Substance Use Prevention: Communication and Strategies to Reduce Alcohol, Marijuana, and E-Cigarette Use Among College Students

Emily Bauer

University of Southern Maine, Muskie School of Public Service

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SUBSTANCE USE PREVENTION:
COMMUNICATION STRATEGIES TO REDUCE ALCOHOL, MARIJUANA
AND E-CIGARETTE USE AMONG COLLEGE STUDENTS

Presented By
EMILY BAUER

Faculty Advisor
BRENDA JOLY, PhD

A Capstone submitted to the Public Health department in partial fulfillment of the requirements
of the award of Master of Public Health at the University of Southern Maine

May 6, 2019
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Literature Review</td>
<td>4</td>
</tr>
<tr>
<td>Methods</td>
<td>5</td>
</tr>
<tr>
<td>Results</td>
<td>9</td>
</tr>
<tr>
<td>Discussion</td>
<td>13</td>
</tr>
<tr>
<td>Conclusion</td>
<td>15</td>
</tr>
<tr>
<td>References</td>
<td>17</td>
</tr>
<tr>
<td>Adult Waiver of Documentation of Consent</td>
<td>18</td>
</tr>
<tr>
<td>Recruitment Materials</td>
<td>22</td>
</tr>
<tr>
<td>Survey</td>
<td>27</td>
</tr>
<tr>
<td>Alcohol Poster (Left)</td>
<td>28</td>
</tr>
<tr>
<td>Alcohol Poster (Right)</td>
<td>29</td>
</tr>
<tr>
<td>Marijuana Poster (Left)</td>
<td>30</td>
</tr>
<tr>
<td>Marijuana Poster (Right)</td>
<td>31</td>
</tr>
<tr>
<td>E-Cigarette Poster (Left)</td>
<td>32</td>
</tr>
<tr>
<td>E-Cigarette Poster (Right)</td>
<td>33</td>
</tr>
</tbody>
</table>

*Communication Strategies – Capstone Report*
Introduction

Substance use among college students impacts universities, communities and student outcomes across the United States. Based on the Monitoring the Future study (MTF), college students have a higher prevalence of past 30-day alcohol use at 63% than their non-college peers (59%) (2016). Nearly one-third of college students (32%) have had five or more drinks in a row in the past two weeks (2016). Monthly marijuana use for college students has remained steady at 22% (2016). Electronic cigarette (e-cigarette) use is 6.9%, which is gaining in popularity but still lower than traditional cigarettes (8.9%) (2016). There are many prevention communication strategies that can be implemented to reduce college substance use. An area of research that deserves further exploration is poster campaigns. Evidence exists for the effectiveness of mass media campaigns to the public and campaigns at large universities (Berkowitz et al., 1996; Glider et al., 2001; Novak and Crawford, 2001; Perkins, 2002); however, small, campus-level poster campaigns are less well known. Based on social norms theory and the elaboration likelihood model, this research used social marketing campaigns among a sample population at the University of Southern Maine (USM), to deduce what prevention messages are the most effective among college students for preventing alcohol, marijuana and e-cigarette use.

Statement of Purpose

The purpose of this research was to understand which communication strategies were most effective for prevention of alcohol, marijuana and e-cigarette use at USM by testing poster messages. The research not only provides universal prevention to participants, but it also influences future campaigns that can be utilized by the university to continue prevention efforts (SAMHSA). Based on the data collection platform “ScreenU”, the university can also track long-
term, USM-level trends in alcohol and marijuana use. No platform exists to track e-cigarette use on USM’s campus.

**Literature Review**

Social marketing campaigns based on social norms theory and the elaboration likelihood model are one of the most effective communication strategies to reduce the use of alcohol, marijuana and e-cigarettes among college students. Social marketing campaigns are designed to go beyond simply providing information about the dangers and risks of substance use; they can be tailored to correct erroneous normative beliefs, set or clarify social or legal norms and set positive social norms (Ferri et al., 2013). Ferri et al. (2013) demonstrates that social marketing campaigns can be based in social norms theory, which asserts that our behavior is influenced by incorrect perceptions of how other members of our social group think and act (Berkowitz, 2004). In addition to social norms theory, Glassman et al. (2017) has demonstrated that the elaboration likelihood model is effective for substance use prevention communication among college students. The elaboration likelihood model is a theory of attitude change, which provides a general framework for understanding effectiveness of persuasive communications (Petty and Cacioppo, 1986). The researchers found two routes to persuasive communications: the central route and peripheral route (1986). Social norming messages will be utilized in this research and overlaid with either central route communications or peripheral route.

Research has found that attending college is a risk factor for drug and alcohol use (Glider et al., 2001), and an extensive body of literature has found that social influences are strongly associated with risk-related behaviors among young adults (Neighbors et al., 2008). For decades, researchers have proven the effectiveness of social norms marketing campaigns on reducing
college alcohol use (Berkowitz et al., 1996; Glider et al., 2001; Novak and Crawford, 2001; Perkins, 2002). Some research has also found that perceived norms of marijuana use by friends in college is associated with more frequent use (Kilmer et al., 2006; Neighbors et al., 2008), but more research is needed to measure the effectiveness of persuasive communications on college marijuana use. Like alcohol, research has found social norming to be effective for reducing college student e-cigarette use (Trumbo and Harper, 2013; Noland et al., 2016; Trumbo and Kim, 2015), but further research is also needed for communication strategies.

**Methods**

The motivation for this project was generated through USM’s University Health and Counseling Services (UHCS) Clinical Substance Use Prevention services. The Principal Investigator (PI) for the project also served as the Substance Use Prevention and Mental Health Graduate Assistant with UHCS and wanted to engage more students in substance use prevention on campus. Table 1 shows a timeline of research activities that related to the Capstone project. The PI created the project to test substance use prevention messages to USM students that could be used in future

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</thead>
<tbody>
<tr>
<td>Present proposal to Counseling staff and MPH faculty</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Generate posters</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<td>Collect supplies and schedule tabling</td>
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<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<td>IRB review</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Set up data collection sites and train staff</td>
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<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collect data</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyze data</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write research paper including results</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present research</td>
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<td></td>
<td>X</td>
<td></td>
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</tr>
</tbody>
</table>
prevention poster campaigns. The PI combined this idea with her Master of Public Health (MPH) graduate requirement of completing a Capstone research project.

IRB Approval

An expedited review of research activities was conducted through USM’s Institutional Review Board (IRB). The research protocol was submitted on January 31, 2019 and after two rounds of comments was approved on February 21, 2019. All research activities and attachments were approved. The final protocol was submitted on April 21, 2019 and was approved to close research activities on April 22, 2019.

Data Collection

Quantitative data were collected through surveys. Surveys were administered to eligible participants at four research sites, upon consent to participate. Eligible participants were full- or part-time undergraduate, graduate, law or doctoral USM students that either lived on-campus or commuted to campus. Participants were asked to observe two posters, labeled ‘Left’ and ‘Right’, which presented social norming messages about alcohol, marijuana and e-cigarettes using either a central route or peripheral route of communication (Petty and Cacioppo, 1986). The central route messages were more direct and had darker tones, while the peripheral route messages were lighter and used humor. Two posters were displayed for two weeks at a time over six weeks; therefore, a combination of six messages were tested among the population. Two messages were tested for alcohol use, two messages for marijuana and two messages for e-cigarettes. Posters were labeled ‘Left’ and ‘Right’ to avoid bias from numbering 1 or 2.
Data collection took place at four research sites on USM’s Portland and Gorham campuses. Posters were displayed in tabletop poster stands in the waiting rooms in UHCS on the Portland and Gorham campuses. Administrative staff used a script to administer surveys to eligible participants that were checking in for either their health or counseling appointment during hours of operation. At both locations, students were asked to leave their surveys in a closed box. Posters were changed at 8:00am on Monday on the appropriate week and removed at 4:30pm on the following Friday.

Students were also surveyed through tabling during lunchtime at both cafeterias. Tabling took place from 11:00-1:00pm on Tuesdays in Portland at Woodbury Commons and Wednesdays and Thursdays in Gorham at Brooks Dining Center. The PI prompted eligible participants to complete the survey. Table 2 shows the timeline for when posters were displayed in the waiting rooms and through tabling:

<table>
<thead>
<tr>
<th>Timeline</th>
<th>Alcohol</th>
<th>Marijuana</th>
<th>E-cigarettes</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 25 – March 8</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>March 11 – March 22</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>March 25 – April 5</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

There was an alteration to the study design during the second week of marijuana research. Due to passionate reactions during the first week of tabling, the second week was cancelled. The situation was reported to the Faculty Advisor and IRB, who approved altering the second week of tabling. The posters were on display in the UHCS waiting rooms for the second week, but the project was not considered active as it fell during school vacation week. Upon returning from vacation, the PI began tabling for the e-cigarette posters and completed the final two weeks.
Materials

The materials for this project included: Adult Waiver of Documentation of Consent; Recruitment materials, including a recruitment flyer; Survey; Alcohol posters, Left and Right; Marijuana posters, Left and Right; E-cigarette posters, Left and Right (See Table of Contents).

The Adult Waiver of Documentation of Consent was approved by the IRB because having documentation of consent would collect identifying information about participants. Eligible participants were offered the Waiver upon expressing interest to participate in the project. The four-page document included consent language and information about the study.

Recruitment materials included notification that participation in the study was voluntary. The materials listed who may be eligible to participate in the study. The materials also included the study’s purpose, activities, time commitment, risks, benefits and deadline to participate. Research locations, days and times were also listed. Finally, contact information for the PI and Faculty Advisor were provided.

The one-page survey included 10 questions. The first eight questions included: four questions about the Left poster, and four questions about the Right poster. All eight questions could be answered on a Likert scale (‘Strongly Agree to Strongly Disagree’). Questions included: ‘To what extent do you agree with the following: I understand the message; I believe the message; I like the message; I think the message would appeal to my friends.’ Participants were also asked, ‘Which poster do you like the best?’ and could circle ‘Left’ or ‘Right’. The poster messages were created by the PI in an online graphic design program, Canva, and they were formulated from social norms theory and the elaboration likelihood model. Study participants chose whether they preferred the central or peripheral routes of communication. The Left poster
had a central route message, and the Right poster had a peripheral route message. Students also had the opportunity to offer any comments or suggestions to improve the posters.

*Data Analysis*

Surveys were manually entered into an online survey tool for analysis, SurveyMonkey. In SurveyMonkey, complete surveys were entered under three, identical versions of the survey to keep separate results for alcohol, marijuana and e-cigarettes. Upon completion of data entry, summary data were exported to Microsoft Excel and analyzed for trends and conclusions. Any survey that had a missing response was discarded as incomplete.

Data were analyzed for trends among questions 1-8 for participants’ understanding, belief, likability and peer acceptance of the poster messages. Data also indicated the preferred poster message among participants. The open-ended, comment question was not coded or analyzed, but it was used to supplement presentation of results.

*Results*

The number of participants totaled 200. The number of complete surveys was 189, and the number of incomplete surveys was 11. The amount of survey responses varied by substance, which could impact significance of the results. Alcohol had the highest number of responses (115), e-cigarettes had the second highest (39), and marijuana had the lowest (35). Table 3 shows the quantitative data of the surveys for each poster, and Table 4 shows the overall preference for each poster.

For the alcohol posters, almost all participants ‘Agreed’ or ‘Strongly Agreed’ that they understood the message on the Left poster (94%) and many understood the Right poster (80%).
<table>
<thead>
<tr>
<th>Poster</th>
<th>Agree, Strongly Agree</th>
<th>Neutral</th>
<th>Disagree, Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Alcohol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left poster</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand the message.</td>
<td>108</td>
<td>94%</td>
<td>4</td>
</tr>
<tr>
<td>I believe the message.</td>
<td>81</td>
<td>70%</td>
<td>17</td>
</tr>
<tr>
<td>I like the message.</td>
<td>71</td>
<td>62%</td>
<td>30</td>
</tr>
<tr>
<td>I think the message would appeal to my friends.</td>
<td>49</td>
<td>43%</td>
<td>31</td>
</tr>
<tr>
<td>Right poster</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand the message.</td>
<td>92</td>
<td>80%</td>
<td>12</td>
</tr>
<tr>
<td>I believe the message.</td>
<td>83</td>
<td>72%</td>
<td>25</td>
</tr>
<tr>
<td>I like the message.</td>
<td>79</td>
<td>69%</td>
<td>26</td>
</tr>
<tr>
<td>I think the message would appeal to my friends.</td>
<td>54</td>
<td>47%</td>
<td>34</td>
</tr>
<tr>
<td>Marijuana</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left poster</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand the message.</td>
<td>30</td>
<td>86%</td>
<td>3</td>
</tr>
<tr>
<td>I believe the message.</td>
<td>13</td>
<td>37%</td>
<td>8</td>
</tr>
<tr>
<td>I like the message.</td>
<td>15</td>
<td>43%</td>
<td>9</td>
</tr>
<tr>
<td>I think the message would appeal to my friends.</td>
<td>9</td>
<td>26%</td>
<td>10</td>
</tr>
<tr>
<td>Right poster</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand the message.</td>
<td>30</td>
<td>86%</td>
<td>3</td>
</tr>
<tr>
<td>I believe the message.</td>
<td>12</td>
<td>34%</td>
<td>7</td>
</tr>
<tr>
<td>I like the message.</td>
<td>17</td>
<td>49%</td>
<td>13</td>
</tr>
<tr>
<td>I think the message would appeal to my friends.</td>
<td>10</td>
<td>29%</td>
<td>13</td>
</tr>
<tr>
<td>E-Cigarettes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left poster</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand the message.</td>
<td>29</td>
<td>74%</td>
<td>4</td>
</tr>
<tr>
<td>I believe the message.</td>
<td>15</td>
<td>38%</td>
<td>7</td>
</tr>
<tr>
<td>I like the message.</td>
<td>20</td>
<td>51%</td>
<td>13</td>
</tr>
<tr>
<td>I think the message would appeal to my friends.</td>
<td>16</td>
<td>41%</td>
<td>9</td>
</tr>
<tr>
<td>Right poster</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I understand the message.</td>
<td>34</td>
<td>87%</td>
<td>4</td>
</tr>
<tr>
<td>I believe the message.</td>
<td>34</td>
<td>87%</td>
<td>5</td>
</tr>
<tr>
<td>I like the message.</td>
<td>26</td>
<td>67%</td>
<td>10</td>
</tr>
<tr>
<td>I think the message would appeal to my friends.</td>
<td>19</td>
<td>49%</td>
<td>13</td>
</tr>
</tbody>
</table>
Slightly more participants believed the message of the Right poster (72%) and liked the message of the Right poster (79%). Additionally, more participants thought the Right poster would appeal to their friends (54%). Overall, participants liked both posters equally: 51% and 49%, which indicates central and peripheral messages may both be effective in alcohol prevention messaging.

Since data collection for the marijuana posters was reduced by one week and only solicited 35 responses, the results of the surveys are limited. However, the results provide some indication of effective messages at USM. Most participants understood the messages of the Left poster (86%) and Right poster (86%); however, many participants ‘Disagreed’ or ‘Strongly Disagreed’ that they believed the message of the Left poster (40%) or Right poster (46%). Participants also ‘Disagreed’ or ‘Strongly Disagreed’ that the Left poster would appeal to their friends (46%). However, some participants liked the Left poster (43%) and Right poster (49%). Overall, participants liked the Right poster (69%) over the Left poster (31%), which indicates peripheral messages may be more effective communication strategies for marijuana prevention.

Some participants provided written and verbal comments resistant to the marijuana poster messages. The wording on the Right poster: “Do Not Use Marijuana” caught the attention of many students and caused a passionate reaction, even though the full statement was intended to challenge social norms about marijuana use. Many individuals expressed resistance to or confusion about reducing one’s use of marijuana. Some individuals thought the Right poster was judgmental and disagreed with characterizing marijuana as a dangerous substance. Some individuals questioned the purpose of the study; whether the PI was against marijuana

<table>
<thead>
<tr>
<th></th>
<th>Overall preference</th>
<th>Left Poster</th>
<th>Right Poster</th>
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<tbody>
<tr>
<td>Alcohol</td>
<td>51%</td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td>Marijuana</td>
<td>43%</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td>E-Cigarettes</td>
<td>31%</td>
<td>69%</td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Overall Poster Preference
legalization, medical marijuana or the possible health benefits of marijuana. The PI declined to comment on these questions and referred individuals to the research protocol.

Although the e-cigarette posters only had 39 participants, the results and verbal comments were more positive than alcohol or marijuana. Again, most participants ‘Agreed’ or ‘Strongly Agreed’ that they were able to understand the message on the Left poster (74%) and Right poster (87%). They also ‘Agreed’ or ‘Strongly Agreed’ that they believed the message (87%) and liked the message (67%) on the Right poster. Results were inconclusive about whether participants thought the messages would appeal to their friends. Like marijuana, participants liked the Right poster the most (69%), indicating that peripheral messages are more effective communication strategies for e-cigarette prevention. Figure 1 shows the most effective communication strategies for alcohol, marijuana and e-cigarettes at USM.

![Figure 1. Effective Communication Strategies at USM](image)

**Discussion**

As noted in the literature review, alcohol prevention and messaging campaigns have occurred for over thirty years, and extensive research exists on effective approaches to alcohol prevention among college students. One reason why participants were split between both types of alcohol
prevention messages could be their exposure to various campaigns that have used both communication strategies. Participants seemed desensitized to alcohol prevention; very few expressed a passionate disapproval of high alcohol use, however, students were aware of the negative consequences related to alcohol use. Some participants expressed interest in learning more about the amount of a standard drink. Additionally, the cultural norm of heavy drinking, especially in college, could have skewed the response rates. In using social norms theory, the messages were challenging the social norms about high-risk alcohol use, but many participants were skeptical of this perspective.

Unlike alcohol, marijuana and e-cigarettes have fewer long-term studies about effective communication strategies to reduce use. Marijuana and e-cigarettes had more enthusiastic responses, either for or against the messages, possibly because they are experiencing recent changes in regulation and press coverage. Alcohol, marijuana and e-cigarettes are not always portrayed as harmful substances and have been marketed to youth and adult customers. Allowance of medical marijuana, recent legalization of adult-use marijuana and decriminalization all contribute to new social norms about the risks and benefits of marijuana. Participants were resistant to messages that encouraged students to reduce their use. Many expressed skepticism about the data used on the posters. Participants resisted the social norming messages and felt that more than 22% of college students used marijuana. It seems that marijuana is more culturally accepted. Many see marijuana as less harmful, or even beneficial. This makes substance use prevention communication strategies for marijuana challenging. Even peripheral messages were regarded as confrontational, so harm reduction approach or other strategies should be tested for effectiveness.
E-cigarettes have also been featured recently in the press. Participants seemed to be more accepting of prevention messages and associating e-cigarettes as negative. This is likely due to participants’ association with e-cigarettes to tobacco products and the long-term research showing the harmful effects of traditional cigarette use. Participants seemed knowledgeable that e-cigarettes contained nicotine, and they wanted to learn more information about the ingredients and risks of use. Like marijuana, many participants felt like more than 7% of college students used e-cigarettes but use of e-cigarettes did not seem to be as socially accepted as marijuana. Some participants reluctantly admitted to using e-cigarettes but did not express interest in reducing their use.

Limitations

This study was limited by the small amount of response due to the limited nature of a student project. The data was a convenience sample. The decline in response rate could have been a result of the timing in the semester (midterms, vacation week). Students may have experienced survey fatigue and were confused about duplication of the survey with each set of posters. Another limitation of this study is the unaccounted factors that influence a participant’s opinions about the posters and a substance.

The study was also limited to students who used the cafeterias and accessed health and counseling services at USM. Eligible participants were also limited to students, so faculty and staff were limited from participating.
Conclusion

The results of the data demonstrate that some communication strategies can be more effective than others for the prevention of alcohol, marijuana and e-cigarette use among college students. Both central and peripheral routes of communication were found to be effective for alcohol, while only the peripheral route was effective for marijuana and e-cigarettes. Social norming messages were found to be effective for e-cigarettes but not as well for alcohol and marijuana.

Recommendations

More prevention education is recommended for USM students for the reduction of alcohol, marijuana and e-cigarette use. More data collection through the online screening tool, ScreenU is also needed to track USM-level trends around alcohol and marijuana use. ScreenU is a free, anonymous online screening tool for USM members. Participants can be screened for their level of risk (low to high) concerning their alcohol, marijuana or prescription drug misuse. Results are not identifiable, but they are recorded as USM-level, substance use data. Specifically, education on low-risk alcohol use and amounts of a standard drink can help reduce rates and negative consequences associated with alcohol use among college students. Marijuana deserves a robust but unique approach to prevention. Testing other communication strategies, including harm reduction, should be completed to gauge effectiveness. Education about the harmful effects of marijuana is also necessary but should be delivered in a peripheral route. Education around the addictive nature and possible harmful effects of e-cigarettes are also needed. Cessation education and resources should also be promoted and available to students to reduce e-cigarette and tobacco use.
References


University of Southern Maine
CONSENT FOR PARTICIPATION IN RESEARCH

**Project Title:** Substance Use Prevention: Communication strategies to reduce alcohol, marijuana and e-cigarette use among college students.

**Principal Investigator:**
Emily Bauer  
Master of Public Health Student, University of Southern Maine  
Substance Use Prevention and Mental Health Graduate Assistant, University Health and Counseling Services  
Phone: (207) 590-6346  
Email: emily.bauer@maine.edu

**Faculty Advisor:**
Brenda Joly, PhD  
Associate Research Professor of Public Health  
University of Southern Maine  
Email: brenda.joly@maine.edu

**Introduction:**
- Please read this form. You may also ask for the form to be read to you. The instructions will tell you about this study.
- You do not need to agree to follow the instructions. You may ask any questions about this study at any time. You can change your mind, even after giving your permission to follow the instructions.

**Why is this study being done?**
- This study is being done to find which messages shown on posters are best for preventing the use of alcohol, marijuana and e-cigarettes by students at University of Southern Maine (USM).  
- This study involves research, and the opinions given can add information to the current research about substance use prevention among college students.  
- This study can also help future projects by the University Health and Counseling Services (UHCS) at USM.  
- This study does not involve any direct funding sources, although the work of the Principal Investigator (Emily Bauer) is paid through the Office of Graduate Studies.
and University Health and Counseling Services. This research will be part of her Graduate Assistantship duties for the Spring 2019 semester.

**Who will be in this study?**

- Any full-time or part-time undergraduate, graduate, law or doctoral student at USM that either lives on-campus, or commutes to campus.
- You have been chosen to be a part of this study because you make up the target audience for the poster campaigns and substance use prevention efforts.
- Faculty or staff of any kind will not be included in this study.
- You must be at least 18 years of age to give your opinion.
- There will be about 200 participants.

**What will I be asked to do?**

- You will be asked to look at two (2) posters and answer a set of questions for each poster. Questions on the survey will ask you to circle the response that best shows how you feel about the messages on the posters. Responses will range from Strongly Disagree to Strongly Agree.
- You will also be asked to choose the poster you like the best. You will also have a chance to leave suggestions or changes you would make to the posters, if you have any.
- Looking at the posters and answering the survey questions should take ten (10) minutes or less.
- The survey is the only part of this study where participants will be asked to provide information and feedback.
- You will not receive any reimbursement or payment for your time.

**What are the possible risks of taking part in this study?**

- There is low risk and/or discomfort that may result from participating in this study. The poster messages you see would cause no more discomfort than what you see in daily life.
- If problems or discomfort occur, support services are available at University Health and Counseling Services in Portland and Gorham.
What are the possible benefits of taking part in this study?

- There are no direct benefits to you for being a part of this study.
- This study may indirectly benefit University Health and Counseling Services, by influencing future prevention activities.

What will it cost me?

- You will not have any costs because of participating in this research.
- You will not receive reimbursement for travel expenses related to participating in this research.

How will my privacy be protected?

- While complete privacy cannot be promised, no one, including the Principal Investigator, can link your answers on the survey to you.
- Due to the public nature of the research sites in Woodbury Commons and Brooks dining center, privacy about your participation cannot be guaranteed. Due to your identifiable registration at University Health and Counseling Services, complete privacy about your participation also cannot be guaranteed. However, the survey will not ask any questions that could identify you.
- Data collected from the survey will be stored on a secure server at University of Southern Maine.
- Only the Principal Investigator, Faculty Advisor and the Coordinator of Clinical Substance Use Services will have access to the raw data.
- Data will be coded based on the answers provided. Any comments or suggestions made on the survey will not be coded and will be shared with the Principal Investigator and Coordinator of Clinical Substance Use Services.
- Once the study is finished, only the Faculty Advisor and the Coordinator of Clinical Substance Use Services will have access to the data, and they will be stored in locked files in their offices. Data will be stored up to three years after completion of the study.
- Please note that the Institutional Review Board may review the research records.
- The results of this study will be shared as a Master of Public Health Capstone presentation on May 6, 2019. The results will be shared in an official report that may be reviewed by a variety of interested USM departments and individuals, external agencies, universities and individuals. This research may be presented at a meeting or conference.
- This report will not include the names of participants. Quotes from individual participants will not be identifiable or include your name.
What are my rights as a research participant?

- Your participation is voluntary. If you choose not to participate, it will not affect your current or future relations with the University.
- You may skip or refuse to answer any question for any reason.
- If you do not participate, there is no penalty to you and you will not lose any benefits that you are otherwise entitled to receive.
- You are free to withdraw from this research study at any time, for any reason. If you choose to withdraw from the research, there will be no penalty to you, and you will not lose any benefits that you are otherwise entitled to receive.
- The Institutional Review Board (IRB) for the Protection of Human Subjects at the University of Southern Maine has approved the use of human subjects in this research. This approval is indicated by the IRB date-stamp on this consent form. The IRB is responsible for protecting the rights and welfare of people involved in research.

What other options do I have?

- You may choose not to participate in this study.

Whom may I contact with questions?

- The researcher conducting this study is Emily Bauer. For questions or more information concerning this research, you may contact her by phone at (207) 590-6346 and by email at emily.bauer@maine.edu. You may also contact the Faculty Advisor, Brenda Joly, PhD at brenda.joly@maine.edu.
- If you choose to participate in this research study and believe you may have suffered a research related injury, please contact Emily Bauer at (207) 590-6346 and by email at emily.bauer@maine.edu. You may also contact the Faculty Advisor, Brenda Joly, PhD at brenda.joly@maine.edu.
- If you have any questions or concerns about your rights as a research subject, you may call the USM Research Compliance Administrator at (207) 228-8434 and/or email usmorio@maine.edu.

Will I receive a copy of this consent form?

- You will be given a printed copy of this consent form.
- You may request to have a copy of this consent form sent to your USM e-mail.
RESEARCH PARTICIPANTS NEEDED

Substance Use Prevention: Communication strategies to reduce alcohol, marijuana and e-cigarette use among college students.

- The purpose of this research study is to conclude which messages are best for preventing college students’ use of alcohol, marijuana and e-cigarettes.

- This study is a Master’s Capstone project for a USM Public Health graduate student; the study will help University Health & Counseling Services plan for future prevention activities.

- The activity should take less than 10 minutes of your time.

- There is minimal risk to you for taking part in this study. There are no benefits for taking part, and you will not receive compensation or travel reimbursement.

- Deadline to participate is April 12, 2019.

Participation in this study is voluntary.

To take part in this study, you need to be a full- or part-time undergraduate, graduate, law or doctoral USM students that either lives on-campus or commutes to campus. Faculty and staff may not participate.

You will be asked to look at 2 posters and answer a short survey. You will be asked questions on the survey about how you feel about the messages on the posters.

Research Locations:
WOODBURY COMMONS,
BROOKS DINING CENTER
PORTLAND COUNSELING CENTER
GORHAM HEALTH & COUNSELING;

Days and Times:
TUES, FEB 26-APR 9, 11:00AM – 1:00PM
WEDS-THURS, FEB 27-APR 11, 11:00AM – 1:00PM
MON-FRI, FEB 25-APR 12, 8:00AM-4:00PM

FOR MORE INFORMATION:
Principal Investigator: Emily Bauer, (207) 590-6346, emily.bauer@maine.edu
Faculty Advisor: Brenda Joly, brenda.joly@maine.edu

Communication Strategies – Capstone Report Bauer, 22
SUBSTANCE USE PREVENTION MESSAGING STUDY
Research Participant Selection & Recruitment Process

SELECTION CRITERIA

You may take part in this study if you:

1. Attend school at University of Southern Maine (USM). You must be a full-time or part-time student at the undergraduate, graduate, law or doctoral level that either lives on-campus or commutes to campus.

   To help make sure that those who take the survey can share their view as students.

2. Must be 18 years-old.

   In order to protect students’ ability to give informed consent to participate.

3. Visit Woodbury Commons on the Portland campus and Brooks dining center on the Gorham campus.

   Research collection will be set up during scheduled times at Woodbury Commons and Brooks dining center in order to encourage participation during a busy time of day: lunchtime.

4. Visit the Counseling center in Portland and the Health and Counseling center in Gorham.

   Research collection will be set up in waiting rooms during operating hours over six (6) weeks. Participants will be invited to participate by front desk staff after they check in for their appointment.

5. There will be an estimated 200 participants.

   Since research recruitment through tabling will happen over six (6) hours over six (6) weeks, this equals thirty-six (36) hours of one research activity. Additionally, research will be conducted at two (2) Health and Counseling Services’ locations over six (6) weeks, and the survey will be offered to over one hundred (100) students.

You are not eligible to take part in this study if you:

1. Do not attend school at USM.
2. Work as faculty or staff at USM.
3. Cannot read, write or comprehend English
4. Cannot read or comprehend consent forms.
5. Cannot hear or have significant hearing loss.
6. Cannot see or have significant vision loss.

RECRUITMENT PROCESS

Research participants will be recruited at the four (4) research locations: Woodbury Commons, Brooks dining center, Portland Counseling center and Gorham Health and Counseling center. Participants will not be contacted prior to participation. All recruitment will be conducted in the research locations listed above in the following ways:

1. A flyer describing the study will be posted in the entryway, front desk, dining area or waiting area.
   a. The flyer will describe the study, what participants can expect, the risks and benefits of participating, the location and times of research locations, and who to contact with any questions.
2. The Principal Investigator will announce the study at the Resident Assistant (RA) Winter Training.
3. The Principal Investigator will announce the study at the University Health and Counseling Services' (UHCS) staff meeting.
4. The Principal Investigator will announce the study through tabling in Portland and Gorham during the weeks before the study begins.

Target number of total participants: 200
Recruitment efforts will target 240 students to account for 10-20% refusal rate.

RECRUITMENT TIMELINE

<table>
<thead>
<tr>
<th>Recruitment Activity</th>
<th>Responsible Party</th>
<th>Date(s) to be Completed</th>
<th>Completion Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>Announce at RA Winter Training</td>
<td>Principal Investigator (PI)</td>
<td>Jan. 18th</td>
<td></td>
</tr>
<tr>
<td>Post flyers at USM</td>
<td>PI</td>
<td>Feb. 25th</td>
<td></td>
</tr>
<tr>
<td>Announce at UHCS staff meeting</td>
<td>PI</td>
<td>Feb. 19th</td>
<td></td>
</tr>
<tr>
<td>Announce through tabling</td>
<td>PI</td>
<td>Ongoing until Apr. 11th</td>
<td></td>
</tr>
</tbody>
</table>
SUBSTANCE USE PREVENTION MESSAGING STUDY
Research Staff Guide
Principal Investigator: Emily Bauer
Faculty Advisor: Brenda Joly, PhD

SCRIPT – UHCS STAFF

As UHCS front desk staff, you will complete your normal job duties to check in a student for their health or counseling appointment. Once they are checked in and prior to sending them to the waiting room, you will invite the student to participate in the research study.

Would you like to take part in a graduate student research study?

If a participant is interested, please ask:

Are you at least 18 and a student at USM?

If interested participants meet the conditions of participation:

Great! You may participate in this study. It should take about 10 minutes or less. Your participation is completely voluntary, and you may decide not to participate at any time.

If interested participants do not meet the conditions of participation, thank them for their time and explain that the study is only open to those 18 years and up who attend school at USM.

Please give the student the informed consent form.

Read this consent form. The form provides you with information about this research study. You do not need to sign it or turn it into me, but you may keep it for your records.

Once the student is finished reading the informed consent form, please ask:

Thank you for reading the form. Before you have a seat in the waiting room, I want to show you two (2) posters set up on the coffee table. One of the graduate students that works here at UHCS is doing a research study about the posters. After you look at the posters, please fill out this short, anonymous survey about the posters and put it in the box on the table. Thank you!

If the student asks any questions about the posters or has any verbal reactions, you can direct them to the comments section on the survey.

The student can enter their scheduled appointment at any time.
SCRIPT – PRINCIPAL INVESTIGATOR OR TABLING STAFF

As research tabling staff, you will occupy a table in either Woodbury or Brooks for the scheduled time and ask the public:

    Would you like to take part in a graduate student research study?

If a participant is interested, please ask:

    Are you at least 18 and a student at USM?

If interested students meet the conditions of participation:

    Great! You may participate in this study. My name is Emily Bauer, and I’m a graduate student in USM’s Public Health program, and I will walk you through the study. It should take about 10 minutes or less. Your participation is completely voluntary, and you may decide not to participate at any time.

If interested students do not meet the conditions of participation, thank them for their time and explain that the study is only open to those 18 years and up and attend school at USM.

Please give the student the informed consent form.

    Read this consent form. This form provides you with information about this research study. You do not need to sign it or turn it into me, but you may keep it for your records.

Once the student is finished reading the informed consent form, please ask:

    Thank you for reading the form. The next step is to look at the two (2) posters we have set up here. Then, whenever you’re ready, please fill out the survey and put it in this box.

If the student asks any questions or makes any comments about the posters, you can direct them to the comments section on the survey.

Once the student is finished with the survey:

    Thank you so much! Have a great day.
**Directions:** Please look at the **LEFT** and **RIGHT** posters and answer the following questions for **EACH** poster:

**LEFT:**

For each of the statements below, circle the response that best shows how you feel about the **LEFT** poster.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree Nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand the message.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I believe the message.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I like the message.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I think the message would appeal to my friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**RIGHT:**

For each of the statements below, circle the response that best shows how you feel about the **RIGHT** poster.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree Nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand the message.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I believe the message.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
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<td>I like the message.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I think the message would appeal to my friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Please circle:** Overall, which poster do you like best? **Left** **Right**

What suggestions or changes would you make to the poster, if any? Please state which poster corresponds to the changes.

*Thank you for participating in our research. Please contact Emily Bauer with any questions or concerns: *emily.bauer@maine.edu."
...you may want to reduce your use.

Call University Health & Counseling Services for a free, confidential drug or alcohol assessment.

(717) 780-4380  (570) 780-6111

Alcohol – Left poster, central message
COMMUNICATION STRATEGIES – CAPSTONE REPORT

Alcohol - Right poster, peripheral message

Drinking responsibly does not mean using 2 hands.

Drinking responsibly means 1 standard drink per hour.

12 oz. Beer = 5 oz. Wine = 1.5 oz. 80-proof Liquor
So who are you trying to impress?

Over 70% of your peers disapprove of people smoking marijuana regularly.

Marijuana- Left poster, central message
Marijuana - Right poster, peripheral message
93% of college students do not juul or use e-cigs.

Are you one of the few?

E-Cigarettes- Left poster, central message
E-cigarettes contain the same amount of nicotine as a pack of cigarettes. They contain harmful chemicals, flavoring, and are addictive.

JUULs and other e-cigarettes are not a fake zip drive.