

a) Build healthy public policies

Implementing healthy public policies is a strategy that encourages the various levels of government and institutions to consider the consequences of their decisions on health and promotes a collective sharing of responsibilities.[495] This strategy combines methods such as legislation, tax measures, taxation, and organizational changes. It is based on the commitment and coordination of political stakeholders to establish public policies that promote health and reduce inequalities.[496]

b) Create supportive environments

This strategy specifically targets changes to the living environments of individuals (daycare facilities, schools, workplaces, neighbourhoods, etc.). It goes beyond the individual frame of reference to take into account the impact of social, cultural and economic factors that operate at all systemic levels.[497] Its goals are the establishment of a social environment conducive to helping one another, the creation of reciprocal relationships among community members, the development of a healthy, safe physical environment free from elements that could compromise the health of the population (pollution, contaminants, dangerous work environment, etc.), and the protection of environments and resources.[498]

c) Strengthen community actions

Strengthening community actions refers to enhancing the capacity of communities to become aware of their needs, set priorities for action, and find solutions for the problems that concern them.[499] This strategy is based on sharing the community's human, material and financial resources. It is built on the commitment of all community members.

d) Develop personal skills

The goal of this strategy is to strengthen the ability of individuals to take action regarding their health. It is based on recognizing the physical, psychological, behavioural and social potential of people to make decisions and take control of their lives.[500] It also refers to measures targeting the acquisition of basic personal resources.

[494] (Charte d'Ottawa, 1986)
[495] (Jané-Llopis et al., 2005a), p. 10
[496] (Charte d'Ottawa, 1986)
[497] (Jané-Llopis et al., 2005a), p. 11
[498] (Charte d'Ottawa, 1986)
[499] (Jané-Llopis et al., 2005a), p. 14
[500] (Ministère de la Santé et des Services sociaux, 2003)

e) Reorient health services

Reorienting health services emphasizes the sharing of responsibilities among individuals, community groups, health professionals, health services, and the government.[501] These measures include health research, professional training, and changes to the organization of health services.[502]

[501] (Jané-Llopis et al., 2005a), p. 16
[502] (Jané-Llopis et al., 2005a), p. 16

APPENDIX 3.

LEVELS OF EVIDENCE

LEVELS OF EVIDENCE

A **systematic review** is a process that allows data from published and unpublished studies to be synthesized and qualitatively appraised.[503] It is performed by following a rigorous approach ensuring that the data is complete and that findings can be replicated.[504] This type of synthesis is interpretative by nature and may at times introduce possible author biais, which can compromise the validity and generalization of the conclusions.[505]

A **meta-analysis** is a systematic review that allows data from comparable studies to be synthesized and qualitatively appraised.[506] This is done by following a rigorous approach and using appropriate statistical techniques while ensuring that the data is complete and that findings can be replicated.[507] A meta-analysis has the advantage of being able to take into account sample sizes and the methodological quality of different studies.[508] It also allows for the identification of more influential variables and of client groups or environments that could draw greater benefits from an intervention.[509] The quality of a meta-analysis depends, however, on the quality of the primary studies included.[510]

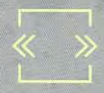
A **randomized controlled trial (RCT)** is a study that enables one to determine if there is a causal relationship between a treatment and its outcome. It is conducted through the random assignment of participants to an experimental or control situation, without the participants and those performing the intervention knowing which group they are in (double blind).[511] RCTs are not always possible for ethical or feasibility reasons due to difficulties with randomization or recruitment. They are also very expensive.[512] Moreover, the WHO European Working Group has concluded that the use of randomized controlled trials to evaluate health promotion initiatives is unsuitable, misleading and needlessly expensive in most cases (World Health Organization, 1998).[513]

A **good quality quasi-experimental or observational study** requires that different techniques be used to limit interpretation biais. These studies enable the analysis of more complex measures or the evaluation of conditions that are difficult for researchers to control. However, it is more difficult to link the results to the programs.

Expert consensus has the advantage of allowing clinical or professional opinions to be considered in the analysis of measures in cases where evaluation studies are rare or contradictory. This type of evidence thus has a theoretical or clinical basis recognized by all experts. This is often the case for measures that address societal factors such as poverty and/or discrimination.

[503] (Lessard, 2004)
[504] (Lessard, 2004)
[505] Translated excerpt from p. 168, (Fortin et al., 2007)
[506] (Lessard, 2004)
[507] (Lessard, 2004)
[508] (Fortin et al., 2007)
[509] (Fortin et al., 2007)
[510] (Fortin et al., 2007)
[511] (Sibbald & Roland, 1998)
[512] (Sibbald & Roland, 1998)
[513] (Green, 2002)

Publication N^{o}: 1116



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