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Implementing An Online Social Network For Health Communication

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CHRISTIAN SHAW

Candidate

BIOMEDICAL SCIENCES

Department

This thesis is approved, and it is acceptable in quality and form for publication:

Approved by the Thesis Committee:

GILL WOODALL, PHD, Chairperson

WILLIAM WIESE, MD, MPH

ANDREW SUSSMAN, PHD

DENECE KESLER, MD, MPH

**IMPLEMENTING AN ONLINE SOCIAL NETWORK FOR HEALTH
COMMUNICATION**

BY

CHRISTIAN SHAW

**B.A., B.S., University of Arizona, 2001
Ph.D., McGill University, 2006
M.D., Saint George's University, 2010**

THESIS

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ABSTRACT

Through end-user design based research methodology, we developed an interactive online social network that specifically communicates informative and harm reduction strategies for alcohol and illicit drug use to University students. Twenty-four demographically representative University undergraduates were recruited to participate in a two part quantitative/qualitative pilot study intended to assess usability of the website and explore necessary components to optimize website design and interactive experience for its target population. Website usability was assessed by participant completion of the modified Standard Usability Scale. Website design optimization was explored through focus group sessions. Based on the results of this pilot study, it is feasible to develop an interactive online social network to communicate health information to University students.

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INTRODUCTION

Substance dependence and substance abuse reflect a pattern of alcohol or illicit drug use leading to significant impairment or distress along a spectrum of increasingly harmful consequence. In 2012, an estimated 22.2 million Americans (aged 12 or older) or 8.5% of the United States population were classified with substance dependence or abuse in the past year by DSM IV criteria. Of these, 14.9 million had dependence or abuse on alcohol, 4.9 million on illicit drugs and 2.8 million with dependence or abuse on both alcohol and illicit drugs (2013).

The annual economic cost of drug abuse in the United States was most recently estimated in 2007 at \$193 billion, with \$120 billion in lost productivity, \$11 billion in health care costs and \$61 billion in criminal justice costs (2011). Similarly, the most recent estimated annual economic cost of excessive alcohol use in 2006 totaled \$223.5 billion, mirroring the cost distributions to illicit drug use in lost productivity, healthcare and criminal justice costs (Bouchery, Harwood et al. 2011).

The *highest* rates of illicit drug and alcohol use occur in adolescent and young adults making this arguably the most pressing public health problem for this population (2013). Although rates of alcohol use for this population have remained consistent in recent years, the rate of current illicit drug use among

those aged 18-25 increased from 19.7 percent in 2008 to 21.3 percent 2012, largely due to increased marijuana use during this time period.

Substance dependence or abuse represents an ongoing concern for College campuses, especially for undergraduate students. According to the annual national survey on drug use and health (NSDUH), 60% of full-time college students reported themselves as current drinkers, whereas 22% reported currently using illicit drugs. Marijuana was reported as most prevalent of illicit drugs used by college students, followed by use of psychotherapeutics (pain relievers, tranquilizers, stimulants, sedatives).

Students who are not current marijuana users are more than twice as likely to report an average grade of "A" than those who are current users of marijuana (30.5% vs. 12.5%). Moreover, it was recently reported that college students who use prescription stimulant medications for non-medical purposes typically have lower grade point averages and are more likely to be heavy drinkers and users of other illicit drugs (Arria and DuPont 2010).

In addition to negatively impacting academic performance, substance abuse results in accidental injuries, sexual and physical assaults and driving while under the influence.

WEB-BASED PREVENTION

Success of any preventive health effort depends on how effective the information is communicated to the intended audience (Bryant, Forthofer et al. 2000; Grier and Bryant 2005). With the explosive growth of the internet, resulting in an exponential increase of users in recent years (Pew Internet & American Life Project.) communication of preventive health information has the potential to reach more individuals and have significantly greater impact.

Recognition of this potential has led to the development of numerous web-based interventions that have successfully motivated users to adopt healthier behaviors, including smoking cessation, weight loss, reduction of alcohol abuse and safer sex practices (Kohl, Crutzen et al. 2013).

Meta-analysis has shown these online interventions to be more effective than lower-tech interventions, and equivalent in efficacy to sophisticated print interventions with the advantage of lower cost and greater reach (Cugelman, Thelwall et al. 2011).

From a public health perspective, success of such online interventions is promising, as they are more cost effective, able to reach a greater target audience than traditional media campaigns and may soon offer the return on investment that primary and secondary prevention has long been touted to do.

Despite burgeoning interest at the level of population medicine and policymakers, there continues to be a relatively low rate of adoption, especially among the adolescent and young adult populations, arguably those best suited for such technology.

Within this context, a pivotal consideration involves how to *most* effectively communicate with the intended audience. For example, an increasing percentage of adolescent and young adults access the internet and receive information by smart phones (Aratani, Schwarz et al. 2011; Tucker 2011). Using a communication strategy based on smart phone accessible web-based resources, rather than conventional email, is more appropriate and effective for this target population.

Recognition of this has led to the development of numerous web-based interventions for alcohol and substance abuse on college campuses (Bewick, Trusler et al. 2008). Of growing popularity, in both North American and Europe, are web-based interventions designed to reduce the associated health hazards of alcohol and substance abuse (Bewick, Trusler et al. 2008; Paschall, Antin et al. 2011; Paschall, Antin et al. 2011; Voogt, Poelen et al. 2011; Arnaud, Broning et al. 2012).

Prevention programs are operated on the majority of college campuses. However, negative consequences secondary to alcohol and illicit drug abuse

continue, obviating the question of whether preventive health information is effectively communicated to the intended population.

Recent web-based interventional programs such as *AlcoholEdu*, attempt to address this. However, they offer marginal success on college campuses with only short-term positive behavioral outcomes (Paschall, Antin et al. 2011). Why? Although these programs recognize the need to use updated web-based methods of communication rather than print media, there remains a shared, recurrent and major limitation. They fail to exploit the current and preferred communication technology used by College students, namely social media. Specifically, they do not take advantage of the inherent multi-directional information exchange characteristic of online social networks like Facebook.

Over the past few years, adolescents and young adults have come to rely on online social networks such as Facebook and Google+ for receiving a variety of information, ranging from family events to international news (O'Keeffe, Clarke-Pearson et al. 2011). Indeed, because this information often comes from trusted “contacts” or “friends,” users of social networks are more likely to trust information and rely on advice that comes from these sources. Healthcare practitioners can leverage these aspects of social media to greatly improve how health information is communicated to the very populations that will most benefit, and who preferentially rely on this communication method to receive information

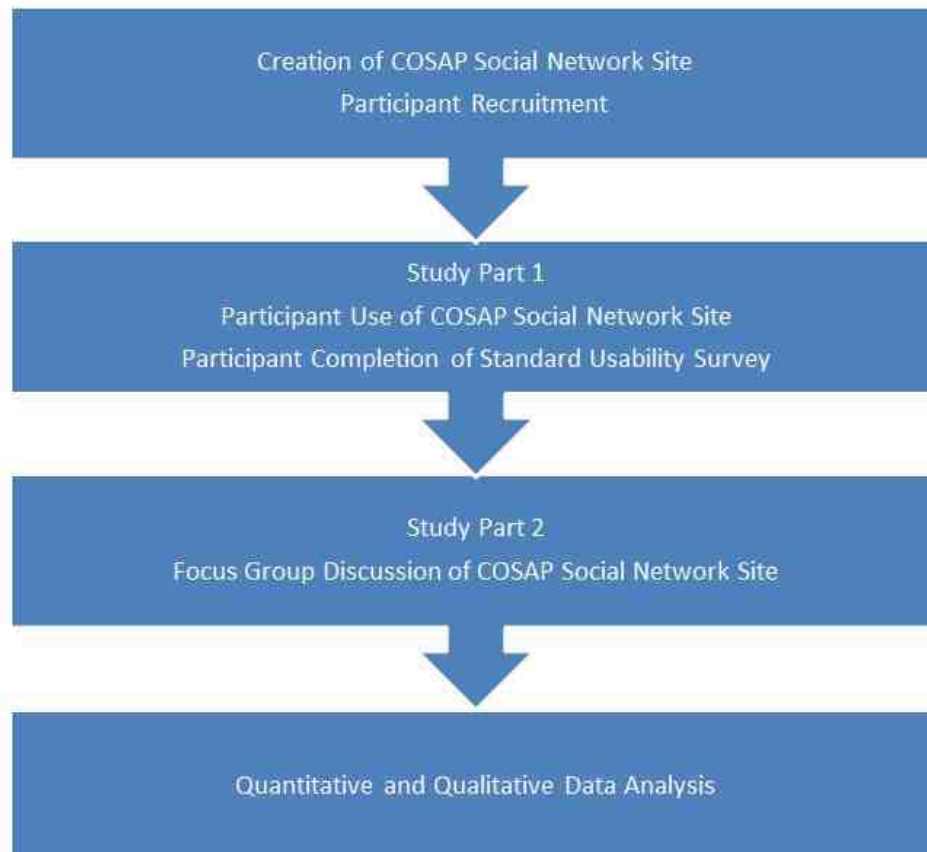
(Sawyer, Afifi et al. ; Strasburger and Donnerstein 2000; Chou, Hunt et al. 2009; Aratani, Schwarz et al. 2011).

Commercial organizations quickly capitalized on the potential of web-based social networks to attract users while health care organizations have not yet adopted this as a means for disease intervention or health promotion (Bennett and Glasgow 2009). Only recently, the FaceSpace Project evaluated delivery of sexual health promotion via online social networking for high risk individuals (Gold, Pedrana et al. 2012).

OVERVIEW OF APPROACH

Ongoing abuse of alcohol and illicit drugs by University students underscores the need to more effectively communicate preventive health information and promote available support resources. Providing a specialized online social network, the preferred communication medium and community forum for this target population, offers a novel method to accomplish this. To accomplish this, we relied on an end-user driven design process based on the recently proposed internet interventional model for behavioral change (Ritterband, Thorndike et al. 2009). This pilot feasibility study consisted of four parts: social network site creation, usability assessment, end-user driven input through individualized comments section and focus group sessions and data analysis (Figure 1.1).

Pilot Feasibility Study Outline



METHODS

Creation of the Social Network Site

Using the media services of NING, an online platform to create customizable social networks, a multidisciplinary team with preventive medicine and health communication expertise, developed an interactive, online social network intended to communicate preventive health information about alcohol and drug use to University undergraduate students. NING offers the ability to design and operate an individualized, integrative, web-based social network with user interface analogous to that of Facebook. The NING platform is intuitive and ‘user friendly’ from both ‘designer’ and ‘end-user’ perspectives.

Creation of Preventive Health Information Content for the Social Network Site

Primary and secondary prevention strategies for alcohol, tobacco and commonly abused drugs (marijuana, prescription opioids, benzodiazepines, cocaine, ‘party drugs’, such as Ecstasy, amphetamine-based ‘study-drugs’ such as Ritalin, and performance steroids) were adopted from the National Institute for Drug Abuse website and uploaded to the NING platform based UNM social network site. Primary prevention involved highly relevant information about acute and chronic health effects of substance abuse. Secondary prevention included harm reduction strategies (such as facilitation of designated-driver and healthy lifestyle group forums), information for pharmacological and cognitive-behavioral treatment options for substance abuse and local referral services. Content

preparation and social network design is intended to involve an iterative process, driven by research participant input, to optimize the end user experience.

Participant Recruitment

Using University undergraduate student population demographics, (58% female, 42% male; 41% non-Hispanic white, 33% Hispanic, 12% Native American, 3% African American, 3% Asian, 5% international) ¹ representative UNM undergraduates were selected during a one-month recruitment period at the University campus. Eligible and demographically representative undergraduates were scheduled at pre-specified times to participate in the study. They were reminded of their appointment by text and phone call two days prior. The study was performed at the Campus Office of Substance Abuse Prevention (COSAP), located on the University Main Campus.

Focus Group Sessions and Interview Process

To be successfully used by the intended target audience, the social network must be appealing and user-friendly. We used focus groups to explore what components were necessary for University undergraduate students to use the social network platform. Three focus group sessions (n=8 per group) were conducted. The focus group guide explored: appropriateness and utility of existing content, usability of the social network (including user interface), effectiveness of Videoblogs, social media integration (including YouTube,

¹ UNM Diversity Report Card 2009-2010; <http://diverse.unm.edu/presentations-reports/reports/index.html>

Twitter) and semi-structured, participant driven suggestions for ongoing site optimization.

The interview process consisted of a semi-structured format of open-ended questions intended to assess the usability of the online social network site by University undergraduate participants. Two trained moderators, from COSAP, who are experienced in conducting multi-cultural focus groups, co-facilitated each focus group. An ongoing and dynamic interaction among participants was encouraged to explore preferences and suggestions by the intended UNM undergraduate users. The focus group interviews were approximately 60 minutes in duration. All focus group sessions were captured by digital audio recording and simultaneously, a dedicated research team member was present to transcribe generalized thematic content of the focus group discussions. The fundamental aspects of qualitative research—exploration, clarification and confirmation – guided real-time thematic transcription and post-analysis.

Qualitative Data Analysis

Qualitative data analysis involved an iterative process. Recurrent responses and generalized themes were initially transcribed by a dedicated research team member, then subsequently reviewed by independent members (of the research team) and following this, validated by consensus agreement involving all reviewers.

Usability Assessment of UNM Social Network Site

We assessed whether it is feasible to create a social network for communicating preventive health information to the University of New Mexico undergraduate students. Usability of the network was evaluated by completion of the *System Usability Scale* (Brooke 1996) a previously validated usability measure (Bangor, Kortum et al. 2008; Bangor 2009) intended to assess specific parameters unique to a web-based feasibility study (see Figure 1.2) The usability measure was completed by recruited, participant 'UNM undergraduate users'. Study participants completed a task list intended to familiarize themselves with the online social network functionality and expose them to various interactive features. Immediately following this, a modified Standard Usability Scale was individually completed by each undergraduate participant (n=24). All participants used the social network at the Campus Office for Substance Abuse Prevention (COSAP) through onsite internet access.

Figure 1.2

System Usability Scale (1;2)

Please circle the number that reflects your immediate response to each statement. Don't think too long about each statement. Make sure you respond to every statement. If you don't know how to respond, simply circle the number "3."

	Strongly Disagree				Strongly Agree
1. I think that I would like to use this product frequently.	1	2	3	4	5
2. I found the product unnecessarily complex.	1	2	3	4	5
3. I thought the product was easy to use.	1	2	3	4	5
4. I think that I would need the support of a technical person to be able to use this product.	1	2	3	4	5
5. I found the various functions in the product were well integrated.	1	2	3	4	5
6. I thought there was too much inconsistency in this product.	1	2	3	4	5
7. I imagine that most people would learn to use this product very quickly.	1	2	3	4	5
8. I found the product very awkward to use.	1	2	3	4	5
9. I felt very confident using the product.	1	2	3	4	5
10. I needed to learn a lot of things before I could get going with this product.	1	2	3	4	5

11. Overall, I would rate the user-friendliness of this product as:

Worst Imaginable Awful Poor OK Good Excellent Best Imaginable

12. Please included any additional short comments or suggestions about the website:

Using the Standard Usability Scale

The SUS was administered after each Undergraduate research participant completed the task list (see Figure 1.3), but before any debriefing or discussion occurred. All items should be checked, with the instruction that if the participant cannot respond to a particular item, number 3 should be checked.

Scoring the Standard Usability Scale and Determining Acceptable Usability

SUS yields a numeric, composite measure indicating the overall usability of the system. SUS score(s) will be calculated as previously described (Brooke 1996; Bangor, Kortum et al. 2008). SUS scores have a range of 0 to 100. Composite SUS score will be applied to both the acceptability ranges and adjective rating scale component (Bangor 2009). See Figure 1.4.

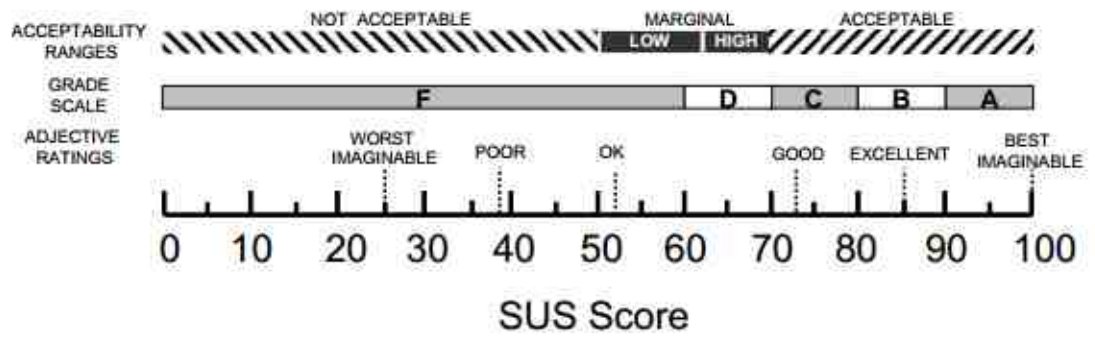
Data Analysis

Descriptive statistics were performed on all acquired demographic information from the UNM undergraduate participants using STATA software version 12.0. The Standard Usability Scale composite score was computed according to the previously published procedures. A simple Pearson coefficient was calculated to determine correlation between SUS composite score and adjective rating scale component as previously reported (Bangor 2009).

Figure 1.3

1. Enter the provided log-in information to access the site
2. Go to the 'my page' link
3. Go to the 'edit' link
4. Check out profile basics and email options
5. Go to the 'blog' link
6. Read the Welcome Blog
7. Go to the 'photo' link
8. Click on one of the photos and remember an interesting fact to share
9. Click on 'my page' link, then click on 'comment wall'
10. Write a quick sentence about some fact you read from one of the informational photos
11. Enter the security numbers (with space between them) and post comment
12. Go to the 'members' link
13. Click on one of the members
14. Click on "add as friend"
15. Go to the 'Q & A' link
16. Click on "Read more" under either of the two discussion topics
17. Click on 'my page' link, then click on 'comment wall'
18. Write a quick comment or additional question about what you read from the Q&A discussion and post
19. Go to the 'groups' link
20. Click on "Healthy Social Activities"
21. Click on "Join Us"
22. Click on "Forum"
23. Below "Upcoming Events", click on "Read more"
24. Click on 'my page' link, then click on 'comment wall'
25. Write a quick comment or suggestion about groups or other useful sites for upcoming events and post
26. Go to the 'home' link
27. Click on "Quick to read commonly abused drug chart"
28. Click on "Info about commonly abused drugs"
29. Click on "Info about commonly abused prescription drugs"
30. Click on "Health effects and treatment options for commonly abused drugs"
31. Select a drug from the commonly abused drug chart, then click on 'my page' link, click on 'comment wall'
32. Write a quick acute effect or health risk about the drug you selected under comment section and post
33. Click on "check out common drug effects using video game mice"
34. Quickly check out video game
35. Click on "confidential online assessment for drug and alcohol use"
36. Quickly review description of website, then close window
37. Click on videos 'the science of hangovers explained' and watch short video
38. Click on 'my page' link, click on 'comment wall'
39. Write a quick comment or suggestion about possible useful videos to include and post
40. Scroll down and check out member 'activity' feed (right side, below Q&A)
41. Click on 'sign out' (upper right corner of webpage)

Figure 1.4



RESULTS

Recruitment

To ensure generalizability of our pilot design, we based study participant recruitment on the University of New Mexico undergraduate student demographics. The study group (n=24) consisted of an equal distribution of males and females, with participant distribution by ethnicity and age similar to corresponding reported ratios (Figure 2.1). Median age of study participants was 20, with a range of 18-51. Mean age was 22 with standard deviation of 6.9 (Figure 2.2). 63% percent of participants reported living off-campus vs. 37% on-campus (Figure 2.3). We achieved a relatively equal distribution of participants by academic year (Figure 2.4).

Focus Groups

The initial portion of our focus group session consisted of an introduction and explanation of why the study was being conducted, goals of creating the online social network and encouragement for feedback to optimize the Undergraduate user experience. Five questions were sequentially presented to the group with ample time for input and feedback (see Figure 3.1). A dedicated COSAP employee transcribed recurrent and consensus responses elicited from individual participants to these questions and the ensuing group dialogue. These responses were subsequently evaluated by the research team, logically arranged and grouped into multiple categories and themes

The Undergraduate focus group sessions provided highly constructive input to optimize the target user experience and adoption of an online social network.

Several positive, recurring themes were identified within 4 major categories (Likes, Suggestions, Content and Appearance). A list of overarching themes and summarized consensus participant comments is provided in (see Figure 4.1 - 4.4).

Likes

The focus group participants provided highly positive feedback about the social network website's similar interface to Facebook. Such familiarity made site navigation and interaction relatively effortless for the participants. Of particular note, two recurrent themes: "Having physician validated and simplified preventive information for alcohol and drug use" and "Having physician/health professional moderated Q and A forum" were extremely important to the Undergraduate participants.

Suggestions

Highly valuable input was provided by the focus groups on how to optimize the website for Undergraduate users. Inclusion of self-assessment tools, treatment resource information and use of interactive games to learn relevant health information about commonly used drugs and alcohol were consistently recommended. Additionally, creation of specialized group forums within the

social network to i) promote healthy, enjoyable social activities ii) coordinate carpool or low-cost safe-ride options, and iii) enable local business to advertise specials that incentivize designated drivers were suggested.

Content

A surprise to the research team, who assumed the Undergraduate population would prefer an emphasis on video based content in favor of text, a 50/50 distribution of video vs. text content was consistently preferred by the focus group participants. Communication of medical information in common, 'non-medical' language by medical professionals historically represents concern for both patients and non-patients. This concern was echoed by the Undergraduate focus groups. Videoblogs that communicate relevant information about alcohol and commonly used drugs by College students received extremely positive feedback by the focus groups. Specific recommendations about videoblogs were a time limit of two minutes and to include accompanying text transcription. Including real-life testimonial videos involving negative personal experiences with alcohol and drug use was another consistent recommendation of the focus group participants.

Appearance

A general consensus among focus group participants was to include more photos and images on the homepage to increase visual appeal. With respect to a specific color theme, the focus groups believed some students may respond to

Facebook-like colors but suggested a rotating color scheme based on designated awareness months or University sponsors may be more innovative.

Qualitative input from individual study participants was also provided by an open-response question following completion of the modified standard usability scale. Responses were generally positive and with intent to offer suggestions on how to improve the website. (Figure 5.1) A reoccurring theme involved the lack of color and visual appeal of the website. This was expected by the research team given the initial emphasis on content options and ease of navigation for the user rather than on appearance.

Usability Assessment

Study participants completed a task list intended to familiarize them with the online social network functionality and expose them to various interactive features. Immediately following this, a modified Standard Usability Scale was individually completed by each undergraduate participant (n=24). SUS assessments were obtained for 100% of participants. Calculated SUS scores ranged from 45 to 97.5 with a median score of 81 (Figure 6.1). A Standard Usability Scale score at or above 70 indicates the product (website, cell phone, etc.) as usable with increasing acceptability (good, excellent, best imaginable) as the score approaches 100. The SUS median result of 81 indicates this online social network site was deemed very usable by the intended University student

population. The median score of 81 was further validated by similarly corresponding adjective scale ratings averaging (5.4), translating to a score between Good [4] to Excellent [5] (Figure 6.2). The calculated Pearson coefficient of 0.6 ($p < 0.002$) indicated a relatively strong correlation between SUS score and adjective rating scale score (Figure 6.3). This is consistent with previous validation of the scale (Bangor, Kortum et al. 2008; Bangor 2009).

Overview and Highlights of the COSAP Online Social Network Site

We used the content management services of NING, the world's largest platform for creating social network websites. The NING platform offers the ability to create a highly customizable online social network with interface analogous to Facebook, including features such as videos, photos, blogs, forums, groups and integration with key social media (Facebook, Twitter, Google+).

Features are available for the user by clickable header menus (Home, MyPage, Blogs, Photos, Q&A, Members, Groups), hyperlinks, photos and embedded streamable media (Figure 7.1). Analogous to online social network site interfaces like Facebook, 'friending', 'sharing', 'posting' and 'commenting' are all supported (7.2, 7.3). A combination of video, photo and text was used for drug and alcohol related site content.

The Q & A forum was very well received by the Undergraduate participants Figure (7.4). For the purpose of initial website assessment, two provocative questions were posted and answered by Dr. Shaw in order to encourage responses and comments by Undergraduate participant users. This model is anticipated to be expanded so end-users can post drug and alcohol related questions and concerns which would be monitored by site Administrators and answered by health professionals.

A Healthy Activities group forum was created as part of the user experience (Figure 7.5). Specialized group forums within a closed social network are anticipated to represent a substantial and wide range of activity by users, whether for arranging safe-rides, carpooling or advertising local events on campus or in the community.

The site administrator page and features were intuitive and easy to use. Administrators are able to customize existing webpage appearance and create new webpages (Figure 7.6). Member activity, blog posting and other site approved user-generated content is easily monitored by site administrator (Figure 7.7). Integration of multiple social media options is also readily available (Figure 7.8) Access to the social network site is protected, requiring individual username, password and initial approval by site administrator (Figure 7.9).

DISCUSSION

Substance dependence and abuse represents the most significant public health problem for adolescents and young adults. Despite slightly decreased rates of alcohol misuse, rates of illicit drug use, particularly marijuana and psychotherapeutics, are on the rise. This disturbing trend is paralleled on College campuses, obviating the need to more effectively deliver preventive health information and promotion of available support services.

Using the power of social media to communicate preventive health information to young adults has yet to be realized. Within the subtypes of social media, social networks such as Facebook, enable information to be widely and rapidly disseminated. Much of the reason for this is due to the multi-directional exchange of information within social networks as compared to unidirectional forms such as conventional websites, television and print. Information is shared *across* the network between users, its exchange is dynamic and interactive.

The combined techno-friendliness and pressing substance abuse concern makes the College campus environment ideal for this pilot study. Through end-user design based research methodology, we successfully developed an interactive online social network to communicate health information about alcohol and drug use to College students. The online social network was determined very usable by demographically representative College undergraduates. Similarly, focus

group sessions provided highly positive feedback for the initial design and interface and offered constructive input on how to optimize website design and interactive experience for its target population.

Of particular note, "Having physician validated and simplified preventive information for alcohol and drug use" and "Using the online social network to create groups that sponsor and promote healthy, fun, alternative social activities for non-alcohol or drug using students" were extremely important to the study participants.

One limitation of the current study may be its generalizability to the Undergraduate student population due to the 'healthy' selection bias common to randomized control trials (RCTs). Typically those who participate in RCTs are healthier than their counterparts in the general population. Similarly, although we were able to closely represent University student demographics, our study cohort may not have adequately included Undergraduates with significant substance dependence or abuse problems. In our future anticipated feasibility study to assess effectiveness of this mode of preventive health communication as compared to conventional unidirectional website, a larger cohort will be recruited and presumably will address this.

CONCLUSION

The efficacy of preventive health communication ultimately relies on successful dissemination of information from the *source* (public health practitioner) to the *target audience* (at risk individuals) (Bryant, Forthofer et al. 2000; Grier and Bryant 2005). Within this context, a pivotal consideration involves how to *most* effectively communicate with the intended audience.

For example, an increasing percentage of adolescent and young adults access the internet and receive information by smart phones (Aratani, Schwarz et al. 2011; Tucker 2011). Using a communication strategy based on smart phone accessible web-based resources, rather than conventional email, is more appropriate and effective for this target population.

This pilot feasibility project represents a novel approach to preventive health communication. To our knowledge, it is one of the first studies to create and assess the feasibility of an interactive online social network to communicate preventive health information (for alcohol and illicit drug use) to University students. Since the impact of web-based interventions is directly related to how much of the target population is exposed to the intervention, optimizing this exposure is essential for success. To achieve this, the most effective mode of communication and its delivery must be used.

Figure 2.1

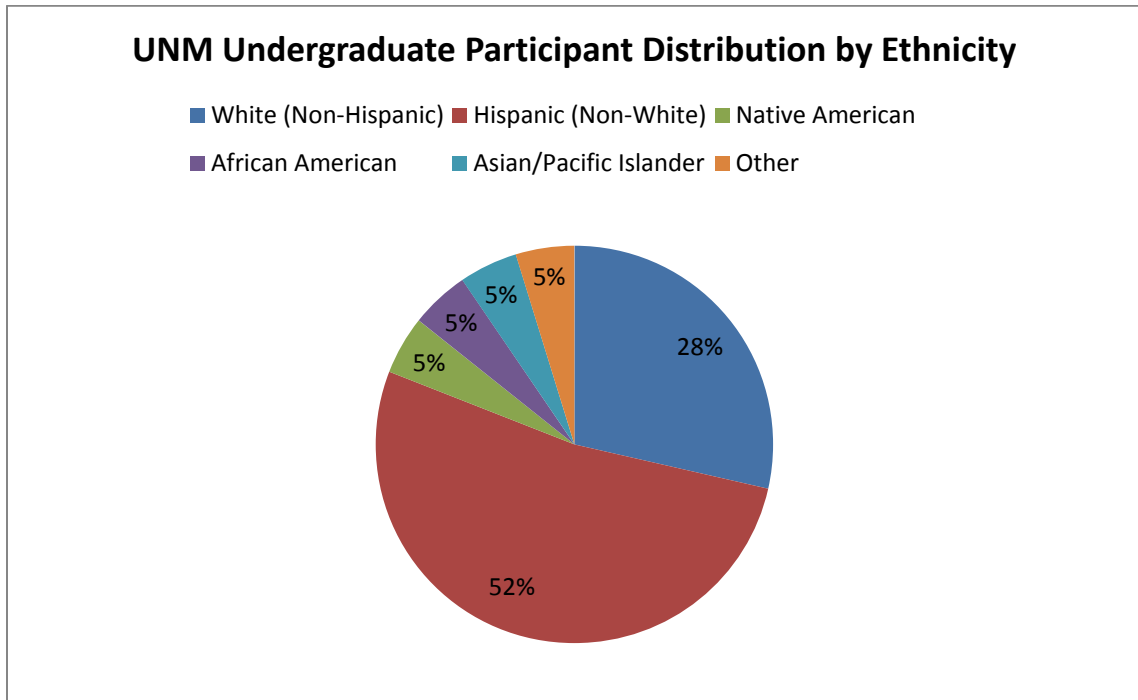
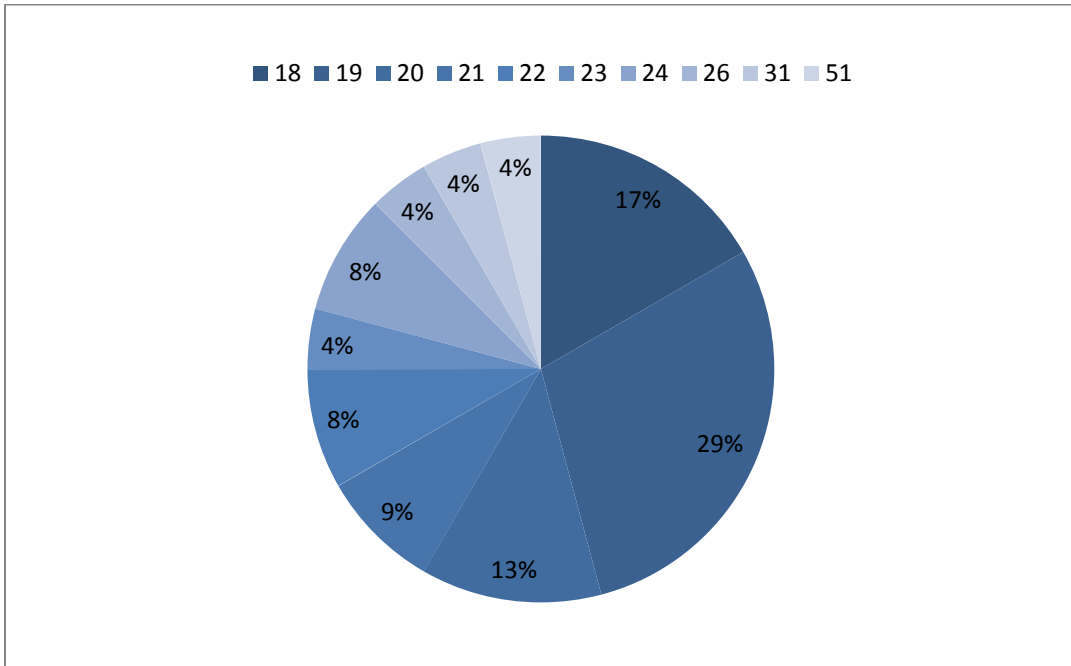
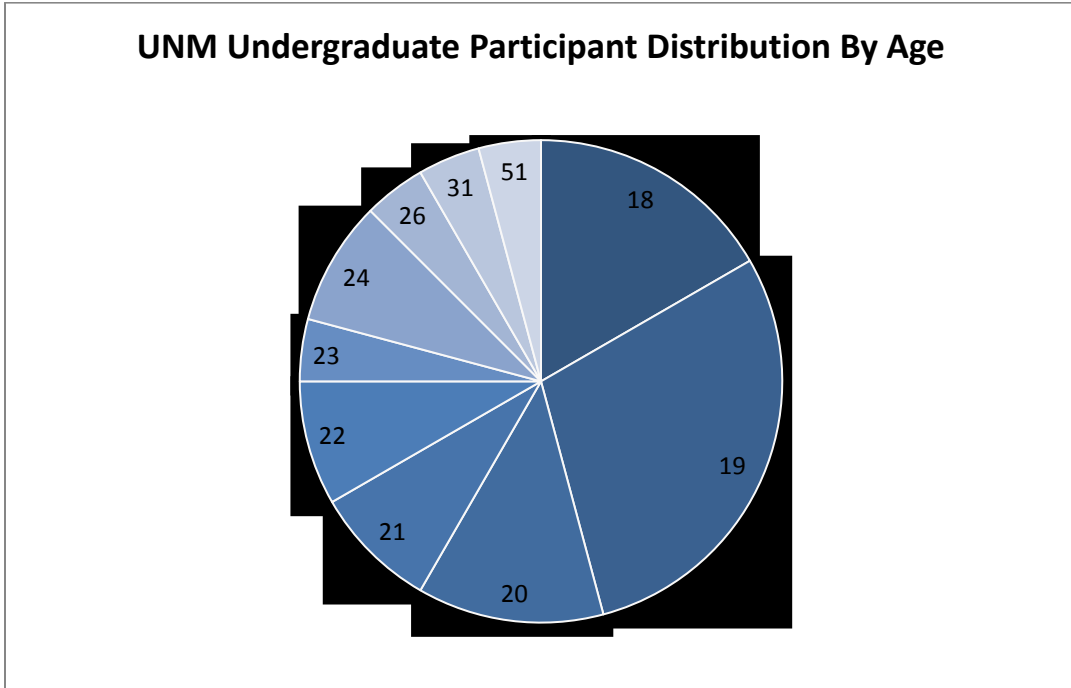


Figure 2.2



Age	P50	Mean	MIN	MAX	(18-24)
	20	22	18	51	88%

Figure 2.3

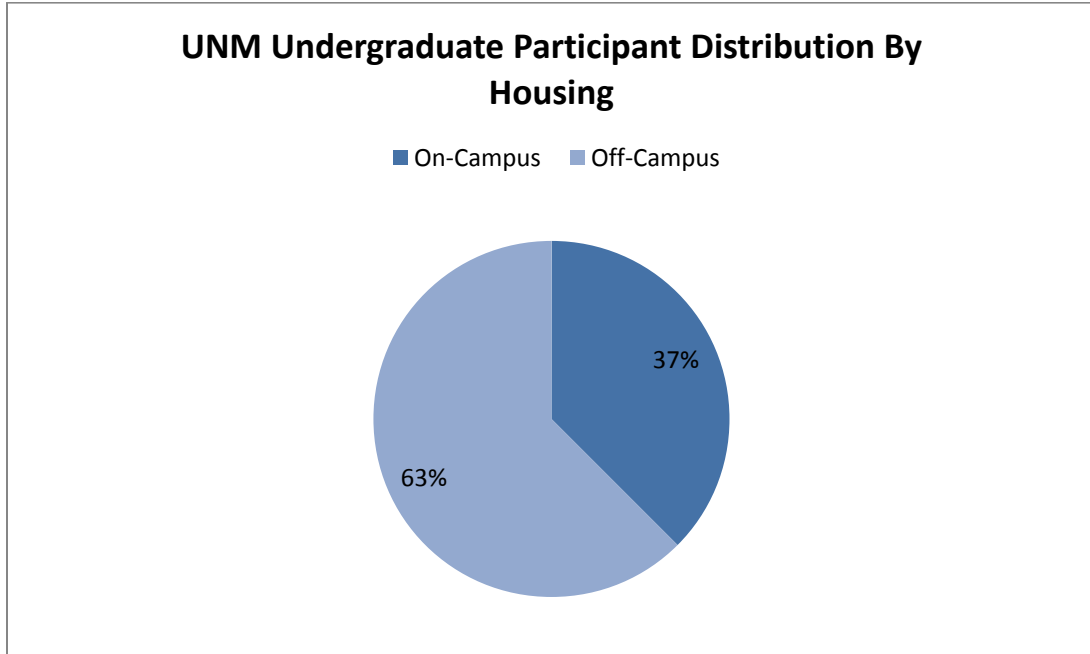


Figure 2.4

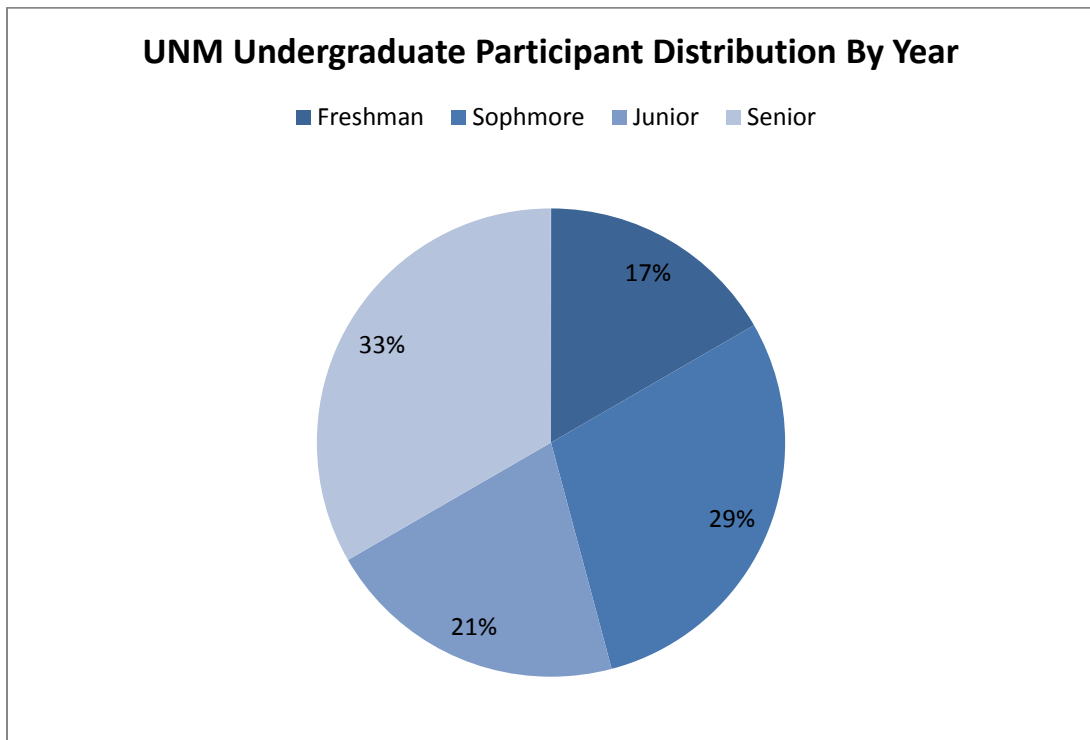


Figure 3.1

Focus Group Facilitator Interview Guide

1. I'd like to start by having you tell me about your experience with the social network site.

What aspects of the social network site did you like? What aspects of the social network site did you find helpful?

What aspects of the social network site did you not like? What aspects of the social network site did you not find helpful?

2. What do you think about how the information is presented on the site? How do you prefer to have the information presented? Are short informational videos about alcohol and drugs more useful than plain text?

3. We have included information on the site that has been evaluated by a medical doctor. How do you feel about the information knowing this? Does this make you more willing to trust the information?

4. What do you think about a question and answer forum where questions about alcohol and drugs posted by UNM undergraduates would be answered by a medical doctor?

Would you use a question and answer forum to post sensitive/personal questions if you were assured your post was anonymous?

5. How would you improve this site to be most useful for UNM undergraduates? (if necessary cues to include: content, usability, appeal/design, security)
What other features or content should be included?

Figure 4.1

LIKES
Having physician validated information for alcohol and drug use
Having physician/health professional moderated Q and A forum
User-friendly, social network interface is familiar and easy to navigate through
User-generated online community to promote healthy social activities “21 things to do if you’re under 21”

Figure 4.2

SUGGESTIONS
Forums for users to advertise and coordinate designated drivers or carpools
Forums for local businesses to incentivize designated drivers with promotions
Incorporation of interactive games for learning information
Including self-assessment tools and treatment resource information
Don’t overkill alcohol and drug user prevention so site seems judgemental

Figure 4.3

CONTENT
50/50 distribution of video vs. text
Videoblogs by medical professionals in common, 'non-medical' language
2 minutes appropriate time for videos and videoblogs
Real-life instance videos of personal experiences with alcohol and drug use
No advertisements embedded in video
Include 'shocking' photos and videos about harmful health consequences of alcohol and drug use but issue warning before they can be accessed

Figure 4.4

APPEARANCE
Students may respond to Facebook-like colors
Rotating color scheme based on awareness months or University sponsors
Options for social media linking icons and emoticons for posting comments
Include more photos and images on homepage to increase visual appeal

Figure 5.1

"This social network is really cool. I wish this could be offered to High School students and that it was available when I was in high school. It would also be really beneficial to announce it on Facebook...Amazing stuff 😊 "

"Everything is right up front and easy to use, you don't need to click on links to get to something. Honestly, if people can operate Facebook they'll have no problem with this website."

"I thought this site was full of known facts that students could use. If they have a question about a drug, this would be the place I would direct them."

"Too much of referring back to 'My Page' to post comments. Also needs more color and liveliness. Good animations and videos. Maybe show more real-life instances."

"The activity feed could be placed on its own tab"

"I liked the videos a lot and information presented. The charts were also helpful to learn more about other drugs."

"Why not have a beta test using the individuals in the focus groups before the actual release of the site?"

"This website seems like it will be very useful for important questions."

"Overall I think a pretty useful website."

"Cool...like it!"

"More organized homepage with drop down tabs instead of left-side tool bar."

"Too much security before you can post."

"It was easy to use and very informative."

"Keep it clean. Just like it is now without a lot of stuff floating around on the sides of the website. The thing that made you type the letters to post a comment could be taken out."

"More pictures and colors! Jazz it up! 😊"

"I did not like the security code part. I think the 'wall' part should be easier to comment on. The 'home' page seems very plain and boring at first glance...it needs more color/different fonts? The facts and videos are AWESOME!"

"I really appreciated reading & watching how the substances work inside the brain. The video of 'why you have a hangover' was easy to understand. I also like the health facts about my liver being able to regenerate and the stuff about marijuana. It's all interesting stuff I like to look into & it's all on the site."

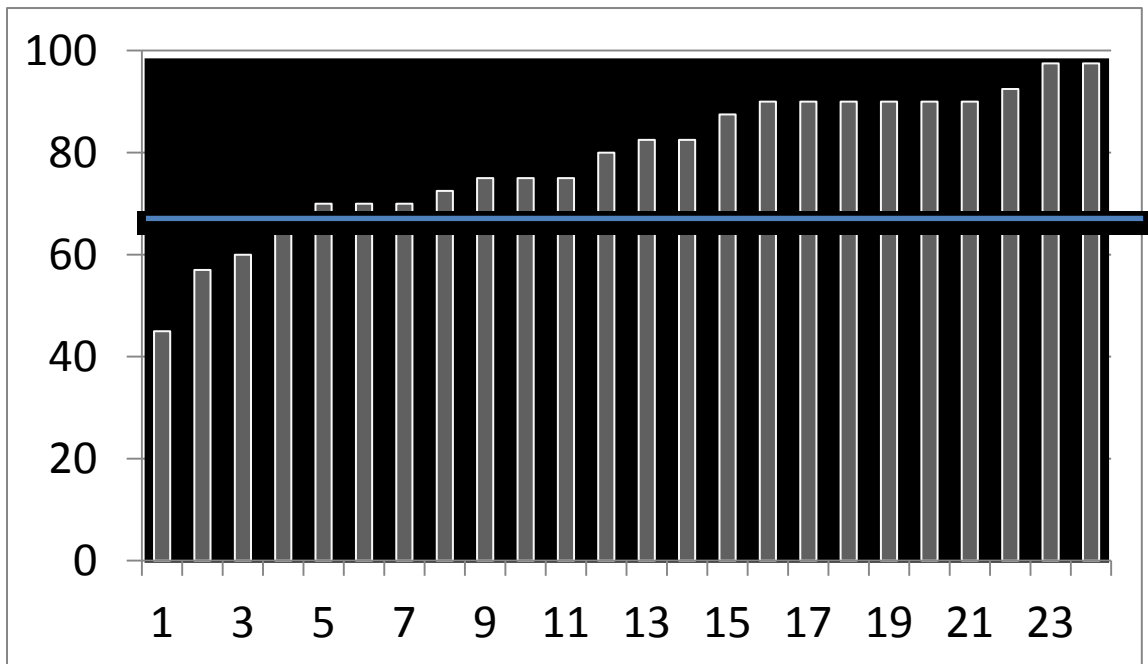
"Make the website a bit more colorful, more eye candies. The site is cool, there is a lot of interesting features but it looks a bit bland and boring."

"This website was very basic and easy to use. The content needs to be more modular, meaning that each type of content be located in a separate section on the homepage. Also color scheme is really ugly. There should also be more functionality in the website such as a blood alcohol calculator."

"It could use a bit of color. It'd be cool if you added a '21 things to do while under 21"

Figure 6.1

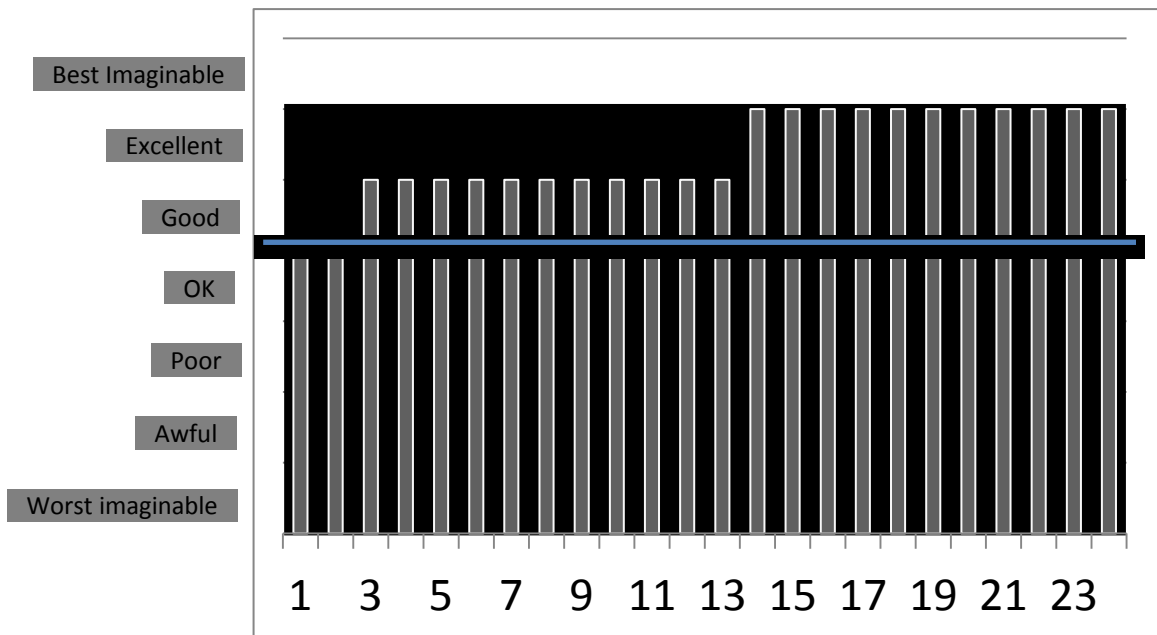
SUS Score Distribution



Website Deemed Usable by 84% of Participants

Figure 6.2

Adjective Rating Score Distribution



92% of Participants Scored Good or Excellent

Figure 6.3

Participants	P50	MAX	MIN
24	81	97.5	45

Adjective Rating Scale	(5.4) Good to Excellent
Correlation with SUS score	Pearson Coefficient = 0.6

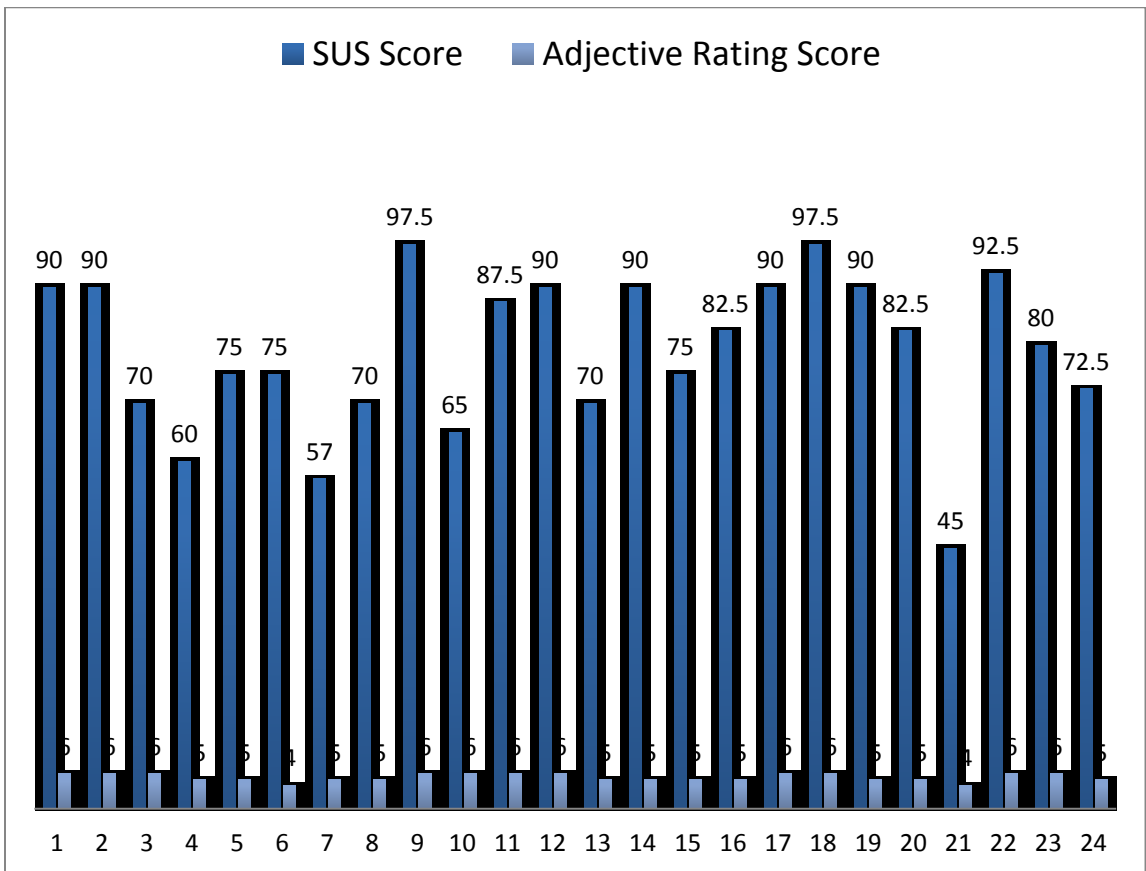


Figure 7.1 Homepage

NO LECTURES, NO HYPER, JUST THE FACTS!
COSAP Campus Office Substance Abuse Prevention

HOME | MY PAGE | BLOG | PHOTOS | Q & A | MEMBERS | GROUPS

Home

- Quick to read commonly abused drug chart
- Info about commonly used drugs
- Info about commonly used prescription drugs
- Health effects and treatment options for commonly used drugs
- Check out common drug effects using video game mice
- Confidential online assessment for drug and alcohol use

BLOG

WELCOME

Posted by Christian Shaw, MD on September 28, 2013 at 2:56pm

First off, we appreciate your involvement with this development process. This a user-driven pilot study. That means, your feedback drives the future design and operation of this site. The goal is to provide an online forum for UNM undergrads to

1. Receive relevant information about alcohol and commonly used drugs,
2. Pose anonymous questions that can answered by medical professionals about alcohol and drugs
3. Provide an online community to meet others, plan,....

Read more...

Comments: 0
Tags:

VIDEOS

The science of hangovers explained

0:00 / 2:04

Q & A

LIVER DAMAGE FROM ALCOHOL

Is it true the human liver can repair itself? I'm worried about all the damage I've done to it from drinking.

Read more...

Started by Christian Shaw, MD
4 Replies

DOES DAILY MJ SMOKING CAUSE LUNG CANCER?

Do people that smoke weed everyday for years develop lung cancer?

Read more...

Started by Christian Shaw, MD
3 Replies

ACTIVITY

Figure 7.2 Members

NO LECTURES,
NO HYPE,
JUST
THE
FACTS!
COSAP
Campus
Office
of
Substance
Abuse
Prevention

HOME | MY PAGE | BLOG | PHOTOS | Q & A | MEMBERS | GROUPS

Members

All Members | Featured Members | My Friends

Sort by: Newest Members

Search...

ALL MEMBERS (27)

	Dexter Morgan Albuquerque, NM		Nick Albuquerque, NM		Jessica day Albuquerque, NM
	Kalie Lopez		Laila Chavez Albuquerque, NM		Van Wilder Albuquerque, NM
	Carla Bossier City, LA		Shelby Coalton, OH		Christian Shaw, MD

1 2 of 2

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Figure 7.3 Comment Wall

The image shows a screenshot of a Facebook page's comment wall. At the top left, there is a banner for COSAP (Campus Office Substance Abuse Prevention) with the text "NO LECTURES, NO HWPE, JUST THE FACTS!". Below the banner is a navigation menu with links for HOME, MY PAGE, BLOG, PHOTOS, Q & A, MEMBERS, and GROUPS. The main profile area shows the user's name "Van Wilder", location "Albuquerque, NM", gender "Male", and birthday "December 31". There are social sharing buttons for Google+, Facebook (0 Likes), and Twitter. Below the profile is a tabbed interface with "Comment Wall" selected. A text input area with a rich text editor toolbar is visible. Underneath, a "Comment" button is present. The "Comments" section lists two comments by Van Wilder: "The science of hangovers explained" (posted at 3:38pm) and "Marijuana can cause impaired memory and learning." (posted at 3:28pm). Each comment has "Edit" and "Delete" options.

Figure 7.4 Q & A Forum

NO LECTURES,
NO HYPE,
JUST
THE
FACTS!
COSAP
Campus
Office
Substance
Abuse
Prevention

HOME | MY PAGE | BLOG | PHOTOS | Q & A | MEMBERS | GROUPS

Q & A

All Discussions

8+1 Like 0 Tweet

DOES DAILY MJ SMOKING CAUSE LUNG CANCER?
Posted by Christian Shaw, MD on September 30, 2013 at 10:47am

Do people that smoke weed everyday for years develop lung cancer?

Reply

Reply

Close Discussion

Stop Following – Don't email me when people reply

Replies:

Dexter Morgan · October 1, 2013 at 3:38pm
Definitely would have seen someone with it by now if it were true.
Edit | Delete

Monica Mastor · October 1, 2013 at 3:28pm
This makes sense.
Edit | Delete

Christian Shaw, MD · September 30, 2013 at 10:49am
There are ongoing studies on this question. Short answer. No. Apparently THC has a strong anti-inflammatory property that may be the reason why long-term heavy marijuana smokers do not develop lung cancer compared to their long-term heavy tobacco smoker counterparts.
Edit | Delete

Figure 7.4 Group Forum

Healthy Social Activities Group Options


Home Members **Forum** Photos

[Refresh] [Edit] [Add]

All Discussions

UPCOMING EVENTS
Posted by Christian Shaw, MD on October 1, 2013 at 10:36am

Alibi weekly events calendar



American Idiot

[Link] [Image] [B] [I] [HTML]

Reply

Figure 7.6 Site Administrator Page

The screenshot shows the NING Social Site Manager interface. At the top, there is a green header with the NING logo and navigation icons. Below the header is a grey bar labeled "Social Site Manager".

The main content area is titled "Site & Pages" and includes a sub-header: "Manage the pages in your site. Select a page to edit it, and drag pages up and down to change their position in the navigation menu."

On the left, there is a sidebar menu with the following items: Dashboard, Site & Pages (selected), General Settings, Domain Mapping, 3rd Party Integration, Activity Feed Settings, Social Sharing, Custom Code, Language Editor, Google Webmaster, File Manager, Robots.txt, Terms of Service, and Support.

The "Site & Pages" section is divided into two main areas:

- MAIN NAVIGATION:** A list of site pages with a home icon for the selected page. The items are: Home (custom), My Page (profile link), Blog (blog), Photos (photos), Q & A (forum), Members (members), and Groups (group hub). Below this list is a blue button labeled "+ Add a Page".
- UNLINKED PAGES:** A section with a blue button labeled "+ Add a Page".

The right side of the page displays the "Custom Page Settings" for the selected page. It includes the following fields and options:

- Status:** A dropdown menu set to "Published".
- Title:** A text input field containing "Home".
- Set as Homepage:** A checked checkbox.
- Navigation:** A section with a "Tab title" input field containing "Home" and an unchecked checkbox for "Open in a new window".
- General:** A section with a "URL" field containing "unm-cosap.ning.com/home" and a "Who can view" dropdown menu set to "Everyone (Public)".
- Layout & Content:** A section with a heading "Select a layout option for this page and add additional content to it. You can add optional HTML or advertising code above or below the content." Below this are five layout icons. The selected layout is a three-column grid. Below the icons is an "Add Content" section with a "Below Header HTML Box" and a main content area containing a grid of content blocks: HTML, Photos, Members, Blog, Videos, and Q & A, Activity. Below the content area is an "Above Footer HTML Box".

At the bottom of the settings panel, there are "Save", "Cancel", and "Delete this Page" buttons.

Figure 7.7 Site Administrator Page

NING OLAM MEDIA

Social Site Manager

Dashboard Quick Help

Use the Dashboard Toolbar at the top left of each page to manage your site.

- Manage your site, pages, and settings.
- Launch the Design Studio to change your site's look and feel.
- Manage your members and member settings.
- Manage the content on your site.

Questions?
Visit the Help Center or Creators, our customer community.

Problems?
Head to your site's Support page and let us know.

NEXT STEPS

- Upload a profile photo
- Update your theme and colors
- Customize your navigation and pages
- Add a site description and icon

MEMBERS

Pending Approval	Total	Past 10 Days
0	27	0

PHOTOS

Pending Approval	Total	Past 10 Days
0	10	0

BLOG POSTS

Pending Approval	Total	Past 10 Days
0	2	0

DISCUSSIONS

Pending Approval	Total	Past 10 Days
0	3	0

Figure 7.8 Site Administrator Page

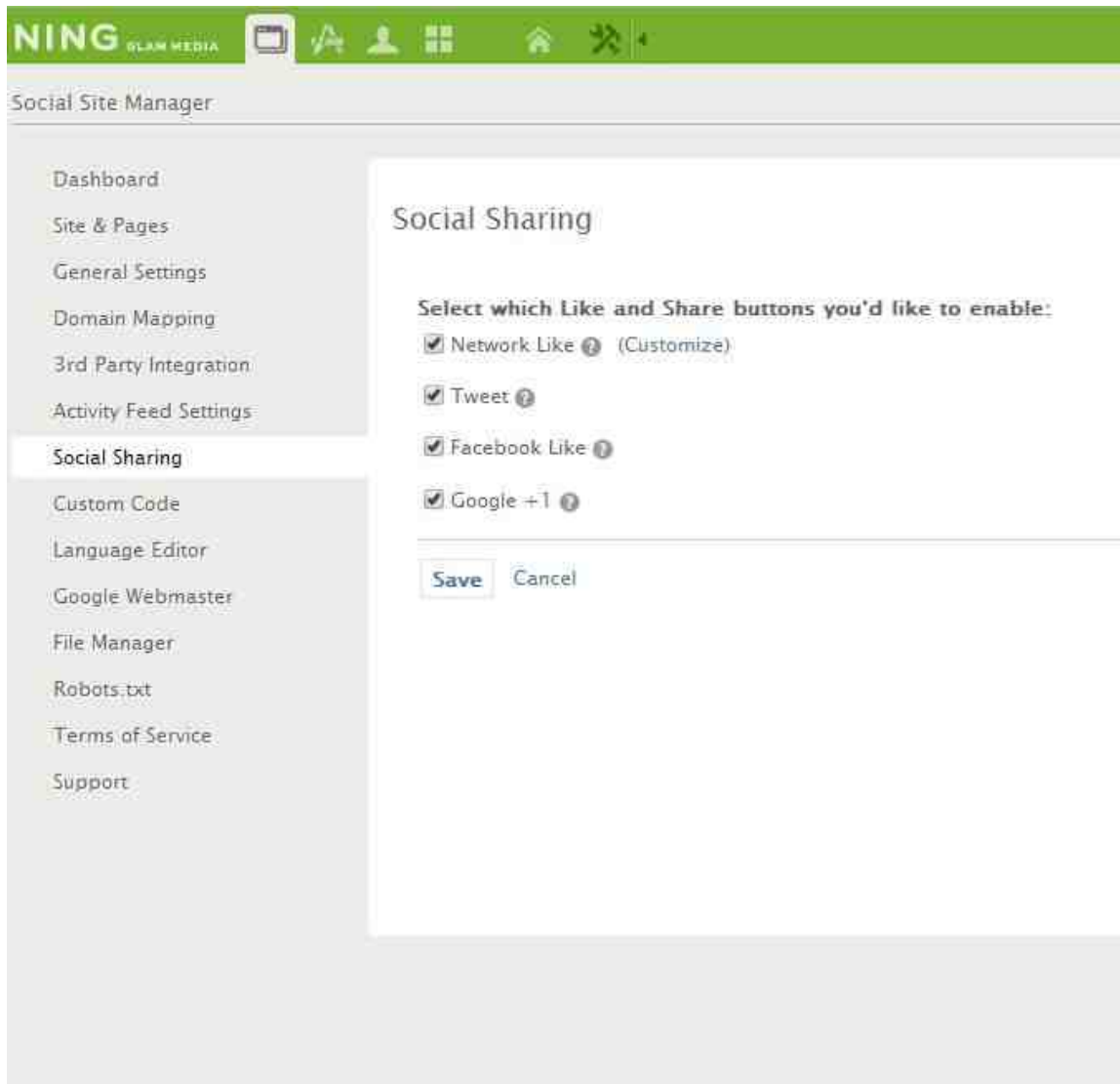


Figure 7.7 Social Network Site Access

Sign In to UNM COSAP


New? [Click here to join](#)

Email Address

Password

[Forgot your password?](#)

ABOUT UNM COSAP



UNM COSAP is a social network.

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