Original article

A qualitative and quantitative evaluation of an experiment for preventing violence in the workplace

Évaluation qualitative et quantitative d'une expérience de prévention de violence au travail

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Abstract

No research has verified the effectiveness of measures for the prevention of workplace violence in the school setting. The present project includes several steps: administration of a pre- and post-intervention questionnaire, training of workers and implementation of an awareness program, distribution of prevention material and qualitative and quantitative evaluation. The aim is to verify if the awareness program had an effect on the level of prevention management undertaken by the school and if there was any effect of the intervention on the wokers' perception of the safety level of the setting and if the number of victims of violent acts and behaviors was reduced. The results of the post-test show that less physical violence was reported by the experimental group and less psychological violence by the control group. These results are discussed in relation to the implementation of the intervention.
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Résumé

Peu de recherches ont vérifié l'efficacité de mesures de prévention de la violence en milieu de travail et aucune d'entre elles n'a été menée en milieu scolaire. L'article vise à contribuer à combler cette lacune. Le projet mené auprès d'un établissement scolaire comportait plusieurs étapes : enquête par questionnaire, formation, activité de sensibilisation, remise d'un guide de prise en charge de la prévention et évaluation. Après avoir exposé le contexte de l'étude et de l'intervention, les résultats de l'évaluation qualitative et quantitative (devis avant–après avec groupe témoin a posteriori) sont présentés. L'objectif est de vérifier si l'activité de sensibilisation a été appréciée, s'il y a eu prise en charge de la prévention par le milieu et si la sensibilisation a eu un effet sur la perception du milieu, le nombre de victimes et le nombre de comportements violents subis, deux ans et demi plus tard. Les résultats indiquent moins de violence physique subie par le groupe expérimental au post-test qu'au prétest et moins de violence psychologique subie par le groupe témoin par rapport au groupe expérimental. Les résultats sont discutés à la lumière de l'évaluation de l'implantation de l'intervention.
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Keywords: Prevention; Workplace violence; Experiment; School setting; Evaluation

Mots clés : Prévention ; Violence au travail ; Expérience ; Milieu scolaire ; Évaluation

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In 1999, the Quebec government began to seriously consider workplace violence; this led to a piece of legislation concerning psychological harassment, which took effect on June 1 2004. This project took place within this context.

Documentation on workplace violence prior to 2000 is generally either descriptive or normative. Few documents dealing

with types of workplace violence have been published, with the exception of those on sexual harassment and those concerning incidents which caused injuries or death (Neuman and Baron, 2005). As for the effectiveness of interventions for preventing violence in the workplace, only two reviews have dealt with this question (Runyan et al., 2000; Casteel and Peek-Asa, 2000). The rare interventions that have been evaluated focus on physical violence, notably violence against workers in the health-care sector and on the reduction of thefts and injuries in the commercial sector. In the first review, the authors have noted a relative lack of research of sufficient quality on the implementation or the effectiveness of preventive interventions, whether they were administrative measures (cf practices of human resources management) or behavioral initiatives (cf training programs) (Runyan et al., 2000). The second review showed the effectiveness of a preventive approach towards physical violence relying on modification of the physical environment (Casteel and Peek-Asa, 2000). This observation made in 2000 still appears to be valid (Jeffrey and Sun, 2006).

This paper presents the results of an intervention aiming to prevent workplace violence based on increasing awareness of the workers. This project was begun in 1999 in four schools in the Quebec city area, well before the legal measures concerning harassment were adopted. The project began following a joint request by the Centrale des Syndicats du Québec (CSQ), a major union, which represents almost all of the teachers in the province of Quebec and a federation representing the local school boards (employers) of the province of Quebec. An advisory committee to the project was formed with representatives from the union and the employers played a crucial role in all the stages of the project. It was decided that the project would focus on physical and psychological violence. The activity of awareness, evaluated in this project, was part of a more global approach, which includes the following activities:

- administering a questionnaire to document the phenomenon of workplace violence;
- training instructors in each of the participating schools;
- making the school personnel aware of violence with the help of the instructors;
- putting into place measures as suggested in a guide explaining specific preventive measures;
- finally, the qualitative evaluation of the awareness activity and the implementation of preventive measures.

At the request of one of the participating schools, the questionnaire was again administered to all of the personnel two and a half years later, which made it possible to make a quantitative evaluation of the intervention.

After having discussed the context of the study and the intervention, the results of the qualitative and quantitative evaluations obtained from the school, which requested the readministration of the questionnaire, will be presented. The aim of the evaluation is to verify if, two and a half years later, the awareness activity had an effect on the perception of the collective, on the number

of victims of violence or on the number of violent behaviors and to verify if preventive measures had been implemented by the workplace.

The term "violence in the workplace" is preferred here because the source of violent behaviors can be the members of the personnel or external and non-remunerated individuals (students, students' parents, etc.). Some characteristics are presented in order to define this concept (California Department of Industrial Relations, 1995; Peek-Asa et al., 2004):

- the existence of an intention on the part of the instigator;
- the nature of the act;
- the frequency of the act;
- the place where the act is carried out;
- the link between the instigator and his victim.

The terminology relative to violence has been enriched over the years by concepts and definitions: moral harassment (Hirigoyen, 2001); psychological harassment (Interministerial Committee on Psychological Harassment, 2001); mobbing (Leymann, 1996), intimidation, hazing or bullying (Einarsen and Skogstad, 1996); violence (Damant et al., 1997); incivility (Andersson and Pearson, 1999); emotional abuse (Keashly, 1998); aggression (Baron and Neuman, 1998). In this study, the definition of violence in the workplace adopted by the European Commission is used:

"Any event during which persons are victims of abusive behaviors, of threats or of attacks in circumstances linked to their job and implying an explicit or implicit risk for their security, their well-being and their health (Wynne et al., 1997)".

Physical violence refers to the use of physical force or means (weapons, poison, etc.) susceptible to harm the physical integrity of the individual targeted by the violent act. Psychological violence relies on a wide variety of strategies or means and aims at harming the emotional equilibrium of an individual. The means used aim essentially at frightening or mentally injuring the targeted individuals.

Prior to the 1990s, studies carried out in the school setting in Quebec and the United States dealt with sexual harassment (Fitzgerald et al., 1996). In 1999, although the results of several studies on violence between students and a few on student violence towards teachers were available, almost none dealt with violence between staff members. Therefore, when the study began, the knowledge on workplace violence was beginning to emerge. Up until now, violence was a concept for which neither a satisfactory theory nor a shared methodological model existed, which could be applied to all studies because of the variations in local contexts and epistemological orientations (Jeffrey and Sun, 2006).

Considering that little was known about violence in the workplace when this study begun, this research has an exploratory nature. Five research questions were formulated:

- did the participants appreciate the awareness activity?

- were steps taken for prevention by the school managers following the awareness activity?
- has the perception of the collective improved as a result of the awareness activity?
- are there fewer victims of physical and psychological violence as a result of the awareness activity?
- are there fewer physically and psychologically violent events reported as a result of the awareness activity?

The quantitative evaluation study is a "before–after" type with an *a posteriori* control group: the pretest was carried out in 2000 on the so-called experimental group and the post-test was done in 2003 on the so-called experimental and control group.

1. Method

1.1. Participants

The characteristics of the three groups are shown in Table 1. The response rate of the so-called experimental group for the pretest (questionnaire administered in 2000) is high (75%). None of the 103 questionnaires answered were excluded. During the post-test (questionnaire readministered in 2003), the response rate of the school staff (88.5%) proves to be significantly higher than that of 2000 (χ^2 [dl = 1]: 7.42**).

Among the personnel present for the pretest in 2000 (the so-called experimental group, $n = 103$), 45% of them had left the school in 2003. The reasons for these departures can be numerous, but were not investigated by the questionnaire: retirement for the older staff members and transfer from one school to another for the younger personnel, since such mobility is possible within the same school board. Some of these departures could, of course, be motivated by violent events taking place in

a specific school, but this hypothesis cannot be verified. Taking advantage of this important turnover of personnel, the respondents of the pretest could then be divided into two groups: first the so-called experimental group that includes respondents who had already participated in the awareness activity and had answered the questionnaire in 2000 ($n = 51$) and second, the personnel which had not participated in the awareness activity and, thus, had not answered the questionnaire in 2000 ($n = 39$) formed the control group.

1.2. Procedure

1.2.1. Description of the intervention
As mentioned above, the intervention included several steps. At the request of one school, a supplementary step was added in 2003 and the questionnaire administered in 2000 was readministred. The results presented in this paper deal uniquely with this school, which has 1100 students from 14 to 17 years old.

1.2.2. Survey
The first and last steps of the project were the administration of a questionnaire. The questionnaire administered in the fall of 2000 is the pretest of the intervention and the questionnaire of 2003 is the post-test.

1.2.3. Training
A committee for the prevention of violence (called the "school team") was set up to follow training in violence awareness. With the exception of the assistant director, the members of the "school team" in charge of the organization and implementation of the awareness activity were chosen by the principal's office and the union. The training was given by the research team over a two-day period and material aimed at informing them

Table 1
Distribution of the three groups of respondents to the self-administered questionnaire according to sociodemographic variables.

	Before the awareness activity		After the awareness activity			
	Experimental group preintervention (2000)		Experimental group post-intervention (2003)		Control group post-intervention (2003)	
	Number of respondents	Percentage	Number of respondents	Percentage	Number of respondents	Percentage
Job category						
Teacher	72	70	37	72.5	24	61
Other than teacher	30	29	14	27.5	12	31
Unspecified	1	1			3	8
Status						
Permanent	78	76	45	88	19	49
Limited contract	24	23	5	10	19	49
Unspecified	1	1	1	2	1	2
Sex						
Female	55	53	24	47	22	56
Male	48	47	26	51	17	44
Unspecified			1	2		
Age						
35 and under	31	30	6	12	17	44
36 and over	71	69	44	86	22	56
Unspecified	1	1	1	2		
Total	103	100.0	51	100.0	39	100.0

about violence in the workplace was distributed. The document includes two sections:

- one section explores the causes, processes, components and consequences of physical and psychological violence as well as activities for prevention, their obstacles and conditions for success;
- the other section presented case studies adapted to the school context (inspired by anecdotes and a case of grievance arbitration), linked to the objectives of the awareness activity, and a short analysis of the situation (Girard et al., 2003).

1.2.4. Awareness activity

The local-awareness activity appears to be the essential component for the efforts to prevent violence in this workplace. This could have been done through different mediums: posters, lectures, leaflets, role-play, etc. It was an important activity in the context of the project either by its duration (two half days), its content (physical and psychological violence) or its format (lectures, case studies, role-playing). The following reasons justified using peer workers (cf "school team") to carry out the awareness activity:

- the awareness activity could better suit the local context;
- expertise would remain in the school in order to insure the continuity of the method;
- to increase the possibility of knowledge diffusion in the workplace;
- for economic reasons.

During the awareness activity, which was mandatory for all of the workers, the "school team" chose to stage the case studies and to make the teaching and non-teaching personnel work in teams. Expected consequences of the awareness activity were both at the organizational level and at the individual level. At the organizational level, the awareness activity was meant to be a first step so that the workplace managers, after having been informed about workplace violence and after receiving descriptive data about the situation in the school, would be in a position to act and take charge of workplace violence by implementing a policy as well as procedures to receive complaints and deal with them. At the individual level, the awareness activity was meant to develop a better understanding of violent behaviors among the participants, either as a victim or as an aggressor. In other words, this is the direct effect of the awareness activity: better detection, recognition of violent behaviors by the potential victims, and also an inhibition of the violent behaviors on the part of potential aggressors. This activity may also generate other indirect effects, since, by deciding that violence would no longer be trivialized, the principal's office and the personnel will probably be less tolerant of the aggressive behaviors of students or their parents. Consequently, the expected effects of the awareness activity should be a decrease in the number of victims as well as in the number of violent events in the workplace from whatever type of aggressor (principal's office, co-workers, students, students' parents, etc.).

1.2.5. Follow-up of the intervention

The awareness activity was the subject of a qualitative evaluation on two occasions. Firstly, in 2001, shortly after the activity took place, a semi-directive interview was carried out with the "school team". Then, in 2003, a new semi-directive interview was carried out with the "school team" in addition to the readministration of the questionnaire to all of the school personnel.

1.3. Material

Due to the lack of validated measuring instruments, a questionnaire consisting of four parts was developed for the quantitative analysis. The first part measures a global index of the perception of the workplace, calculated from 20 questions answered on a four-point Likert type scale, showing a satisfactory internal consistency ($\alpha = 0.77$). The first twelve items dealt with the perception of the human and organizational setting (overall climate and relations with the students, co-workers, the principal's office and parents). Four other statements examined the perception of the way in which the workplace dealt with violent events. The higher the score, the more the perception is positive. The second part of the questionnaire identified the episodes of physical and psychological violence that occurred in the context of or are linked to work (fall, 1999; winter 2000 and spring 2000) and documented the circumstances surrounding these events (frequency, nature of the act, type of aggressor and where the aggression took place). The third part of the questionnaire included open questions which permitted the respondents to express an opinion on the causes of and the solutions for the phenomenon of workplace violence in their school, to give information about the follow-up offered by the principal's office and, finally, to indicate the reasons for which victims of violence chose not to report the events to the principal's office. This section is not the subject of this paper. The last part included questions about sociodemographic variables. In the 2003 questionnaire, a single question was added asking respondents if they had participated in the awareness activity held in 2001.

The qualitative evaluation was done using semi-directive group interviews with three different groups, the staff of the principal's office in charge of the project, the instructors (at least 50% of them) and the workers who participated in the awareness activity (at least 10%). The following topics were covered: the different phases of the awareness activity, appreciation, usefulness, relevance and adaptation of the teaching and learning material; pedagogy and the use of the results of the survey during the awareness activity and for the principal's office, questions about priorities and the implementation of a plan were added.

1.4. Data analysis

The content analysis of the two semi-directive interviews was carried out in order to answer the first two questions which examined the degree to which the awareness activity and the introduction of steps aimed at violence prevention at work were appreciated (cf qualitative analysis). In order to answer the three other questions (cf quantitative analysis), the analysis is based on two types of comparisons:

- the comparison of data obtained within the so-called experimental group before and after the awareness activity;
- the comparison of data obtained in the so-called experimental group and in the control group after the awareness activity.

Student's *t*-test was used for comparisons of the perception of the respondents and the mean number of violent events and chi-square for comparisons of proportions. An alpha-error level of 0.05 was used for the statistical tests.

2. Results

A higher proportion of the post-test respondents, compared to the pretest respondents, are 36 years old or older (χ^2 [dl = 1]: 6.16; $p = 0.013$) and hold a permanent job (χ^2 [dl = 1]: 3.98; $p = 0.046$), which reflects an effect of maturation and experience. No difference is observed for the type of work and the job category. The same differences are observed when the respondents of the experimental post-test (participated in the awareness activity) are compared to those of the post-test control group (did not participate in the awareness activity), the former group having more permanent job holders (χ^2 [dl = 1]:17.42; $p = 0.0001$) and more individuals 36 years old and older (χ^2 [dl = 1]: 6.16; $p = 0.013$); no significant differences are observed for the type of work and the job category.

Results are presented in the same sequence as the research questions. The evaluation of the awareness activity by the two semi-directive interviews indicates that the participants are satisfied with the activity. They appreciated the fact that it was organized and led by co-workers, which left them the possibility to adapt the content and examples to the specific context of their school. The composition of the "school team" (a member of the principal's office, teachers, skilled workers and supporting staff) was a factor which contributed to the positive evaluation. The method used enabled the involvement of all types of personnel when the process began. The evaluation indicates that after training, personnel were able to transmit information to their co-workers and that their peers were receptive to the information provided by the trained personnel.

The second question sought to evaluate the level of management in terms of social setting following the awareness activity. The semi-directive interviews showed that the principal's office did not develop a policy of prevention and did not set up any formal processes to deal with complaints linked to violence. A strong resistance from all of the protagonists was manifested against setting up a process to report cases of violence. For example, the "school team" questioned the relevance of such a measure, fearing that individuals would "start filling out declaration forms for everything and for nothing" or even wondered "what would happen to these records". Although the research team had offered its assistance to support the school to develop the process on many occasions, the school could not commit itself to this project. Thus, with the exception of the awareness activity, none of the other interventions to prevent violence in the workplace had been planned nor had any action been undertaken concerning human resources management (e.g., training) or administrative procedures (e.g., policy). Only one intervention regarding environmental modifications had been instituted (cf fixing up a more secure room by installing a window and instituting an impromptu visit by a co-worker during meetings between a teacher and a student or a student's parent). Data analysis, based on a double comparison, is used to answer the following research questions.

The third research question dealt with the modification of the workers' perceptions. Firstly, the results of the experimental group observed before the awareness activity, measured with the global index of perception of the collective (20 items), were not significantly different from those of the respondents after the awareness activity (Table 2). The global perception of the respondents thus remains approximately the same after awareness. However, the analysis by item shows the presence of two significant differences compared to the answers obtained in 2000:

- in 2003, the experimental group reported less communication amongst themselves about information related to aggressive or threatening behaviors of students, parents or other visitors (*t*[dl =]: 2.54; $p = 0.0122$);

Table 2
Summary of the results of the group of respondents having participated in the awareness acitivity (experimental group).

	Experimental group (pretest – 2000) ($n = 103$)	Experimental group (post-test – 2003) ($n = 51$)	Value of the test and level of significance
Global index of perception of the collectivity (20 items)	Mean = 62.505 $n = 103$	Mean = 62.431 $n = 51$	$t = 0.06$ dl = 152
Had been a victim or not of			
Physical violence	Yes: 9 (9.4%) $n = 96$	Yes: 0 (0%) $n = 51$	$\chi^2 = 5.09^*$ dl = 1
Psychological violence	Yes: 40 (41.2%) $n = 97$	Yes: 19 (37.25%) $n = 51$	$\chi^2 = 0.22$ dl = 1
Mean number of events			
Physically violent	Mean = 0.1485 $n = 101$	Mean = 0 $n = 49$	$t = 2.78^{**}$ dl = 148
Psychologically violent	Mean = 0.72 $n = 100$	Mean = 0.8367 $n = 49$	$t = -0.41$ dl = 147

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.0001$.

Table 3
Summary of the results of the two groups of respondents to the post-test depending on if they participated or not in the awareness activity.

	Experimental group (post-test – 2003) ($n = 51$)	Control group (post-test – 2003) ($n = 39$)	Value of the test and level of significance
Global index of the perception of the collectivity (20 items)	Mean = 62.431 $n = 51$	Mean = 65 $n = 39$	$t = -2.01$[**] dl = 88
Had been a victim or not of			
Physical violence	Yes: 0 (0%) $n = 51$	Yes: 2 (5.13%) $n = 39$	$\chi^2 = 2.67$ dl = 1
Psychological violence	Yes: 19 (37.25%) $n = 51$	Yes: 8 (20.51%) $n = 39$	$\chi^2 = 2.95$ dl = 1
Mean number of events			
Physically violent	Mean = 0 $n = 49$	Mean = 0.0513 $n = 39$	$t = -1.43$ dl = 86
Psychologically violent	Mean = 0.8367 $n = 49$	Mean = 0.2564 $n = 39$	$t = 2.17$[*] dl = 86

[*] $p < 0.05$; [**] $p < 0.01$; [***] $p < 0.001$; [****] $p < 0.0001$.

- in 2003, the experimental group mentioned more often the availability of a secure office to receive students, parents or guardians (t[dl =]: -2.82; $p = 0.0054$).

Moreover, after the awareness activity, the experimental group perceived less that "The staff members are required to report incidents of violence to the principal's office, no matter the seriousness of it", although the difference was not significant (t[dl =] : 1.92; $p = 0.0573$).

Likewise, to answer this question, the post-test score (2003) of the global index of the perception of the so-called experimental group is compared to that of the control group. The experimental group had a less positive-global perception of the workplace after the awareness activity compared to the control group and this difference is significant (Table 3). The analysis by item shows four significant differences. These items measure the perception of putting in place measures of security, indicating that the experimental group considers that "it takes too long to resolve problems" (t[dl =]:-2.17; $p = 0.033$) in their work setting, that "violence is considered to be part of the job" (t[dl =]:-3.44; $p = 0.0009$), that there is a communication problem between the employees regarding "information concerning aggressive or threatening students, parents or other visitors" (t[dl =]:-2.60; $p = 0.0110$) and they do not perceive, as much as the control group, that "access to work areas is restricted to individuals having a reason to be there" (t[dl =]:-2.31; $p = 0.0230$). The control group, which did not participate in the awareness activity, has a more positive view than the so-called experimental group about these issues.

The fourth research question seeks to verify if the proportion of victims of physical violence and those of psychological violence diminished following the awareness activity. Among the so-called experimental group, which participated in the awareness activity, the number of victims of physical violence is significantly lower at the post-test (0 victims) than at the pretest (9 victims) (Table 2). Moreover, the comparison between the two groups of respondents at post-test shows no significant difference in the number of victims of physical violence between the experimental group and the control group. However, it should be noted that there were two victims of physical violence in the control group while there were no victims in the experimental group in 2003. Although the difference is not statistically significant, it can nevertheless be considered as being clinically significant if the seriousness of these acts is taken into account (Table 3).

The number of victims of psychological violence is not significantly lower in the experimental group at the post-test compared to the number observed at the pretest (Table 2). The results are similar for the comparison between the two groups – experimental and control – at the post-test (2003) (Table 3).

The last research question deals with an eventual reduction in the number of violent events that took place after the awareness activity. Among the so-called experimental group (participation in the awareness activity), the number of physically-violent events is significantly lower at the post-test (0 events in 2003) than at the pretest (15 events in 2000) (Table 2). However, if the 2003 post-test data is considered, there is no significant difference in the number of physically-violent events between the experimental group (0 events in 2003) and the control group (2 events in 2003) (Table 3). Although the difference is not statistically significant, it can, however, be considered significant on a clinical level.

Regarding psychological violence, the comparison between the pretest and the post-test in the experimental group shows there is no significant difference, since the respondents reported equally being victims of psychological violence either after or before the awareness activity (Table 2). However, 2003-data from the post-tests showed there were significantly more psychologically-violent events reported by the respondents of the control group (did not participate in the awareness activity) than by those of the experimental group (Table 3).

Possible associations between the sociodemographic characteristics of the respondents and the study variables were examined. Whether in 2000 or 2003, the variables age, job category and sex were not associated with the global index of the perception of the workers nor with the fact of having been a victim of physical or psychological violence nor with the number of physically- or psychologically-violent events. However,

in 2000 or 2003, job status is significantly associated with the global index of the workers' perceptions: workers with a precarious status reported a more positive perception of the workplace than personnel with a permanent status. However, job status was not associated with having been a victim of violence or not nor with the number of violent events.

3. Discussion

The aim of this study was to verify the high-school personnel's evaluation of an awareness activity about violence in the workplace, to verify if the awareness activity held in 2001 had an effect on the perception of the workers, the proportion of victims of violence and the number of violent behaviors reported in 2003 as well as the degree of implementation of a preventive program for violence in the workplace.

Although the awareness activity had been well appreciated by the personnel, only a single action was undertaken which shows that while the awareness activity was useful, it is nevertheless not sufficient to set up specific preventive measures. Strong resistance arose towards the introduction of a formal procedure to register complaints and the "school team" suggested administering instead a periodic survey to examine the evolution of the situation. The anticipated advantage of this proposal is that "the violent events are depersonalized and, thus, raise fewer fears". However, the drawback is, of course, that since the aggressors were not identified, they can more easily continue to act with complete impunity. Previous research by Debarbieux (1996) has shown that the leadership of the principal's office and the cohesion of the school personnel favor the reduction of acts of incivility in a school. In this respect, the interviews showed that neither the principal's office of the school nor the school board (employers' organization in charge) showed notable leadership on this issue. Organizational support was not set up during the study period, despite the fact that these authorities had been invited by the research team to become more involved. Nevertheless, some positive effects were noted, particularly concerning the occurrence of physical violence. The assumption that psychological violence could have been reduced if prevention of violence had been carried out by one of the authorities (the school itself or the school board); thereby, affecting the subjectivity of the workers in an official manner (Debarbieux, 1996), remains to be verified. It is important to emphasize the strength of this workplace in mastering educational skills and its capacity to transmit knowledge. In fact, once they received the educational material for their awareness activity, the school-training team was very efficient in transmitting it to their colleagues and making this action a success.

Regarding the effect of awareness on the global perception of the environment, it seems that it had not changed in the experimental group. This status quo can be explained by the almost total absence of other actions to prevent violence after the awareness activity (e.g., absence of a policy, a code of ethics, filing procedures, investigation procedures of specific training, etc.). Concerning a specific aspect of the workplace environment, it is interesting to note that a strong percentage of respondents from the experimental group and the control group were unaware of the existence of a secure office for meetings. At least two explanations can be offered for this result:

- the principal's office did not sufficiently spread the fact that such an office had been set up;
- the respondents had been informed but many did not see it as being sufficiently secure.

In short, the perception of the workplace remained the same after the awareness activity, probably mostly due to a lack of follow-up on the part of the principal's office.

Regarding the number of victims, there were no victims of physical violence among the experimental group after the awareness activity. A review of the data shows that a large majority of the physically-violent behaviors come from the students. Consequently, at least three explanations can be offered for the absence of violent behaviors in 2003: the violent students left the school between 2000 and 2003; the principal's office showed a firmer position with the new students on violence; the very rare violent staff members probably felt "less free" to act after the awareness activity. Since physical violence is more visible and a consensus about its violent character is easier to reach, it is the least difficult type of violence to prevent. The fact that there is no significant difference between the experimental and control groups regarding the number of victims of physical violence in 2003 leaves one to think that the new staff members indirectly benefited from the effects obtained by the experimental group. However, two recently hired respondents (5%) of the control group reported having been victims of physical violence as opposed to none of the respondents of the experimental group. In this respect, some research studies (Jauvin et al., 1999) have shown that new workers have a greater risk of being victims than experienced workers. As for the number of events, it is possible to observe a significant reduction in physically-violent behavior endured by the experimental group. This low frequency also appears in the control group. According to Björkqvist et al. (1994), the harassers could balance costs–benefits analysis before carrying out their actions. Thus, in an organization where harassment would not be penalized (low cost), the probability of seeing it (benefit) could then be higher. The message of the awareness activity could have been that violence will no longer be tolerated. Since physical violence makes reaching a consensus regarding its identification easier, perhaps the aggressors decided to stop displaying these behaviors, which had an effect on reducing the number of behaviors reported by the victims.

On the other hand, the awareness activity did not appear to have an important effect on psychological violence (cf victims and events) among the experimental group. In fact, psychological violence often distinguishes itself from physical violence by its more subtle character and therefore, it is more difficult to detect. As Debarbieux (1996) pointed out, identifying violence is a matter of both individual and collective subjectivity, being influenced by values, social codes and the individual weaknesses of the victims. In this regard, a program such as the "Roots of Empathy" (Ontario Institute for Studies in Education, 2005), which was developed to reduce violence among students, could

encourage a common emotional and social understanding among the teaching and non-teaching staff.

It is interesting to note that the new staff members (control group) have a more positive perception of the workplace and report having endured fewer psychologically-violent events in 2003 than did the staff members who attended the awareness activity. This seems to support the school principal's perception that violence could still be trivialized because many new staff members were hired over the last few years. In order to face this problem, the "school team" suggested holding awareness activities regularly for the new staff members.

4. Conclusion

The results of this study agree with those of the Dr Philippe-Pinel Foundation, which has used its kit for the prevention of violence between students in more than 250 schools and organizations (Richard, 2000). Although the clientele targeted was not the same, it has been shown that: firstly, ". . .the mobilization of as many individuals as possible in the school is an essential element for success" and in this regard, the student body should have participated in the awareness activity; however, the project team never proposed this alternative and the workplace did not find it relevant to offer an awareness activity to their students at that point in time; secondly, "the high-turnover rate of the personnel in schools (. . .) slows down the continuity and the follow-up of any project undertaken to prevent violence": this observation is relevant to the present study which had a turnover rate of 45% among those who participated in the awareness activity and who are no longer there to have an influence on the prevention of violence; thirdly, ". . .if the principal's office and the personnel are not motivated to act, the steps for the prevention of violence appear very difficult if not practically impossible to implement. There is no miracle for prevention, it is a question of will and especially of time": in the current project, the principal's office was not ready to develop and put into place the other preventive measures and, moreover, was not supported by the superior hierarchical authority, that is, by the school board; fourthly, ". . .one must wait two or three years before seeing results"; although the two and a half year delay between the awareness activity and the post-intervention questionnaire can appear to be long, this decision seems to have been the right one.

One lesson learned from this study is that the workplace, after recognizing that violence is unacceptable and the importance to act, mobilized itself to share information about the phenomenon. Since the mission of the school is to transmit knowledge through educational programs developed by the Department of Education, this workplace proved to be very receptive to an awareness activity aimed at transmitting information about violence and efficiently organized activities for discussion and reflection based on the document entitled "Tools for violence awareness".

In addition to recognizing the problem of violence in the workplace, its unacceptable character and the need for all of the actors in the school to act, another lesson learned from the current research is the importance of a real commitment from all of the authorities if one wants to set up actions to prevent violence. As a result of the absence of political will from the principal's office

and the school board, the development of an action plan, the development of a policy as well as taking constructive actions to report complaints and process them were not initiated. The factors, which explain this strong resistance to develop tools for the prevention of workplace violence may operate on three levels:

- cognitive: the lack of knowledge about safety and health in the workplace, which prevents the school from taking constructive action. In this respect, the principal's office did not judge it worthwhile to train personnel to detect warning signs of violence and to adopt relevant behavior during a potential violent situation;
- attitudinal: the absence of real organizational support from the principal's office of the school and the school board (cf employer) limits the leadership they could have exercised in the process of setting up measures for the prevention of the phenomenon, particularly in developing administrative procedures;
- affective: the fears linked to an abusive and inappropriate use of the procedures. It must be noted that three years after the end of the project and two years after the new legislative measures on psychological harassment in the workplace, the school is still not equipped with tools for the prevention of violence in the workplace.

This research has methodological limits, such as the use of a non-validated questionnaire, the absence of matching of participants from the experimental and control groups, and the non-participation of the students in the awareness activity, but it also has limits at the organizational level. In fact, further research on the Quebec education system must include the active participation of the school boards from the beginning of the project because without that "sine qua none" condition, real prevention of workplace violence will remain out of reach. Research must adopt a systemic outlook and not only include the teaching and non-teaching staff, but also the students because they are the ones who most often commit violent acts against personnel. It would also be interesting to examine if the manner of solving problems in the classroom, which falls almost essentially under the responsibility of the teacher (cf class management), influences workplace culture, a factor that could influence the management of violence between co-workers or with the principal's office. In this respect, it would be relevant to analyze the issues linked to the teaching profession that may explain the reticence of the workplace to identify and to formally intervene against the aggressors.

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