



## \*Using Mixed Methods to Examine Parental Influence on Youth Alcohol Use

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### ABSTRACT

*This study identified youth and adult perceptions of factors that influence initiation of youth drinking, access to alcohol, strategies for deterring youth drinking, and parents' role in prevention. A combination of qualitative (focus group and individual interview) and quantitative (written survey) community-based participatory research methods was used. Results showed that parents and other adults influence youth decisions about alcohol use both positively and negatively. Parental strategies identified by both youths and adults as important for the prevention of youth alcohol use includes communication, modeling positive behavior, monitoring youths, and controlling youths' access to alcohol. Communication was considered the most effective strategy, especially if parents do not lecture or nag their children. Both parents and students viewed monitoring as important but in need of improvement. Most youths and adults believed it is easy for minors to obtain alcohol, usually from their own or friends' parents. However, few parents had talked with other parents about youth drinking. Youths' perceptions of alcohol use norms were assimilated from adults, but many parents reported difficulty in modeling positive drinking behavior. Parent education and support are needed to encourage parents to confront the extent of youth drinking and to improve their own prevention skills.*

The Committee on Substance Abuse of the American Academy of Pediatrics<sup>1</sup> identifies youth alcohol use as a serious pediatric concern because of its association with negative health and safety outcomes. Alcohol use during adolescence has been identified as a risk factor for developing alcohol-related problems during adulthood.<sup>2-4</sup> More immediate consequences of youth alcohol use have included engaging in high-risk sexual behaviors,<sup>5-7</sup> increased risk of accidental death due to motor vehicle crashes,<sup>8,9</sup> and delinquent behaviors including fighting, truancy, theft, and assault.<sup>10</sup> Alcohol also is known as a gateway drug; youths often begin using alcohol before moving on to other illegal substances including marijuana.<sup>11</sup>

Alcohol is the most popular psychoactive substance in the youth culture, and what Windle<sup>11</sup> calls a "statistically normative behavior." Although the minimum legal drinking age in the United States is 21

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years, most youths have used alcohol by the time they complete high school. For example, key findings from the 2004 Monitoring the Future (MTF) study reported that 36.7% of 8th graders, 58.2% of 10th graders, and 70.6% of 12th graders have tried alcohol.<sup>12</sup> In addition, 19% of 8th graders, 35% of 10th graders, and 48% of 12th graders admitted drinking alcohol during the 30-day period prior to the survey, and nearly one-third (29.2%) of 12th graders reported binge drinking (five or more drinks at a time) during the two weeks prior to the survey, an increase from 2003.<sup>12</sup>

In Sarasota County, Florida, lifetime alcohol use among 8th graders was found to be almost two times the national rate as reported by the MTF study, with 71% of 8th graders reporting that they had tried alcohol (more than a few sips) during their lifetime.<sup>13</sup> A higher percentage of Sarasota County 8th graders also reported drinking during the previous 30 days (46%) compared to national estimates (19% from the MTF study). Also disconcerting are high rates of alcohol usage among 6th and 7th graders in Sarasota County, with 46% of 6th graders reporting lifetime alcohol use, 33% reporting recent use (within the previous 30 days), and 16% reporting binge drinking within the previous 30 days. Among 7th graders, 60% reported lifetime use, 35% reported recent use, and 19% reported binge drinking during the previous month.<sup>13</sup> That lifetime and current alcohol use rates among 8th grade Sarasota County youths are similar to rates of lifetime and current alcohol use among 12th grade national estimates reported by the MTF study highlights the need for community-based interventions to combat the high prevalence of adolescent drinking. This paper describes the results of research to understand youths' and parents' perceptions of youth drinking and design an intervention to prevent the initiation of drinking during middle and high school.

## FACTORS CONTRIBUTING TO YOUTH ALCOHOL USE

Several factors contribute to youth alco-

hol use. Youths exposed to portrayals of alcohol in the media (such as in advertisements and TV shows) have more favorable attitudes toward drinking, increased alcohol use, and increased intentions to drink as adults.<sup>14-17</sup> Psychosocial factors such as depression, acculturation stress, and low self-esteem also appear to influence adolescent alcohol use.<sup>18</sup> Other contributing factors include: school and peer norms for alcohol use, adolescents' perceptions of peer norms and social contexts, geographic location, greater perceived ease in obtaining alcohol.<sup>19,20</sup>

Parents can affect alcohol use by youth through monitoring, modeling, social reinforcement, and communication.<sup>21</sup> Parents also influence youths' drinking expectations by educating them on the risks associated with drinking and warning their children that they would be disappointed if their children drink (parental expectations).<sup>21-29</sup> However, as Simons-Morton<sup>29</sup> concludes: "the findings are not consistent and it is not clear which parenting behaviors may be most important at what age or how these behaviors may affect alcohol initiation and use." Findings also suggest the factors that influence girls differ from those that influence boys.<sup>28,30,31</sup>

## STRATEGIES FOR PREVENTING YOUTH ALCOHOL USE

### *Youth Monitoring*

Some studies demonstrate that parent-based strategies are effective and should be included in the prevention of underage drinking.<sup>32,33</sup> Monitoring is one strategy that has received much attention. Monitoring includes active or passive behaviors, such as asking children where they are going, and with whom, asking them about their activities, talking with other parents about children's activities, staying awake until children come home at night, and personally supervising children's activities.<sup>26</sup> Monitoring can prevent the initiation of substance use (including alcohol) as well as decrease substance use in adolescents who have already initiated use.<sup>27</sup> Moreover, high levels of monitoring can be especially effective in

protecting adolescents from alcohol use and abuse.<sup>33,34</sup> One study found that children in the lowest quartile of parental monitoring initiated substance use at earlier ages.<sup>35</sup> Longitudinal results also show that children monitored closely by their parents at ages 12 and 13 are less likely to use alcohol at ages 14 and 15.<sup>21</sup> Parental monitoring also may affect adolescent drinking indirectly by influencing adolescents' selection of friends.<sup>36</sup>

## COMMUNICATION

Communication with adolescents is another prevention strategy that has been linked to decreased adolescent drinking,<sup>36-38</sup> although one study found no association between parent-child communication and adolescent drinking,<sup>39</sup> and another reported a negative impact.<sup>40</sup> Overall, however, it is accepted that parent-child communication is a fundamental element in reducing youth alcohol use. In fact, a primary goal of the National Youth Anti-Drug Media Campaign is to establish good communication between youth and their parents about substance use including alcohol.<sup>41</sup>

Cohen, Richardson, and LaBree<sup>36</sup> suggest that children who report communicating frequently with their parents have lower drinking initiation rates than other children. Communication skills, such as information exchange skills and problem-solving skills, are linked to families' abilities to cope with everyday problems and to avoid serious problems that can contribute to the risk of adolescent alcohol use.<sup>42</sup> Parental messages discouraging alcohol use are effective in countering pro-alcohol messages in the media.<sup>43</sup> Other communicative efforts initiated by parents contribute to an overall protective effect. They may be as simple as asking children about their day, inquiring about their whereabouts, listening to them when they initiate conversation, and communicating clear expectations about children's behavior.<sup>29</sup>

### *Parental Modeling*

Modeling of healthy drinking behaviors by parents, especially non-use or occasional/moderate use, is a third strategy that



may reduce youth alcohol use, although little empirical research has examined its potential protective function. Rather, parental modeling is generally discussed in terms of the negative impact of parental use on adolescent drinking. For example, parental alcohol use tends to increase the chance of early onset alcohol use and subsequent drinking patterns among children.<sup>44,45</sup>

### **Other Potential Strategies**

Other strategies that appear promising for reducing youth drinking are spending time with children, providing emotional support, connectedness, and expressions of interest to the child,<sup>46</sup> expressing disapproval of underage drinking,<sup>21</sup> and combining support with moderate amounts of control.<sup>21,34</sup> Further, because adolescent alcohol use is significantly correlated with other health risk behaviors, prevention strategies that address alcohol use can affect adolescents' overall health and safety.<sup>34,47</sup>

Other adults, such as aunts and uncles, grandparents, coaches, mentors, neighbors, religious leaders, school personnel, community leaders, and other people who play a significant role in an adolescent's life, can be valuable partners in prevention. Their influence may be direct (e.g., communicating with young people about the negative effects of alcohol; helping parents to monitor youth behavior) or indirect (e.g., increasing protective factors such as values, self-esteem, and social support).<sup>48-51</sup> These adults can serve as positive role models and as confidants with whom children are more comfortable speaking about sensitive topics than with their parents.<sup>50-52</sup> Adults such as these may be especially important to children whose parents are divorced or are unable to provide a good example because of their own problems with alcohol.<sup>49,53,54</sup>

### **ADULT ATTITUDES TOWARD PREVENTION STRATEGIES**

Studies demonstrate low levels of parental awareness about the extent of underage drinking and other alcohol-related behaviors, particularly with respect to knowledge of their own children's involvement.<sup>40,55-57</sup> Whereas some parents believe they are a

potential influence on their children's decisions, others feel they lack the skills to be effective.<sup>57</sup> For example, parents find it increasingly difficult to talk with their children about drinking, drugs, school, friends, use of free time, and personal problems. Parents and children have discrepant perceptions of parents' use of prevention strategies (e.g., monitoring, communicating, modeling, showing respect, and creating rapport) with parents reporting higher utilization levels than what is reported concomitantly by their children.<sup>57</sup> Parents may send their children mixed messages about alcohol. For instance, parents may warn children of the dangers of alcohol, but then model drinking as a way to relax and have fun with friends. Parents often are reluctant to discuss alcohol-related issues with other parents and may feel isolated from other parents who share their views.<sup>55-56</sup> Additionally, most parents are unwilling to participate in formal training programs.<sup>58</sup>

### **PURPOSE**

This research was part of a Community-Based Prevention Marketing (CBPM) demonstration project in Sarasota County, Florida aimed at developing a comprehensive prevention marketing plan to reduce alcohol initiation among youth in grades six through ten. CBPM blends community organization principles and practices, behavior change theories, and marketing techniques into a social change framework for designing, testing, and disseminating public health interventions.<sup>59</sup> A community coalition directs the project and community participatory methods are used for formative research, program tracking, and evaluation research.<sup>60</sup> In this application of CBPM, high school students worked with university faculty and students to conduct extensive marketing research with adolescents and their parents. Community-based participatory research offers many advantages: With their experiential knowledge, community members teach academic-based researchers to view health problems from a new perspective, directing them to new research questions and methods, and

ensuring that interventions are tailored to fit local circumstances. The initial phase of the project focused on adolescents, using qualitative and quantitative research to identify: factors that influence initiation of drinking; how youths access alcoholic beverages; where youths get information about drinking; appropriate spokespersons for alcohol-related messages; and effective strategies for deterring youth from initiating drinking. Because data collected from youths identified parents as a major source of influence on drinking, a second study phase was launched that used qualitative and quantitative methods to identify: parents' attitudes toward underage drinking; their perceptions of their role in prevention; their beliefs about the benefits and costs of four proposed strategies to prevent underage drinking; their ability to deploy these strategies in the community; and the social norms influencing prevention efforts.

Mixed method designs, or those incorporating both qualitative and quantitative components, serve many purposes including generating more insightful and meaningful claims,<sup>61</sup> as well as enhancing the validity of findings through triangulation of results.<sup>62</sup> Studies employing mixed methods also provide the opportunity to present a greater diversity of divergent viewpoints than those presented via quantitative methods alone.<sup>63</sup> The purpose of this paper was to integrate results from a mixed methods research design, encompassing both qualitative and quantitative components, to examine the perceived influence of parents from the perspectives of both youths and parents.

### **METHODS**

This study consisted of a mixed-methods study design for research with youths and parents. In Phase One, qualitative research with youths provided an in-depth understanding of the factors influencing youth initiation of drinking, which were then used to guide the development of a standardized survey to identify significant correlates of adolescent drinking behaviors. In Phase Two, qualitative research with par-



ents explored parental perceptions of their role in preventing youth alcohol use as well their perceived influence to make a difference. Quantitative survey research with parents then provided numerical estimates of the prevalence of parental attitudes and behaviors that emerged from the qualitative research. This section describes the methods used to collect and analyze data from each group. All research protocols, including procedures for obtaining informed consent, followed stipulations of the University of South Florida Institutional Review Board.

## PHASE ONE: RESEARCH WITH ADOLESCENTS

### *Sample*

A total of 206 middle school and high school students participated in the qualitative research conducted in Phase One. The majority of participants were non-Hispanic white (75%), female (62%), and between the ages of 11 and 13 years (67%). Participants were recruited from middle schools, high schools, and community organizations (e.g., Boys & Girls Club, YMCA) throughout the county. Details of the student survey protocol have been published elsewhere<sup>13</sup> but are summarized below. A sample of 6th through 8th grade youth was drawn from ten middle schools, exceptional schools, and alternative schools in Sarasota County that included at least 1% of the county's total public school population for that grade range. Small schools (those having < 1% of the grade population) were not included due to confidentiality and anonymity concerns. A sample of 9<sup>th</sup> and 10<sup>th</sup> grade youths was drawn from all five public high schools. In addition, all private middle and high schools with at least 50 students per grade level were invited to participate.

To detect odds ratios greater than 1.70 with statistical power of at least 80%, a sampling target of 400 completed surveys per grade level was sought<sup>67</sup> representing approximately 30% of the student population. The target was increased by 20% to account for respondent refusals and unusable re-

sponses. The final sampling target consisted of 480 students per grade level. A stratified, random sample of classrooms within schools (with sampling of classrooms proportionate to school size) was used. Classrooms comprised predominantly of students with extreme exceptionalities were excluded. In all, 16 schools participated (15 public schools and one private school). This sample included 113 classes representing 2,407 students. The proportions of boys and girls in the sample were approximately the same (51% boys, 49% girls) and the majority of participants were non-Hispanic white (82%). Passive parental consent for participation was obtained through the Sarasota County Schools.

### *Data Collection*

Researchers chose qualitative methods to explore the range of responses to questions about adolescent drinking in Sarasota County. Data resulted from 22 focus groups and 112 individual interviews. Focus groups were selected to observe youth interaction and influence on attitudes and perceptions about drinking. Individual interviews also were used to explore youth's beliefs and attitudes in the absence of peer influence. When possible, only students of the same age and sex comprised the focus groups. Unless circumstances dictated otherwise, focus group composition included boys and girl no more than two grade levels apart. Youth researchers were trained to conduct the focus groups and interviews because it was felt they would be able to elicit more valid responses from participants than would adult researchers. Landis, Alfonso, Ziegler, and colleagues<sup>64</sup> have described the recruitment and training processes leading up to the interviewing tasks, and McCormack Brown, McDermott, Bryant, and colleagues<sup>65</sup> have reported on the value of using youths as researchers. When possible, one-on-one interviews were conducted by researchers of the same sex as the participant. The research instrument used in focus groups and individual interviews was developed with input from youth researchers. These interviews were

audio taped. Data were collected until the criteria for saturation described by Morgan and Krueger.<sup>66</sup>

Researchers chose quantitative methods to determine the relative significance of various influences on adolescent drinking. A quantitative survey was developed in several stages. The developmental stage included reliance on data obtained in the focus group and one-on-one interviews. These qualitative results and an extensive review of literature captured youths' perceptions of the benefits of and barriers to alcohol use, social norms related to alcohol use, and alcohol accessibility, all of which would be used ultimately to ascertain correlates of actual use. Several behavioral items were extracted from the nationwide Youth Risk Behavior Survey (YRBS) conducted by the U.S. Centers for Disease Control and Prevention [CDC].<sup>68</sup> A panel of experts in survey design, measurement, and youth risk-taking behavior reviewed these items and made recommendations. Community members and several youth from the target population also contributed to the survey review and revision process to address face validity considerations.

The survey underwent four rounds of pilot testing with random samples of 6th through 10th grade youths who were not part of the subsequent study. The researchers carried out semi-structured interviews to assess item clarity and consistency in meaning across respondents and grade levels. Revisions were made through each round, with the fourth stage of pilot testing being an end-to-end test of the survey protocol.<sup>69</sup>

Three alcohol self-report behavior measures were used: lifetime alcohol use; recent alcohol use; and binge drinking. Assessment of lifetime use of alcohol occurred through the item: "Have you ever had a drink of alcohol (more than a few sips)?" Measurement of recent alcohol occurred through the item: "In the past 30 days, have you had any alcohol to drink?" Determination of binge drinking occurred through the item: "In the last year, have you had five or more drinks of alcohol in one day?" All three dependent variables had dichotomous (*yes* /



no) response options.

Responses to a series of attitude and belief items with a four-point Likert-type scale ranging from *strongly agree* to *strongly disagree* were obtained. Items assessed students' perceptions of the benefits of and barriers to alcohol use, accessibility of alcohol, and perceived social norms about alcohol use. Other items included students' perceptions of responsible drinking (situations in which it is "OK" for youth to drink) and parental, peer, and sibling alcohol use behavior. Additional audience segmentation variables consisted of parental control of youth, employment, delinquency in the past 12 months, participation in school and community activities, parental influence on youth alcohol use, depression, school connectedness, quality of the father-child relationship, quality of the mother-child relationship, family structure, number of older siblings, and school performance (i.e., typical grades). Demographic variables included grade level, town of residence, ethnicity, and sex. Members of the research team administered the surveys. To minimize student anxiety and reporting bias associated with teacher presence, only the research team members were in the room to administer the survey. Completion time took 20 to 50 minutes.

### Data Analysis

Each audiotape was transcribed. A minimum of two researchers coded the data by looking for emerging themes and assigning a code word to each theme. After coding, transcripts and codes were entered into *Ethnograph*<sup>®</sup>, a software program that facilitates data analysis. Using *Ethnograph*<sup>®</sup>, each code and its corresponding passages from the transcripts and notes were compiled. Afterwards, at least two researchers read each code and the corresponding passages to determine the main points found within each theme, as well as to identify supporting quotes. Researchers worked independently to code and summarize themes so that inter-rater reliability could be assessed and any discrepancies resolved before summarizing results. Youth researchers reviewed all results and assisted with data interpretation.

Frequency distributions described the sample demographics and prevalence of behaviors of students completing the survey. Cross-tabulations and Pearsonian chi-square tests identified bivariate associations between the alcohol behavior variables and potential correlates. Logistic regression identified factors significantly associated with each of the three alcohol behavior variables. Logistic regression models reported in this paper were built by adding variable blocks in the following order: demographic variables; potential audience segmentation variables; and alcohol attitude and belief items. Odds ratios and 95% confidence intervals were calculated on each item with respect to its relationship to the three dependent variables.

## PHASE TWO: RESEARCH WITH PARENTS AND OTHER ADULTS

### Sample

Sixty-one adults participated in focus groups and semi-structured interviews (10 African American, 21 Hispanic, and 30 non-Hispanic white). Participants included parents, guardians, grandparents, and other adult relatives of adolescents in middle school and high school, and community leaders who work extensively with adolescents in those age groups. Although the sample was one of convenience, an effort was made to include participants from representative geographic locations and ethnic backgrounds within the county.

The target population for the survey was parents of youths in grade levels 4 through 8. The sample was drawn from a list generated by the Sarasota County School Board. The sampling strategy resulted in a stratified random matrix sample of 4,500 parents (900 per grade level), with stratification by grade level, proportional sampling by school, and selection of parents at the level of individual student.

### Data Collection

Qualitative methods were chosen for research with the adults as these strategies best enabled exploration of the range of participants' responses to the research questions. Using Morgan and Krueger's protocols,<sup>66</sup> re-

searchers conducted nine focus groups. Focus group moderators were matched with participants based on ethnic background when possible. Although some Hispanic focus group participants spoke both English and Spanish, both Hispanic focus groups were conducted primarily in Spanish per the participants' preference. Thirteen individual interviews also were conducted (three with Hispanic participants and ten with non-Hispanic white participants). All individual interviews were conducted in English.

The semi-structured interview schedule was developed with input from community members. It was pilot tested with parents and revised with their input and that from other community members. Researchers used the same instrument for focus groups and interviews. The instrument was adjusted for the two Hispanic focus groups according to the linguistic and cultural norms of the participants. Six focus groups and three interviews were audio taped. Researchers prepared detailed written notes for the remaining focus groups and interviews. Data collection was carried out until saturation was achieved.

The survey was adapted from previously published measures of parental communication, monitoring and control, using results from the qualitative research and community advisory members' feedback to tailor items for the local community. Because one of the research goals was to facilitate direct comparisons between youth and parent ratings of parental communication and control related to youth alcohol use, survey items were constructed to parallel items on the youth survey. Additional items to assess parental self-efficacy and perceptions of youth drinking norms were adapted from ones developed by Beck, Ko, and Scaffa.<sup>70</sup> Items regarding parent communication were adapted from other relevant literature.<sup>32,70,71</sup> The survey was pilot tested and revised to enhance item clarity and comprehension.

Survey administration included three steps, consisting of two attempts and a reminder postcard, following Dillman's Total Design Method.<sup>72</sup> Each of the first two mail-



ings included a cover letter addressing the elements required for informed consent and inviting parents to complete the survey, the survey itself, and a business-reply envelope. The letter was co-signed by the chairperson for the community advisory committee that oversees the Sarasota Demonstration Project and the community marketing coordinator who staffs the project on behalf of the Sarasota County Health Department, rather than by university-based researchers. Responses were tracked using a randomly generated identification number. Ten days following the mailing of the cover letter and survey, all potential respondents were sent a second mailing of the cover letter, survey, and business reply envelope. Third, a reminder postcard was sent to all potential respondents one week after the second mailing. Twenty-six percent of first attempt surveys and 11% of second attempt surveys were returned, for a total response rate of 37%. Eighty-one surveys returned were excluded from analysis due to duplicate responses, responses for children not in the original target sample, large amounts of missing data, and failure to respond before data analysis was conducted (e.g., greater than 12 weeks after original attempt). Ultimately, respondents were more likely to be female (81.7%), white (86.3%), and have children living with both parents (65.7%).

### Data Analysis

Qualitative data analysis followed the same protocol as that used for analyzing adolescent data. Analysis of survey responses included compilations of frequencies and proportions to describe sample characteristics, and the prevalence of belief, attitude and behavior items. Selected crosstabulations identified bivariate associations.

## RESULTS

### Adolescents

Qualitative and quantitative results are integrated in this section. In focus group discussions, students reported learning about alcohol from observing their parents. Many students have watched their parents and other adults drinking alcohol to relax

and have fun: "It's fun to have it when you're grown up and when you're having parties and stuff." Others noticed their parents drinking to cope with problems: "My dad says that it tastes nasty but it just makes him feel relaxed." Some students felt their parents drank excessively: "My dad's addicted. You can't even get him to not drink for a day. He'll sit there and kick back two 24 packs in like eight hours." Results of the regression analysis from the student survey are shown in Table 1.

Among other things, these results revealed that youths whose mothers drank alcohol on special occasions were more likely to have ever used alcohol (OR=1.75, CI=1.01, 2.12). Also, youths whose fathers drank alcohol on special occasions were more likely to have ever used alcohol (OR=1.74, CI=1.16, 2.60). In addition, among youths who had ever used alcohol, the greater their reported frequency of alcohol use by their mother, the more likely they were to have drunk during the previous 30 days (OR=1.15, CI=1.01, 1.30). Moreover, the greater their reported frequency of alcohol use by their father, the more likely they were to have engaged in binge drinking in the past year (OR=1.15, 1.02, 1.29). Thirty percent of adolescents surveyed stated that they had wished that one or both of their parents would drink less. Students also reported that about 75% of their parents usually drink on special occasions, but only 10% reported that their mothers (and 21% of their fathers) drink every day or almost every day.

Regression results revealed that adult supervision also influenced youth drinking. The more frequently youths reported spending more than an hour after school without adult supervision, the greater the likelihood that they reported ever use of alcohol (OR=1.14, CI=1.02, 1.27), and binge drinking during the past year (OR=1.15, CI=1.01, 1.30). Furthermore, the time youths spend in extracurricular activities under adult supervision was found to have a protective influence on adolescent drinking. For example, the more frequently youths were involved in school-sponsored

activities such as band, drama, or school clubs, the less likely they were to have engaged in binge drinking during the past year (OR=.80, CI=.69, .93). However, the more youths worked outside of the home during the school year, the more likely they were to have ever drunk (OR=1.20, CI= 1.02, 1.40).

Sixty-three percent of students agreed or strongly agreed with the statement: "It would be easy for me to get alcohol if I wanted to." Youths expressing agreement with this statement were more likely to have ever drunk (OR=1.36, CI= 1.12, 1.64). Students reported gaining access to alcoholic beverages through their parents. Many youths stated that parents introduced them to alcohol during a special occasion, such as a holiday, wedding, graduation, picnic, or adult party. Some students have been given alcohol by their parents as a deterrent: "Because my dad let me try it to see if I liked it, and I hated it. That was when I was really young. So I wouldn't do it again." Some students reported their parents purchasing alcohol for them. Some youths reported having stolen alcohol from their parents if they were unable to obtain alcohol another way: "If their parents have some in their house, they might sneak it." Places where young people reported having consumed alcohol include the park or woods, on side streets, in cars, behind dumpsters, in alleys, in vacant houses, behind buildings, in school bathrooms, at concerts, in their rooms, or at home when their parents are gone: "Somewhere where parents can't find them."

Parental communication was also important to students. According to qualitative results, the students most often mentioned parents and older siblings as people they trust to provide them with information or advice about alcohol: "My mom. That's the only one I'd trust." About 75% of youths expressed agreement with the statement: "When my parents/guardians give me advice about drinking, I usually listen to them." Among youths who had initiated drinking, the more strongly youths agreed that they usually listen to their parents' advice about drinking alcohol, the lower the



**Table 1. Logistic Regression Analysis of Parental Influence Factors Associated with Youth Alcohol Use**

Survey items	Ever drink	Recent drink	Binge drink
<b>Modeling</b>			
In general, does your mother (or female guardian) drink alcohol on special occasions (i.e., holidays, weddings)?	OR =1.75 CI=1.01, 2.12	NS	NS
Which of the following best describes how often your mother (or female guardian) drinks alcohol?	NS	OR=1.15 CI=1.01, 1.30	NS
In general, does your father (or male guardian) drink alcohol on special occasions (i.e., holidays, weddings)?	OR=1.74 CI=1.16, 2.60	NS	NS
Which of the following best describes how often your father (or male guardian) drinks alcohol?	NS	NS	OR=1.15 CI=1.02, 1.29
<b>Communication</b>			
My parents/guardians think it is OK for me to drink alcohol.	OR=1.83 CI=1.40, 2.40	NS	NS
When my parents/guardians give me advice about drinking alcohol, I usually listen to them.	NS	OR=.75 CI=.61, .93	NS
<b>Monitoring</b>			
On school days, how often do you spend more than an hour without an adult around?	OR=1.14 CI=1.02, 1.27	NS	OR=1.15 CI=1.01, 1.30
During the school year, how many hours per week do you typically work at a job that you get paid for (including weekends)?	OR=1.20 CI=1.02, 1.40	NS	NS
How often do you participate in school-sponsored activities (e.g., band, drama, school clubs)?			OR=.80 CI=.69, .93
<b>Access</b>			
It would be easy for me to get alcohol if I wanted to.	OR=1.36 CI=1.12, 1.64	NS	NS



likelihood that they reported drinking during the *previous 30 days* (OR=.75, CI=.61, .93). In contrast, the more youths believed that their parents approved of their drinking alcohol, the more likely they were to have *ever* used alcohol (OR=1.83, CI=1.40, 2.40).

Students referred to several positive influences of parental communication on their attitudes and behaviors. They reported that some parents pointed out the negative consequences of drinking when demonstrated by friends or characters in the media: “*Every time there’s a commercial on TV and my mom is watching it, she’s always like, ‘Don’t do that,’ and I’m like, ‘I won’t.’*” Warning children about the punishment they would receive if caught drinking was perceived as positive by some: “*My daddy told me I’d be in big trouble if I did it, so I don’t want to be in big trouble.*” Other parents taught their children how to refuse offers of alcohol. Though students frequently mentioned parents as trusted sources of information, they made it clear they do not want to be lectured or nagged by their parents: “*She shouldn’t yell at me and tell me what I have to do.*” Instead, several students stated they would prefer their parents talk to them about alcohol like a friend and tell them the truth about it in a mature conversation: “*I want her to talk to me like an adult.*” The failure of some parents to communicate with adolescents about alcohol and a lack of parental presence were seen as negative influences on children: “*My mom hardly tells me about drinking or smoking or anything.*”

### Adults

In focus groups and individual interviews, adults discussed their attitudes toward adolescent drinking, perceptions of their role in prevention, the benefits and costs of four proposed strategies to prevent underage drinking, their ability to use the strategies, and the social norms surrounding the strategies. Results are separated into five categories: attitudes toward adolescent drinking and prevention; communication; modeling behavior; monitoring; and limiting access. Survey results are integrated in

this summary to embellish points raised in, or emanating from, the focus group and one-on-one interviews.

### ATTITUDES TOWARD ADOLESCENT DRINKING AND PREVENTION

Most parents interviewed were concerned about the level of alcohol consumption in the county. They felt the environment of Sarasota County contributed to adolescent drinking: “*It’s sort of relaxed, laid back, party... There’s that feeling. And I think the kids sort of just get sucked right into that too.*” There was a general perception that drinking was common among adolescents. In interviews, when asked to estimate the percentage of youths who drink alcohol, participants estimated between 30% and 100%, with 75% being the most frequent response. However, some adults were quick to point out that not all youths drink. Results from the mailed survey indicated that approximately 53.3% of parents think that some youths their child’s age drink alcohol, with 6.4% believing that half or more of youths their child’s age consume alcohol at least once in a while. (Actual data from the student survey revealed that 68% of boys and 66% of girls report *ever* drinking alcohol; and among youths who report *ever* drinking, 49% of boys and 48% of girls report *recent* drinking, and 39% of boys and 33% of girls report *binge* drinking at least once in the past year.)

Most parents interviewed reported having been exposed to alcohol when growing up, and the majority reported initiating drinking as adolescents: “*I come from an Italian background, and that was a normal thing with the grandparents to always have wine at the table.*” Many felt that drinking was still a rite of passage with which all youths will be confronted at some time during adolescence: “*It’s like still a phase of life, a rite of passage that they are going to either be exposed [to] or be confronted with.*” For most participants, their personal experiences with alcohol as adolescents had influenced the way they handled the subject with young people: “*Half of my drinking was done in my own neighborhood at so-and-so’s*

*house because her mother worked at night... The supervision, I think, for me was the biggest part because [my parents] truly never questioned what I was doing... So some of the things I do with my daughter... I’m like, ‘I know.’*”

All participants felt that adolescent drinking was unacceptable if youths were unsupervised or if it put them in danger. Many adults felt that it was unacceptable under any circumstances. Others concluded that it is acceptable for adolescents to drink if they consume limited amounts in a supervised or controlled environment. Participants were divided in their views about whether children should be permitted to taste alcohol. Some felt that letting children taste alcohol was a means of prevention: “*I’ve encouraged him to take a sip to see what it tastes like. And he doesn’t like it... And I don’t really want him to begin to like it.*” Others felt that letting children taste alcohol could lead to negative consequences: “*Then they realize how good it tastes, and then when you are not looking, that’s how I think a lot of kids become addicted to drinking.*” Cultural norms and traditions appeared to play a role in determining situations in which adults viewed adolescent drinking as acceptable: “*I don’t think it’s acceptable anytime, except for maybe if you’re with your family and it’s a holiday and you’re having a glass of wine.*” Some Hispanic participants were unaware of the legal drinking age in the United States: “*Maybe when they are over 18. Otherwise, you can get into a lot of trouble.*” Results of the mailed survey indicated that parents overwhelmingly (> 95%) rejected youth drinking regardless of circumstances (e.g., holidays, weddings, family reunions, other special occasions, use under adult supervision) or level of use (e.g., drink responsibly, don’t drink and drive). In addition, 96.2% of parents indicated that they believe their child would be upset if they were caught drinking alcohol.

Some adults questioned the influence they have over adolescent drinking behaviors. They were concerned about the influence of peer pressure in children’s lives: “*For some reason, they think they have to do*





that...to be cool, to be accepted.” Many adults felt that peer pressure was often stronger than their influence: “It’s just like the power of their friends is stronger than anything we can possibly do with them. And what we do is like putting plugs in a dam that’s about to bust.” Some believed that prevention strategies must be implemented from an early age (responses ranged from birth to 5<sup>th</sup> grade) to have an appreciable influence. Results of the mailed survey revealed that 93.3% of parents think they *can* influence whether or not their child chooses to drink alcohol.

Parental involvement was an overarching theme in adult focus groups and one-on-one interviews. Participants acknowledged that parental involvement was essential to the success of the prevention strategies discussed. However, most reported that getting parents, including themselves, more involved in children’s lives and in the community is extremely difficult: “You can’t get parents involved across the board. And it’s not economic, it’s not color, it’s not anything. You just can’t get parents to be involved.” Participants identified several reasons for the lack of parental involvement: parents do not have time, or at least they feel they do not have time; parents are unwilling to make sacrifices for their children; parents are too tired or stressed from work; activities are held at times when parents are unable to attend; parents are not mature enough when they have children (i.e., “babies having babies”); parents do not care enough about their children; parents are unaware that their children need them; parents are unwilling to participate in organizations because of political differences; linguistic barriers exist; and parents do not see positive results from their participation in past initiatives.

Interviewees perceived a need for additional support for their efforts to prevent adolescent drinking. Parents reported difficulty talking with other parents about youth drinking. They believed their efforts are negated by the mixed messages young people receive from other family members or from the community-at-large. Most felt

that they and other adults needed to be educated about creating an awareness of the problem of underage drinking, creating an awareness of the need for adults to help with prevention, and giving adults the skills and information they need to provide assistance. They suggested that education of parents must include the extent of adolescent drinking in the community, the consequences of adolescent drinking, the vocabulary youths use to talk about issues related to alcohol, other information and skills to use prevention strategies effectively with youths, and ways to work with the community to increase support of prevention efforts.

### COMMUNICATION

Participants agreed that communicating with youth is a valuable prevention strategy, and that all parents talk or attempt to talk with their children about alcohol. In interviews, parents provided a number of examples of talking about alcohol: explaining adults’ beliefs about underage drinking; telling youths about the negative consequences of drinking; pointing out examples of people who have had problems caused by alcohol; sharing their own alcohol-related experiences; teaching them what responsible drinking means; telling youths that underage drinking is illegal and teaching them to follow the law; asking youths about their beliefs and drinking habits; and asking them about their friends’ beliefs and drinking habits.

Communication with youths about alcohol was viewed almost universally as effective, particularly when used in conjunction with other prevention strategies such as monitoring and modeling behavior. Even participants who questioned communication’s effectiveness still believed it to be a “wonderful approach.” Many saw communicating with youths about the effects of alcohol and about appropriate alcohol use as a way to protect them from dangers associated with alcohol use and abuse: “I think you should make children aware of the dangers...and that there will be a time in their life when they’re going to try it if they want to try it, but that they’re con-

scious enough to know the pros and cons of the consequences.” Many participants also viewed communication as a way to enhance relationships with their children: “I know what they think because they tell me how they feel when they’re with people who are drinking.”

The majority of adults interviewed did not identify any problems with talking to adolescents about alcohol. The most common barrier mentioned was time and energy; parents have limited opportunities for relaxed exchanges with children because both they and their children have so many competing demands. Some adults found it easy to communicate with adolescents about alcohol: “That [strategy] is the easiest for me as well...Education-slash-talking, for me.” Others questioned their abilities to communicate with children effectively: “I can talk a blue streak, and it’s like, ‘Are they listening or zoning me out, tuning me out?’” Many adults felt they would benefit from increased knowledge about adolescent drinking and communication skills training: “Parents have to have the tools to know what to do, how to talk to them.” Despite perceived barriers to communication, results from the mailed survey suggested that 94.1% of parents talk to their children about school activities, 96.4% talk to their children about their activities outside of school, and 78.3% talk to their children about where their children go and what they do with friends at least “several times a week.” Specific to communication about alcohol use, 97.1% of parents have told their child how they feel about drinking alcohol, and 99.2% say they believe their child listens to the parental advice that is offered. However, just 46.0% say they have spoken to the parents of their child’s friends about drinking.

### Modeling

Among parent respondents to the mailed survey, 72.5% indicated they drink on special occasions, and 25.0% described their alcohol consumption frequency as “at least once a week” or more often. In addition, 64.1% strongly agreed or agreed that it is “OK for parents to drink alcohol in front of their children.”

Most adults interviewed felt strongly



that role models are important because children imitate the behaviors they see around them. Many stated that they strive to model appropriate behavior for their own children and for others around them: "Don't say, 'Do as I say and not as I do.' You can't." Some parents felt that other family members and other adults can be equally influential as role models for their children: "You've got to have the whole family involved, not just you." Some participants recognized a need to have positive adult role models for children whose parents are unable to provide such an example: "I think it's important that if you don't think you're a good role model, then you find good role models for your kids." Some also believed it was more important for the father to model the behavior than the mother, particularly among Hispanic cultural groups.

Many adults thought that modeling was the most effective strategy for preventing underage drinking: "Because other strategies are not effective if you're not modeling. You can't ask someone to do what you are unable to do." Most parents stated that modeling reinforces the messages they give adolescents about not drinking. Many interviewees said they like modeling because it sets a standard of behavior for young people: "It sets a standard and establishes certain rules and regulations in your household." Some parents liked modeling because they believe that as youths grow up, they will adopt the behaviors they experience in childhood to cope with problems: "Yeah, because when you're under stress, you're going to fall back on what you saw and knew as a child." Furthermore, in the mailed survey, 53.7% of parents expressed agreement that not drinking is the "best way for parents to prevent their children from drinking alcohol."

Although modeling was recognized as an effective prevention strategy, it was also viewed as one of the most difficult strategies for adults to use. Some parents have already changed their behavior to become good role models: "It wasn't hard for me. I don't know about other parents." Others thought it was a good idea, but chose not

to use it as a strategy or could not because their spouse did not support it: "As long as they see what their father is doing, you don't have control over how to get their attention." Some participants felt that modeling appropriate behavior was no guarantee that adolescents will abstain from drinking, and that it does not have an immediate effect on adolescents' drinking behaviors: "The only thing with modeling behavior is, unfortunately, I think that it may take a while for that to catch on. It may not help with the very young. It may be something that they look back on and use as an older teen [more] than they do maybe as a younger teen." Some parents chose not to model because they do not want to abstain from drinking alcohol: "I just feel like I'm grown and I can do that. I've worked hard and they done got [sic] on my nerves and I can do that." Some participants mentioned that adult peer pressure and social and cultural norms contributed to the difficulty of modeling behavior: "Even though we try not to drink when we take our kids. Others do not feel the same way... It is hard to be different."

## MONITORING

Participants generally felt that monitoring youths was important in preventing them from drinking alcohol. They provided numerous examples of what monitoring meant to them including: knowing what their child is doing at all times (where the child is, what the child is doing, and whom the child is with); knowing their child's friends; knowing the parents of their child's friends; talking with the parents of their child's friends if their child is going to the friend's house or spending the night; directly supervising young people's activities; involving youths in structured activities that are supervised by other adults; having youths come over to their house instead of letting their child go to others' houses; deciding with whom their child can spend time; driving their child to and from school and other places; smelling their child's breath; and, staying up until their child comes home to see if they have been drinking.

Most participants felt that monitoring

was an effective prevention strategy. A few suggested monitoring as a way to limit their child's access to alcohol: "You gotta know when your kid goes over to Susie's house whether Susie's parents think it's okay to drink. And if you don't know that, then you don't have control." Monitoring was seen as a part of parenthood and the responsibility of protecting a child from harm: "I feel better if I know where they are and what they are doing. That is my responsibility as a parent." Some parents felt that monitoring helps to establish good relationships with children. Parents also mentioned monitoring as a way to establish discipline and to let young people learn how to make good decisions: "Parents can serve as a backup and give feedback, letting kids make mistakes, but in a controlled environment."

Interviewees generally agreed that monitoring requires a great deal of time and effort: "Like you said, the supervision of the home they're in, and that takes a lot of work... That's the most work for a parent." Parents worried that their children may feel they are invading their privacy, being over-protective, or behaving in an untrusting manner: "That makes him feel that the trust that you instill in him is not there." Parents also mentioned the monetary and career sacrifices that must be made to supervise their children: "I have to say that I don't work because I don't want my son to be alone for three hours after school... And we spend more than we can afford on computer stuff for him so that he will have all this stuff other kids want to play with so they'll come over to our house so I can supervise who he is with. And we're going broke."

Although some participants reported that they find monitoring easy, most felt that it is difficult to do well. In a world with such diverse opinions, it takes courage to talk with other parents about their views on drinking and supervision of their children: "These are things you gotta work up the courage to ask. It's hard." Parents felt that their fellow parents were not always willing to assist them with monitoring their children: "Because no matter how well you think you know that other parent, you don't know what



that other parent's going to do. I have had parents cover up for my daughter." Several parents said that it gets increasingly more difficult to supervise children as they grow older. A few participants also felt that other parents do not want to be told about their children's behavior: "Now you can't just act neighborly, go and say, 'I saw Joe in the road drinking a beer or smoking a cigarette today.' You'll get cussed out."

Results from the mailed survey suggested that there may be deficits in parental monitoring of youth activities. For instance, 33.1% of parents said they know their child's best friend only "somewhat," "a little," or "not at all" and an even greater percentage (51.0%) responded similarly regarding knowing the parents of their child's best friend. In addition, one in four parents (24.9%) indicated that his or her child spends one or more hours per day unsupervised, two or more days per week. Furthermore, 40.1% say they "never" or "almost never" wait up for their child on weekend nights.

### LIMITING ACCESS

The majority of parents interviewed felt that limiting access to alcohol is part of the solution, but that it is *not* effective by itself. Participants knew of several ways that youths access alcohol: stealing it from the refrigerator or liquor cabinet at home; having older teens buy it for them; having their parents provide it to them; having other adults buy it for them; acquiring alcohol at public/community functions such as concerts; buying it with false identification; and learning other ways of acquisition from the Internet and other sources. Some parents liked the strategy of limiting access to alcohol because it serves as a barrier between supply and demand: "Any barrier between the supply and the user has the potential to keep SOME kids from drinking it."

A few participants felt that trying to limit youth access to alcohol would increase their curiosity and, thus, actually increase the likelihood that they will use it: "I feel that you're still going to put that curiosity in them...if you try to limit it." A few also felt

that limiting access would prevent them from learning how to make choices and deal with situations related to alcohol: "I want my children to see everything. Because that's the real world that we are living in...So the only way you know how to deal with things unless you are put dead in that spot and you have to deal with it."

Most interviewees who believed in limiting access to alcohol in the home felt that they were able to do so: "We don't keep alcohol in the house very often, but when it is,...if I go in the refrigerator and I see that there was five there and now there's four, there's a problem." Results from the mailed survey confirmed the perception that limiting youths' access is possible. Overall, 96.6% of parents indicated they were confident they could limit children's access.

Parents interviewed felt that it was difficult for them to limit youths' access to alcohol because adults want it in the house for themselves. Many parents believed it was not uncommon for other parents to serve alcohol to young people: "Some parents out there will allow their children to have parties and have alcohol. And then they have this theory that because they are at their home that it's okay." Regardless of their intentions, almost all participants felt it was unrealistic to expect that they can limit access completely: "How do you limit it? It's everywhere."

### DISCUSSION

The mixed-methods approach offered numerous strengths. It examined common issues from both youth and parent/adult points of view. Instruments for both the youth and adult surveys included multi-stage development with expert review and audience tailoring. Potentially important socio-demographic variables were identified for inclusion, and survey administration was conducted in ways to minimize respondent bias. Oversampling of parents with respect to ethnicity was performed prior to completing interviews, and interviews were conducted in the preferred language (English or Spanish) of the participants to optimize comprehension and comfort. Moreover, interview content was

solicited from community members to optimize audience relevance.

This study found that adults influence youths' decisions about alcohol use both positively and negatively. Adult behaviors identified by both youths and adults as important for the prevention of alcohol use were communication with youths, modeling appropriate behavior, monitoring youths, and controlling access to alcohol.

These findings corroborate other research that documents the contributions of adults relative to alcohol use by youths. Results confirmed that youths' perceptions of the normativeness of alcohol use stems from exposure to adults, peers, older siblings, and the media. Most parents expressed concern about youth alcohol use, although it was sometimes unclear whether they could make accurate estimates of the proportions of youths who drink, or whether they believed their own children were using alcohol.

### Translation to Health Education Practice

Multifaceted interventions are endorsed in several other studies of youth alcohol use.<sup>34,36,47,58,59,73,74</sup> The overall effectiveness of a four-pronged approach addressing parental communication, modeling, monitoring, and controlling access to alcohol might be enhanced if parents added other parents as communication links. As reported above, fewer than half of parents indicated having had discourse about alcohol with the parents of their children's friends. Even though parents were aware that other parents could be providing alcohol for their children, they felt unable to monitor access as much as they would like to, in part, because of discomfort with talking to other parents about drinking. The barriers to strategy utilization reported by adults corroborate ones reported in other studies of parent-focused prevention efforts.<sup>75-77</sup> Parental communication ability and perceived effectiveness of communication are lesser barriers than feeling they have the time and the right opportunity. Parents' recommendation that they receive prevention training before their children reach adolescence is congruent with



other research.<sup>27</sup>

Adults' perceptions of monitoring as a means of limiting youths' access to alcohol is consistent with the model of parental involvement in adolescent drinking and driving advanced by Beck and Lockhart.<sup>78</sup> In the current study, parents and youth both viewed monitoring as the intervention strategy most in need of improvement. Youths validated in both interview and survey responses that alcohol can be obtained easily, in part, due to inadequate adult monitoring. Furthermore, unsupervised time after school was statistically related to both lifetime drinking and binge drinking. In addition, the more hours youths worked at a job during the school year, the more likely they were to have ever drunk. This finding conflicts with some adult ideals that equate getting a job with taking on responsibility, growing up, and reaching maturity. Whereas such a belief may have some validity, working outside the home also reduces parents' direct monitoring ability. Moreover, working also brings youth into contact with older, influential peers, and provides them with discretionary income that might be spent on alcohol. The relationship of work and youths' ever having used alcohol may be worthy of future investigation.

Limiting access is a prevention activity that parents feel they can perform, although one that not all agree ultimately prevents youth alcohol use. That nearly two-thirds of the youths surveyed indicated that they could get alcohol "if they wanted to" severely questions parents' current efforts at monitoring and controlling access. The absence of clear communication and monitoring may be perceived by youths as implying tacit approval of [their] drinking.

It was encouraging that youths reported respect for parental guidance, where alcohol is concerned, providing the guidance is framed positively. Three-fourths of youths reported that they listen to parental advice concerning drinking decisions. Some cultural variations may be present, particularly with respect to modeling (e.g., Hispanic) where the influence of the father's behav-

ior on youths' practices may be greater than that of the mother's. Modeling sets a clear standard for youths, albeit one that some parents struggle to operationalize. Youths reported inconsistencies in parental modeling, and many parents felt unable to model successfully.

The prevention strategies discussed in this paper are likely to have positive effects on youth alcohol use as well as on their general health and safety. For example, when adults communicate frequently with youths, they not only have the opportunity to educate them about alcohol, but also to communicate with them about other health issues and risk-taking behaviors, improve their relationships with them, enhance young people's media literacy, improve their decision-making ability, and augment their own understanding of related health issues facing youths in the community.<sup>32,76</sup> Prevention strategies must be coordinated throughout the community so that parents and other adults are supported in their efforts. Support for parents and other adults in preventing youth alcohol use may include increasing the community's awareness of the problem, changing community norms and policies, engaging the schools and the media, having appropriate and consistent law enforcement—including citation and prosecution, and training adults to be more effective prevention partners.

Beck and Lockhart<sup>78</sup> suggest that if adults are unaware of, or fail to confront the facts about, the extent of underage drinking, especially concerning their own children, they will be unmotivated to embrace prevention strategies. Therefore, prevention efforts must begin by increasing adults' awareness and acceptance of the problem. Involving parents and other adults in trainings to reduce youth alcohol use not only will increase their prevention skills, but also contribute to children's perceptions of monitoring and involvement, thereby serving as another protective factor against youth alcohol use.<sup>79</sup> Adults are more likely to take advantage of prevention strategies if they feel they will be able to use them effectively.<sup>78</sup> Networking and social support

from other parents are important factors in determination of parental self-efficacy. However, many parents feel unable to discuss issues surrounding youth alcohol use with other parents, making it difficult for them to network and get support from persons whose experiences parallel their own. Thus, prevention training must take into account parental reluctance, and provide parents with encouragement and methods that initiate and foster discussions with other parents who can support their efforts.

As early as 1990, experts recognized the need to provide culturally appropriate prevention strategies.<sup>80,81</sup> Such strategies are based on the norms and values of the population they are attempting to influence. The forum in which the information is presented, the spokesperson, the values incorporated, and the strategies suggested need to be appropriate for the priority audience.<sup>81</sup> For example, self-help groups in which participants share their problems with strangers have been shown to be ineffective for reaching the Hispanic population, although they have been effective for non-Hispanic whites.<sup>82</sup> In the African American community, pastors or ministers may be a trusted source of information to which parents and other adults can turn for advice.<sup>82</sup> Finally, training programs should address the risk and protective factors of youth alcohol use that are unique to each ethnic group.<sup>83</sup>

## LIMITATIONS

This study has some notable limitations. Youths participating in focus groups and individual interviews were not a representative cross-section of students in the county (e.g., girls and non-Hispanic whites were overrepresented). Youths participating in the survey were predominantly non-Hispanic whites. Although closely representing the ethnic makeup of Sarasota County, Florida, the youths were not representative of other venues in Florida or the nation. Adult interviewee recruitment was by convenience sampling, and although the adults had gender and ethnic mix as a group, this diversity should not be construed as comprising true representativeness. The parent



survey response rate was just 37% despite the researchers' fidelity to Dillman's Total Design Method.<sup>72</sup> Moreover, surveys were most likely to be completed by persons who were white and female and from families where children lived with both parents. This profile is a significant departure from the actual demographic profile of the community, possibly restricting its overall value for planning interventions. In addition, these results suggest that future researchers reconsider the adequacy of Dillman's survey methods for some populations.

Notwithstanding the limitation in parent survey response rate, there were numerous points of corroboration between these results and those of adult interviews with an ethnic cross-section of parents. Additional areas of corroboration can be found in comparisons of qualitative and quantitative data collected from (e.g., drinking to cope with problems).

Despite this particular study's limitations, community-based demonstration projects have been shown to be useful as real world tests of prevention theories.<sup>84</sup> When findings have been "repeatedly documented" by several demonstration projects, the knowledge gains can be assumed to be statistically reliable and generalizable. The current study's employment of a mixed-methods strategy further augments statistical conclusion validity around these points of alcohol prevention and intervention where youth and their parents are concerned. The relevance of alcohol use among young people in the national health agenda substantiates continuous evaluation of prevention and intervention strategies. The role of parents and other adults in adopting strategies that reduce youth alcohol use is pivotal in improving understanding of prevention science, especially at the community level. Such improvement not only may contribute to the reduction of youth alcohol use in the future, but also the creation of safer communities. Optimal effectiveness requires that parents and other adults be aware of alcohol use among children and youths, be motivated to involve themselves in prevention, possess adequate knowledge

and skills to make correct prevention decisions, and obtain and maintain the support of the community.

## REFERENCES

1. Committee on Substance Abuse of the American Academy of Pediatrics. Alcohol use and abuse: A pediatric concern. *Pediatrics*. 1995; 95:439-442.
2. 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.
3. Hawkins JD, Graham J, Maguin E, et al. Exploring the effects of age on alcohol use initiation and psycho-social risk factors on subsequent alcohol misuse. *J Stud Alcohol*. 1997; 58:280-290.
4. Schulenberg J. Adolescent risk factors for binge drinking during the transition to young adulthood: Variable and pattern-centered approaches to change. *Dev Psychol*. 2003; 32:659-674.
5. Cooper M, Orcutt H. Drinking and sexual experience on first dates among adolescents. *J Abnorm Psychol*. 1997; 106:191-202.
6. Cooper M, Peirce R, Huselid R. Substance use and sexual risk taking among black adolescents and white adolescents. *Health Psychol*. 1994; 13:251-262.
7. Fergusson D, Lynskey M. Alcohol misuse and adolescent sexual behaviors and risk taking. *Pediatrics*. 1996; 98:91-96.
8. O'Malley P, Johnston L, Bachman J. Alcohol use among adolescents. *Alcohol Health Res World*. 1998; 22:85-93.
9. Windle M, Shope JT, Bukstein O. Alcohol use. In: DiClemente RJ, Hansen WB, Ponton LE, eds. *Handbook of Adolescent Health Risk Behavior*. New York: Plenum Press; 1996:115-159.
10. Fergusson D, Lynskey M, Horwood L. Alcohol misuse and juvenile offending in adolescence. *Addiction*. 1996; 91:483-494.
11. Windle M. Alcohol use among adolescents. *The Prevention Researcher*. 2002; 9(3):1-3.
12. Johnston L, O'Malley P, Bachman J, et al. *Monitoring the Future National Results on Adolescent Drug Use: Overview of Key Findings, 2004*. NIH Publication No. 05-5726. Bethesda, MD: National Institute on Drug Abuse; 2005.
13. Eaton D, Forthofer M, Zapata L, et al. Factors related to alcohol use among 6th through 10th graders: The Sarasota County demonstration project. *J Sch Health*. 2004; 74:95-104.
14. Snyder LB, Milici FF, Slater M, et al. Effects of alcohol advertising exposure on drinking among youth. *Arch Pediatr Adolesc Med*. 2006; 160:18-24.
15. Austin EW, Meili HK. Effects of interpretations of televised alcohol portrayals on children's alcohol beliefs. *J Broadcasting & Electronic Media*. 1994; 38:417-435.
16. Austin EW, Nach-Ferguson B. Sources and influences of young school-age children's general and brand-specific knowledge about alcohol. *Health Commun*. 1995; 7:1-20.
17. Grube JW, Wallack L. Television beer advertising and drinking knowledge, beliefs, and intentions among schoolchildren. *Am J Public Health*. 1994; 84:254-259.
18. Gil AG, Wagner EF, Vega WA. Acculturation, familism, and alcohol use among Latino adolescent males: Longitudinal relations. *J Community Psychol*. 2000; 28:443-458.
19. Jones-Webb R, Toomey T, Short B, et al. Relationships among alcohol availability, drinking location, alcohol consumption, and drinking problems in adolescents. *Subst Use Misuse*. 1997; 32:1261-1285.
20. Allison KW, Crawford I, Leone PE, et al. Adolescent substance use: Preliminary examinations of school and neighborhood context. *Am J Community Psychol*. 1999; 27:111-141.
21. Peterson PL, Hawkins JD, Abbott RD, et al. Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by black and white adolescents. *J Res Adolesc*. 1994; 4:203-227.
22. Beck KH, Treiman, KA. The relationship of social context of drinking, perceived social norms, and parental influence to various drinking patterns of adolescents. *Addict Behav*. 1996; 21:633-644.
23. Li X, Stanton B, Feigelman S. Impact of perceived parental monitoring on adolescent risk behavior over 4 years. *J Adolesc Health*. 2000; 27:49-56.
24. Fletcher AC, Steinberg L, Williams-Wheeler M. Parental influences on adolescent problem behavior: Revisiting Stattin and Kerr.



*Child Dev.* 2000; 71:1072–85.

25. Reifman A, Barnes GM, Dintcheff BA, Farrell MP, Uhteg L. Parental and peer influences on the onset of heavier drinking among adolescents. *J Stud Alcohol.* 1998; 59:311–317.

26. Beck KH, Shattuck T, Haynie D, et al. Associations between parent awareness, monitoring, enforcement and adolescent involvement with alcohol. *Health Educ Res.* 1999; 14:765–775.

27. Steinberg L, Fletcher A, Darling N. Parental monitoring and peer influences on adolescent substance use. *Pediatrics.* 1994; 93:1060–1064.

28. Webb JA, Bray JH, Getz JG, et al. Gender, perceived parental monitoring and behavioral adjustment: Influences on adolescent alcohol use. *Am J Orthopsychiatry.* 2002; 72:392–400.

29. Simons-Morton B. Prospective association of peer influence, school engagement, drinking expectancies, and parent expectations with drinking initiation among sixth graders. *Addict Behav.* 2004; 29:299–300.

30. Simons-Morton B, Haynie DL, Crump AD, et al. Expectancies and other psychosocial factors associated with alcohol use among early adolescent boys and girls. *Addict Behav.* 1999; 24:229–238.

31. Yeh MY, Chiang IC, Huang SY. Gender differences in predictors of drinking behavior in adolescents. *Addict Behav.* 2006; Available online: <http://dx.doi.org/10.1016/j.addbeh.2005.12.019>. Accessed September 8, 2006.

32. Jaccard J, Turrise R. Parent-based intervention strategies to reduce adolescent alcohol-impaired driving. *J Stud Alcohol.* 1999; 60(S13):84–93.

33. Komro KA, Perry CL, Williams CL, et al. How did Project Northland reduce alcohol use among young adolescents? Analysis of mediating variables. *Health Educ Res.* 2001; 16:59–70.

34. Barnes GM, Farrell MP, Banerjee S. Family influences on alcohol abuse and other problem behaviors among black and white adolescents in a general population sample. *J Res Adolesc.* 1994; 4:183–201.

35. Chilcoat H, Anthony J. Impact of parent monitoring on initiation of drug use through late childhood. *J Am Acad Child Adolesc Psychiatry.* 1996; 35:91–100.

36. Cohen DA, Richardson J, LaBree L.

Parenting behaviors and the onset of smoking and alcohol use: A longitudinal study. *Pediatrics.* 1994; 94:368–375.

37. Brody G, Flor D, Hollett-Wright N, et al. Children's development of alcohol use norms. Contributions of parent and sibling norms, children's temperaments, and parent-child discussion. *J Family Psychol.* 1998; 12:209–219.

38. Partnership for a Drug-Free America. *The Partnership Attitude Tracking Study, 1998*. New York: Partnership for a Drug-Free America; 1999.

39. Ennett ST, Bauman KE, Foshee VA, et al. Parent-child communication about adolescent tobacco and alcohol use: What do parents say and does it affect youth behavior. *J Marriage Family.* 2001; 63:48–62.

40. Andrews J, Hops H, Ary D, et al. Parental influence on early adolescent substance use: Specific and nonspecific effects. *J Early Adolesc.* 1993; 13:285–310.

41. McCaffrey B. *Investing in Our Nation's Youth: National Youth Anti-drug Media Campaign Phase II Final Report*. Washington, D.C.: U.S. Government Printing Office; 1999.

42. Blechman EA. Effective communication: Enabling multiproblem families to change. In Cowan P, Hetherington E, eds. *Family Transitions*. Hillsdale, NJ: Erlbaum; 1991: 219–242.

43. Austin EW, Pinkleton BE, Fujioka Y. The role of interpretation processes and parental discussion in the media's effects on adolescents' use of alcohol. *Pediatrics.* 2000; 105:343–349.

44. Webb J, Baer P. Influence of family disharmony and parental alcohol use on adolescent social skills, self-efficacy, and alcohol use. *Addict Behav.* 1995; 20:127–135.

45. Yu J. The association between parental alcohol-related behaviors and children's drinking. *Drug Alcohol Depend.* 2003; 69:253–262.

46. Anderson A, Henry C. Family system characteristics and parental behaviors as predictors of adolescent substance use. *Adolescence.* 1994; 29:405–420.

47. Williams CL, Perry CL, Farbaksh K, et al. Project Northland: Comprehensive alcohol use prevention for young adolescents, their parents, schools, peers and communities. *J Stud Alcohol.* 1999; 60(S13):112–124.

48. Clark A, Cledes H, Bean R. *How to Raise Teenagers' Self-Esteem*. Los Angeles, CA: Price

Stern Sloan, Inc; 1980.

49. Fawcett MI. The changing family in Northern Ireland: Young people and divorce. *Youth & Society.* 2000; 32:81–106.

50. Hirsch BJ, Roffman JG, Deutsch NL, et al. Inner-city youth development organizations: Strengthening programs for adolescent girls. *J Early Adolesc.* 2000; 20:210–230.

51. Sanders GF, Trygstad DW. Stepgrandparents and grandparents: The view from young adults. *Family Relations.* 1989; 38:71–75.

52. Kornhaber A, Woodward KL. *Grandparents/Grandchildren: The Vital Connection*. New Brunswick, NJ: Transaction Books; 1985.

53. Amuleru-Marshall O. Prevention models for black youth at high risk: Family and religion. In: Bailey U, Brandon-Monye D, eds. *Ecology of Alcohol and Other Drug Use: Helping Black High-Risk Youth*. Rockville, MD: U.S. Department of Health and Human Services, Office for Substance Abuse Prevention; 1990:142–149.

54. Bryson K, Casper LM. *Coresident Grandparents and Grandchildren: Current Population Reports*. Washington, D.C.: U.S. Bureau of Census; 1999.

55. Beck K, Scaffa M, Swift R, et al. A survey of parent attitudes and practices regarding underage drinking. *J Youth Adolesc.* 1995; 24:315–334.

56. Beck KH, Summons TG, Matthews MP. Monitoring parent concerns about teenage drinking and driving: A focus group interview approach. *J Alcohol Drug Educ.* 1991; 37:46–57.

57. Haynie DL, Beck KH, Davis Crump A, et al. Parenting strategies regarding teen behavior: Parent and teen perceptions. *Am J Health Behav.* 1999; 23:403–414.

58. McKnight AJ. Intervention with alcohol-impaired drivers by peers, parents and purveyors of alcohol. *Health Educ Res.* 1990; 5:225–236.

59. Bryant CA, Forthofer M, McCormack Brown K, et al. Community-based prevention marketing: The next steps in disseminating behavior change. *Am J Health Behav.* 2000; 24:61–68.

60. Minkler M, Wallerstein N, eds. *Community-based Participatory Research for Health*. San Francisco: Jossey-Bass; 2003.

61. Caracelli V, Greene J. *Crafting Mix-method Evaluation Design: New Directions for Evaluation* (Vol. 74). San Francisco: Jossey-



Bass; 1997.

62. Stufflebeam D. *Evaluation Models - New Directions for Evaluation*. San Francisco: Jossey-Bass; 2001.

63. Teddlie C, Tashakkori A. Major issues and controversies in the use of mixed methods in the social and behavioral sciences. In Tashakkori A, Teddlie C, eds. In: *Handbook of Mixed Methods in Social and Behavioral Research*. Thousand Oaks, CA: Sage; 2003.

64. Landis DC, Alfonso M, Ziegler SE, et al. Training youth to conduct focus groups and interviews. *Social Mark Q*. 1999; 5.4:23-29.

65. McCormack Brown KR, McDermott RJ, Bryant CA, et al. Youth as community researchers: The Sarasota County demonstration project. *Community Youth Dev J*. 2003; 4.1:40-44.

66. Morgan DL, Krueger RA. *The Focus Group Kit*. Thousand Oaks, CA: Sage Publications, Inc; 1988.

67. Hennekens CH, Buring JE. Analysis of epidemiologic studies: evaluating the role of chance. In: Hennekens C, Buring J, eds. *Epidemiology in Medicine*. Boston: Little, Brown and Company; 1987:243-271.

68. Kann L, Kinchen SA, Williams BI, et al. Youth Risk Behavior Surveillance—United States, 1999. *J Sch Health*. 2000; 70:271-285.

69. McDermott RJ, Sarvela PD. *Health Education Evaluation and Measurement: A Practitioner's Perspective*. 2<sup>nd</sup> ed. Madison, WI: WCB/McGraw-Hill; 1999.

70. Beck KH, Ko M, Scaffa ME. Parental monitoring, acceptance and perceptions of teen alcohol misuse. *Am J Health Behav*. 1997; 21:26-32.

71. Hartos J. Relations among single mothers' awareness of their adolescents' stressors, maternal monitoring, mother-adolescent communication, and adolescent adjustment. *J Adolesc Res*. 2000; 15:546-563.

72. Dillman DA. *Mail and Internet Surveys: The Tailored Design Method*. New York: John Wiley; 2000.

73. Dawkins MP. Alcoholism prevention and black youth. *J Drug Issues*. 1998; 18(1):15-20.

74. Perry CL, Williams CL, Veblen-Mortenson S, et al. Project Northland: Outcomes of a community wide alcohol use prevention program during early adolescence. *Am J Public Health*. 1996; 86:956-965.

75. Brubaker RG, Fowler C, Kinder BN. Parental influence on adolescents' intention to use smokeless tobacco. *Health Educ Res*. 1987; 2:409-416.

76. DiClemente R, Wingood G, Crosby R, et al. Parental monitoring: Association with adolescents' risk behaviors. *Pediatrics*. 2001; 107:1363-1368.

77. Lohrmann DK, Fors SW. Can school-based educational programs really be expected to solve the adolescent drug abuse problem? *J Drug Educ*. 1986; 16:327-339.

78. Beck KH, Lockhart SJ. A model of parental involvement in adolescent drinking and

driving. *J Youth Adolesc*. 1992; 21:35-51.

79. Morrison GM, Storino MH, Robertson LM, et al. The protective function of after-school programming and parent education and support for students at risk for substance abuse. *Eval Program Plann*. 2000; 23:365-371.

80. Delgado M, Rodriguez-Andrew S. *Alcohol and Other Drug Use among Hispanic Youth*. Rockville, MD: U.S. Department of Health and Human Services, Office for Substance Abuse Prevention; 1990.

81. Nobles W. Family, cultural, and environmental risk factors related to alcohol and other drug use among black youth at high risk. In: Bailey U, Brandon-Monye D, eds. *Ecology of Alcohol and Other Drug Use: Helping Black High-Risk Youth*. Rockville, MD: U.S. Department of Health and Human Services, Office for Substance Abuse Prevention; 1990:54-64.

82. Marin G, Burhansstipanov L, Connell CM. A research agenda for health education among underserved populations. *Health Educ Q*. 1995; 22:346-363.

83. Resnicow K, Soler R, Braithwaite RL, et al. Cultural sensitivity in substance use prevention. *J Community Psychol*. 2000; 28:271-290.

84. Stoil MJ, Hill GA, Jansen MA, et al. Benefits of community-based demonstration efforts: Knowledge gained in substance abuse prevention. *J Community Psychol*. 2000; 28:375-389.