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The Potential Protective Effect of Youth Assets on Adolescent Alcohol and Drug Use

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Summary
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Objectives. We examined the association between adolescent alcohol and drug use and 9 youth assets in a low-income, inner-city population. *Methods.* An in-person survey of 1350 adolescents and parents assessed youth assets and risk behaviors. We analyzed data with $\chi 2$ tests and logistic regression analyses.

Results. When we controlled for appropriate variables, there were significant positive relationships between several youth assets and nonuse of alcohol and drugs. Furthermore, youths who possessed all of the statistically significant youth assets were 4.44 times more likely to report nonuse of alcohol and 5.41 times more likely to report nonuse of drugs compared with youths who possessed fewer youth assets.

Conclusions. Our study supports the view that specific youth assets may protect youths from alcohol and drug use.

The Potential Protective Effect of Youth Assets on Adolescent Alcohol and Drug Use

Roy F. Oman, PhD, Sara Vesely, PhD, Cheryl B. Aspy, PhD, Kenneth R. McLeroy, PhD, Sharon Rodine, MEd, and LaDonna Marshall

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Conclusions. Our study supports the view that specific youth assets may protect youths from alcohol and drug use. (*Am J Public Health.* 2004;94:1425–1430)

One hundred thousand deaths per year in the United States are associated with alcohol consumption.[1] Alcohol is the most frequently used mind-altering substance among adolescents, and alcohol-related problems are common among youths.[2,3] Moreover, for those who begin drinking at age 14 years or earlier, approximately 40% experience problems with alcohol dependency at some point in their lives.[4] Illegal drug use among adolescents more than doubled between 1992 and 1997, from 5.3% to 11.4%.[5] In addition to its propensity to result in health problems adolescent drug abuse is associated with other types of unhealthy behaviors.[6]

In recent years, efforts to reduce adolescent risk behaviors have focused on viewing youths as resources instead of potential problems.[7,8] Viewing youths as resources provides them with an environment that encourages positive growth and development, despite potential adversity.[7] This focus on positive youth development has promoted a research and program approach that links risk reduction with simultaneous efforts to increase protective factors—or *assets*—such as achievement-focused values, positive peer role models, and close ties to caring adults.[9,10] The youth development approach is constructed from an accumulation of empirical research in adolescent behaviors, and it incorporates social constructs that may prevent selected risk behaviors, such as drug and alcohol abuse and delinquency, as well as promotes positive outcomes and resiliency.[11] Furthermore, an asset perspective emphasizes aspects of socialization that are significant in adolescent development (e.g., family interaction, peer support, and school environment).[11]

Emerging research and empirical evidence suggest that specific protective assets may indeed insulate adolescents from engaging in certain risk behaviors. For example, in a study of 6000 youths in grades 6 through 12, researchers found that assets accounted for 10% to 43% of the variance in "thriving indicators" (e.g., school success, overcoming adversity, and helping others) beyond the contributions of demographic variables.[12] Another study linked specific youth assets with the nonuse of tobacco.[13]

Although only a few studies have examined the relationship between youth asset and alcohol and drug use, some youth alcohol and drug studies have examined the influence of factors closely related to the youth asset concept. For example, research has found that peer pressure and parental influences are associated with youth alcohol and drug use,[14,15] and successful prevention programs, such as the Life Skills Training Program[16–18] and Project Star,[19,20] indirectly have incorporated some youth asset concepts into their prevention efforts.

Most of the published research on youth development has focused on a limited number of youth assets or related concepts, and few studies have examined multiple positive influences and how these might prevent alcohol and drug use among youths. The purpose of our study was to examine the relationship between 9 youth assets and alcohol and drug use in a community sample of adolescents and their parents. We hypothesized that youths who had 1 or more of the assets would be significantly less likely to engage in alcohol and drug use. Demographic factors—youth age, gender, and race/ethnicity; parental income and education; and family structure—that may be related to alcohol and drug abuse also were evaluated.

METHODS

Study Population

Data were collected from 1350 randomly selected households that had at least 1 parent and 1 adolescent. These households were located in the inner-city areas of 2 Midwestern cities with populations of approximately 500 000 each. Youth (n = 1255) mean age was 15.4 (± 1.7) years, and 52% of the sample was female. Forty-eight percent of the youths were non-Hispanic White, 23% were non-Hispanic Black, 19% were Hispanic, and 10% were non-Hispanic Native American. Approximately 48% of the youths lived in 2-parent households, 66% lived in households with reported annual income levels of less than $35 000, and 13% of the youths had parents who had not graduated from high school.

Design

When a household contained more than 1 adolescent or parent, 1 parent and 1 adolescent were randomly selected for interviews. Interviews were conducted with a computer-assisted data entry system in the participants' homes. The adolescent and the parent were interviewed simultaneously in

different rooms of the residence. The adolescent self-administered the risk behavior questionnaire by listening to tape-recorded items with headphones and then entering responses into the computer. Basic demographic information was collected from both the parents and the adolescents. Scales in our study focused on 2 general concerns: youth assets and youth risk behaviors. The survey response rate was 51% and included all refusals plus 8% of the randomly-selected households for which we never determined who lived there (i.e., eligible adolescent with a parent). An extensive description of the study methods is published elsewhere.[21]

Measures

Demographic variables. Depending on the analyses—Chi-square analysis and logistic regression analysis (The stratified age variable was used in the chi-square analyses and the continuous age variable was used in the logistic regression analyses.)—youth age was used either as a continuous variable or as a variable stratified into 3 categories: 13 to 14 years, 15 to 17 years, and 18 to 19 years. Youth race/ethnicity was defined as non-Hispanic Black, non-Hispanic Native American, non-Hispanic White, and Hispanic. Annual parental income was stratified into 3 categories: less than $20 000, $20 000 to $35 000, and greater than $35 000. Parental education also was stratified into 3 categories: both parents had less than a high school education; at least 1 parent had completed high school, a general equivalency diploma (GED), or some college; and at least 1 parent had a bachelor's degree or higher. Parents defined their family structure as both parents living in the household or 1 parent living in the household.

Alcohol and drug use. Because youth assets are thought to be protective against risk behaviors, the outcomes of interest were coded (in a positive direction) as nonuse of alcohol and nonuse of drugs. Nonuse of alcohol was defined as a negative answer to the question, "During the past 30 days, did you drink any alcohol, such as beer, wine, or liquor?" Nonuse of drugs was defined as a negative answer to the question, "During the past 30 days, did you use or do any drugs, such as marijuana, inhalants, methamphetamine, speed, cocaine, crack, or heroin?" The dependent behavior risk factor variables were coded as 1 (did not report risk factor) or 0 (did report risk factor).

Youth assets. The program and evaluation team used focus groups and needs assessment data to determine the key assets to be examined in our study. A literature search was conducted to identify appropriate items for asset measurement. Items with established reliability and validity from previously published research were used whenever possible: if appropriate items were not available in the literature, items were created and were pretested.

Factor analyses and reliability tests were used in scale construction—scales were constructed with items that loaded .40 and above on 1 factor and with reliability scores (Cronbach's α) of at least .60. The 9 assets examined (listed with the number of items for each asset, Cronbach's α, and a sample item) were (1) nonparental adult role models (7 items, α=.74, "You know adults that encourage you often."), (2) peer role models (6 items, α=.81, "Are most of your friends responsible?"), (3) family communication (4 items, α=.61, "How often do you talk to an adult in your household about your problems?"), (4) use of time (groups/sports) (4 items, α=.71, "You participate in an organized activity after class."), (5) use of time (religion) (2 items, α=.71, "How often do you participate in church/religious activities?"), (6) community involvement (6 items, α=.78, "You work to make your community a better place."), (7) aspirations for the future (2 items, α=.67, "As you look to your future, how important is it to you that you stay in school?"), (8) responsible choices (6 items, α=.69, "You can say no to activities that you think are wrong."), and (9) good health practices (exercise/nutrition) (1 item, "You take good care of your body by eating well and exercising"). Good health practices (exercise/nutrition) were measured with a single item, because no 2 items loaded for this scale in the factor analyses. A full description of the development and the construction of the assets is published elsewhere.[22]

Assets were reported as present (1) or absent (0) on the basis of youth mean responses to the variables included in the asset. Items that comprised each asset were generally scored from 1 to 4 (4=the most positive response), and an individual was said to have the asset if the mean score was 3 or higher. A mean score of 3 or higher indicated that the positive behavior was reported as "usually or almost always," "very important or extremely important," or "agree or strongly agree."

A composite variable was created when multiple assets were significant in the same model after we adjusted for the demographic variables. This variable was dichotomous and compared youths who had all of the significant assets with youths who had some or none of the significant assets.

Statistical Analysis

The sample sizes for the univariate analyses were 1255 for the alcohol use outcome and 1250 for the drug use outcome. Youths were not included in the analysis if they had 1 or more of the following: missing demographic data (n=41), race/ethnicity other than those listed in Table 1 (n=20), and missing data on alcohol or drug use (n=60). Only youths who had data for all 9 assets were included in the multivariate modeling, which resulted in samples sizes of 1122 for alcohol use and 1120 for drug use.

All statistical analyses were performed with SPSS 10.0 software (SPSS Inc, Chicago, Ill).[23] A P value of $\leq .05$ was used unless otherwise stated. We used χ^2 tests to assess univariate associations between the dichotomous risk factor and the demographic variables. We used logistic regression to calculate the unadjusted odds ratios (ORs) between each asset and the absence of the risk factor, and we used multiple logistic regression to calculate the adjusted odds ratios. We controlled for possible confounders when calculating the adjusted odds ratios. We controlled for youth age (continuous), gender, and race/ethnicity regardless of the univariate relationship. Other possible confounders included parental income, parental education, and family structure (1- vs 2-parent household); we controlled for a confounder only if the univariate analysis indicated a P value of $\leq .10$. Interactions between each asset and each demographic variable were assessed in each logistic regression with the P value level set at $\leq .01$. For significant interactions, we conducted logistic

TABLE 1—Characteristics of Study Population, by Adolescent Nonuse of Alcohol and Drugs

Characteristic	Nonuse of Alcohol (n = 1255), No. (%)	*P*	Nonuse of Drugs (n = 1250), No. (%)	*P*
Youth age, y				
13–14	442 (88.9)	< .001	444 (92.3)	.006
15–17	640 (76.6)		637 (86.4)	
18–19	173 (65.9*)		169 (88.2*)	
Youth race/ethnicity				
Non-Hispanic Black	287 (87.8)	.001	286 (92.7)	.079
Non-Hispanic Native American	126 (78.6)		124 (87.1)	
Non-Hispanic White	605 (77.7)		608 (86.8)	
Hispanic	237 (74.3)		232 (88.7)	
Youth gender				
Female	651 (80.8)	.217	650 (88.3)	.771
Male	604 (78.0)		600 (88.8)	
Parental annual income, $				
< 20 000	391 (80.8)	.240	385 (87.0)	.373
20 000–35 000	440 (76.8)		439 (88.4)	
> 35 000	424 (80.9)		426 (90.1)	
Family structure				
2-parent household	602 (82.6)	.009	603 (91.7)	.001
1-parent household	653 (76.6)		647 (85.6)	
Parental education				
< high school, both parents	158 (75.9)	.298	156 (89.1)	.238
1 parent achieved high school, GED, or some college	901 (79.4)		896 (87.7)	
At least 1 parent achieved bachelor's degree or higher	196 (82.7)		198 (91.9)	

Note. GED = general equivalency diploma.
*Significant trend ($P < .05$).

regression stratifying by the demographic variable that showed the significant correlation.

We also used multiple logistic regression to determine the cumulative effect of the assets after we assessed the impact of each asset on the outcomes. Demographic variables were included as covariates in the analyses, and assets with a *P* value of ≤.05 were included in the final model. Interactions between the assets and the demographic variables were assessed with a *P* value of ≤.01, and an interaction term was added to the final model when appropriate. After we controlled for relevant demographic variables, we used multiple logistic regression to measure the association between the composite asset variable and the applicable outcome.

RESULTS

Nonuse of alcohol. Seventy-nine percent of the respondents reported nonuse of alcohol. Youth age, youth race/ethnicity, and family structure were significantly associated with nonuse of alcohol (Table 1). As age increased, the proportion of nonuse of alcohol significantly decreased. Non-Hispanic Black youths reported a higher prevalence of nonuse of alcohol than did youths of other races/ethnicities. Youths from 2-parent households were significantly more likely than those from 1-parent households to report nonuse of alcohol.

Table 2 shows the unadjusted and adjusted odds ratios between nonuse of alcohol and each youth asset. The adjusted odds ratios were significant for 4 of the 9 youth assets (peer role models, family communication, good health practices [exercise/nutrition], and aspirations for the future). For example, youths who had the peer role model asset were nearly 2.5 times more likely to report nonuse of alcohol compared with youths who lacked the asset.

Significant interactions between assets and demographic variables were present for 3 assets (use of time [religion], community involvement, and responsible choices); therefore, we conducted analyses stratifying by the interacting demographic variable (Table 2). There was a positive, significant relationship between the use of time (religion) asset and the nonuse of alcohol, but the relationship was considerably stronger for females (OR = 4.07) than for males (OR = 1.57). The community involvement asset appeared to serve as a protective factor from alcohol use only for youths living in 1-parent households (OR = 2.56). Finally, females who had the responsible choices asset were nearly 4 times more likely to report nonuse of alcohol compared with females who lacked the asset (OR = 3.90). The odds ratios for males were not significant.

The peer role models, use of time (religion), family communication, and responsible choices assets remained significant after we adjusted for demographic variables and other significant assets (Table 3). For example, youths who had the use of time (religion) asset remained more than 2 times more likely to report nonuse of alcohol compared with youths who lacked the asset after we controlled for the relevant demographic variables and the other 3 assets in the model (adjusted OR = 2.17). The interaction between gender and the responsible choices asset also remained significant, which suggests that the asset was protective from alcohol use only for females (adjusted OR = 3.30).

A composite variable that compared youths who had all 4 significant assets (peer role models, use of time [religion], family communication, and responsible choices) with youths who had 3 or fewer of the 4 assets was created. The adjusted odds ratio for the composite variable was 4.44 (95% confidence interval [CI] = 2.56, 7.72), which indicates that youths who had all 4 of these assets were more than 4 times more likely to report nonuse of alcohol compared with youths who had 3 or fewer of the assets.

Nonuse of drugs. Eighty-nine percent of the 1250 youths who responded reported nonuse of drugs in the past 30 days. As shown in Table 1, younger youths reported nonuse of drugs significantly more often than

TABLE 2—Odds Ratios (ORs) for Adolescent Nonuse of Alcohol, by Youth Assets

Youth Asset	No.	Unadjusted OR (95% CI)	Adjusted[a] OR (95% CI)
	Individual analyses[a]		
Nonparental adult role models	1128	1.23 (0.86, 1.77)	1.30 (0.89, 1.91)
Peer role models	1253	2.52*** (1.90, 3.34)	2.41*** (1.80, 3.22)
Family communication	1255	2.04*** (1.55, 2.70)	1.97*** (1.47, 2.64)
Use of time (groups/sports)	1252	1.20 (0.89, 1.63)	1.05 (0.77, 1.44)
Use of time (religion)	1255	2.92*** (2.17, 3.91)	. . . (. . .)
Good health practices (exercise/nutrition)	1254	1.45** (1.09, 1.92)	1.38* (1.03, 1.86)
Community involvement	1252	1.49 (0.97, 2.29)	. . . (. . .)
Future aspirations	1126	1.59* (1.09, 2.32)	1.48* (1.00, 2.20)
Responsible choices	1255	1.88*** (1.34, 2.64)	. . . (. . .)
	Stratified analyses		
Use of time (religion)[b]			
Gender			
Female	651	. . . (. . .)	4.07*** (2.58, 6.42)
Male	604	. . . (. . .)	1.57* (1.03, 2.40)
Community involvement[c]			
Family structure			
2-parent household	601	. . . (. . .)	0.78 (0.43, 1.42)
1-parent household	651	. . . (. . .)	2.56*** (1.26, 5.17)
Responsible choices[b]			
Gender			
Female	651	. . . (. . .)	3.90*** (2.38, 6.40)
Male	604	. . . (. . .)	1.14 (0.67, 1.94)

Note. CI = confidence interval.
[a]Adjusted for youth age, youth race/ethnicity, youth gender, and family structure.
[b]Adjusted for youth age, youth race/ethnicity, and family structure.
[c]Adjusted for youth age, youth race/ethnicity, and youth gender.
*$P \leq .05$; **$P \leq .01$; ***$P \leq .001$.

did older youths. A significantly higher proportion of youths in 2-parent households than of youths in 1-parent households reported nonuse of drugs.

The unadjusted and adjusted odds ratios between each asset and the nonuse of drugs were significant for all 9 assets (Table 4). The highest adjusted odds ratios were for peer role models (OR=2.95), suggesting that after we controlled for demographic factors, youths who had this asset were nearly 3 times more likely to report nonuse of drugs compared with youths who lacked the asset. Six other assets (nonparental adult role models, family communication, use of time [religion], community involvement, aspirations for the future, and responsible choices) had adjusted odds ratios of 2 or higher.

In the final model, the peer role models, use of time (religion), and responsible choices assets remained significant after we controlled for demographic variables and other significant assets (Table 3). Youths who had any 1 of the assets were more than 2 times more likely to report nonuse of drugs compared with youths who lacked the asset after we accounted for the contribution of relevant demographic factors and the other 2 assets.

We created a composite variable that compared youths who had all 3 significant assets (peer role models, use of time [religion], and responsible choices) with youths who had 2 or fewer of the 3 assets. The adjusted odds ratio for the composite variable was 5.41 (95% CI=2.70, 10.84), which indicates that youths who had all 3 assets were more than 5 times more likely to report nonuse of drugs compared with youths who had 2 or fewer of the assets.

DISCUSSION

The purpose of our study was to investigate relationships between 9 youth assets and alcohol and drug abuse in a low-income, inner-city population. The results suggest that most of the youth assets are associated with a lower prevalence of youth alcohol and drug abuse. Furthermore, specific assets are collectively more strongly associated with a lower likelihood of youth alcohol and drug abuse.

Significant positive relationships were found between nonuse of alcohol and the availability of peer role models, positive family communication, good health practices related to exercise and nutrition, and adolescents' aspirations for the future. An adolescent who had any 1 of these assets was approximately 1.5 to 2.5 times less likely to have used alcohol than an adolescent who did not have any one of these assets.

These results, in particular the findings regarding the peer role models and family communication assets, support previous research findings that youths who had these assets or positive factors were less likely to use alcohol.[14–20]

The relationships between the use of time (religion) and the responsible choices assets and nonuse of alcohol varied by youth gender. Females who had either the use of time (religion) asset or the responsible choices asset were approximately 4 times more likely to report nonuse of alcohol compared with females who lacked either asset. These results suggest that studies of adolescent females at risk for alcohol use should test strategies that increase skills for making responsible choices.

Many adolescents reside in 1-parent households: previous research indicates that youths living in 1-parent households are more likely to participate in risk behaviors.[21,23–25] Fifty-two percent of the adolescents in our study lived in 1-parent households, and these youths were approximately 2.5 times more likely to report nonuse of alcohol if they were actively involved in community activities. The results from our study support the efficacy of programs that include community involvement as an intervention or prevention strategy for youth alcohol and drug use, particularly for youths living in 1-parent households.[19,20]

TABLE 3—Odds Ratios (ORs) for the Cumulative Association of Youth Assets with Nonuse of Alcohol and Drugs

	Adjusted OR (95% CI)
Nonuse of alcohol[a,b] (n = 1122)	
Peer role models	1.97* (1.41, 2.76)
Use of time (religion)	2.17* (1.55, 3.04)
Family communication	1.79* (1.28, 2.50)
Responsible choices	
Females	3.30* (1.93, 5.63)
Males	0.89 (0.50, 1.56)
Likelihood ratio test[c] $\chi^2 = 91.29$, df = 5, $P < .0001$	
Hosmer and Lemeshow goodness-of-fit test $\chi^2 = 7.22$, df = 8, $P < .5125$	
Nonuse of drugs[a] (n = 1120)	
Peer role models	2.27* (1.49, 3.44)
Use of time (religion)	2.24* (1.46, 3.42)
Responsible choices	2.19* (1.41, 3.42)
Likelihood ratio test[c] $\chi^2 = 53.41$, df = 3, $P < .0001$	
Hosmer and Lemeshow goodness-of-fit test $\chi^2 = 8.13$, df = 8, $P < .4213$	

Note. CI = confidence interval.
[a]Adjusted for youth age, youth race/ethnicity, youth gender, family structure, and other assets in the model.
[b]Interaction between youth gender and Responsible Choices is included, and gender-specific adjusted ORs are reported.
[c]Comparing the model with demographic variables only with the model with demographic variables and assets.
*$P \leq .001$.

There was a significant positive relationship between each of the 9 youth assets and nonuse of drugs, even after we accounted for the influence of other demographic factors. Youths who had any 1 of the assets were approximately 1.5 to 3 times more likely to report nonuse of drugs than youths who did not have any one of these assets.

This striking result emphasizes the importance of and the need for additional longitudinal studies that utilize a youth asset approach to reduce drug use. Moreover, these results mirror the findings from our previous study which reported significant positive relationships between each of the same 9 assets and nonuse of tobacco.[13]

TABLE 4—Odds Ratios (ORs) for Adolescent Nonuse of Drugs, by Youth Asset

Youth Asset	N	Unadjusted OR (95% CI)	Adjusted[a] OR (95% CI)
Nonparental adult role models	1126	1.93** (1.26, 2.94)	2.01** (1.30, 3.12)
Peer role models	1248	3.00*** (2.07, 4.35)	2.95*** (2.03, 4.30)
Family communication	1250	2.08*** (1.46, 2.95)	2.11*** (1.47, 3.03)
Use of time (groups/sports)	1247	1.71** (1.14, 2.57)	1.56* (1.03, 2.36)
Use of time (religion)	1250	2.93*** (1.99, 4.30)	2.65*** (1.80, 3.92)
Good health practices (exercise/nutrition)	1249	1.67** (1.67, 2.37)	1.55* (1.08, 2.22)
Community involvement	1247	2.18* (1.16, 4.13)	2.04* (1.07, 3.88)
Future aspirations	1124	2.23*** (1.43, 3.46)	2.07** (1.32, 3.25)
Responsible choices	1250	2.58*** (1.74, 3.83)	2.57*** (1.71, 3.86)

Note. CI = confidence interval.
[a]Adjusted for youth age, youth race/ethnicity, youth gender, and family structure.
*$P \leq .05$; **$P \leq .01$; ***$P \leq .001$.

These findings also support previous studies and risk prevention research that linked various constructs with the reduction of drug use.[13–20]

Perhaps the most important finding of our study is that specific assets appear to collectively reduce the odds of engaging in alcohol and drug use, and the strength of the collective assets/risk behavior association is well beyond that of the relationship between any of the asset/risk behavior bivariate relationships. Youths who had the peer role models, use of time (religion), family communication, and responsible choices assets were 4.44 times more likely to report not using alcohol compared with youths who had 3 or fewer of the assets. Similarly, youths who had the peer role models, use of time (religion), and responsible choices assets were 5.41 times more likely to report not using drugs compared with youths who had 2 or fewer of the assets. These results support the notion that the combinations of assets may be more effective than any single asset for preventing risk behavior.

Researchers and practitioners may find the results of our study useful for the development, testing, and possible implementation of risk reduction programs. Some of the assets (peer role models, nonparental adults role models, and community involvement) have been amendable to use in interventions. However, it may be a greater challenge to develop and then test effective intervention strategies for the use of time (religion) and family communication assets or interventions that simultaneously promote multiple assets. In spite of this challenge, it may be worth the time and the resources to fully research various intervention strategies that increase and strengthen youth assets.

There are limitations to our study. Alcohol and drug use were assessed only for the past 30 days; therefore, it is unknown what behavior occurred outside this time period. Also, youths may have not have responded honestly, providing socially acceptable responses to the drug and alcohol questions, even though they were allowed to read the questions and then enter their responses into a computer while unobserved. Nonetheless, this protocol may have reduced the number of socially acceptable responses. Another

limitation is that the reliability coefficients for 3 of the asset constructs were below .70, and the good health practices (exercise/nutrition) asset was assessed with a single item. Also, the moderate response rate raises questions about the generalizability of these results. However, no significant differences were found when the race/ethnicity composition and household income results from the sample were compared by zip codes with census data from the same neighborhoods, which suggests that the sample was representative of the intervention neighborhoods. Finally, the data analyzed in our study are cross-sectional; causal relationships between youth assets and alcohol and drug use cannot be tested.

CONCLUSIONS

These results suggest that there is a positive relationship between presence of youth assets and the nonuse of alcohol and drugs. Youths who possess even 1 of the assets were significantly less likely to use drugs compared to youth who possessed fewer assets.

Similar relationships were indicated between several of the assets and alcohol use. In some instances, females and youths living in 1-parent households appeared to especially benefit from the presence of a specific asset. Importantly, this is the first study to report that specific assets collectively are more strongly associated with a lower likelihood of youth alcohol and drug abuse. Considerably more research is needed, however, to explain the asset/risk behavior relationship and to more confidently inform prevention practice. ■

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Contributors

R. Oman led the writing and assisted with conceptualizing and supervising the study. S. Vesely conducted the analyses and assisted with writing the article. C. Aspy, S. Rodine, and L. Marshall assisted with the study and writing the article. K. McLeroy conceived of and supervised the study and assisted with writing the article.

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Human Participant Protection

This study underwent and received full review and approval from the institutional review board of the University of Oklahoma Health Sciences Center.

References

1. McGinnis JM, Foege WH. Actual causes of death in the United States. *JAMA.* 1993;270:2207–2212.

2. O'Malley PM, Johnston LD, Bachman JG. Alcohol use among adolescents. *Alcohol Health Res World.* 1998;22:85–93.

3. MacKay A, Fingerhut L, Duran C. *Adolescent Health Chartbook. Health United States, 2000.* Hyattsville, Md: National Center for Health Statistics; 2000.

4. Grant B, Dawson D. Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: results from the National Longitudinal Alcohol Epidemiologic Survey. *J Subst Abuse.* 1997;9:103–110.

5. *1998 National Household Survey on Drug Abuse.* Rockville, Md: Substance Abuse and Mental Health Services Administration; 2000.

6. US Dept of Health and Human Services, Substance Abuse and Mental Health Services. *Analyses of Substance Abuse and Treatment Need Issues.* Rockville, Md: Substance Abuse and Mental Health Services Administration; 1997.

7. Benard B. Youth service: from youth as problems to youth as resources. *Prev Forum.* 1990;January:6–14.

8. McKnight JL. A 21st-century map for healthy communities and families. *Fam Soc.* 1997;78:117–127.

9. Bogenschneider K. An ecological risk/protective theory for building prevention programs, policies, and community capacity to support youth. *Fam Relations.* 1996;45:127–138.

10. Jessor R. Risk behaviors in adolescence: a psychosocial framework for understanding and action. *J Adolesc Health.* 1991;12:597–605.

11. Leffert N, Benson PL, Scales PC, Sharma AR, Drake DR, Blyth DA. Developmental assets: measurement and prediction of risk behaviors among adolescents. *Appl Dev Sci.* 1998;2:209–230.

12. Scales PC. Developing capable young people: an alternative strategy for prevention programs. *J Early Adolescence.* 1990;10:420–438.

13. Atkins LA, Oman RF, Vesely SK, Aspy CB, McLeroy K. Adolescent tobacco use: the protective effects of developmental assets. *Am J Health Promotion..* 2002;16:198–205.

14. Simons-Morton B, Haynie D, Crump A, Eitel P, Saylor K. Peer and parental influences on smoking and drinking among early adolescents. *Health Educ Behav.* 2001;28:95–107.

15. Hawkins JD, Catalano RF, Miller JY. Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention. *Psychol Bull.* 1992;112:64–105.

16. Botvin G, Schinke S, Epstein J, Diaz T, Botvin E. Effectiveness of culturally focused and generic skills training approaches to alcohol and drug abuse prevention among minority adolescents: two-year follow-up. *Psychol Addict Behav.* 1995;9:183–194.

17. Botvin G, Baker E, Filazzola A, Botvin E. A cognitive-behavioral approach to substance abuse prevention: one-year follow-up. *Addict Behav.* 1990;15:47–63.

18. Botvin G, Baker E, Dusenbury L, Botvin E, Diaz T. Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. *JAMA.* 1995;273:1106–1112.

19. Pentz M. The school-community interface in comprehensive school health education. In: Stansfield S, ed. *1996 Institute of Medicine Annual Report, Committee on Comprehensive School Health Programs.* Washington, DC: National Academy Press; 1995.

20. Pentz MA, Dwyer JH, MacKinnon DP, et al. A multi-community trial for primary prevention of adolescent drug abuse: effects on drug use prevalence. *JAMA..* 1989;261:3259–3266.

21. Oman RF, McLeroy K, Vesely S, Aspy CB, Smith DW, Penn DA. An adolescent age group approach to examining youth risk behaviors. *Am J Health Promotion.* 2002;16:167–176.

22. Oman RF, Vesely SK, McLeroy KR, et al. Reliability and validity of the Youth Asset Survey (YAS). *J Adolesc Health.* 2002;31:247–255.

23. Blum R, Beuhring T, Shew M, Bearinger L, Sieving R, Resnick M. The effects of race/ethnicity, income, and family structure on adolescent risk behaviors. *Am J Public Health.* 2000;90:1879–1884.

24. Blum R, Beuhring T, Rinehart P. *Protecting Teens: Beyond Race, Income and Family Structure.* Minneapolis, Minn: Center for Adolescent Health; 2000.

25. Santelli JS, Lowry R, Brener ND, Robin L. The association of sexual behaviors with socioeconomic status, family structure, and race/ethnicity among US adolescents. *Am J Public Health.* 2000;90:1582–1588.