

PRIME For Life
Preliminary Results for the Early Intervention Program

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EXECUTIVE SUMMARY

PRIME for Life (PFL) is the research-based prevention and intervention program developed by the Prevention Research Institute (PRI) that is utilized by Kentucky's Early Intervention Program for youth. This report contains preliminary evaluation results for the PRIME For Life program.

Participants in the PRIME For Life program are presented documented research findings on alcohol and drugs. However, the purpose of this strategy is not simply to increase participants' general knowledge of alcohol and drugs but rather to facilitate understanding of the implications of the research for their own substance use. Research has demonstrated that higher perception of risk is associated with less drinking and drug use, both in adolescents (Bachman, Johnston, & O'Malley, 1988; Bachman, Johnston, & O'Malley, 1998, Feldman, Harvey, Holowaty & Shortt, 1999; Johnston, O'Malley, & Bachman, 1998) and adults (Brown, Goldman, & Christiansen, 1985; Fromme, Katz, & D'Amico, 1997; Roizen, 1983). The immediate objective of the program is the formation of an accurate perception of risk associated with drinking and drug choices.

This report is on 474 participants in the Early Intervention Program who completed the PRIME For Life program between October 2001 and March 2002, and for whom PRI pre-tests and post-tests and Spalding University intake information for the student were available.

Perception of Risk

Analyses revealed statistically significant and desired changes on measures of perception of risk. After completing the PRIME for Life program, youth:

- Evidenced a more accurate understanding of who is at risk for alcoholism
- Increased their perception of risk of heavy daily drinking and heavy episodic drinking
- Assessed the risks associated with occasional and regular marijuana use significantly higher

Drinking Choices

At the conclusion of the PFL program and having learned a specific definition regarding high-risk drinking choices, participants were able to examine their past drinking choices and state their intentions regarding future drinking choices.

- 48% of youth intended to never make high-risk choices in the future
- 31% of youth intended to rarely make high-risk choices in the future

Drug Choices

At the conclusion of the PFL program, students who had used marijuana in the last year stated their intentions regarding future drug use.

- 58% of youth intended to never use drugs in the future
- 36% of youth intended to decrease their drug use in the future

Students' Perception of Class and Instructor

After completing the PRIME For Life program:

- 76% agreed the class changed their thinking about how much & how often they should drink.
- 71% of youth agreed that the class changed their thinking about drug use

Across instructor ratings, an average of 91% of youth agreed that the instructors were knowledgeable, well-prepared, responsive to question & nonjudgmental in presenting information and facilitating discussion.

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PRIME for Life (PFL) is the research-based prevention and intervention program that is utilized by Kentucky's Early Intervention Program for youth. This report contains preliminary evaluation results for the PRIME For Life program.

PRIME for Life is based on the Lifestyle Risk Reduction Model developed by Prevention Research Institute. This model holds that increasing personal perception of risk is a key step in encouraging behavior change. Personal perception of risk is a measure of the chance of loss or peril that people associate with their behavior. How likely is my behavior to threaten something that I value more than the pleasure associated with this behavior? (e.g., Will driving fast really increase my risk for crash and death? Will smoking really increase my risk for cancer? Will my drinking cause me to lose things that I value?) Our perception of how real and imminent the risk is can form a motivation for either continuing or changing behavior.

Participants in the PRIME For Life program are presented documented research findings on alcohol and drugs. However, the purpose of this strategy is not simply to increase participants' general knowledge of alcohol and drugs but rather to facilitate understanding of the implications of the research for their own substance use. Participants learn to assess their personal level of risk for alcoholism and their location in the progression towards alcoholism indicated by their current drinking behavior. After this assessment, participants learn how to decrease their risk for alcohol problems and/or alcoholism by making low-risk drinking choices (i.e., in terms of setting personal standards for the quantity and frequency of drinking that avoid impairment or health problems) that include abstinence.

Research has demonstrated that higher perception of risk is associated with less drinking and drug use, both in adolescents (Bachman, Johnston, & O'Malley, 1988; Bachman, Johnston, & O'Malley, 1998, Feldman, Harvey, Holowaty & Shortt, 1999; Johnston, O'Malley, & Bachman, 1998) and adults (Brown, Goldman, & Christiansen, 1985; Fromme, Katz, & D'Amico, 1997; Roizen, 1983). Higher perception of risk also decreases the likelihood that a person will become a regular marijuana user after experimentation (Bailey, Flewelling, & Rachal, 1992). Such findings lend support to the program's effort to alter personal perception of risk associated with high-risk drinking and drug use.

The immediate objective of the PFL program is the formation of an accurate perception of risk associated with drinking and drug choices.

Data Collection

Data for this report were gathered by researchers at Spalding University and at Prevention Research Institute (PRI). Students referred to the Early Intervention Program and their parent(s) completed surveys, developed by Spalding researchers, during the intake process for the program (for further information see Cummings, Johnson & Linfield, 2002). This information was matched to two PRI surveys completed by the students. One survey (pre-test) was completed before attending the 12-hour PFL class and another survey (post-test) was completed immediately after class. To measure short-term changes in perception of risk, pre-intervention and post-intervention views were compared. Six month follow-up data, gathered from the student and parent by researchers at Spalding University will be added to the current data set and will be the focus of a future report.

Participants

This report is on 474 participants in the Early Intervention Program who completed the PRIME For Life program between October 2001 and March 2002, and for whom PRI pre-tests and post-tests and Spalding intake information for the student were available. In addition, only students whose age, gender and ethnicity were reported were included in the data set.

Measures

Demographics

Students were asked to provide gender, age, race, grade, school enrollment status and living arrangements. The choices for race were: White, African-American, Hispanic, Asian, Native American and Other. The categories for school enrollment were alternative school, home teaching, regular school, completed high school and dropped out. Choices for living arrangements were living with: biological or adoptive parents, grandparents or other family members, or in a foster home. Demographic information was collected by Spalding University.

Substance Use

Age of first use. Youth were asked, in a series of questions, to report their age at the time they first tried alcohol and other drugs. Students were asked to report on beer, wine or wine coolers, liquor, and marijuana. Choices for age of first use were: never tried, under 12, 12-13, 14-15, and 16+. These data were collected at intake by Spalding University.

Frequency of use. Students were asked to report how many times they had used beer, wine or wine coolers, liquor or marijuana. Choices were: none, 1-5, 6-10, 11-19 and 20 or more. These data were collected at intake by Spalding University.

Alcohol and marijuana use. Data from the age of first use and frequency of use items were combined to form 3 groups for each substance specified. The first group was youth who had never tried the substance. The second group contained youth who had tried the substance but who had not used the substance in the last year. The third group contained youth who reported use of the substance in the last year. The three alcohol groups were combined to form an overall alcohol use variable. (Note: It is possible for a youth who had used a substance more than once, but who had not used in the last year, to be included in the tried group. It is also possible for a youth who only tried the substance once, but did so in the last year, to be included in the use in last year group.)

Perception of Risk

Perception of risk was measured with 9 outcome variables. The first measure assessed accuracy regarding who is at risk for alcoholism, the second measure assessed risky beliefs, and the remaining measures were specific to alcohol and marijuana choices. These items were included on both the pre-test and the post-test developed by Prevention Research Institute.

Belief about who is at risk. This measure addressed participants' accuracy regarding who is at risk for developing alcoholism. Participants were asked the degree to which they agreed with the following statements:

1. People with a high tolerance for alcohol are less likely to have alcohol problems.
2. Anyone can develop alcoholism. (reverse-coded)
3. People who are shy and have low self-esteem are more likely to develop alcoholism.
4. People develop alcoholism because they have an addictive personality.
5. Only people born with alcoholism can get it.

Responses were measured on a 5-point Likert scale ranging from strongly agree (1) to strongly disagree (5) and added to produce an accuracy score ranging from 5 to 25.

Risky beliefs. This measure addressed beliefs surrounding acceptance of substance use. Seven items comprised this measure:

1. It is okay to use drugs if you can handle it.
2. It is good to be able to drink more than other people before getting drunk.
3. People can learn to handle their alcohol.
4. It is okay to get drunk to have fun.
5. It is okay to drive after smoking marijuana.
6. People who drink alcoholic beverages are more fun than people who don't.
7. People are not really drinking if they have only 1 or 2 drinks.

Participants were asked to indicate their level of agreement with each item. Responses were measured on a 5-point Likert scale ranging from strongly agree (1) to strongly disagree (5). Items were added to produce a score ranging from 7 to 35. Cronbach's alpha for this measure was .81.

Risk for specified level of alcohol use: This measure addressed participants' general perception of risk for 4 levels of alcohol use. Participants were asked "How much do you think people risk harming themselves (physically and in other ways) when they do each of the following activities?"

1. Try one or two drinks of an alcoholic beverage.
2. Take one or two drinks nearly every day.
3. Take four or five drinks nearly every day.
4. Have five or more drinks once or twice each weekend.

Response choices were: no risk (1), slight risk (2), moderate risk (3) and great risk (4).

Risk for specified level of marijuana use: This measure addressed participants' general perception of risk for 3 levels of marijuana use. Participants were asked "How much do you think people risk harming themselves (physically and in other ways) when they do each of the following activities?"

1. Try marijuana once or twice.
2. Smoke marijuana occasionally.
3. Smoke marijuana regularly.

Response choices were: no risk (1), slight risk (2), moderate risk (3) and great risk (4).

Drinking choices in the past year

After completing the class, participants were asked to respond to the item "In the past year, I made low-risk drinking choices." Participants chose from six responses: never, rarely, sometimes, a lot, almost always and always.

Behavioral intentions

After completing the class, students were asked to respond to the item "Until I am 21, I have decided to follow my low-risk guidelines." Students chose from six responses: never, rarely, sometimes, a lot, almost always and always.

Students were also asked to select from four responses to "Based on everything I have learned about risks and what is important to me." Responses were: (1) I don't use drugs and don't plan to, (2) I plan to not use illegal drugs, (3) I plan to use drugs less and (4) I don't plan on making any changes in my drug use.

Students Perception of Class and Instructor

After completing the PFL class, students were asked to indicate their level of agreement with the following class and instructor items:

1. This class was a waste of time.
2. This class changed my thinking about how much about how much and how often I should drink.
3. This class changed my thinking about drug use.
4. The instructor was knowledgeable and well-prepared.
5. The instructor responded well to questions.
6. The instructor was nonjudgmental in presenting information and facilitating discussion.

Responses were measured on a 5-point Likert scale ranging from strongly agree (1) to strongly disagree (5)

Results

Demographics

There were 307 (64.8%) male students and 167 (35.2%) female students. The sample included 427 (90.1%) Caucasian youth, 33 (7.0%) African-American youth, 4 (0.8%) Hispanic youth, 2 (0.4%) Asian youth, 3 (0.6%) Native American youth and 5 (1.1%) youth who selected “Other.” The other category for race may include participants who identify themselves with other racial groups as well as those who identify with two or more racial groups. Crosstabs revealed that among the approximately 10% of students who were not Caucasian, females were overrepresented, $\chi^2(1, N = 474) = 5.7, p < .05$. Of 47 students who reported race other than Caucasian, 24 (51%) were female.

Age ranged from 11 years to 18 years of age with an average age of 16.0 and a standard deviation of 1.3. Males and females did not differ significantly in age. The majority of youth, 435 (91.8%), lived with their parent(s), 20 (4.2%) lived with their grandparents, 2 (0.4%) with foster parents and 17 (3.6%) did not report their living arrangements.

Over three-fourths, 360 (75.9%) of the students attended regular school, 48 (10.1%) attended an alternative school, 27 (5.7%) had dropped out of school, 11 (2.3%) were home-schooled, and 5 (1.1%) were high school graduates. There were 23 (4.9%) students who did not report their school status. Female students were less likely than males students to have dropped out of school or to be in alternative school, $\chi^2(4, N = 451) = 10.3, p < .05$. Grade level ranged from 6 to 13 with an average of 10.4 (SD = 1.4).

Alcohol and drug use

Youth were divided into three groups regarding their alcohol use and marijuana use. For each substance, youth were classified as having never used, tried, or used in last year. The percentage of youth in each use group as well as the percentage of males and females in each use group are presented in Table 1. In each row, the bold percentages represent the percentage of all youth in the group followed by the percentage of males and females in each group. For example, in the row labeled Alcohol and the first column, 11.8% of all 474 participants reported never having tried alcohol. Moving across the row, 12.7% of males reported never having used alcohol and 10.2% of females reported never having used alcohol. This is repeated for youth who report having tried alcohol and for youth who report using in the last year.

Disregarding gender and moving across the Alcohol row with attention to bold type, 11.8% of youth report never having used alcohol, 8.2% report having tried alcohol and 80.0% of all youth have used alcohol in the last year.

Statistically significant differences were found for specific substance use and gender. Females were more likely to have tried beer than males but were less likely than males to have used beer in the last year, $\chi^2(2, N = 474) = 13.5, p < .01$. As can be seen in the middle columns of table 1, row Beer, 10.7% of males tried beer compared to 22.2% of females. Moving to the far right columns in the row, 72.6% of males reported using beer in the last year compared to 58.1% of females. It appears that although females and males report experience with beer in similar numbers, females are less likely to continue using beer after the initial experience. Females were significantly more likely than males to report using wine or wine coolers in the last year, $\chi^2(2, N = 474) = 22.0, p < .001$. No gender differences were found for use of liquor, $\chi^2(2, N = 474) = 1.5, p = .48$, or marijuana, $\chi^2(2, N = 474) = 5.3, p = .07$.

To summarize, more youth had tried or used beer than either wine or liquor. However, among youth that report using alcohol in the last year, males used more beer and females used more wine or wine coolers. Use of liquor and marijuana did not differ by gender.

Table 1. Students' reported use of alcohol and drugs (N=474)

Substance	Never Used			All	Tried			Used in Last Year		
	All	Male	Female		All	Male	Female	All	Male	Female
Alcohol	11.8	12.7	10.2	8.2	5.9	12.6	80.0	81.4	77.2	
Beer	17.7	16.6	19.8	14.8	10.7	22.2	67.5	72.6	58.1	
Wine	27.0	32.6	16.8	31.9	33.6	28.7	41.1	33.9	54.5	
Liquor	23.6	24.4	22.2	14.8	13.4	17.4	61.6	62.2	60.5	
Marijuana	27.2	24.1	32.9	9.7	9.1	10.8	63.1	66.8	56.3	

Changes in Perception of Risk

T-tests. Two composite measures and seven single items were used to measure change in perception of risk. A series of paired sample t-tests were performed comparing the students' average pre-test score to the average of their post-test scores. It should be noted that the chance of a Type I error, or saying that a significant difference does exist when it actually does not, is increased when multiple tests are run on related outcome measures. A Bonferroni correction is the adjustment of the alpha level (typically set at .05) for analyses with multiple outcome or dependent variables so that Type I error is controlled (Tabachnick & Fidell, 1996). For example, with nine dependent variables, the adjusted significance level for each t-test would be .05/9 or .006. Of the nine measures, six showed a significant change for pre to post-test if no Bonferroni correction was made (Table 2). With the more stringent alpha level of .006 applied, four of these findings retain their significance with alpha levels of .001.

Table 2. Results of t-tests for Perception of Risk Measures.

Measure	n	Pre-test Mean (SD)	Post-test Mean (SD)	t
Belief about who is at risk	461	18.2 (2.8)	19.4 (3.0)	-6.9***
Risky beliefs	443	26.2 (5.2)	26.7 (4.7)	-2.2*
Try 1-2 drinks of alcohol	467	2.0 (0.9)	2.0 (0.8)	1.5
Take 1-2 drinks nearly every day	469	2.8 (0.9)	2.8 (0.8)	.4
Take 4-5 drinks nearly every day	467	3.4 (0.8)	3.6 (0.7)	-3.7***
Have 5+ drinks 1-2x a weekend	468	3.2 (0.9)	3.4 (0.8)	-5.1***
Try marijuana 1-2x	472	2.1 (1.0)	2.1 (0.9)	1.3
Smoke marijuana occasionally	471	2.7 (0.9)	2.8 (0.9)	-2.7**
Smoke marijuana regularly	469	3.3 (0.9)	3.5 (0.8)	-4.5***

*p < .05, **p < .01, ***p < .001

Outcomes. The four measures that retained their significance were: belief about who is at risk, take 4-5 drinks nearly every day, have 5+ drinks 1-2x a weekend and smoking pot regularly. At pre-test, the average score for the belief about who is at risk was 18.2. This indicates that, on average, students were somewhat accurate in their beliefs about who develops alcoholism. At post-test, the mean score was a 19.4, indicating increased accuracy after the PFL class. A significant increase in perception of risk regarding having 4-5 drinks every day was evidenced by the increase in students average from 3.4 to 3.6 over the course of the intervention. Students moved closer to assessing this level of drinking as carrying a great risk. Students also showed a significant increase in perception of risk surrounding heavy episodic drinking (i.e., five or more drinks) on the weekend. Finally, students increased their perception of risk surrounding the regular use of marijuana.

Two measures did not retain their significance after a Bonferroni correction. From pre-test to post-test, students endorsed more low-risk beliefs (i.e., fewer risky beliefs). Students also evidenced an increase in perception of risk regarding the occasional use of marijuana.

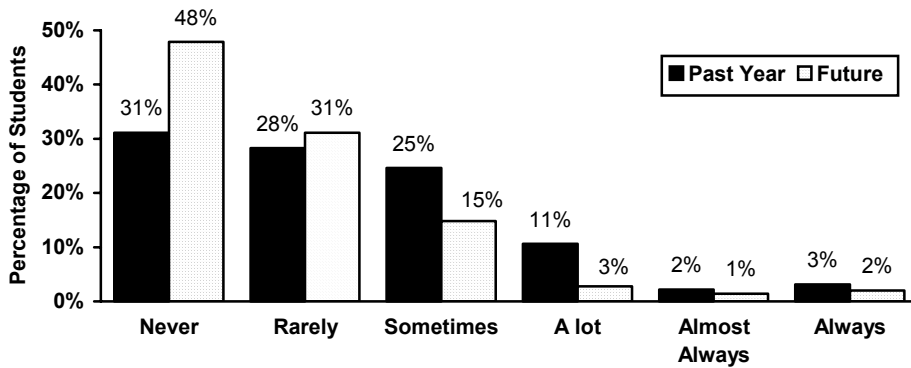
Three measures did not show significant change prior to the Bonferroni correction. Students' perception of risk associated with trying 1-2 drinks of alcohol did not change over the course of the intervention. Examination of the pre-test mean, 2.0, indicated that students, on average, believed that trying 1-2 drinks a day carried a slight risk as opposed to no risk or to a moderate or great risk. Students' perception of risk associated with taking 1-2 drinks nearly every day did not change over the intervention with a pre and post-test average of 2.8. This average indicates an assessment of drinking 1-2 drinks nearly every day as a somewhat moderate risk. Students seemed to discern appropriate levels of risk for the drinking levels specified. The remaining item that did not show significant change

over the course of the intervention was trying marijuana 1-2x. Students assessed this behavior as carrying slight risk at both pre-test and post-test.

Past Drinking Behavior and Intentions for Future Drinking

After completing the class, participants were asked how often they had made high-risk drinking choices in the past and how often they intended to make high-risk drinking choices in the future. Chart 1 details the responses for the percentage of students who used alcohol in the last year. In the last year, 41% of students claim to have made high-risk drinking choices sometimes, a lot, almost always or always. After completing the PFL class, only 21% of youth planned to make high-risk drinking choices sometimes, a lot, almost always or always.

Chart 1. Participants' Description of High-risk Drinking in the Past Year and Future Intentions



Intentions for Future Drug Use

After completing the class, youth were asked to state their intentions regarding future drug use. The 282 youth who reported using marijuana in the past year were asked their future intentions regarding the use of drugs. The majority, 58.2%, intended to no longer use drugs, 36.5% intended to use drugs less and 5.3% intended to make no changes in their drug use.

Students' Perception of Class and Instructor

After completing the PRIME for Life class, students were asked to respond to series of questions regarding the class and the instructor. As shown in Table 3, approximately three-fourths of youth indicated that the PFL class had not been a waste of time and had changed their thinking about drinking and drug use. The students perceived the instructors as knowledgeable, responsive to questions and nonjudgmental.

Table 3. Students Perception of Class and Instructor

Item	Strongly agree/ Agree %	Uncertain %	Strongly disagree/ Disagree %
This class:			
Was a waste of time.	9.1	12.0	78.9
Changed my thinking about how much and how often I should drink.	76.0	13.2	10.9
Changed my thinking about drug use.	71.6	14.9	13.5
The instructor:			
Was knowledgeable and well-prepared.	96.0	3.6	0.4
Responded well to questions.	94.7	3.8	1.5
Was nonjudgmental in presenting information and facilitating discussion.	83.8	10.4	5.8

Summary

Statistically significant changes were found for four of the nine outcome measures (Bonferroni corrected). After completing PRIME For Life, youth came to a more accurate understanding of who is at risk for alcoholism. This indicates an increase in perception of risk regarding alcoholism in general or an unspecified other's risk for alcoholism. The remaining three measures of risk perception focused on perception of risk regarding specific alcohol and drug choices. Students increased their perception of the risk associated with drinking 4-5 drinks daily and with heavy episodic weekend drinking. Students also increased their perception of the risk associated with the regular use of marijuana.

With a clearer understanding of what constitutes high-risk drinking choices, participants were able to examine past drinking choices and state their intentions regarding future drinking choices. Almost half, 48%, of youth intended to never make high-risk choices in the future. Another 31% intended to make high-risk choices but rarely. Almost 95% of students who reported using marijuana in the past year intended to reduce or stop using drugs in the future.

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Appendix A
Student Comments