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REACHING COLLEGE STUDENTS WHERE THEY LIVE:  
A DESCRIPTIVE STUDY OF  
UNDERGRADUATE MEDIA USAGE IN 2007

A Dissertation Presented

by

Andrea Grayson

to

The Faculty of the Graduate College

of

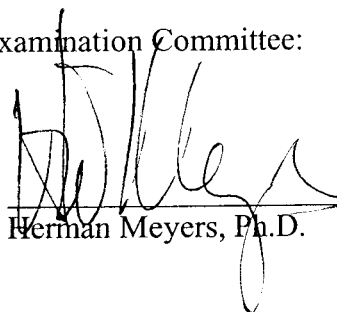
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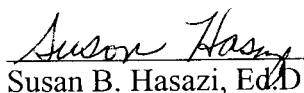
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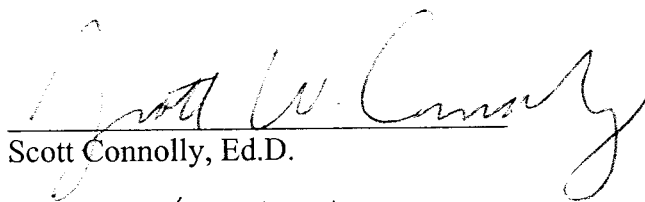
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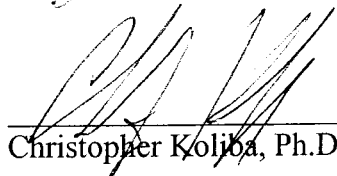
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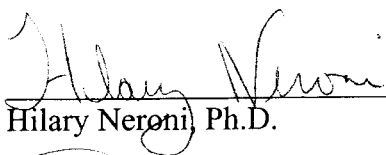
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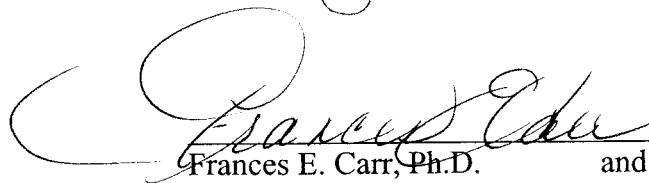
  
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## Abstract

The purpose of this research study was to ascertain the relative level of adoption of the use of web-based media by undergraduates, the results of which will be considered in the creation of health promotion messages and campaigns that are distributed through electronic means to a campus audience.

The primary research conducted was a web-based survey of UVM undergraduates, inquiring about the extent to which they consume web delivered media programming, of both news and entertainment, and how they communicate with their peers.

Through the use of descriptive statistics, it was learned that more than half of UVM undergraduates (58.7%) watch between one to five minutes of web-based video on a weekly basis, suggesting that the creation of video-based health promotion programming might indeed prove to be an effective approach to raising awareness and promoting behavior change for this population. Additional data reveals how much time respondents do a variety of media activities, as well as their most used means of communication with peers when not with them in person. The study concludes that there is a high enough adoption of the use of web-based media by undergraduates to warrant creating health promotion messages and campaigns that are distributed through electronic means to a campus audience.

## Acknowledgements

Many people and organizations are to be acknowledged for contributing to this work and my thinking. In graduate school at New York University, Professor Neil Postman helped shaped my understanding of the ways in which people and technologies interact, and how those evolving relationships impact the social, political and cultural aspects of our society.

Bill Ryerson, founder of the Population Media Center (PMC), and his wonderful colleagues, have given me the opportunity to learn first-hand how media programming can influence the behavior of an audience. Through the work of PMC, which produces serial dramas on radio and television, thousands of people in developing countries have learned to change their behaviors around gender equity, family planning, HIV/AIDS prevention, human trafficking, and numerous other social challenges that have caused unfathomable human suffering.

Many thanks go to Jeff Haig for allowing me to use his class as a focus group, and to Alan Howard of Academic Computing for helping me turn the data into a story.

My dissertation advisor, Bud Meyers, has helped shaped this document into the best it can be, and program advisor, Susan Brody Hasazi, has been a constant source of support from the minute I walked in the door.

On the personal side, I would like to acknowledge Cynthia Belliveau, Dean of Continuing Education at UVM, for her vision and support of this work both conceptually and practically. And, my husband Woody Keppel, for patiently sacrificing our time together and for making dinner all those nights I came home late from studying.

## Dedication

This dissertation is dedicated to my father, Robert A. Grayson, Ph.D., for his profound belief in the value of intellectual development, without which this journey would not have been taken. And to my mother, Suzanne B. Grayson, whose creativity in its many manifestations continues to inspire me.

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## Preface

Few would argue with the observation that the past decade has seen an infusion of new media technologies and that Americans are experiencing profound changes in the ways in which we communicate, find information, entertain ourselves, shop, and learn. Researchers around the globe are developing and testing theories to help understand the ways in which people interact with media and the changing role that new technologies play in peoples' lives. The popular press often reports on new technologies, gadgets, and programming, but aside from a few independent research organizations that have dedicated themselves to measuring and understanding the ways in which we interact with technology (notably the Kaiser Family Foundation and the Pew Internet Life Project which have made significant contributions in this area), we are only beginning to understand the level of adoption of media technologies among specific populations, and for what ends.

The purpose of this research study was to ascertain the relative level of adoption of the use of web-based media by undergraduates, the results of which will be considered in the creation of health promotion messages and campaigns that are distributed through electronic means to a campus audience.

## PART I: Introduction

Residential college campuses have long been noted as being a haven for experimentation, personal exploration, and the testing of boundaries that often comes when young adults find themselves with newfound freedoms (Gilder, Midyett, Mills-Novoa, Johannessen, & Collins, 2001). Chief among these risky behaviors is excessive alcohol consumption, often known as “binge drinking,” which refers to the rapid consumption of alcohol (four to five drinks) in a single sitting within the past two weeks (Wechsler, Eun Lee, Kuo, & Lee, 2000). Nationally, drinking by college students contributes to an estimated 1,400 student deaths, 500,000 injuries and 70,000 cases of sexual assaults or date rapes each year (National Institute on Alcohol Abuse and Alcoholism Task Force on College Drinking, as cited in AMA, 2005).

The University of Vermont (UVM) has long experienced a reputation for being a “party school,” where excessive drinking is perceived as a norm. This reputation comes from several sources, including current students (American College Health Assessment, 2005), independent research (AMA, 2005), and college review books and web sites (e.g., [www.collegeprowler.com](http://www.collegeprowler.com)). At one on-line college review site where students and alumni post inside information about their schools, a UVM alumnus writes:

UVM is a party school. Any night of the week you can find something going on. The Bars are outrageous. House Parties are crazy.

Many places to eat on or off campus... (retrieved 2006)

This reputation for partying was substantiated by research in 1993 when UVM participated in the first Harvard School of Public Health College Alcohol Study (CAS). As a result of that study, UVM was “invited” to apply to be part of a national project to

reduce binge drinking based on the high binge drinking rates uncovered in the CAS.

The reputation extends beyond just the student body: In 1996, UVM was selected as one of the top 10 drinking schools in the country to participate in an \$8.6 million dollar, seven-year program to help reduce binge drinking on campuses by fostering collaboration between schools to change college environments (both structural and cultural) to help curb excessive drinking. The program, *A Matter of Degree: The National Effort to Reduce High-Risk Drinking Among College Students*, was funded by the Robert Wood Johnson foundation, and administered by the American Medical Association's Office of Alcohol and Other Drug Abuse (AMA, 2005).

In recent years, several campus health promotion programs at colleges around the country have been aimed at "social norming" initiatives, where health promoters attempt to alter the perception of a campus being a party school with the reality that people do not actually drink that much. According to the Fall 2005 American College Health Association's (ACHA) National College Health Assessment (NCHA), only 2% of UVM's male students self report drinking every day, while the *perception* of typical use on the UVM campus reported in the survey was that 41% drink every day (Center for Health & Wellbeing, 2006). This gap between what is perceived to be the norm and what actually is the norm is the focus of social norming campaigns, which aim to shift the perceived norm among students that "everyone is drinking a lot" to the reality that few people are drinking excessively on a regular basis.

These social norming health promotion campaigns, which are showing some promising results, are largely being delivered in print-based media (Gilder et al., 2001). These print-based campaigns place posters around campus, ads in school newspapers,

and tent-cards on tables in dining facilities (Gilder et al.). The use of electronic media is generally not used, likely because of the cost and expertise necessary to produce an effective media campaign, in addition to the lack of information about delivery options, including which media outlets would maximize exposure to students.

Excessive alcohol consumption is only one of several areas where student behavior change would be beneficial to UVM campus life. At a recently convened meeting of representatives from many areas of student life<sup>1</sup>, a long list of concerns was identified. Chief among these concerns were risky (unprotected) sexual behavior and incidents of bias, as well as alcohol and other drug (AOD) consumption (which it was noted often plays a roll in other risk or anti-social behaviors) (Grayson, 2006).

### *Using Serial Dramas for Behavior Change*

Changing risk behaviors in any population is difficult, though there have been a few successes. For over 30 years, Entertainment-Education (EE) – sometimes known as “soap operas for social change” – has been positively impacting health behaviors all over the globe (Barker & Sabido, 2005; Singhal, Cody, Rogers, & Sabido, 2004). Based on the methodology developed by Miguel Sabido and grounded in theories from sociology, psychology, and dramaturgy<sup>2</sup>, EE uses the format of serial drama to engage a targeted audience in highly dramatic storylines (on radio or television) where characters are rewarded and punished for their behaviors. This methodology has been associated with some dramatic changes of behavior, including a 34% decline in Mexico’s population

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<sup>1</sup> This group of representatives from across campus – including from the departments of Student Ethics and Standards, Women’s Center, Police and Public Safety, ALANA, GLBTQA, and others – have formed an Advisory Board for this project, which has the working title of EquityTV.

<sup>2</sup> The sociological theories employed by EE include the Social Learning and Social Cognitive Theory of Albert Bandura; the psychological theories employed by EE include archetypes and stereotypes as described by Carl Jung; and, the dramatic theories of EE stem from E. Bentley.

growth during the 1970s due to an increased awareness about family planning, available resources, and women being encouraged to discuss family planning with their spouses (Barker & Sabido; Singhal & Rogers, 1999). Other compelling cases include a 153% increase in condom distribution in Tanzania (to curb the spread of HIV/AIDS and promote family planning), and over a 28% increase in the use of “modern” family planning methods in Ethiopia, just to name a few (Barker & Sabido).

In the United States, specific components of the EE methodology have been used to communicate health information through public service announcement campaigns and dramatic storylines in traditional soap operas for several years (Norman Lear Center, 2007), but there has yet to be a dedicated EE serial drama developed for domestic commercial television. Needless to say, there are numerous health and social problems that could benefit from EE programming approach.

Given that college coeds are a defined and somewhat contained community (exemplified by the fact that they can all be reached with a single email message), it is thought that an EE program addressing risk behaviors, created expressly for the college audience, could be a productive addition to social norming and other health promotion campaigns conducted on college campuses (Grayson, 2006).

### *The Mediated Life of College Students*

College students today lead a highly mediated life – from text messaging on cell phones, to downloading music to their mobile devices, to web-based entertainment programs (Pew, 2002; 2006). This observation makes using a media-based program a likely means to reach students with health-promotion messages in an effort to influence behavior change. One indicator of the ubiquity of mediated communications among

college students are the results of the studies conducted by the Pew Internet & American Life Project, where they found that, in 2002, “Forty-two percent of college students say they use the Internet primarily to communicate socially” (Pew). According to the Pew Latest Trends data, every area they have surveyed, from online shopping to participating in online social groups, has increased – though not always incrementally – over the past six years (Pew, 2006).

Another indicator of the ubiquity of internet usage among college students is the massive participation in the college social networking site Facebook, where it is reported that over seven million coeds from over 2,600 colleges are members (Epstein, 2006). This is a web-based community space where individuals have web pages that are linked to friends’ pages and where they post information about themselves, promote events, and otherwise orchestrate their social lives. Facebook is reportedly the seventh most trafficked website on the Internet, according to comScore (sited at <http://www.facebook.com/press.php>).

These trends towards increased use of web-based communication and entertainment make web delivery of an EE behavior change serial drama program likely an effective and suitable means of distribution; however, research is necessary to gain a thorough understanding of the level and type of media used by college undergraduates.

#### *Conceiving a Study of College Student Media Usage*

Conducting a College Student Media Usage study is warranted to determine the best means for delivery of a serial drama program aimed at college undergraduates. It had been assumed that because of the ubiquity of computers and access to high-speed Internet, that a web-delivered program will be the most effective means of reaching this

population. By conducting this media use survey, we can better understand which media the target population is using (for entertainment and information), under what circumstances, and for how long, among other information, all of which is critical for designing a program that will effectively reach and engage the desired audience. This audience research is critical for successfully targeting the desired population of undergraduates and effectively designing and disseminating a behavior-change program.

#### Purpose of the Study

The purpose of this research study was to ascertain the relative level of adoption of the use of web-based media by undergraduates, the results of which will be considered in the creation of health promotion messages and campaigns that are distributed through electronic means to a campus audience.

Increasing our understanding of the specific media consumption habits of college students, not only traditional media such as television, radio, and phone, but also including the range of ways they use the internet – for entertainment, information, social communication, and interactive engagement to name a few – will help us understand the most effective medium for delivering behavior-change programming for this student audience, as well as how to reach out to them for promotional purposes. The assumption going into this descriptive study was that web delivery of a video program will be the most widely accessible means to distribute the behavior-change program, as all UVM undergraduates have access to high-speed internet in their rooms or wirelessly across campus. But what we do not know is just how much UVM undergraduates are watching online video for their entertainment, and thus, how widely viewed and accepted this form of communication will be.



In the past several years, we have seen the rise of dedicated online video sites, such as Google Video and YouTube – YouTube.com, receives 40,000 new video uploads every day (Sanneh, 2006) – but we do not know how widely used they are among UVM college undergraduates. These sites host thousands of homemade and professionally made videos and also get thousands of hits per day from users, but what we cannot tell by this objective data is if the users are primarily limited to “early adopters” or is online video viewing a widely practiced source of video entertainment?

In addition to clarifying the level of adoption of online video usage, this survey will also help clarify *where* students watch or download the programs they do watch, as we will ask if they own their own computer/laptop, and where they most often access online video (i.e., dorm rooms, public computers, etc.). [This information will be useful for determining the file size and compression of our programming.]

This survey focuses on the *types and frequency* of media usage, rather than the *content* of the media students are watching. While an understanding of content preferences would be interesting and possibly helpful in the creative development of programming, this phase of the project is concerned with learning the most appropriate format and delivery of the programming

While the data collected in the survey may have several uses, the overall purpose of this study was to provide a descriptive picture of the types and frequency of student media usage. As this was a voluntary online survey, there are limits to the generalizability of the results; even with a representative sample size, respondents are a specific sub-set of the general student body and we can only cautiously extrapolate about usage trends to the undergraduate population as a whole. Specific research questions

described below address this purpose.

### Research Questions

By asking specific questions about student media and communication technology usage, the research aimed to glean the general type and frequency of UVM undergraduates with seeking out and downloading / streaming web-based media.

The key research questions of this study were:

- What is the level of ownership of various media technologies?
- What is the level of usage of various media technologies?
- What is the level of usage of various entertainment media?
- Is online video viewing a common source of entertainment? How frequently is online video/animation watched?
- How do students share information about web video with one another?
- Do they watch regularly scheduled TV or web-based video programs?
- What is the prevalence of Texting and IMing?
- Does media or technology impact academic performance?

In addition to the primary research questions above, several demographic questions placed the usage data in the context of respondents' college experience, including year-in-school and level of academic achievement (through GPA). By describing media usage and exploring correlations by certain demographic parameters, we got a glimpse into how media usage was currently different among age groups. [Please see Appendix 1 for survey instrument.]

## Limitations of the Study

This study was limited to the media consumption habits of UVM undergraduates and was not attempting to correlate media usage with alcohol consumption or other risk behaviors. While such information might be interesting, having valid and reliable data on the media usage of undergraduates may inform a variety of communication campaigns targeted for this audience.

This study was also limited by the fact that it was a voluntary study, where those who chose to respond may be pre-disposed to responding in a certain way. Efforts to minimize these biases are described in greater detail in the Methodology section of the dissertation.

## Definitions

Several new technologies and terms are used in the survey and in the reporting of results. For a common understanding of these terms, the reader is provided with the definitions below, courtesy of Wikipedia.org.

- **Email Attachment.** An **e-mail attachment** (or **email attachment**) is a computer file which is sent along with an e-mail message. The file may be sent as a separate message but now it is almost universally sent as part of the message to which it is attached.
- The term **digital divide** refers to the gap between those with regular, effective access to digital and information technology and those without this access. It encompasses both physical access to technology hardware and, more broadly, skills and resources which allow for its use. Groups often discussed in the context of a digital divide include socioeconomic (rich/poor), racial

(white/minority), or geographical (urban/rural).

- **Instant Messaging (IMing).** Instant messaging (IM) is a form of real-time communication between two or more people based on typed text. The text is conveyed via computers connected over a network such as the Internet.
  - For the purposes of this study it is worth noting that the use of this technology requires a networked computer, meaning that this activity is done in a stationary place (dorm room, library, or Internet café, for example).
- **Personal digital assistants (PDAs).** PDAs are handheld computers but have become much more versatile over the years. PDAs are also known as **pocket computers** or **palmtop computers**. PDAs have many uses: calculation, use as a clock and calendar, accessing the Internet, sending and receiving E-mails, video recording, typewriting and word processing, use as an address book, making and writing on spreadsheets, scanning bar codes, use as a radio or stereo, playing computer games, recording survey responses, and Global Positioning System (GPS). Newer PDAs also have both color screens and audio capabilities, enabling them to be used as mobile phones (smartphones), web browsers, or portable media players. Many PDAs can access the Internet, intranets or extranets via Wi-Fi, or Wireless Wide-Area Networks (WWANs). Many PDAs employ touch screen technology.
- **Serial Drama.** Serials in television and radio are series, often in a weekly prime time slot, that rely on a continuing plot that unfolds in a serial fashion, episode by episode. Serials typically follow main plot arcs that span entire seasons or even

the full run of the series, which distinguishes them from traditional episodic television. Serials rely on keeping the full nature of the story hidden and revealing elements episode by episode to keep viewers tuning in to learn more. Often these shows employ recapping segments at the beginning and cliffhangers at the end of each episode. Such shows also place a demand on viewers to tune in every episode to continue learning of the unfolding mystery.

- **Social Networking.** A **social network service** focuses on the building and verifying of online social networks for communities of people who share interests and activities, or who are interested in exploring the interests and activities of others, and which necessitates the use of software.

Most social network services are primarily web based and provide a collection of various ways for users to interact, such as chat, messaging, email, video, voice chat, file sharing, blogging, discussion groups, and so on.

The main types of social networking services are those which contain directories of some categories (such as former classmates), means to connect with friends (usually with self-description pages), and recommender systems linked to trust.

Popular methods now combine many of these, with MySpace and Facebook being the mostly widely used in 2007.

- **Text Messaging (Texting).** Text messaging, or texting, is the common term for the sending of “short” (160 characters or fewer) text messages, using the Short Message Service from mobile phones. It is available on most digital mobile phones and some PDAs with onboard wireless telecommunications. The individual messages which are sent are called **text messages** and more

colloquially **SMSes**, **texts**, or even **txts** (in “text speak”).

- For this study and understanding the implications of the data, it is important to note that Texting is a *mobile* communication technology, where messages are sent and received over cell phones (not stationary computers).
- **Viral Marketing.** **Viral marketing** and **viral advertising** refer to marketing techniques that use pre-existing social networks to produce increases in brand awareness, through self-replicating viral processes, analogous to the spread of pathological and computer viruses. It can be word-of-mouth delivered or enhanced by the network effects of the Internet. Viral marketing is a marketing phenomenon that facilitates and encourages people to pass along a marketing message voluntarily. Viral promotions may take the form of funny video clips, interactive Flash games, advergames, images, or even text messages.

## PART II: Review of the Literature

To inform the research context of this project, there are several theoretical disciplines to draw on. Principally, these are the fields of:

- Audience analysis (audience as markets), where we will look at the ways in which audiences are defined and reached.
- Social marketing, particularly in the health field, where communication campaigns are designed to influence attitudes and behaviors of target populations. Within the social marketing framework, the area of audience segmentation and channel analysis of particular interest, as this is the area in which an intimate understanding of the target population and the media they consume enables the researcher to craft, hone and deliver messages that are more likely to be well-received.
- Entertainment-Education (EE) and behavior-change, describing the ways in which this methodology has been applied to address different social problems, and with what kinds of results.
- Media in the Lives of Americans, which looks at the research being done into the media usage and technology trends of Americans.

Additionally, there is a growing body of research being conducted and published by independent research groups, such as the Pew Internet & American Life Project and the Kaiser Family Foundation, which will inform the methodology used in this study.

### *Audience as Market*

There are several theoretical lenses within use mass communication theory that were useful for this study. First, there is realm of audience segmentation, or markets, which helps us define the audience in terms of the groups we are aiming to reach. This approach is clearly from the point of view of the message sender, as people are not likely to define themselves in terms of being a market segment (McQuail, 1984).

One of my favorite sayings about the media industry is:

If you are watching,  
*they* put you there.

This phrase speaks to the idea that all media messages are deliberate constructions, created in order to attract a specific audience. It also speaks to the fact that the broadcast media industry in the United States is almost exclusively a commercial enterprise and that “attending” a media communication (a TV show, news program, etc.), participants are being “delivered” to an advertiser.

Nielsen ratings for TV and radio (measuring how many people are watching and which specific programs) and circulation audits for newspapers and magazines are key data sources influencing the flow of money in the media business: The more viewers or readers, the more media outlets can charge to advertise during that programming (Ang, 1991; Wells, Burnett, & Moriarity, 1985). The same is true for Internet usage – web statistics can track the number of unique visitors to a site, and companies charge advertisers based on traffic to their sites (Barrett & Armstrong, 2000).

Audience demographics allow advertisers to target specific populations and are hence a critical link in the creation and distribution of media programming; demographic



information, coupled with advances in dissemination technology, have led to an explosion of niche-market programming. Cable TV systems often boast hundreds of channels, each aimed at reaching a specific audience segment, such as pre-schoolers, sports enthusiasts, religionists, etc.

The concept of audience segmentation has expanded exponentially on the Internet, where knitters, gamers, mathematicians, chess players, among countless other groups, find themselves sharing virtual space, often creating virtual communities through these affiliations (Rheingold, 2000).

Here we move away from looking at the audience through the traditional demographic lens (age, gender, socio-economic status, etc.) and move towards affinity groupings, which has also been looked at as “taste culture” (Lewis, 1980). Affinity groups can certainly be linked demographically, particularly when a program or product is created for a specific demographic to begin with, but just as often people grouped by special interest can transcend traditional demographic demarcations. For example, people of many different demographic profiles might play chess online, or watch a broadly popular TV show such as *Survivor*.

The notion of audience segmentation is critical to understand when creating a communication campaign aimed at reaching a particular audience (Weinreich, 1996). Every effort is made by the message senders, whether for commercial or social purposes, to clearly understand the media usage of the target audience, as well as a great deal more information about the desire, needs, habits of the target audience (Dutta-Bergman, 2004).

To reach the desired audiences, advertisers rely on the data from audience

research such as the Nielsen ratings, to know as precisely as possible *who* is watching any given program and thus be able to present their advertisement at the right time and place. There would not be much sense, for example, in airing ads for zippy little sports cars aimed at professional women during a show that attracts 50+ year old men.

Interestingly, there is an inherent duality of an audience, as it is formed by the content that is being delivered, while at the same time is also seen as a group that already exists and is being catered to by a media provider. As Denis McQuail (1984) puts it, “Audiences are both a cause of, and a response to, a supply of messages” (p. 149).

This duality in the relationship between audience and content (provider) is one that can be exploited by programs that target specific groups. An audience of teenage boys, for example, is targeted by a film production company making a horror film. By watching the film, the teenage boys reinforce their identity as a group who likes those types of films, thus bonding as a social group and also with the content. Taking this idea step further, McQuail suggests that the identity of the group will in turn influence content:

...an audience which is first a public or a social group will have a degree of self-consciousness, a common identity and possibilities for interaction internally and for influencing the communication supply. (p. 153)

This raises some interesting possibilities for creating programming directed at a collegiate audience, as college undergraduates are a pre-existing community, albeit with many subgroups within it. This social cohesion of the undergraduate population may offer an added bonus to the dissemination of the content, as intra-group communication is often seen as an enhancement to communication effectiveness (Katz & Lazarsfeld,

1955; Rogers, 1962), which is often accomplished by word-of-mouth.

The active role that the target audience can play in the successful execution of the programming is key. In the decades since the concept of intra-group communication developed, and the advent of the Internet in particular, technologies now allow for a great deal of interpersonal and intra-group communication within a population. When members of a specific population send each other email and/or text messages with weblinks containing product or event information, and in turn those members send out more email and/or weblinks, this exponential dissemination of information through electronic word-of-mouth is referred to as “viral marketing.” According to the online encyclopedia Wikipedia, viral marketing refers to “marketing techniques that use pre-existing social networks to produce exponential increases in brand awareness, through self-replicating viral processes, analogous to the spread of a computer virus. It can often be word-of-mouth delivered and enhanced online; it can harness the network effect of the Internet and can be very useful in reaching a large number of people rapidly” (Wikipedia, 2006). Many companies attempt to use viral marketing to sell products and it is now being studied by academics in the business field to understand more about the personal motivations behind forwarding emails (Phelps, Lewis, Mobilio, Perry, & Raman, 2004). Yet there is little or no published research on the use of viral marketing to advance health communication messages. This seems to be an area of great potential for the advancement and spread of social marketing of health messages and is another area worthy of inquiry.

For the purposes of this study, and the project as a whole, the use of social networks to spread information about the proposed health promotion programming

through viral marketing will be one of the cornerstones of a successful campaign.

Towards that end, the student survey asked specific questions about sending and receiving information about video programming from friends (see Appendix 1).

As has been noted, the primary goal of the proposed study was to determine the media consumption habits of the target audience, so that a behavior change program might be delivered in a way that is consistent with both their demographic and media channel profiles. [While it has not yet been determined exactly *who* will be the target audience in the behavior change program to be produce – whether males or females, upper classmen or lower classmen (this will be determined by conducting additional formative research that identifies specific problem behaviors and situations, as well as in-depth psychographic profiles of the target audience) – conducting the media use survey will provide the baseline data necessary to know *how* they can be reached.]

*The Social Marketing Framework: Audience Segmentation and Channel Selection*

Advertising, political and public communication campaigns all share the same principles and largely apply research to similar ends: getting people to change ideas or initiate a course of action (Wicks, 2001).

Social marketing as a methodology, and as a practice, draws from commercial marketing practices, though adapted for its social aims (Andreason, 1995; Kotler & Roberto, 1989). It is a framework for “selling” a change in behavior, rather than a product, and involves the construction of a comprehensive plan to attain the desired goal. Successful social marketing campaigns rely on significant formative research to enhance message efficacy. In turn, salient messages directed at a well-understood audience may facilitate a desired behavior change.

A social marketing program considers four areas, which have been adapted from commercial marketing models:

- **Price.** In the case of social marketing, the price is not the cost of the product, but the price someone is willing to pay to change their behavior (i.e., time, money, or giving up a habit).
- **Product.** This represents the subject of the change.
- **Promotion.** This is how the proposed change is going to be “sold.” Some examples of promotional approaches include using a persuasive, factual argument, an emphasis on the benefits of the change, or using an authority figure.
- **Place.** As with regular product marketing, the “place” is where the synergy of all of the above elements come together to interact with the desired audience. This can include personal interactions, mass media communications, or even virtual places on the Internet.

The concept of place, or the point where the health promotion is interacting with the target population, is the concept that is most applicable to this study. Even though college students are a somewhat captive audience, there are a limited number of ways to interact with them. Previous health-related social marketing campaigns on college campuses have relied on print advertisements in school newspapers, tent cards on dining room tables, posters, and events to raise awareness about an issue (Gilder et al., 2001).

The proposed campaign that is the inspiration of this study is looking to interact with students in a virtual place, which will require the active participation by viewers to go to the site where the health promotion video program can be viewed. This is

fundamentally different from many social marketing campaigns that aim to *intercept* the target audience (when they are in a public place or watching television, for example) (Gilder et al., 2001).

Kotler and Roberto (1989) discuss the delivery of social marketing messages as an attempt to match the message with the most appropriate medium for the desired response. That is to say, behavior change appeals that are designed to initiate change through dramatic, emotionally charged messages also rely on non-verbal elements, or the physical expressiveness of the actors, to connect with a target population.

The powerful ability of drama to touch people emotionally is rooted in the story but is conveyed through the actor's expressiveness, as serves as a role model with which the audience members resonate (Bandura, 1977). Kotler and Roberto identify six forms of non-verbal expression: vocal expression; facial expression; body movement; eye contact; spatial distance; and, physical appearance (1989, pp. 200-201). Because these elements cannot be adequately integrated into communication campaigns that are distributed through newspapers or magazines, radio, television and film/video become the most promising means of message delivery.

Another aspect of media selection is noting the "personality" of the medium or channel and its match with the communication product. As Kotler and Roberto (1989) state:

Media have the potential to reinforce or weaken a communication message.

To look only at their reach and frequency is to view media as simply a distribution vehicle. The social marketer must also evaluate media for their information and persuasive appeal and impact. (p. 202)

This aspect of media channel selection is particularly important when emotional content is a key motivator and is consistent with the EE model described earlier. EE integrates dramatic theory with social learning theory to create a model where the systematic application of rewards and punishments influence the behavior of selected characters (Barker & Sabido, 2005; Singhal & Rogers, 1999; Singhal et al., 2004). The emotional appeal of the stories is successfully conveyed through radio and television, precisely because these media are able to convey emotional content through drama.

In developing countries, where the EE approach to social change is most often implemented, radio is the most frequent means of program distribution, as far more people have access to radio than to televisions. In the US, however, episodic dramatic programming is most often distributed on television (day and evening soap operas, dramatic prime-time series), which has the additional benefits of conveying the visual cues that support emotional connection to characters (Kotler & Roberto, 1989). It is unknown at this point if web delivery of episodic video programming will have the same positive outcomes as television and radio delivery of EE programs, but this is something that the program evaluation will reveal at the end of the entire project implementation.

#### *Audience Segmentation*

As previously noted, the field of social marketing invests heavily in formative research to craft messages and deliver them in ways that effectively reach a targeted population (Dutta-Bergman, 2004; Kotler & Andreasen, 1991; Weinreich, 1996). Through formative research, a more precise match between a target population and the message designed for them can be made and *delivered* through a medium that is most likely to reach them.

One of the pieces of formative research that is conducted for social marketing campaigns is “audience segmentation,” which aims to understand the different social and cultural differences between populations, as well as demographic differences (Albrecht & Bryant, 1996). As Slater (1996) has explained, segmentation provides the bases for selecting the media, community, organizational or interpersonal channels most appropriate to such populations.

This theoretical approach helps us understand that target populations are not homogeneous in their tastes or values, or even the kinds of information they are ready to receive, and that health communications need to reflect social and cognitive differences within a population (Maibach, Maxfield, Ladin, & Slater, 1996; Slater, 1996). For example, some members of a population of smokers might be in need of information about stopping smoking, while others may be ready for action steps. In order to take the next step towards smoking cessation, each of these sub-groups of smokers would benefit from different communication messages (one with more information about strategies, methods, or opportunities for smoking cessation and the other with more general educational information about where and how to begin a smoking cessation program) (Slater).

As audience segmentation as a discipline is more focused on narrowing the psycho-social differences among a demographic population or typologies so that effective messages can be constructed (Albrecht & Bryant, 1996; Slater, 1996), equally important to an effective communication campaign is understanding the most *effective* way to reach them. In Mohan Dutta-Bergman’s study “Reaching Unhealthy Eaters: Applying a Strategic Approach to Media Vehicle Choice” (2004), the author examines



the media consumption patterns of unhealthy eaters:

While television news is the most effective channel for reaching healthy eaters, television sports and entertainment-oriented Internet are the two major media categories consumed by the unhealthy eater. Also, unhealthy eaters are more likely to be drawn to print media, suggesting that print-based health eating campaigns are unlikely to reach the at-risk group. (p. 493)

This type of intimate understanding of a target audience and their media consumption habits is key to successful health promotion media campaigns. In the selection of appropriate media channels and program formats, there must be a confluence not only between the nature of the message (informational or emotional, for example) and the medium that is being used, but also with the usage patterns of the target receivers (Salmon & Atkin, 2002).

The art and science of effective media campaigns for health promotion also includes understanding the “stage” or level at which the target audience is in their behavior change process:

- Do they need to raise their awareness (through informational messages)?
- Do they need instruction (“how to” make a change)? Or,
- Does the audience need persuading to take action (through motivational messages)? (Kotler & Roberto, 1989; O’Keefe, Boyd, & Brown, 1998; Randolph & Viswanath, 2004; Salmon & Atkin, 2002).

In the EE model (described in further detail below), dramatic story lines that convey emotional content can be effectively conveyed through time-based media such as radio and video, as the power of dramaturgy comes through the behavior modeling of the

actors in a visceral way (Bandura, 1977; Nariman 1993). Neil Postman identified this fundamental difference between print media and video in his seminal *Amusing Ourselves to Death* (1985) as an epistemological difference between media forms: print requires a linear, logical mind to decode and process the communication, thus being particularly conducive to the dissemination of “information,” whereas video requires no such brain power – we absorb and interpret what we see by-passing the need for reason or logic – thus making video an ideal format for the presentation of emotionally charged communications. In the context of health promotion messages, the use of drama-based video is well suited to motivate action.

This level of understanding of the target audience and their media consumption habits is critical for health promotion campaigns. Though it is beyond the scope of this study to link the risk behaviors of college students and the patterns of their media consumption, the underlying concept of “reach” and the ability to use an appropriate medium to reach the *actual* people one is trying to reach is critical. This study will give a much needed baseline for undergraduate media usage, so that health promotion programming aimed at minimizing risk behaviors among this population can “reach” them effectively in the specific media environments they are frequenting. Towards that end, there is ongoing and emerging research into the technological, access, and digital media preferences of the youth demographic.

#### *Entertainment-Education and Behavior Change –*

#### *Conditions for and Measures of Success*

Entertainment-Education (EE), as it is being referred to in this study, is the methodology developed by Miguel Sabido, who was the Vice President for Research at

*Televisa* Mexican television from the 1970s to the 1990s, for what he called for “entertainment with proven social benefit” (Barker & Sabido, 2005). During his tenure at *Televisa*, he created six serial dramas with social content, many of which focused on family planning issues. This work is considered integral to the 34% decline in population growth that occurred between the mid-70s and mid-80s, a critical achievement given the explosive population growth that the country had been experiencing (Barker & Sabido, Singhal et al., 2004) and as a result, Sabido was awarded the United Nations Population Prize in 1986.

The EE model is able to influence behavior-change through a complex methodology of interweaving story lines, dramatic cliff-hangers, and specifically designed “transitional” characters whose behavior changes through the course of the series. These transitional characters, which are representational models of the target audience population, are guided by a series of rewards and punishments to eventually adopt desired changes in audience attitudes and behaviors (Barker & Sabido, 2005; Singhal et al., 2004; Singhal & Rogers, 1999).

Throughout the developing world, from Tanzania to the Philippines, Sabido-style EE programs have made positive impacts on the health of those populations. Some examples include a 153% increase in condom use in Tanzania and a tripling of the percentage of people taking blood tests for HIV in Ethiopia (Barker & Sabido, 2005).

The EE methodology is complex, requiring people in several fields to work closely together, particularly the public health community (family planning professionals and care-givers) and the creative community (scriptwriters, actors, and TV producers). There must be tremendous cultural sensitivity, so that the behavior changes that are

being supported by the programming are acceptable to the governing bodies, and so that the writing of the dramatic series rings true to the intended audience (Singhal et al., 2004; Singhal & Rogers, 1999).

While there are many developing countries where EE serial dramas have garnered a large percentage of the potential listening audience, sometimes as much as 50-90% of the listening or TV viewing audience (Rogers, Vaughn, Swalege, Rao, Svenkerd, & Sood, 1999; Rogers, Hirata, Chandra, & Robinson, 1994), it must also be noted that these results take place in countries where there is a far less media saturated environment than we have in the West – another reason why understanding the media usage of the target population, and thus the program delivery method, is of particular importance for an EE program to be successful domestically.

Though the full EE methodology as outlined by Miguel Sabido (Barker & Sabido, 2005) has a series of specific guidelines/components that must be integrated to ensure successful program outcomes, many “pieces” of the EE methodology have been used in domestic television programming, particularly around health and environmental issues, but also include diversity and children’s welfare. Several organizations specialize in linking research about social or health issues to the writers and producers in Hollywood.<sup>3</sup> In the health arena, the Centers for Disease Control and Prevention (CDC) partners with a program at the University of Southern California’s Annenberg Norman Lear Center called Hollywood, Health & Society (HH&S) that conducts workshops and symposia on health issues for entertainment writers, and have been successful in placing

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<sup>3</sup> Examples of organizations that aim to influence content in the entertainment industry include, but are not limited to: Children Now [www.childrennow.org](http://www.childrennow.org); The Communication Initiative [www.comminit.org](http://www.comminit.org); and The National Cancer Institute (NCI) of the NIH [www.cancer.gov](http://www.cancer.gov).

characters and story lines in serial dramas, and measuring the impact of those messages.

The impacts of the CDC-funded projects are well-researched and documented. Two examples of this work include the AIDS hotline study and the Gay Men's Response to Syphilis Outbreak study. In both of these studies, characters in existing serial dramatic programs faced health crises that were the focus of the interventions (AIDS-related disease and syphilis).

In the AIDS Hotline study (Kennedy, O'Leary, Beck, Pollard, & Simpson, 2004), the target audience was minority women, as they are at risk for HIV, and are also heavy viewers of daytime soap operas. From the abstract:

In August, 2001, a soap opera subplot delivered HIV prevention messages to viewers and displayed the National STD and AIDS Hotline toll-free number (800-342-2437) after 2 episodes. On both days, the number of attempted calls to the Hotline in the 1-hour time slots during and just after the 30-minute broadcasts rose dramatically. These increases in information-seeking behavior are consistent with predictions based on social cognitive theory, the health belief model, and various models of information processing. The increases also provide support for the Education-Entertainment approach and underscore the importance of a productive partnership between public health and the entertainment industry. (p. 287)

Similarly, the syphilis study, "Embedding Health Messages into Entertainment Television: Effect on Gay Men's Response to a Syphilis Outbreak" (Whittier, Kennedy, St. Lawrence, Seeley, & Beck, 2005), took an existing serial drama program that is popular with gay men and integrated a storyline about a syphilis outbreak that impacted

the gay characters in the program. To measure the impact of the program, the researchers recruited 501 homosexual men from gay-oriented Internet chat rooms to complete a questionnaire. The researchers of this study also found significant impact from the intervention:

Those who viewed the syphilis storyline were more likely to report intention to get screened and to tell others to get screened for syphilis. Seeing the episode was a predictor of these intentions. Education was also a predictor of intention to tell others to get screened. (p. 251)

Even these partial uses of the EE methodology (perhaps the first to be created and researched domestically) point to the potential of this approach for addressing health and social issues. Of the multiple factors that coalesced to create a the successful intervention, including characters that resonated with the target audience, compelling dramatic storylines, etc., the understanding of the media viewing habits of the target audience were paramount. A different TV series (with less target-audience viewership) would make for significantly diminished outcomes.

Another example of the importance of understanding the media usage of a target audience, or channel analysis, in EE comes from the formative research conducted for the program targeting Jamaican youth, *Ja Style* (Bailey, 2006). Through extensive interviews and focus groups with diverse segments of Jamaican youth (urban/rural, male/female, in school/out of school, middle class/poor, etc.), researchers found that the most likely way to reach a specific sub-population of at-risk youth was to create a radio program only 15 minutes in duration that aired in the early morning on a popular music radio station (Barker, 2006). This might not have been the conclusion if only television

ratings were consulted, or if other less involved means of formative research were used to determine the media usage patterns of Jamaican youth.

It is clear that in addition to excellent dramatic writing and performances, the key to the success of EE programs lies in the formative research that is conducted before the writing begins, and which helps inform the development of characters, stories, and delivery methods of the program – all of which are critical in the equation of a successful program.

Four critical bodies of formative research are required before an EE behavior-change serial drama can be created:

- 1) Baseline data collection around the extent of the problem being addressed, including incident reporting (such as disorderly conduct due to alcohol consumption) and inquiries with service providers (such as the number of people inquiring about substance abuse prevention, contraception, etc.);
- 2) An inventory of institutional values that are both regulatory and cultural;
- 3) In-depth qualitative inquiry into the attitudes, behaviors, and language of the target population about the problem(s) being addressed in the program; and,
- 4) An analysis of the media consumption habits of the target population(s) so that an appropriate media and distribution plan can be developed (Barker & Sabido, 2005).

While all of these areas must be addressed to ensure a successful program, program *format* and *delivery* issues are key, as they will determine the medium most likely to reach (and thus impact) the behavior of the target population.

### *Media in the Lives of Americans*

Media consumption among the youth demographic in particular is a rapidly changing landscape, with new programming formats and new technologies for delivery emerging at a rapid pace. In a few short years, for example, instant messaging has become a preferred communication method among teens, with 74% of teens reporting use of IM (Pew Internet & American Life Project, as cited in Kaiser Family Foundation's (KFF) Key Facts: Teens Online). Other indicators of the online environment becoming a dominant factor in the lives of America's youth include these statistics: 94% of teens are sending email; 80% of teens are downloading music; 94% are using the Internet to research school work; and 36% use the Internet to buy things (Pew Internet & American Life Project, as cited in KFF's Key Facts: Teens Online).

Mobile phones have become not only the vehicle for voice conversation and text-messages between friends (60% of 18-29 year olds report doing so (Pew, 2006)), but also text-messaged news and information from third party information providers and portals for sending and receiving email. It is now also thought that the podcasting of news and entertainment programming is moving beyond the "early adopters" to more of a popular culture audience who are downloading podcast programming to their PCs, rather than to mobile devices (Barnako, 2006). [Note: Mobile phones receive video programming by downloading from satellite signals, while podcasting is transmitted to the mobile device via a sync with a computer.]

At least two private organizations have made media/technology usage a primary area of study: The Kaiser Family Foundation ([www.kff.org](http://www.kff.org)), who use the data mostly to provide a context for health issues; and the Pew Internet & American Life Project



([www.pewinternet.org](http://www.pewinternet.org)), which has a broad research interest in the ways that the Internet is impacting the social, political, and cultural life of Americans. Both have done media/Internet usage studies recently and are useful starting points for crafting a survey for college undergraduates.

In the Fall of 2005, KFF released a compilation of Internet use data called Key Facts: Teen Online. This report drew on a variety of sources for data collection, including the US Department of Commerce's 2002 report *A Nation Online: How Americans Are Expanding Their Use of the Internet*; the KFF's *Generation Rx: How young people use the Internet for health information*; the Pew Internet & American Life Project's 2001 report *Teenage Life Online: The Rise of the Instant-Message Generation*; The Annenberg Public Policy Center of the University of Pennsylvania's report *Media in the Home 2000: The Fifth Annual Survey of Parents and Children*; and, the Kaiser Family Foundation's 1999 report *Kids & Media @ the New Millennium*. The report compiles data from these sources into thematic areas, collectively painting a picture of the mediated life of teens. As this report is several years old, we can imagine that many of these teens are now in college, taking advantage of 24/7 high speed Internet connections, without content filters, and likely increasing their use of online activities and communications.

Some of the more relevant facts for this study from the KFF (2005) report include:

- 90% of teens use email, and more than half have more than one e-mail address;
- 80% of online teens download music;

- 74% use instant messaging;
- 76% of online teens 15-17 had gone online to research youth-related health issues such as HIV/AIDS, drug or alcohol abuse, pregnancy or birth control, sexually transmitted diseases, smoking, and/or depression or mental illness;
- Four in 10 teen online health seekers (41%) say they have changed their behavior because of health information they found online. (This last point is of particular interest as it points to the importance of having accessible (and accurate!) health information online.)

It is worth noting, however, that these data are compiled from several sources and there are differences between reports in the data they present. Noting the statistic above that 76% of 15-17 year old teens had gone online to research a health issue, another study found that only 26% of online 12-17 year olds had gone online to look for “diet, health, or fitness” information. This difference in percentages also points to the dramatic rise of Internet usage for health-related information as teens get older.

The March of 2005 report from KFF, *Generation M: Media in the lives of 8-18 year olds*, was a comprehensive survey of leisure time media usage. A key factor in the reliability of this survey is that it was administered in stratified randomly selected schools, with permission from, and incentives for, administration for participation. Even with the exclusion of incomplete or “outlier” responses, this implementation strategy is designed to have a more truly representative distribution of respondents than a strictly volunteer response survey. This study is largely a follow-up survey to a 1999 Kaiser report that was the first large-scale statistically sound survey on the media usage of young Americans (KFF, 2005).

The *Generation M* study groups respondents into media users by age from 8-18, thus some activities with a low percentage of users might be because those activities are geared more towards the older users (such as the data about seeking health information online). The *Generation M* study also did not ask very many specific questions around video and audio usage online, but it did learn that 64% of 8-18 year olds had downloaded music, and 48% had listened to the radio online.

The Pew Internet & American Life Project released a 2002 study, *The Internet Goes to College: How students are living in the future with today's technology*, which covered both academic uses of the Internet as well as social uses of the Internet (with two differently themed surveys) and contribute some useful data, particularly around their social communications online. For example, in the 2002 report, 69% of college students say they are more likely to use the phone than the Internet to communicate socially. It is suspected that while mobile telephone usage is still very common, it is likely there will be a much greater prevalence of socializing on the Internet since the advent of social networking sites like Facebook, which launched in 2002.<sup>4</sup> The data from this study will be most helpful in further clarifying the extent to which social networking and video sharing sites are playing a role in the social communications of UVM students, and thus aid in the planning and dissemination of health communication messages and programming aimed at this audience.

While the Pew College study did survey the target demographic of this study, in 2002 there were not enough questions aimed at the uses of video and social

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<sup>4</sup> According to the Pew Internet Latest Trends Dataset, there was a 7% point increase in participation at social networking sites among 18-29 year olds between February and September 2005 (9% to 16%).

communications to draw meaningful conclusions for the distribution of web-based health communications. That may have been because video and social networking sites were fairly nascent at that time, or because the purpose and focus of their study was significantly different from what this study proposes.

#### Summary of Review

Each of the areas of literature described helped to place the purpose of this research in context, as well as provide focus the research questions.

The concepts from **audiences as markets** helps to conceive of students in both general (18-22 year olds) and more specific terms (athletes, musicians, etc.), which refines and supports the narrowing of a target audience.

**Social marketing**, in theory and practice, has refined the process of researching and delivering targeted messages to specific audience segments to maximize campaign effectiveness.

The **Entertainment-Education** methodology developed by Miguel Sabido and which draws on research from several disciplines demonstrates that long-form dramatic programming can lead to measurable behavior-change in the audience.

Several academic and independent research projects have begun to measure the ways in which new media and technologies are changing the ways Americans learn, shop, communicate, inform, and entertain themselves, though the collegiate audience is an underrepresented group in this research.

### Part III: Methodology

This is a descriptive research study, taking the form of an online survey, primarily aimed at learning the media usage habits of UVM undergraduates. As such, a series of questions were developed that asked students to report the number of minutes that they do certain mediated activities, and in what context. The structure of some of the questions was modeled on those of other research organizations (such as the Pew research), and others were crafted for the specific interests of this research.

In the Spring of 2006, there were a total of 8,271 undergraduates at UVM (UVM Reports, 2006), thus it was necessary to obtain a minimum of 368 completed surveys in order to compile statistically significant results, with a confidence level of +/- 5 percentage points (Creative Research Systems, 2006).

#### *Sampling*

Estimating a 23% response rate to this survey<sup>5</sup>, a randomized list of 1,600 UVM undergraduates was generated by the Office of Institutional Studies. These students received an email invitation to participate in the electronic survey during the last week of the school year. Approximately two days after sending out the invitation to participate to students via email, it appeared that the response rate was going to be low (likely given the timing of survey distribution in the semester). The Office of Institutional Studies then generated a list of 3,000 additional randomized undergraduates that did not duplicate with the first batch. A total of 4,600 undergraduates (minus approximately two dozen that bounced-back due to incorrect email addresses) received invitations to

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<sup>5</sup> The 23% response rate is the rate anticipated based on the 2006 National College Health Assessment (NCHA) survey which was distributed to UVM undergraduates in the Fall of 2006. Though that survey is considerably longer than the Media Usage survey in this study (which may be a deterrent to responding), similar prizes were offered.

participate in the survey.

An incentive was offered to those who participate; participants who complete the survey were entered in a drawing to win an iPod and/or other technology prizes.

With a volunteer survey, it is possible that there would be some inherent biases among those who chose to respond. In an effort to minimize this, a separate invitation to take the survey was sent to 350 non-respondents. The differences between respondent and non-respondent survey answers is discussed below. Even so, the issue of non-respondents – the thousands of students who chose not to have anything to do with this survey – persists, as there may be an inherent bias towards (or against) the use of media among respondents.

For the large number of students with no interest in the subject of media, or in the possibility of winning an iPod in the respondent drawing, or merely not having the time during a busy time of year to respond, their views are not represented in this research study. We cannot know how their responses would be different, so can only take the survey results at face value: they are only the views of a statistically representative sample of UVM students. We can only generalize to the larger population of UVM students with a great deal of caution.

#### *Validity: Content, Construct and Criteria*

The issue of validity ascertains whether the questions asked and responses given will effectively respond to the research questions (Muijs, 2004). Using an instrument that has already been proven valid and reliable is a significant way to quell questions about the usefulness of an instrument. In this case, since there is not an existing instrument that asks all of the questions that are central to this study, a significant effort

was made to ascertain the validity and reliability of the instrument. Parts of existing instruments (Pew, 2006; Kaiser, 2004) also served as useful guides for the phrasing and scales used in the questions.

In an effort to address content validity, the survey was reviewed by members of the target audience (UVM undergraduates), as well as pre-tested twice (test and re-test) with the same group. Preliminary, informal review of the survey was done with a convenience sample of undergraduate and recently graduated students. These students were very helpful in clarifying specific names of the media devices and terminologies used in the survey and this step helped to increase the face validity of the instrument by confirming that the questions were clear. Next, a class of Sociology students took the survey and then engaged in a focus-group discussion with the researcher about the format and content of the survey. Additionally, this class of Sociology students (a sub-population of UVM undergraduates) served as the instrument-testers and re-took the survey approximately five weeks later. Results of the test-/re-test are described below.

Criterion validity seeks to ensure that appropriate measures are assigned to particular questions so that the variables are measured with values consistent with similar studies and theoretical approaches. This study is a descriptive analysis of media usage behaviors, rather than aiming to be predictive, where each variable addresses a slightly different aspect of media usage. Other surveys aiming at similarly descriptive ends (chiefly Pew and Kaiser) construct validity in terms of internal consistency and is not being sought (Muijs, 2004).

To address internal consistency of responses across subjects, alpha coefficient correlations were run on several questions. Findings of these tests found all questions to

be independent.

### *Reliability*

The importance of reliability has to do with the clarity and consistency of the format and questions of the survey, so there is no ambiguity for the survey takers. As this is a descriptive study, the most important way to ensure the reliability of the study is to make the questions simple and unambiguous so that respondents are clear about the intention of the questions and that the response options fit the questions. This project employed several approaches to ensure reliability, including:

- Performed a **test and re-test** of the survey instrument with the same participants;
- Noted **question response consistency** of responses from one section of the survey to another;
- Contacted **non-responders** to the survey and gathered their responses and compared against original responders; and,
- Observed **population representation** in two ways: by comparing responder demographics against the UVM population at-large, and by relating demographic and technology ownership data from the survey respondents to what we know about the general UVM population.

### *Test and Re-test*

The results of the test and re-test showed that there was no statistically significant difference in responses from the first administration of the survey to the second, on several appropriate questions. Additionally, mean ranks of media usage from the pre-test to re-test were almost identical.



Table 1: Mean ranks of pre-test / re-test participants

	<b>Pre-Test</b>	<b>Re-Test</b>
<b>Communication Activities</b>		
Min/day phone	242.58	277.07
Min/day Texting	228.79	194.26
Min/day IMing	148.39	195.20
Min/day emailing	263.17	276.04
Min/day SN	209.23	231.47
Min/day video/anim	183.37	165.18
<b>Entertainment Activities</b>		
Min/day pre-recorded music	229.09	261.95
Min/day live radio	215.48	199.18
Min/day find music	96.00	161.26
Min/day video/anim on web	158.18	153.33
Min/day finding vid/anim	83.13	95.77
Min/day b'cast or cable TV	158.42	215.55
Min/day movies	172.65	172.5-\0

The Chi-square test was used on the question about how participants share information about websites with their peers, showing no significant difference between the responses. On the question about media usage pastimes, a Mann-Whitney test was used, which is a non-parametric test that compares the median of two groups. The results of the Asymp. Sig (2-tailed) test revealed that all areas had p values that were not significant.

#### *Question Response Consistency*

In the course of the survey, the question of how much online video is watched was asked in three different ways: by asking the number of minutes spent doing a variety of media activities, by asking where they watch online video, and by asking about which genres of online video they watch.

The results of all three questions are within three percentage points of each other,

suggesting that when respondents are asked about their media usage in different ways, they still respond consistently:

Watch online video daily (by minutes watched)	55.5%
Watch online video weekly (by location watched)	57.1%
Watch online video weekly (genre = comedy)	58.7%.

#### *Respondent vs. Non-Respondent Results*

Another test of reliability is in comparing the responses of responders to non-responders. A list of 650 students from the originally obtained randomized list of UVM undergraduates was culled and de-duped against the names of students who responded to the original survey invitation, to generate the list of non-respondents who would be invited to take the survey. Twenty-nine non-respondents did respond to this second invitation to participate, even though there was no prize drawing.

It must be noted, however, that these are not *true* non-respondents, as they did still take the personal initiative to respond to the second invitation to participate in the study. That said, the following are key observations from the non-responder survey.

- In the area of media device ownership, there was no difference between responders and non-responders.
- In the area of number of minutes doing certain communication activities, the Mann Whitney test showed no differences.
- In the area of entertainment usage, non-responders spend less time finding and downloading new music (p value .02), and less time watching broadcast or cable television (p value .04). This last item makes particular sense, as this survey was promoted as a “media usage survey,” and these people are

obviously less interested in finding new music and watching television.

- Demographically, mostly women took the non-responder survey, which is consistent with the main survey.
- The non-responder GPA is almost identical to the responder

### *Population Representation*

A total of 534 people responded to the invitation to participate in the survey.

With the UVM undergraduate population currently at 8,271, 534 respondents represent a response rate of 6.4%, which makes the sample size statistically significant.

Below is a demographic overview of survey respondents vs. actual data on UVM students, from the 2006-2007 Fact Sheet from the Office of Institutional Studies, which provides a helpful context for the survey data and analysis to follow (Table 2).

A disproportionate number of female students took the survey (63.1%), as compared to the undergraduate population at large (55%), and fewer male students took the survey (36%) as compared against the entire undergraduate population at UVM (44%). This representational disparity must be kept in mind when generalizations are made. The heavy female response becomes particularly obvious when considering the regularly scheduled TV programs that they watch, as is discussed below. Also, a disproportionate number of Vermont resident students took the survey (45.5%) as opposed to the general UVM population (35.5%). This may have something to do with motivation to take the survey, as one of the leading prizes in the drawing was an iPod, and chi square tests show that there is a lower proportion of in-state students (41.1%) that own iPods as compared to out-of-state students (58.9%), a statistically significant difference with a p value of  $-.01$  (see Table 3).

Table 2: General demographics of survey respondents in comparison to all UVM students

	<b>Survey Respondent Percent</b>	<b>All UVM Students Percent</b>
<b>Gender</b>		
Male	36	44
Female	63.1	55
<b>Residency</b>		
Vermont Resident	45.5	35.5
Non-Resident	54.1	64.4
<b>College/School</b>		
Agric & Life Sci	10.9	10
Arts & Sciences	51.5	53
Business Admin	7.1	10
Educ & Soc Serv	8.2	9
Engineering & Math	7.5	7
Medicine	.2	5
Environ. & Nat Res	6.2	5.4
Nursing & Health Sci	6.7	5.7
CE/Other	1.1	>1
<b>Year in School</b>		
1 <sup>st</sup> year undergraduate	22.5	26.9
2 <sup>nd</sup> year undergraduate	23.2	24.6
3 <sup>rd</sup> year undergraduate	19.3	21.4
4 <sup>th</sup> year undergraduate	28.3	27
5 <sup>th</sup> year undergraduate	4.1	-

Table 3: Media device ownership

<b>Device</b>	<b>Survey respondent percent</b>
Own a CD walkman	45.3
Own an iPod G5	11.1
Own an iPod G4	15
Own an iPod mini, shuffle, or equivalent	27.8
Own a video iPod or equivalent	20
Own any iPod (combined calculation)	65.9
Own other handheld video device	5.6
Own a cell phone	80.5
Own a cell phone that plays music	24.3
Own a PDA	1.9
Own other PDA device	1.9
Own a laptop computer	83.5
Own a desktop computer	27.1

This fact about respondents – that more in-state students took the survey where a prize drawing of an iPod was a winning item – inadvertently allowed us to find another characteristic that supports validity in the sample. Given that the responses to the device ownership question revealed that there is an 18% difference between in-state and out-of-state students regarding their ownership of iPod devices (see Table 2), and given that non-iPod owners might be more interested in taking a survey where an iPod was a possible prize, the smaller representation of out-of-state students in the survey responders made perfect sense: Out-of-state students pay more than twice as much tuition as in-state students at the University, suggesting that they come from wealthier families than those of in-state students and thus more likely to own a variety of new technologies such as iPods. (Of course, we could also surmise that in-state students are more interested in being outdoors than listening to music, but those interests among

young people are not likely to be mutually exclusive.)

### *Survey Administration*

The Undergraduate Media Usage Survey was administered electronically, with an invitation to participate going out to a randomized list of UVM undergraduates as described above. The letters of invitation to the students, as well as the survey instrument itself was approved by the University of Vermont Institutional Review Board (IRB) (see Appendixes A and B). After one week, a reminder email was sent to non-respondents. Five days later, a “last chance” email was sent out. The duration of the survey administration was a total of two weeks from the first email invitation to participate. After two weeks, the survey closed.

Based on demographic data obtained in the survey, the respondents were generally speaking a representational sampling of UVM students across colleges and schools, as well as year-in-school (see Table 2), which provided a of confidence in the generalisability of the data to the undergraduate population at large.

In an effort to understand and minimize bias among the people who chose to participate in the survey, a random sampling of non-respondents was sent an invitation to participate in the “non-respondent survey.” Twenty-nine of non-respondents chose to respond to the email invitation (even though there was no prize-drawing incentive to do so). The responses of this sample were compared against the larger group of original respondents to determine if there were significant differences between the normal distribution of responses.

It is understood that the people who chose to participate in the non-respondent email invitation-to-participate may also be biased in a similar way to those who

originally chose to respond, since both were voluntary. This caveat will be discussed in the section on Respondents vs. Non-respondents.

### *Statistics for Analysis*

Findings of this study were analyzed using a variety of standard descriptive statistics that addressed nominal, ordinal, and interval levels of measurement, as was appropriate for each question. Frequency distribution and percentile ranks for individual variables were used on questions where respondents were asked about the number of minutes they do certain activities. Mean and standard deviation tests were also run on several questions involving time. Additionally, percentage statistics and some correlations were run on sub populations identified in the study, such as between male and female respondents, year in school, etc. Correlations were also employed on specific data points, including minutes of media usage and GPA, for example.

### *Summary of Methodology*

The students who were sent an invitation to participate in the survey were a randomized sample of UVM undergraduates. The total number of survey respondents was 539, representing a response rate of 11.72% and 7% of the overall UVM undergraduate population. Participants who took the survey were generally speaking representative of the various UVM colleges and schools, as well as year in school (see Table 2).

Though the population that responded to the survey was a statistical representative of the UVM undergraduate population, we were only cautiously able to generalize the results to the entire UVM undergraduate population, as the distribution between females who took the survey (63.1%) and males who took the survey (36%)

was not representative of the UVM undergraduate population, which in the 2006-2007 academic year was 55% female and 44% male (1% unidentified). No attempt is being made to generalize the results to a population beyond UVM.



## PART IV: Findings and Discussion

### *Findings*

The study findings described below go beyond the strict scope of the original Research Questions, but all are in service of the study's Purpose, which is to gain a better understanding of the level of adoption of various communication and entertainment technologies.

Several of the research questions were addressed by considering the responses to not just one, but multiple survey questions. For example, the research question 'What is the level of usage of various entertainment media?' can first be considered quantitatively by looking at minutes engaging in different activities, but also more descriptively by looking at the kinds of programming students are watching and where they watch. These more descriptive, or qualitative questions, were not explicit research questions at the outset, but were individual questions on the survey so that a well-rounded descriptive picture of media usage could be explored.

Revisiting the key research questions of this study, the data paint a picture that is both clear and open to interpretation. Several of the research questions overlapped with each other: For example, the question, "What is the level of usage of various media technologies," was inexorably tied to the question, "What is the level of usage of various entertainment media?," as entertainment media *use* media technologies.

#### *What is the Level of Ownership of Various Media Devices?*

Respondents were asked about the types of media devices that they own, which provided an interesting overview of the level of adoption among this population. Cell phones and laptop computers are owned by over 80% of respondents (see Table 3),

while almost two-thirds (65.9%) of respondents own some sort of iPod device (see Table 4).

Table 4: Own Any iPod and Vermont Residency Status

		Live in Vermont			
		Family lives in Vermont	Family lives outside Vermont	Total	
<b>Own any iPod?</b>	<b>Do not own</b>	Count	99	83	182
		% Do not own any iPod?	54.4%	45.6%	100.0%
		% Live in Vermont	40.7%	28.7%	34.2%
	<b>Own</b>	Count	144	206	350
		% Own any iPod?	41.1%	58.9%	100.0%
		% Live in Vermont	59.3%	71.3%	65.8%
<b>Total</b>	Count	243	289	532	
	% Own any iPod?	45.7%	54.3%	100.0%	
	% Live in Vermont	100.0%	100.0%	100.0%	

By itself, data about student media device ownership is not particularly interesting, unless we consider *who* has *which* kinds of devices. As we have learned, there was nearly an 18% difference of ownership (17.8%) between in-state and out-of-state students who own an iPod device, which raised questions about a digital divide that was created by a large percentage of UVM students who come from wealthy out-of-state families.

In the context of this survey, however, media device ownership provided an overall picture of adoption-level of the technologies, as well as provided key data for correlating iPod ownership with in-state and out-of-state status as described.

*What is the level of usage of various media technologies?* Tables 5 and 6 show the amount of time that respondents spent doing several mediated activities, grouped into both communication and entertainment technologies. Specific usage of media technologies, as measured by entertainment activities with those technologies, is discussed in the question on entertainment activities below.

In the area of communication technologies, we found that respondents were frequent users of a range of technologies:

- 98.3% talk on the phone an average of 30 minutes per day;
- 70.3% send/receive text messages an average of 10 minutes per day;
- 69.7% engage in Instant Messaging for an average of 30 minutes per day;
- 82.4% of respondents engage in Social Networking sites an average of 20 minutes per day.

These data indicate that there is a high level of adoption of mediated communication activities, with many respondents frequently using multiple technologies.

Table 5: Number of Minutes/Day Doing Certain Communication Activities

Activity	Median time spent of all students	Median time in minutes among users	Percent spending 1-10 min/day	Percent spending 11-30 min/day	Percent spending 31-60 min/day	Percent spending >60 min per day	Percent that DON'T do this activity
<b>Talk on the phone</b>	30	30	17.2	46.3	23.8	11	1.7
<b>Send/receive text messages</b>	5	10	47.0	16.4	5.1	1.9	29.7
<b>Instant Messaging</b>	15	30	16.1	21.2	16.3	16.1	30.3
<b>Emailing</b>	20	20	26.0	52.2	13.7	6.7	1.3
<b>Social Networking</b>	20	20	22.7	33.9	16.9	9.0	17.6

When the amount of time spent doing these activities was compared against year in school, we found that there was a significant difference between how upper classmen and lower classmen communicate with each other (see Tables 13 and 14). SN, IM, and Texting all decrease with juniors and seniors, while the amount of time students spend Emailing increases with year in school. Results showed that 45.7% of 4<sup>th</sup> year undergraduates (seniors) do not do ANY Instant Messaging, while fifth year undergraduates do not do any IMing at all. These findings were calculated with the Kruskal-Wallis chi-square test, with each test having a p value of .04. Since IMing is a relatively recent technological development, this finding could suggest that long-term undergraduate students, presumably older and/or non-traditional students, are less likely to have adopted this technology. It could also suggest, however, that as students progress through college they are spending less time communicating with their friends via this technology.

There was also a positive, but not strong, correlation (.3 with p value less than .001) between high Texting and high IMing, suggesting that perhaps people who spend a great deal of time communicating with friends via text messaging also spend a great deal of time IMing with them.

One of the most interesting findings in the study looked at the amount of time that students spent IMing and Texting in relationship to their GPA. The survey results found a small but significant inverse relationship (-.194) between the amount of time spent IMing and Texting and student GPA.

*What is the level of usage of various entertainment media?* Slightly more specific than the general media technologies question, the survey findings show that respondents

report using a range of entertainment media on a daily basis. The level of daily usage, or time spent doing these activities, varied according to the activity:

- As much as 93.4% of respondents are listening to pre-recorded music for an average of 70 minutes per day;
- 57.4% search for and download music, spending an average of 15 minutes per day;
- 70.9% listen to live radio for an average of 30 minutes per day;
- 55.5% are watching video or animation on the web an average of 15 minutes per day; and,
- 76.3% are watching broadcast or cable television an average of 60 minutes per day.

These data indicate that students are using a variety of media technologies on a regular basis, but watching web-based video programming is not as frequent as the more traditional media outlets of broadcast and cable television.

A series of questions inquiring about the amount of time students spent doing particular entertainment activities revealed a broad array of usage of those activities. As might be expected, there were small groups of students on both ends of the spectrum – little/no use to heavy use – with the median amount of time being within an expected range. Descriptive statistics showed that 93.4% of respondents listened to prerecorded music on a daily basis, with the median amount of time spent being 70 minutes among users, and 42.1% of respondents reported listening to more than 90 minutes of pre-recorded music daily. Additionally, almost a third of respondents (29.1%) listened to the radio daily, for a median of 30 minutes among users. More than half (55.5%) reported

watching web video on a daily basis, with the median amount of time among users being 15 minutes.

Table 6: Number Of Minutes/Day Doing Entertainment Activities

Activity	Median time spent of all students	Median time of users	Percent spending 1-30 min/day	Percent spending 31-60 min/day	Percent spending 61-90 min/day	Percent spending >90 min/day	Percent that DON'T do this activity
Listening to pre-recorded music	60	70	22.7	23.9	4.7	42.1	6.6
Listening to live radio	20	30	47.3	14.8	1.5	7.3	29.1
Finding and downloading new music	5	15	48.2	8.1	.02	.09	42.6
Watching video or animation on the web	5	15	47.4	4.9	.08	2.4	44.5
Finding new video or animation on the web	0	10	31.9	2.6	02	02	65.1
Watching broadcast TV or cable	60	60	22.4	23.7	6.0	24.2	23.7
Watching movies	30	60	16.1	15.7	7.4	24.0	36.9

Another interesting observation from the Entertainment Activities data included that three quarters of respondents (76.3%) watch at least some television on a daily basis, with the median time spent being 60 minutes among users. This is more time spent watching TV that would have been expected given the social lives and busy schedules of college students. In the context of national data, the new Nielsen reports of college student TV watching reports an average of 24.3 hours of TV per week (Aspan, 2006),

which places UVM students in a higher TV usage bracket than the national average.

*Is online video viewing a common source of entertainment? How frequently is online video/animation watched?* This question was asked in different ways in three separate questions on the survey, with each garnering a different response rate:

- When the question was asked as “How many minutes per day do you do these activities?,” 55.5% of respondents reported that they watch web-based video or animation an average of 15 minutes per day;
- When the question was asked as “Where do you watch online video?,” 57.1% reported that they watch web video on a weekly basis alone in their rooms;
- When the question was asked as “What genres of online video do you watch?,” 58.7% reported watching humorous video on a weekly basis.

So if we try to answer the question, “How frequently is online video/animation watched?,” we can answer that more than half of respondents are watching online video on a weekly or daily basis.

*How do students share information about web video with one another?* This specific question was addressed by asking “How do you receive information about new web videos?” As reported in Table 9 below, 80% get an email from a friend with a link to a URL, and 4.4% get an email with an attachment (with 15.5% not knowing). When asked how they heard about the *most recent* online video they saw, 59% said they found out about it from a friend. These results point to the highly viral nature of online video, with friends frequently sharing information about what they are watching.

To assist our larger programming goals, we wanted to learn how students learned

about new videos on the web, whether they are searching themselves or getting leads from friends. We asked three questions in this area:

1. How do you find new video?
2. How did you find out about the most recent video you watched? and
3. If you found out from a friend, did they send it as an attachment or include a link?

The responses showed that a majority of people found out about new videos from friends (59%) and that they were most likely to get the information about the video in the form of an email with a link included (80%).

Table 7: How Students Find Out About New Web Videos (in percents)

	<b>How new videos are found</b>	<b>How <i>most recent</i> video was found</b>
<b>Search known video websites</b>	16.7	14.6
<b>Use a search engine</b>	13.7	10.9
<b>Learn from friends</b>	17.2	59
<b>Other</b>	12.7	6.6

Table 8: How Students Receive Information about New Web Videos (in percents)

<b>Get an email with an attachment</b>	4.4
<b>Get an email with a link to a URL</b>	80
<b>Don't know</b>	15.5

These results emphasize the importance of viral marketing in the dissemination of the programming we develop, as the majority of respondents were learning about new video programming from friends, who included the link in their email messages to friends.



When asked about how they send information to a friend about a video to watch online, 46.1% said they would send an Instant Message, 36.7% said they would send an email and include a link, and 12.7% said they would tell their friend through a Social Networking site. This information is both useful and interesting in that we have some insight into the ways that viral communications happen within this audience (almost half would send an IM for sharing casual information) which we can use in our efforts to spread-the-word about our programming..

When asked about their preferred method of communicating with friends when not with them in person, 78.9% said they often or mostly called them on the phone, while 47.7% said they often or mostly sent a text message, and 47.9% often or mostly used Instant Messaging. Email, Chat rooms, and Social Networking were much less often used when trying to contact a friend.

Table 9: Communicating with Friends When Not with Them in Person (in percents)

	<b>Mostly</b>	<b>Often</b>	<b>Sometimes</b>	<b>Never</b>
<b>Use phone</b>	46.5	32.4	20.1	0.9
<b>Use Text messaging</b>	16.0	31.7	30.0	22.3
<b>Use Instant Messaging</b>	19.9	28.0	30.2	21.9
<b>Use Email</b>	9.0	26.3	52.2	12.1
<b>Use Chat Rooms</b>	0	0.2	2.1	97.7
<b>Use Social Networking</b>	10.3	33.1	38.1	18.5

*Do they watch regularly scheduled TV or web-based video programs?* The specific purpose of this question was to get a sense of whether TV or web-based series were a consistent source entertainment. Particularly in the area of broadcast television, where networks have been lamenting the decline of viewership (and related advertising

revenue) in favor of alternative media outlets for many years (see AdAge, 2007), we saw a surprising amount of loyalty to episodic television. Over two-thirds (68%) of respondents reported watching regularly scheduled television or web-based programming, with only three programs comprising 62.8% of the programs watched (*Grey's Anatomy*, *House*, and *Lost*). Because respondents were asked to specify what the regularly watched programs were, it was extremely difficult to ascertain which were web-based programs, particularly because many broadcast programs are made available on the web.

Table 10: TV Programming Regularly Watched by Gender (in percents)

<b>TV Program</b>	<b>If watch regularly scheduled TV, program watched</b>	<b>Percent female</b>
<b>Grey's Anatomy</b>	33.9	96.7
<b>House</b>	15.6	85
<b>Lost</b>	13.3	56.3
<b>CSI</b>	5.3	88.9
<b>Scrubs</b>	5.6	54
<b>24</b>	5.3	42.1

Many, many other TV programs were listed, but it is worth noting the popularity of a program like *Grey's Anatomy* among college women and the role that television plays in the overall media entertainment landscape for college students.

The next series of questions in the survey aimed to find out where students were watching video and what kinds of video they were watching. It was useful to know where they were watching, to understand whether watching web-based video was a group/social activity, or something done solitarily. While 43.2% reported that they do

not watch any video with others in their room or apartment, 21.3% watched 1-10 minutes of web video per week with others in their own room or apartment. This seemed to suggest that watching web-based video was slightly more of a social activity than a solitary one (21.3% watched with others while 17.2% watched alone), though this depended on the amount of video that was watched.

Table 11: Minutes of Web Video Watched Per Week by Location (in percents)

	<b>Watch 1-10 min</b>	<b>Watch 11-30 min</b>	<b>Watch 31-60 min</b>	<b>Watch &gt;60 min</b>	<b>Don't do this activity</b>
<b>Watch alone in room</b>	17.2	19.5	9.6	10.8	42.9
<b>Watch with others in room/apt</b>	21.3	17.6	10.2	7.7	43.2
<b>Watch outside room/apt</b>	14.5	12.4	6.3	2.6	64.5

When asked about the genres of video they were watching and for how long each week (see Table 12), the data described the viewing habits of specific content that was somewhat contradictory to data previously mentioned about amount of time viewing video from the web. In this set of questions, when asked explicitly how much humor video they were watching, for example, just over half (52.2%) responded that they were watching between 1 and 30 minutes of novelty humor video per week (this as opposed to the 8.1% who said they watched 1-30 minutes of web video per day in the question on the number of minutes per day they do specific media activities). The disparity was likely due to the daily vs. weekly aspect of the questions, suggesting that watching web video came in spurts at some point during a week and was not necessarily a daily

activity like talking on the phone or IMing. Watching music videos was also a popular viewing activity with 34% watching up to 30 minutes/week, as was watching news programming at 17.3%. Watching sports online was not a widespread activity, with 9.7% watching up to 10 minutes per week and 18.2% watching up to 30 minutes per week.

Table 12: Genres of Web Video Watched Per Week (in percents)

	<b>Watch 1-10 min</b>	<b>Watch 11-30 min</b>	<b>Watch &gt; 30 min</b>	<b>Don't watch</b>
<b>Watch professionally produced informative video or documentaries</b>	7.2	5.1	2.1	86.8
<b>Watch amateur produced informative video or documentaries</b>	2.6	5.8	1.7	85.3
<b>Watch novelty humor</b>	27	23.2	8.7	41.3
<b>Watch humor at someone else's expense</b>	21.5	12.5	3.3	62.8
<b>Watch humor at someone's own expense</b>	18.5	12.8	2.1	66.7
<b>Watch music artists</b>	21.8	12.2	5.1	60.9
<b>Watch visual artists</b>	8.0	3.0	0.6	88.5
<b>Watch sports</b>	9.7	8.5	1.6	80.4
<b>Watch news</b>	17.3	11.2	3.5	68.1

From these responses, and the considerable percentage of students who reported watching up to 30 minutes per week of web video – more than half reported watching some humor video during the week – the data suggest that watching web-based video was a common occurrence among a solid group of students, but not at all among the majority of students.

While the primary goal of the survey was to gain an overall understanding of the media usage habits of undergraduates through the use of descriptive statistics, by running some cross-tabulation statistics with the demographic data, we furthered our understanding of usage patterns, as well as determined some interesting peer communication patterns and relationships.

*What is the prevalence of Texting and IMing?* While there is no baseline data about the prevalence of Texting and IMing at UVM, we do know now that these technologies are a frequent means of communication for undergraduates.

One set of cross-tabulations conducted was the amount of time spent Texting in relation to year in school. Nearly two-thirds (average of 64.25%) of all undergraduates in years 1-4 Texted between 1-30 minutes per day. Fifth year undergraduates were less likely to do any Texting, suggesting that older students (or part-time students) were less engaged with this activity.

Instant Messaging on the other hand, was used moderately throughout school though heavy usage drops off significantly as they progressed through their years in school. This observation was tempered, however, by the fact that students who are now upperclassmen may not have been as exposed to the technology during their high school years as some of the younger students have.

Table 13: Amount of Time Spent Sending/Receiving Text Messages by Year in School (in percents)

	<b>% Texting 1-30 min/day</b>	<b>% Texting 31-60 min/day</b>	<b>% Texting &lt; 60 min/day</b>	<b>% not doing any Texting</b>
<b>1<sup>st</sup> year undergraduate</b>	67.2	6.7	5	21
<b>2<sup>nd</sup> year undergraduate</b>	63.7	6.5	1.6	28.2
<b>3<sup>rd</sup> year undergraduate</b>	64.1	1.9	0	34
<b>4<sup>th</sup> year undergraduate</b>	62	4.0	1.3	32.7
<b>5<sup>th</sup> year undergraduate</b>	51.4	8.6	0	40

Nearly 90% of all freshmen reported doing some IMing each day, with about a third IMing 1-30 minutes (36.7%). Over a quarter of them (28.3%) said they IM *more* than 60 minutes per day, making IMing one of the largest occupiers of time for freshmen. By the time they are seniors, however, only a little more than half were still IMing every day (54.3%) and those that were, were primarily IMing 1-30 minutes per day. Some additional questions (in the demographics section) aimed to explore the kinds of activities students engaged in, including whether they participated in any Student Government Association clubs or teams, and whether or not they read the student newspaper *The Cynic*.

Table 14: Amount of Time Spent Instant Messaging by Year in School (in percents)

	<b>% IMing 1-30 min/day</b>	<b>% IMing 31-60 min/day</b>	<b>% IMing &lt; 60 min/day</b>	<b>% not doing any IMing</b>
<b>1<sup>st</sup> year undergraduate</b>	36.7	24.2	28.3	10.8
<b>2<sup>nd</sup> year undergraduate</b>	34.7	21.8	21.8	21.8
<b>3<sup>rd</sup> year undergraduate</b>	43.7	13.6	11.7	31.1
<b>4<sup>th</sup> year undergraduate</b>	38.4	9.3	6.6	45.7
<b>5<sup>th</sup> year undergraduate</b>	25.7	8.6	5.7	60

*Does media or technology impact academic performance?* Another key area of interest was to learn whether there was a relationship between the amount of media used and GPA.

Along with the correlation showing a negative relationship between the amount of time spent Texting and IMing and grade point average, similar results came from looking at the relationship between watching *any* amount of video and GPA: Of people who watched online video, there was a correlation of  $-.222$ ; as the use of video went up, the GPA went down ( $p$ value  $<.001$ ). If we included respondents who noted that they did not watch online video, there was still an overall negative correlation coefficient of  $-.131$  ( $p$  value  $.003$ ).

Increasing telephone usage, however, does not have a corollary negative impact on student achievement. The Spearman t-test showed that there was no correlation between phone use and GPA at all. This was an interesting piece of data, as it suggested that there were some non-academic activities that did not have an impact on

achievement, while others did.

### *Discussion*

The overall results of the survey showed that approximately half of students (58.7%) were watching some web-based video on a daily or weekly basis, which was less than we might have expected. There was no correlation between how much web video was watched and the respondent's year in school, which negated the idea that this was an emerging technology that only younger students were drawn to.

Though the total number of students watching web video regularly was only about half of the student body, this may not mean that web-based video was not a viable delivery method for the serial drama/health-promotion programming, especially when we considered the high cost of the alternatives (i.e., broadcast television). Since broadcast radio is still a widely used means of entertainment (almost 70% listened to radio regularly), we might consider this an alternative and/or complementary format for creating programming. We did neglect to ask the question: Have you *ever* watched a video online, so we do not know if students would watch a web program if they were instructed to or asked to.

We might have expected that TV/video viewing would have an adverse effect on grades, as this has been shown among elementary and secondary school students (see Caldas & Bankston, 1999; Comstock, 1995; Ennemoser & Schneider, 2007), and makes some sense – if you are watching TV you are not doing your homework. But it is somewhat more of a surprise that IMing and Texting also correlate negatively with GPA.

Television and video viewing are primarily entertainment activities, where viewers are invited to escape into comedic or dramatic situations where there is little



need for critical thinking and regular viewers take up large chunks of their spare time with relatively passive watching.

Texting and IMing, however, are communication technologies, where the work of communicating – actively using language, sharing information and ideas with peers – is anything but passive. The fact that Texting and IMing are correlated in a negative direction with GPA raises some interesting questions about whether they function more like television, in terms of their entertainment-value and/or are they just taking up a disproportionate amount of time away from students' studies. (Here is a solid reason for parents to cap the amount of Texting/Data time they give their children on their mobile phone plans!)

Both Texting and IMing were done regularly by roughly 70% of respondents (70.3% and 69.7% respectively), though with very different usage patterns. Nearly one-third of respondents (32.4%) reported spending over 30 minutes/day doing Instant Messaging, while the percentage of students who reported doing text messaging more than 30 minutes per day was only 7%. Sixteen point one percent (16.1%) reported IMing more than 60 minutes per day, indicating that there was a small group of people who were communicating with each other intensively through this technology. As noted earlier, heavy Texting correlated with heavy IMing, though not the other way around.

Over three-quarters of students (76.3%) responded that they watched regularly scheduled programs on TV or the web, which was more than expected given the busy social lives of college students. But based on this response, it appeared that watching regularly scheduled TV programs was also a significant part of some students' social lives, as there was a high percentage of students watching the same programs,

particularly among female students.

When we looked at viewing patterns of web video by location, 21% of respondents said that they were watching short amounts of video (1-10 minutes) with others in their rooms or apartments, while only 17.2% were watching that amount alone in their rooms. When watching more than 60 minutes of video, however, 10.8% were watching alone in their rooms while 7.7% were watching with others. Though these differences are not very large, the numbers suggested that the heavy users were pursuing their interests in online video on their own, rather than as a social activity.

This makes some sense when we considered that 59% of respondents said they learned of the most recent web video they watched from a friend sending them information about it – that is to say, some people needed to be finding new videos in order to let their friends also know about them.

That leads us back to communication methods. Eighty percent of respondents reported being sent information about online videos to watch by receiving an email with the URL link included, as opposed to with an attachment (4.4%). In these days of suspicious emails, sending large file attachments is increasingly rare. Additionally, new technologies of web compression make watching video streams from a website much faster than it used to be. These data will be helpful for helping the production team plan for dissemination and viral marketing of the proposed health promotion programming. It can also suggest that people who were disseminating video clips were eager to track the number of viewers (which they could do if one needed to go to a website to view the video, as opposed to when the clip was circulated from one viewer to another). On a related note, sending links in an email require a potential viewer to actively click on a

link that will take them to the hosting URL, thus driving traffic to the site, which can be beneficial for brand awareness and advertising revenue, if applicable.

When we looked at *what* students were watching, 27% reported watching between 1-10 minutes of humor video each week, while almost a third (31.9%) reported watching 11 minutes or more each week (which probably amounts to 2-3 video clips, as many are quite short). Humorous video was by far the content most watched, with genres such as news and sports garnering only 17.3% and 9.7% respectively in the category of 1-10 minutes of viewing. There was an attempt in the survey to capture the kinds of humor people were watching (i.e., novelty humor, humor at someone else's expense, and humor at someone's own expense), but it was not clear that these descriptions were an effective way of differentiating between sub-genres of video (there was much overlap).

Watching music videos are a popular pastime among these youth, with 34% of respondents reporting that they watched up to 30 minutes of music artists online each week. While we were unable to compare this with the amount of time they watched the cable broadcast version of MTV, we did get a sense that online distribution of media was rapidly replacing the traditional means of program delivery. This was also revealed elsewhere in the survey, when respondents reported watching missed TV programs and news programs online.

As noted earlier, humor was the most watched genre of video online, which reinforced the idea that Internet video was largely used as entertainment destination, at this point, rather than a consistent source of news and informational programming.

Nearly two-thirds of all undergraduates (averaging 64.25%) reported sending

and receiving text messages between 1-30 minutes per day, while freshmen were the heaviest users at 67.2%. But with this technology, very few at any level in school (8.5% and less) were using more than 31 minutes per day.

With Instant Messaging, on the other hand, usage over 31 minutes per day continued to be high with freshmen and sophomores with each reporting 52.5% and 43.6%, respectively. Over a quarter of freshmen (28.3%) reported IMing more than 60 minutes per day. This was a LOT of IMing. Since IMing is done at a computer (as opposed to on a mobile device), an hour of IMing means that someone is sitting at their computers, sending and receiving instant messages for a good chunk of time. If they are doing this activity *instead* of their studies, then the diversion is indeed similar to television in its ability to replace study time. If they are doing this activity *while* doing their studies, however, this raises all sorts of questions about the mind's ability to multi-task and the quality of work that comes out of time spent in this fashion.

### Conclusions & Implications

The data from this study showed that there was a fairly wide adoption of web-based media for entertainment and communication purposes among UVM undergraduates, with 58.7% of respondents watching web video on a weekly basis, suggesting that web distribution of an EE program could be a viable means of reaching this audience. Of course, considerable attention must be paid to the content of the program to make it appealing to this audience, as well as finding innovative ways of promoting it virally.

The implications of this study, however, go beyond the original scope of the research questions and suggest an array of new questions in diverse fields of study, such

as education, particularly evolving social communications and environments, and the epistemology of new technologies.

### *Education*

In the realm of education, both K-12 and higher education, the direction of emerging social media content and communication technologies have only just begun to be examined in relation to both learning outcomes and community development (though the gaming field has advanced quite a bit in both of these realms) (see Kuh & Hu, 2001; Riel & Fulton, 2001; Vasquez-Abad, Brousseau, Guillermina, Vezina, Martinez, & deVeriofsky, 2004).

Several considerations arise with regard to the area of support and development of residential college learning communities, which is being referred to here broadly as a “living and learning environment that is safe and conducive to education” (Henning, p. 555).

With students coming in to college already with MySpace and/or Facebook pages and with well-developed communities and extensive networks of groups, it is possible that a student’s sense of community in a residential college setting is profoundly different than it was just a few years ago when these technologies did not exist. A study by Lloyd, Dean and Cooper (2007) examined the level of technology use and its relationship to three areas of psychosocial development: peer relationships, salubrious lifestyle, and educational involvement. This research shows that peer relationships are not positively impacted by the use of technologies such as Facebook, even though previous research demonstrates that students describe one of their uses of these technologies is to connect with peers (see Kuh & Hu, 2001; Kvavik & Caruso, 2005).

This combination of research suggests that there are limitations to the *quality* and intent of social interactions when conducted through media technologies, even though the *quantity* of time “connecting” with others has increased. This corroborates some recent discussions with students about the role of Facebook in their social lives, where they note the often peculiar way that online engagement with someone else often bears no resemblance to their physical world relationship. For example, a person may post many messages on someone’s “wall” (an electronic bulletin board feature on Facebook) and then ignore them in person.

Another area that could be affected by these technologies is student autonomy and decision-making in relationship to their parents (Henning, 2007). We often hear from the experiences of Student Affairs personnel that parental intervention in the day-to-day affairs of undergraduates is significantly different in this generation of students, with “helicopter parents” hovering to direct decisions or intervene on behalf of their child, from course and housing selection to judicial affairs (Hart, 2006; Lum, 2006). This phenomenon is largely enabled by the ubiquity of cell phones, allowing parents and students continuous, intimate access to each other (unlike public phones down the hall of yesteryear). This suggests that another aspect of the residential college experience – learning from decision-making (Henning) – might also be hampered by these new technologies.

On the academic side, the data here suggest that high Texting and IMing have a negative impact on academic performance, which contributes to the literature developing in this area (see Flower, Pascarella, & Pierson, 2000; Kuh & Vesper, 2001). But there are surely also creative and productive ways that these technologies can enhance

learning. Some faculty at the University of Vermont's School of Business Administration use PDAs for instant polling or quiz-taking in the classroom, as well as encourage academic use of students' mobile devices in other ways. Perhaps electronic study groups or class-specific learning communities could enhance academic outcomes, as is suggested by Kuh and Vesper. Other universities are experimenting with the use of new technologies as well, including Duke University, which gave iPods to its 2004 entering class of freshmen, presumably so that they could download lectures of their professors, and the University of Maryland in College Park, which gave away Blackberrys (Carlson, 2004).

### *Evolving Social Environments*

Even without delving into the realm of creating false identities in the online environment, interpersonal communications can be significantly different when mediated by technologies such as email, Texting and IMing. For example, the experience of faculty who teach online courses often point to greater student-teacher interaction and a democratization of class participation when the interference of personalities that can arise in the face to face environment (or F2F in Text and Instant Messaging parlance) are taken out of the equation (see Vaughn, 2007; Zhu, 2006). The shy people can "speak" more freely and the extroverts are easily moderated by faculty.

Informal conversations with students about communicating online often express an ease, an uninhibited, less self-conscious way of presenting themselves. More than one person has mentioned exaggerating or embellishing information in their personal profile. In the best scenarios, this suggests that people are using the freedom of relative anonymity (and sometimes complete anonymity) to explore different aspects of their

personalities. In the worst scenarios, people are perpetrating gross deceptions about their identities which can lead to ill-fated meet-ups (see Bryant, Sanders-Jackson, & Smallwood, 2006; Ellison, Steinfield, & Lampe, 2007).

An additional way that our social environments may be evolving through these new technologies is basically by living a double life: the physical life and the virtual life. The physical life, of course, is the one in which our bodies live and interact in a physical space. The virtual life is the one in which a person “lives” through online communities/environments, most notably through online gaming. With gaming profiles, unlike Social Networking profiles where information is provided to paint a picture of a person in the physical world (theoretically anyway), individuals create the profiles and traits of characters which participate in large scale virtual games. These role-playing games run the gamut from thrilling and dangerous, as in the *World of Warcraft*, to the innocuous and silly games targeted for people as young as 7-12 year olds, such as *ClubPenguin* (Duchenaud, Yee, Nickell, & Moore, 2006; Slatalla, 2007).

Millions of children, teens and adults are spending large quantities of time in these virtual worlds, animating made up characters. On the one hand, this seems like a wonderful exercise in creativity. On the other hand, it keeps people from interacting with each other in the physical world, interacting with the physical environment, or otherwise spending time engaged in solitary activities. These “double lives” are certainly changing the way a generation of people perceives interpersonal interactions. Indeed, for a person who has grown up in this era, s/he might very well perceive that there are two completely valid worlds existing in tandem. This phenomenon of a dual life, particularly one where the virtual life takes on an increasingly dominant role, was foreshadowed,



back in 1986, by science fiction writer William Gibson in his seminal book *Neuromancer*. There are already thousands, if not millions, of young people who are more passionately invested in their virtual lives or characters than they are in their physical world, which only leads to more questions about interpersonal and group communications and social institutions like school (see Constance, Steinkuehler, & Dmitri-Williams, 2006). The data in the current study contributes to the growing body of work that is examining social networking and online communities in educational settings, creating a baseline of student usage that may be a useful reference for future research in this area.

#### *Epistemology of New Technologies*

Perhaps the area with the most far-reaching implications and for which we can only speculate at this point is the cognitive impact of new technologies that derive from their unique technological-epistemological biases. This is a considerable field in and of itself and is only introduced here to suggest the vast ways in which the integration of technologies may impact our social fabric, education, and ways of knowing about the world (see Lankshear, Peters, & Knobel, 2000).

When people like Neil Postman wrote about the epistemological biases of media in the 1980's (such as in *Amusing Ourselves to Death, 1985*), it almost always drew attention to the ways in which the technological biases of television (i.e., picture-driven and time-bound) resulted in the dumbing down of Americans. His contention was that news information and analysis delivered via television was inherently inferior to newsprint delivery of world affairs because of the intrinsic biases in the ways in which these two media convey information: a picture-based medium like television requires a

different kind of mental processing than reading small black and white text. Some of those biases include the ways in which language is used (i.e., short summative sentences vs. long discursive sentences), the length and complexity of the communication, the use of visual imagery to communicate and shape meaning, and the overall juxtaposition of stories. By relying on a visual-based medium such as television for our information about and understanding of the world, we deny ourselves complex cognitive processing and instead are passively entertained.

Reflecting on the epistemological biases of media that Neil Postman explored, several questions arise from this study: What are the epistemological biases of new and emerging technologies such as Texting and IMing? How do they require us to engage (to receive and process information) and how does that affect our cognitive functioning and ability to perceive? What are the long-term implications of getting news headlines on a mobile phone, and thus feeling informed?

In addition to how content is shaped through these new technologies, there is also the important issue of context. With the television industry, for example, the context for the way content is delivered is tied to the structure of the commercial broadcasting industry, which because of financial pressures, demands increasing blocks of time allocated for commercials, as well as flashy visuals.

With Texting, the context of sending and receiving messages is critical for exploring its epistemology, which is largely related to the “mobility-factor.” The mobility-factor influences almost every aspect of Texting, including: the number of words that can fit on the screen (and hence complexity of content); the relative randomness of the physical locations we find ourselves in when receiving and sending

text messages; the concurrent activities that are likely going on (in the grocery store, listening to music, etc.), and the degree to which we shift our attention back and forth between them. As described above, these emerging technologies have significantly different epistemological biases than the previous generation of technology, which will no doubt shape the ways in which we receive and cognitively process information and hence influence our worldview (Lankshear, 1999).

Clearly there is an emerging need for a convergence of empirical and theoretical work to explore the ways in which technologies are changing our understanding of society itself. There is not a discipline in the University that is not impacted in either practical or philosophical ways by these changes and it will be through truly innovative, cross-disciplinary collaborations that deeper understanding and meaning is created.

## PART V: Suggestions for Further Study

The application of the Entertainment-Education (EE) methodology, in whole or in part, towards issues of social concern in the US has only scratched the surface. Granted, the highly competitive media environment in the US creates challenges for both programming and distribution and must be addressed at every step of the process. But the vast decentralization of entertainment media, particularly with the advent of video over the Internet, has also created great opportunity for a diversity of voices, perspectives, and programming styles. Made-for-the-web series are being developed at a rapid pace, with comedy, animation, and documentaries all appearing on the big video portals, including Current.tv, Google video, and YouTube, as well as at the URLs of independent producers.

To continue with the implementation of an EE program specifically addressing the risk behaviors of college undergraduates at UVM, the next step are:

- 1) Formative research to learn the values, beliefs, language, and the context of existing behaviors of the target audience;
- 2) Turning over the formative research to a team of writers who will create the characters, plots and stories of an EE serial drama; and
- 3) Production, dissemination, and evaluation of the series.

At the present time, all of these steps are in development at UVM: the formative research is underway in the Fall, 2007 semester through a class entitled EquityTV: Applied Research for Social Campaigns; the script writing class will take place in the Spring, 2008 semester and take on the task of creating the characters, plots and stories of the series; and the production phase of the series is slated to begin in the late spring and

go into the summer of 2008. The projected launch of the series will be in the Fall of 2008. It must be noted that significant external funding must be sought to fund the production, dissemination, and thorough evaluation of the program impact.

Each step of the way there is opportunity and need for research, particularly in the evaluation of the effectiveness of the series. A careful consideration of benchmarking data before the series airs, as well as both a qualitative and quantitative analysis of the impact of the program, is crucial for understanding if and how the EE methodology can be effectively translated from the traditional model that is employed in the developing world (multi-year, national broadcast, etc.), into the web-delivery format that we are pursuing (short-form, web delivered, etc.).

The successful implementation of EE programming in the US, particularly for populations of captive audiences where competition from commercial programming can be mitigated – those of college or high school students, for example – has the potential to address numerous social issues that have been tackled by other approaches with only sporadic, or highly localized results, including childhood obesity, race, class and gender bias, and conflict resolution to name a few. The beauty of using media technology in these areas is the potential for mass-distribution, minimizing overall costs of affecting a change of behavior among a population. At the same time, the crafting of the programming must still be grounded in formative research, including channel analysis and in-depth qualitative study of the target population, in order to be effective. Given the great social and cultural disparities in this country, it is not clear how generalisable any given set of formative research would be to a broader population.

In addition to the implementation of the full EE methodology in various settings

(a stand-alone, long-running serial drama), further research can be conducted using portions of the methodology, such as what has been done by the CDC with existing popular soap operas. Characters, plots and storylines in existing popular serial programming seems to be an effective way of introducing and reinforcing issues of social or health concern (see Norman Lear Center, 2007) and its application has only scratched the surface. Much more experimentation in this area is warranted.

In addition to ongoing research to support the EE work, the results of the current work raises some interesting questions about the uses of technology in education. Areas for further research include: descriptive and quantitative research of the academic uses of new technologies; and continued qualitative studies around the relationship between media usage and academic achievement.

In the area of technology adoption in higher education, for example, it would be interesting to learn how frequently faculty members require students (or offer options) to create or post assignments to websites (or make use of other emerging technologies) and whether faculty see the deft use of media technologies as an integral part of a good education (and perhaps correlate these data by discipline). At UVM, in the College of Arts & Sciences for example, there are two general requirements and seven distribution requirements. The general requirements are in the areas of Non-European Cultures and Race Relations and Ethnicity in America. The distribution requirements include: Fine Arts, Foreign Languages, Humanities, Natural Sciences, Literature, Mathematical Sciences and Social Sciences. Additionally, there is a new University-wide, six-credit Diversity Requirement.

All of these requirements may be vital for a well-rounded education. At this time,

however, there is no Technology or Media Literacy requirement that would give students the opportunity to think critically about the ways in which technologies shape our culture, health, social interactions, or how our information environments are shaped by technology, and how those technologies (by virtue of expense or centralization), in turn, shape who has access to creating and disseminating content, thus influencing culture. It can be argued that understanding our media environment is as central to understanding race relations in this country as any other single aspect and certainly must be considered as part of the big picture.

In the area of academic achievement and media usage, the findings from this study which correlate a high rate of Texting and IMing with a decrease in GPA are worth exploring further. Is that a consistent finding at other colleges? Is it a consistent finding at the high school level? Does it correlate in any way with region or community or income?

Additionally, since the data suggest that time spent doing some activities has a negative impact on academic achievement (Texting, IMing), while other activities do not (telephone usage), it would be interesting to explore further which kinds of activities (outdoor, musical instruments, hobbies, etc.) support greater academic achievement versus others. In the area of technology, perhaps activities such as computer gaming, which requires focused concentration over extended periods of time, *supports* cognitive development (whereas Texting and IMing might not).

There is also the overall question relating to the epistemology of new technologies and the ways in which they may be changing the way we work and think and perceive the world – both philosophically and cognitively. Multi-tasking with new

technologies (e.g., IMing) while performing other tasks, particularly academic tasks, is an area rich for future research in the cognitive and neurosciences.

In fact, we *need* the lenses of the different social and biological sciences to explore the social, cultural, and psychological impacts of new technologies, as they are perpetually evolving – as is our relationship to them and each other. This is the interdisciplinary lens of “Media Ecology,” a phrase (and major at New York University) that was coined by Neil Postman in 1971 and is an approach that makes a significant contribution to the social sciences.

Traditional academic departments and majors are constructs that have been created to help narrow down the enormity of studying the world. The effect of that structure, however, after hundreds of years, is a silo approach to disciplinary investigation; it becomes insular and self-referential and often devoid of its worldly context. When academic departments or majors are formed around the principle of interdisciplinary inquiry, however, cutting-edge scholarship can take place, creating bridges of insight and understanding that would not otherwise be possible.

The research conducted for this dissertation is a case in point: it is a media and communication project within the context of education and a launching pad for this researcher’s future of inquiry.



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**APPENDIX A:  
Undergraduate Media/Technology Usage  
Survey Questions**

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1. Which devices do you personally own? (check all that apply)
- a. \_\_\_ CD Walkman
  - b. \_\_\_ iPod 5G or newer (or equivalent)
  - c. \_\_\_ iPod 4G or older (or equivalent)
  - d. \_\_\_ iPod nano or mini or shuffle (or equiv)
  - e. \_\_\_ video iPod (or equivalent)
  - f. \_\_\_ other hand-held video device
  - g. \_\_\_ mobile phone
  - h. \_\_\_ mobile phone that plays music
  - i. \_\_\_ phone-pda
  - j. \_\_\_ pda - other
  - k. \_\_\_ laptop computer
  - l. \_\_\_ desktop computer
2. How many **minutes** per day do you typically do each of the following activities? (write-in)
- a. \_\_\_ Talking on phone
  - b. \_\_\_ Text message
  - c. \_\_\_ IM
  - d. \_\_\_ Email
  - e. \_\_\_ Chat rooms
  - f. \_\_\_ Social Networking site (Facebook, MySpace, etc.)
  - g. \_\_\_ Watch videos or animation
  - h. \_\_\_ Online forums or message boards
  - i. \_\_\_ Other, please specify \_\_\_\_\_
3. How many **minutes** did you do the following activities **yesterday**? (write in how many minutes)
- a. \_\_\_ Talking on phone
  - b. \_\_\_ Text message
  - c. \_\_\_ IM
  - d. \_\_\_ Email
  - e. \_\_\_ Chat rooms
  - f. \_\_\_ Social Networking site (Facebook, MySpace, etc.)
  - g. \_\_\_ Watch videos or animation
  - h. \_\_\_ Online forums or message boards
  - i. \_\_\_ Other, please specify \_\_\_\_\_

4. When not with them in person, what are the primary electronic ways you communicate with friends

	Never	Sometimes	Often	Mostly
Talking on phone				
Text msg				
IM				
Email				
Social Networking site				
Chat rooms				

Other, please specify \_\_\_\_\_

5. When you want to share a web address with one of your friends, are you more likely to (# in rank order, with 1=most frequent, 5=least frequent)
- \_\_\_\_ Send an IM
  - \_\_\_\_ Send an email and include a link
  - \_\_\_\_ Make a phone or text call
  - \_\_\_\_ Send a message through FaceBook or other SN site
  - \_\_\_\_ Other, please specify \_\_\_\_\_

6. What are your primary (electronic) entertainment pastimes? (write-in how many minutes per day)
- \_\_\_\_ Listening to pre-recorded music in any form
  - \_\_\_\_ Listening to live radio
  - \_\_\_\_ Finding and downloading new music
  - \_\_\_\_ Watching video or animation on the web
  - \_\_\_\_ Finding new video or animation on the web
  - \_\_\_\_ Watching broadcast or cable television
  - \_\_\_\_ Watching movies (rental or check out DVDs)
  - \_\_\_\_ Other, please specify \_\_\_\_\_

7. What were your primary (electronic) entertainment pastimes **yesterday**? (write-in how many **minutes**)
- \_\_\_ Listening to pre-recorded music in any form
  - \_\_\_ Listening to live radio
  - \_\_\_ Finding and downloading new music
  - \_\_\_ Watching video or animation on the web
  - \_\_\_ Finding new or animation on the web
  - \_\_\_ Watching broadcast TV or cable
  - \_\_\_ Watching movies (rentals or check-out)
  - \_\_\_ Other, please specify \_\_\_\_\_
8. Do you watch any **regularly scheduled** programs on the web or TV?
- If yes, which ones \_\_\_\_\_  
\_\_\_\_\_
9. Do you have your own blog  yes  no  
Do you regularly read other people's blogs?  
 yes  no  
If yes, which one(s)? \_\_\_\_\_
10. How do you learn about new video/animation programs?  
[Check all that apply]
- By searching known websites for new programs
    - Which ones \_\_\_\_\_
  - By using a search engine
    - Which ones \_\_\_\_\_
  - Told/emailed by friends
  - Other, please specify \_\_\_\_\_
11. How did you learn about the **most recent** video/ animation you watched online? [Check one]
- By searching known websites for new programs
    - Which one \_\_\_\_\_
  - By using a search engine
    - Which one \_\_\_\_\_
  - Told/emailed by friends
  - Other, please specify \_\_\_\_\_
12. When you get email from friends about a video they think you should watch, do you **more often** get it as an attachment (i.e. .mov or .wmv file) or as a link to a website [Choose one]
- \_\_\_\_\_ attachment \_\_\_\_\_ link to website \_\_\_\_\_ don't know

13. Where do you watch video/ animation programs from the web? Please write-in # of minutes per week.

# minutes per week

a__ Alone in my room	
b__ With others in my room/ apartment	
c__ Alone in public (i.e. library)	
d__ With others outside my home (i.e. another apt/room, library)	

14. What genres of video do you tend to watch?

# minutes per week

a__ Informative/documentary – professional	
b__ Informative/documentary – amateur	
c__ Humor – novelty	
d__ Humor - at someone else's expense	
e__ Humor - at someone's own expense	
f__ Music Artist	
g__ Visual Artist	
h__ Sports clips	
i__ News clips	

15. Other genres, please specify \_\_\_\_\_

16. What sites do you visit for informative/documentary video? \_\_\_\_\_

17. What sites do you visit for humorous video? \_\_\_\_\_

18. What sites do you visit for music video? \_\_\_\_\_

Questions about you

1. What year are you (check one)
  - a. \_\_\_ 1<sup>st</sup> year undergraduate
  - b. \_\_\_ 2<sup>nd</sup> year undergraduate
  - c. \_\_\_ 3<sup>rd</sup> year undergraduate
  - d. \_\_\_ 4<sup>th</sup> year undergraduate
  - e. \_\_\_ 5<sup>th</sup> year undergraduate
  - f. Other, please specify \_\_\_\_\_
  
2. Do you live on campus or off campus  
On-campus      Off-campus
  
3. Which college are you enrolled in? (check one)  
 A & S       Nurs & HS  
 Eng & MS       RSENR  
 Med       BSAD  
 Ed & SS       Ag & LS       CE
  
4. What is your GPA? \_\_\_\_\_
  
5. What is today's day?  
 Monday       Tuesday       Wednesday  
 Thursday       Friday       Saturday  
 Sunday
  
6. Does your family live in Vermont \_\_\_yes \_\_\_ no  
a. If not, which state/country \_\_\_\_\_ (two letter abbreviation please)
  
7. What gender are you (check one)
  - a. \_\_\_ Male
  - b. \_\_\_ Female
  - c. \_\_\_ Trans/other
  
8. Are you a member of a Fraternity or Sorority?  
\_\_\_\_\_yes      \_\_\_\_\_no

## **APPENDIX B: Letter of Consent**

### **Statement of Consent UVM Undergraduate Media Usage Survey Participant Consent Letter**

[Potential participants will see the following text on the first page of the link they are given with the invitation to participate.]

Thank you for your interest in participating in the 2006 UVM Undergraduate Media Usage Survey. This project is being conducted as dissertation research within the Doctor of Education in Educational Leadership and Policy Studies at The University of Vermont. The study will describe the extent to which students are using web-delivered video for entertainment, and the frequency of their electronic media usage.

When you complete the form, you can choose to enter your email address to be eligible to win a video iPod, and other prizes. The data will be analyzed in the aggregate, and will not match data with the participant. The study in part or in its entirety may result in published research and professional presentations and/or have uses internal or external to the University.

Participation in this study is voluntary, and you must be at least 18 years old to participate. At the conclusion of the study, a summary of group results will be made available to all interested parties, by contacting the researcher below. If at any time during your participation in the study you have questions, you may contact the Institutional Review Board Administrator at the University of Vermont, Phone: 802-656-45040. If you have any further questions or concerns, please contact Andrea Grayson, the Principal Investigator, at [Andrea.Grayson@uvm.edu](mailto:Andrea.Grayson@uvm.edu), or Professor Susan Hasazi, Director of the Educational Leadership and Policy Studies Program, at [Susan.Hasazi@uvm.edu](mailto:Susan.Hasazi@uvm.edu).

By clicking “Continue” below, I hereby give consent and authorize the researcher to collect the information I provide on the survey.

**CONTINUE**