

UNM Center for Education Policy Research

Life of an Athlete

Program Review

2012

Life of an Athlete

Program Review

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July, 2012

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History and Purpose of the Life of an Athlete Program

The Life of an Athlete (LOA) program is an interactive web-based curriculum for student athletes that was launched in 2010. The goal of the program is to reduce student athletes' drinking behavior through providing comprehensive information on the effects of alcohol on the body and on athletic performance, coupled with information regarding the consequences of drinking and driving. The program is based on an idea first promulgated by the American Athletic Institute. Since its inception, over seventeen thousand students nationwide have participated in the program.

Purpose of the Center for Education Policy Research Review

This review was undertaken by the Center for Education Policy Research (CEPR) at the University of New Mexico upon the request of the New Mexico Activities Association (NMAA) through support from the New Mexico Department of Transportation (NMDOT). The purpose of this review is to provide data to NMAA on the effectiveness of the LOA program, as well as provide recommendations for how the program may be improved and expanded. This program review seeks to provide NMAA with information in two critical areas:

1. results of the participant survey that is completed prior to and following the completion of program curriculum.
2. a comprehensive assessment of how the Life of an Athlete's curriculum aligns with current research in mechanisms of behavior change and DWI prevention education.

Based on the results above CEPR will make recommendations toward program improvement and possible improvements to the participant survey. This report serves to provide answers to the questions above, as well as recommendations for program improvement.

This report consists of two primary sections: the Program Review, and an Appendix, highlighting additional descriptions and detailed data analysis.

Participant Demographics

Data for the LOA program was provided by Webize, a web development company hired by the NMAA. Webize provided CEPR with participant level data of students who completed the survey. Data on participants other than students were not provided.

Over the course of this review, CEPR made several data requests from Webize for a complete, comma-delimited data set for analysis. Between May 16, 2012 and July 2, 2012, CEPR received five data transfer attempts from Webize. The first two data transfers provided data in a format other than the original request. The next two data transfers were delivered in the requested format, but were incomplete. The final data set was delivered to CEPR for analysis on July 2, 2012.

Through its data analysis, CEPR focused on three overarching questions:

1. What are the overall demographic characteristics of LOA participants?
2. Do participants indicate that the program has changed their knowledge and beliefs related to athletes' alcohol use?
3. Are there differences in the patterns of participant responses based on some of those key demographics?

Overall Demographic Characteristics of LOA Participants

Through its analysis, CEPR was able to identify 17,072 individual students who have taken part in the LOA curriculum, and have completed the pre- and post-survey questionnaires. Table 1 provides information on participant gender and grade levels.

Table 1. General Characteristics of LOA Participants

Total Participants	Males	Females	Grade 6	Grade 7	Grade 8	Freshman	Sophomore	Junior	Senior
17,072	9081	7991	2022	609	1181	4358	3393	2849	2560

*missing data means that not all demographics total 17,072.

More than three thousand participants come from states and territories outside of New Mexico, including large numbers of students from Connecticut, Florida and New York. Table 2 highlights the distribution of participants by states and territories.

Table 2. Number of Participants by State and Territory

State Abbreviation	Number	State Abbreviation	Number
AB	*	MS	*
AK	*	MT	*
AL	*	NA	13
AZ	67	NB	*
BC	*	NC	*
CA	122	ND	10
CO	41	NE	43
CT	841	NH	*
DE	*	NJ	*
FL	797	NM	13768
GA	*	NT	*
HI	*	NV	67
IA	55	NY	560
ID	*	OH	44
IL	88	OR	37
IN	*	PA	39
KS	31	RI	*
KY	*	SD	27
LA	58	TN	*
MA	*	TX	29
MB	*	VA	20
MD	*	WA	*
MI	63	WI	76
MN	83	WY	*
MO	*	Total	17072

* Indicates less than 10 students.

Within New Mexico, students from 96 (48%) of the 194 public middle and high schools have participated in the program to date, with additional participation from a number of Bureau of Indian Education, special and private schools including:

- Alamo Navajo
- Albuquerque Academy
- Bataan Military
- Clovis Christian
- Hope Christian
- King’s Gate Academy
- McCurdy
- New Life Baptist
- Navajo Prep
- NMMI
- Sandia Prep

- Santa Fe Indian
- St Michael's
- St. Pius X
- Victory Christian

The numbers of students participating in the program varies substantively depending on the location. Table 3 illustrates the numbers of students by each location within New Mexico.

Table 3. New Mexico LOA Participants by School

School Name	#	School Name	#	School Name	#	School Name	#	School Name	#
Academy For Technology	61	Crownpoint	*	King's Gate Academy	*	Ocate	*	St. Michael's	43
Alamo Navajo	26	Del Norte	369	Kirtland Central	*	Other	100	St. Pius X	41
Alamogordo	283	Deming	16	La Cueva	1596	Pecos	*	Taos	*
Albuquerque Academy	112	Dexter	*	Laguna Acoma	*	Piedra Vista	349	Texico	23
Albuquerque High	119	East Mountain	*	Las Cruces	84	Pojoaque	147	Tohatchi	12
Artesia	1198	Eldorado	687	Logan	21	Portales	6	Tse Yi' Gai	26
Atrisco Heritage	500	Elida	*	Los Alamos	*	Quemado	42	Tucumcari	*
Bataan Military	*	Escalante	48	Los Lunas	*	Questa	14	Valencia	*
Belen	16	Espanola	142	Lovington	87	Ramah	*	Valley	388
Bernalillo	*	Estancia	*	Magdalena	64	Raton	34	Vaughn	*
Bloomfield	*	Eunice	85	Manzano	590	Reserve	21	Victory Christian	*
Capital	198	Farmington	60	Maxwell	12	Rio Grande	260	Volcano Vista	481
Capitan	*	Floyd	29	Mayfield	94	Rio Rancho	327	Wagon Mound	*
Carlsbad	104	Fort Sumner	51	McCurdy	*	Robertson	169	West Las Vegas	274
Chaparral	30	Gallup	*	Mesa Vista	*	Roswell	*	West Mesa	217
Cibola	619	Goddard	*	Monte Del Sol	14	Ruidoso	133	Zuni	*
Cimarron	144	Grady	*	Mora	*	San Jon	*	Total	17072
Clayton	*	Grants	*	Moreno Valley	*	Sandia	516		
Cleveland	527	Hagerman	49	Moriarty	166	Sandia Prep	138		
Clovis	131	Highland	355	Mosquero	*	Santa Fe	351		
Clovis Christian	39	Hobbs	12	Navajo Prep	*	Santa Fe Indian	*		
Cobre	12	Hope Christian	*	New Life Baptist	*	Santa Rosa	12		
Corona	*	Jal	130	NMMI	*	Socorro	13		
Coronado	10	Jemez Valley	*	NULL (Missing)	3905	Springer	37		

* Indicates less than 10 students.

The LOA Survey

The Life of an Athlete Survey has three primary item series, which for ease of discussion, CEPR Staff have labeled in the following way:

1. Series 1: a set of stand-alone items that ask participants to report on their experiences and opinions regarding alcohol before the program begins.
2. Series 2: a set of pre/post questions that look to examine student knowledge regarding the LOA curriculum; and
3. Series 3: a set of post-survey items that largely seek participants' opinions about the LOA program.

Graphically, the survey can be represented thusly:

Table 4. LOA Survey Layout

Taken Before The Curriculum	Series 1	Series 2	
Taken After the Curriculum		Series 2	Series 3

All of the survey questions are organized on a five-point Likert scale ranging from Strongly Agree to Strongly Disagree.

Participant Survey Results

Series 1

The first series of items appear to be roughly divided up into two general categories, opinion items (numbers 1, 2, 3, and 6) and informational items (4, 5, and 7).

1. It is Easy to Find Parties Where No Alcohol Is Available.
2. There Are Athletes At My School Who Drink Alcohol.
3. If a Student Attends A Party Where Alcohol Is Being Consumed, They Are More Likely to Drink.
4. My Coach Has Talked To Our Team About the Dangers of Alcohol.
5. My Coach Has Explained My School's Policies and Consequences Regarding Alcohol Consumption.
6. Athletes in My School Drink Alcohol More than Non-Athletes.
7. My Parents Have Discussed The Consequences Of Drinking Alcohol With Me.

CEPR staff examined data by three distinct groups to determine if there were differences in the patterns of responses: all participants, by gender, and by middle and high school students. Tables 5-11 illustrate the percentage of students who indicated that they Strongly Agreed, Agreed, Were Undecided [About], Disagreed, or Strongly Disagreed with the statements posed by survey items.

Table 5. Participant Responses to “It is Easy to Find Parties Where No Alcohol Is Available”

It is Easy To Find Parties Where No Alcohol Is Available	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	13.4	14.0	12.7	14.1	12.9
Agree	34.5	35.5	33.3	32.9	34.8
Undecided	17.7	17.6	17.8	17.2	17.0
Disagree	26.2	24.9	27.7	26.9	26.8
Strongly Disagree	8.2	8.0	8.5	8.9	8.5

Table 6. Participant Responses to “There Are Athletes at My School Who Drink Alcohol”

There Are Athletes At My School Who Drink Alcohol	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	22.0	22.1	21.8	15.6	27.4
Agree	43.0	41.2	45.1	34.8	47.0
Undecided	21.9	22.3	21.5	26.3	16.7
Disagree	8.0	8.3	7.6	13.7	5.3
Strongly Disagree	5.1	6.0	4.0	9.6	3.6

Table 7. Participant Responses to “If A Student Attends A Party Where Alcohol Is Being Consumed, They Are More Likely To Drink.”

If a Student Attends A Party Where Alcohol Is Being Consumed, They Are More Likely To Drink	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	17.9	19.1	16.6	18.9	17.5
Agree	55.6	54.6	56.6	56.0	54.7
Undecided	14.4	14.3	14.7	13.6	14.7
Disagree	9.5	9.0	10.0	8.6	10.4
Strongly Disagree	2.5	3.0	2.0	3.0	2.7

Table 8. Participant Responses to “My Coach Has Talked To Our Team About the Dangers of Alcohol”

My Coach Has Talked To Our Team About the Dangers of Alcohol	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	37.8	42.5	32.4	36.2	40.2
Agree	37.4	36.1	38.9	37.6	37.4
Undecided	11.4	10.6	12.3	11.9	10.4
Disagree	10.0	7.6	12.8	10.4	8.5
Strongly Disagree	3.4	3.2	3.6	3.8	3.4

Table 9. Participant Responses to “My Coach Has Explained My School’s Policies and Consequences Regarding Alcohol Consumption”

My Coach Has Explained My School’s Policies And Consequences Regarding Alcohol Consumption.	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	41.4	43.9	38.7	38.9	44.3
Agree	38.9	37.8	40.0	39.4	38.5
Undecided	9.7	9.9	9.5	10.1	8.6
Disagree	7.4	5.7	9.4	8.8	6.0
Strongly Disagree	2.5	2.7	2.4	2.8	2.5

Table 10. Participant Responses to “Athletes in My School Drink Alcohol More than Non-Athletes”

Athletes In My School Drink Alcohol More Than Non-Athletes	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	3.0	3.1	2.9	2.5	3.6
Agree	8.0	7.8	8.3	7.9	8.8
Undecided	38.8	37.0	40.7	37.6	38.0
Disagree	33.8	33.0	34.7	33.3	34.2
Strongly Disagree	16.4	19.1	13.4	18.6	15.3

Table 11. Participant Responses to “My Parents Have Discussed the Consequences of Drinking Alcohol with Me”

My Parents Have Discussed The Consequences Of Drinking Alcohol With Me	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	53.6	54.2	53.0	54.3	53.3
Agree	37.0	36.2	37.9	34.9	37.6
Undecided	4.3	4.6	3.9	4.4	4.3
Disagree	3.4	3.1	3.7	4.1	3.1
Strongly Disagree	1.8	1.9	1.6	2.3	1.6

In general, the overall construct that NMAA hopes to measure with Series 1 is unclear, it’s also unclear how the data can be used to improve the LOA program, or inform additional work of the NMAA. If the goal of the NMAA is to use these items as a baseline of student beliefs and opinions that would be used as part of a study of how the program effects student athlete drinking behavior, CEPR recommends that NMAA revise these items to create solid measures of participants’ risk-taking characteristics, self-efficacy and other characteristics associated with alcohol use.

Additionally, the use of the five-point Likert scale for the general informational items may not be the most effective scale. It is difficult to understand a participant’s rationale for choosing to differentiate between “strongly agree” or “agree” when answering a question about whether or not a coach has explained school policies regarding alcohol consumption. Fundamentally, such items have a yes or no answer. A more informative approach might be to ask such items in a yes or no manner, and then ask a series of follow-up items, which ask the participant to detail the manner, type and depth of information they were given.

Series 2

Series 2 represents 12 items in both the pre- and post-surveys that are designed to measure student knowledge gains relative to the curriculum. These items are:

1. There are no long-term effects of heavy drinking on an athlete’s athletic performance.
2. Alcohol use negatively impacts an athlete's athletic performance.
3. An athlete could lose up to two weeks of athletic training from getting drunk once.
4. Athletes who drink are more likely to get injured.
5. Alcohol reduces an athlete's ability to repair damaged muscle fibers.
6. Alcohol can reduce the amount of testosterone in an athlete's system for up to 96 hours.
7. Athletes can perform at their top level with small amounts of sleep.
8. The ten most dangerous years of a person's life is age 14-24.
9. On average, most teens drink prior to the age of 16.
10. Alcohol interferes with the messages your brain sends to your muscles.
11. When a person drinks alcohol, they must use more brain energy to perform even the most simple task.
12. High school athletes can lose 15-30% of their potential by drinking alcohol.

Nearly all items demonstrated a marked increase in student knowledge between the pre and post assessments. Again, CEPR staff examined the data to see if there were substantive differences between all participants and across groups of gender and middle and high school. Tables 12-23 illustrate the changes in student responses to the items before and after the delivery of curriculum for all participants and by subgroup.

With a single exception, these items demonstrated that student knowledge increases substantively through participation in the program. Overall, students' opinions changed dramatically between the pre- and post-survey administrations, ranging from a low of 5.94 percentage points, to a high of 44.18 percentage points, with increase for all but one question of greater than 15 percentage points. This pattern of responses is largely consistent, with only small differences in the responses of males and females. The only break in this pattern occurs between middle and high school students. Middle school students, overall, saw lower rates of change in percentage points than their high school counterparts. The reason for this remains unclear. It may be that middle school students might gain more from a program specifically tailored to them that uses more grade-level appropriate language, may reflect a reluctance of middle school aged students to select "strongly agree" or "strongly disagree", or may reflect that middle school student participants were not as effectively impacted by the information presented in the program.

Across all groups, the first pre/post item, "there are no long-term effects of heavy drinking on an athlete's athletic performance," showed the weakest rate of change, with only a small percentage of students indicating that they "Strongly Disagree." Most students strongly agree with this statement prior to participating in the program. Somewhat troubling with this item however, is that the number of students indicating that they "Strongly Agree" actually increases in the post assessment across subgroups. This could be due to the somewhat awkward wording of the question itself, which may lead some students to misinterpret the question and therefore fail to select the "correct" answer, or could potentially signal that percentage, at least, of students participating in the program are not being impacted in the way the program is intended.

In addition, CEPR conducted paired t-test analyses of the pre-and post-items to see if the observed differences in student responses were statistically significant for all participants and across gender and school type. Without exception, every pre/post analysis returned significant results, $p > .01$. The details of these analyses are contained within the Appendix. While this analysis is important, it is equally important to keep in mind that the larger the sample size, the greater the likelihood of finding statistically significant results. Given the very large number of LOA program completers, finding that the results are statistically significant is perhaps unsurprising.

In general, Series 2 provides a good measure of student pre-post knowledge in the program, and demonstrate that students are able to recall the information provided in the curriculum. The only potential drawback to asking students to respond to these items in a pre/post scenario is that by placing such concretely worded items in the "pre-survey" section, they do a fairly apparent job of outlining the curriculum and specific learning objectives before the program gets underway.

Table 12. Change in Participant Response to “There Are No Long-Term Effects of Heavy Drinking on Athlete’s Athletic Performance”

There Are No Long-Term Effects Of Heavy Drinking On Athlete’s Athletic Performance.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	4.3	10.3	5.94	4.6	11.2	6.61	4.0	9.2	5.19	5.4	11.1	5.69	4.0	10.1	6.12
Agree	4.7	5.3	0.66	5.2	6.3	1.11	4.1	4.3	0.16	6.1	6.0	-0.07	4.4	5.3	0.95
Undecided	6.9	3.5	-3.40	7.5	4.6	-2.89	6.2	2.3	-3.98	8.0	4.4	-3.63	6.6	3.5	-3.19
Disagree	26.5	17.1	-9.39	25.9	16.0	-9.85	27.2	18.4	-8.89	25.8	18.1	-7.75	27.7	17.3	-10.40
Strongly Disagree	57.5	63.7	6.19	56.8	61.8	5.01	58.4	65.9	7.52	54.6	60.4	5.76	57.3	63.8	6.52

Table 13. Change in Participant Response to “Alcohol Use Negatively Impacts an Athlete’s Athletic Performance”

Alcohol Use Negatively Impacts An Athlete's Athletic Performance.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	53.9	70.5	16.61	53.6	68.6	15.07	54.4	72.7	18.34	55.5	67.1	11.65	52.0	71.1	19.06
Agree	35.2	22.0	-13.29	34.4	22.5	-11.87	36.2	21.3	-14.90	32.2	24.5	-7.69	36.8	21.3	-15.50
Undecided	5.6	3.4	-2.23	6.6	4.6	-2.01	4.5	2.0	-2.46	6.1	3.8	-2.27	6.0	3.7	-2.29
Disagree	1.9	1.3	-0.65	2.3	1.4	-0.90	1.5	1.1	-0.36	2.3	2.0	-0.35	2.2	1.1	-1.08
Strongly Disagree	3.3	2.8	-0.45	3.1	2.8	-0.29	3.5	2.8	-0.62	3.8	2.5	-1.35	3.0	2.8	-0.19

Table 14. Change in Participant Response to “An Athlete Could Lose Up To Two Weeks Of Athletic Training From Getting Drunk Once.”

An Athlete Could Lose Up To Two Weeks Of Athletic Training From Getting Drunk Once.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	28.6	63.1	34.46	29.7	63.1	33.40	27.3	63.0	35.67	32.2	62.0	29.82	27.7	63.5	35.83
Agree	43.0	30.2	-12.84	41.3	28.7	-12.61	45.0	31.9	-13.12	42.2	31.4	-10.80	42.5	29.5	-12.97
Undecided	22.0	3.9	-18.12	21.5	4.8	-16.67	22.7	2.9	-19.76	19.3	4.0	-15.29	22.9	4.0	-18.86
Disagree	4.4	1.2	-3.19	5.1	1.5	-3.59	3.5	.8	-2.73	3.9	1.1	-2.82	4.9	1.3	-3.63
Strongly Disagree	2.0	1.7	-0.31	2.4	1.9	-0.54	1.4	1.4	-0.06	2.4	1.5	-0.91	2.0	1.6	-0.37

Table 15. Change in Participants Response to “Athletes Who Drink Are More Likely To Get Injured”

Athletes Who Drink Are More Likely To Get Injured.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	27.1	65.4	38.26	27.8	65.0	37.25	26.4	65.8	39.39	31.4	64.9	33.45	25.1	65.0	39.90
Agree	46.4	29.6	-16.86	44.4	28.6	-15.84	48.7	30.6	-18.03	46.0	30.0	-16.01	45.8	29.6	-16.20
Undecided	20.9	3.5	-17.36	21.0	4.5	-16.47	20.7	2.4	-18.35	17.7	3.4	-14.32	22.6	3.9	-18.64
Disagree	4.4	.7	-3.77	5.1	.8	-4.30	3.6	.5	-3.16	3.4	.8	-2.60	5.4	.7	-4.69
Strongly Disagree	1.1	.9	-0.27	1.7	1.0	-0.64	.6	.7	0.15	1.5	.9	-0.53	1.2	.8	-0.36

Table 16. Change in Participant Response to “Alcohol Reduces an Athlete’s Ability to Repair Damaged Muscle Fibers”

Alcohol Reduces An Athlete's Ability To Repair Damaged Muscle Fibers.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	24.6	60.7	36.01	25.5	60.8	35.27	23.7	60.5	36.86	27.4	56.3	28.87	24.0	62.2	38.22
Agree	50.7	32.3	-18.40	49.1	31.5	-17.66	52.4	33.1	-19.25	48.1	35.0	-13.07	51.8	31.2	-20.64
Undecided	21.6	4.8	-16.80	22.1	5.4	-16.67	21.0	4.0	-16.93	20.6	5.6	-14.93	21.2	4.6	-16.58
Disagree	2.1	1.1	-0.97	2.0	1.0	-1.06	2.1	1.2	-0.86	2.2	1.6	-0.64	2.2	.8	-1.33
Strongly Disagree	1.1	1.2	0.15	1.2	1.4	0.12	.9	1.1	0.19	1.7	1.5	-0.23	.9	1.2	0.32

Table 17. Change in Participant Response to “Alcohol Can Reduce the Amount of Testosterone in an Athlete’s System for Up To 96 Hours.”

Alcohol Can Reduce The Amount Of Testosterone In An Athlete's System For Up To 96 Hours.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	15.7	53.7	38.01	17.3	54.6	37.35	13.9	52.6	38.77	16.4	50.3	33.91	15.7	55.4	39.71
Agree	40.9	36.4	-4.57	40.6	35.0	-5.60	41.2	37.8	-3.41	40.9	37.1	-3.77	41.8	35.8	-5.95
Undecided	40.3	8.2	-32.04	38.3	8.5	-29.88	42.5	8.0	-34.49	39.1	10.3	-28.73	39.3	7.3	-32.01
Disagree	2.4	1.1	-1.38	2.9	1.1	-1.80	2.0	1.1	-0.90	2.6	1.5	-1.04	2.6	.8	-1.73
Strongly Disagree	.7	.7	-0.02	.9	.8	-0.07	.4	.5	0.03	1.0	.7	-0.36	.6	.6	-0.02

Table 18. Change in Participant Response to “Athletes Can Perform At Their Top Level with Small Amounts of Sleep”

Athletes Can Perform At Their Top Level With Small Amounts Of Sleep.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	1.7	2.8	1.12	2.1	3.3	1.24	1.3	2.2	0.98	2.4	3.4	1.04	1.6	2.9	1.33
Agree	3.3	3.2	-0.12	3.6	3.8	0.19	3.1	2.6	-0.47	4.3	4.4	0.12	3.2	3.1	-0.16
Undecided	5.0	3.4	-1.61	6.2	4.5	-1.70	3.8	2.3	-1.50	5.7	3.8	-1.84	5.2	3.5	-1.65
Disagree	40.5	20.0	-20.49	38.8	19.7	-19.10	42.4	20.4	-22.07	38.6	20.8	-17.81	41.4	20.3	-21.07
Strongly Disagree	49.5	70.6	21.11	49.4	68.8	19.37	49.5	72.5	23.06	49.0	67.5	18.49	48.7	70.2	21.55

Table 19. Change in Participant Responses to “The Ten Most Dangerous Years of a Person’s Life is Age 14-24”

The Ten Most Dangerous Years Of A Person's Life Is Age 14-24.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	23.6	67.8	44.18	24.5	66.8	42.34	22.6	68.9	46.25	25.3	65.4	40.11	23.5	67.9	44.42
Agree	53.7	27.1	-26.64	51.5	26.6	-24.86	56.3	27.6	-28.66	50.7	28.6	-22.12	54.8	26.9	-27.85
Undecided	18.8	3.8	-14.98	19.5	5.1	-14.42	18.0	2.4	-15.59	19.7	4.3	-15.43	17.9	4.0	-13.86
Disagree	2.8	.7	-2.14	3.2	.8	-2.40	2.4	.6	-1.85	2.9	1.0	-1.95	2.8	.6	-2.19
Strongly Disagree	1.0	.6	-0.42	1.4	.7	-0.66	.7	.5	-0.15	1.4	.8	-0.61	1.1	.6	-0.52

Table 20. Change in Participant Response to “On Average, Most Teens Drink Prior to the Age of 16”

On Average, Most Teens Drink Prior To The Age Of 16.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	11.5	45.4	33.93	11.6	45.8	34.18	11.3	45.0	33.65	12.8	40.4	27.68	11.3	47.9	36.60
Agree	52.9	43.2	-9.70	50.7	42.0	-8.76	55.3	44.5	-10.79	52.2	45.5	-6.75	53.5	42.0	-11.55
Undecided	24.6	5.9	-18.73	26.0	6.8	-19.24	23.1	5.0	-18.13	24.4	7.4	-17.04	23.8	5.3	-18.47
Disagree	9.7	4.3	-5.44	10.1	3.9	-6.24	9.2	4.7	-4.54	8.9	5.2	-3.67	10.1	3.7	-6.43
Strongly Disagree	1.3	1.2	-0.06	1.5	1.5	0.05	1.0	.8	-0.19	1.8	1.5	-0.22	1.2	1.1	-0.15

Table 21. Change in Participant Response to “Alcohol Interferes With the Messages Your Brain Sends to Your Muscles”

Alcohol Interferes With The Messages Your Brain Sends To Your Muscles.	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
Strongly Agree	36.2	65.3	29.11	35.2	64.5	29.29	37.4	66.3	28.89	38.1	63.1	25.01	35.5	65.6	30.12
Agree	54.7	30.6	-24.12	54.2	30.1	-24.11	55.3	31.1	-24.14	52.5	31.8	-20.72	55.4	30.4	-25.01
Undecided	8.0	3.3	-4.67	9.2	4.3	-4.89	6.6	2.2	-4.41	8.1	3.9	-4.12	8.0	3.3	-4.64
Disagree	.6	.4	-0.25	.8	.5	-0.26	.5	.2	-0.24	.7	.6	-0.08	.7	.3	-0.43
Strongly Disagree	.5	.4	-0.07	.6	.5	-0.03	.3	.2	-0.11	.7	.6	-0.09	.4	.4	-0.04

Table 22. Change in Participant Response to “When A Person Drinks Alcohol, They Must Use More Brain Energy To Perform Even the Most Simple Task”

	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
When A Person Drinks Alcohol, They Must Use More Brain Energy To Perform Even The Most Simple Task.															
Strongly Agree	32.9	65.9	33.02	32.8	65.0	32.15	32.9	66.9	34.00	34.7	63.1	28.34	32.5	66.1	33.60
Agree	54.9	29.4	-25.47	53.6	29.4	-24.18	56.4	29.4	-26.93	52.1	31.2	-20.89	55.5	29.1	-26.40
Undecided	10.5	3.6	-6.85	11.4	4.3	-7.07	9.5	2.9	-6.60	10.8	4.5	-6.28	10.4	3.7	-6.68
Disagree	1.2	.6	-0.63	1.5	.8	-0.69	1.0	.4	-0.56	1.4	.6	-0.79	1.2	.6	-0.61
Strongly Disagree	.5	.5	-0.07	.8	.6	-0.20	.3	.4	0.09	1.0	.6	-0.37	.4	.5	0.09

Table 23. Change in Participant Response to High School Athletes Can Lose 15-30% of Their Potential By Drinking Alcohol.

	All Participants %			Males %			Females %			Middle School %			High School %		
	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change	Pre-Survey	Post-Survey	Change
High School Athletes Can Lose 15-30% Of Their Potential By Drinking Alcohol.															
Strongly Agree	28.9	60.4	31.52	29.2	60.7	31.50	28.5	60.0	31.55	29.8	58.1	28.27	28.2	61.3	33.11
Agree	53.2	34.2	-19.03	50.6	32.5	-18.04	56.2	36.0	-20.19	52.9	35.8	-17.15	53.1	33.3	-19.81
Undecided	15.2	4.2	-11.08	16.7	5.0	-11.67	13.6	3.2	-10.39	14.1	4.6	-9.44	15.8	4.2	-11.60
Disagree	1.9	.9	-1.06	2.4	1.2	-1.22	1.4	.5	-0.87	2.2	1.1	-1.09	2.2	.8	-1.40
Strongly Disagree	.8	.4	-0.35	1.2	.6	-0.56	.3	.2	-0.11	1.1	.5	-0.58	.7	.4	-0.29

Series 3

Series 3 is a group of stand-alone items that are found in the post-curriculum portion of the survey. These items mostly ask for participants’ impressions about the LOA curriculum, its effectiveness, and whether or not the curriculum would be useful for all New Mexico students (athletes and non-athletes alike.) The items are listed below. Tables 25-30 illustrate the percentage of students who indicated that they Strongly Agreed, Agreed, Were Undecided [About], Disagreed, or Strongly Disagreed with the statements posed by survey items.

Series 3 Questions:

1. Gabe Gurule’s Story Will Have A Lasting Impact On Me
2. The Brain Scans That Were Included In This Course Will Leave a Lasting Impact On Me
3. Every Athlete In Our State Should Take This Course
4. I Think This Program Could Also Benefit Non-athletes
5. When You’re Not Training, Someone Somewhere IS Training, and When You Meet Them They Will Beat You
6. I Had No Idea That Alcohol Could Negatively Impact An Athlete’s Performance to Such A Degree
7. This Course Will Prevent Students From Drinking Alcohol

Table 24. Participant Responses to “Gabe Gurule’s Story Will Have a Lasting Impact on Me”

Gabe Gurule’s Story Will Have A Lasting Impact On Me	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	62.5	59.6	65.8	63.8	61.0
Agree	30.4	31.4	29.3	29.5	31.1
Undecided	5.5	6.9	3.9	5.2	5.9
Disagree	.8	1.1	.6	.7	1.0
Strongly Disagree	.8	1.1	.4	.7	.9

Table 25. Participant Responses to “The Brain Scans That Were Included In This Course Will Leave a Lasting Impact on Me”

The Brain Scans That Were Included In This Course Will Leave a Lasting Impact On Me	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	46.0	44.8	47.5	47.4	45.8
Agree	43.2	42.8	43.8	42.3	43.1
Undecided	8.3	9.5	6.9	8.2	8.5
Disagree	1.8	2.1	1.4	1.3	1.9
Strongly Disagree	.7	.9	.4	.8	.7

Table 26. Participant Responses to “Every Athlete in Our State Should Take This Course”

Every Athlete In Our State Should Take This Course	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	56.7	56.3	57.0	58.7	54.6
Agree	32.0	30.5	33.6	30.8	32.2
Undecided	7.8	9.0	6.6	7.4	8.8
Disagree	1.9	2.2	1.6	2.0	2.1
Strongly Disagree	1.7	2.1	1.2	1.2	2.2

Table 27. Participants Responses to “I Think This Program Could Also Benefit Non-Athletes”

I Think This Program Could Also Benefit Non-athletes	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	51.2	50.2	52.4	52.7	49.8
Agree	38.0	37.1	39.1	37.5	38.0
Undecided	7.5	8.9	5.9	6.8	8.4
Disagree	1.9	2.1	1.7	1.9	2.3
Strongly Disagree	1.3	1.7	.9	1.1	1.5

Table 28. Participants Responses to “When You’re Not Training, Someone Somewhere IS Training, and When You Meet Them They Will Beat You”

When You’re Not Training, Someone Somewhere IS Training, and When You Meet Them They Will Beat You	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	55.3	55.0	55.6	52.8	55.5
Agree	27.9	27.5	28.3	27.9	27.7
Undecided	11.0	10.7	11.2	13.0	10.4
Disagree	3.7	3.8	3.5	3.6	3.9
Strongly Disagree	2.3	3.0	1.4	2.6	2.4

Table 29. Participant Responses to “I Had No Idea That Alcohol Could Negatively Impact an Athlete’s Performance to Such a Degree”

I Had No Idea That Alcohol Could Negatively Impact An Athlete’s Performance to Such A Degree	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	16.8	17.4	16.0	19.8	15.8
Agree	29.1	27.7	30.7	31.8	27.0
Undecided	9.0	10.3	7.5	9.1	9.3
Disagree	28.1	26.2	30.2	23.7	29.5
Strongly Disagree	17.1	18.4	15.6	15.6	18.4

Table 30. Participant Responses to “This Course Will Prevent Students from Drinking Alcohol”

This Course Will Prevent Students From Drinking Alcohol	Percentage				
	All Participants	Males	Females	Middle School	High School
Strongly Agree	21.4	23.9	18.5	25.7	19.3
Agree	37.9	35.9	40.1	37.0	37.1
Undecided	28.0	26.5	29.7	26.5	29.2
Disagree	9.8	9.9	9.6	8.6	10.7
Strongly Disagree	3.0	3.7	2.1	2.2	3.7

Series 3 largely represents participant opinions about the overall effectiveness of the course, and its utility with athletes and beyond. In general, students indicated that Gabe’s story and the brain scans will leave a lasting impression on them, and that athletes and non-athletes alike should take this course. Participants also agreed, though not as strongly, that they have learned a significant amount from the course, (“I had no idea that alcohol could negatively impact an athlete’s athletic performance to such a degree”) and that the LOA program will prevent students from drinking. Finally, most participants agreed that training is the key to success (“When you’re not training, someone somewhere IS training, and when you meet them they will beat you”).

Recommendations for Survey Improvement

CEPR staff believe that items related to overall knowledge acquisition embedded pre-post within the program (Series 2) provide a good measure of what students learn as a result of participating in the course. Series 3 also provides relatively good information about participants’ opinions regarding utility and potential impact of the LOA curriculum. CEPR feels that Series 1 however could be substantively revised in order to strengthen subsequent study of the impact of the LOA program on changing the drinking beliefs and behaviors of participants. If Series 1 were restructured to provide concrete measures of traits that are known to influence student risky behaviors, such as self-efficacy and attitudes toward risk it would provide good baseline information for a longitudinal study of the impact of LOA on participants. Surveys that measure these traits

from various perspectives have been developed and tested. CEPR staff would like to work with the NMAA to refine the longitudinal research questions that NMAA seeks to answer and use as a basis for revising Series 1.

Review of the Life of an Athlete Curriculum

In this review, CEPR approached the review of the curriculum from three distinct perspectives. The first two perspectives are designed to test the potential viability of the LOA program to effect student athlete's beliefs and behaviors regarding alcohol consumption. These perspectives are:

- Does the LOA curriculum align with components of successful alcohol and substance abuse prevention programs?
- Does the LOA curriculum align with research theories regarding behavior change?

The third perspective is more pragmatic, and the goal of this perspective is to highlight strengths and provide recommendations for actionable improvements to the overall curriculum:

- Within the program, are there areas of particular strength? Areas that could be strengthened?

Alignment with Components of Successful Alcohol and Substance Abuse Programs

In 2002, Cuijpers conducted a systematic review of the current scientific literature in order to identify and examine the characteristics that determine the effectiveness of drug and alcohol prevention programs. From this investigation Cuijpers delineated seven specific characteristics that were shown to have positive effects on behavior change in alcohol prevention programs. The seven positive characteristics include; a) the effects of the program should have been proven, b) interactive delivery methods are preferable, c) guided by the "social influence model," which the goal of all the influencing agents would be directed towards influencing the participant to not drink, d) an emphasis is placed on norms, commitment not to use, and intentions not to use, e) combining community interventions with school intervention and prevention programs, f) the use of peer leaders, and g) life skills programs.

CEPR identified several components of LOA curriculum that align with Cuijpers. The similar characteristics include: an interactive delivery method; an emphasis placed on norms; commitment not to use, and intentions not to use; the use of peer leaders; and life skills development. While the LOA program is not guided by a specific behavior change theory, there are characteristics of social influence in the curriculum, such as the use of a young female program host, the personal stories of both Notah Begay and Gabe Gurule, and some of the survey questions that are salient to the participants' perceptions of the social prevalence of drinking. The LOA has the capacity to be used as a component in a larger alcohol prevention curriculum, but is currently a stand-alone unit. Table 31 highlights how LOA aligns with the Cuijpers framework of positive characteristics of alcohol prevention programs.

Table 31. Alignment of LOA to Characteristics of Successful Program Elements

Cuijpers Seven Characteristics of Successful Programs	LOA Program
Effects of program have been proven.	The LOA program has not undergone a systemic review of behavior change effectiveness.
Interactive delivery methods.	The LOA program is an interactive web-based program that employs numerous interactive mechanisms of information dissemination.
Guided by the "social influence model".	LOA is not guided by a particular behavior change theory, however exhibits many characteristics that are directed towards a social influence model such as employing relatable models and survey questions salient to social perceptions.
Emphasis on norms, commitments not to use, intentions not to use.	Emphasis of LOA is to change the intentions of high school athletes drinking beliefs and behaviors. However, emphasis on social norms is not an overarching theme.
Community and school intervention programs combined.	LOA is designed as a stand-alone curriculum but has the potential to be used as part of a school-wide initiative.
Use of peer leaders.	CEPR believes that LOA does a good job incorporating models that are relatable and convincing to the targeted population. It does not, however, focus on the stories of current or recent high school student peers.
Life skills building.	The amount and relevance of information communicated provides a base to develop life skills, but the program does not offer concrete life skills guidance relevant to alcohol consumption.

Discussion & Recommendations

The LOA curriculum exhibits several components that align in part with Cuijper’s framework. CEPR believes that the program characteristics could be strengthened by implementing the following changes:

- Increasing the emphasis on social norms.
- Create bridge materials that tie LOA into existing school, district and community alcohol prevention programs, such as materials or programs for coaches and parents.
- Using more peer leaders to discuss the effects of alcohol on athletic performance.
- Partner the information of the negative effects of alcohol with more information on building healthy habits and dealing with peer pressure.

These recommendations will be discussed in greater detail in the following section.

Alignment of Life of an Athlete (LOA) to Current Research

CEPR investigated the alignment between the curriculum of the Life of an Athlete (LOA) program and the scientific literature on behavior change in order to understand the approach and effectiveness of the LOA alcohol prevention program. This is a critical component of creating, developing, and maintaining an effective, solution-focused, and theoretically-based approach to creating positive behavioral change among high school athletes who engage in the risky behavior of the consumption of alcohol. Overall, the CEPR analysis found that each unit of the LOA curriculum is aligned with various techniques for behavior change espoused in current research. Table 32 highlights the overlap of these techniques across the curriculum.

The CEPR staff reviewed the program from the perspective of a participant. By becoming familiar with the program and identifying patterns of characteristics that were portrayed throughout each of the units, the review was able to identify where elements of various theories are present in the curriculum. Through an inductive assessment of LOA and through a systematic review of relevant literature on multiple factors that have been shown to be agents of influence and behavior change, these same factors and characteristics were identified in the curriculum of LOA. Overwhelmingly, the LOA curriculum either explicitly or implicitly merges elements of several predominant research theories into one alcohol prevention program. Additionally, based on the assumption that “Cognitive and thinking skills provide the substance and the tools for cognitive problem solving” (Bandura, 1989, p. 9), then the substance provided by the LOA program is concrete information regarding the effects that alcohol has on the body and how it specifically affects the mind and body of an athlete.

In addition to the Cuijper’s framework, CEPR’s process for the review and comparison of LOA curriculum and current research was based on looking at both theoretical foundations of behavior change, as well as theories that guide behavior acquisition. Given the plethora of research from academic fields such as psychology, social psychology, sociology, and cognitive science, an abundance of research and literature has been produced investigating the major tenets of behavior change. Among the most prevalent theories, this review observed particular characteristics that are central to three theories that emerge both in the recent scientific literature as well as being of the LOA curriculum. The three emergent theories are:

- Theory of Planned Behavior (TPB) (Ajzen, 1985),
- Cognitive Behavioral Theory (CBT) developed by Albert Ellis in the 1950's and Aaron Beck during the 1960's, and
- Social Influence Theories (SIT) such as Social Cognitive Theory (SCT) (Miller & Dollard, 1941. Baer, Bandura, Krasner, Zigler & Lindsley, 1963), and Social Impact Theory (Latane, 1981). Moreover, an overlap of the characteristics that drive each of the mentioned theories was apparent throughout the curriculum.

Theoretical Underpinnings

Theory of Planned Behavior

Theory of Planned Behavior (TPB) is "used to identify the determinants of health-related behavior" (Ajzen, 1991). Fishbein and Ajzen (2005) state that TPB "targets behavioral, normative, and/or control beliefs in an effort to produce positive intentions among participants who, prior to the intervention, either did not contemplate performing the behavior or were disinclined to do so" (p. 28).

Normative beliefs are an individual's personal beliefs about what others expect of them. Furthermore, normative beliefs are related to the individual's motivation to comply with those expectations and can readily be understood as the individual's beliefs concerning peer pressure. Behavioral beliefs are based on what a person believes will happen to them based on their actions. Finally, control beliefs are concerned with an individual's beliefs of their perceived ability to control factors that can facilitate or impede performance of behavior.

Cognitive Behavior Therapy

The major tenet of Cognitive Behavior Therapy (CBT) is that altering maladaptive thinking leads to change in affect and behavior. CBT is a psychotherapeutic method that confronts dysfunctional emotions, cognitions, and behaviors based on a goals-oriented and systematic approach. It is commonly used with individuals who are aware of their (emotional, cognitive, and/or behavioral) dysfunctional process, and who are actively seeking out support in changing their respective dysfunction. CBT attempts to help individuals identify distorted thinking. CBT attempts to modify beliefs by facilitating an acquisition of more accurate beliefs. The goal is to increase the individual's ability to relate to other people in a more socially acceptable manner and change the target behavior.

Social Influence Theories: Social Impact Theory & Social Cognitive Theory

Social influence is a broad based theory of behavior that occurs when one is influenced by another person, either emotionally, behaviorally, or cognitively. Kelman (1958) identified three categories of social influence; compliance, which is when people appear to agree with others, but actually keep their dissenting view private. Second, identification, which is when people are influenced by someone they like and respect and wish to emulate. The third category is internalization, which is when people accept a belief or behavior and agree both publicly and privately about that belief or behavior.

Social Impact Theory (SIT) consists of three basic rules; a) social impact is the result of social forces including the strength of the source of the impact, the immediacy of the impact, the number of sources exerting the impact, b) the psychosocial rule that states that the amount of impact tends to increase as the number of sources increases, and c) the number of targets also effect social impact.

Social Cognitive Theory (SCT) rests on the proposition that people's learning abilities and capabilities are not guided solely on behavioral trial and error attempts. Rather, learning can be directly related to observing others within the context of social interactions and experiences. The degree to which an idea or behavior is learned or acquired by an individual is dependent upon several factors such as the influencing agent, the development level of the individual, the level of importance to act in a certain way, and the psychosocial

characteristics of the individual. Table 32 highlights the overlap in techniques from the theories outlined above across the LOA curriculum units.

Table 32. Behavior Change Theories and LOA Curriculum

LOA Curriculum	Theory of Planned Behavior (TPB)			Cognitive Behavior Theory (CBT)	Social Influence Theory (SIT)	Social Cognitive Theory (SCT)
	Behavioral Beliefs	Normative Beliefs	Control Beliefs			
Introduction	X			X	X	X
Unit 1	X	X	X		X	X
Unit 2	X	X	X	X	X	X
Unit 3	X	X	^	X	X	X
Unit 4	X	X	X	X	X	X
Unit 5	X		X	X		
Unit 6	X	X	X	X	X	X
Conclusion	X	X	X	X	X	X

Discussion & Recommendations

The LOA curriculum utilizes multiple techniques from multiple theories. If all of these techniques prove to provide value in changing student behaviors, the utilization of multiple theories is not an inherent weakness in the program. In order to fully understand the effectiveness of each of these components, however, a more comprehensive review of the overall program effectiveness in changing student behaviors is required.

Areas of Strength and Improvement by Unit

In addition to examining the LOA curriculum with respect to how the curriculum aligned with indicators of successful programs and theories of behavior change, CEPR, in consultation with staff from UNM’s Center on Alcoholism, Substance Abuse and Addictions, examined the programmatic elements of the curriculum units themselves, to make recommendations for overall program improvement. The following discussion highlights those recommendations.

LOA Introduction

The LOA Introduction sets the agenda for the remainder of the training. Notah Begaye, pro golfer and New Mexico sports celebrity provides the introduction to the program, and relates some of his personal

accomplishments, as well as his struggles with alcohol. The strength of Notah Begaye is his position as a powerful role model—he is one of the few Native American sports celebrities who has achieved national acclaim in professional sports. However, one of the potential pitfalls of his testimony is that most of his testimony is focused on his career success, rather than how receiving a DWI negatively impacted his life. One of the potential unintended consequences of his testimony may be that it sends the message that getting a DWI has had little impact on his life and career.

This section also sees the introduction of the host and narrator. The use of the female narrator is a good addition to an otherwise male-centered program, and serves to strengthen the overall quality of the program. The narration throughout the curriculum is clear and straightforward, and delivers information in an engaging manner.

Unit 1

Unit 1 provides the mission and objectives of the program, and introduces participants to Gabe Gurule, a former Manzano football star who is currently serving a prison sentence for killing three people in an alcohol-related crash shortly after he graduated from high school. Gabe's story is an incredibly powerful and emotional story that is woven through the remainder of the units. The strength of Gabe's story is Gabe himself. He is a likeable young man, who was a very promising athlete.

Units 2, 3, 4, 5 & 6

Units 2 through 6 provide accurate and relevant information on the negative effects that alcohol consumption can have on the cognitive functions, brain development, and skill acquisition, inter-spliced with more segments of Gabe's story. The strength of these units is the delivery of information in a clear and concise manner, demonstrating the immediate and long-term effects of alcohol on general functioning as well as athletic performance. Within these units, however, there are some areas that review staff believe could be improved for overall program delivery.

Areas of possible improvement:

Unit 4

Unit 4 provides an interactive component that demonstrates the effects of binge-drinking on Blood Alcohol Content (BAC). The timeline of the effects of alcohol consumption is a powerful component to the program. However, within this demonstration, it is unclear what the assumptions are for the legal limit for intoxication. The legal limit for Blood Alcohol Content (BAC) for drivers under 21 in New Mexico is .02; however, it appears that LOA assumes a legal intoxication limit of between 4 and 8 units of alcohol. A BAC of .08 is the legal limit for adults, but not adolescents. CEPR recommends this distinction be made completely clear, and demonstrate that any alcohol inhibits an individual's capacity to drive.

Unit 6

Unit 6 provides an interactive "carousel" that participants click through to learn additional pieces of information on the effects of alcohol consumption. The carousel is interesting yet challenging to navigate.

Review staff found the movement counter-intuitive, often changing directions and embedded information somewhat hard to find, with no clear instructions about what participants are expected to complete in order to be able to move on. NMAA may wish to consider revising this interactive component to make it easier to navigate.

LOA Conclusion

The conclusion section explicitly demonstrates that athletes will experience considerable negative effects in their athletic performance and run the risk of causing grievous harm to themselves and others if they decide to drink and drive. The strength of the conclusion is that it reinforces the curriculum units in a definitive way.

An area for possible improvement in the conclusion, however, is a final piece of information delivered at the very end of the program regarding how few high school athletes actually go on to participate in collegiate and professional sports. This summation may have the unintended consequence of making students feel that if they don't have a shot at playing sports beyond high school, that there is less of a motivation to live the "Life of an Athlete," i.e., alcohol-free. A possible alternative to this concluding component might be to emphasize how athletics and living a healthy lifestyle contributes to long-term health, well-being and career success outside of sports.

Gabe's Story

Gabe Gurule's story is woven throughout the LOA curriculum, and is an extremely powerful example of the consequences of drinking and driving. However, some research has shown that the powerful stories told via victim impact panels for DWI offenders can have inverse effects on offenders and lead to increased likelihood of destructive and risky behaviors. This occurs because they are so emotionally impactful that they sometimes cause offenders to self-medicate (i.e., "drowning your sorrows") (Wheeler, Rogers, Tonigan, & Woodall, 2004). LOA program review staff feel that it is important that the LOA curriculum be mindful of this potential consequence with a story as powerful as Gabe's.

CEPR recommends a possible continued collaboration with Gabe, to provide additional emphasis on proactive concepts and practices that help prevent future similar tragedies with other people, especially high school athletes. Gabe's story is extremely touching and emotional which grabs the participants' attention, however, Gabe's example could provide more of focus on a framework that additionally promotes what he plans to do to live his life differently once released from prison and this may help to mitigate this possible effect.

Life of an Athlete Program Review Discussion

Overall, this review found that the LOA program demonstrates potential for success in changing adolescent athletes' drinking behaviors through three primary findings. First, data analyses show that participants are able to substantively increase their knowledge and understanding of the effects of alcohol on athletic performance and on cognition. These increases are statistically significant. Second, LOA exhibits some components required for successful program implementation highlighted by Cuijpers. Finally, LOA

utilizes multiple behavior change techniques that research has found to be successful. Additionally, the LOA program is able to present the curriculum in an information-rich and engaging format. However, CEPR also believes that the program can be fundamentally strengthened to remove possible negative impacts, improve the potential of the LOA program to reduce student athlete drinking behavior, and improve how data is collected about program participants.

Recommendations

In addition to the suggestions provided throughout the course of this narrative, CEPR staff have several recommendations related to program improvement and understanding the effectiveness of the Life of an Athlete Program.

Understanding the Impact of LOA on Student Athlete Behavior

One of the primary components of Cuijper's framework that LOA does not meet is evidence of effectiveness. The ultimate goal of LOA is to reduce student athlete alcohol consumption. One of the limitations of this study is that the pre- and post- surveys that participants complete do not collect information about student athletes' behavior regarding alcohol consumption. Without gathering this information, making a determination about the functional impact of LOA on student athletes is not possible. Understanding the Impact of LOA on Student Athlete Behavior is instrumental in the continuation and enhancement of the LOA program. CEPR suggests the development of a supplemental LOA program that would focus on the behavioral characteristics and changes in program participants. CEPR would recommend that NMAA work with an independent entity to develop and administer an anonymous survey to past participants of the program to determine whether or not LOA has had a significant impact on student athlete alcohol consumption.

Improving the Pre- and Post-Survey Questions

In general, the pre- and post-survey questions provide a good analysis of the increase in participants' knowledge regarding the effects of alcohol on the brain, body and athletic performance. The questions also provide insight into how participants' feel about the utility and value of the program overall. CEPR believes that these questions provide the NMAA with good baseline information overall and that this information should be gathered. However, in order to improve the quality of student responses, CEPR staff have provided NMAA with some suggestions for revamping these pre- and post-survey questions to improve readability, responses and analysis in the Appendix of this report.

Ultimately, however, these survey questions primarily measure students' knowledge acquisition, and do not provide measures of students' behavior regarding alcohol consumption, or their individual characteristics, self-efficacy, or beliefs about risk. CEPR believes that the pre-survey questions should be revised to measure more individual student personality characteristics, self-efficacy and beliefs about risk. NMAA is likely not in a position to directly collect behavioral information related to consumption, because it would necessitate student

athletes admitting to violating zero-tolerance policies regarding drinking. Should the NMAA wish to have comprehensive impact data regarding whether or not LOA changes the alcohol consumption behavior of participants, as mentioned earlier, NMAA should contract with an independent agency to gather and analyze this information.

Improving Data Collection/Delivery in the Pre-and Post-Survey

Throughout the course of this evaluation, CEPR worked with the staff at Webize to obtain data from the Pre- and Post-Surveys that participants completed as part of this course. This process highlighted some issues that should be addressed in order to ensure that data reported through the system are accurate and reliable. The first issue is that NMAA should work with Webize staff to establish protocols for data extraction and delivery. In its current form, data extracts can vary dramatically depending on the variables requested, and a new record is created for every activity for which students indicate participation. Through the course of this evaluation, CEPR made three data requests, and each returned a different number of participants. NMAA should work with Webize staff to ensure confidence that all data extracts return accurate data. In addition, Webize staff indicated that only students have completed the pre- and post-surveys, and therefore the data from non-students such as coaches and parents was unavailable at the time of this analysis. Finally, CEPR staff suggest that the data collection rubrics themselves can be revised to allow for stronger analyses moving forward. CEPR staff suggest that NMAA consider revising the data collected to include:

- All participants, not just those indicating that they are “Students”
- Whether or not the participant is taking the course voluntarily, or whether it is required by a coach, parent or other adult.
- Participant birthdays—to improve accuracy of analysis of results by student age.
- Participant ethnicity—to determine if there are functional differences in the responses of students across groups.
- Revising data collection on school names to include all New Mexico Public schools by proper name and tying those to school id numbers to ensure accurate analysis of participation by school.

Increasing the Emphasis on Impacting Student Athlete Normative Beliefs and Breaking Normative Stereotypes

After a thorough review of the LOA program, CEPR was able to identify patterns and characteristics of the LOA curriculum that are illustrative of theoretical foundations of behavior change. However, through the identification of the similarities of LOA and of certain theoretical characteristics, gaps were also revealed in the LOA program that are key components of theory-based factors that contribute to behavior change. One recommendation would be to strengthen the already influential TPB applications by increasing the focus on changing participants’ normative beliefs. LOA places emphasis on the provision of clear, concise and relevant information regarding the detriments alcohol can have on the body and mind of an athlete and how it impacts their athletic ability and performance. However, given that LOA is targeting young student athletes, CEPR believes the program may be strengthened by increasing the emphasis placed on the normative aspects of TPB that effect high school students. The most influential factors on adolescents are peer groups (Gardner & Steinberg, 2005). Even with the most accurate and well-disseminated information on the negative consequences on athletic performance, the high school athlete will more than likely still take on the identity of his/her social group. NMAA may accomplish this by including additional stories told from the perspective of

more recent high school graduates, focusing on how peer pressure effects decisions that high school athletes make, and the consequences of those decisions.

CEPR recommends that where possible, LOA attempt to break normative stereotypes. For example, Unit 1 discusses when adolescents typically begin to drink. This could potentially send a message to students that it is functionally “okay” to begin drinking by age 16. An alternative approach may be to dispel common teen myths about drinking. For example, in survey research of students and their perceptions of their peers, the perceived rate of drinking is far higher than the actual. A technique of “normative setting,” i.e., breaking normative misperceptions, has been found to be successful in these types of prevention programs (Botvin and Griffin, 2007; Botvin, Griffin, Diaz, and Ifill-Williams, 2001; Komro, Perry, Williams, Stigler, and Farbaksh, 2001). NMAA could use this program to dispel the myth that “everyone” drinks, and help teens understand that the actual number of their peers that drink is lower than they think, and that it is in fact okay not to drink, as well as challenging other normative misperceptions of youth.

Enhance the Interactive Delivery Method

The incorporation of various interactive capabilities of LOA is very well done. Providing the opportunity for participants to actively engage with the curriculum to see the timeline of the alcoholic effect on a person’s body over the course of days, is an excellent way of teaching and keeping the interest of the participant. CEPR would like to see this capability increase in the amount of interaction throughout the program as well as an increase in the sophistication of the interactions that may fabricate the program to the participant, based on the feedback that has been given back to the program, providing a more personal and meaningful life-like experience. This may be done in partnership with the current vendor, or an organization that specializes in computer adaptive web-based programs, where the objective is for the web-based program to tailor questions, surveys, and other information to the individual participating in the program based on their previous answers to questions, surveys, and relevant information.

Another example of how the NMAA can increase the delivery of the content is by creating situations that either demonstrate or have interactive components that highlight the consequences of decision-making in dramatized scenarios that are familiar to the participants. An example of such scenarios can be found in the U Consider This (<http://csu.uconsiderthis.org/login.aspx>) program developed by the Center on Alcoholism, Substance Abuse and Addictions. NMAA might consider utilizing a reverse decision-making analysis like the one found in this program. Such an analysis begins with the end of a scenario and works backwards, highlighting all of the decision-making points, where an individual could choose to utilize good or poor judgment, and how those decisions led to the eventual outcome. For example, such a scenario might begin with an athlete experiencing a season- or sport career-ending injury on the field after a night of drinking. The scenario then plays backwards, highlighting all of the places where the player could have made decisions to stop drinking, or not drink at all, and thus avoid injury.

Reaching a Broader Audience

Currently, the LOA curriculum is firmly centered on male high school athletes. NMAA, however, could broaden the reach of the program. Data analysis shows that there is not a substantive difference in knowledge

acquisition between male and female participants, or between middle and high school students—the LOA program appears to be effective in delivering its desired curriculum to diverse groups. Pending a broader study of the influence of LOA on participants’ attitudes, beliefs and behavior regarding alcohol consumption and how that may vary demographically, CEPR believes that NMAA could expand the program to provide units specifically designed to educate coaches and parents and provide them with curriculum and messages that could be used to reinforce information delivered through the student-centered program. By providing an avenue for the delivery of consistent and clear messages through the program, by coaches and by parents, NMAA would have the capacity to increase the exposure student athletes have to these messages beyond participation in the web-based curriculum and strengthen message delivery.

Conclusion

Overall, the LOA program shows potential to become a powerful tool for alcohol abuse prevention for student athletes. It currently does a good job at conveying knowledge about the effects of alcohol on the body and on athletic performance. CEPR staff feel that the LOA program could be substantially strengthened with some revisions, and is poised for a longitudinal study on its effect on student behavior.

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