Who Benefits from Peer Support? Evidence from a School Anti-Drug Program

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Abstract

I reevaluate an anti-drug peer support program in Australia to examine whether the program, which has been found to have zero aggregate effects, has any heterogeneous effects. I find that the zero effect is actually comprised of two opposite effects: a beneficial impact on girls and detrimental effect on boys. I also find that the program benefits students coming from close-knit families but at a minimum has no effect on students who do not have a close relationship with their parents. These results suggest that program designers should be aware of the potential for significant heterogeneity and adverse impacts on population subgroups.

Keywords: anti-drug program, heterogenous effects, impact evaluation.

I. Introduction

Despite being designed to benefit every participant, some interventions inadvertently have heterogenous effects on the beneficiaries. Anderson (2008) reevaluates three early childhood intervention programs in the United States and finds that girls garnered substantial short and long-term benefits. In contrast, there is no significant long-term effect on boys. Using an index to pool a diverse set of outcomes that includes IQ, substance use, crime, and labour market outcomes, the programs have effects of 0.51 and 0.27 standard deviations for females as teenagers and adults respectively. For males, the effects are 0.08 and -0.05 standard deviations respectively as teenagers and adults.

In another example, Mason et al (2009) evaluate a youth substance use prevention program. They find that it reduces the rate of alcohol abuse among women by 10 percentage points, which is large given that the rate of alcohol abuse among females in the control group is 16 percent. In contrast, the program has no effect on men.

In some cases, interventions could even benefit one group while adversely affect another. Abadie, Angrist, and Imbens (2002) find that the Job Training Partnership Act program only affects men whose earning are already higher than three-quarters of participants. In contrast, the program positively affects female earning across the distribution. In proportional terms, however, the effect is larger at the lower tail of the earning distribution. This implies that the program equalizes the distribution of earning among females but pronounces earning inequality among males.

In evaluation a different program, Kling, Liebman, and Katz (2007) find that the Moving to Opportunity program, which offers housing vouchers to families living in poor public housing projects through a lottery, has a large positive effects on female teenagers' drug use but large and adverse effects on male teenagers. Among young females, the program basically eliminates marijuana use and reduces alcohol prevalence rate by three-quarters. Among young males, however, the program tripled the smoking rate of the treatment group relative to the control group.

In this paper, I reevaluate the effect of a school-based anti-drug peer support program in Australia, where 11th graders lead 7th graders in small-group activities that foster personal development. Similar to the findings of the previous impact evaluation of the program (Reilly, 1988), I find the program to have a small and statistically

insignificant effect on drug use of 7th grade students. However, I also find the aggregate zero impact is comprised of two opposite effects: a beneficial impact on girls and a detrimental effect on boys.

I organize the rest of the paper as follows. The next section discusses the antidrug program. The subsequent two sections compare drug-related behavior at treatment and control schools prior to the program and provide the effects of the program. Section V compares the quantitative results in this paper with a subjective impact evaluation of the program. The penultimate section compares drug use among group leaders compared with other 11th grade students after the program has ended. The final section concludes.

II. New South Wales Drug Peer Support Program

The program that I evaluate is the New South Wales (NSW) Peer Support Program, which was undertaken in the 1987 school year. It was funded by the NSW state government and the Australian government under their National Campaign Against Drug Abuse program. In this section, I describe the program activities, rationale and aims of the program, sampling design, and the survey instruments. I gather the information from Reilly (1988).

Program Activities

In this program, pairs of Year 11 students lead small groups of Year 7 students in activities directed towards self-awareness, communication, trust, and selfresponsibility. Prior to leading the small groups, the Year 11 students underwent a minimum of 12 hours of training by teachers, at a ratio of one teacher to ten students. In turn, the teachers who were qualified to give training are those who participated in a two-day training program given by the Peer Support Foundation and the Health Media and Education Centre in the previous year.

Aims

The program's main aims were to encourage students, both the 7th and 11th graders, to model healthy social life styles and to guide them away from drug and alcohol use. Specifically for the 7th graders, the additional aim of the program was to enable them to integrate more easily and feel more comfortable in the school environment. In addition, the program was designed to combat negative peer

pressures. For the group leaders, the program's additional aims were to give them leadership opportunities and to develop their sense of responsibility.

Sampling Design

Sampling began with a telephone survey of 203 NSW high schools, around onethird of high schools in the state, in 1986. Each school answered two key questions: if they had the peer support program in their school and if they intended to continue to have Peer Support in their school. Schools that answered 'yes' to both questions were then put on a list according to five school zones in Sydney and South Coast, while schools that answered 'no' to both questions were put on another list. Five schools were then randomly drawn from the 'yes' list, one from each school zone. These schools are the treatment schools. Five further schools were then randomly drawn from the 'no' list, one from each school zone, and were the control schools.

Instruments

There are two instruments used to evaluate the impact. The first was a student survey of 7^{th} graders, both in treatment and control schools, during the first week of the 1987 school year, before the students in treatment schools participated in the group activities. The survey was a self-completion questionnaire, which among others measures drug behavior and intentions, exposure to drugs, and drugs attitudes. The same questionnaire was administered again about six months into the year, after the students participated in the program. In addition, the same questionnaire was administered twice to the group leaders, first at the end of the 1986 school year, after they finished training, and the second about six months into the 1987 school year. The group leaders had been in 10^{th} grade when they underwent training.

The second instrument, meanwhile, consists of teacher interviews, participant observation, and a group leaders' questionnaire. Comparing these two instruments, the first is a direct measure of drug-related behavior among program participants, and the second is a subjective measure of the effectiveness of the program.

III. Baseline Balance

Based on the sampling design, it is clear that this program was not implemented as a randomized controlled trial. Instead, it compares the drug use of students in a random sample of treatment schools with students from a random sample of control schools. Therefore, the results are difference-in-difference estimators.

While a little short of the ideal, one can still learn something about the effectiveness of the program if drug use prevalence between control and treatment schools prior to the program is not significantly different. This would then mean the difference-in-difference estimator shows the difference in outcomes off the changes in students' drug use before and after the program.

Table 1 compares the difference between drug-related behavior among 7th grade students in treatment and control schools across nine outcomes before the peer support program began.

[TABLE 1 HERE]

The table shows that there is no statistically significant difference in the average behavior of students in treatment and control schools across the nine outcomes. This indicates that prior to the start of the peer support program, 7th graders in the treatment schools are just as likely to accept or use the three drugs as 7th graders in the control schools. In addition, they also have the same access to those drugs.

Examining the behavior by sex, meanwhile, I find generally similar results. Males and females in treatment schools have relatively the same drug-related behavior as their fellow students in control schools. The only exception is with regards to access to alcohol. The table shows that girls in treatment schools have on average 18.7 percentage points less access to alcohol compared to girls in control schools. I attempt to take the baseline difference with regards to this outcome when evaluating the impact of the program by controlling for baseline access to alcohol.

In summary, the students in treatment and control schools exhibit similar drugrelated behavior in all but one outcome prior to the start of the program. Therefore, any differences that I observe at the end of the program are likely to be the result of the program.

IV. The Effect of the Peer Support Program

Given that I largely fail to find any significant baseline differences in the drugrelated behavior of students in control and treatment schools, I estimate the effect of the peer support program by comparing drug-related behavior of the students after the program has ended.

Main Effects

The average program effects are shown in Table 2. I find that the program has small and statistically insignificant effects on the measures of drug-related behavior. The findings contrast the findings in the United States, which find structured group discussions that encourage peer interaction and develop life skills to be more successful drug-prevention programs (Elliott et al, 2005). However, the findings corroborate a review done by Guthrie and Flinchbaugh (2001).

[TABLE 2 HERE]

In her evaluation of this program, Reilly (1988) posits several explanations for the program's lack of effect. First, there was not enough time between the end of the program and the endline survey. Second, the group leaders were not sufficiently effective in leading the small group discussions. As I show in the next subsection, I find a different explanation for the program's lack of aggregate effect.

Gender Heterogeneity

In Table 3, I separate the students by their gender and estimate the effects of the program on each group. Looking at willingness to accept drugs, I find that the program increases boys' average willingness to accept cigarettes by 7.2 percentage points. Considering that the average willingness to accept cigarettes at control schools is only 4.1 percent—and only weakly statistically different from zero—the adverse effect is substantial. In contrast, I find that the willingness to accept cigarettes among girls in treatment schools is 6.8 percentage points lower than girls in control schools. This is a substantial benefit considering that the average willingness to accept in the control schools among girls is 10.1 percent.¹

[TABLE 3 HERE]

¹ An example of how to read the results is as follows. From the top left box in Table 3, the average willingness to pay of girls in control schools is 0.041 + 0.060 = 0.101. Meanwhile, the average willingness to pay among girls in treatment schools is 0.072 - 0.140 = 0.068.

I also find gender heterogeneity in the willingness to accept marijuana and alcohol. While the program has no statistically significant effect on boys, it reduces girls' willingness to accept marijuana to practically zero and cuts their willingness to accept alcohol by almost half compared to the control group.

Looking at other drug-related behavior, I find that the program has a positive and relatively large association in all outcomes among boys, although the effect is not statistically significant. An exception is a weakly significant effect on cigarette use, where the smoking rate of boys in treatment schools is 3.1 percentage points higher than the smoking rate of boys in control schools. In proportionate terms, the smoking rate of boys in treatment schools is four times as high.

For girls, meanwhile, I find that the effect of the peer support program is also statistically insignificant on most other outcomes, although showing a negative sign. The exceptions are relatively small effects on access to cigarettes and alcohol. Effect on the former is a 7.3-percentage point benefit from a base of 56.5 percent, while it is 1.1 percentage points lower access compared to 42.8 percent base on the latter. Finally, I find that the program reduces girls' smoking rate by 5.1 percentage points. This is a substantial effect given that the smoking rate of girls in control schools is 6.2 percent.

In summary, I find that the aggregate zero effect of the program masks substantial gender heterogeneities. Separating the analysis by gender, I find that the program adversely affects boys and benefits girls. Considering the size of the impact on girls, I find the program to be quite effective. Echoing Guthrie and Flinchbaugh (2001), there is possibly a need to tailor anti-drug programs according to the gender of the recipients. In this case, it is possibly important to design a program tailored for boys.

V. Comparison with Subjective Impact Evaluation

In addition to employing a self-completed survey of drug-related behavior, the program also collected subjective answers from group leaders and teachers with regards to the success of the program. Different from other social scientists, economists are usually reluctant to rely on subjective answers, especially using them as dependent variables, mainly because there could be a plethora of biases in subjective responses (Bertrand and Mullainathan, 2001). In this context, it is likely

that the group leaders would opine that the program is successful in order to avoid looking bad. This is also true for the teachers, who trained the group leaders.

Having said the above, it is of interest to compare the results of the quantitative impact evaluation in the previous section with the qualitative impact evaluation that relies on the subjective answers. To my knowledge, there are not many interventions whose effectiveness is measured using both quantitative and qualitative evaluations. Since I have no access to the subjective answers, I summarize them based on Reilly (1988).

In summary, the group leaders felt that the leading the group was a positive and constructive exercise. Eight out of 10 felt that they had been properly trained. With regards to results, only 13 percent of group leaders felt that there was no change in attitude towards drugs, while 41 percent reported that the students in their group became more anti-drug and 10 percent felt that the program increased the students' awareness towards drugs. The teachers and principals, meanwhile, were generally positive toward the program. Almost all cited that positive changes in their respective school are mostly attributable to the program. As a final note, none of the questions asked the respondents to consider heterogeneous effects.

Considering the contrasting results of the two evaluation methods, it is not surprising to find that the subjective answers showed favorable effects of the program. Therefore, it is perhaps better to employ quantitative methods to measure the actual effectiveness of a program. Nonetheless, it is important to note that subjective answers could still be useful in explaining in richer detail the reasons behind a program's success or lack of thereof.

VI. Program Effects on Group Leaders

In addition to collecting drug-related behavior of 7th grade students, the survey also collected the behavior of the group leaders in treatment schools and of the 11th grade students in the control schools. In this section, I compare the behavior of the group leaders with their counterparts in control schools to see if the experiences of receiving training and leading small groups affect their drug-related behavior. Granted, while any effect that I observe could be attributed to the program, its policy implications are unclear as it is unfeasible to recommend that all 11th grade students undertake training or lead small groups. Having said that, one of the explicit aims of the program is to model healthy social life styles and to guide the students away from

drug and alcohol use, both the 7th and the 11th graders. In addition, I have a second aspect of heterogeneity for these students, as the survey asked about the students' relationship with their father, which I use as a proxy for family closeness.

A potential confounding factor in this exercise lies in the fact that it is plausible that students who are chosen to be group leaders already have a different drug-related behavior compared to an average 11th grade student prior to the start of the program. As an example, it is likely that the teachers chose well-behaved students as group leaders. Indeed, as shown in Table 4, the differences between group leaders in treatment schools and 11th graders in control schools with regards to drug-related behavior are statistically significant for some groups in five of the nine outcomes I measure. The surprise is that opposite to my priors, group leaders actually exhibit significantly worse drug-related behavior than their counterparts in control schools, with the exception of group leaders who come from close-knit families.

[TABLE 4 HERE]

Given that there are significant baseline imbalances, I control for the baseline condition when estimating the effect of the program on these behaviors. It ensures that any differences I observe after the program has ended are attributable to the program. The results are shown in Tables 5A to 5C. As shown in the tables, the program has no significant main effects. Therefore, I examine whether it has heterogeneous effects along two lines: gender and family closeness.

Starting with cigarette-related behavior in Table 5A, I find that the program slightly reduces girls' willingness to accept cigarette by 1.1 percentage points. This effect is small, however, relative to the mean willingness to accept cigarettes of 32.2 percent among girls in the control schools. Similarly, the program slightly reduces willingness to accept cigarette among students from close-knit families by 1.4 percentage points. This is also a small effect. Meanwhile, the program has no significant effect on either access to or current usage of cigarettes.

[TABLES 5A, 5B, 5C HERE]

Moving onto Table 5B, I find that students from close-knit families accrue a small benefit from the program with regards to willingness to accept marijuana.

Compared to students with a similar background in the control group, the group leaders essentially have 1.1 percentage points lower marijuana acceptance rate. The program appears to have no significant effects on other marijuana-related behaviors.

Finally, Table 5C shows the program effect on alcohol-related behavior. Similar to the case in marijuana, I find that group leaders coming from close-knit families have 5.8-percentage point lower alcohol acceptance rate than their corresponding control group. Since alcohol acceptance rate among the control group is 28.2 percent, the program has quite a substantial effect. In addition to reducing willingness to accept alcohol, the results suggest that the program is also successful at slightly reducing girls' access to alcohol. In contrast, the program appears to increase boys' access to alcohol by 9.9 percentage points.

In summary, the program appears to have zero aggregate effect on the drugrelated behavior of the group leaders. Delving into two aspects of heterogeneity, however, I find that the program benefits females while adversely affecting males with regards to access to alcohol. Furthermore, I find that the program reduces willingness to accept drugs among students from close-knit families, while having no effect on students who have no ex-ante good relationships with their parents. This is in accordance to studies in the literature that document the importance of family factors on children's drug use (DeGarmo et al, 2009; Hung et al, 2009; Mason et al, 2009).

VII. Conclusion

Motivated by studies that unearth heterogeneous effects in programs that seemingly have zero average effects, I revisit an anti-drug peer support program in Australia. Measuring the program's effect separately by gender, I find that 7th grade girls substantially benefit from the program in the form of a reduced willingness to accept cigarettes, marijuana, and alcohol. In addition, the program also slightly reduces girls' access to cigarette and alcohol, and reduces their smoking prevalence. In contrast, I find that the program adversely affects boys in the form of higher willingness to accept cigarettes. I also find weak evidence that the program increases the smoking rate among boys. Aligning the findings with other drug prevention programs, which mostly find favorable effects on girls but zero or adverse effects on boys (DeGarmo et al, 2009; Mason et al, 2009), it appears that interventions that could improve drug-related behavior among boys are still elusive.

Looking at how the program affects the group leaders, meanwhile, I also find zero aggregate effects but substantial heterogeneous effects. The program appears to benefit group leaders who had a good relationship with their parents, as it slightly reduces their willingness to accept all three drugs. In contrast, the program has no effect on other groups of students with the exception of reducing access to alcohol among girls while simultaneously increasing boys' access to alcohol.

Beyond the confines of anti-drug program evaluations, I have two suggestions for the impact evaluation literature in general. Firstly, program evaluators should consider the heterogeneous effects of a program. This is especially important when the program has the potential to adversely affect a certain group, which is what I find in this paper.

Secondly, I also compare the quantitative findings with a qualitative evaluation that relies on subjective answers. Opposite from the findings in this paper, the qualitative evaluation shows a positive general impact of the program. While I believe that qualitative impact evaluation still has an important role to play, the findings corroborate others in the literature regarding the possible pitfalls of relying on qualitative research to measure the extent of a program's success. Instead, I believe qualitative evaluation's largest potential for contribution is in disentangling the channels through which a program affects outcomes, not its success.

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Dependent Variable:	Would accept a cigare	ette offer = 1	Dependent Variable: Access to cigarette is easy = 1			Dependent Variable: Currently smokes = 1			
	Mean Difference	Sex Heterogeneity		Mean Difference	Sex Heterogeneity		Mean Difference	Sex Heterogeneity	
Treatment = 1	-0.018	0.016	Treatment = 1	-0.029	0.032	Treatment $= 1$	-0.002	0.043	
	(0.014)	(0.021)		(0.035)	(0.065)		(0.023)	(0.050)	
Female =1		0.035	Female =1		-0.007	Female =1		-0.026	
		(0.040)			(0.072)			(0.061)	
Treatment x Female		-0.065	Treatment x Female		-0.124	Treatment x Female		-0.091	
		(0.044)			(0.074)			(0.068)	
MC	0.047***	0.028*	MC	0.413***	0.416***	MC	0.168***	0.181***	
	(0.013)	(0.014)		(0.034)	(0.064)		(0.015)	(0.042)	
Dependent Variable:	Would accept a marij	uana offer = 1	Dependent Variable	Access to marijuan	a is easy = 1	Dependent Variable: Currently uses marijuana = 1			
	Mean Difference	Sex Heterogeneity		Mean Difference	Sex Heterogeneity		Mean Difference	Sex Heterogeneity	
Treatment = 1	-0.010	0.008	Treatment = 1	0.019	0.042	Treatment $= 1$	0.003	0.008	
	(0.009)	(0.005)		(0.020)	(0.030)		(0.003)	(0.005)	
Female =1		0.025*	Female =1		-0.020	Female =1		0.003	
		(0.014)			(0.014)			(0.003)	
Treatment x Female		-0.033*	Treatment x Female		-0.048	Treatment x Female		-0.011*	
		(0.015)			(0.028)			(0.006)	
MC	0.017*	0.004	MC	0.060***	0.071***	MC	0.002	0.000	
	(0.009)	(0.003)		(0.008)	(0.014)		(0.002)	(0.000)	
Dependent Variable:	Would accept an alco	hol offer = 1	Dependent Variable	Access to alcohol is	easy = 1	Dependent Variable:	Currently drinks al	cohol = 1	
	Mean Difference	Sex Heterogeneity		Mean Difference	Sex Heterogeneity		Mean Difference	Sex Heterogeneity	
Treatment $= 1$	-0.003	0.032	Treatment $= 1$	0.024	0.118*	Treatment $= 1$	0.002	0.011	
	(0.013)	(0.022)		(0.041)	(0.053)		(0.009)	(0.011)	
Female =1		0.010	Female =1		0.034	Female =1		0.002	
		(0.031)			(0.032)			(0.008)	
Treatment x Female		-0.070*	Treatment x Female		-0.187***	Treatment x Female		-0.018	
		(0.037)			(0.041)			(0.012)	
МС	0.062***	0.057***	MC	0.324***	0.306***	МС	0.015*	0.014	

-	MC	Program Effect	Ν
Would accept the following = 1		6	
Cigarette	0.072***	0.002	1312
C	(0.015)	(0.019)	
Marijuana	0.020***	0.005	1312
· ·	(0.005)	(0.013)	
Alcohol	0.097***	0.005	1312
	(0.017)	(0.025)	
Access to the following is easy = 1			
Cigarette	0.557***	0.006	1312
	(0.037)	(0.044)	
Marijuana	0.092***	0.015	1312
	(0.020)	(0.027)	
Alcohol	0.423***	0.046	1312
	(0.053)	(0.063)	
Currently uses the following = 1			
Cigarette	0.037**	-0.010	1312
	(0.016)	(0.017)	
Marijuana	0.013**	-0.002	1312
	(0.005)	(0.009)	
Alcohol	0.166***	-0.005	1312
	(0.025)	(0.033)	

Note: * 10% significance, ** 5% significance, *** 1% significance; robust standard errors are in parentheses and clustered at the school level; regressions done using Ordinary Least Squares; MC is the mean of control group

Dependent Variable: Would accept a cigarette offer		Dependent Variable: Access	to cigarette is easy	Dependent Variable: Currently smokes		
MC for males	0.041*	MC for males	0.548***	MC for males	0.010	
	(0.019)		(0.056)		(0.006)	
Additional MC for females	0.060	Additional MC for females	0.017	Additional MC for females	0.052	
	(0.036)		(0.057)		(0.030)	
Program effect for males	0.072**	Program effect for males	0.083	Program effect for males	0.031*	
	(0.023)		(0.063)		(0.014)	
Additional program effect for females	-0.140***	Additional program effect for females	-0.156**	Additional program effect for females	-0.082**	
	(0.038)		(0.061)		(0.034)	
Ν	1312	N	1312	Ν	1312	
Dependent Variable: W	ould accept a	Dependent Variable: Acces	s to marijuana is	Dependent Variable: Curre	ently uses	
MC for males	0.01/**	MC for males	0 107***	MC for males	0.01/**	
WC for mates	(0.005)	NIC IOI mates	(0.026)	WC for males	(0.005)	
Additional MC for formation	(0.003)	Additional MC for formalia	(0.020)	Additional MC for formalia	(0.003)	
Additional MC for females	0.012****	Additional MC for females	-0.028	Additional MC for females	-0.001	
D 00 0 1	(0.003)		(0.035)	D 00 1	(0.005)	
Program effect for males	0.031	Program effect for males	0.057	Program effect for males	0.008	
Additional program affect	(0.021)	Additional program offect	(0.049)	Additional program affact for	(0.015)	
for females	-0.051**	for females	-0.084	females	-0.021	
	(0.018)		(0.064)		(0.015)	
Ν	1312	Ν	1312	Ν	1312	
Dependent Variable: Would	accept an alcohol	Donondont Variable: Access	to alcohol is oasy	Dependent Variable: Currently drinks		
MC for males	0.083**	MC for males	0 417***	MC for males	0 107***	
WC for mates	(0.032)	NIC IOI mates	(0.071)	WC for males	(0.042)	
	(0.032)		(0.071)		(0.043)	
Additional MC for females	0.028	Additional MC for females	0.011	Additional MC for females	-0.059	
D 00 1 1	(0.031)	D 00 1 1	(0.037)	D 00 / 0 1	(0.046)	
Program effect for males	0.075	Program effect for males	0.104	Program effect for males	0.011	
Additional program affect	(0.045)	Additional program effect	(0.081)	Additional program affect for	(0.053)	
for females	-0.141**	for females	-0.115**	females	-0.036	
	(0.044)		(0.047)		(0.051)	
Ν	1312	Ν	1312	Ν	1312	

Table 3. Impact of the Peer Support Program on 7th Grade Students, by gender

Note: * 10% significance, ** 5% significance, *** 1% significance; robust standard errors are in parentheses and clustered at the school level; regressions done using Ordinary Least Squares; MC is the mean of control group; estimation on access to alcohol controls for access to alcohol at baseline

Dependent Variable: Would	accept a cigar	ette offer	Dependent Variable: Ac	cess to cigare	tte is easy	Dependent Variable: C	urrently smoke	s	
	1 8	By Sex &		8	By Sex &		·	By Sex &	
	Mean	Family		Mean	Family		Mean	Family	
	Difference	Relationship		Difference	Relationship		Difference	Relationship	
Treatment $= 1$	-0.019	0.074	Treatment $= 1$	0.065**	0.075*	Treatment $= 1$	0.025	0.116**	
	(0.055)	(0.059)		(0.023)	(0.034)		(0.055)	(0.050)	
Female =1		0.194***	Female =1		-0.022	Female =1		0.126***	
		(0.038)			(0.034)			(0.037)	
Treatment x Female		-0.111	Treatment x Female		-0.025	Treatment x Female		-0.073	
		(0.064)			(0.046)			(0.063)	
Close-knit family = 1		0.009	Close-knit family = 1		-0.035*	Close-knit family = 1		0.051	
		(0.040)			(0.018)			(0.043)	
Treatment x Close-knit		-0.099	Treatment x Close-knit		0.013	Treatment x Close-knit		-0.168***	
		(0.055)			(0.029)			(0.050)	
MC	0.232***	0.121**	MC	0.898***	0.920***	MC	0.167***	0.082*	
Dependent Variable: Would	pendent Variable: Would accept a marijuana offer Do			Dependent Variable: Access to marijuana is easy			Dependent Variable: Currently uses marijuana		
		By Sex &			By Sex &			By Sex &	
	Mean	Family		Mean	Family		Mean	Family	
	Difference	Relationship		Difference	Relationship		Difference	Relationship	
Treatment $= 1$	0.012	0.087	Treatment $= 1$	0.032	0.070	Treatment $= 1$	0.047*	0.140**	
	(0.032)	(0.061)		(0.054)	(0.081)		(0.023)	(0.049)	
Female =1		0.030	Female =1		-0.201***	Female =1		0.011	
		(0.047)			(0.050)			(0.024)	
Treatment x Female		-0.129*	Treatment x Female		-0.053	Treatment x Female		-0.126**	
		(0.069)			(0.100)			(0.053)	
Close-knit family = 1		-0.084*	Close-knit family = 1		-0.079	Close-knit family = 1		0.010	
		(0.037)			(0.043)			(0.026)	
Treatment x Close-knit		-0.009	Treatment x Close-knit		-0.043	Treatment x Close-knit		-0.085*	
		(0.059)			(0.048)			(0.042)	
MC	0.140***	0.146**	MC	0.468***	0.602***	MC	0.044**	0.035*	

Table 4. Drug-related Behavior of 11th Grade Students at Baseline

		1 auto 4. L	rug-related Dellavior of Tru	Grade Studen	is at Dasenne (co	intiliucu)		
Dependent Variable: Would	accept an alco	hol offer	Dependent Variable: Access to alcohol is easy			Dependent Variable: Currently drinks alcohol		
	Mean Difference	By Sex & Family Relationship		Mean Difference	By Sex & Family Relationship		Mean Difference	By Sex & Family Relationship
Treatment $= 1$	-0.012	0.129	Treatment $= 1$	0.066	0.147**	Treatment $= 1$	0.058	0.197**
	(0.072)	(0.079)		(0.038)	(0.062)		(0.063)	(0.081)
Female =1		0.006	Female =1		0.047	Female =1		0.033
		(0.069)			(0.059)			(0.033)
Treatment x Female		-0.098	Treatment x Female		-0.115	Treatment x Female		-0.175**
		(0.084)			(0.074)			(0.057)
Close-knit family = 1		-0.034	Close-knit family = 1		-0.041	Close-knit family = 1		-0.059
		(0.033)			(0.027)			(0.062)
Treatment x Close-knit		-0.297***	Treatment x Close-knit		-0.061	Treatment x Close-knit		-0.146
		(0.039)			(0.059)			(0.121)
MC	0.526***	0.532***	MC	0.836***	0.821***	MC	0.597***	0.595***
Note: * 10% significance, **	5% significance	e, *** 1% signific	ance; robust standard errors a	are clustered at	the school level;	regressions done using Ordi	nary Least Squa	res; MC is mean
of the control group.								

Table 4. Drug-related Behavior of 11th Grade Students at Baseline (continued)

Dependent Variable: Would accept a cigarette offer			Dependent Variable:	Dependent Variable: Access to cigarette is easy			Dependent Variable: Currently smokes		
	Mean Effect	Sex & Family Relationship		Mean Effect	Sex & Family Relationship		Mean Effect	Sex & Family Relationship	
MC	0.249***	0.171**	MC	0.620***	0.611***	MC	0.125**	0.108	
	(0.044)	(0.058)		(0.091)	(0.072)		(0.050)	(0.063)	
Additional MC for females		0.151***	Additional MC for females		0.014	Additional MC for females		0.031	
		(0.044)			(0.033)			(0.061)	
Additional MC for close-			Additional MC for close-			Additional MC for close-			
knit family		-0.022	knit family		0.008	knit family		0.001	
		(0.029)			(0.032)			(0.040)	
Program effect	0.008	0.133*	Program effect	-0.036	0.007	Program effect	-0.001	0.041	
	(0.048)	(0.059)		(0.025)	(0.031)		(0.048)	(0.066)	
Additional effect for			Additional effect for			Additional effect for			
females		-0.144**	females		-0.026	females		-0.043	
		(0.058)			(0.041)			(0.060)	
Additional effect for close-			Additional effect for close-			Additional effect for close-			
knit family		-0.147***	knit family		-0.099*	knit family		-0.060	
		(0.034)			(0.045)			(0.046)	
N	589	589	N	589	589	N	589	589	

Table 5A. Impact of the Peer Support Program on 11th Grade Students, by gender and family relationship

Note: * 10% significance, ** 5% significance, *** 1% significance; robust standard errors are in parentheses and clustered at the school level; regressions done using Ordinary Least Squares; MC is the mean of control group; estimations on access to and current use of cigarette control for each respective baseline conditions.

Dependent Variable: Would accept a marijuana offer			Dependent Variable: Access to marijuana is easy			Dependent Variable: Currently uses marijuana		
	Mean Effect	Sex & Family Relationship		Mean Effect	Sex & Family Relationship		Mean Effect	Sex & Family Relationship
MC	0.171***	0.205**	MC	0.536***	0.576***	MC	0.102***	0.149***
	(0.040)	(0.069)		(0.056)	(0.076)		(0.016)	(0.043)
Additional MC for females		-0.035	Additional MC for females		-0.090	Additional MC for females		-0.064
		(0.058)			(0.054)			(0.053)
Additional MC for close-			Additional MC for close-			Additional MC for close-		
knit family		-0.052**	knit family		0.037	knit family		-0.036***
		(0.016)			(0.070)			(0.011)
Program effect	0.052	0.152	Program effect	0.038	0.149	Program effect	0.001	0.041
	(0.056)	(0.089)		(0.071)	(0.091)		(0.027)	(0.050)
Additional effect for			Additional effect for			Additional effect for		
females		-0.097	females		-0.103	females		-0.041
		(0.076)			(0.086)			(0.059)
Additional effect for close-			Additional effect for close-			Additional effect for close-		
knit family		-0.163**	knit family		-0.199*	knit family		-0.061
		(0.051)			(0.093)			(0.041)
N	589	589	Ν	589	589	Ν	589	589
Note: * 10% significance **	5% significar	nce *** 1% signific	ance: robust standard errors are i	n narentheses	and clustered at the s	chool level: regressions done usir	o Ordinary Le	ast Squares: MC is

 Table 5B. Impact of the Peer Support Program on 11th Grade Students, by gender and family relationship

Note: * 10% significance, ** 5% significance, *** 1% significance; robust standard errors are in parentheses and clustered at the school level; regressions done using Ordinary Least Squares; MC is the mean of control group; estimation on current marijuana use controls for the baseline condition.

Dependent Variable: Would accept an alcohol offer			Dependent Variable:	Access to alco	hol is easy	Dependent Variable: Currently drinks alcohol		
	Mean Effect	Sex & Family Relationship		Mean Effect	Sex & Family Relationship		Mean Effect	Sex & Family Relationship
MC	0.221***	0.229***	MC	0.881***	0.850***	MC	0.334***	0.323***
	(0.052)	(0.065)		(0.024)	(0.015)		(0.044)	(0.056)
Additional MC for females		-0.031	Additional MC for females		0.062*	Additional MC for females		-0.007
		(0.036)			(0.030)			(0.057)
Additional MC for close-			Additional MC for close-			Additional MC for close-		
knit family		0.053*	knit family		-0.013	knit family		0.057
		(0.026)			(0.020)			(0.056)
Program effect	0.045	0.078	Program effect	0.018	0.099***	Program effect	0.074	0.075
	(0.043)	(0.059)		(0.033)	(0.022)		(0.047)	(0.072)
Additional effect for			Additional effect for			Additional effect for		
females		0.010	females		-0.106**	females		0.066
		(0.075)			(0.039)			(0.071)
Additional effect for close-			Additional effect for close-			Additional effect for close-		
knit family		-0.136**	knit family		-0.078	knit family		-0.127
		(0.053)			(0.060)			(0.091)
N	589	589	Ν	589	589	Ν	589	589

Table 5C. Impact of the Peer Support Program on 11th Grade Students, by gender and family r

Note: * 10% significance, ** 5% significance, *** 1% significance; robust standard errors are in parentheses and clustered at the school level; regressions done using Ordinary Least Squares; MC is the mean of control group; estimations on access to and current use of alcohol control for each respective baseline conditions.