Predictors of Psychological Distress in Low-income Populations of Montreal

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ABSTRACT

Theoretical perspective: All epidemiologic studies agree that poor populations are the groups most vulnerable to mental health problems. However, not all people in economic difficulty show symptoms, and it appears that having a social support network plays a role in protecting against the chronic stress resulting from conditions such as poverty.

Objectives: The aim of the study is to clarify the relative contribution of social support to the mental health of low-income populations in two neighbourhoods in the southwest of Montreal: Pointe-Saint Charles and Saint-Henri.

Methods: A random sample of 416 social assistance recipients in southwest Montreal and another sample of 112 people, drawn at random from the general population, were interviewed. The psychological distress scale used was the Indice de détresse psychologique – Enquête Santé Québec (IDPESQ). The availability of social support components was assessed by using the Social Provisions Scale. Data were collected during interviews in the respondents' homes. Social support measures were entered into a multidimensional model including many variables identified as being associated with mental health. Multiple regression analysis identified the best predictors of psychological distress for the low-income population.

Findings and conclusions: Among the 30 variables included in a multiple regression analysis, emotional support and the presence of persons perceived as stressful together accounted for most of the variance in distress predicted by the model. Although younger people, people experiencing food insecurity and people with poorer numeracy show a higher level of distress, these variables make a fairly marginal contribution compared with that of social relations.

MeSH terms: Poverty; mental health; psychological distress; quality of life; social support

La traduction du résumé se trouve à la fin de l'article.

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Most epidemiologic studies around the world, both community surveys and archival studies, indicate that a close link exists between psychiatric symptoms and socio-economic variables, the poorest individuals being the most vulnerable.[1-12] As well, the Enquête Santé Québec[5] showed that income and psychological distress are inversely correlated: 27% of the most economically disadvantaged population showed psychological distress versus 16% of the more affluent population.

Fortin[13] examines four possible explanations for this phenomenon: possessing a weak constitution, social drift, unequal care and, finally, social fragility. The first two hypotheses involve individuals' inherent shortcomings, and the last two suggest a social cause. The social fragility hypothesis, which we will examine, posits that the living conditions prevalent within socio-economically disadvantaged populations would generate additional psychiatric symptoms.

The first social ecologists of the 1930s, Park, Bugress and McKenzie, drew an analogy between communities and ecosystems. They theorized that access to resources and the necessities of life is modulated by economic variables, and that low-income people are subject to additional stress that sometimes affects their state of health. Selye's concept of stress[14] led to a better understanding of the biological and social factors that may influence how humans adapt to circumstances. Research conducted with scales measuring stress indicated that an accumulation of stressful events has a negative impact on health.[15]

The mental health field also developed adaptation models based on the concept of stress.[16-18] The fundamental assumption underlying the ecosystem model of adaptation developed by Caron[19] is that humans, like any organism, need to have access to and conserve the material and social resources that make it possible to maintain their biological integrity and to develop. Obtaining access to resources is a function of the ability to play roles in four ecosystems: family, school, work and spare time activities, which are part of the community ecosystem. Finally, the quality of these ecosystems is affected by economic, cultural, political and physical conditions. According to this model, a human's inability to adapt is related to psychological

stress. Symptoms, which may be transitional or become psychopathological, originate with a person's inability to access ecosystems' material and socio-affective resources. Several factors may be involved, alone or in combination, namely: 1) poverty in ecosystem resources, 2) ecosystem disturbances that lead to resource losses[20] or that temporarily block access to resources, 3) the inability to acquire the skills or cognitive competencies required to accomplish expected roles in the ecosystems and 4) biological predispositions that make an individual more sensitive to the stress generated through his or her efforts to use resources.

Since the mental health of economically disadvantaged populations is less stable, this model predicts higher stress in these populations and/or deficits in the quality or quantity of resources available in their social networks.

Poor populations experience inherently higher levels of the permanent stress created by striving to meet basic biological needs (food, shelter, etc.) and of the stress created by awareness of the gap between available resources and the resources seen as essential according to industrial societies' cultural model of well-being. Dressler et al.[21] suggest that the greater health problems occurring in poor populations result from their inability to live in accordance with lifestyles reflecting cultural norms. Studies show that the significant interaction between the occurrence of stressful events and serious pre-existing chronic conditions (such as housing, financial, work, and relationship conditions) is associated with symptoms of depression in poor populations.[22,23] Other studies also demonstrate that these populations experience stressful life events more frequently than more affluent populations do.[13,22-25]

Mental health studies clearly demonstrate that a relationship exists between the severity of mental disorders and the quality of available social support,[26-29] and much research has identified a lack of available social support within poor populations.[13,22,30-33]

Cutrona and Russell[34] developed a theoretical model suggesting that optimal matching exists between stressful events and the need for specific types of support. Several studies using different methodologies and focusing on a range of economi-
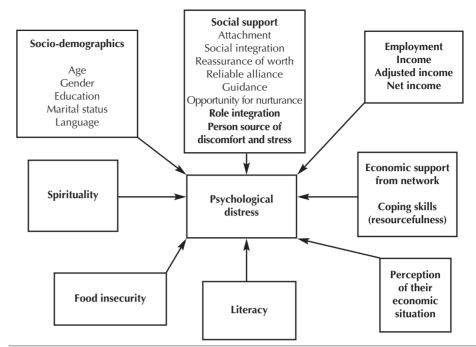

Figure 1. Illustration of the theoretical model's groups of variables that predict psychological distress

cally disadvantaged populations suggest that the availability of specific supports, such as emotional support, material assistance and, to a lesser extent, support for personal worth and social integration, would allow these populations to adapt more successfully.[27,34-36]

The aim of this study is to refine our comprehension of the relationship linking social support and mental health by comparing five populations: (1) a poor population showing psychiatric symptoms and receiving services (SAS); (2) a poor population showing psychological distress but not receiving services (SAD); (3) a poor population not showing psychological distress (SAND); (4) a general population showing psychological distress (GPD); and (5) another not in distress (GPND). In order to clarify the relative contribution of social support to the mental health of low-income populations, social support measures will be entered into a multidimensional model including many variables identified as being associated with mental health (Figure 1).

The following hypotheses were postulated:
1. The *size* of the social network should be smaller in populations with psychological distress.
2. Populations not in distress should be more satisfied with the *availability of social support*.

3. Social support should be the best predictor of psychological distress.
4. *Emotional support* and *tangible and material support* should be the support components most closely correlated to psychological distress indicators according to the optimal matching theory.[34]

DESIGN AND METHODS

Study site
The study was conducted in the neighbourhoods of Saint-Henri and Pointe Saint-Charles, which are adjacent to each other on the southwest part of the Island of Montreal. Saint-Henri has a population of 25,580 people. In this neighbourhood, 49% of families are headed by a single parent, and 20% of people live alone; 23% are immigrants, 38% of people 15 years of age and older do not have a secondary school diploma, 51% of people live below the poverty line, 27% are income security recipients, and the unemployment rate is 16%.

Pointe Saint-Charles has a population of 13,075 people. In this neighbourhood, 52% of families are headed by a single parent, 19% of people live alone; 13% are immigrants, and 55% of people 15 years of age and older do not have a secondary school diploma. There are 55% of people

living below the poverty line, 35% are income security recipients, and the unemployment rate is 20% (Direction de la santé publique de Montréal-Centre: personal communication, 2001).

Poor health outcomes have been documented in Saint-Henri for years.[38] The population's life expectancy is 4.4 years lower in Saint-Henri than in Montreal and 5.3 years lower in Pointe Saint-Charles, and both neighbourhoods have higher rates of cancer and circulatory and respiratory disorders (Direction de la santé publique de Montréal-Centre: personal communication, 1999).

Sample

The sample was made up of 528 people between 18 and 65 years of age, 416 of whom were social assistance recipients. This subsample was drawn from 2,000 names randomly pre-selected by the Ministère de la Sécurité du revenu. In order to asses the level of psychological distress in higher income populations of the same neighbourhoods, 112 people from the general population living in the same neighbourhoods and not receiving social assistance benefits were also sampled. This subsample was randomly drawn using the Prophone software application, which contained the telephone numbers of people residing in these two neighbourhoods in 2001.

Measures

The psychological distress scale used was the Indice de détresse psychologique – Enquête Santé Québec (IDPESQ-14). This tool includes 14 items (Likert scale) that detect symptoms of anxiety, depression and irritability as well as cognitive problems without giving a specific psychiatric diagnosis. Respondents scoring above the fifth quintile of psychological distress are considered to have a high level of psychological distress. It was used in the Enquête Santé Québec[5] survey for assessing psychological distress in Quebec's population and is based on Ilfeld's[37] Psychiatric Symptom Index.

Various aspects of formal social networks, such as their size, make-up (family, friends and neighbours), density, frequency of contact and type of help received were evaluated both qualitatively and quantitatively.

Components of social support were measured by the Social Provisions Scale[39] and validated in Quebec by Caron.[40] This social provisions scale measures people's perceptions about the availability of six aspects of social support, namely emotional support, social integration, reassurance of one's worth, material assistance, advice and information, and the need to feel useful.

Social and community integration was measured using the Social Network Index.[41] This index documents the number of active roles that an individual plays (spouse, parent, mother/father-in-law, child, extended family member, neighbour, friend, co-worker, student, volunteer, member of a religious group).

Food insecurity was measured using the Radimer/Cornell Hunger and Food Insecurity Measure,[42,43] the only questionnaire based on formal knowledge of the experience of food insecurity.[44] The questionnaire has 11 statements related to the psychological, quantitative and qualitative aspects of the experience as it affects households and the individuals within them (adults and children). This instrument was successfully tested in Quebec.[45]

To measure an *individual's financial resources*, questions were asked in the following areas: *total income per month,* including income security benefits, gifts, employment and alimony/child support income, disability or old age pension benefits and family or housing allowances. *Expenses* were also evaluated in the following areas: number of people in the household and their ages, rent and household expenses (gas, hydro, heating oil, etc.), property taxes and monthly debt payments. The difference between income and expenses equalled *net income*. An *adjusted income* was calculated to factor in the number of people in the household.

As well, we developed an *apparent wealth index* to examine whether a household has various common consumer items (cellular telephone, car, dishwasher, video camera, DVD, or cable). The ability to manage difficult financial circumstances may vary from one person to another. We developed an *economic resourcefulness index* containing 12 questions based on a Likert-type scale: five on community resources (e.g., food banks, thrift shops), two on a person's network and five others on personal strategies. We also developed a *social network material*

support scale containing 10 questions on practical services received from a person's network.

We used four questions from the Enquête Santé Québec to assess respondents' *perceptions about their financial situation*: (1) their perception of their economic situation compared with that of other people the same age, (2) how long they had had this perception, (3) their belief that their situation would improve and (4) difficulties making ends meet.

Four questions were asked about respondents' *spirituality*. These questions were developed for the Canadian Community Health Survey 1.2: mental health and well-being. They were designed to determine (1) the importance of spirituality, (2) whether it gives meaning to life, (3) whether it leads to a better understanding of life's difficulties and (4) whether it makes facing these difficulties easier.

Literacy level was measured through three questions on reading, writing and numeracy that were used in the International Adult Literacy Survey.[46]

Procedures and ethical considerations

After approval by a research ethics committee and authorization given by the Commission d'accès à l'information, the Ministère de la Main-d'œuvre et de la Sécurité du revenu was able to provide us with a list of 2,000 social assistance recipients and their addresses, selected at random by the Ministry. This list excluded persons receiving benefits because of a mental or physical disability (mainly cases of psychosis). A second random sampling was performed to select the order in which the respondents were to be contacted. Respondents were eliminated following a refusal or 10 unsuccessful calls. Income security recipients were contacted by telephone to set up meetings at which their participation in the research project was explained; 416 of these people agreed to take part in the study (50.4% acceptance rate). Measures were implemented to ensure that the information collected remained anonymous and confidential. The sample of income security recipients receiving mental health services (49 people) was drawn from the preceding sample by asking a series of interview questions on the use of mental health services. These people were receiving services from

TABLE I

Socio-Demographic Characteristics of the Groups, Occurrences (Percentages)

	Social Assistance Recipients in Distress (*n* = 174)	Social Assistance Recipients not in Distress (*n* = 194)	Social Assistance Recipients Receiving Services (*n* = 49)	General Population Not in Distress (*n* = 73)	General Population in Distress (*n* = 38)	Total (*n* = 528)
Sex						
Women	86 (50)	80 (41)	27 (55)	36 (49)	16 (42)	252 (48)
Men	87 (50)	114 (59)	22 (40)	37 (51)	22 (58)	275 (52)
Age						
20 and under	0	0	0	1 (1.5)	0	1 (0.2)
20–29	21 (14.1)	17 (10)	4 (8.1)	16 (24.6)	12 (36.4)	70 (15.2)
30–39	57 (38.3)	47 (27.8)	17 (37.8)	18 (27.7)	5 (15.2)	144 (31.2)
40–49	49 (32.9)	75 (44.4)	21 (46.7)	13 (20)	7 (21.2)	165 (35.8)
50–59	21 (14.1)	29 (17.2)	3 (6.7)	10 (15.4)	7 (21.2)	70 (15.2)
60 and over	1 (0.7)	1 (0.6)	0 (0)	7 (10.8)	2 (6.1)	11 (2.4)
Average age (sd)	45.7 (11.1)	41.8 (8.9)	41.1 (11.9)	40.3 (13.3)	39.0 (13.0)	40.1 (10.9)
Civil status						
Common-law	88 (51.2)	83(42.8)	33 (63.3)	26 (35.6)	13 (34.2)	241 (45.8)
Married	46 (26.7)	69 (37.8)	10 (20.4)	32 (46.6)*	18 (47.3)*	187 (35.5)
Separated/divorced	36 (20.9)	31 (16.5)	7 (16)	11 (15.1)	5 (13.2)	91 (17.3)
Widowed	2 (1.2)	0 (0)	1 (2.0)	2 (2.7)	2 (5.3)	7 (1.3)
Educational level						
Elementary	11 (6.0)	31 (16)	3 (16.9)	6 (8.2)	4 (10.5)	55 (10.5)
Secondary	111(64.5)	105 (54.1)	32(65.3)	20 (27.4)	12 (36.6)	280 (53.2)
CÉGEP†/university	50 (29.1)	58 (29.9)	14 (28.6)	47 (64.4)*	25 (57.9)*	191 (36.3)
Average family income (annual)	14,346	14,760	13,824	25,896*	26,088*	
Home language						
French	109 (63.4)	112 (55.5)	36 (73.6)	49 (67.1)	29 (76.3)	335 (63.7)
English	44 (25.5)	29 (14.9)	8 (16.3)	11 (15.1)	15.8 (18)	98 (18.6)
Other	19 (11.1)	53 (27.3)*	5 (10.2)	13 (17.8)	3 (7.9)	93 (17.7)
Neighbourhood						
Pointe St-Charles	97 (55.8)	93 (46.1)	23 (46.6)	38 (50.2)	15 (39.2)	266 (50.3)
Saint-Henri	77 (44.2)	101 (53.9)	26 (53.4)	35 (49.8)	23 (59.8)	262 (49.7)

† Collège d'enseignement générale et professionnel : College of General and Professional Education
* Significantly different from the social assistance groups, *p* < 0.001

local community service centres, medical clinics or community agencies in the Saint-Henri and Pointe Saint-Charles neighbourhoods.

The general population sample was derived using the Prophone software application containing all telephone numbers in 2001 in these two neighbourhoods. People were contacted in random order, and the aforementioned procedure was applied. The persons reached were not required to be income security recipients to be eligible, and the acceptance rate for this group was 40%. Data collection took place from June 2001 to May 2002. The data were collected through interviews conducted at the respondents' homes or at other premises reserved for this purpose.

Experimental design

This cross-sectional study was conducted with five groups. The first group was made up of income security recipients who were receiving mental health services (SAS) (*n* = 49). Two other groups were established on the basis of a psychological distress threshold,[47] one group consisting of respondents scoring above the fifth quintile of psychological distress in IDEPSQ (*n* = 174) and a second group consisting of respon-

dents scoring below this psychological distress threshold (*n* = 194). The fourth group was made up 73 people from the general population not in distress, and the fifth group was made up of 38 people from the general population in distress.

Analyses

Descriptive data in the form of numbers of occurrences and percentages were analyzed through likelihood ratios.[48] Multivariate analysis of variance (MANOVA) with Tukey's post hoc test was used to assess differences among groups on social support components. Hierarchical-type multiple linear regression methods were used to identify significant predictors of psychological distress.[49]

RESULTS

Socio-demographic characteristics

Table I shows the socio-demographic characteristics of the five groups studied. The groups were comparable with respect to sex and age. The two general population groups had a higher proportion of married people, and the social assistance recipients were more likely to live in common-law relationships (*G* = 33.16, df = 8, *p* < 0.001).

Other differences were identified with respect to educational level and income. People in the general population had more frequently undertaken or completed college or university studies (*G* = 52.50, df = 8, *p* < 0.001). Their income was approximately 80% higher than that of social assistance recipients, i.e., almost $11,000 a year more (*F* = 7.06, df = 4, *p* < 0.001). (The poverty line in 1999 was $13,982 for one person living alone and $25,168 for a family of two adults and one child [Statistics Canada]). Finally, social assistance recipients without distress were different from the four other groups in terms of their home language: they were more frequently allophones (*G* = 26.30, df = 8, *p* < 0.001).

Psychological distress

One welfare recipient out of two in our sample was experiencing psychological distress: 55% of Pointe Saint Charles residents and 46% of Saint-Henri residents. The rate of distress among poor people in these neighbourhoods was significantly higher than in the population not receiving income security benefits of these same neighbourhoods (33%) (*G* = 9.30, df = 1, *p* < 0.01).

Average distress levels were not significantly different among the three groups

TABLE II
Average Number of People Forming a Network and the Number of Links Among Them

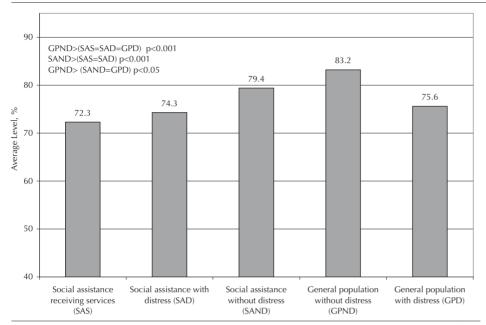| Populations	Number of Persons in a Network		Number of Links Within a Network		Number of Active Roles	
	Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Social assistance receiving services	8.51	4.56	27.51	29.53	3.77	1.66
Social assistance with distress	9.36	5.33	41.29	51.31	3.84	1.73
Social assistance without distress	9.82	4.92	45.37	54.17	3.90	1.69
General population without distress	9.38	4.30	34.95	34.55	4.29	1.58
General population with distress	9.21	4.15	29.89	26.85	4.21	1.80
Total	9.44	4.89	39.81	47.62	3.94	1.70

Figure 2. Average level of perceived availability of social support in the different populations of the study

experiencing high psychological distress. The groups not in distress, whether social assistance recipients or from the general population, had comparable distress levels that were considerably lower than the groups in distress ($F = 162.27$, df = 3, $p < 0.001$).

The following socio-demographic analyses focus solely on the population of social assistance recipients ($N = 416$). Women social assistance recipients in these neighbourhoods experienced a higher level of distress (55.7%) than men (45.5%) ($G = 4.29$, df = 1, $p < 0.05$), a tendency that has been observed in the Quebec population as a whole but at significantly lower rates (women = 30.4%; men = 21.8%, Santé Québec, 1998).

Distress is not equally distributed among the age categories. In fact, the level of distress for those 25-44 years of age (55.3%) was slightly higher than for those 18-24 years of age (50%) but much higher than for those 45 years of age and over (41.3%) ($G = 6.92$, df = 2, $p < 0.05$). With respect to civil status, the same phenomenon observed by the Enquête Santé Québec

was present among social assistance recipients in these neighbourhoods: legally married people (32.6%) had a lower level of distress than those living in common-law relationships (53.1%) or those who were separated, divorced (53.8%) or single (55.4%) ($G = 13.5$, df = 3, $p < 0.01$). Educational level was unrelated to distress ($F = 0.41$, df = 2, $p > 0.05$).

People with English as a the first language had the highest level of distress (63%), followed by francophones (52.1%). Allophones had a significantly lower level (29.9%) than the two other groups in the same neighbourhoods ($G = 18.8$, df = 1, $p < 0.001$), although this level was higher than in the Quebec population as a whole.

Social networks and the availability of social support in the various populations

Social networks
This section analyses the networks of the five groups in the sample. Table II shows that the average number of people in social

networks in the sample was 9.44 (SD = 4.89) and that there were no differences among the groups ($F = 0.76$, df = 4, $p > 0.05$). Although the analyses did not reveal significant differences in the number of links among network members, they did signal marked differences among the groups ($F = 2.14$, df = 4, $p > 0.05$). Cohen's social integration index captures the diversity of active roles in which people are involved. The average number of roles for the entire sample was 3.94, and there were no differences among the groups ($F = 3.71$, df = 4, $p > 0.05$).

Within populations experiencing distress, networks more frequently included individuals who were sources of discomfort and stress ($G = 19.41$, df = 4, $p < 0.001$). In fact, 60% of social assistance recipients receiving mental health services and 51.5% of social assistance recipients with high levels of distress reported that their networks contained stressful individuals, versus only 31.3% of social assistance recipients not in distress. Such individuals were found in the networks of 52.8% of the general population in distress versus 42.5% of the general population not in distress.

Perceptions about the availability of social support in various populations
In line with the proposed hypotheses, the two groups not in distress saw social support as more available than their counterpart groups experiencing a high level of psychological distress ($F = 16.92$, df = 4, $p < 0.001$). Comparison of the groups did not reveal any differences between social assistance recipients not in distress and the general population not in distress (Figure 2). The general population not in distress perceived more support than the other groups.

Figure 3 depicts people's perceptions about the availability of various components of social support.

Multivariate analysis of overall variance revealed significant differences (Wilks' lambda $F = 4.32$, $p < 0.001$). These signifi-

cant differences among the groups existed for all components with F values ranging from 9.7 to 15.7, df = 4, $p < 0.001$, except for the component "nurturance", which was also important but to a lesser extent ($F = 3.15$, df = 4, $p < 0.02$).

For all components of social support—attachment, guidance, reliable alliance, social integration, nurturance and reassurance of one's worth—the groups showing distress (social assistance recipients receiving or not receiving services and the general population) reported approximately the same level of availability of support, although this was lower than for the groups not in distress in the same socioeconomic group.

Social assistance recipients not in distress perceived more support than social assistance recipients in distress for all components except "nurturance", in which lower availability was noted only for the social assistance recipients with services. They also perceived more support for all components except "guidance" and "reliable alliance" than the social assistance recipients receiving mental health services. Social assistance recipients not in distress perceived more available "attachment" support than the population in distress. These recipients were comparable to the population not in distress with respect to the components "attachment, reliable alliance, and nurturance." However, they reported less available support for "guidance, social integration, and reassurance of worth". The population not in distress reported better support than all groups in distress for all components except nurturance.

Predictors of psychological distress

The following analyses were designed to identify predictors of distress among economically disadvantaged people. Only the income security recipient sample was included in the analyses ($N = 416$).

The first step in the analysis was to determine the univariate relationship of each variable with psychological distress.[49] In the second step, a statistical analysis was carried out using the sequential regression method, including only the variables that had significant relationships with psychological distress. The model involves 30 variables grouped in 8 categories. To carry out this analysis, the variables were first entered in blocks in the following
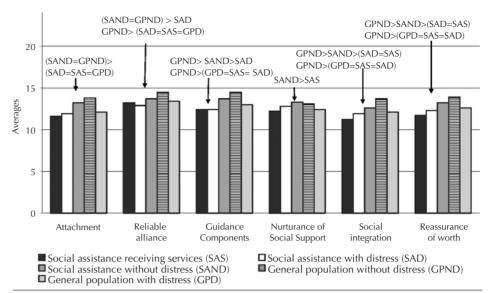

Figure 3. Average level for each component of social support in the different populations of the study
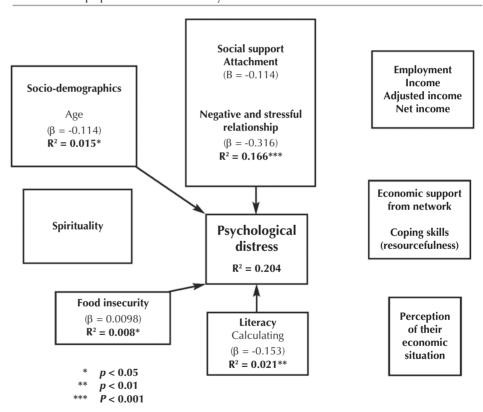

Figure 4. Predictors of psychological distress for economically disadvantaged persons

order: 1) four socio-demographic variables; 2) 10 variables related to social support and social networks; 3) four spirituality variables; 4) one food insecurity variable; 5) four literacy; 6) four financial situation; 7) two variables related to economic support received from an individual's network as well as resourcefulness; 8) three perception of financial situation variables. In the

final model analysis, only the blocks of variables that produced a significant increase in R^2 and only the variables showing a significant β coefficient in those blocks were retained. Our evaluation of assumptions did not reveal any transgression or any sign of multi-collinearity for the regression analysis. The reported R^2 values and the β coefficients were standardized.

The final model shown in Figure 4 accounts for 20.4% of the variance in psychological distress, and it groups five variables distributed in four categories. The category related to social support and social networks constitutes the best predictor of distress. Indeed, these two variables together account for 16.6% of distress (F = 34.59, $p < 0.001$). Whether persons who create discomfort and stress are present within a network or not is the variable that best predicts distress (9%). This is closely followed by "attachment", the component of social support that provides emotional support. The fact that this variable is negative indicates that people who perceive additional emotional support have less psychological distress. This variable alone predicts 8% of the 20.4% variance in distress.

Three other variables were identified, but their contributions were relatively minor compared with that of social variables; they together accounted for just over 4% of the variance in distress. The literacy variable predicted approximately 2% of distress (F = 8.25, $p < 0.01$); numeracy was inversely related, indicating less psychological distress among people with better numeracy skills. Age was the only socio-demographic variable that predicted distress (F = 4.09, $p < 0.02$), accounting for 1.5% of the variance; the inverse relationship indicates that younger people experienced greater distress. Food insecurity predicted just under 1% of the variance (F = 4.40, $p < 0.05$), with greater insecurity associated with greater stress. The analysis did not retain any of the variables related to spirituality, financial situation, perception of one's financial situation, ecomomic support provided by networks, or resourcefulness.

DISCUSSION

One out of every two income security recipients in the Pointe Saint-Charles and Saint-Henri neighbourhoods had a high level of distress. That rate is more than twice the rate in the Quebec population as a whole and 85% higher than the rates reported by the Enquête Santé Québec[5] for Quebec's poor populations as a whole. These findings once again confirm that poor people are more vulnerable to mental health problems.[1-12] The general population with a higher income in these same neighbourhoods had a level of distress 70% higher than in the Quebec population as a whole. People within this somewhat higher income population face two challenges: their average family income is close to the poverty line, and they are exposed to the more difficult living conditions prevalent in these neighbourhoods. These phenomena have previously been identified by other studies.[50] The distress distribution profile based on the population's socio-demographic characteristics was similar to that reported by the Enquête Santé Québec[5] and by Caron et al[51] for poor populations of Canada. Legally married people had a lower level of distress than people living in common-law relationships or those who were separated, divorced or widowed; the younger population and women experienced more distress.

Allophones had a significantly lower level of distress than the two other groups in these same neighbourhoods, although this level was higher than in the Quebec population as a whole. A study[52] conducted in Toronto also showed that children of recent immigrants have fewer mental problems despite experiencing difficult economic circumstances. The authors explain that immigrants are able to interpret their difficult economic conditions differently, i.e. as a transitional period inherent to the immigration process. They are therefore motivated by the hope that their situation will improve, an attitude that is less prevalent among native-born populations that have been dealing with economic difficulties for a longer period. A study by DeVoretz[53] also indicated that after 10 years, immigrants' incomes exceed those of native-born Canadians.

In accordance with our hypotheses, people not in distress perceived greater available social support than people in distress, whether they were members of the economically disadvantaged population or of the more affluent population. This phenomenon applied to the overall level of satisfaction with support and to five of six of its components. Although several previous studies have shown that poor people experience a lack of social support[13,22,30-33] and that their mental health is more fragile, our findings are the first to demonstrate that poor people who receive social support that they perceive to be satisfactory can have a level of mental health comparable to that existing within the more affluent population.

The general population not in distress was, however, more satisfied than lower-income people not in distress with respect to three components of support: reassurance of one's worth, social integration and guidance during stressful periods. In a previous study,[54] we had already noted the same differences in these components between the general population and social assistance recipients. Indeed, in the materialistic kind of society in which we live, people's values are often associated with material possessions (house, car, etc.) symbolizing economic success. In addition, income security recipients are often isolated from environments that tend to confirm people's worth, such as the workplace. When they work part time, they find themselves in unstable employment that garners little status. Finally, in most social transactions, they are regularly stigmatized and excluded.

Social integration support flows from relationships that involve individuals sharing social activities. More affluent populations are more satisfied with this type of support, since people in these groups have the economic means to take part in more social activities. The fact that people who are more affluent perceive more guidance support probably stems from the fact that their higher educational level puts them in more frequent contact with a network of people who are also more educated. This allows them to obtain more relevant advice when they have financial, legal, medical, family or personal problems to solve. It is interesting to note that social assistance recipients receiving mental health services from health professionals are just as satisfied with the guidance they receive as are social assistance recipients not in distress.

Having access to reliable support—emotional support, concrete and material assistance, guidance, reassurance of worth, and social integration support—seems to be a crucial protective factor that allows poor people to maintain their psychological balance. Using a rigorous approach, this study has been able to confirm the important relationship that these previously identified components have with mental health.[27,34-36] Owing to the diversity of the methods used and populations studied as well as the limited number of support components

simultaneously examined by these studies, it was not possible to determine the magnitude of the contribution of each type of support in the relationship with mental health.

As well, relationships that allow people to feel "useful and necessary" measured by "nurturance" play a very limited role in distinguishing groups in distress from those not in distress, just as they do not distinguish between poor people and people who are more affluent, as our previous study determined.[54]

A lower level of satisfaction with available emotional support, as measured by the "attachment" component, is one of two variables that best predict distress among poor people. This type of support is actualized through relationships with close network members, such as spouses, parents, brothers, sisters and close friends. These findings support one of our hypotheses based on Cutrona and Russell's theory of optimal matching,[34] which posits that difficult-to-control events, such as economic problems, throw people into a state of shock, and emotional support becomes the basic factor allowing them to deal with these events.

The quality of relationships, particularly those enhancing emotional support, appears to be much more important than a network's size or density. Although several studies indicate that people who are better integrated socially and in their communities through the range of social roles they play are healthier,[55] our study did not identify differences among groups. The presence of harmful persons within an individual's network was one of the two most powerful predictors of distress among poor people. Social relations are therefore the best predictors of distress, and they play, for better or worse, a role in maintaining mental health. Negative social interactions have been identified as predictors of mental health problems,[51,56] lower quality of life[57-60] and child abuse[32] in previous studies.

Finally, regression analysis also identified three other variables: numeracy, age and food insecurity. Their contribution is quite small compared with that of social relations. It is understandable that having better numeracy skills reduces distress among low-income people, since these skills likely allow them to better manage their limited financial resources. In this area, Boyer et al.[61] report more distress among people with lower literacy levels. As previously mentioned, younger populations are more vulnerable. Finally, food insecurity is associated with a higher level of distress. Hamelin[43] also made this observation.

None of the variables related to spirituality, financial situation, perception of one's financial situation, material support from a network or resourcefulness predicted distress within poor populations. It should not be concluded that income is not generally related to distress, since, in the past quarter century, most research has shown that poor populations are more vulnerable. Moreover, the more affluent populations in these two neighbourhoods have considerably lower levels of distress. However, in the poor population, income does not predict distress, probably because income differences are small and people with higher incomes are only slightly less poor. There appears to be an income threshold under which certain basic needs cannot be met, which makes this population more vulnerable. It is also plausible that the material assistance people obtain from networks and through their own resourcefulness does not allow them to reach the threshold of material comfort that would meet their basic needs.

Several limitations in our study must be recognized. First, we cannot exclude the possibility that the higher rate of psychological distress in our samples was a result of the relatively low response rate. Second, the present study design (cross-sectional) cannot assess the direction of this relationship between social support and psychological distress. In the scientific literature social support is described as a protective factor for mental health, but it is also possible that people with more distress perceive less support from their network; we cannot exclude either the possibility that their symptoms can impede their access to various components of support. Longitudinal studies are needed to clarify the direction of causality underlying these associations between mental health and social support.

CONCLUSION

This study has thus confirmed the greater vulnerability of poor people to mental health problems, a result that has emerged from numerous other studies. Furthermore, it corroborates the health problems encountered by the population in the neighbourhoods of Pointe Saint-Charles and Saint-Henri in relation to mental health. Life expectancy in these two neighbourhoods is clearly lower than in more affluent neighbourhoods of Montreal; morbidity related to cancer and cardiovascular and respiratory problems is clearly higher. These neighbourhoods that have a high concentration of poor residents combine a number of risk factors that hinder the population's harmonious development, such as poor housing, food insecurity, a high rate of single-parent families and people living alone, and disadvantaged schools. As for adolescence, the population in these neighbourhoods shows signs of vulnerability, such as high drop-out and delinquency rates (Montreal Public Health Department/Direction de la santé publique de Montréal: personal communication, 2001).

This study has also clarified the importance of the relation between social support and psychological distress. Poor people who can count on a social network to obtain various kinds of support have a level of mental health comparable to that of others who have higher incomes. The perceived availability of emotional support from their social network and a smaller number of harmful persons are the two variables most strongly associated with better mental health. A high concentration of poor residents subjected to conditions of chronic stress related to the precariousness of their living conditions is clearly not conducive to obtaining adequate social support when stress-inducing life events occur, as was demonstrated by Tousignant and Caron[62] in these same neighbourhoods. Very high levels of psychological distress were found among these neighbourhoods' poor residents but also among their other residents, who have a much higher level of distress than the general population on the Island of Montreal. The minimum annual economic burden of psychological distress in Canada comes to $14.4 billion dollars.[63] A social housing policy leading to a greater blending of the poor and more affluent populations could be a solution to avoid concentrating distress and would likely reduce it by promoting greater diversity

within social networks, which have an impact on this condition.

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RÉSUMÉ

Contexte : Toutes les études épidémiologiques le confirment : les populations pauvres sont les plus vulnérables aux problèmes de santé mentale. Cependant, les personnes qui éprouvent des difficultés financières ne présentent pas toutes des symptômes; le fait d'avoir un réseau de soutien social semble offrir une certaine protection contre le stress chronique engendré par les situations comme la pauvreté.

Objectifs : Notre étude vise à clarifier la contribution relative du soutien social à la santé mentale des populations à faible revenu dans deux quartiers du sud-ouest de Montréal : Pointe-Saint-Charles et Saint-Henri.

Méthode : Nous avons interviewé un échantillon aléatoire de 416 bénéficiaires d'aide sociale du sud-ouest de Montréal et un autre échantillon de 112 personnes sélectionnées au hasard dans la population générale. Nous avons utilisé l'Indice de détresse psychologique de l'enquête Santé Québec (IDPESQ) et évalué la disponibilité du soutien social à l'aide de l'Échelle de provisions sociales. Les données ont été recueillies à la faveur d'entretiens au domicile des répondants. Les mesures du soutien social ont été introduites dans un modèle pluridimensionnel comportant de nombreuses variables connues comme étant associées à la santé mentale. Une analyse de régression multiple a permis de cerner les meilleurs indicateurs prévisionnels de la détresse psychologique dans les populations à faible revenu.

Constatations et conclusion : Des 30 variables incluses dans l'analyse de régression multiple, le soutien affectif et la présence de personnes jugées stressantes ont contribué à elles deux à la majorité des écarts dans les niveaux de détresse prédits par le modèle. Les jeunes, les personnes souffrant d'insécurité alimentaire et les personnes ayant de faibles connaissances en mathématiques présentaient un niveau de détresse plus élevé, mais le rôle de ces variables était marginal comparé à celui des relations sociales.

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