

THE PHARMING EFFECTS

Evaluation Report

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Youth to Youth (Y2Y) International was founded in 1982 in Columbus, Ohio, as a community-based drug prevention and youth leadership program focusing primarily on middle school and high school students. The goal of Y2Y's many projects is harnessing the powerful influence of peer pressure—making it a positive force that encourages young people to live free of alcohol, tobacco and other drugs. Y2Y engages young people by simultaneously using a youth-driven and adult guided approach. Youth-driven prevention activities allow participants to develop and implement their own ideas to create positive norms regarding living a drug-free lifestyle. To date, Y2Y sets the standard for youth development and prevention programming across the country and around the world (www.youthto youth.net).



Evaluation Report

To increase the national impact of prevention activities funded by Cardinal Health Foundation and delivered by Y2Y, researchers from The Ohio State University's (OSU) Community and Youth Collaborative Institute (CAYCI) examined outcomes associated with "The pHARMING Effects" presentation. "The pHARMING Effects" presentation is a youth-led prevention presentation designed to reduce risks for prescription drug misuse among adolescents. The final report is intended to overview what is known about youth-led prevention and summarizes those findings from a year-long evaluation of "The pHARMING Effects" presentation. Results may be used to inform decision-making efforts at Cardinal Health Foundation and Y2Y. Findings are important for enhancing the responsiveness of local and state funders in supporting their local agencies and social service providers to further implement and fund youth-led prevention activities.

Youth-Led Prevention

Youth-led prevention emerged from peer to peer education programs in the early 1950's. Peer education programs harnessed the power of peer social networks to change unhealthy norms and culture. Historically, peer education programs were used as a tool to prevent adolescents' engagement in problem behaviors, such as smoking. More recently, peer education programs target other problem behaviors, including substance misuse, sexually transmittable infections, bullying, and suicide (Borgia, Marinacci & Schifano 2005; Mellanby, Newcombe, Rees et al. 2001; Naylor & Cowie 1999; Ward, Hunter & Power 1997). Today, some community-based programs refer to peer education activities as "youth-led prevention," and use these activities to mitigate risks for substance misuse among adolescents.



The use of peer education programs and youth led prevention activities may be an effective approach for reducing negative outcomes for adolescents. Notably, peer education draws on developmental theory and promotes adolescents' growing need for autonomy, ownership, and control (Larson, Walker, & Pearson, 2005). In addition, protective factors may be enhanced when youth participate in youth-led prevention activities. For instance, youth may increase their perceived knowledge and skills, and learn to problem-solve by engaging in experiential learning activities. Furthermore, participation in youth-led activities can help youth develop positive peer relationships, relationships with caring adults, and prosocial competencies (Foxcroft & Tsertsvadze, 2012). Ultimately, components of peer education programs can be used to enhance the knowledge, skills, and relationships of youth participants.

Today, substance misuse is of growing concern among adolescents. Studies estimate about 8.8% of adolescents aged 12 to 17 will use an illicit drug by the time they are 18. Moreover, a concerning 1 in 5 young adults aged 18-25 will be at risk of developing abusive habits associated with illicit drug use (National Survey on Drug Abuse and Health, 2015). To reduce risks for substance misuse among adolescents and young adults, activities that teach youth resistance skills and the harmful effects of substance misuse are being implementing in schools and community-based programs. Studies show when programs aim to teach youth drug refusal skills under real life conditions (e.g., pressure from peers) and present the negative social, emotional, and economic problems of drug use to participants, they are more likely to have a positive influence on youth participants (Griffin & Botvin, 2010). Thus, the delivery of peer education, coupled with activities that teach youth to resist substances, may result in positive outcomes for youth.

Best practices in youth-led prevention. Several research studies highlight best practices for programs using youth-led prevention activities to educate adolescents about substance misuse. Notably, "The pHARMING Effects" presentation utilizes several of these practices. For instance, studies show youth-led prevention programs are more effective when they offer youth opportunities for face to face peer interaction (United Nations Office on Drugs and Crime [UNODC], 2003). Second, programs must have planned and structured activities for youth participants where they have the opportunity to engage in

real-world, age-appropriate experiences and receive feedback from peers. This includes having youth participate and engage in role play scenarios and other experiential activities. It is important that programs do not use a non-interactive approach where the teacher is asked to instruct or lecture without allowing youth involvement (UNODC, 2003). Additionally, benefits are achieved when youth have effective adult facilitators and peer helpers (Black, 1998; UNDOC, 2003). Lastly, programs must target the development of skills that can be applied to real-life settings, as well as present the negative consequences for engaging in a problem behavior (UNDOC, 2003). In the end, researchers advocate when youth work together to empower one another and themselves to resist negative pressures, they can reduce their risks for engaging in problem behaviors, such as substance misuse. “The pHARMING Effects” presentation incorporates the aforementioned best practices into their youth-led prevention activities. This evaluation assesses the influence of “The pHARMING Effects” presentation as a peer education program delivered using youth-led prevention activities.

Overview

Young people associated with Y2Y developed “The pHARMING Effects” presentation with the overall focus on reducing prescription drug misuse. The young people used Generation Rx materials to inform the development of these important presentations. To learn more about Generation Rx please visit:

<http://www.generationrx.org/>

In the end, the young people developed “The pHARMING Effects” presentation which addresses the misuse/abuse of prescription drugs and how it is affecting their peers and other young people today.



There are several components of “The pHARMING Effects” presentation. 1) Adult facilitators are trained to teach youth how to deliver “The pHARMING Effects” presentation. 2) Young people are trained to deliver the presentation to their peers. 3) Youth leaders deliver “The pHARMING Effects” presentation to their peers and lead several experiential learning activities. A brief overview of each component of “The pHARMING Effects” program is described next.

“The pHARMING Effects” Presentation

Training adult facilitators. In the current evaluation, adult facilitators and their teens are either trained in-person directly by the Y2Y International adults and youth staff, or adult facilitators are selected to receive the training materials by participating in the Y2Y “Rx Youth-led Prevention Collaborative.” If adults receive their materials through the Collaborative, then these adults then are responsible for training their teens. The in-person training hosted by Y2Y lasts six hours. Facilitators who participate in the Collaborative receive the six hours of training materials through a special online link. Collaborative members also receive additional training support by participating in a conference call with the Y2Y trainer. During the conference call, the Y2Y trainer talks adult facilitators through the training manual. The call is used to answer any questions the facilitators may have about the training materials. Regardless of the training setting (e.g., online or in-person), adult facilitators receive guided support to teach youth leaders to conduct “The pHARMING Effects” presentation. The training manual instructs adult facilitators to engage youth leaders in the activities described next. In total, 11 adult facilitators

were trained in various locations across the country to then train youth on “The pHARMING Effects” presentation (see number of adults and youth trained in Table 1).

Training youth leaders. Adult facilitators use the following activities to teach youth leaders “The pHARMING Effects” presentation. First, youth engage in “energizers” – or fun icebreaker activities to allow them to open up and have fun together. Next, adult facilitators show the youth an educational PowerPoint to introduce them to the issue of prescription drug misuse among youth. In addition, youth are shown “The pHARMING Effects” presentation in its entirety either by a live performance conducted by previously trained youth presenters or via a video of the presentation so youth can get a sense of the content and flow. Then, youth are allowed to practice the presentation using a guided script. During the rehearsals, adult facilitators offer youth speaking tips and lead them in drama-related activities to prepare for the presentation. Adults also ask processing questions to the youth leaders during training to reflect on the educational messages delivered during the presentation. Finally, adult facilitators supervise multiple rehearsals in the weeks after the initial training to prepare youth for actual delivery of “The pHARMING Effects” presentation in school and community based settings. The approximate number of adults and youth trained to deliver “The pHARMING Effects” presentations at the settings included in this evaluation are presented in Table 1.

Table 1. Adult and Youth Facilitators of Presentation

Location	Number of Adults Trained	Number of Youth Delivering Presentation(s)
Y2Y Summer Conference Bryant University; RI	2 adults	17 youth
Y2Y Southern States Conference Queens University; Charlotte, NC	2 adults	17 youth
Y2Y Summer Conference Capital University; Columbus, OH	2 adults	16 youth
Putnam Communities That Care Mahopac Middle School; Mahopac, NY	2 adults	14 youth
Pro Youth Team Wayland Middle School; Allegan County, MI	1 adult	5 youth
Partnership for Ontario County Canandiaigua Academy; Ontario County, NY	2 adults	5 youth
YES Safe Choices/YES LEADS Chenango Valley Middle School; NY	1 adult	9 youth
Allegan Pro-Youth Team Middle Schools in Allegan, MI	8 adults	50 youth

Delivery of the presentation. Trained youth leaders deliver “The pHARMING Effects” presentations to a group of peers or younger students in their school or community-based setting. Broadly, the presentation provides a definition of prescription drug abuse and misuse, presents stories about the insidious nature of addiction, challenges youth to think about the impact of prescription drug marketing, and provides relevant statistics and strategies for teens to initiate change in their homes, schools, and communities.

“The pHARMING Effects” presentation has several components. First, youth leaders introduce themselves to their peers in the audience. Next, an introductory video to welcome the group is played,

followed by youth leaders reiterating the following goals of the presentation: 1) To expand awareness on the issue of prescription drug misuse; 2) To teach strategies to prevent prescription drug misuse; 3) To discuss the impact of marketing prescription drugs as well as tips to critically view prescription drug ads; and, 4) To have fun while learning.

Subsequently, youth leaders use poster boards to define prescription drug abuse and addiction. Bells and props are used to engage the audience. Then, youth present a video and short stories they narrate depicting the dangers of prescription drug misuse. The video suggests to youth that drug misuse is more common than not and is not only prevalent among Hollywood movie stars, but rather family members and other youth in their communities. The short stories are used to confront stereotypes associated with prescription drug misuse as they portray family members and high school youths' stories about their path to prescription drug misuse.

Next, youth leaders use an easel to discuss "normalcy." A demonstration where a straight line is drawn on the easel and youth are asked to describe what it means to feel 'normal' – normal represents the line drawn. In addition, youth are asked to discuss what it feels like to not feel normal, using the line as a reference. For example, a headache may be listed slightly below the line, whereas a broken arm may be further away from the 'normal' line. During this activity, youth leaders ask questions such as, "What are some of the ways we address pain?" Audience members are prompted to brainstorm responses. Youth may point

below the line to address headaches or bruises and may state that in today's society people may think "I need an aspirin." Youth leaders then proceed to talk about how serious injuries or surgeries may require a doctor to prescribe someone a prescription drug. Using the normalcy chart, youth leaders showcase how the initial use of prescription drugs generates a very "high" feeling. Then, youth leaders show on the chart how much pain someone feels coming down from a "high." Following these steps, youth leaders draw lines to show how someone using prescription drugs never get as "high" as the first time they use a drug, but how their pain continue to get worse as they come down from the "high". The entirety of the "normalcy" presentation is then summarized to the audience as the process of dependency and then, addiction. Youth leaders state, "Addiction is a compulsive disorder in which an individual becomes preoccupied using a substance despite their decreased quality of life as a result of that use".



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The succeeding component of the presentation is a game – “The Gauntlet Rx Game.” The youth leaders serve as the hosts of the game and split the audience into two groups. One participant from each team then approaches the hosts and they are asked a question about prescription drug misuse. All questions are displayed on a PowerPoint slide. Youth participants are asked 8 questions and one bonus question. Each answer is then processed with the audience to make sure they understand the significance of the information. An example of a multiple-choice question could be: “About how many Americans (12 or older) misuse prescription medication in the year?” Choices included: 1) 7,000; 2) 70,000; 3) 700,000; 4) 7 million; and, 5) 70 million. With the answer being 7 million (and many of them teens), the hosts share we need to make sure those 7 million receive education about the harmful effects and don’t fall into the trap of excusing the misuse of prescription meds. The team who picks the correct answer (7 million) receives a point. The team with the most points at the end of the game wins.



Lastly, youth leaders deliver the final component of the presentation - three short TV advertising skits. The advertising skits uses real life stories to describe how commercials and advertisements make youth think they need a pill for everything (e.g., not being able to sleep, headaches, back pain, feeling sad, etc.). At the end of the skits, a documentary video on dependence and addiction is shown to the audience. Youth leaders close the presentation by challenging the youth in the audience to do the following five things: 1) Take the information they learned back to their friends, parents, grandparents, and classmates; 2) To store prescription drugs in locked and secure locations; 3) To dispose of prescription drugs properly and encourage adults to participate in a medication disposal day in their community; 4) To model safe medication-taking practices for others and NOT to share prescription medications they have been prescribed; and, 5) To make a presentation to a class, group, or organization they are involved with on the dangers of prescription drug misuse.

Summary

To date, “The pHARMING Effects” presentation continues to be in high demand for youth-led prevention groups to utilize in their communities and schools. With the passing of Ohio House Bill 367, requiring the health curriculum of each school district in the state to include instruction in prescription opioid abuse prevention, school health educators will be looking for additional resources they can utilize to mitigate risks for prescription drug misuse. School districts in Ohio and across the state are encouraged to utilize evidence-based prevention programming which requires specific evaluation to be conducted, analyzed, and the results reported to the public (See Ohio’s Attorney General 2015 Report here: <http://www.ohioattorneygeneral.gov/Media/Reports>).

Evaluation Outcomes

To ensure that “The pHARMING Effects” presentation is evidence-based, CAYCI researchers have developed a pre- and post-test measure to examine the overall impact of “The pHARMING Effects” presentation. The Prescription Drug Misuse Knowledge, Attitudes, and Future Behavior Scale was originally developed for schools and youth programs to evaluate how youth perceive their knowledge, beliefs, and attitudes about prescription drug misuse. The scale evaluates youth perceptions at the individual level. Thus, a student takes the pre-test before the presentation and a post-test following the presentation. The evaluation tool is connected on a single sheet of paper (i.e., front and back), allowing researchers to link data to individual youth at pre- and post-test. Items on the scale were developed by first examining the current literature base on prescription drug misuse and discussing each item with experts in the field. Y2Y administered this tool and evaluated the presentations completed across six sites in varying geographic locations and settings. In total, 1,069 youth completed the measure. The remainder of this report outlines findings from the 2016-2017 evaluation of the presentations.

Demographics. “The pHARMING Effects” presentations took place in six geographic locations in middle schools, high schools, and at youth conferences. All 1,069 participants were middle and high school youth; however, some youth attended a conference where they received “The pHARMING Effects” presentation while other received the presentation in the school setting. Conferences served youth from across the region. For example, youth attending the conference in Central Ohio (Capital University) came from states in the Midwestern region. Demographics of the participants who completed both pre- and post-test surveys are reported in Table 2.

Table 2. Demographics (N=1069)	N	%
<u>Presentation Setting</u>		
Middle School	363	34%
High School	194	18%
Conference	512	48%
<u>Conference or School Attendance</u>		
Y2Y Summer Conference	284	27%
Bryant University; Rhode Island (8 th - 12 th grade & Newly Graduated)		
Y2Y Southern States Conference	100	9%
Queens University; Charlotte, North Carolina (9 th - 12 th grade)		
Y2Y Summer Conference	228	21%
Capital University; Columbus, Ohio (9 th - 12 th grade)		
Putnam Communities That Care	54	5%
Mahopac Middle School; Mahopac, New York (8 th grade)		
Pro Youth Team	178	17%
Wayland Middle School; Allegan County, Michigan (7 th grade)		
Partnership for Ontario County	94	9%
Canandaigua Academy; Ontario County, New York (10 th grade)		
YES Safe Choices/YES LEADS	42	4%
Chenango Valley Middle School; New York (8 th grade)		
Allegan Pro-Youth Team	89	8%
Middle Schools; Allegan, Michigan (6 th – 8 th grade)		

Item means and overall scale score. Next, pre- and post-test means on each item on the Prescription Drug Misuse Knowledge, Attitudes, and Future Behavior Scale are reported. Table 2 reports the pre- and post-test means for each item on the survey, the change from pre- to post-test for each item (ΔM), and p values indicating if the change was significant from pre- to post-test. Results are reported for all youth who had matched and completed pre- and post-test survey measures.

Table 3. pHARMING Effects Overall Mean Scores (N = 1069)

Item	Pre Mean (SD)	Post Mean (SD)	ΔM	p value
1. I believe many youth my age are misusing prescription drugs.	3.60 (1.95)	5.22 (2.24)	1.62	.00*
2. I am knowledgeable about the dangers of misusing prescription drugs.	5.24 (2.27)	6.43 (1.55)	1.19	.00*
3. I understand that using someone else's prescription drugs is illegal.	6.33 (1.65)	6.13 (1.84)	0.26	.00*
4. I understand how using someone else's prescription drugs can be harmful to my health.	6.13 (1.84)	6.64 (1.27)	0.51	.00*
5. I am aware of how misusing prescription drugs can negatively impact my relationships with others.	5.50 (2.19)	6.38 (1.63)	0.88	.00*
6. I understand how someone may become addicted to prescription drugs.	5.44 (2.20)	6.41 (1.57)	0.97	.00*
7. I would feel comfortable saying "no" if offered a prescription drug that was not prescribed to me.	6.18 (1.80)	6.52 (1.46)	0.33	.00*
8. I would not take a prescription drug prescribed for someone else.	6.35 (1.63)	6.60 (1.34)	0.26	.00*
9. I will not share my prescription drugs with others.	6.41 (1.60)	6.62 (1.32)	0.21	.00*
10. I feel confident I can talk to my relatives (e.g., parents, grandparents, etc.) about safely storing and securing prescription drugs.	5.40 (2.20)	6.07 (1.91)	0.67	.00*
Overall Scale Score	5.64 (1.15)	6.34 (1.07)	.69	.00*

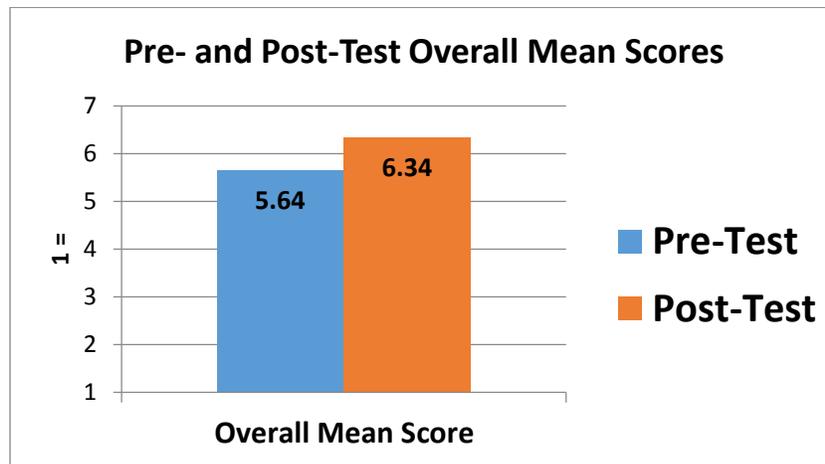
Note. * $p < 0.05$. SD = Standard deviation. 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree.

Findings demonstrate support for "The pHARMING Effects" presentations among the total population of youth who participated in the presentations. Significant increases on scores on the overall scale from pre- to post-test suggest youth who participated in the presentations significantly improved on items designed to assess their perceived knowledge, skills, and future intentions not to engage in prescription drug misuse. In addition, improved means scores from pre- to post-test were evident on all items on the survey.

Results more specifically illustrate that youth may have perceived growth in their knowledge (ΔM) about the number of youth misusing prescription drugs, the dangers of prescription drugs, how misusing prescription drugs can negatively impact their relationships with others, and how someone may become addicted to prescription drugs (e.g., Items 1, 2, 5, and 6). Mean scores for each group of youth participants (i.e., by geographic region) are reported in Appendix A. Notably, youth started the

presentation with high overall scores on several items (e.g., Items 3, 8, and 9). Together, these items suggest youth were knowledgeable about how prescription drug use is illegal, and were confident about refusing to take or share prescription drugs. Areas for improvement point toward the presentation more directly focusing on ways youth can speak to relatives about safely storing and securing prescription drugs. Scores on Item 10, assessing the extent to which youth if they would feel confident talking to relatives, were lower than other items on the measure at pre- and post-test.

Figure 1. Pre- and Post-Test Overall Mean Scores



Satisfaction. Overall, youth participants had positive perceptions of “The pHARMING Effects” presentation. Youth reported they learned new information, the information was helpful, and they would tell a peer to attend the presentation. Table 4 shows post-test scores on items designed to assess youth perceptions of “The pHARMING Effects” presentation.

Table 4. pHARMING Effects Evaluation Scores (N = 951)

Item	Mean (SD)
I learned new information about prescription drug misuse.	4.41 (0.91)
The information presented today was helpful.	4.57 (0.76)
I would tell a peer to attend this educational presentation.	4.42 (0.86)

Note. 1 = Strongly Disagree, 2 = Disagree, 3= Neutral, 4 = Agree, and 5 = Strongly Agree.

Limitations

Evaluation of “The pHARMING Effects” presentations has several limitations. First, multiple t-tests (mean comparisons) increase the likelihood of Type I error. More simply, multiple-tests increase the likelihood of finding significant changes when in actuality there may be no significant effect. Multiple t-tests were used to establish a comprehensive evaluation of “The pHARMING Effects” items. In addition, youth were nested within specific schools or community groups when they participated in “The pHARMING Effects” presentations. However, researchers did not account for nesting effects (e.g., setting specific factors) when assessing the results of the overall evaluation. This means the contextual factors that may have influenced the implementation and delivery of “The pHARMING Effects” presentation across sites were not captured. As such, youth may have received different instructions or asked to engage in components of the presentations differently across sites. For instance, youth at conferences may have had more or less time, larger or smaller groups, and more or less one-on-one adult guidance when engaging in the youth-led prevention activities.

Furthermore, youth who completed both pre- and post-test surveys may have been involved in substance misuse prevention programs or activities and, in turn, been more motivated to answer surveys favorably. However, not all youth who attended conferences or other presentations had pledged to be “drug-free” prior to receiving the presentation. Lastly, the intervention was brief and although results suggest knowledge and attitudes may have been improved, the influence of the presentation on the future behaviors of youth participants remains unknown. In the end, these limitations should be considered when interpreting the results of this evaluation.



Conclusion

Overall, “The pHARMING Effects” presentation may have significantly increased youth perceptions of their knowledge, skills, as well as increased their perceived awareness of prescription drug misuse. The presentation most notably may have contributed to increases in participants’ perceived knowledge about the number of adolescents using prescription drugs, the dangers of prescription drugs, how misusing prescription drugs can negatively impact relationships with others, and how someone may become addicted to prescription drugs. In the future, the presentation may need to focus more attention to helping youth develop the skills and self-efficacy to talk to their relatives about safely storing and securing their prescription drugs.

Results from this evaluation suggest “The pHARMING Effects” presentation is positively impacting youth, and may have improved youth perceptions of their knowledge, skills, and awareness about the dangers of misusing prescription drugs. Schools and community-based programs may wish to utilize this youth-led prevention presentation as an educational tool to help prevent prescription drug misuse among adolescents. Taken together, results provide some evidence of the positive impact of “The pHARMING Effects” presentation on youth participants, further establishing it as an evidence-based youth-led approach to prevention.



References

- Black, D. R., Tobler, N. S., & Sciacca, J. P. (1998). Peer helping/involvement: an efficacious way to meet the challenge of reducing alcohol, tobacco, and other drug use among youth?. *The Journal of School Health, 68*(3), 87.
- Foxcroft, D. R., & Tsertsvadze, A. (2012). Cochrane Review: Universal school-based prevention programs for alcohol misuse in young people. *Evidence-Based Child Health: A Cochrane Review Journal, 7*(2), 450-575.
- Griffin, K. W., & Botvin, G. J. (2010). Evidence-based interventions for preventing substance use disorders in adolescents. *Child and Adolescent Psychiatric Clinics of North America, 19*(3), 505-526.
- Catalano, R. F., Hawkins, J. D., Berglund, M. L., Pollard, J. A., & Arthur, M. W. (2002). Prevention science and positive youth development: Competitive or cooperative frameworks?. *Journal of Adolescent Health, 31*(6), 230-239.
- Larson, R., Walker, K., & Pearce, N. (2005). A comparison of youth-driven and adult-driven youth programs: Balancing inputs from youth and adults. *Journal of Community Psychology, 33*(1), 57–74.
- United Nations Office on Drugs and Crime. (2003). Peer to peer: Using peer to peer strategies for drug abuse prevention. United Nations. New York, NY. Retrieved from https://www.unodc.org/pdf/youthnet/handbook_peer_english.pdf

Appendix A

Results for Y2Y Summer Conference: Bryant University; Rhode Island (Grades 6 - 12 & Newly Graduated)

Table 1. pHARMING Effects Mean Scores (N = 268)

Item	Pre Mean (SD)	Post Mean (SD)	Δ M	p value
1. I believe many youth my age are misusing prescription drugs.	3.25 (1.78)	4.94 (2.34)	1.72	.00*
2. I am knowledgeable about the dangers of misusing prescription drugs.	5.29 (2.31)	6.54 (1.44)	1.25	.00*
3. I understand that using someone else's prescription drugs is illegal.	6.55 (1.41)	6.70 (1.17)	0.15	.06
4. I understand how using someone else's prescription drugs can be harmful to my health.	6.23 (1.79)	6.76 (1.07)	0.54	.00*
5. I am aware of how misusing prescription drugs can negatively impact my relationships with others.	5.55 (2.21)	6.37 (1.66)	0.82	.00*
6. I understand how someone may become addicted to prescription drugs.	5.39 (2.28)	6.51 (1.47)	1.12	.00*
7. I would feel comfortable saying "no" if offered a prescription drug that was not prescribed to me.	6.04 (1.92)	6.52 (1.48)	0.48	.00*
8. I would not take a prescription drug prescribed for someone else.	6.54 (1.39)	6.69 (1.22)	0.15	.10
9. I will not share my prescription drugs with others.	6.50 (1.49)	6.67 (1.26)	0.17	.06
10. I feel confident I can talk to my relatives (e.g., parents, grandparents, etc.) about safely storing and securing prescription drugs.	5.59 (2.17)	6.16 (1.84)	0.57	.00*
Overall Scale Score	5.69 (1.07)	6.39 (.99)	.70	.00*

Note. * $p < 0.05$. SD = Standard deviation. 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 Somewhat Agree, 6 = Agree, and 7 = Strongly Agree.

Table 2. pHARMING Effects Evaluation Scores (N = 252)

Item	Mean (SD)
I learned new information about prescription drug misuse.	4.44 (.88)
The information presented today was helpful.	4.58 (.76)
I would tell a peer to attend this educational presentation.	4.47 (.83)

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Results for Y2Y Southern States Conference: Queens University ; Charlotte, North Carolina (Grades 9 - 12)

Table 3. pHARMING Effects Mean Scores (N = 95)

Item	Pre Mean (SD)	Post Mean (SD)	Δ M	p value
1. I believe many youth my age are misusing prescription drugs.	3.74 (1.99)	5.06 (2.33)	1.32	.00*
2. I am knowledgeable about the dangers of misusing prescription drugs.	5.12 (2.33)	6.38 (1.60)	1.26	.00*
3. I understand that using someone else's prescription drugs is illegal.	6.12 (1.88)	6.41 (1.62)	.29	.11
4. I understand how using someone else's prescription drugs can be harmful to my health.	5.92 (2.04)	6.54 (1.41)	.62	.00*
5. I am aware of how misusing prescription drugs can negatively impact my relationships with others.	5.28 (2.27)	6.18 (1.88)	.89	.00*
6. I understand how someone may become addicted to prescription drugs.	5.46 (2.27)	6.23 (1.74)	.77	.00*
7. I would feel comfortable saying "no" if offered a prescription drug that was not prescribed to me.	6.20 (1.79)	6.32 (1.68)	.13	.44
8. I would not take a prescription drug prescribed for someone else.	6.06 (1.91)	6.48 (1.47)	.42	.02*
9. I will not share my prescription drugs with others.	6.27 (1.74)	6.56 (1.41)	.28	.05
10. I feel confident I can talk to my relatives (e.g., parents, grandparents, etc.) about safely storing and securing prescription drugs.	5.41 (2.27)	5.74 (2.15)	.34	.10
Overall Scale Score	5.55 (1.22)	6.18 (1.22)	.64	.00*

Note. * $p < 0.05$. SD = Standard deviation. 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 Somewhat Agree, 6 = Agree, and 7 = Strongly Agree.

Table 4. pHARMING Effects Evaluation Scores (N = 84)

Item	Mean (SD)
I learned new information about prescription drug misuse.	4.51 (.77)
The information presented today was helpful.	4.49 (.74)
I would tell a peer to attend this educational presentation.	4.42 (.85)

Note. 1 = Strongly Disagree, 2 = Disagree, 3= Neutral, 4=Agree, 5= Strongly Agree

Results for Y2Y Summer Conference: Capital University; Columbus, Ohio (Grades 9-12)

Table 5. pHARMING Effects Mean Scores (N = 217)

Item	Pre Mean (SD)	Post Mean (SD)	Δ M	p value
1. I believe many youth my age are misusing prescription drugs.	3.41 (2.08)	4.90 (2.39)	1.49	.00*
2. I am knowledgeable about the dangers of misusing prescription drugs.	5.17 (2.38)	6.40 (1.61)	1.23	.00*
3. I understand that using someone else's prescription drugs is illegal.	6.45 (1.57)	6.57 (1.38)	.13	.14
4. I understand how using someone else's prescription drugs can be harmful to my health.	6.09 (1.90)	6.59 (1.35)	.51	.00*
5. I am aware of how misusing prescription drugs can negatively impact my relationships with others.	5.40 (2.30)	6.30 (1.71)	.89	.00*
6. I understand how someone may become addicted to prescription drugs.	5.40 (2.26)	6.45 (1.53)	1.05	.00*
7. I would feel comfortable saying "no" if offered a prescription drug that was not prescribed to me.	6.25 (1.78)	6.60 (1.33)	.35	.01*
8. I would not take a prescription drug prescribed for someone else.	6.23 (1.78)	6.65 (1.25)	.42	.00*
9. I will not share my prescription drugs with others.	6.32 (1.71)	6.66 (1.24)	.34	.00*
10. I feel confident I can talk to my relatives (e.g., parents, grandparents, etc.) about safely storing and securing prescription drugs.	5.24 (2.31)	6.22 (1.76)	.98	.00*
Overall Scale Score	5.59 (1.16)	6.33 (1.03)	.74	.00*

Note. * $p < 0.05$. SD = Standard deviation. 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 = Somewhat Agree, 6 = Agree, and 7 = Strongly Agree.

Table 6. pHARMING Effects Evaluation Scores (N = 217)

Item	Mean (SD)
I learned new information about prescription drug misuse.	4.31 (.98)
The information presented today was helpful.	4.52 (.83)
I would tell a peer to attend this educational presentation.	4.49 (.89)

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Results for Putnam Communities That Care: Mahopac Middle School; Mahopac, New York (Grade 8)

Table 7. pHARMING Effects Mean Scores (N = 49)

Item	Pre Mean (SD)	Post Mean (SD)	Δ M	p value
1. I believe many youth my age are misusing prescription drugs.	3.12 (1.82)	4.24 (2.33)	1.12	.00*
2. I am knowledgeable about the dangers of misusing prescription drugs.	5.45 (2.28)	6.02 (1.94)	.57	.07
3. I understand that using someone else's prescription drugs is illegal.	6.08 (1.99)	6.28 (1.81)	.20	.49
4. I understand how using someone else's prescription drugs can be harmful to my health.	6.28 (1.81)	6.68 (1.29)	.40	.10
5. I am aware of how misusing prescription drugs can negatively impact my relationships with others.	5.33 (2.33)	6.10 (1.97)	.77	.01*
6. I understand how someone may become addicted to prescription drugs.	5.14 (2.39)	5.80 (2.18)	.67	.05
7. I would feel comfortable saying "no" if offered a prescription drug that was not prescribed to me.	5.75 (2.22)	5.82 (2.17)	.08	.73
8. I would not take a prescription drug prescribed for someone else.	6.36 (1.76)	6.48 (1.58)	.12	.52
9. I will not share my prescription drugs with others.	6.34 (1.81)	6.58 (1.44)	.24	.28
10. I feel confident I can talk to my relatives (e.g., parents, grandparents, etc.) about safely storing and securing prescription drugs.	5.02 (2.40)	5.02 (2.52)	.00	1.00
Overall Scale Score	5.48 (1.33)	5.88 (1.38)	.41	.00*

Note. * $p < 0.05$. SD = Standard deviation. 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 Somewhat Agree, 6 = Agree, and 7 = Strongly Agree.

Table 8. pHARMING Effects Evaluation Scores (N = 50)

Item	Mean (SD)
I learned new information about prescription drug misuse.	3.98 (1.06)
The information presented today was helpful.	4.18 (1.06)
I would tell a peer to attend this educational presentation.	3.96 (.99)

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Results for Pro Youth Team: Wayland Middle School; Wayland, Michigan (Grade 7)

Table 9. pHARMING Effects Mean Scores (N = 165)

Item	Pre Mean (SD)	Post Mean (SD)	Δ M	p value
1. I believe many youth my age are misusing prescription drugs.	4.01 (2.24)	5.87 (2.06)	1.86	.00*
2. I am knowledgeable about the dangers of misusing prescription drugs.	4.72 (2.43)	6.40 (1.62)	1.68	.00*
3. I understand that using someone else's prescription drugs is illegal.	5.80 (2.11)	6.61 (1.32)	.81	.00*
4. I understand how using someone else's prescription drugs can be harmful to my health.	5.83 (2.10)	6.54 (1.47)	.71	.00*
5. I am aware of how misusing prescription drugs can negatively impact my relationships with others.	5.23 (2.36)	6.51 (1.49)	1.27	.00*
6. I understand how someone may become addicted to prescription drugs.	5.10 (2.38)	6.38 (1.66)	1.28	.00*
7. I would feel comfortable saying "no" if offered a prescription drug that was not prescribed to me.	6.28 (1.74)	6.71 (1.22)	.43	.00*
8. I would not take a prescription drug prescribed for someone else.	6.20 (1.84)	6.61 (1.40)	.41	.00*
9. I will not share my prescription drugs with others.	6.33 (1.70)	6.51 (1.52)	.18	.17
10. I feel confident I can talk to my relatives (e.g., parents, grandparents, etc.) about safely storing and securing prescription drugs.	5.17 (2.33)	5.96 (2.02)	.79	.00*
Overall Scale Score	5.49 (1.30)	6.41 (1.04)	.93	.00*

Note. * $p < 0.05$. SD = Standard deviation. 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 Somewhat Agree, 6 = Agree, and 7 = Strongly Agree.

Table 10. pHARMING Effects Evaluation Scores (N = 165)

Item	Mean (SD)
I learned new information about prescription drug misuse.	4.63 (.75)
The information presented today was helpful.	4.75 (.58)
I would tell a peer to attend this educational presentation.	4.47 (.86)

Note. 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Results for Partnership for Ontario County: Canandaigua Academy; Ontario County, Canada (Grade 10)

Table 11. pHARMING Effects Mean Scores (N = 93)

Item	Pre Mean (SD)	Post Mean (SD)	Δ M	p value
1. I believe many youth my age are misusing prescription drugs.	3.32 (1.66)	5.18 (2.28)	1.86	.00*
2. I am knowledgeable about the dangers of misusing prescription drugs.	5.15 (2.38)	5.94 (2.03)	.79	.00*
3. I understand that using someone else's prescription drugs is illegal.	6.27 (1.72)	6.13 (1.89)	-.14	.50
4. I understand how using someone else's prescription drugs can be harmful to my health.	5.98 (1.99)	6.29 (1.68)	.31	.12
5. I am aware of how misusing prescription drugs can negatively impact my relationships with others.	5.26 (2.33)	6.02 (1.98)	.77	.00*
6. I understand how someone may become addicted to prescription drugs.	5.50 (2.28)	6.07 (1.93)	.57	.03*
7. I would feel comfortable saying "no" if offered a prescription drug that was not prescribed to me.	5.92 (2.03)	6.09 (1.90)	.16	.44
8. I would not take a prescription drug prescribed for someone else.	6.09 (1.86)	6.04 (1.99)	.04	.85
9. I will not share my prescription drugs with others.	6.13 (1.89)	6.26 (1.79)	.13	.53
10. I feel confident I can talk to my relatives (e.g., parents, grandparents, etc.) about safely storing and securing prescription drugs.	4.85 (2.42)	5.68 (2.20)	.84	.00*
Overall Scale Score	5.44 (1.28)	5.97 (1.49)	.53	.00*

Note. * $p < 0.05$. SD = Standard deviation. 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 Somewhat Agree, 6 = Agree, and 7 = Strongly Agree.

Table 12. pHARMING Effects Evaluation Scores (N = 85)

Item	Mean (SD)
I learned new information about prescription drug misuse.	4.44 (.76)
The information presented today was helpful.	4.53 (.61)
I would tell a peer to attend this educational presentation.	4.28 (.78)

Note. 1 = Strongly Disagree, 2 = Disagree, 3= Neutral, 4=Agree, 5= Strongly Agree

Results YES Safe Choices/YES LEADS; Chenango Valley Middle School (8th grade)

Table 13. pHARMING Effects Mean Scores (N = 42)

Item	Pre Mean (SD)	Post Mean (SD)	Δ M	p value
1. I believe many youth my age are misusing prescription drugs.	3.71(1.27)	5.52 (1.48)	1.78	0.00*
2. I am knowledgeable about the dangers of misusing prescription drugs.	6.02 (1.06)	6.86 (0.42)	0.83	0.00*
3. I understand that using someone else's prescription drugs is illegal.	6.49 (1.09)	6.93 (0.26)	0.44	0.03*
4. I understand how using someone else's prescription drugs can be harmful to my health.	6.51 (0.98)	6.88 (0.50)	0.37	0.00*
5. I am aware of how misusing prescription drugs can negatively impact my relationships with others.	6.27 (1.03)	6.88 (0.51)	0.61	0.00*
6. I understand how someone may become addicted to prescription drugs.	6.15 (1.22)	6.74 (0.59)	0.59	0.00*
7. I would feel comfortable saying "no" if offered a prescription drug that was not prescribed to me.	6.55 (1.08)	6.86 (0.42)	0.35	0.02*
8. I would not take a prescription drug prescribed for someone else.	6.65 (0.77)	6.69 (1.07)	0.10	0.57
9. I will not share my prescription drugs with others.	6.70 (0.88)	6.86 (0.42)	0.18	0.21
10. I feel confident I can talk to my relatives (e.g., parents, grandparents, etc.) about safely storing and securing prescription drugs.	6.21 (1.19)	6.57 (1.17)	0.44	0.02*
Overall Scale Score	6.11 (0.71)	6.67 (0.49)	0.56	0.00*

Note. * $p < 0.05$. SD = Standard deviation. 1 = Strongly Disagree, 2 = Disagree, 3= Somewhat Disagree, 4 = Neutral, 5 Somewhat Agree, 6 = Agree, and 7 = Strongly Agree.

Table 14. pHARMING Effects Evaluation Scores (N = 41)

Item	Mean (SD)
I learned new information about prescription drug misuse.	4.69 (0.53)
The information presented today was helpful.	4.78 (0.42)
I would tell a peer to attend this educational presentation.	4.50 (0.61)

Note. 1 = Strongly Disagree, 2 = Disagree, 3= Neutral, 4=Agree, 5= Strongly Agree

Results for Allegan Pro-Youth Team; Middle Schools in Allegan MI (6th – 8th grade)

Table 15. pHARMING Effects Mean Scores (N = 89)

Item	Pre Mean (SD)	Post Mean (SD)	Δ M	p value
1. I believe many youth my age are misusing prescription drugs.	4.72 (1.48)	6.14 (1.35)	1.42	0.00*
2. I am knowledgeable about the dangers of misusing prescription drugs.	5.97 (1.37)	6.86 (0.59)	0.89	0.00*
3. I understand that using someone else's prescription drugs is illegal.	6.79 (0.58)	6.98 (0.15)	0.19	0.00*
4. I understand how using someone else's prescription drugs can be harmful to my health.	6.68 (0.79)	6.89 (0.41)	0.21	0.00*
5. I am aware of how misusing prescription drugs can negatively impact my relationships with others.	6.37 (0.90)	6.89 (0.38)	0,52	0.00*
6. I understand how someone may become addicted to prescription drugs.	6.10 (1.10)	6.87 (0.34)	0,77	0.00*
7. I would feel comfortable saying "no" if offered a prescription drug that was not prescribed to me.	6.65 (0.96)	6.77 (0.61)	0.23	0.00*
8. I would not take a prescription drug prescribed for someone else.	6.77 (0.61)	6.95 (0.26)	0.18	0.00*
9. I will not share my prescription drugs with others.	6.83 (0.56)	6,93 (0.37)	0.10	0.07
10. I feel confident I can talk to my relatives (e.g., parents, grandparents, etc.) about safely storing and securing prescription drugs.	6.08 (1.16)	6.77 (0.61)	0,69	0.00*
Overall Scale Score	6.26 (0.59)	6.79 (0.30)		0.00*

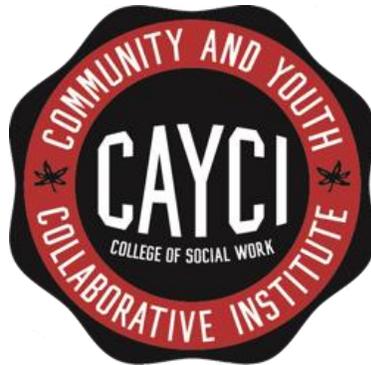
Note. * $p < 0.05$. SD = Standard deviation. 1 = Strongly Disagree, 2 = Disagree, 3= Somewhat Disagree, 4 = Neutral, 5 Somewhat Agree, 6 = Agree, and 7 = Strongly Agree.

Table 16. pHARMING Effects Evaluation Scores (N = 77)

Item	Mean (SD)
I learned new information about prescription drug misuse.	4.18 (1.20)
The information presented today was helpful.	4.61 (0.87)
I would tell a peer to attend this educational presentation.	4.42 (0.97)

Note. 1 = Strongly Disagree, 2 = Disagree, 3= Neutral, 4=Agree, 5= Strongly Agree

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