

Utah Department of Health

Tobacco Prevention and Control Program

Ending Nicotine Dependence

Program Evaluation

January-December, 2004





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END Program Evaluation January-December 2004

Executive Summary

Results

Ending Nicotine Dependence (END) is a teen tobacco cessation program developed in Utah and implemented in several Utah locations, usually with youth who have been cited for underage possession of tobacco.

The majority of END participants, 61%, quit or reduced their tobacco use, including 13.2% who quit altogether. The most important factors influencing whether a student would quit were self-confidence, stage of change, and their attitude toward the class, respectively.

Besides quitting or reducing tobacco use, students benefited significantly from END in several other ways. Upon completing the class:

- Fewer students believed that tobacco use is an unbreakable habit, necessary for pleasure or relaxation, part of their self-image, or that it is too late to quit and withdrawal effects would be overwhelming.
- Most students who did not quit were more confident that they could. A student who reduced her tobacco use wrote, "I really appreciate what you've done for me. I know now that I can quit smoking." Another reducer set a date for cessation; "I'm quitting on June 15." This student would recommend the END class to friends "because it really does give you confidence to quit smoking."
- Most students who did not quit smoking were at a higher stage of change, meaning they were more mentally prepared to quit smoking than when they started the class. One student wrote that the class "really helped me in pushing myself to quit and [made me] realize how much happier I would be and how much healthier too."
- More students felt that their friends would support them if they tried to quit smoking. For quitters and reducers, peer support ranked among the most helpful aspects of the class and reasons that students would recommend the class to their friends. One student said she would recommend the END program to her friends "because I want them to quit right along with me. I think it would be easier for all of us." Support was also important to students who showed no improvement in smoking status during the course of the class. One student who did not change his tobacco consumption wrote that if his friends "are looking for a group that would support them when they are trying to quit this would be a good class."

Student reactions to the END class were overwhelmingly positive.

- 98% of students rated their facilitators as excellent or good. "Excellent teacher. She did a very good job at relaying the information to the students in a way that they could understand," wrote one student. Another wrote, "You are a great teacher."
- Only 46% of END students were happy to be in the class at PreTest, but 76% were pleased with the class at PostTest. "I loved this class," wrote a satisfied student. "It has helped me out in so many ways. Thank you very much."
- 66% of END students would recommend the class to friends who use tobacco. The most common reasons for not recommending the class had little to do with the dissatisfaction with the course itself; some students did not want to interfere with their friends' lives or felt that their friends would not be interested in quitting.

END yielded higher quit rates for cigar and smokeless tobacco use, with 35.7% of chew users quitting chew and 40.5% of cigar users quitting cigars. However, cigar smokers and smokeless tobacco users reported more sporadic use of these products, so larger fluctuations between increased and stopped use can be expected. While most cigar quitters stopped using all tobacco products, 83% of those students who stopped using chew continued to use other tobacco products, usually cigarettes.

Classes with at least six sessions had the highest proportion of people reducing tobacco use. Students in classes with at least six sessions and/or cohort-style courses (as opposed to rotating enrollment) commented more often that their classmates were helpful to the quitting process.

When controlling for number of sessions and for student factors like confidence, stage of change and attitude toward the class, Utah county students were much more likely to improve than students elsewhere, followed by Davis and Southeast.

Recommendations for Program Improvement

- Investigate why females are not referred to the END course as often as males.
- Offer comparable surveys to alternate teen cessation programs that may be offered in place of END to learn whether these programs are equally effective.
- Because self-confidence is so important to quitting success and the literature indicates that increased self-confidence advances stage of change, use class methods that promote confidence such as providing opportunities for group discussion and relating to classmates, as well as opportunities to practice social and quitting skills.
- Investigate ways to use the “Ready to Quit Survey” results to promote stage of change advancement by tailoring the class.
- Because most smokeless tobacco users also use cigarettes and are less likely to stop using cigarettes than smokeless tobacco, don’t neglect discussing cigarettes when teaching the END course to smokeless tobacco users.
- Investigate what methods are causing stage of change advancement and promote these methods to facilitators.
- Improve the incentive system to increase returns of three-month follow-up surveys.
- The END course should always be at least six sessions long.
- Investigate program implementation methods in Utah, Davis and Southeast and share these methods with other local health departments.
- Ensure that students start and end the class together to provide them with the opportunity to develop a cohort during the class that unites them in their efforts to stop using tobacco.
- Because receiving peer support by the end of the class is correlated with improvement in tobacco use status and is valued by END students, use class methods that promote social support among students, such as promoting discussion and openness in class, demanding mutual respect among students, and ensuring participants start and end the class together.
- Maintain emphasis on health effects and quit strategies; most students value this information.
- Revise the END booklet. (This recommendation is already in progress.)
- Maintain activities that help students visualize the harmful effects of tobacco use, such as videos and experiments.
- Ensure that videos, images or discussions that portray smoking counter these images with a strong anti-tobacco message in order to avoid provoking tobacco cravings.
- Incorporate tools to handle discipline issues into trainings and curriculum. (This recommendation is already in progress.)
- Pat yourselves on the back! Although most students do not choose to participate in END and are not happy to be in the class in the beginning, most enjoy the class and almost all like their facilitators.

→ You can view the complete report at: www.tobaccofreeutah.org/ENDevaluation2004.pdf

Description of END Participants

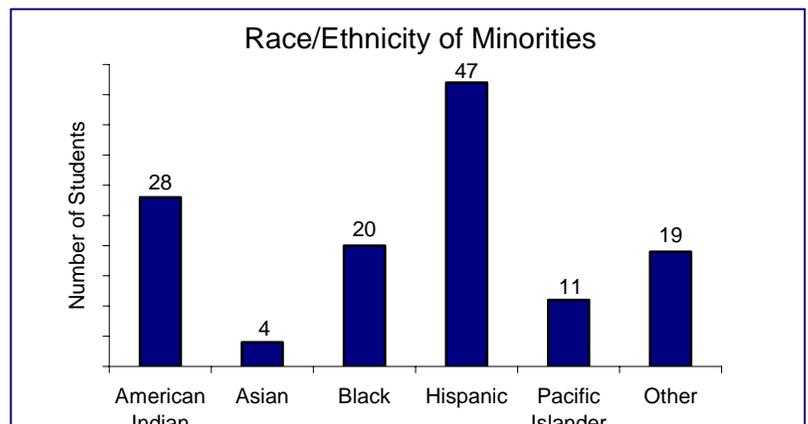
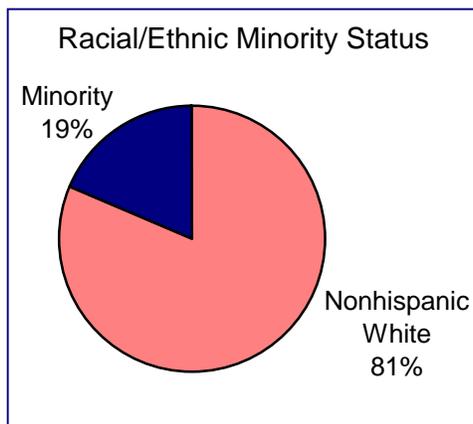
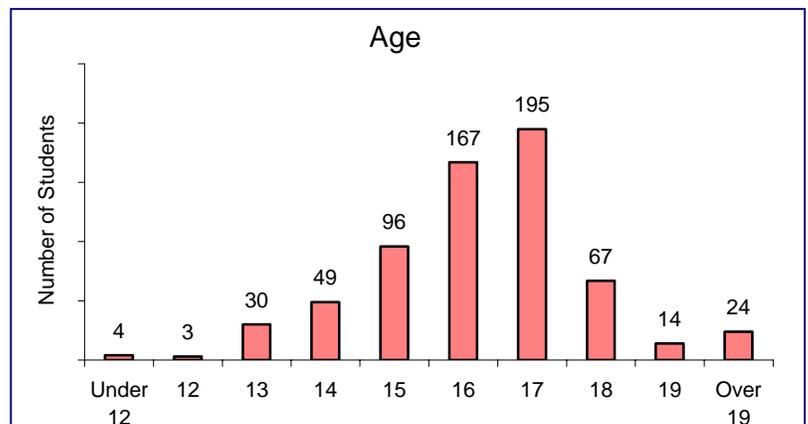
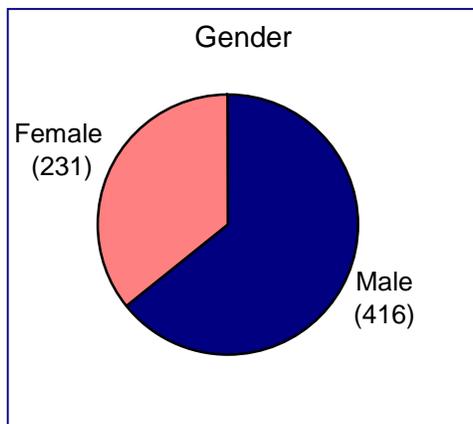
Demographics

The average END student was 16 years old and in the 11th grade. The majority of END students were white and male. The largest minority group in the END population was Hispanic, followed by American Indian.¹

Statewide surveys show the same tobacco use rate for male and female youth or a slightly higher rate for males.² However, only 36% of END participants were female, implying that the END program underserves females.

Statewide surveys show that youth tobacco use rates increase with age.² The population of END students reflects this pattern, with the exception of 18 year-olds. Although 18 year-olds are still underage smokers and should be referred to a cessation course like END under Utah law, 18 year-olds are underrepresented in the END population. Some persons under age 12 and above age 18 participated in the END program although END was not designed to serve these age groups.

Of these demographic indicators, only age was significantly correlated with quitting success. Participants above age 17 quit at lower rates than their younger counterparts.



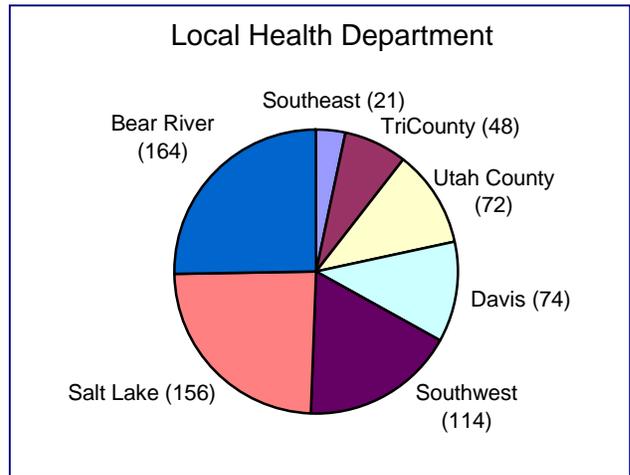
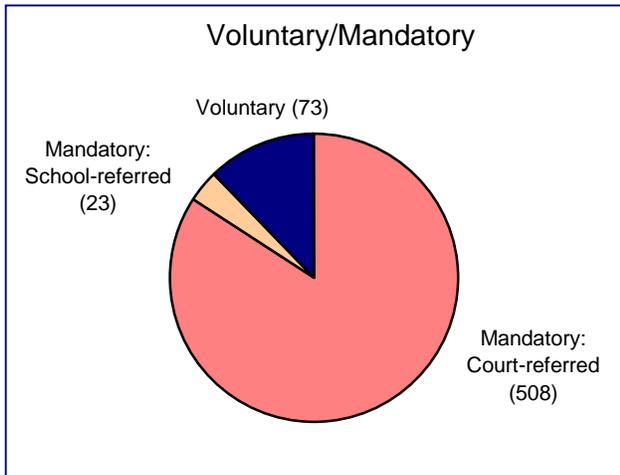
¹ In all analyses, students who chose to skip questions when a skip pattern was not in place were excluded.

² Utah State Office of Education. *Utah Youth Risk Behavior Survey (YRBS)*. 2003. Author: Salt Lake City, Utah.

& Utah Department of Health, Tobacco Prevention and Control Program. *Utah Youth Tobacco Survey (YTS)*. 2003. Author: Salt Lake City, Utah.

Most students participated in the END program involuntarily, referred by the judicial system after being cited for underage possession of tobacco. Voluntary students were significantly more likely to reduce their tobacco use than mandatory students but were not more likely to quit. However, a larger proportion of voluntary students were at or above the legal smoking age of 19 and older participants quit at lower rates.

Seven³ of the twelve local health districts offered END courses. Some local health departments offer other teen tobacco cessation classes in addition to or instead of END, but data are not available to compare the efficacy of alternate courses to END. There were no significant differences in quit rates in the END program by local health department but there were significant differences in reduction rates, with Utah County and Davis County Local Health Departments having the largest reduction rates.



Recommendations

Investigate why females are not referred to the END course as often as males.

Offer comparable surveys to alternate teen cessation programs that may be offered in place of END to learn whether these programs are equally effective.

³ Tooele County Health Department was excluded from the analysis due to small sample size (n=9).

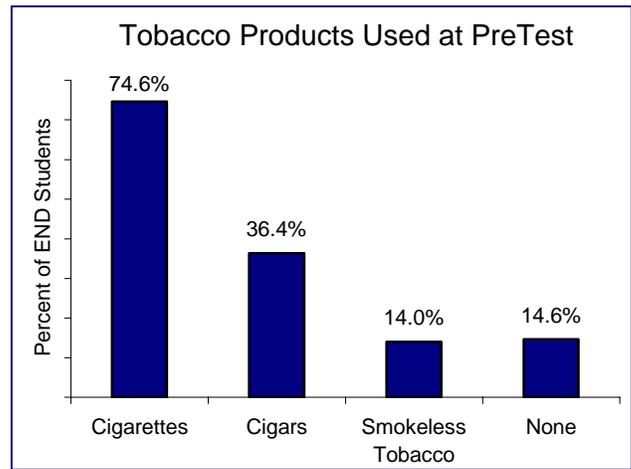
Tobacco Use at PreTest

Most END students were cigarette smokers. Of those who reported cigar or smokeless tobacco use, 95% of the cigar smokers and 80% of the chewers used cigarettes as well. Almost 15% of END students reported that they did not use any tobacco products.

The data demonstrate that many END students are potentially responsive to quitting messages. Large proportions were preparing to quit, had made quit attempts during the past year, and were not highly addicted.

The PreTest found that of cigarette smokers enrolled in END:

- The average age of smoking initiation was 12 and the average smoker had started smoking four years prior to beginning the END class.
- 56% smoked everyday during the month prior to beginning the END course.
- The median number of cigarettes per day was nine.
- 62% measured “low addiction” or “very low addiction” on the addiction scale.⁴
- 64% had tried to quit within the year prior to beginning the END course.
- 40% were preparing to quit smoking within the next 30 days.
- 74% were very or somewhat confident in their ability to quit.



The PreTest found that of cigar smokers enrolled in END:

- 18% had smoked cigars 10-14 days out of the two weeks prior to beginning END, 33% had smoked cigars 3-9 days and 49% had smoked cigars only one or two days.
- 34% had tried to quit within the year prior to beginning the END course.
- 52% were preparing to quit smoking cigars within the next 30 days or had already begun a quit attempt.

The PreTest found that of smokeless tobacco users enrolled in END:

- 34% had used 10-14 days out of the two weeks prior to beginning END, 33% had used 3-9 days and 33% had used only one or two days.
- 44% had tried to quit within the year prior to beginning the END course.
- 45% were preparing to quit using within the next 30 days or had already begun a quit attempt.

When not controlled for other variables, the following cigarette-use indicators at PreTest were significantly associated with success at quitting and/or reducing cigarette use:

Indicator	Associated with Overall Improvement (Reducing or Quitting)?	Associated with Quitting?
Stage of Change ⁵	YES Smokers with greater intention to quit were more likely to improve.	YES Smokers with greater intention to quit were more likely to quit.
Confidence	NO	YES Smokers with more confidence about quitting were more likely to quit.
Cigarettes Per Day	YES Heavy smokers were more likely to improve.	YES Light smokers were more likely to quit.
Addiction Level ²	NO	YES Less addicted smokers were more likely to quit.

⁴ The addiction level scale was calculated using the Fagerstrom Nicotine Dependency Test, which considers several smoking behaviors.

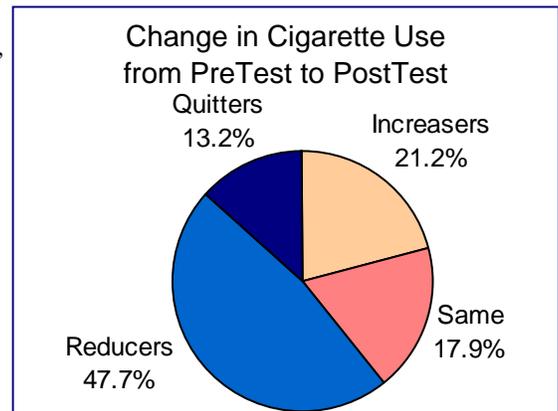
⁵ Stage of change is a measurement of interest in quitting. In precontemplation, the smoker is not considering quitting. In contemplation, the smoker is considering quitting but has not committed to doing so in the near future. In preparation, the smoker is planning to quit soon.

Quit and Reduction Rates

Cigarettes

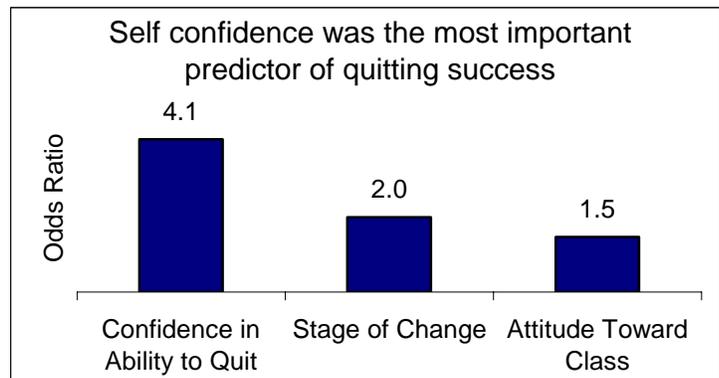
The majority of END participants, 61%, quit or reduced their tobacco use. While no control group was available for this program evaluation, a meta-analysis of youth cessation programs found a mean youth tobacco quit rate of 7% in adolescent control groups, which is about half the 13% quit rate of END students.⁶

While the percent of increasers seems high, 42% of increasers increased by only one or two cigarettes, indicating normal variation in use. By comparison, 75% of reducers reduced by more than two cigarettes.



When controlled for age and cigarettes used per day, students who began the class with these attributes were more likely to quit:

- Participants with high self-confidence that they could quit were four times more likely to quit than those without confidence.
- Participants in the preparation stage of change were twice as likely to quit as those in precontemplation.⁷
- Students who were happy to be in the class were 1½ times more likely to quit than those who were unhappy about the class.⁸



When controlled for the other variables listed and for local health department and the number of sessions offered in the class, students who began the class with these attributes were more likely to improve overall (by either quitting or reducing tobacco use).

- Participants in the preparation stage of change were three times more likely to improve than those in precontemplation.
- Participants with high self-confidence that they could quit were three times more likely to quit than those without confidence.
- Voluntary students were a little more than twice as likely to improve as mandatory students.⁹
- Students who were happy to be in the class were twice as likely to quit as those who were unhappy about the class.

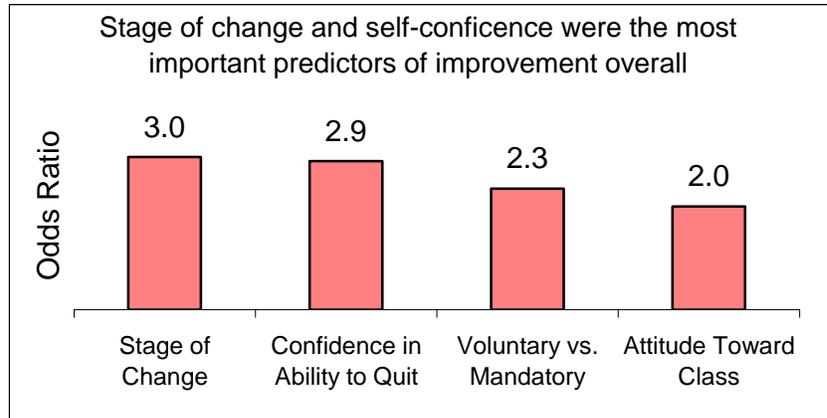
⁶ Sussman, S. *Effects of Sixty-Six Adolescent Tobacco Use Cessation Trials and Seventeen Prospective Studies of Self-Initiated Quitting: Prepared for the Youth Tobacco Cessation Collaborative Best Practices Workshop with Support from the Canadian Tobacco Control Research Initiative*. 2001. Institute for Health Promotion and Disease Prevention Research, University of Southern California: Los Angeles, California.

⁷ In the quitting model, stage of change had a P-value of 0.28.

⁸ In the quitting model, attitude toward the class had a P-value of 0.20.

⁹ In the improvement model, voluntary/mandatory had a P-value of 0.11.

- Heavy smokers were equally likely to improve as light smokers.
- Younger smokers were equally likely to improve as older smokers.



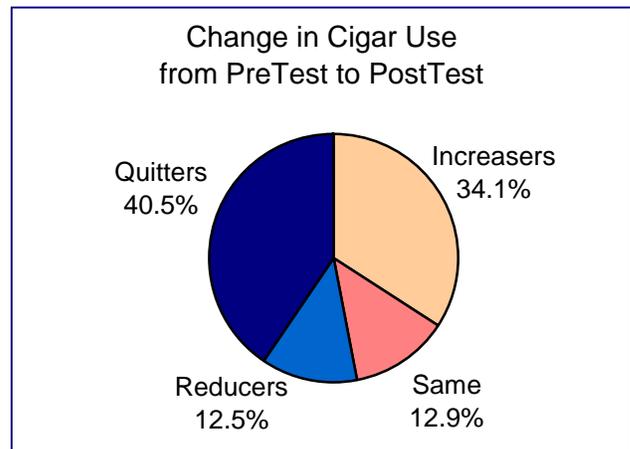
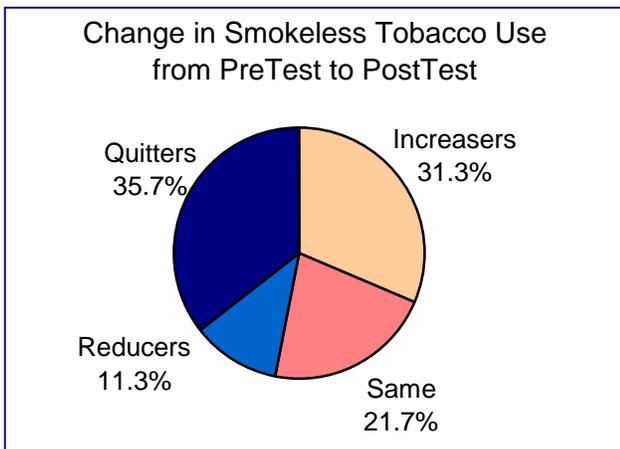
Recommendations

Because self-confidence is so important to quitting success and the literature indicates that increased self-confidence advances stage of change, use class methods that promote confidence such as providing opportunities for group discussion and relating to classmates, as well as opportunities to practice social and quitting skills.

Investigate ways to use the “Ready to Quit Survey” results to promote stage of change advancement by tailoring the class.

Cigars and Smokeless Tobacco

The larger proportions of quitters and increasers among cigar smokers and chewers compared to cigarette smokers reflect the more sporadic use reported by students. At PreTest, most cigarette smokers reported daily cigarette smoking while only a minority of cigar smokers or chewers used these products most days of the week. Therefore, larger fluctuations between increased and stopped use can be expected. However, most of the cigar smokers who quit using cigars did quit using all other tobacco products as well; only 14% of cigar quitters were still using other tobacco products at PostTest. In contrast, 83% of those who stopped using smokeless tobacco were still using other tobacco products, usually cigarettes.



Recommendation

Because most smokeless tobacco users also use cigarettes and are less likely to stop using cigarettes than smokeless tobacco, don't neglect discussing cigarettes when teaching the END course to smokeless tobacco users.

Quit Status and Helpfulness of Class

Comments from Smoking Status Improvers

In addition to the quantitative analysis of survey questions, we analyzed the 1,791 written comments that students provided in answer to four open-ended questions on each survey. The 324 students who improved their smoking status¹⁰ offered 922 comments. Students who improved their smoking status (quitters and reducers¹¹) wrote overwhelmingly more positive than negative comments regarding the class. Numerous students pointed to specific aspects of the course curriculum, social support and instructors. Many of these comments are discussed later in this report. Another 46 percent of the students who improved their smoking status offered more general comments of approval for the class. A lot of students simply wrote “good class” or “everything” in answer to what they found “most helpful”. The following are a sample of comments from the students who improved their smoking status and wrote general comments about the class helping them quit.

- “It helped me to try to quit.”
- “It help[ed] me quit.”
- “It was worth it.”
- “I quit in this class so it must be helpful.”
- “Thank you for helping me cut down from 50 cigarettes.”
- “It taught me to help myself when I am ready to quit and not make things more stressful.”

About seven percent of all students who improved their smoking status said the class was not helpful. Most of these said they would not recommend the class to their friends because it was not helpful in quitting smoking. Many also simply responded “nothing” in answer to the question what was most helpful about the class. Also, like many who showed no improvement in their smoking status, several of these students referred to quitting tobacco use as a personal decision, one that cannot be dictated by courts or a class. One reducer who said she was a veteran of the END program wrote on her PreTest, “Really this class does help give us the info on how to quit, but I doubt anybody who leaves this class actually does quit. I have taken this class at least nine times in the last couple years and I am not going to quit because the stupid ass system tells me to.”

Other reducers wrote they would not recommend the class to their friends because:

- “It is useless. You won’t quit unless you want to.”
- “It really doesn’t make you want to quit.”

Again referring to the perceived importance of choice in smoking cessation, students often wrote that they would recommend the class to friends, but selectively. One female reducer wrote that she would recommend the class, “In some cases because it may help some but it doesn’t help in most cause we don’t come here by free will”.

Comments from Students with No Improvement in Status

Of the students who showed no improvement in tobacco use, 18 percent (35 students) wrote general comments about liking the class. Again, this excludes the many positive comments about specific aspects of the curriculum, social support and the instructors. The following are a sample of comments from those 35 students who did not improve their smoking status but still thought the class was a good class. A 14-year-old increaser wrote that he would recommend the class to his friends who smoke, “Because it is helping me to quit smoking.” Following are other comments from students who did not decrease their tobacco use but still found the class helpful.

- “After taking this class I really want to quit using.”
- “It was a great class, I just hope I don’t have to come back.”
- “It helps in a way 2 think at least about it.”

¹⁰ All tests measuring relationships of indicators to quitting or reducing success referred to cigarette smoking, not the use of other tobacco products. Students who did not use cigarettes were excluded.

¹¹ This category includes ten students who reported quitting or reducing in their written comments but were not represented among the quitters and reducers categories that were calculated from number of cigarettes smoked per day because of missing answers.

-
- “The video we watched about the tongue hairs. It just grossed me out. When I lit my cigarette afterward I actually put it out.”
 - “It really made me have a second opinion about using.”

Fifteen percent of the students who did not reduce or quit using tobacco (30 students) wrote that the class provided them with no help, specifically with no help in quitting.

- “I want my tax dollars to go toward something useful,” female, no change in status.
- “It doesn’t help to be crucified because you smoke,” male, no change in status.
- “[Be]cause it doesn’t really help. You just learn about health and if its bad for you,” female, increaser.
- “Because the class doesn’t help you quit. It is still you who has to decide if you want to quit,” male, increaser.

Many students who showed no improvement in smoking status complained that the class actually increased their desire to smoke. Often, they wrote specifically about the increased desire coming from talking about smoking or seeing people smoke in the videos. Of the students who showed no improvement in smoking status, eight percent shared this complaint. “Talking about it just made it so I wanted it more,” wrote an increaser, reflecting the comments of many students who showed no improvement in smoking status. Another increaser wrote that the least helpful thing was, “That I would smoke more when the class got out.”

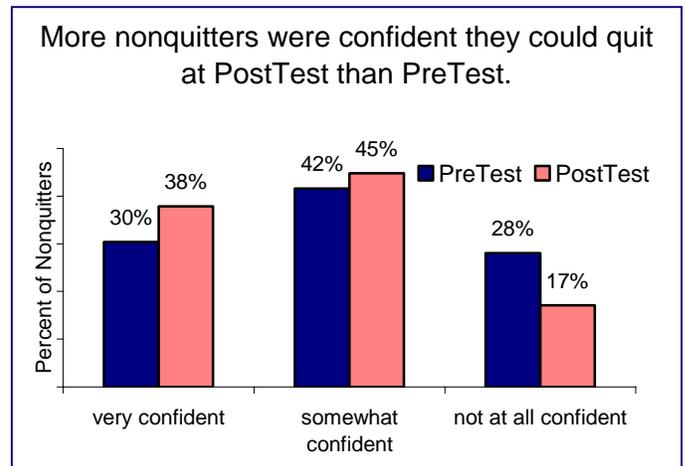
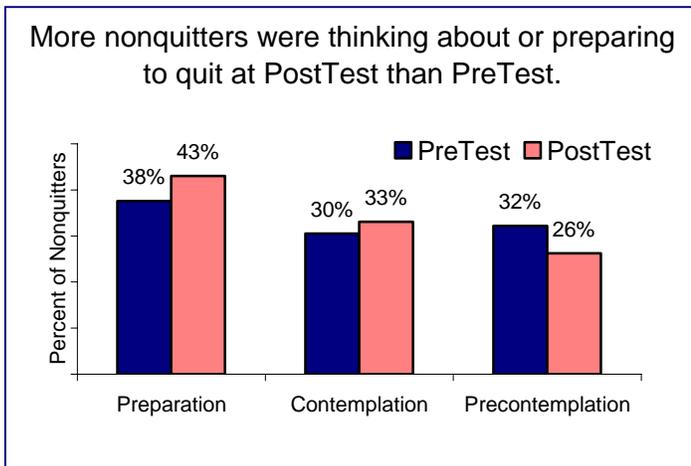
Even students who showed improvement in smoking status complained that the class actually increased their desire to smoke, although at a lower percentage than the students who showed no improvement. Of the students who showed improvement in smoking status, four percent shared this complaint. The following are samples of answers to the question, “What did you find least helpful about the E.N.D. class?”

- “Kept reminding me of smoking.”
- “The ball cause it aggravated me and made me wanna smoke.”
- “Talking about smoking makes you wanna smoke.”

Other Benefits of END Participation

Progress Toward Quitting

Of those students who were still smoking cigarettes at the time of the PostTest, there were significant improvements in self-confidence in their ability to quit and their stage of change (a measure of their interest in and mental preparation for quitting) than when they started the class. A student who reduced her tobacco use wrote, “I really appreciate what you’ve done for me. I know now that I can quit smoking.” Another reducer set a date for cessation; “I’m quitting on June 15.” This student would recommend the END class to friends “because it really does give you confidence to quit smoking.” Also, 47% of nonquitters tried to quit smoking cigarettes at least once during the course of the END class. One student wrote that the class “really helped me in pushing myself to quit and [made me] realize how much happier I would be and how much healthier too.”



Confidence and a “preparation” stage of change (i.e., highly ready to quit) were found to be the most important predictors of quitting success when students began the class with these qualities, so it is assumed that students who gained these qualities over the course of the class will also be more likely to quit in the future. Unfortunately, not enough facilitators returned three-month follow-up surveys to investigate this theory.

Recommendations

Investigate what methods are causing stage of change advancement and promote these methods to facilitators.

Improve the incentive system to increase returns of three-month follow-up surveys.

Opinions about Tobacco Use

At the end of the class, students *disagreed* more with all of the following statements than they had at PreTest. These differences were significant.

- Using tobacco is a habit I can't break.
- If I quit using tobacco, my life would not be as pleasurable.
- If I quit using tobacco, I would not be able to relax.
- It is too late to quit because the damage is done.
- If I quit using tobacco, the withdrawal effects would be overwhelming.
- Using tobacco is part of my self-image.

Written comments emphasized this change in opinions about tobacco use. Students referred to the effects of tobacco use as aesthetically unpleasing and they overwhelmingly commented on the adverse health effects that they learned about in the END class. In answer to the question, "What did you find most helpful about the E.N.D. class?" students wrote comments such as the following:

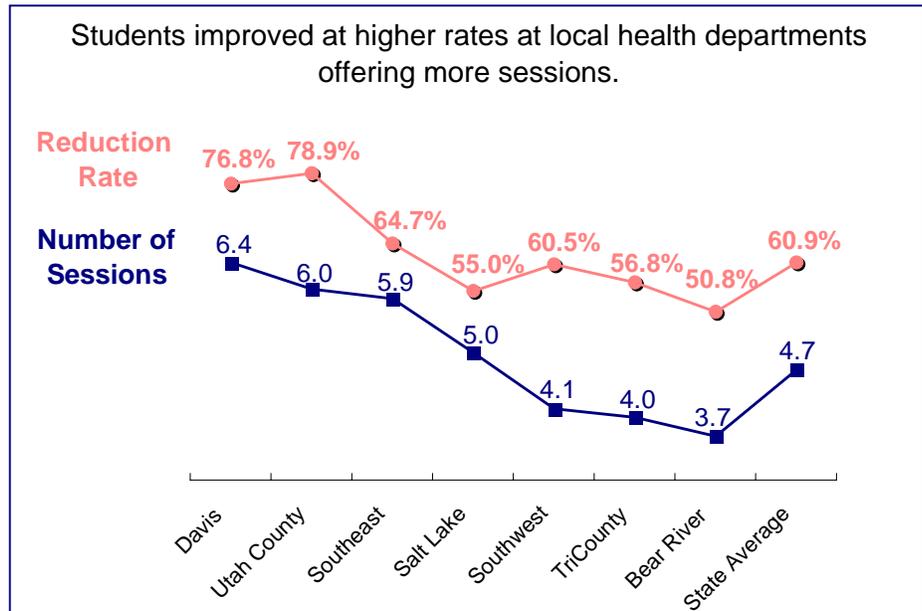
- "[Learning] about all the gross things that can happen to your body."
- "Showing others dying deformed or being unhealthy because of their use of tobacco."
- Another student wrote that she would recommend the class to friends "because you get the juicy facts that gross you out so you might quit."

Program Implementation

Local Health Department and Length of Course

The average length of the END course was 3.3 weeks, but varied from one week to eight weeks. The course was divided into a range of one to eight sessions. The majority of END students participated in a four-session END course.

There were significant differences in the total number of students who reduced their smoking (either by quitting or by cutting down) compared to those who made no improvement by local health department and by the number of sessions provided in the END course.



Classes with six or more sessions had the highest proportion of people reducing tobacco use. The two local health departments with the highest improvement rates, Davis and Utah, offered six- and seven-session courses exclusively. The next highest rate belongs to Southeast, which offered a seven-session course to about 2/3 of its students and a four-session course to the remainder. All of the other local health departments averaged only 3-5 sessions and had significantly lower improvement rates.¹²

While the number of sessions offered by a local health department seemed important to its improvement rates, the data show that even when controlling for number of sessions and for student factors including age, heavy or light smoking, voluntary or mandatory participation, confidence, stage of change and attitude toward the class, Utah county students were much more likely to improve than students elsewhere. Davis and Southeast students were the next most likely to improve. This implies that in addition to the number of sessions these local health departments offered, their protocols for implementing END also led to higher improvement rates than those of other local health departments.

Recommendations

The END course should always be at least six sessions long.

Investigate program implementation methods in Utah, Davis and Southeast and share these methods with other local health departments.

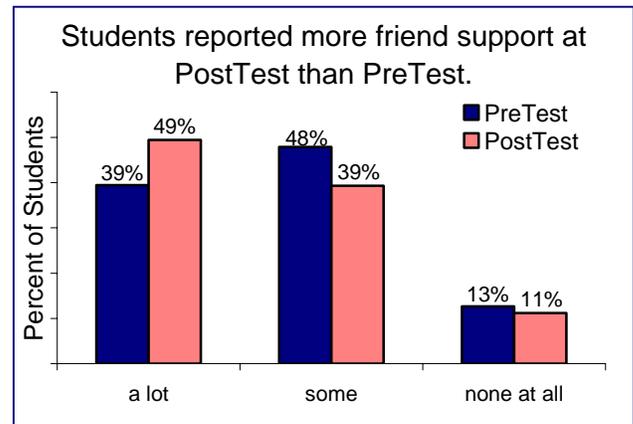
¹² Average number of sessions was calculated as follows: [(1*number of students in 1-session classes)+(2*number of students in 2-session classes)...+(8*number of students in 8-session classes)]/total number of students taught. The number of classes the student actually attended was not considered: only the number of sessions available in the class they were assigned to.

Social Support

Social Support Before and After END Course

Most END students, 68%, lived with other tobacco users. Half of END students had tobacco-using parents. Although the majority of END students had other smokers in their household, at PreTest 71% anticipated that they would get “a lot” of support from their family if they tried to quit and only 9% thought that they would not get any support from their family. Students’ perception of family support did not significantly change over the course of the class.

Students felt that their friends were less supportive of quitting tobacco use than their families. At PreTest, only 39% believed that their friends would provide a lot of quitting support. Students’ perceptions of friend support improved by PostTest, but were still lower than perceived family support.



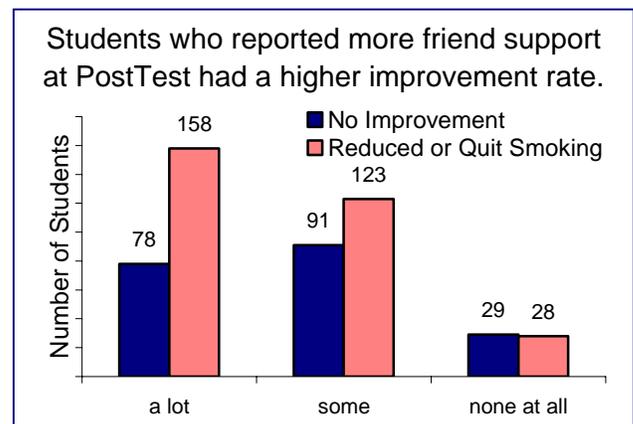
Effect of Social Support on Quitting or Reducing Tobacco Use

Household tobacco use and the reported level of family support for quitting did not affect student success at quitting or reducing tobacco use. Neither did friend support at PreTest, but friend support at PostTest was significantly related to quitting and reducing tobacco use.

Written comments from students show that they value a cohesive and supportive class environment and back the statistical findings that support is important to quitting or reducing tobacco use. Fifteen students specifically referred to the support they received from their teachers. Twice as many referred positively to peer support, while another 36 comments referred to support in general.

Comments from Smoking Status Improvers

Students whose smoking status improved during the course of the class positively mentioned the support they received in the class in their written comments – from teachers, peers and less identifiable references to support in general.¹³ This comprehensive “Support” category was mentioned by 15 percent of the students who quit or reduced their tobacco use. It was among the categories most mentioned by students in their written comments. One reducer wrote that the most helpful thing about the END class was, “the moral support I needed to quit smoking.”



For quitters and reducers, peer support ranked among the most helpful things about the class and reasons that students would recommend the class to their friends. That students desired to be around people who were also trying to quit smoking is apparent in these comments. One student wrote that she would recommend the END program to her friends, “Because I want them to quit right along with me. I think it would be easier for all of us.” Following are other comments reflecting the value students place on peer support. For example, the “most helpful” aspects of the class were:

- “Talking to other students who want to stop.”
- “[You] get to talk and socialize with someone who at least has an interest in quitting smoking.”

¹³ It is unclear whether students who referred to support in general meant support from the teachers, students or simply the information and strategies they learned in the class curriculum.

Even a few students who otherwise disliked the class enjoyed socializing. One reducer wrote that “nothing” was most helpful about the class, but added that he “Found some people to chill with.”

Comments from Students with No Improvement in Status

Support was also important among students who showed no improvement in smoking status (those who showed no change or increased their tobacco consumption and those who claimed to never have smoked). Among the students who did not improve their smoking status, this was among the most cited category of comments. Like reducers and quitters, the comments by non-improvers regarding support followed in frequency the numerous comments in the very large categories of “Information” and “Good Class”. Eleven percent of the students who showed no improvement in smoking status referred positively to support from peers, teachers and support more generally.

- One student who did not change his smoking consumption wrote, “If they [his friends] are looking for a group that would support them when they are trying to quit this would be a good class.”
- Another student who increased her smoking during the course of the END program said she would recommend the class to her friends, “Because it make[s] you more aware of the damage cigarettes do and you can get support from other kids.”

Relationship Between Class Support and Length of Class

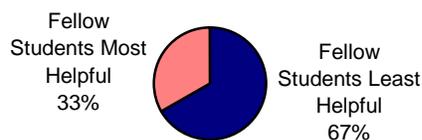
For our analysis of written comments, we created a category called “All Support” to encompass all of the comments from students regarding peer support, teacher support, general support¹⁴ and appreciation of their fellow students. More than half of the students who wrote comments that fell into this category were in classes with six or more sessions. This is especially salient because students enrolled in classes with six or more sessions were in the minority: only 38% of students were in the longer classes. Taken from another perspective, 17 percent of students in classes with six or more sessions and only seven percent of students in classes with fewer than six sessions wrote that they valued support. This suggests that support may not have been as available in classes with fewer than six sessions as it was in classes with six or more sessions.

Many students also wrote that their fellow students were among the least helpful aspects of the class. Often these comments referred to students being disruptive or monopolizing class discussions. Of the students who wrote that their classmates were the least helpful aspect of the course, about three-fifths were in classes with less than six sessions, or about four percent of all (even those who did not write comments) students taught in those classes. Only eight students in classes with six or more sessions found fellow students to be least helpful, which accounts for only three percent of all the students in classes with six or more sessions.¹⁵

Of the students who wrote comments about their fellow students and were in classes that had fewer than six sessions, 33 percent found their fellow students most helpful and 67 percent found their fellow students to be least helpful. Conversely, a higher percentage of students in classes with more sessions found their fellow classmates to be one of the most helpful aspects of the END program. Of the students who wrote comments about classmates and were in classes with six or more sessions, 58 percent found their fellow students to be among the most helpful aspects of the class and 42 percent found them to be the least helpful. This suggests that students and instructors were more able to create a cohesive learning environment in classes with six or more sessions.

Participants in longer courses reported more social support from fellow students.

Comments about Other Students from Participants in < 6 Session Courses



Comments about Other Students from Participants in 6-8 Session Courses



¹⁴ It is unclear whether students who referred to support in general were referring to support from the teachers, students or simply the information and strategies they learned in the class curriculum.

¹⁵ Data about the number of sessions were missing for one student who found students least helpful about the class.

Relationship Between Class Support and Cohort-style Classes

In classes with rotating enrollment, which did not allow for the development of a cohort, support did not come up in student comments. In these classes, only one comment marginally referred to the support of the teacher (“He kept me from smoking.”) rather than the peer support or social support that our statistics show is important to quitting tobacco use. Comments regarding support, and more specifically peer support, surfaced in classes by nearly all instructors who taught sessions that began and ended with the same group of students. Students of only a dozen teachers who taught cohort-based classes did not refer to support at all in their written comments. However, all of those teachers had 26 or fewer students during the calendar year (with an average number of about ten students). Such small groups would not necessarily reveal “support” issues in written comments.

Recommendations

Ensure that students start and end the class together to provide them with the opportunity to develop a cohort during the class that unites them in their efforts to stop using tobacco.

Because receiving peer support by the end of the class is correlated with improvement in tobacco use status and is valued by END students, use class methods that promote social support among students, such as promoting discussion and openness in class, demanding mutual respect among students, and ensuring participants start and end the class together.

Students’ written comments support the earlier recommendation to always have six or more sessions per END course. This is an important feature to class cohesion and the development of social support that helps tobacco users to quit.

Content of Course

By far, students found the most helpful aspects of the class to be the information it conveyed (including general information, information on effects of tobacco use in general, health effects and quit strategies). Students commented most about the course curriculum. They liked the information that the END classes provided, specifically the information on health effects. Students wrote more than 350 positive comments regarding general information, general effects and health effects, with typically one comment per student. These were by far the most frequent comments on the surveys, at about 20 percent of the total number of comments. Following are some representative comments that students wrote in answer to our questions regarding what was most helpful in the class and why they would recommend the class.

Most Helpful:

- “The withdrawal effects don’t last as long as I thought.”
- “Facts about it and finding other ways to forget about craving.”
- “The truth about smokeless.”
- “The information.”
- “The knowledge.”
- “It made me aware of the damaging effects and cost of smoking, even at my level”
- “The facts on tobacco.”
- “What points it shows on the stuff they put in tobacco. What it does to your body.”
- “How people died. How strong they were to quit.”

Why Recommend Class to Friends Who Smoke:

- “Cause it gives you the real facts and that is good.”
- “Because I don’t wanna lose my friends that smoke when I have quit. I want them to know the real thing.”
- “It shows all the long term effects. Makes you question tobacco.”

In addition to health information, another realm of information that students found helpful was information on quit strategies. Nearly seventy students commented specifically on quit strategies as being a beneficial aspect of the class. Some

of these comments referred simply to techniques and quitting tips – including relaxation techniques and various forms of distraction, such as the stress ball and gum that were provided in quit kits.

- “It gives you techniques on helping you quit.”
- “Ways to quit and stay off.”
- “It gave a lot of reasons why you should quit and gave a lot of examples on how to quit. It stayed interesting the whole time so it would take your mind off smoking.”

Comments about quit strategies also focused on self-reflection, including examining their own tobacco use behavior. One student wrote that he would recommend the class, “because the class helps individuals understand why they crave, what damages are caused and how to quit.” Although students seemed to appreciate the self-reflective aspects of the END class, five students wrote that reporting their tobacco use publicly was the “least helpful” aspect of the class. One found such public reporting “most helpful.”

Several comments regarding quit strategies focused on the group support that developed among the students. One student wrote, “It helps give you strategies and tips to quit or cut down smoking. You get a feel for how others are coping with quitting.”

Although the students wrote overwhelmingly positive comments regarding the information the class provided, some also referred to the class as repetitive or unhelpful in quitting smoking. Students wrote 44 comments regarding the repetitiveness of the class and 33 comments calling the class unhelpful in general. Some wrote specifically that the class did not help them quit using tobacco. Seventeen students wrote that they disliked the class in general. All totaled, 85 students wrote 89 comments about their general dislike of the class or the class’s unhelpfulness. Below is a sample of these comments.

- “I already knew what cigarettes did.”
- “It is the same stuff over and over again.”
- “Everything you learned you see on TV or you already know.”
- “Because it didn’t make me want to quit.”
- “Didn’t learn anything I didn’t already know. Boring as hell. Peers were dumb as hell.”
- “This sucks.”

The most frequently written negative comments regarded the inconvenience of attending the class. Students wrote 65 comments complaining about how inconvenient it was to attend the class. These comments appeared in answer to what was “least helpful” about the class or why the student would not recommend END to their friends. This category of “inconvenience” includes negative comments from students about the distance, length and cost of the class. One student wrote in a PreTest survey, “Please cut the payment and hours of this class.” Students who would not recommend the class to their friends wrote:

- “Because its a hassle to get out here every time.”
- “Cuz it takes so many hours out of my day.”
- “This class is a pain to come to. I don’t even live close.”

Students who found inconvenience to be among the least helpful features of the class wrote:

- “That it took time out of my life when I really had other stuff to do.”
- “The locations. Its a bit out of the way.”
- “How far from home it is.”

The next most frequent negative comments referred to the class activities. About 60 percent of the comments regarding class activities were in answer to the “least helpful” question, while 40 percent answered the “most helpful” question or offered positive comments in other sections of the survey. Following are some examples of comments from students who wrote positive responses regarding class activities:

- “The booklets help you find support and reason to quit.”
- “When they showed how one cigarette affects your lungs & 10 & so on.”
- “All of the experiments”

By far, the majority of complaints about class activities involved the END booklet or homework and assignments that seemed to stem from that booklet, although a few students found that work to be “most helpful”. Of the 48 students who

mentioned the END booklet, 73 percent (or 35 students) found it to be the “least helpful” feature of the class, accounting for almost all of the negative comments regarding class activities. Some typical comments regarding the booklet as least helpful are below:

- “The booklet. They ask questions that are 2nd grade level. Make a new one.”
- “The work book. It was dumb and didn’t help me with cutting down and someday quitting. The teachers did with their positive attitudes.”

The helpful activities often seemed to offer more tangible demonstrations of smoking effects. Students wrote positive comments regarding parts of the videos shown in classes and the experiments and classroom tools that demonstrated or simulated the health effects of tobacco use. They responded positively to activities, curriculum and instructors who offered evidence about deleterious health effects or effective quit scenarios students could visualize and that could become “real” for them. One student would recommend the class to her friends “because it was very informative and very blunt and real.” In addition to positive comments regarding specific classroom devices, such as the “sponge lung” and the straw exercise, other comments that show students valued the more tangible aspects of the class include:

- “It shows a lot of people that actually had the diseases they were trying to talk about.”
- “The teacher helped by letting us know he had an addiction and overcame it too.”
- One student wrote that the least helpful thing about the class were the lectures and added, “showing would help better.”

Although there were 34 negative comments about the movies, students commented positively on the movies much more frequently. Of the 113 comments referring to the movies, 79 were in answer to the “most helpful” and “why recommend” questions. However, for some students talking about tobacco use and seeing images of smoking increased their cravings for tobacco. Nearly 30 students cited smoke talk or visuals as the least helpful aspect of the class, as a reason they would not recommend it to friends or as another negative comment. An additional nine students said the class increased their desire for tobacco but did not indicate why. One person noted that the smell of smoke on her classmates was the “least helpful.”

Recommendations

Maintain emphasis on health effects and quit strategies; most students value this information.

Revise the END booklet. (This recommendation is already in progress.)

Maintain activities that help students visualize the harmful effects of tobacco use, such as videos and experiments.

Ensure that videos, images or discussions that portray smoking counter these images with a strong anti-tobacco message in order to avoid provoking tobacco cravings.

Student Satisfaction with END

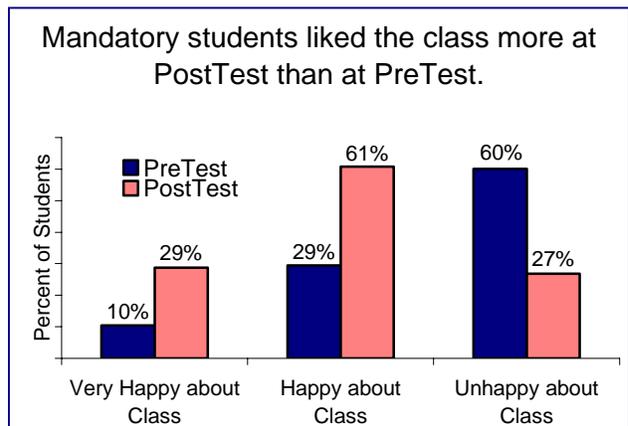
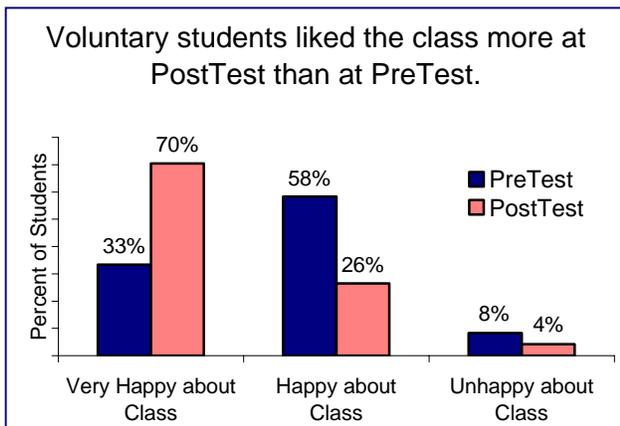
Attitude Toward Class

Attitudes Before and After END Course

Only 46% of students were happy to be in the END class when it began but their attitudes significantly improved. By the end of the class, 76% of students said they had liked the class.

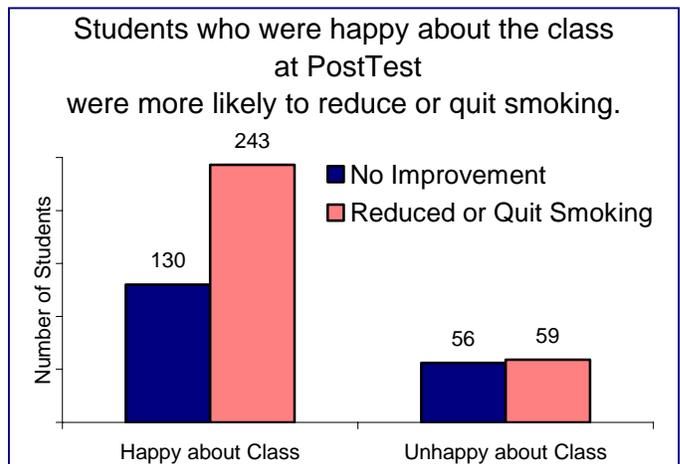
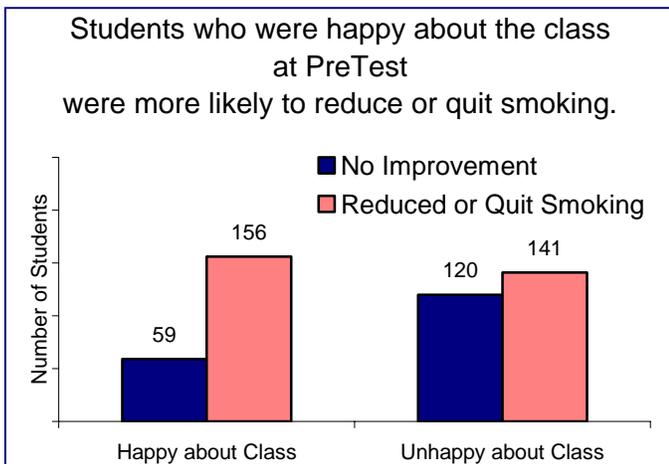
Mandatory students were less happy about the class than voluntary students. However, while only 40% of mandatory students were happy about the class at PreTest, 73% were happy at PostTest.

At PreTest, 92% of voluntary students already had a positive attitude toward the class, but they also improved. At PreTest, 33% of voluntary students were “very happy” about the class and another 58% were just “happy”. At PostTest, 70% of voluntary students were very happy.



Effect of Attitude on Quitting or Reducing Tobacco Use

Both having a positive attitude toward the class to begin with and developing a positive attitude during the course of the class were significantly related to quitting and reducing tobacco use.



Causes of Attitude Improvement

We grouped students into four categories regarding attitude toward the class. In addition to studying the frequency of comments from the whole student population, we disaggregated the comments of those students whose attitudes toward the class improved because we were interested in how attitudes changed and because attitude improvers were a significantly larger population than those whose attitudes changed for the worse. The rest of this section refers to students whose attitude toward the class changed from negative to positive.

Attitude Toward Class	Number of Students
Students with a positive attitude the whole time	253
Students with a negative attitude the whole time	125
Students who began with a negative attitude but developed a positive attitude	191
Students who began with a positive attitude but developed a negative attitude	18

Like the general population of students, those who started the class with a negative attitude and ended it with a positive attitude commented most about the course curriculum. They liked the information that the END course provided, specifically the information on health effects. There were 123 comments regarding general information, general effects and specifically health effects among the students who moved from a negative to positive attitude about the class (typically, with one comment per student). Nearly all of these comments were positive. Following are some typical comments among this category of students.

- “It showed me what happens to people’s bodies when they smoke.”
- “How ugly smokers get.”
- “What will happen if I don’t stop.”

In addition to general and health information, students whose attitudes toward the class improved found information on quit strategies helpful. Fifteen students whose attitude toward the class improved wrote positive comments about quit strategies. There were no negative comments regarding quit strategies. “It gives you techniques on helping you quit,” wrote one student as explanation for why he would recommend the class to a friend.

However, there were an additional 15 comments by students whose attitude improved that referred to the class as repetitive or unhelpful in quitting smoking. “Certain health problems we learn in 4th grade,” wrote one student in answer to the question what was least helpful about the class. Another would not recommend the class to friends because, “It does not help you quit they just tell you everything you already know.”

Students whose attitude improved often found the class activities least helpful. Of the 26 students who mentioned class activities, 20 of them found those activities “least helpful” and six found them “most helpful”. The majority of complaints about class activities involved the END booklet or homework and assignments that seemed to stem from that booklet, although a few students found that work to be “most helpful”.

In addition to comments regarding the course curriculum, students in this category wrote very favorably about their teachers and the overall support they received in the class. Fifty-two students in this attitude-change category expressed positive comments about their teachers. None expressed negative comments.

- “I thought Sarah did a great job at teaching us so much stuff about tobacco, and she made it way fun as well.”
- “Tug is a really good teacher and helps a lot.”
- “Our teacher was great. She was always happy. She had sympathy for us having to be here. She knew what she was teaching, and she taught it to us like we weren’t 9 and 10 year olds.”

A number of students wrote specifically about the support they received from their teachers. Nearly half of the students in the entire population of survey respondents who referred to teacher support changed from a negative to a positive attitude. This suggests that support of the instructor was especially salient to students in this category.¹⁶ Sample comments follow:

¹⁶ In the entire population of survey respondents, 15 students referred to teacher support in written comments. (Many more referred to support but did not further clarify and many others referred positively to their teachers but did not specifically mention support).

- “The teacher was really supportive.”
- One student wrote that the most helpful thing about the class was that it was “taught by someone who smoked for 20 years. That gave me a lot of hope, and it was nice because she knew what you were going through.”

Additionally, students referred positively to peer support and their fellow students, as well as a less defined reference to support in general, for a total of 24 comments regarding the social and supportive contexts of the class from students who changed from a negative to a positive attitude. It is unclear whether students who referred to support in general were referring to support from the teachers, students or simply the information and strategies they learned in the class curriculum. Still, this suggests that a cohesive and supportive class environment is important to improving the negative attitudes that some students bring into the class.

Willingness to Recommend Friends to END

The majority of END students, 66%, would recommend the class to friends who use tobacco. The most often cited reason students gave for recommending the END program was the information that it provided on effects in general and health effects in particular. Many said that the class helps students, often referring specifically to helping them quit tobacco use. Forty students gave testimonials in answer to this question, saying that the class helped them to make progress towards stopping tobacco use and so it might help their friends.

- “It helped me quit. It might help them.”
- “It helped me quit and I have wanted to for a long time.”
- “It helped me cut down.”

In addition to those responses, many who did not offer their own testimonials also said that they would recommend the class to help their friends.

- “Because I think this end class would be good for them.”
- “Because I don’t wanna lose my friends that smoke when I have quit. I want them to know the real thing.”
- “To help them better their life.”

Students also gave a variety of reasons for not recommending the END program to their friends. Combined, the most often cited reasons (Non-Interference and Unresponsive Friends), had little to do with the class. In the category of responses we’ve called “Non-Interference”, students reported that they did not want to interfere with their friends’ lives by recommending the program to them. The following comments illustrate the range of reasons students gave for not interfering.

- “Because it their business whether they want to smoke or not and its not that hard to find help.”
- “I would let them deal with their own problems.”
- “I’d only recommend this class if they were serious about quitting or if I was a judge.”
- “Because it is their own decision not mine. But if they want to quit I would recommend it.”

Next most often, and a very close second, were the responses in the category “Unresponsive Friends”. This category contains answers that suggest their friends would reject the recommendation or that they would be unresponsive to the class.

- “None of them would go.”
- “They probably wouldn’t listen.”
- “Cause they know what’s going to happen if they keep using.”

After Non-Interference and Unresponsive Friends, the next most frequent explanations for not recommending (41) had to do with the class providing no help to students. Following is a sample of the range of these comments:

- “I don’t think it would effect how they feel about smoking.”
- “Because its a waste of time.”
- “ ‘Cause it’s not that helpful or important it was just nice to socialize.”

A few students said they would not recommend the END program because it was too repetitive or boring. Others said that the class was too inconvenient to recommend, citing the drive to class locations and the time to complete the class.

Attitude Toward Facilitator

Virtually all students approved of their facilitators and gave them high competency ratings; 98% of students rated their facilitators as either excellent or good overall. “Excellent teacher. She did a very good job at relaying the information to the students in a way that they could understand,” wrote one student. Another wrote, “You are a great teacher.” (Because no facilitators received low average ratings from their students, it was not feasible to measure whether good or poor facilitation changes quit rates.)

On average, students *strongly agreed* with all of the following statements:

- Teacher did not judge me.
- Teacher was helpful to students.
- Teacher explained things clearly.
- Teacher knows the information.
- Teacher was respectful of students.
- Information was organized.
- Teacher involved everyone.
- Teacher maintained order in the classroom.

Although few students disagreed with the statement that the teacher maintained order in the classroom, there were several written comments regarding the teacher’s inability to control disruptive students. However, the writers did not seem to hold that against their instructors. “I think you should buy a horn for the teacher so that he can use it to get people’s attention.” Still, the inability to control students in classes becomes a problem for creating a supportive environment.

Students wrote very favorably about their teachers and the support they provided. Many of the PostTest comments referred to the instructor. This might have been affected by the fact that the preceding questions asked students to rate their teachers in various areas. Still, of the 139 written comments regarding teachers, only one was negative. Even students who otherwise disliked the class liked their teacher. One student wrote, “Nice lady too bad she had to teach this class.” Below are some other samples.

- “Best smoking counselor.”
- “Thanks it’s been fun and a lot of help. I quit. You’re awesome.”
- “The teacher was great and treated everyone with respect no matter who they were.”
- “Excellent teacher. She did a very good job at relaying the information to the students in a way that they could understand.”
- “She was a great teacher she should get a raise.”

One student who reduced his smoking during the class wrote, “Since I got a good teacher it seems like I already quit,” suggesting that he feels his teacher prepared him to further reduce and to quit smoking.

Many students thought their teacher was among the “most helpful” aspects of the class.

- “You help people a lot and make the class fun.”
- “The teacher was down to earth.”
- “The teacher was good, not boring.”

Others said they would recommend the class specifically because they thought well of their instructor.

- “They had a good teacher they can give you lots of helpful tips if you’re interesting [sic] in quitting.”

Recommendations

Incorporate tools to handle discipline issues into trainings and curriculum. (This recommendation is already in progress.)

Pat yourselves on the back! Although most students do not choose to participate in END and are not happy to be in the class in the beginning, most enjoy the class and almost all like their facilitators.



End Notes

Methodology

All students were asked to complete anonymous written surveys immediately before the first END class (PreTest) and immediately following the last END class (PostTest). Students placed PostTests in an envelope without view by the facilitator. PreTests were completed by 649 students. Of these, 646 completed PostTests. Individual student Pre- and PostTests were matched with identification numbers.

Quit and reduction rates were calculated using 514 PreTest and PostTest surveys. Of the total 649 surveys, 135 were excluded from data analysis because of missing values for the survey questions used to calculate quit and reduction status. Another manner of data analysis would include all surveys and assume those with missing data are non-quitters or non-reducers. If this method were used, 48.2 % of participants quit or reduced their tobacco use, and 10.5 % quit altogether.

Significance was measured using the Pearson Chi-Square test. Except where noted, significance was defined as 95% confidence.

All tests measuring relationships of indicators to quitting or reducing success referred to cigarette smoking, not the use of other tobacco products. Students who did not use cigarettes were excluded.

Comparisons of progress from PreTest to PostTest only included students who answered the question in both tests. Students who chose to skip one or both questions when a survey skip pattern was not in place were excluded.

In addition to the quantitative analysis, we were able to conduct a qualitative analysis of the written comments, aided by the qualitative software program Atlas.ti.

The intended audience for this document is E.N.D. facilitators. If you would like additional information on the methodological details, please contact April Young Bennett at (801) 538-7041 or aybennett@utah.gov.