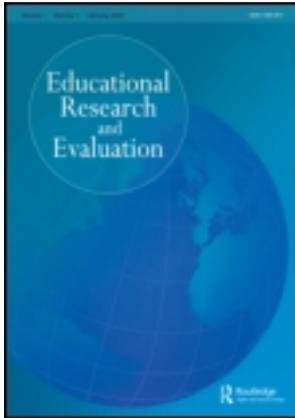


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Program and implementation effects of a cognitive-behavioural intervention to prevent depression among adolescents at risk of school dropout exhibiting high depressive symptoms

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The outcome evaluation of Pare-Chocs, a school-based cognitive-behavioural (CB) prevention program for adolescent depression, was conducted with 53 adolescents at risk of school dropout and exhibiting high depressive symptoms using a theory-driven evaluation model. Our results show a significant relationship between the intervention and proximal variables: Experimental-group students presented less cognitive distortions and better problem-solving strategies at post-treatment and follow-up. Greater participation intensity predicts less cognitive distortions and better problem-solving strategies at follow-up. Moreover, less cognitive distortions at post-treatment and follow-up are linked to less depressive symptoms. These promising results encourage future evaluative research on school dropout prevention programs linked with at-risk students' characteristics. For practitioners, they suggest that the implementation of a CB prevention program for depressive symptoms in school settings could lead to decrease depression risk factors and improve protective factors among youth at risk of school dropout.

Keywords: theory-driven evaluation; implementation fidelity; adolescent depression; risk of school dropout; cognitive-behavioural prevention program

Introduction

Between 15 and 20% of the adolescents in the province of Quebec show depressive symptoms with sufficient intensity to benefit from intervention (Marcotte, 2000). Some of these adolescents are also at risk of school dropout before obtaining their high school diplomas. Indeed, Fortin, Marcotte, Potvin, Royer, and Joly (2006) established a typology of students at risk of dropping out of high school, including four types of students (anti-social covert behaviour type, school and social adjustment difficulties type, depressive type, and uninterested in school type), among which the first three types show high depressive symptoms. Other authors indicated that high depressive symptoms and depressive disorders are linked to a higher risk of school dropout (Gagné & Marcotte, 2010; Vander Stoep, Weiss, Saldanha, Cheney, & Cohen, 2003). Moreover, Liem, Lustig, and Dillon (2010) noticed that, at the time they are supposed to obtain their diplomas, school dropouts are more depressed than persistent students.

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While depression was studied as a risk factor for school dropout, these two problems can also be viewed as being two parallel difficulties in youths, since they can result from the same risk factors. Some factors associated with school dropout risk are also associated with depressive symptoms, notably underachievement, truancy, suspensions, and school retention (Carpenter & Ramirez, 2007; Robles-Pina, DeFrance, & Cox, 2008). Negative relationships with teachers and other students, low self-esteem (Marcotte, Fortin, Potvin, & Papillon, 2002; Rumberger, 1995), family conflicts, and lack of parental support and engagement (MacPhee & Andrews, 2006; Trampush, Miller, Newcorn, & Halperin, 2009) are also associated with a higher probability of school dropout or living with high depressive symptoms.

In terms of consequences, both depressive symptoms and risk of school dropout suggest difficulties during adulthood. Adolescents who live with depressive symptoms are at higher risk of developing a depressive disorder, which is linked to a higher risk of suicidal ideation or suicide attempts. These adolescents could also be more likely to use health care services more often (Rice, Lifford, Hollie, & Thapar, 2007) and to become welfare dependent or unemployed. They may have a lower probability of accessing post-secondary education than adolescents without depression (Fergusson, Boden, & Horwood, 2007). In addition, dropouts could have difficulty finding or keeping a job and, as a result, live in greater poverty. Some may also present more health problems than graduates (Dahl, 2010).

In Quebec, the school dropout rate is relatively high (21.3% for public schools in 2008–2009) (Ministère de l'Éducation, du Loisir et du Sport, 2010). Some authors have explained this high level, despite the presence of initiatives to reduce it, by the fact that these measures are offered to all students, without looking at specific factors that place different subgroups of students at risk of school dropout (Fortin et al., 2006; Suh, Suh, & Houston, 2007). These authors suggested the implementation of differentiated prevention programs adapted to the characteristics of each subgroup, among which students with high depressive symptoms seem to form a particular relevant group to target, since programs that were evaluated with these youths were designed firstly to reduce suicidal risk instead of depressive symptoms and did not include any measure on risk of school dropout, dropout, or graduation (Eggert, Thompson, Herting, & Nicholas, 1995; Thompson, Eggert, Randell, & Pike, 2001).

Cognitive-behavioural (CB) programs are one of the most used and effective approaches for intervention with children and adolescents. This evidence-based approach relies on rigorous validated theoretical models (Weisz & Jensen, 2001). Up to date, several prevention programs for depression and school dropout have been evaluated, and many of them were based on CB approach. Systematic literature review and meta-analysis show that these programs significantly contribute to decreasing adolescents' depressive symptoms (Poirier, Marcotte, & Joly, 2010; Weisz, McCarty, & Valeri, 2006) and high school dropout rate (Fashola & Slavin, 1998; Prevatt & Kelly, 2003). Although many authors of evaluative studies have reported significant effects of programs for these problems, as well as the fact that an increasing number of authors are concerned with fidelity of implementation (Durlak, 2010), few of them use this information to explain program effects (Poirier et al., 2010). According to the literature review of Poirier et al. (2010), including studies published between 1997 and 2009, some authors evaluating the effects of a prevention program for adolescent depression (generally conducted in school settings) include a measure of fidelity of implementation, while all authors who evaluated intervention programs, often in clinical settings, consider fidelity of implementation. These authors describe the implementation results, but only few consider these variables in their outcome analysis. Therefore, outcomes are rarely discussed in light of the fidelity of implementation.

Moreover, prevention programs disseminated in school settings are often implemented with less fidelity than in experimental clinical settings (Ciffone, 2007; Renes, Ringwalt, Clark, & Hanley, 2007). Poor fidelity of implementation, characterized by low adherence, decreased doses, limited quality of program delivery, low participant responsiveness, and little program differentiation, generally results in smaller program effects (Dusenbury, Brannigan, Falco, & Hansen, 2003; Kutash, Duchnowski, & Lynn, 2009). Consequently, evaluation of implementation, and more specifically fidelity, should be part of outcome evaluation in school settings. This implementation evaluation was carried out for the Pare-Chocs program (Poirier, Marcotte, Joly, & Fortin, *in press*), and some results are included in the present study.

Pare-Chocs (Marcotte, 2006) is a cognitive-behavioural program designed for adolescents from 14 to 17 years old who present depressive symptoms, as well as for their parents. The program offers a 6-hr training and a detailed manual to guide the professionals who provide the intervention during the implementation process. The intervention consists of twelve 1.5-hr to 2-hr sessions for groups of 6 to 10 adolescents, led by two professionals familiar with the cognitive-behavioural approach and experienced in group and mental health intervention. Through 55 activities, adolescents learn the theoretical model underlying intervention, emotional education, cognitive restructuring techniques, self-control, and strategies to increase their number of pleasant activities in their daily lives. Moreover, participants develop relaxation techniques; social, communication, negotiation, and problem-solving abilities; their knowledge about depression; positive self-esteem and body-image; and study and schoolwork techniques. Lastly, three 2-hr sessions for parents are planned. These sessions consist of 14 activities regarding knowledge about depression, cognitive restructuring techniques, and communication and problem-solving skills. Many strategies are used in this program, such as presentations, role play, discussions, quiz, questionnaires, and homework. Activities included in Pare-Chocs are based on the content of effectiveness programs (Bernard & Joyce, 1984; Clarke, Lewinsohn, & Hops, 1990), and activities to promote self-esteem proposed by Duclos, Laporte, and Ross (1995). Components on study skills and school techniques and knowledge about depression and positive self-esteem and body-image are innovative and constitute an improvement for preventive programs.

In addition to decreasing depressive symptoms, the Pare-Chocs program might contribute to diminishing school dropout risk owing to the fact that it is a multidimensional program which addresses risk factors linked to school dropout (Fortin, Royer, Potvin, Marcotte, & Yergeau, 2004; Rumberger, 1995). The components on social, problem-solving, and negotiation abilities, as well as on self-esteem and self-control, correspond to elements included in effective prevention programs for school dropout in the United States (Larson & Rumberger, 1995; Sinclair, Christenson, Evelo, & Hurley, 1998). In school settings, such a program might make it possible to provide intervention to a greater number of students with depressive symptoms. Olfson, Gameroff, Marcus, and Waslick (2003) reported that only 1% of children and adolescents with a depressive disorder receive health services in an outpatient clinic. The school settings turn out to be a favourable environment for reaching out to these students who cannot receive other services (Manning, 2009).

In this context, this study evaluates the effect of a cognitive-behavioural adolescent prevention program offered to students at risk of school dropout with depressive symptoms and school dropout risk, while considering data on fidelity of implementation. The study therefore adopts a theory-driven evaluation model that allows inclusion of these elements (Chen, 2005). More specifically, as illustrated in Figure 1, the objectives are:

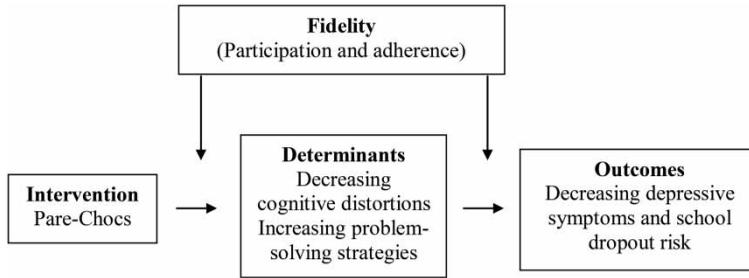


Figure 1. Moderating mechanism of the relation between intervention, determinants, and outcomes (adapted from Chen, 2005).

- (1) to evaluate the effects of the Pare-Chocs program by measuring first the program effect on cognitive distortions and problem-solving strategies (proximal variables or determinants) and, second, the effect of these determinants on depressive symptoms and school dropout risk (distal variables or outcomes); and
- (2) to evaluate the moderating effect of the fidelity of implementation (adherence, dose, participant responsiveness) on proximal variables (determinants) and on distal variables (outcomes).

Following the key steps defined by Reynolds (2005), a confirmatory program evaluation method was used to conduct a theory-driven outcome evaluation. First, the underlying program theory and the mechanisms by which the program can lead to planned outcomes were specified. To this end, the program theory was schematized in Figure 1, and proximal and distal variables were identified. The program theory was also presented in detail in the program manual and was part of the training. Second, these variables were measured before and after the program. Third, implementation variables (adherence, dose, participant responsiveness) were measured. Fourth, a fidelity variable calculated using implementation variables was added to the outcome program evaluation. And fifth, causal mechanisms linked to program theory were analysed to explain our outcomes. Lastly, the discussion centred on an interpretation of the study's results to promote their generalization and the translation of knowledge, as well as to propose feedback to strengthen the program.

Method

Evaluation model

Chen (2005) and Donaldson (2003) considered that outcome evaluation must be oriented by program theory instead of the traditional "black box" evaluation model. In this context, evaluation allows a better understanding of transformation processes that turn interventions into outcomes by verifying the link between program and proximal variables (determinants) and the link between determinants and program outcomes. Chen suggests many different approaches to evaluate the implementation and the program outcomes, including fidelity evaluation and theory-driven outcome evaluation. Fidelity evaluation associated with theory-driven outcome evaluation enable the validation of program theory, or, when the program does not reach its goals, a documentation of whether it is better explained by a failure of implementation or a failure of theory.

Research design

For this study carried out in the context of the *Chaire de recherche de la Commission scolaire de la Région-de-Sherbrooke sur la réussite et la persévérance des élèves* (Research Chair of Sherbrooke School Board on Student Achievement and Perseverance), a before-after quasi-experimental design with non-equivalent control group was chosen. Our design comprises four measurement times: selection (T0), baseline (T1), post-treatment (T2), and 6-month follow up (T3). For ethical reasons, all selected students were invited to take part in the program. The experimental group (EG) is composed of at-risk students with depressive symptoms who took part in the Pare-Chocs program in four schools. In one of these schools, all students benefited from the program, so the non-equivalent control group (CG) comprises students at risk of school dropout with depressive symptoms from the three other schools that declined to participate. Students who accepted to be in the experimental group, but who did not attend three or more activities, were considered in the control group at post-treatment.

Subjects

The subjects were selected following a two-step procedure. During the first selection in fall 2008 (T0), 81 students at risk of school dropout with high depressive symptoms (score of 20 or higher on the Center for Epidemiological Studies Depression Scale [CES-D]; Radloff, 1977) were identified using the *Logiciel de dépistage du décrochage scolaire* (School Dropout Screening Software, SDSS) (Fortin & Potvin, 2007). Later, all these students were invited to the Pare-Chocs program. Of this number, 38 accepted the invitation and formed the experimental group, while 11 accepted to fill in evaluation measures; they composed the control group. Moreover, four students who initially accepted to take part in the program, but who attended only the first session (introduction to the program), were also included in the control group. Lastly, 28 students refused to take part in both the experimental and the control group or have been excluded as they met at least one of the exclusion criteria (major depressive disorder with suicidal ideation, symptoms requiring immediate reference to psychiatry, drug use on a regular basis, participation in another psychological treatment). This non-random selection procedure limits the internal validity of our design, but is consistent with the *Tri-Council Policy Statement* (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2010) on ethical conduct for research involving vulnerable groups. The results of an analysis of variance revealed that there was no significant difference for school dropout risk ($F(2.78) = 0.04, ns$) or depressive symptoms ($F(2.78) = 2.38, ns$) between the three groups (experimental, control, refusal or excluded) at selection. All students from the experimental group provided a signed parental consent form, and students from the control group provided their own consent form, in accordance with ethical procedures. Instruments were administered at the three other measurement times (T1 to T3).

Assessment

Recruitment

The SDSS (Fortin & Potvin, 2007) is a program that evaluates student risk of school dropout. If the software identifies that students are at risk, it classifies them according to their personal, family, and school characteristics based on the typology of Fortin et al.

(2006). It comprises six validated instruments that measure school dropout risk, family environment, adolescent behaviour, perception of school climate, and depressive symptoms. The SDSS has a predictive validity of 89% (Fortin & Lessard, 2013). Psychometrics properties of each instrument from the software used in this study are listed below.

Proximal variables (determinants)

Cognitive distortions were measured using a French version of the Dysfunctional Attitude Scale (DAS) (Weissman & Beck, 1978). This scale measures dysfunctional attitudes that reveal cognitive distortions associated with achievement, dependence, and self-control. The three subscales comprise 24 items evaluated by a 7-point Likert agreement scale. Internal consistency for each subscale is evaluated to be .68 (self-control), .74 (dependency), and .85 (achievement) (Power et al., 1994), and 0.74 for the total score among Quebec adolescents (Lévesque & Marcotte, 2009). A high score on each scale reveals low cognitive distortions. Total scores were used in this study.

Utilization of ineffective problem-solving strategies was measured using a French version of the Problem Solving Inventory (PSI) (Heppner & Petersen, 1982). This measure comprises 32 items evaluated by a 6-point Likert agreement scale. A total score is calculated in addition to three subscales (problem-solving confidence, approach-avoidance style, and personal control). Internal consistency is evaluated to be .90 for the total score and .85, .84, and .72 for each subscale. Test-retest reliability was .89 after 2 weeks and .81 after 3 weeks (Maydeu-Olivares & D’Zurilla, 1997).

Distal variables (outcomes)

The frequency of depressive symptoms during the past week was evaluated using a French version of CES-D (Radloff, 1977). CES-D is a 20-item 4-point Likert scale. Sheffield et al. (2006) evaluated internal consistency to be .87 for 2,479 subjects and test-retest reliability to be .64 for the control group.

The *Questionnaire de dépistage des élèves à risque de décrochage au secondaire* (Screening Questionnaire for Students at Risk of School Dropout, SQSRSD) (Potvin, Doré-Côté, Fortin, Royer, Marcotte, & Leclerc, 2004) is one of the six instruments included in the SSDS (Fortin & Potvin, 2007). This questionnaire evaluates the intensity of school dropout risk (low, moderate, severe) with 33 multiple-choice questions measuring five dimensions (parental commitment, attitudes toward school, self-perception of the level of academic achievement, parental supervision, and educational aspirations). Internal consistency is evaluated to be .89 for total score and varies in subscales from .59 to .89. Test-retest reliability is evaluated to be .84 for the entire scale. The total score was used in this study.

Fidelity

Among the five ways used to measure implementation fidelity, the most frequently evaluated are adherence, dose, and participant responsiveness (Dusenbury et al., 2003). Therefore, they were retained for this study. Adherence is the number of activities attended among the 55 addressed to adolescents and the 14 addressed to their parents. The result varies by school according to the number of activities offered to each group. Moreover, dose (total duration of the 12 sessions in each school) and participant responsiveness (number of sessions attended by each student) were used to create a composite variable of intensity of participation representing the total duration for each student (sum of

session length for each session attended). Most control-group students received the value 0, because they did not take part in any activity, but two of them had a value of 95 min, because they participated in the first session only.

Analyses

The analyses are consistent with the theory-driven outcome evaluation model and practices found in the literature (Johnson, Young, Fostet, & Shamblen, 2006; Reynolds, 2005). First, the effect of the program on determinants was evaluated by comparing students of experimental and control groups at baseline, post-treatment, and follow-up on proximal variables (determinants) with a repeated measure analysis of variance (ANOVA) and then on distal variables (outcomes). Repeated measure ANOVAs were also conducted on distal variables, but other analyses are required to validate the program theory. The effect of the program on proximal variables (DV), controlled for the implementation variables, is evaluated by a hierarchical multiple regression. Predictors were entered in this order: (1) DV baseline score, (2) a dummy variable distinguishing two groups, and (3) implementation variables. Then, the effect of the program through the influence of determinants on distal variables is also evaluated using a multiple regression with the addition of a block of proximal variables as predictors. The predictors are: (1) DV baseline score, (2) proximal variables, and, as before, (3) implementation variables. Finally, multilevel analysis (bootstrap method) tested the complete mediation model, that is, the link between intervention, proximal variables, and depressive symptoms. School dropout risks were not analysed, as only two measurement times were available.

Results

Descriptive analyses

The initial sample is composed of 53 participants: 38 students in the experimental group (33 girls and 5 boys aged on average 14.97 years old, $SD = 0.75$) and 15 students in the control group (11 girls and 4 boys aged on average 14.13 years old, $SD = 0.74$). The majority of students were in Grade 9 or 10, but 3 were in Grade 8 and 1 in Grade 5. Their public high schools were located in a middle-class ($N = 30$) or disadvantaged neighbourhood ($N = 33$). Students from the control group are significantly younger than those from the experimental group ($t(46) = -3.67, p < 0.05$). However, there were no differences between groups in terms of sex ($\chi^2(1) = 1.39, ns$), neighbourhood ($\chi^2(1) = 1.09, ns$), or depressive symptoms at pre-test ($t(51) = 1.06, ns$). At follow-up (T3), 3 students from the control group and 4 students from the experimental group had withdrawn, for a total attrition of 13.5% for the sample. The score for intensity of participation in the program ranges from 240 min (4 hrs) to 1,440 min (24 hr) for students from the experimental group. Program adherence ranges from 52% to 88% depending on the school (average of 78%, $SD = 13.26$ across all schools). Parents' participation ranges from 14% to 67%, with an average of 40% ($SD = 46.4$).

Program effects on proximal variables (determinants)

As mentioned earlier, two repeated measure analyses of variance were conducted in view of evaluating the effect of program participation on cognitive distortions (DAS) and on problem-solving strategies (PSI), using the Greenhouse correction for this variable,

which adjusted the ANOVA's degree of freedom when the assumption of sphericity is violated, resulting in an F ratio and an associated p value that limits Type I error rate. The results presented in Table 1 reveal a time effect ($F(2.86) = 6.56, p < .01$) as well as a group interaction effect by time ($F(2.86) = 6.19, p < .01$) for the cognitive distortions variable. As the averages presented in Table 2 suggest, the simple effects analyses comparing groups at each measurement time confirm that the two groups are equivalent at baseline

Table 1. Repeated measures ANOVAs of program effects on proximal variables.

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
<u>Cognitive distortions</u>				
Between-groups				
Group (G)	1,265.96	1	1,265.96	3.59
Error	15,145.10	43	352.21	
Within-group				
Time (T)	1,867.89	2	933.95	6.56**
T*G	1,761.62	2	880.81	6.19**
Error	12,247.87	86	142.42	
Simple main effects				
Group/T1	2.34	1	2.34	.01
Group/T2	2,424.87	1	2,424.87	5.56*
Group/T3	3,132.28	1	3,132.28	6.26*
<u>Problem-solving</u>				
Between-groups				
Group (G)	184.74	1	184.74	.58
Error	11,792.59	37	318.72	
Within-group				
Time (T)	284.90	1.68	170.11	.96
T*G	1,701.33	1.68	1,015.86	5.72**
Error	11,011.44	61.97	177.70	
Simple main effects				
Group/T1	2,072.66	1	2,072.66	5.23*
Group/T2	47.44	1	47.44	.13
Group/T3	135.45	1	135.45	.27

Note: * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2. Descriptive statistics.

Characteristics	Selection (T0)	Baseline (T1)	Post-treatment (T2)	Follow-up (T3)
<u>Cognitive distortions</u>				
EG ($n = 33$)		90.93 (20.28)	107.52 (22.04)	109.37 (23.51)
CG ($n = 12$)		90.42 (19.64)	90.92 (17.09)	90.50 (18.68)
<u>Problem-solving</u>				
EG ($n = 28$)		119.18 (20.11)	108.81 (18.98)	109.36 (22.36)
CG ($n = 11$)		102.98 (19.34)	106.36 (18.16)	113.50 (22.82)
<u>Depressive symptoms</u>				
EG ($n = 31$)	31.23 (10.82)	26.29 (10.70)	23.85 (12.71)	21.03 (13.93)
CG ($n = 11$)	32.82 (7.67)	25.64 (14.11)	23.72 (14.59)	25.55 (17.87)
<u>Dropout risk</u>				
EG ($n = 31$)	111.39 (13.89)			114.45 (17.76)
CG ($n = 11$)	108.45 (8.13)			105.09 (17.87)

($F(1.43) = .01, ns$), but that the experimental-group students show significantly less cognitive distortions at post-test ($F(1.43) = 5.56, p < .05$) and at follow-up ($F(1.43) = 6.26, p < .05$) than the control-group students. Indeed, the higher averages of the experimental group at post-test and at follow-up show less cognitive distortions. The results in Table 1 also reveal a group interaction effect by time for problem-solving strategies ($F(2.62) = 5.72, p < .01$). In this case, the simple effects analyses indicate that the experimental-group students use significantly less problem-solving strategies at baseline than the control group ($F(1.37) = 5.23, p < .05$), but that they reach an equivalent level at post-test ($F(1.37) = .13, ns$) and at follow-up ($F(1.37) = .27, ns$). Table 2 shows a difference in averages between the experimental group and the control group at T1, but equivalent averages at T2 and T3.

Program effect on distal variables (outcomes)

Similar analyses were carried out to assess the program effect on depressive symptoms (CES-D) and the risk of school dropout (SQSRSD) (in this case with only T0 and T3). No group, time or group interaction effect by time was detected. However, when examining the averages (Table 2), one can observe a constant trend toward decreased depressive symptoms in the experimental group, which is not present in the control group.

In a complementary way, descriptive statistics show that less experimental-group participants reached the clinical level of subsyndromal depressive symptoms (CES-D \geq 26) after the intervention. At baseline, 49% of the participants reached the clinical level (18 of 37 participants), but only 13 of 37 reached the same level at post-treatment (35%) and 12 of 31 at follow-up (39%). However, 40% of the control participants reached the clinical level at baseline (6 of 15), but this rate increased to 50% at post-treatment (7 of 14) and follow-up (5 of 11).

Program effects on proximal variables according to implementation variables

Hierarchical multiple regressions enabled verification of whether greater implementation fidelity, characterized by greater adherence to the program and higher student participation, is associated with a greater decrease in cognitive distortions (DAS) and greater improvement in problem-solving strategies (PSI) according to the student group.

The results at Step 1 in Table 3 show that the baseline levels for proximal variables (T1) are significant in the four models, which is generally observed in this type of analysis. Indeed, participants' initial score is often a good predictor of the final score, and this is why it is controlled in analyses. At Step 2, the dummy variable group, which represents participation or non-participation in the program, is significant for the cognitive distortions at post-test (T2) and follow-up (T3) and for problem-solving strategies at follow-up. These results are consistent with the results of the ANOVAs presented earlier. At the third step, the addition of the participation variable in regression equations significantly contributes to improving the model for the cognitive distortions at follow-up (T3) as well as for problem-solving strategies at follow-up. However, the adherence variable does not make a significant contribution. In addition, in this last step, the group variable becomes non-significant when the implementation variables are considered. Finally, it should be noted that the final models explain 50% of the variance in cognitive distortions at post-test, 54% of the variance in cognitive distortions at follow-up, 51% of the variance in problem-solving strategies at post-test, and 42% of the variance in problem-solving strategies at follow-up.

Table 3. Hierarchical multiple regression between proximal and program variables.

Predictor	Cognitive distortions Post-treatment (T2)		Cognitive distortions Follow-up (T3)		Problem-solving Post-treatment (T2)		Problem-solving Follow-up (T3)	
	ΔR^2	β	ΔR^2	B	ΔR^2	β	ΔR^2	β
Step 1	.40***		.34***		.36***		.25**	
Baseline (T1)		.63***		.59***		.60***		.50**
Step 2	.00		.08		.08		.13~	
Baseline (T1)		.64***		.63***		.59***		.49**
Fidelity		.04		.29*		-.24		-.34*
Participation								
Adherence		-.01		-.00		.14		.09
Total R^2	.40		.43		.45		.38	
N	37		33		31		28	

Note: ~ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Effect of proximal variables on distal variables according to implementation

To find out whether the changes in proximal variables caused changes in distal variables, as intended by the program theory (see Figure 1), we then conducted regression analyses on depressive symptoms and risk of school dropout by first introducing cognitive distortions and problem-solving strategies as predictor variables, to which we added the fidelity variables. The results of the regression analyses shown in Table 4 indicate, as in the previous

Table 4. Hierarchical multiple regression between distal, proximal, and program variables.

Predictor	Depressive symptoms Post-treatment (T2)		Depressive symptoms Follow-up (T3)		Dropout risk Follow-up (T3)	
	ΔR^2	β	ΔR^2	β	ΔR^2	B
Step 1	.38***		.24**		.48***	
Baseline (T1) ^a		.62***		.49**		.69***
Step 2	.18**		.27**		.05	
Baseline (T1) ^a		.39**		.15		.62***
Proximal variables						
Distortions		-.32*		-.38*		-.17
Problem-solving		.28*		.34*		.10
Step 3	.02		.03		.11*	
Baseline (T1) ^a		.38**		.15		.59***
Proximal variables						
Distortions		-.35*		-.43*		-.10
Problem-solving		.24~		.26		.27
Fidelity						
Participation		.08		.02		.18
Adherence		.16		.20		-.29*
Total R^2	.58		.53		.63	
N	37		31		31	

Note: ~ $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

^aBaseline for Dropout risk is T0.

models, that the baseline level effect is significant at Step 1 and remains significant at the following steps, except for Step 3 of the model predicting depressive symptoms at follow-up. At Step 2, cognitive distortions significantly contribute to the explained variance in depressive symptoms at post-test and follow-up. A marginal effect of problem-solving strategies on depressive symptoms can also be observed at post-test and at follow-up. However, the proximal variables are non-significant in the model predicting the risk of dropout at follow-up. Finally, at Step 3, the fidelity variables do not add significant improvement to the model beyond the effect of cognitive distortions on depressive symptoms, as the significant effect of participation observed in Table 2 is included in the cognitive distortions variable. The final models explain 60% of the variance in depressive symptoms at post-test, 56% of the variance in depressive symptoms at follow-up, and 52% of the variance in the risk of school dropout at follow-up.

Evaluation of the complete model

Finally, we carried out multilevel analyses using Mplus software (Muthén & Muthén, 2007) to evaluate the complete mediation model, that is, the program's effect on proximal variables and their effect on distal variables. Overall, the model is not significant, but the effect of the group variable on cognitive distortions and problem-solving strategies is significant, as shown by the ANOVAs. Since the number of subjects is limited, the complementary analyses using the Monte Carlo simulation confirm the lack of statistical power for evaluating mediation models with an acceptable risk of making a Type II error, that is, not rejecting the null hypothesis when it is false. Although the total sample contained 53 subjects, a sample of 92 subjects was required to test the mediation model between the program, cognitive distortions, and depressive symptoms; a sample of 141 was needed to test the mediation model between the program, problem-solving strategies, and depressive symptoms, all while maintaining a statistical power of .80 to be able to detect a significant relationship if existent.

Discussion

This theory-driven evaluation aimed to determine the effect of the Pare-Chocs program by taking into account the effect of determinants (proximal variables) on results (outcomes or distal variables) and the effect of fidelity on proximal and distal variables. To do this, we followed in the tradition of the confirmatory program evaluation approach advanced by Reynolds (2005).

Summary of results

The participants from the experimental group exhibit significantly less cognitive distortions at post-test and at follow-up than those from the control group. The experimental-group students also developed better problem-solving strategies, since even if they differed from the control-group students at pre-test, they reached an equivalent level at post-test and follow-up. These results are comparable to the effects of cognitive-behavioural programs for depression prevention reviewed by Poirier et al. (2010) and Weisz et al. (2006).

An effect of the duration of exposure to the program can also be observed at follow-up. Indeed, a greater intensity of participation predicts a more substantial decrease in cognitive distortions and greater improvement in problem-solving strategies at this time of measurement. These results are consistent with the literature on program evaluation, since a number

of authors mention that the better the quality of program implementation, the greater the effects associated with it (Dusenbury et al., 2003; Kutash et al., 2009).

However, although the percentage of students reaching the clinical level of depressive symptoms decreases between baseline and post-treatment for the experimental group, but increases lightly for the control group, the repeated measure ANOVAs do not reach the threshold of significance for depressive symptoms. Nor do the results allow for associating a program effect with the risk of school dropout. However, the results of the hierarchical regression analyses show a significant relationship between cognitive distortions and depressive symptoms at post-test and follow-up, which suggests that the variation in the level of cognitive distortions influences the level of depressive symptoms and confirms the program theory. This theory predicts that the program will have an effect on proximal variables which will in turn influence distal variables. Likewise, the results show a trend in that better problem-solving strategies appear to be associated with a lower rate of depressive symptoms at post-test and follow-up. However, no significant relationship can be observed between the determinants and the risk of dropout at follow-up.

Previous studies have already shown that cognitive distortions and a lack of problem-solving strategies are significantly associated with depressive symptoms among adolescents (Calvete & Cardenoso, 2005; Lévesque & Marcotte, 2009). Other studies have also illustrated the significant relationship between depressive symptoms and the risk of dropout (Gagné & Marcotte, 2010; Vander Stoep, Weiss, McKnight, Beresford, & Cohen, 2002). As a result, the absence of significant differences between groups at post-test and at follow-up for depressive symptoms and the risk of school dropout appears to be explained less by a failure of program theory (Chen, 2005) than by difficulties in implementation, primarily in terms of recruiting participants, as well as student evaluation. Indeed, the recruitment of control-group participants may involve a certain bias since this group is made up of students who were not available or interested in participating in the program. Additionally, the participants from this group were younger than those of the experimental group, which may also have influenced the results obtained. It is possible that the lack of interest of some of these youths expresses a will to get better on their own or to use resources other than those offered by the program.

The interval between the four measurement times may also have influenced the results. As Moldenhauer (2004) points out, students frequently improve with time, even in the absence of intervention. It is also possible that students from the experimental group did not have enough time, at post-test, to assimilate learning done in the context of the program, leading to smaller differences in terms of depressive symptoms. Indeed, it is known that cognitive-behavioural treatments show optimal effects in the medium and long terms rather than immediately after an intervention, owing to the time required to practice and to assimilate newly learned skills (TADS, 2007).

In terms of intervention fidelity, variation in adherence between schools and the intensity of participation between students may also help to explain the absence of significant results. Given the low number of students per school, we were unable to compare the effects of the program in each, but such an analysis could have led to different results.

Limits

This study provides significant improvement over the usual evaluative studies, since in addition to evaluating implementation fidelity as others have previously done (Poirier et al., 2010), it allows for nuancing program effects measured using an approach based on program theory with fidelity data. However, the evaluation model here recommended

requires the introduction of implementation variables and determinants to evaluate program effects. This requires more complex analyses than the traditional model of the “black box”, which would have required only ANOVAs on all dependent variables to validate the entire program theory. In this study, a possible lack of statistical power precluded detection of the effects of a complex model. We were not able to include fidelity qualitative data (quality of program delivery and program differentiation) in our analysis plan, but this information could have helped to explain differences between groups and identify for which students and in which circumstances the program produced the best results. It therefore appears that an evaluation model based on program theory requires large samples and increases costs. Although it is difficult and costly to recruit such samples, it may be wise to turn to more qualitative methods and to opt for mixed methods.

Other limits also need to be considered in this study, notably the use of a quasi-experimental design, and a selection procedure that allowed only students who were interested to take part in the program. It is possible to suggest that students in the control group could have shown less interest to be involved in a program aimed to improve their condition, and that could have been reflected in the results of the study. Moreover, some students from the sample did not attain the cut-off CES-D score recommended to participate in the program. Nor were we able to evaluate the presence or intensity of support offered to the students from the control group between measurement times, or between post-test and follow-up for students of the experimental group, which may have influenced results. Also, the use of different self-evaluation measures, such as the Beck-2 Depression Inventory (Beck, Steer, & Brown, 1996) rather than the CES-D – which was designed for use in the context of epidemiological research or a diagnostic interview – may have provided different results.

Recommendations for program evaluation

Continuing evaluation of programs implemented in school settings using the confirmatory approach proposed by Reynolds (2005) appears to be relevant since, within a quasi-experimental method, it enables measurement of relations between the program and the effects it produces. Although it requires a more exhaustive data collection on mediating factors of the relation between the program and the distal variables and qualitative data to explain variation in implementation, this approach makes it possible to obtain valid results on the effects of a prevention program implemented in a school setting, and to offer possible avenues for explaining the effects obtained. This approach, entirely consistent with theory-driven evaluation, thus promotes greater understanding of the processes whereby the program reaches its objectives. In this sense, this study allowed observation of the differentiated effect of the intensity of participation in the Pare-Chocs program on the decrease in cognitive distortions and the improvement in problem-solving strategies at follow-up. Although adherence in the school context is lower than in an experimental context, it is possible for the program to attain the expected results.

Recommendations for preventing school dropout

Since the results here presented go in the direction of the program theory, they do indicate that the implementation of multidimensional programs adapted to student characteristics promotes the prevention of school dropout. Although it is impossible at this time to determine whether participation in Pare-Chocs allows for lowering the rate of school dropout among at-risk students exhibiting depressive symptoms, the information collected confirms

that all of the students in the experimental and control groups were enrolled in school the following year. The results also show that the greatest effects of the program were among students who participated in the largest number of sessions, and sessions that were longer in duration. It is consequently advisable to favour the greatest possible exposure to the program that a given context will allow.

Our results may also have implications for clinical work on prevention of school dropout among students exhibiting high depressive symptoms. First, implementation of a program based on a strong theoretical model and utilisation of a rigorous procedure to recruit participants will maximise the probability of offering the intervention to the target population and reaching program goals. Since students targeted in this study are at risk of school dropout and to develop a major depressive disorder, it will be important in future programs developed for this specific population to include components on cognitive and behavioural techniques, but also on risk factors associated with both problems, such as underachievement and negative relations with teachers and peers. Of course, the evaluation of these components as well as personal and familial characteristics (sex, age, family psychopathology, and family conflicts) of participants will add to our understanding on how and for whom these programs produce best results and provide guidelines for school policies and services for students at risk of school dropout.

Conclusion

In conclusion, Pare-Chocs promotes a significant decrease in cognitive distortions and an improvement in problem-solving strategies among the experimental group, which in turn will contribute to preventing the appearance of a depressive disorder. Effectively, a significant relationship between less cognitive distortions and better problem-solving strategies and less depressive symptoms was observed. Although the program's effect on depressive symptoms and the risk of school dropout was impossible to confirm statistically speaking, the results suggest that the program may play an important role in terms of these distal variables. These hypotheses nevertheless remain to be confirmed using a larger sample. Utilisation of qualitative data in future studies will also help to conduct a more comprehensive evaluation that could lead to improve programs implemented in school settings. It is therefore important to pursue research in the area of school dropout among students according to the subgroups to which they belong. Indeed, establishing prevention programs adapted to their characteristics will very likely contribute to better answering their needs, and thus to furthering their academic perseverance.

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References

- Beck, A. T., Steer, R. A., & Brown, B. K. (1996). *Beck Depression Inventory manual* (2nd ed.). San Antonio, TX: Psychological Corporation.
- Bernard, M. E., & Joyce, M. R. (1984). *Rational-emotive therapy with children and adolescents: Theory, treatment strategies, preventative methods*. New York, NY: Wiley & Sons.
- Calvete, E., & Cardenoso, O. (2005). Gender differences in cognitive vulnerability to depression and behavior problems in adolescents. *Journal of Abnormal Child Psychology*, 33, 179–192.
- Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada. (2010). *Tri-council policy statement: Ethical conduct for research involving humans*. Ottawa, Canada: Government of Canada.
- Carpenter, D. M., & Ramirez, A. (2007). More than one gap: Dropout rate gaps between and among Black, Hispanic and White students. *Journal of Advanced Academics*, 19, 32–64.
- Chen, H.-T. (2005). *Practical program evaluation: Assessing and improving planning, implementation, and effectiveness*. Thousand Oaks, CA: Sage.
- Ciffone, J. (2007). Suicide prevention: An analysis and replication of a curriculum-based high school program. *Social Work in Education*, 52(1), 41–49.
- Clarke, G., Lewinsohn, P. M., & Hops, H. (1990). *Adolescent coping with depression course. Leader's manual for adolescent groups*. Portland, OR: Kaiser Permanente Center for Health Research.
- Dahl, G. B. (2010). Early teen marriage and future poverty. *Demography*, 47, 689–718.
- Donaldson, S. I. (2003). Theory-driven program evaluation in the new millenium. In S. I. Donaldson & M. Scriven (Eds.), *Evaluating social programs and problems: Visions for the New Millennium* (pp. 109–141). Mahwah, NJ: Lawrence Erlbaum Associates.
- Duclos, G., Laporte, D., & Ross (1995). *L'estime de soi de nos adolescents* [The self-esteem of our adolescents]. Montréal, Quebec, Canada: Éditions de l'Hôpital Sainte-Justine.
- Durlak, J. E. (2010). The importance of doing well in whatever you do: A commentary on the special section, "Implementation research in early childhood education". *Early Childhood Research Quarterly*, 25, 348–357.
- Dusenbury, L., Brannigan, R., Falco, M., & Hansen, W. B. (2003). A review of research on fidelity of implementation: Implications for drug abuse prevention in school settings. *Health Education Research*, 18, 237–256.
- Eggert, L. L., Thompson, E. A., Herting, J. R., & Nicholas, L. J. (1995). Reducing suicide potential among high-risk youth: Tests of a school-based prevention program. *Suicide and Life-Threatening Behavior*, 25, 276–296.
- Fashola, O. S., & Slavin, R. E. (1998). Effective dropout prevention and college attendance programs for students placed at risk. *Journal of Education for Students Placed At Risk*, 3, 159–183.
- Fergusson, D. M., Boden, J. M., & Horwood, J. (2007). Recurrence of major depression in adolescence and early adulthood, and later mental health, educational and economic outcomes. *The British Journal of Psychiatry*, 191, 335–342.
- Fortin, L., & Lessard, A. (2013). La prédiction du décrochage scolaire au secondaire: Analyse du cumul de facteurs de risque des décrocheurs [Predicting school dropout in high school: Risk factors accumulation analysis in school dropouts]. In G. Boudesseul (Ed.), *Du décrochage à la Réussite* (pp. 191–207). Le Havre, France: L'Harmattan.
- Fortin, L., Marcotte, D., Potvin, P., Royer, É., & Joly, J. (2006). Typology of students at risk of dropping out of school: Description by personal, family and school factors. *European Journal of Psychology of Education*, 21, 363–383.
- Fortin, L., & Potvin, P. (2007). *Logiciel de dépistage du décrochage scolaire* [School dropout screening software]. Québec, Canada: Société GRICS.
- Fortin, L., Royer, É., Potvin, P., Marcotte, D., & Yergeau, E. (2004). La prédiction du risque de décrochage scolaire au secondaire: Facteurs personnels, familiaux et scolaires [Prediction of risk for secondary school dropout: Personal, family and school factors]. *Revue Canadienne des Sciences du Comportement*, 36, 219–231.

- Gagné, M.-E., & Marcotte, D. (2010). Effet médiateur de l'expérience scolaire sur la relation entre la dépression et le risque de décrochage scolaire chez les adolescents vivant la transition primaire-secondaire [School experience as a mediator of the connection between depression and school dropout risk among adolescents going through high school transition]. *Revue de Psychoéducation*, 39, 27–44.
- Heppner, P. P., & Petersen, C. H. (1982). The development and implications of a personal problem-solving inventory. *Journal of Counseling Psychology*, 29, 66–75.
- Johnson, K., Young, L., Fostet, J. P., & Shamblen, S. R. (2006). Law enforcement training in Southeast Asia: A theory-driven evaluation. *Police Practice and Research*, 7, 195–215.
- Kutash, K., Duchnowski, A. J., & Lynn, N. (2009). The use of evidence-based instructional strategies in special education settings in secondary schools: Development, implementation and outcomes. *Teaching and Teacher Education*, 25, 917–923.
- Larson, K., & Rumberger, R. (1995). Doubling school success in highest-risk Latino youth: Results from a middle school intervention study. In R. F. Macias & R. Garcia Ramos (Eds.), *Changing schools for changing students* (pp. 157–179). Santa Barbara, CA: University of California at Santa Barbara.
- Lévesque, N., & Marcotte, D. (2009). Le modèle diathèse-stress de la dépression appliqué à une population d'adolescents [The diathesis-stress model of depression applied to an adolescent population]. *Revue Européenne de Psychologie*, 59, 177–185.
- Liem, J. H., Lustig, K., & Dillon, C. (2010). Depressive symptoms and life satisfaction among emerging adults: A comparison of high school dropouts and graduates. *Journal of Adult Development*, 17, 33–43.
- MacPhee, A., & Andrews, J. J. (2006). Risk factors for depression in early adolescence. *Adolescence*, 41(163), 435–466.
- Manning, A. R. (2009). Bridging the gap from availability to accessibility: Providing health and mental health services in schools. *Journal of Evidence-Based Social Work*, 6, 40–57.
- Marcotte, D. (2000). La prévention de la dépression chez les enfants et les adolescents [Depression prevention among children and adolescents]. In F. Vitaro & C. Gagnon (Eds.), *Prévention des problèmes d'adaptation chez les enfants et les adolescents* (Vol. 1, pp. 221–270). Sainte-Foy, Québec, Canada: Presses de l'Université du Québec.
- Marcotte, D. (2006). *Pare-Chocs, programme d'intervention auprès d'adolescents dépressifs* [Pare-Chocs, intervention program for adolescent depression] (User guide). Québec, Canada: Septembre éditeur.
- Marcotte, D., Fortin, L., Potvin, P., & Papillon, M. (2002). Gender differences in depressive symptoms during adolescence: Role of gender-typed characteristics, self-esteem, body image, stressful life events, and pubertal status. *Journal of Emotional and Behavioral Disorders*, 10, 29–43.
- Maydeu-Olivares, A., & D'Zurilla, T. J. (1997). The factor structure of the Problem Solving Inventory. *European Journal of Psychological Assessment*, 13, 206–215.
- Ministère de l'Éducation, du Loisir et du Sport. (2010). *Taux annuel de sorties sans diplôme ni qualification, parmi les sortants, en formation générale des jeunes, selon le sexe, par réseau d'enseignement et par commission scolaire, statistiques 2008-2009* [Annual rate of leaving without qualifications, among school leavers, in general education for youths, according to sex, by education network and school board]. Québec, Canada: Gouvernement du Québec.
- Moldenhauer, Z. (2004). *Adolescent depression: A primary care pilot intervention study* (Unpublished doctoral dissertation). University of Rochester School of Nursing, New York, NY.
- Muthén, B. O., & Muthén, L. K. (2007). *Mplus* (5th ed.). Los Angeles, CA : Authors.
- Olfson, M., Gameroff, M. J., Marcus, S. C., & Waslick, B. D. (2003). Outpatient treatment of child and adolescent depression in the United States. *Archives of General Psychiatry*, 60, 1236–1242.
- Poirier, M., Marcotte, D., & Joly, J. (2010). La dépression chez les adolescents: Une recension des programmes de prévention et d'intervention [Depression among adolescents: A review of prevention and intervention programs]. *Revue Francophone de Clinique Comportementale et Cognitive*, 15(4), 15–29.
- Poirier, M., Marcotte, D., Joly, J., & Fortin, L. (in press). Évaluation de la qualité de l'implantation du programme Pare-Chocs en contexte scolaire [Evaluation of the quality of the implementation of the Pare-Chocs program in school setting]. *Revue Pour la Recherche en Éducation*.
- Potvin, P. Doré-Côté, A., Fortin, L., Royer, É., Marcotte, D., & Leclerc, D. (2004). *Le questionnaire de dépistage des élèves à risque de décrochage au secondaire. Le DEMS* [Screening

- questionnaire for students at risk of school dropout]. Québec, Canada: Centre de transfert pour la réussite éducative du Québec.
- Power, M. J., Katz, R., McGuffin, P., Duggan, C. F., Lam, D., & Beck, A. T. (1994). The Dysfunctional Attitude Scale (DAS): A comparison of forms A and B and proposals for a new subscaled version. *Journal of Research in Personality, 28*, 263–276.
- Pevatt, F., & Kelly, F. D. (2003). Dropping out of school: A review of intervention programs. *Journal of School Psychology, 41*, 377–395.
- Radloff, L. S. (1977). A CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385–401.
- Renes, S. L., Ringwalt, C., Clark, H. K., & Hanley, S. (2007). Great minds don't always think alike: The challenges of conducting substance abuse prevention research in public schools. *Journal of Drug Education, 37*, 97–105.
- Reynolds, A. J. (2005). Confirmatory program evaluation: Applications to early childhood interventions. *Teachers College Record, 107*, 2401–2425.
- Rice, F., Lifford, K. J., Hollie, T., & Thapar, A. (2007). Mental health and functional outcomes of maternal and adolescent reports of adolescent depressive symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*, 1162–1170.
- Robles-Pina, R. A., DeFrance, E., & Cox, D. I. (2008). Self-concept, early childhood depression and school retention as predictors of adolescent depression in urban Hispanic adolescents. *School Psychology International, 29*, 426–441.
- Rumberger, R. W. (1995). Dropping out of middle school: A multilevel analysis of students and schools. *American Educational Research Journal, 32*, 583–625.
- Sheffield, J. K., Spence, S. H., Rapee, R. M., Kowalenko, N., Wignall, A., Davis, A., & McLoone, J. (2006). Evaluation of universal, indicated and combined cognitive-behavioral approaches to the prevention of depression among adolescents. *Journal of Consulting and Clinical Psychology, 74*, 66–79.
- Sinclair, M. F., Christenson, S. L., Evelo, D. L., & Hurley, C. M. (1998). Dropout prevention for youth with disabilities: Efficacy of a sustained school engagement procedure. *Exceptional Children, 65* (1), 7–22.
- Suh, S., Suh, J., & Houston, I. (2007). Predictors of categorical at-risk high school dropouts. *Journal of Counseling & Development, 85*, 196–203.
- TADS. (2007). The Treatment for Adolescents With Depression Study (TADS): Long-term effectiveness and safety outcomes. *Archives of General Psychiatry, 64*, 1132–1144.
- Thompson, E. A., Eggert, L. L., Randell, B. P., & Pike, K. C. (2001). Evaluation of indicated suicide risk prevention approaches for potential high school dropouts. *American Journal of Public Health, 91*, 742–752.
- Trampush, J. W., Miller, C. J., Newcorn, J. H., & Halperin, J. M. (2009). The impact of childhood ADHD on dropping out of high school in urban adolescents/young adults. *Journal of Attention Disorders, 13*, 127–136.
- Vander Stoep, A., Weiss, N. S., McKnight, B., Beresford, S. A. A., & Cohen, P. (2002). Which measure of adolescent psychiatric disorder – diagnosis, number of symptoms, or adaptive functioning – best predicts adverse young adult outcomes? *Journal of Epidemiology & Community Health, 56*, 56–65.
- Vander Stoep, A. V., Weiss, N. S., Saldanha, E., Cheney, D., & Cohen, P. (2003). What proportion of failure to complete secondary school in the US population is attributable to adolescent psychiatric disorder? *The Journal of Behavioral Health Services & Research, 30*, 119–124.
- Weissman, A., & Beck, A. T. (1978, March). *Development and validation of the Dysfunctional Attitude Scale*. Paper presented at the meeting of the Association for Advancement of Behavior Therapy, Chicago, IL.
- Weisz, J. R., & Jensen, A. L. (2001). Child and adolescent psychotherapy in research and practice contexts: Review of the evidence and suggestions for improving the field. *European Child & Adolescent Psychiatry, 10*, S12–S18.
- Weisz, J. R., McCarty, C. A., & Valeri, S. M. (2006). Effects of psychotherapy for depression in children and adolescents: A meta-analysis. *Psychological Bulletin, 132*, 132–149.