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Impact of a Drug Use Prevention Program:
An Empirical Assessment

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Abstract

We examined a drug use prevention program offering outreach services and leisure time activities to junior high school aged, inner city youth living in environments considered to be at high risk for drug abuse. The prevention program, offered through community centers, targeted youngsters from nearby neighborhoods referred to the program by school personnel, parents or other relatives, or directly recruited by street outreach workers. Longitudinal panel data from program and control subjects were compared to determine changes in behavior and attitude affected by the prevention program. Assessments of impact include changes in drug use, drug use attitude, self attributes, peer characterization, and other dimensions.

Introduction

This paper reports findings from an empirical assessment of the impact of a drug prevention program offering outreach services and leisure time activities to junior high school aged, inner city youth living in environments considered to be at high risk for drug abuse. The "YouthNet" program operates as a partnership involving neighborhood community centers and the school district. This program provides outreach, counseling and alternative activities for participants. During the school year YouthNet outreach workers and counselors work with junior high school youth to assist the child (and family when appropriate) in getting help toward improving the child's school participation and performance (e.g., tutoring, formal counseling, obtaining clothing or food, receipt of medical care). Additionally, YouthNet sponsors extracurricular drug-free activities in schools. Four middle schools are paired

with a neighborhood center to develop and offer a program of extracurricular activities (e.g., after school athletics, arts, clubs) for the general student body. During the summer YouthNet outreach workers locate youth who are "hanging out" and steer them to structured activities at the community centers in their neighborhoods.

Methods

Our assessment of the YouthNet program focused on identifying the impact of this program on several dimensions believed related to drug use and abuse. It was assumed that youths' involvement in YouthNet activities would result in improved functioning in several areas. We defined and targeted for assessment outcome and impact variables based on stated objectives from the YouthNet program. The variables examined describe four areas of functioning which include 1) drug use, attitude and knowledge (e.g., lifetime and past 30 day use; perceived pleasure, harm, disapproval of use; perceived availability of and offers to use drugs), 2) peer relations (e.g., characterization of peers), 3) self attributes (e.g., self esteem, civic and social responsibility), and 4) school behavior (e.g., drop out anticipation, absentee pattern).

Where practical, we employed measures widely used within adolescent populations. For example, we patterned assessments of drug use and attitudes after those used in the national High School

Senior Survey, and we assessed self esteem with a modified version of the Piers-Harris Children's Self-Concept Scale. Other elements were measured by scales, indexes, and items specifically developed to meet the needs of this evaluation (e.g., anger control, assertiveness, civic responsibility, social responsibility, peer characterization).

The study employed a longitudinal panel design with data collected at two points in time; i.e., an initial interview and a followup interview six to eight weeks later. Subjects included participants actively involved in the program at the times of data collection, and a control group which had not participated in the program. Program subjects were selected from a list of participants provided by the YouthNet staff, and control subjects were chosen from lists of students provided by schools participating in the study. All subjects were personally interviewed by evaluation staff.

We collected data from 100 subjects. "Program Subjects" (n=52) were those participating in a YouthNet after school activity program at one school, and youth who had been working with outreach workers at two neighborhood community centers. "Control Subjects" (n=48) were from two schools which did not receive the after school activity program, and who had not participated in the YouthNet outreach worker program.

We compared data from T_1 and T_2 to determine changes in response patterns which suggest impact from the prevention program.

Preliminary analyses identified those variables for which 10% or more of both the program or control subjects changed their position from T_1 to T_2 . Subjects who changed positions were then compared on these variables by assessing the characteristic pattern of movement over time. For many of the variables the small number of subjects changing positions (typically from 5 to 10 subjects per group) precluded the use of statistical tests for differences. In these instances we have provided descriptive assessments which examine the proportion of those changing to particular positions within each group (e.g., of those program and control subjects who changed in reference to "wrong to use beer," the proportions changing from "yes to no" and "no to yes"). A difference of 10% or more was considered to reflect substantial differences between program and control groups.

Findings

Drug Use, Attitude and Knowledge

Preliminary analyses of T_1 and T_2 data indicated that fewer than 10% of both program and control subjects changed their pattern

of recent (last 30 days) drug use and feelings about drug use providing "pleasure" for any of the substances examined. Thus program and control subjects did not differ on these dimensions, with both groups typically reporting no recent use of substances, and no feeling that drug use would be pleasurable.

TABLE 1
Changes in Attitude and Knowledge Positions T₁ to T₂
Kansas City YouthNet

Proportion of Subjects Who Changed Positions

	<u>Control S's</u>	<u>Program S's</u>
<u>Attitude:</u>		
Wrong to Use -		
Beer:		
Yes to No	64%	29%
No to Yes	36%	71%
Wine:		
Yes to No	54%	64%
No to Yes	46%	36%
Liquor:		
Yes to No	71%	50%
No to Yes	29%	50%
Cigarettes:		
Yes to No	73%	57%
No to Yes	27%	43%
Harm from Use -		
Beer:		
Yes to No	78%	86%
No to Yes	22%	14%
Wine:		
Yes to No	63%	22%
No to Yes	37%	78%
Liquor:		
Yes to No	40%	50%
No to Yes	60%	50%
Cigarettes:		
Yes to No	50%	57%
No to Yes	50%	43%
Future Use -		
Wine:		
Yes to No	50%	100%
No to Yes	50%	0

TABLE 1 (continued)
 Changes in Attitude and Knowledge Positions T₁ to T₂
 Kansas City YouthNet

Proportion of Subjects Who Changed Positions

	<u>Control S's</u>	<u>Program S's</u>
Stop Friends Use -		
Beer:		
Yes to No	83%	67%
No to Yes	17%	33%
Cigarettes:		
Yes to No	71%	56%
No to Yes	29%	44%
Friends Disapprove of Use -		
Beer:		
Yes to No	60%	38%
No to Yes	40%	63%
Wine:		
Yes to No	78%	67%
No to Yes	22%	33%
Liquor:		
Yes to No	71%	75%
No to Yes	29%	25%
Cigarettes:		
Yes to No	50%	43%
No to Yes	50%	57%
<u>Knowledge:</u>		
Hard to Get -		
Beer:		
Yes to No	56%	56%
No to Yes	44%	44%
Wine:		
Yes to No	64%	44%
No to Yes	36%	56%
Liquor:		
Yes to No	45%	38%
No to Yes	55%	63%
Cigarettes:		
Yes to No	47%	63%
No to Yes	53%	38%

TABLE 1 (continued)
 Changes in Attitude and Knowledge Positions T₁ to T₂
 Kansas City YouthNet

Proportion of Subjects Who Changed Positions

	<u>Control S's</u>	<u>Program S's</u>
Marijuana:		
Yes to No	58%	57%
No to Yes	42%	43%
Cocaine:		
Yes to No	46%	43%
No to Yes	54%	57%
Crack:		
Yes to No	46%	38%
No to Yes	54%	63%
Other Drugs:		
Yes to No	47%	44%
No to Yes	53%	56%
Directly Offered -		
Beer:		
Yes to No	93%	83%
No to Yes	7%	17%
Wine:		
Yes to No	90%	50%
No to Yes	10%	50%
Liquor:		
Yes to No	67%	43%
No to Yes	33%	57%
Cigarettes:		
Yes to No	83%	80%
No to Yes	17%	20%

Assessment of changes for drug use attitude variables, other than the "pleasure" element, did suggest some impact from the prevention program (Table 1). We found a program effect for the perceived wrongfulness element ("wrong to use) in reference to several substances. Here, program subjects changed to a position of viewing personal use of drugs as wrong. Greater proportions of program than control subjects moved from a "no to yes" position on

questions whether they felt it wrong to use beer (71%, 36%, respectively), liquor (50%, 29%), and cigarettes (43%, 27%).

The program had minimal and mixed effect on the perceived "harm" element. While greater proportions of program than control subjects moved from "no to yes" in reference to wine (78%, 37%), fewer program subjects moved in this direction in reference to liquor (50%, 60%).

The program also had some effect on the anticipated "future use" element in reference to wine. Of those program subjects who changed on this dimension all changed from "yes to no" (100%), but only half (50%) the control subjects changed to a position of not anticipating future use of wine.

On the question whether subjects would attempt to "stop friends' use" of substances, we found program effects in reference to two substances. Greater proportions of program than control subjects moved from "no to yes" positions in reference to beer (33%, 17%), and cigarettes (44%, 29%).

We also found program effects for perceived "friends' disapproval of [subjects' own] use." Greater proportions of program than control subjects moved from "no to yes" positions in reference to beer (63%, 40%), and wine (33%, 22%).

Overall, assessment of changes from T_1 to T_2 indicated the program had an impact on participants' attitudes toward drug use. This effect was manifested primarily in reference to legal drugs. The general pattern suggests that, over time, program subjects came

to perceive personal use of drugs as wrong, not to anticipate future use of drugs, to feel they would try to stop a friend from using substances, and to perceive that their close friends would disapprove of their using substances.

Changes from T_1 to T_2 for drug knowledge were also examined. Assessments here considered movement regarding opportunity or risk factors over time. The variables examined (i.e., whether drugs were "hard to get" and had been "directly offered" to subjects) are environmental elements beyond the reach of the prevention program. Thus, these assessments do not serve as measures of effectiveness of the program, but rather as indications of the continued presence of risk elements and need for the program. Making subjects if they feel various drugs would be "hard to get" assesses whether they perceive it as relatively "easy" (i.e., a "no" response) or "difficult" (i.e., a "yes" response) for them to obtain drugs should they desire. Comparison of changes in responses from T_1 to T_2 allows assessment of whether subjects perceived it "easier" (i.e., move from a "yes to no" response) or "harder" (i.e., move from a "no to yes" response) to obtain drugs over time.

Results showed little difference between program and control subjects in the patterns of change for perceived availability of drugs. Substantial proportionate differences were witnessed only in reference to wine and cigarettes, where more program than control subjects came to perceive wine as "harder" to obtain (56%, 36%), and perceived cigarettes as "easier" to obtain (63%, 47%).

Response patterns indicated that the majority of both program and control subjects who changed their positions were perceiving hard drugs (cocaine, crack, other drugs) and liquor as "harder" to obtain over time. This suggests some reduction in the risk factor for use of these drugs, most likely the result of global drug prevention efforts (e.g., increased community awareness, education programs, media attention focused on hard drugs). Because the majority of both groups came to perceive beer and marijuana as "easier" to obtain over time, however, the groups appeared to remain at risk for use of these substances. Additionally, while program subjects seemed at reduced risk for use of wine (i.e., greater proportions compared to controls viewed wine as "harder" to obtain), their risk for using cigarettes (i.e., greater proportions viewed cigarettes as "easier" to get) increased.

Measures for the "directly offered drugs" element differed at T_1 and T_2 . At T_1 reference was made to whether subjects had ever been offered the substances. At T_2 subjects were asked whether they had been offered the substances since the T_1 data collection. Assessment of change on this item indicates whether subjects came to "discontinue exposure" (i.e., move from "yes to no" response) or "acquire exposure" (i.e., move from "no to yes" response) to particular substances over time.

The pattern of responses suggested that proportionately more control than program subjects "discontinued exposure" to substances (beer - 93%, 83%; wine - 90%, 50%; liquor - 67%, 43%), and,

conversely, proportionately more program than control subjects "acquired exposure" to substances (beer - 17%, 7%; wine²- 50%, 10%; liquor - 57%, 33%). Thus program subjects were remaining at risk for drug use by virtue of smaller proportions "discontinuing exposure" to drugs and larger proportions "acquiring exposure" to additional substances in comparison to control subjects.

Overall, changes on the drug knowledge dimension indicated that program subjects remained at risk and had continued need for the program intervention. In particular, they did not perceive more difficulty in obtaining beer, marijuana, and cigarettes, and were not appreciably experiencing "discontinued exposure" to substances in comparison to control subjects.

Peer Relations

Peer characteristics and positive communication with peers were assessed as two dimensions of peer relations. Subjects were asked to characterize close friends on 11 behavioral dimensions and to indicate how assertive they themselves were in their general interaction with peers.

Table 2 presents findings related to subjects' peer relations dimensions. The majority of program and control subjects characterized close friends as conventional in their lifestyles for most of the areas examined. Further, peer characterizations were

generally stable from T_1 to T_2 for both the program and control subjects. However, some shifts in response patterns suggested difference between the groups.

Careful examination of the response patterns indicated both "absolute" and "relative" changes which suggest differences between program and control subjects over time. First, two elements showed absolute differences between the groups. The proportion of subjects reporting their friends "got good grades" changed significantly (i.e., 10% or greater) for both groups, but in opposite directions. Comparisons from T_1 to T_2 showed that while increasing proportions of program subjects came to report their friends got good grades (i.e., 70% to 82%), decreasing proportions of control subjects reported this as characteristic of friends (i.e., 80% to 69%). Further, while the proportion of control subjects reporting friends "attended church" remained stable from T_1 to T_2 (e.g., 60% to 58%), decreasing proportions of program subjects reported this as characteristic of friends (e.g., 53% to 38%).

TABLE 2
Peer Characteristics
Kansas City YouthNet

(% Reporting Yes)^a

	Control (T ₁)	Program (T ₁)	Control (T ₂)	Program (T ₂)
Attend School	91	79	82	82
Smoke	4	3	-	3
Drink Beer	7	15	7	15
Drink Wine	20	15	27	12
Drink Liquor	7	6	11	6
Get Good Grades	80	70	69	82
In Trouble at School	27	38	31	24
Use Drugs	-	-	-	3
In Trouble at Home	20	15	24	21
Attend Church	60	53	58	38
In Organized Activities	67	82	71	82

	I ₁	I ₂	t-value
<u>Assertiveness</u>			
Range	0-28	0-28	
Mean:			
Control S's	17.47	17.64	- .30
Program S's	16.94	15.97	1.21

^aData includes control (N=45) and program (N=34) subjects participating in both T₁ and T₂ data collections.

We also observed some relative differences between the groups. Here the proportionate difference between program and control subjects appears insignificant (i.e., less than 10%), but the minimal magnitude of difference is attributed to shifts in response patterns among control subjects. For example, the proportion of program subjects reporting their friends "attended school" was

stable from T_1 to T_2 (e.g., 79% to 82%), while the trend among control subjects showed decreasing proportions reporting this as characteristic of friends (e.g., 91% to 82%). Similarly, while comparison of T_1 and T_2 data showed stable proportions of program subjects reporting their friends "drank wine" (e.g., 15% and 12%), and decreasing proportions reporting their friends were "in trouble at school" (e.g., 38% to 24%), control subjects tended to increase the proportions reporting these elements as characteristic of friends (e.g., drink wine - 20% to 27%; trouble in school - 27% to 31%). Thus, while control data indicated a trend in the general population to report fewer friends attending school and more who drank wine and were in trouble at school, the program subjects did not report these trends as characteristic of friends.

Scores for program and control subjects on the assertiveness measure showed that both groups, on average, scored just above the mid-range on this measure at T_1 and T_2 . While the mean scores appear to indicate control subjects increased and program subjects decreased assertiveness, t-test results did not show changes in assertiveness over time to be significant.

Self Attributes

Self esteem, anger control, civic responsibility, and social responsibility were the dimensions assessed as self attributes.

Table 3 presents the average scores for program and control subjects on these measures.

In regard to self esteem, the data indicated that levels for program and control subjects were nearly equal at T_1 ($X=25.23$ and $X=25.63$). At T_2 , however, control subjects showed significant increase in self esteem ($X=26.29$). Program subjects did not significantly change on this dimension over time.

Scores for anger control indicated both groups scored just above the mid-range on this measure. Program subjects scored a bit lower than controls at both T_1 ($X=13.21$ and $X=14.09$) and T_2 ($X=12.00$ and $X=12.80$), but the pattern of responses did not show the groups to differ on this dimension. Over time, both groups scored significantly lower on anger control, each decreasing their average score by about the same margin.

Program and control subjects scored high on civic responsibility at both T_1 and T_2 . Levels on this measure for program and control subjects were nearly equal at both T_1 ($X=10.91$ and $X=11.20$) and T_2 ($X=11.00$ and $X=11.11$), and neither group significantly changed as to their level of civic responsibility over time.

TABLE 3
Self Attributes
Kansas City YouthNet

	<u>I₁</u>	<u>I₂</u>	<u>t-value</u>
<u>Self Esteem</u>			
Range	15-30	15-30	
Mean:			
Control S's	25.63	26.29	-2.14*
Program S's	25.23	25.58	- .84
<u>Anger Control</u>			
Range	0-20	0-20	
Mean:			
Control S's	14.09	12.80	2.19*
Program S's	13.21	12.00	2.03*
<u>Civic Responsibility</u>			
Range	4-12	4-12	
Mean:			
Control S's	11.20	11.11	.60
Program S's	10.91	11.00	- .72
<u>Punctuality</u>			
Range	3-9	3-9	
Mean:			
Control S's	7.56	7.93	-2.20*
Program S's	7.76	7.21	2.21*
<u>Respect for Property</u>			
Range	4-12	4-12	
Mean:			
Control S's	11.73	11.51	1.43
Program S's	11.42	11.33	.55

*Significant at .05 level

Social responsibility involved assessment of punctuality and respect for property. Program and control subjects differed more on punctuality than respect for property. While both groups scored in the upper third of the punctuality measure at both data collections, some differences were witnessed in the pattern of responses from T_1 to T_2 . At T_1 program subjects scored a bit higher than controls ($X=7.76$ and $X=7.56$). However, at T_2 this pattern reversed as program subjects decreased their score ($X=7.21$) and control subjects increased their score ($X=7.93$). T-tests showed the changes to be significant. Regarding respect for property, both program and control subjects scored high on the measure at T_1 ($X=11.42$ and $X=11.73$) and T_2 ($X=11.33$ and $X=11.51$). Respect for property scores for both groups were nearly equal and did not significantly change over time.

School Behavior

Drop out anticipation and absentee patterns were the dimensions assessed related to school behavior. Table 4 presents findings related to these dimensions.

None of the program subjects thought they would drop out before completing high school at either of the data collections. In contrast, some control subjects did anticipate dropping out of school. The proportion of control subjects who anticipated dropping

out was quite low at both T_1 (2%) and T_2 (4%). However, the pattern of change over time suggested that increasing proportions of control subjects anticipated dropping out. While the program may have instilled long range interest in staying in school, it did not seem to affect regular attendance at school. On the average, program subjects reported a greater number of days absent per month than control subjects. At T_1 program subjects were absent an average of 3.25 days within the last 30, and control subjects were absent an average of 2.71 days. Similarly, at T_2 program subjects were absent an average of 3.63 days compared to 2.79 days for control subjects. T-tests indicated neither group significantly increased school absenteeism over time.

TABLE 4
School Behavior
Kansas City YouthNet

(% Reporting Yes)^a

	Control <u>(T₁)</u>	Program <u>(T₁)</u>	Control <u>(T₂)</u>	Program <u>(T₂)</u>
Will drop out before completing high school	2	-	4	-
Absent from School Last 30 Days:	<u>T1</u>		<u>T2</u>	<u>t-value</u>
Mean:				
Control S's	2.71 days		2.79 days	-.09
Program S's	3.25 days		3.63 days	-.63

^aData includes control (N=45) and program (N=34) subjects participating in both T₁ and T₂ data collections.

Summary and Discussion of Findings

By its design, the YouthNet drug abuse prevention program was intended to affect participants in a manner which would improve their functioning in areas believed related to drug use and abuse. Our assessment of this program indicated that YouthNet did affect participants in ways which improved their functioning and contributed to prevention of drug abuse.

First of all, participation in YouthNet acted to "insulate" youth to some extent from environmental elements which would encourage drug use. While not presented in this paper, earlier analysis of data reflecting reported recent use of drugs (i.e., past 30 days) showed that program subjects had only a slight tendency to be more involved with drugs than controls (e.g., from 2% to 6% more program subjects reported use of beer, wine, liquor, marijuana). The fact that program subjects maintained their level of risk for drug use over time but did not display appreciable increase in the reported incidence of use suggests an impact from the YouthNet program which insulated participants from high risk environmental elements. Evidence of the risk environment was reflected in data reporting perceived availability of drugs and opportunities to use. Like the control subjects, program subjects were not perceiving greater difficulty in obtaining beer, cigarettes or marijuana. Unlike control subjects, however, larger proportions of program subjects reported "acquiring exposure" to additional drugs over time, and smaller proportions reported "discontinuing exposure" to drugs. Additional analyses, not presented in this paper, indicated further environmental risk elements for the program group. In comparison to control subjects, program subjects were more likely to be living in single-parent families with only the mother as parent, more likely to have been held back in school, and more likely to have been recently and repeatedly held back in school.

Second, the YouthNet program had an impact on participants by

fostering anti-drug use attitudes, particularly in reference to legal drugs. Participation in the program was positively related to 1) developing perceptions that personal use of drugs was wrong, 2) not anticipating future use of drugs, 3) feeling that participants would stop friends from using substances, and 4) perceptions that participants' friends would disapprove of their own drug use.

Third, the YouthNet program had an impact on participants by facilitating friendships with conventional others. In comparison to patterns among control subjects, program subjects were more likely, over time, to report their friends got good grades, attended school, did not drink wine, and did not get in trouble at school. Of all the characteristics examined, "attend church" was the only element for which controls were more likely to characterize their friends as conventional over time.

Finally, the YouthNet program had an effect of discouraging thoughts about dropping out of school. None of the program subjects expressed anticipation for dropping out of school at either of the data collections. In contrast, over time, increasing proportions of control subjects felt they would not finish high school.

While YouthNet showed considerable impact as a drug prevention program, there were several areas where the program did not produce expected changes. For example, very little impact was witnessed for the self attributes dimensions. There were no differences between program and control subjects in regard to anger control, civic responsibility and respect for property assessments. For self

esteem and punctuality dimensions, improved functioning over time was actually witnessed for the control group but not for program subjects. Additionally, program subjects did not improve regular attendance at school. In fact, at both data collections, program subjects reported a greater number of days absent than controls.

Interpretation of these results must take into account subjects' risk for use or abuse of particular substances. Typically, junior high school age youth are most at risk for experimental use of "gateway" drugs and marijuana. Earlier analyses showed that subjects in this study reported very little, if any, use of hard drugs. Additionally, they held strong and consistent attitudes against the use of illicit drugs, and had minimal familiarity with or exposure to illicit drug distribution networks. From T_1 to T_2 program subjects' risk for drug use (as measured by perceived availability and direct offers of drugs) actually increased somewhat more than for control subjects; yet, throughout this period, their actual reported use of drugs appeared relatively unchanged. Their drug use was generally limited to the "gateway" drugs of alcohol (particularly beer and wine) and cigarettes, and to the illicit drug marijuana. When use of these substances did occur, it was typically at experimental levels. Further, while both T_1 and T_2 anti-drug use attitudes were less consistent and less widespread for beer and wine than for illicit drugs, there is evidence that program subjects moved to attitudinal positions unfavorable to use of those substances despite considerable

exposure to distribution networks for licit drugs.

Given the nature of the risk environment (e.g., legally available drugs and marijuana), it is noteworthy that the YouthNet program had particular impact on participant subjects' attitudes toward the use of legal drugs. In effect, the YouthNet program's impact reinforced existing anti-drug use sentiments regarding illicit drugs, and fostered similar sentiments for legal drugs.

In conclusion, this assessment identified several elements of positive impact from the drug prevention program for junior high school aged youth examined here. This outreach, counseling and alternative activities program, offered through neighborhood community centers and schools, acted to insulate youth from environmental elements which would encourage drug use, fostered development of anti-drug use attitudes, facilitated friendships with conventional others, and encouraged attitudes toward staying in school.