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PROMOTING HEALTHY BEHAVIOR CHANGE: COMMUNICATION INTERVENTIONS TO LOWER RISK OF TYPE II DIABETES IN MEN AND WOMEN UNDER 30

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PROMOTING HEALTHY BEHAVIOR CHANGE: COMMUNICATION
INTERVENTIONS TO LOWER RISK OF TYPE II DIABETES IN MEN AND
WOMEN UNDER 30

A Creative Project Submitted to the
Office of Graduate Studies
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By
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Abstract

Diabetes is a chronic disease in which one's blood glucose, more commonly known as sugar, rises to above average levels (American Diabetes Association [ADA], 2015). According to the 2014 National Diabetes Statistics Report, in 2012, 29.1 million Americans age 20 and older have diabetes, up from 25.8 million in 2010, with 90-95% of those diagnosed cases being Type II diabetes (ADA, 2014). As of 2010, diabetes remains the seventh leading cause of death in America (ADA, 2014). Several studies have found regular physical activity and maintaining a normal body mass index (BMI) can significantly reduce one's risk of developing Type II diabetes even if one is already in a pre-diabetic state (CDC, 2014). This research leads us to recognize Type II diabetes as a preventable disease and one that does not require medications to manage but simply the adjustment of certain health and lifestyle behaviors, specifically those which influence blood sugar levels and weight management. A starting point for promoting behavior change to lower the risk of Type II diabetes is through communication interventions targeting men and women between the ages of 20 and 30 who are graduating from college and entering a monumental stage of their lives filled with significant lifestyle change, for better or worse. This project is designed to review literature on type II diabetes, characteristics of the millennial generation, modern health communication targeting millennials, communication theory, and health campaign design techniques. A proposed health campaign aimed at reducing the risk of type II diabetes in an organization, comprised mostly of individuals under age 30, through the promotion of healthy behavior change will be outlined following literature review.

Diabetes is a chronic disease in which one's blood glucose, more commonly known as sugar, rises to above average levels (American Diabetes Association [ADA], 2015). In diabetics, the body either does not produce enough insulin, recognized as Type I diabetes, or it cannot effectively utilize the insulin produced, recognized as Type II diabetes (CDC, 2014). According to the 2014 National Diabetes Statistics Report, in 2012, 29.1 million Americans age 20 and older have diabetes, up from 25.8 million in 2010, with 90-95% of those diagnosed cases being Type II diabetes (ADA, 2014). Even more alarming is the prevalence of pre-diabetes cases. Pre-diabetes is labeled when one's blood glucose levels are above average, though not high enough to qualify as diabetes (CDC, 2014). Eighty-six million Americans age 20 and older had pre-diabetes in 2012, up 7 million from the 79 million pre-diabetes cases in 2010 (ADA, 2014).

As of 2010, diabetes remains the seventh leading cause of death in America (ADA, 2014). Several studies have found regular physical activity and maintaining a normal body mass index (BMI) can significantly reduce one's risk of developing Type II diabetes even if one is already in a pre-diabetic state (CDC, 2014). This research leads us to recognize Type II diabetes as a preventable disease and one that does not require medications to manage but simply the adjustment of certain health and lifestyle behaviors, specifically those which influence blood sugar levels and weight management. If research indicates diabetes can be prevented, this raises the question as to why the number of cases of diabetes and pre-diabetes in Americans is continuing to rise at alarming rates. It would be beneficial to explore what health communicators can do to influence health behavior change in Americans, lowering the risk of Type II diabetes, and ultimately reducing the number of diagnosed cases of diabetes in Americans.

A starting point for promoting behavior change to lower the risk of Type II diabetes is through communication interventions targeting men and women between the ages of 20 and 30 who are graduating from college and entering a monumental stage of their lives filled with significant lifestyle change, for better or worse. Typical collegiate behaviors such as inadequate amount of exercise, binge drinking, and poor diet, among others such as poor sleep and stress management, can significantly impact one's health especially their weight. Physical inactivity and elevated BMI are proven factors of influence on one's risk of diabetes. These behaviors are especially detrimental if carried over into one's post-graduate lifestyle and/or become habitual. Despite acknowledging the importance of physical activity, college students do not get near the amount of recommended exercise to maintain adequate health, with 30-40% of college students remaining sedentary and only 20% getting the recommended 150 minutes of moderate intensity aerobic activity per week (Marmo, 2013; CDC, 2014). According to the National Institute on Alcohol Abuse and Alcoholism (NIAAA), 4 out of 5 college students drink alcohol (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2013). Rates of obesity are also on the rise among the college population, up almost 12% since 1995, perpetuated by poor dietary habits (King, Ling, Ridner, Jacks, Newton, & Topp, 2013). As of the spring of 2014, only 6% of college students report eating the recommended 5 or more servings of fruits and vegetables daily, while an astonishing 64.7% consume 2 or fewer servings daily (American College Health Association, 2014). Health behaviors throughout the collegiate years have the potential to increase the risk of type II diabetes and other chronic conditions, thus communication interventions

promoting preventative measures through lifestyle and behavior change in the 20s could positively impact individuals' health for years to come.

This project is designed to review literature and propose a health campaign aimed at reducing the risk of type II diabetes in an organization comprised mostly of individuals under 30 through the promotion of healthy behavior change. The literature review is designed to initially present statistics of type II diabetes, including risk factors and the cost of care, and characteristics of the millennial generation, particularly those related to health behaviors. Following diabetic literature, this section will explore examples of modern health communications targeting millennials and the influence channels of communication such as the internet and social media have on health behaviors of millennials. Social cognitive theory research is presented in order to lay a theoretical foundation for the campaign. Finally, important aspects of campaign design will be presented prior to the detailed outline of a proposed campaign for a hypothetical company.

Literature Review

Type II Diabetes by the Numbers

The number of cases of diabetes and pre-diabetes are growing at seemingly uncontrollable rates. Every 17 seconds, someone in America is diagnosed with diabetes, the overwhelming majority of which are classified as type II, and it is projected one in every three Americans will have diabetes by 2050 if current growth trends continue (Anderson, Riley, & Everette, 2012). Countless studies and surveys indicate Type II diabetes is preventable. Understanding what Type II diabetes, its symptoms, risk factors, and what can be done to delay or prevent diagnosis is key in promoting behavior change.

Risk factors. In type II diabetics, the insulin produced by the pancreas is unable to effectively assist glucose in entering the blood stream, leading to abnormally high levels of sugar in the blood (CDC, 2014). This poses a dangerous threat for the entire body. Diabetes can lead to a variety of complications such as heart disease, blindness, kidney failure, and amputation of lower extremities (CDC, 2014). Risk factors include older age, family history of diabetes, obesity, sedentary living, and race or ethnicity; individuals of African American, Hispanic, American Indian, Asian American, and Pacific Island descent are at significantly higher risk for type II diabetes (CDC, 2014). Increased physical activity and shifting to a more balanced diet are factors likely leading to weight loss, in turn minimizing obesity and one's risk for diabetes. It can be inferred that, for this reason, much of the literature and research on diabetes prevention focuses on increasing physical activity and paying particularly close attention to diet.

In exploring current health research, one can find a wealth of information regarding the health issues and increased risk of chronic disease, such as diabetes, attributed to sitting. Many individuals spend the majority of their day sedentary at work. The impact the results of sitting have on our health is so significant some health professionals have begun to throw around the term "sitting disease." More and more health professionals and researchers are looking into the amount of sitting people do and are attributing it to significant negative health conditions. Jerry Morris, a British physician-epidemiologist recognized for his research exploring the relationship between physical activity and diet and the risk of heart disease, pioneered this sitting disease research movement (Paffenbarger, 2000). More recent research efforts aimed to explore the relationship between sedentary behaviors and diabetes, heart disease, fatal heart

attacks/stroke, and all-cause death (Wilmot, Edwardson, Achana, Davies, Gorely, Gray, & Biddle, 2012). Wilmot et al. reference Morris' research in their rationale for why this topic needs to be further researched as well as stressing the unfortunate fact that we are a sitting society and it is affecting our general health. The researchers used coding to search databases for terms related to both sedentary living and health outcomes, finding significant results concluding increased sedentary living can raise the risk of diabetes by 112% (Wilmot et al., 2012). It can be inferred sedentary living is a risk factor for type II diabetes and one that would benefit from further research and communication.

Cost of care. Equally as alarming as the rising rate of diagnosed cases of diabetes in the United States is the increased cost of diabetes management and care. A recent study examined the changes in medical expenditures from 1987 to 2011, concluding the cost of diabetes care and management has more than doubled in the given time period of two decades (Zhuo, Zhang, Kahn, Bardenheier, Li, & Gregg, 2014). The study observed personal medical expenditures over the 24 year period on services including inpatient and outpatient care, emergency room visits, and prescription drugs, concluding the \$2,790 increase was both a result of increased visits and increasing costs of drugs (Zhuo et al., 2014). Interestingly enough, previous research has indicated the majority of costs associated with diabetes care are those addressing complications of diabetes rather than treatment of the diabetes itself (Dall, Mann, Zhang, Martin, Chen, & Hogan, 2008). Zhuo et al. acknowledged in their research the increasing cost of treatment must slow or stop, but, more imperative, is the need for effort to reduce the overall number of cases of diabetes, recognizing the outrageous cost of diabetes care as simply unsustainable (Zhuo et al., 2014). Dall et al. went further and explored the indirect impact of diabetes care on

the economy, stating an increase in cases of diabetes leads to reduced productivity and participation in the labor force and additional missed days of work, noting the negative effect on overall quality of life (Dall, Wenya, Halder, Bo, Massoudi, Wintfeld, & Hogan, 2014). The statistics acknowledging the rising cost of diabetes care further support the need for increased prevention methods to decrease the overall numbers of cases of diabetes in society, starting with communication to younger generations.

The numbers related to type II diabetes including symptoms, risk factors, preventative measures, and cost of care have been presented. Now the literature review will explore the millennial generation, as this is the age demographic the proposed health campaign aims to target. This section will define the millennial generation, presenting perceived characteristics of both non-millennials and millennials, in an attempt to better understand the general behaviors of this target population. The literature reviewed will focus on the influence of modern channels of communication, particularly the internet and social media/social networking sites. Finally, this section will present literature focusing on the health beliefs and perceived health of the millennial generation.

Modern Health Communication with the Millennial Generation

Millennials, also known as those members of Generation Y born between 1982 and 2004, are often characterized as narcissistic, self-absorbed, entitled, unable to focus, and needing constant feedback as well as instant praise and gratification (Ellin, 2014). Their views often differ from those of Baby Boomers and other older generations, causing friction in a variety of facets of life including healthcare. Increases in technology cause older generations to pass judgment regarding literacy and competency of millennials (Considine, Horton, & Moorman, 2009). Studies have found millennials

perceive themselves as ambitious, not arrogant or entitled, and indicate poor intergenerational communication as a significant issue (Van der Merwe, Van Zyl, Nel, & Joubert, 2014). This research suggests it is important to recognize the intergenerational issues as well as comprehend the literacy levels and personality characteristics of the millennial target group in the development of diabetes prevention communication interventions.

Health information seeking behaviors of the millennial generation. The millennial generation is the first to grow up in the technology driven, digital focused environment of current times. Similarly, these millennials are the first with an upbringing in a society where health and health-related information is readily and often freely available on a variety of media platforms, including the internet, television, and social networking sites (Lloyd, Shaffer, Stetter, Widome, Repke, Weitekamp, & Paul, 2013). A quick Google search of a given health issue can return millions of results. Given the ease of access to the internet and the breadth of health information readily available, it can be difficult to decipher accuracy and legitimacy of the information provided. For the millennial generation, who are notoriously characterized as self-absorbed, know-it-alls with a need for instant feedback (Ellin, 2014) the internet can be seen as the ideal source for obtaining health information quickly. This in turn could decrease the number of times millennials seek out their doctor, reducing the chance of exposure to prevention measures – such as diabetes prevention – and recommended yearly check ups. As a generation classifying themselves as ambitious, it can be inferred that millennials want to be working and present in their careers, further supporting the notion they are less likely to

take time out of their day to seek out a doctor when sources such as the internet can provide a wealth of health information.

The internet. The Internet is commonly regarded as an indispensable form of communication, with both internet access and internet usage growing immensely since its inception over a quarter of a century ago and continuing to develop day-by-day (Bennett & Glasgow, 2009). The Internet allows users to perform a countless variety of tasks including, but not limited to, searching the web for information regarding a topic of interest and connecting with others via social networking sites. Essentially, the internet and social networking sites have created a new social culture void of traditional communication. In a 2010 survey, research indicated of the 74 percent of adults who used the internet, 80 percent of them looked online for specific health information (Fox, 2011). Today, it appears nearly every health news outlet, hospital, national health agency, and health publication is active on at least one of the social media platforms. Additionally, many health professionals are present on social media and often utilize internet blogs to chronicle daily activities, post recipes, and share workouts. These health professionals can also utilize their blogs to communicate with likeminded individuals, both health professionals and non-health professionals alike. With 89 percent of online 18-29 year olds and 78 percent of online adults present on social networking sites, it is important that those within the health industry further research how to effectively reach out via internet, apps, and/or social media to educate target populations and promote healthy lifestyle practices.

Social networking sites and health communication. Commonly used social networking sites today include: Facebook, Twitter, Instagram, Pinterest, and LinkedIn.

Of users surveyed in Duggan and Smith's Pew Center Research Report, only 22 percent of internet users do not use one of these five major social networking sites, while 36 percent use only one of the social networking sites and 42 percent use two or more of the social networking sites (Duggan & Smith, 2013).

Just a brief glance through various Twitter or Facebook feeds reveals a variety of information, though often readers can pin-point something related to diet or exercise. News outlets such as the New York Times, Wall Street Journal, and CNN each have their own profile for health specific information. World-renowned health institutions such as the Mayo Clinic and Cleveland Clinic make a strong social media and internet blog presence. Health professionals, whether it be the well-known Dr. Oz or a local nutritionist are often engaged in some form of social media, as well as those who consider themselves diet or exercise specialists. In regard to health topics, a 2013 survey confirmed patients use social media to seek health information and garner social support from friends and followers (Keller, Labrique, Jain, Pekosz, & Levine, 2014). With the enormous breadth of health-related profiles, social networking sites can be viewed as a never-ending source of information specifically diet and exercise related, therefore it is important to explore the validity of these sources as well as what sources are providing relevant and accurate information.

Research suggests current and future health campaign and message strategists have favorable paths to promote social media connectivity to encourage interpersonal influence (Silk, Atkin, and Salmon, 2013). Social media enables patients to share experiences in a peer-to-peer discussion, differing from other traditional websites, as well as consult with qualified clinicians (Moorhead, Hazlett, Harrison, Carroll, Irwin, &

Hoving, 2013). This creates an environment unique to social media users. It has been reported that some health care professionals use social media to collect data and information on patients as well as to connect with them, although research on specific use is limited (Moorhead et al., 2013). Trust and likeability are key components of effective communication particularly in a health setting. Social media provides a convenient platform for health professionals to market and express themselves, gaining likeability and trust in a unique, non-traditional format. This is a newer segment of technology, and while it is significantly popular with the millennial generation, it is still gaining popularity with older generations. Current research suggests potential for impact is high. It appears important determinants of social media as an effective tool for health promotion include: target population analysis and understanding, properly crafted messages, and established credibility, as the pervasive resources increase the likelihood of obtaining inaccurate, potentially harmful information.

Health beliefs. It appears there is a discrepancy between the perceptions of one's individual health and one's actual health among individuals in the millennial generation. Additionally, it appears millennials lack a common knowledge of general healthy behaviors such as recommended amount of daily exercise and specific nutritional needs. Studies found while the millennial generation is aware of specific health-based information, for example common conditions and the need to engage in preventative measures such as exercising and eating a balanced diet, they do not necessarily comprehend the content (Lloyd et al., 2013), Therefore millennials are typically unable to put this health information to proper use or into actual practice, indicating a prominent issue with health information communication today (Lloyd et al., 2013). Generally

speaking, excessive alcohol consumption, not eating the recommended amounts of nutritionally beneficial foods such as fruits and vegetables, and not performing the recommended amount of exercise are behaviors classifiable as unhealthy. The 2014 National College Health Assessment reported 91 percent of college students surveyed described their health as good, very good, or excellent with 57.9 percent of students classifying their health as very good or excellent (ACHA, 2014). Yet in the same subject group, 66 percent of students consumed alcohol within the last 30 days and 94 percent consumed less than the recommended 5 servings of fruits and vegetables a day (ACHA, 2014). Seventy-eight percent did not perform the recommended 30 minutes of moderate-intensity cardio activity at least 5 days a week (ACHA, 2014), and unfortunately, research has determined physical activity participation generally declines with age (Marmo, 2013). Thirty-four percent of these students reported body mass index levels classified as overweight or obese (ACHA, 2014). It can be inferred excessive alcohol consumption, inadequate nutrition, sedentary living, and BMI levels indicating an individual to be overweight or obese negatively impact one's actual overall health status. Research findings suggest millennials think they are healthier than they actually are. These thoughts can be attributed to millennials' exposure to a wide array of health information through the internet as well as the popularity of social networking sites. Possible explanations for the discrepancy between perceived health status and actual health status in millennials, despite access to a pervasive amount of health information, include: lack of comprehension of the information presented and ineffective health communication methods, messaging, and programming.

This section has offered a review of literature detailing the characteristics, health beliefs, and health behaviors commonly associated with those individuals classified within the millennial generation. Now the paper will explore communication influence on factors related to an increased risk of type II diabetes, specifically related to the millennial generation. This will include a brief review of current communications and messaging on binge drinking, a heavily researched behavior prominent among those in the millennial generation and a behavior capable increasing risk of type II diabetes.

Communication Influence and Messaging on Factors Related to Diabetic Risk

Exploration and understanding of the messages presented to young adults as they relate to high-risk, health behaviors in college is necessary in the development of an effective communication program to lower diabetic risk in individuals. One of the most critical issues to examine is the act of binge drinking. Binge drinking is defined by the National Institute on Alcohol Abuse and Alcoholism as a pattern of consuming alcohol where one's blood alcohol content rises to 0.08 grams or above, typically occurring when men consume five or more drinks in a two hour span or when women consume four or more drinks in a two hour span (CDC, 2014). Binge drinking is the most prevalent form of excessive alcohol consumption in the United States and is notably more common in adults ranging in ages 18-34 (CDC, 2014). Although the legal drinking age is 21, binge drinking is common across college campuses throughout the country where the majority of student populations are typically comprised of men and women under the age of 21. Additionally, the numbers from the CDC indicate binge-drinking behaviors continue well past the typical college years. Binge drinking has been found to affect individual nutritional status, whether through the disruption of typical absorption and digestion or

misunderstood hunger signals often leading toward overeating (Foster & Marriott, 2006). For example, it is common for young adults to avoid eating dinner before going out at night in order to get drunk quicker and easier (Foster & Marriott, 2006). These individuals over-consume foods in their drunken state later in the evening, typically selecting items high in saturated fat and calories and of poor nutritional value. Individuals often experience a hangover following a night of binge drinking, categorized by symptoms including headache, nausea, and fatigue (Wulffson, 2012). Hangovers also tend to promote continued poor nutritional choices, and physical activity seems less than desirable when experiencing typical hangover symptoms. As countless research indicates, physical inactivity and poor diet can lead to weight gain, elevating BMI, which inevitably increases one's risk of type II diabetes.

There are a variety of outlets appearing to encourage binge drinking, particularly in underage young adults, including parents, peers, and the media. Research indicates alcohol related media messages and advertising promote and support binge drinking (Federal Trade Commission, 1999). Research on alcohol advertising indicates marketing materials and advertisements containing favorable elements such as music and likeable characters increase purchase intent of a given brand of alcohol, whereas messages highlighting legal drinking age and discussion of alcohol quality were rated less favorable (Meng-Jinn, Grube, Bersamin, & Keefe, 2005). Additional research finds messages and images depicting binge drinking as risky, thrilling, and/or impulsive actually increase desire to binge drink, as young adults are more impulsive, seeking immediate satisfaction and high social status (Pechmann, Levine, Loughlin, & Leslie, 2005). These research findings correlate with research presented earlier in the literature review acknowledging

millennials' need for instant gratification and recognition. This research further supports the need for gaining a deeper understanding of the target audience in order to ensure health messages are comprehended in the intended manner.

The literature review has presented research supporting components of the proposed campaign: understanding type II diabetes and the need for prevention, defining the millennial generation, understanding the health information seeking behaviors of the millennial generation including common channels and sources of health information, and understanding the roles specific types of messaging play on influencing health behaviors of the millennial generation. Now the paper will review literature on social cognitive theory and its corresponding components, as this theory of communication will be used as the foundation for the proposed campaign.

Social Cognitive Theory

Social cognitive theory (SCT) is a leading theory within health communication research. It has been used as a foundation for an array of studies including: how to best convey health messages to various groups and demographics and the effects of mass media on diet and exercise. When crafted properly, health-based messages have the potential to positively impact one's behavior, personal factors, or environment. As suggested by social cognitive theory, the idea is impacting one of those three areas will in turn positively impact the other two areas. While many other models and communication theories focus on predicting health habits, SCT offers predictions as well as promotes change through informing, guiding, and motivating people to adopt healthier habits and lifestyles (Bandura, 2004). In regard to physical activity and exercise, SCT helps to understand why people adopt and maintain certain exercise behaviors (Marmo, 2013).

Social cognitive theory is an ideal choice for use in designing a framework for communication interventions aiming to raise awareness of type II diabetes in young adults and promote behavior change to lower overall risk of disease development.

Components. Social cognitive theory dates back to the early 1900's, but was further developed and advanced most significantly in 1986 by Albert Bandura. Bandura, a pioneer in social cognitive theory research since the 1960's, renamed and redirected the concept of social cognitive theory, formerly known as social learning theory (Bandura, 1986). By replacing "learning" in the title with "cognitive", Bandura hoped to emphasize the role of cognition in one's ability to understand their surroundings and self, gather and analyze information, and determine behaviors (Bandura, 1986). According to Bandura's social cognitive theory, personal factors, behavior, and environmental factors act in triadic reciprocation, and the end behavior or response is a result of the cognitive processing influenced by the three factors (Bandura, 1986). Among these three components lie several key sub-components of SCT: self-efficacy, cognized goals, and outcome expectations.

Among the personal factors lie the components of self-efficacy and cognized goals. Self-efficacy is undoubtedly considered the key component of SCT and is also the most researched and developed topic. Self-efficacy is defined as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1994). Self-efficacy can manifest through past performances, vicarious learning, social persuasion, and one's somatic and emotional states (Marmo, 2013). Cognized goals can be used as a guide for behavior and a means of providing an incentive for persistence and achievement (Bandura, 1986). Behavior, as

incorporated in the triad of SCT, includes outcome expectations. Outcome expectations indicate the expected result when one performs a certain behavior. Positive outcomes can provide incentives, whereas negative outcomes can lead to discouragement (Marmo, 2013). Incentives can be related directly to the cognized goals one sets for himself/herself, and positive outcomes can promote a greater sense of self-efficacy, tying behavior to personal factors. Environmental factors can include a variety of social, physical, and cultural aspects that play a part in affecting behavior choices. For example, how much stress individuals experience in managing strenuous environmental demands, and the belief these individuals hold about their capabilities affect their decision-making and behavior (Bandura, 1998).

Application to health communication. In Bandura's 2004 research he translated the components of self-efficacy, cognized goals, outcome expectations, and environmental factors to determine effective health promotion and disease prevention. These determinants included:

Knowledge of health risks and benefits of different health practices, perceived self-efficacy that one can exercise control over one's health habits, outcome expectations about the expected costs and benefits for different health habits, the health goals people set for themselves and the concrete plans and strategies for realizing them, and the perceived facilitators and social and structural impediments to the changes they seek. (Bandura, 2004)

While other theories and health models focus on predicting health habits and preventative measures, SCT both predicts health habits and provides research-supported standards for educating, guiding, and encouraging individuals to adopt healthier habits.

As previously discussed, social cognitive theory examines a broad range of determinants in comparison to other theories and models. The approach acknowledges both the socio-structural and personal determinants of health (Bandura, 1998). Due to the triadic reciprocation of the personal factors, behavioral, and environmental components, strategy implementation can focus on any one of the three components with the notion it will benefit the other two components. Social cognitive theory places less emphasis on environmental and biological factors, and encourages comprehensive understanding and analysis of a variety of factors.

While self-efficacy is arguably the most important component of social cognitive theory, much of the research performed weighs heavily on self-efficacy and neglects other components such as outcome expectations, goals, and environmental factors. Research suggests social cognitive theory can further influence health communication by creative use of technology and enhancing health promotion efforts (Bandura, 1998), as attempted by the proposed campaign in this paper. Social cognitive theory could benefit from expanding research to internet, apps, and social media, the ever-popular sources of news and information as well as means of communication for society today, in order to keep pace with growing technology. This could be especially beneficial in reaching the technology-dependent millennial generation.

This review of social cognitive theory aims to gain a general understanding of the theory's components with a particular focus on how these components relate to health communication. The review highlights self-efficacy, as it is one of the more significant and prominent factors within health communication research. This paper will now present

research on health campaign design to provide reasoning for the structure of the proposed campaign aimed at lowering the risk of type II diabetes in the millennial generation.

Designing a Health Campaign

In modern health communication and public health interventions, there is an ever-growing dependence on campaigns (Kreps & Maibach, 2009). The overall scope of communication is changing and campaign designers are presented with a variety of new channels to utilize in their work (Corcoran, 2011). These new and innovative channels include the internet, social media, and blogs, as highlighted in the prior reviewed literature. Research suggests modern health campaign designs should consider these forms of new media in development, encourage peer-to-peer communication, send e-mails in an attempt to build and foster relationships, and use social media to facilitate interpersonal communication though ensure it not replace face-to-face work (Corcoran, 2011). This section will focus on the importance of defining and understanding the target group. Additionally, this section will depict a framework for the modern health campaign design process and explore techniques for designing resources for use in campaign implementation. This information will provide a foundation for the following proposed health campaign.

Understanding the target group. In order to implement a successful campaign, health communication professionals must have a clear understanding of the group they are targeting with a focus on several key components. Corcoran (2011) categorizes target groups by three factors:

1. Social – age, sex and gender, ethnicity, cultural, religious/spiritual beliefs
2. Structural – location, type of housing, education, and employment status

3. Psychological – attitudes, beliefs, and values

Understanding these factors, as well as their subcomponents, is crucial in order to: define the target group, develop a campaign framework, design communication materials, and tailor campaign information toward the target group. In addition to these factors, it is also imperative to address health literacy.

Determining health literacy. While there are many factors one must consider in the development of a health communication campaign, understanding the health literacy of the target group is one of the most important and continually stressed elements. Health literacy is broadly defined as “the capacity to obtain, interpret, and understand basic health information and services and the competence to use such information and services to enhance health” (U.S. Department of Health and Human Services, 2000). In today’s society, health information is ever present. The internet alone provides seemingly endless health information. It also appears health information is prevalent in advertising today, both print and digital. A general search of the term “health” in Apple’s App Store app generates nearly 20,000 results for health-related apps. While this breadth of health information has the potential to assist individuals in managing their health, it may also be ineffective or counterproductive if that individual cannot understand or apply the information to their own health status (Cameron, Wolf & Baker, 2011). Current research suggests poor health literacy can actually constitute as a risk factor for overall general health (Nutbeam, 2008).

Literature recommends health professionals, practitioners, and communicators pay close attention when designing resources to ensure campaign materials can be read,

understood, and acted upon by the targeted individuals (Corcoran, 2011). Based on the target population, developers should pay close attention to the amount of information presented, ability to use interactive features, readability levels, and the use of uncommon or difficult to understand words (Doak, Doak, & Root, 1996). Research does indicate health literacy can increase by lowering the reading level of materials, improving design formats of campaign materials, and using more simple, straightforward formats (Hoffman & McKenna, 2006). Suggestions for campaign resource development include: writing the way you speak, using common words along with short sentences, providing examples to explain difficult or misunderstood words using an active voice, and including interactive features for further information (Doak et al., 1996). It is critical in the design of the proposed campaign to understand the current health literacy of the target population. Campaign developers must then create carefully crafted communication materials aiming to increase health literacy in order to allow for effective application of campaign information.

Research stressing the importance of understanding the target group has been presented. We understand the primary factors necessary to explore when determining a target group as well as the importance of assessing health literacy of the target group, particularly when developing campaign resources. Now this paper will highlight the process of selecting a planning model, providing descriptions for each of the steps in the nine-step model, the selected planning model for the proposed campaign.

Selection of planning model. A successful campaign requires a carefully crafted, thought out, and systematic structure. In campaign design, this is known as a planning model. Factors to consider when selecting a planning model include: preference of

individuals impacted by the campaign, time available for campaign implementation, and resources (McKenzie, Neiger, & Smeltzer, 2005); personal preference is not a primary factor of consideration. While there are many options of planning models in health campaign design, the following proposed campaign will utilize the nine-step planning model. This is a standard, sequential campaign model best used for small-scale, low budget campaigns requiring minimal time and resources (Corcoran, 2011). The steps for the nine-step planning model, as laid out by Corcoran (2011) are:

1. Rationale
2. Aims and objectives
3. Selection of theoretical model
4. Method and design of method
5. Resources/budget
6. Evaluation
7. Action plan
8. Implementation
9. Feedback and future

These steps are cyclical; the overarching idea being feedback in the final step from one campaign will be beneficial and utilized in the development of the next campaign (Corcoran, 2011). While the duration of the proposed campaign targeting millennials to decrease risk of type II diabetes is rather short, it is hopeful the campaign will be able to be restructured, enhanced, and re-implemented time and time again based on feedback. We will now explore components of each step in the nine-step model prior to detailing the proposed campaign within this project.

Rationale. Rationale, in its most basic definition, is the reasoning for the campaign. At this step it is important to have evidence based reasoning for the campaign with a clear statement regarding the need for the campaign and the priorities of campaign implementation (Corcoran, 2011). Corcoran (2011) also states rationale should address at least these five points:

- Primary health issue and why it is an issue;
- Target group and why they are the target group;
- Primary methods to be used and why;
- Where the campaign will be centered and why;
- Benefits and/or outcomes for the target group.

Aims and objectives. Setting aims and objectives is critical to campaign success and beneficial for evaluation in the future. Aims are what one wants the campaign to achieve, where objectives are the specifics of how the aim(s) will be achieved (Corcoran, 2011). Each goes hand-in-hand with one another in the campaign implementation process. “If objectives are not achieved, then often the aim will not be achieved”(Corcoran, 2011). There is no limit on the number of objectives, but they should be SMART (specific, measurable, achievable, realistic, and time bound) and promote awareness, knowledge, attitude adjustment, empowerment, or behavior change (Corcoran, 2011).

Selection of theoretical model. While there is no wrong theoretical model to select in the development of a health campaign, some are more suitable than others. Campaign developers must possess strong knowledge and understanding of the given theory they choose to implement. Theoretical model selection is

especially important when the aim of a campaign is behavior change, which is the case in the proposed campaign below (Corcoran, 2011). Theory assists health practitioners and communication specialists alike in understanding the complexities of individual behavior and identifying outcome factors to modify throughout the campaign implementation process (Green, 2000). As highlighted in the literature review above, the proposed health campaign will utilize social cognitive theory, but other popular theories used for health campaigns include: the health belief model, theory of planned behavior, and the transtheoretical model. While theories carry with them several criticisms, such as the lack of ability to explain all behavioral changes and lack of emphasis on wider social, cultural, and environmental factors, they are an important factor of success for a campaign and should be carefully considered in the design process (Corcoran, 2011).

Method and design of method. This part of the planning process involves stating what will be done, or the method, and how it will be done, or the design of the method (Corcoran, 2011). Methods are either qualitative or quantitative and can include interviews, surveys/questionnaires, focus groups, and field observations (Corcoran, 2011). Design is dependent on the method selected and essentially details the methodology as well as the way in which data will be measured and collected.

Resources/budget. In this step, one will analyze and assess the resources necessary to complete the given campaign, including the budget for campaign execution. These include both financial resources and other resources that will

have an impact on campaign implementation such as manpower, time, and general, practical resources (Corcoran, 2011).

Evaluation. The evaluation step includes selecting an evaluation method – formative, process, impact, or outcome – and defining the variables and questions to be asked in the evaluation (Corcoran, 2011).

Action plan. The action plan is the detailed, complete outline of the campaign. This details what will happen and when it will happen (Corcoran, 2011).

Implementation. This step is where the campaign is carried out in its entirety based on the plan designed in the previous seven steps (Corcoran, 2011).

Feedback/future. At this step, feedback and results of the campaign are collected and analyzed. Recommendations are also collected for future, evidence based campaign practice (Corcoran, 2011). As stated earlier, it is in this step where one hopes to take feedback, results, and recommendations and utilize them to develop stronger, more effective future campaigns for implementation.

This section has highlighted the importance of selecting a planning model or framework in the development of a campaign, providing explanations for each of the components of the nine-step model selected for the upcoming proposed health campaign. This paper will now emphasize important factors to consider throughout implementation of a successful campaign: channel selection, time, and techniques for designing resources.

Factors for Successful Implementation. Prior to implementation, careful design and planning must be of utmost concern for campaign developers. As highlighted above, understanding the target group is critical in determining the best communication

strategies for the given campaign. We will now explore several factors to consider in campaign design and implementation.

Channel selection. There are a variety of channels through which campaign messages can be communicated. Message appeal and effectiveness is dependent on characteristics of the target audience (Corcoran, 2011). Channels of communication are categorized into three groups: interpersonal, organizations, and community (Corcoran, 2011). It is recommended campaign developers experiment using several channels and sources of media, understanding the chosen medium impacts how campaign information is processed, applied, and recalled (Atkin, 2001; Bryne & Curtis, 2000). Corcoran (2011) suggests combining mass media with a more interpersonal approach in order to maximize effectiveness.

Time. Time, in this sense, refers to the length of implementation of a campaign. Research suggests good campaigns are generally longer in length, aiming for moderate repetition, though not information overload (Atkin, 2011). Campaigns providing too much information tend to exhaust the target audience, while too little information is simply ineffective (Corcoran, 2011). It can be inferred either too little or too much information will fail to generate positive behavior change, therefore understanding the target group and the time-related components of the target group is essential.

Designing resources. A central part of campaign development is the design of campaign resources, materials, and messaging. Corcoran (2011) lays out the design process in eight steps:

1. Planning: Identification of the target group, location of distribution, and resources used.
2. Constructing the message: Defining aims, objectives, and content.
3. Ensuring readability and suitability: Understanding the level of readability for the target group.
4. Using typography: Style of font used.
5. Designing: The structure and organization of message content.
6. Making messages interactive: Incorporating features both encouraging and enhancing engagement.
7. Including visual components: Incorporating images or infographics - visual components growing in popularity within communication today and said to make education more fun (Infographics class is in session, 2014).
8. Reviewing: Evaluating the resources following completion.

There are several suggestions worth noting in detailing the design process.

Messages should be clear and credible, touching on the concept of health literacy discussed above, aiming to promote awareness, provide instruction, or persuade individuals to adopt a certain behavior or habit (Atkin, 2011). Additionally, messages should either encompass a gain frame (highlighting benefits) or a loss frame (highlight what one might lose) (Corcoran, 2011), though researchers have found a slight increase in effectiveness of gain-framed messages (Gerend, Shepherd & Monday, 2008). Fonts of print-based resources should be at least a size 12, and Verdana, Arial, or other non sans-serif fonts should be used for online/web-based messaging (Corcoran, 2011). Logical order, subheadings, and

bullet points are all factors for successful understanding of campaign resources as well (Corcoran, 2011). Attractiveness is also important in understanding and effectiveness of campaign resources, meaning materials should include colors and graphics when appropriate, particularly given the target group (Bull, Holt, Kreuter, Clark, & Scharff, 2001; Corcoran, 2011).

In preparation for the development of a health campaign, this section of the paper has explored explanations of and techniques for: understanding a target group with a focus on health literacy, selecting a planning model and highlighting the components of the nine-step model, and considering important factors of channel selection, time, and designing resources. Research has been presented and reviewed focusing on type II diabetes and associated risk factors and habits of the millennial generation, including health behaviors as they relate to type II diabetes, health beliefs, preferred methods of communication, and communication theory. Additional research detailing techniques for the design of a successful health campaign has been provided, creating an outline for the rest of this work. Based on the research presented, this paper will now shift to propose an original worksite health campaign for a hypothetical company. This company is comprised of a majority of millennials commonly engaging in behaviors with potential to increase one's risk of type II diabetes. The campaign aiming to reduce the risk of type II diabetes through communication interventions promoting behavior change in the target group is detailed below.

Proposed Health Campaign

In an attempt to raise awareness of type II diabetes including its risk factors - primarily related to diet and exercise - as well as promote physical activity and healthy

lifestyle change in young adult populations, a 12-week worksite wellness campaign will be designed for a hypothetical company comprised primarily of men and women under the age of 30. From a communications perspective, the campaign and programming materials will consider health literacy factors, favored modes of communication, popular lifestyle practices, and perceived health beliefs. Programming will take place over the course of twelve weeks, with each week devoted to a different concept of health correlated with increased type II diabetic risk. Weekly programming will address factors of influence as supported by social cognitive theory, personal, behavioral, and environmental, and the underlying components of self-efficacy, goals and/or motivating factors, outcome expectations, and the environment. Reviewed research of social cognitive theory suggests influence on one of these factors can lead to influence and change in the other two areas.

Company Profile

Anne Lee Rose (ALR) is a small accounting firm located in downtown Cleveland, Ohio. There are 110 full-time employees at the firm, 71 males and 39 females. The majority of employees are under the age of 30, with only 39% of employees age 30 and up. In addition to the employees, ALR brings in 10-15 interns throughout the busy season, all of whom are college students ranging in ages 18-22. ALR prides itself on the “family feel” of the office environment. Despite the stress associated with the accounting career, the greatest being the work in busy season, employee satisfaction rates are high - well above average in industry comparison.

Busy season at ALR tends to take place from the beginning of January to early May. During this time, the average employee works over 65 hours a week, often working

on Saturdays and Sundays. These long hours often lead to a significantly reduced amount of sleep as well as change in overall sleeping habits. In addition to the long hours, busy season carries with it days filled with high stress. Employees spend the majority of their time working at computers, sedentary. Nutrition, particularly breakfast and lunch, is not the highest priority of the employees as they often seek out options that are quick and convenient, if they even make time to eat the meal. At least once a week, employees go out to dinner with clients. These dinners are often at lavish steakhouses where copious amounts of alcohol are consumed and food choices are not always the most nutritious. Weekend workdays are followed by weekly happy hours, too often turning into nightlong binge drinking events. This weekly pattern becomes a vicious cycle for the five month long busy season, wrecking havoc on the overall health of the employees whether they are fully aware of it or not.

The founding partners of ALR want to implement a worksite wellness campaign promoting healthy behavior change among their employees in order to lower the risk of type II diabetes companywide. Health and wellness is a common passion among the founders, each of whom have seen first-hand the effects of chronic disease, such as cancer, diabetes, and heart disease, on their immediate family members. Type II diabetes in particular is of interest among the founders as research has indicated it can be preventable through maintaining a lower BMI, increasing physical activity and paying close attention to diet (CDC, 2014). Unfortunately, as previously discussed, the rate of diagnosed cases of type II diabetes is skyrocketing. Through the implementation of this campaign, the founders at ALR hope to: increase the awareness of type II diabetes including risk factors and preventative measures, increase awareness of current health

and lifestyle habits, enhance health literacy, and encourage behavior change in their employees by leading healthier lifestyles.

Characteristics of the Target Group

As stated in the literature review, it is imperative to understand as much about the target group as possible in order to increase the likelihood of campaign success. Below is an analysis of the factors for consideration among the target population at Anne Lee Rose. More details will be provided in the rationale section of the outlined planning model.

Social factors. As stated in the literature review, social factors include: age, gender, culture, race, religion and ethnicity. Below are the charts detailing both the age and gender breakdowns for ALR. As you can see, ALR is comprised of primarily males as well as primarily individuals under 30.

Figure 1.

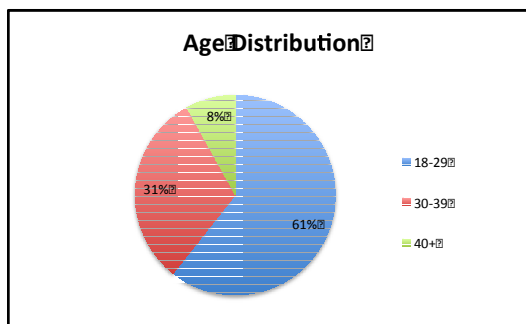
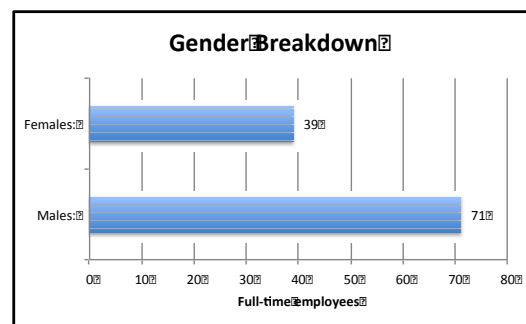


Figure 2.



Age demographics. As stated in the literature review, young adulthood is a critical time for lifestyle and behavior change. It is important to promote healthy living habits to this younger generation in hopes they will adopt a more preventative lifestyle as they age. Marmo, while focusing on college-aged students, also recognizes this as a crucial turning point specifically for physical activity involvement and notes young adults could benefit both immediately and

long term from adopting exercise habits in their late teens and early twenties (Marmo, 2013). Marmo further emphasizes the need for targeting the young adult demographic as she acknowledges the large amount of stressors and temptations college students face, providing supporting research detailing the negative effects such stressors and temptations have on individual health (Marmo, 2013). The same notion Marmo (2013) has for the need to increase physical activity awareness in young adults is applicable to the target group for this campaign. We must acknowledge this time of a young adults' life as a turning point not only for physical activity involvement but also an opportunity to promote the development of proper diet, nutrition, sleep, time management, and stress management habits.

All of the employees speak English as a first language. There are no notable cultural differences among the employees within the organization that would otherwise impact campaign development and execution. Finally, the campaign is designed to provide information regarding changing lifestyle habits applicable to everyone within the company, regardless of their race or spiritual beliefs.

Structural factors. As stated in the literature review, structural factors include location, type of housing, education, and employment status. Since the offices of ALR are located in downtown Cleveland, many of the individuals in the target group live in apartments or houses in the downtown area or surrounding neighborhoods of Tremont, Ohio City, Lakewood, and Cleveland Heights. Primarily, these housing options are rentals and individuals often live with roommates, friends, or significant others. The area is an urban metropolis with grocery and convenience stores, fitness centers, restaurants, and entertainment options readily available and within a short walking distance. All of

the employees at ALR have earned at least a Bachelor's degree from an accredited college or university, and a handful of employees in the target group carry Master's degrees. Some employees are taking evening classes to obtain a Master's degree in addition to others studying for the Certified Public Accountant (CPA) Exam, a common career route in the field of accounting. In regard to employment status, all individuals within the target group are full-time employees at ALR.

Psychological factors. As stated in the literature review, psychological factors include attitudes, beliefs, and values. This target group is comprised of individuals categorized as millennials. Based on research presented in the literature review, it can be inferred this target group tends to think they are healthier than they actually are. They likely do not fully comprehend the scope of type II diabetes and the impact their typical lifestyle behaviors have on their risk of developing the disease. The employees at ALR work long hours and are ambitious and driven in their career, leading us to believe they are not typically the type to take time out of their day to go to the doctor for routine screenings or health advice. This target group is likely impulsive, seeking immediate gratification, as discussed in the literature review, and messages speaking to this impulsive quality are likely more successful in promoting behavior change. Fortunately, since this group generally tends to be exceptionally ambitious and driven, it is hopeful once presented with preventative health information individuals in the target group comprehend they will be motivated to make positive behavior change.

We now have a deeper understanding of the overall company of ALR and the specific target group. To reiterate, the campaign will target both men and women under the age of 30 who are full-time employees possessing typical characteristics of the

millennial generation: ambitious and career-focused, slightly arrogant, and seeking instant gratification. They are well educated and reside in an urban, metropolitan environment. It is likely they know little about type II diabetes and the behaviors influencing risk. Preventative health is likely not a first priority as careers of the target group are incredibly demanding. We will now present the design structure of the worksite wellness campaign to be implemented at ALR using the nine-step model.

The Nine-Step Model for Campaign Design

The nine-step model, as discussed in the literature review, is a basic, straightforward model for campaign design. It is cyclical by nature, meaning one is able to use feedback and results from the implemented campaign to make adjustments for re-implementing the campaign in the future with greater success. In addition, the nine-step model is best used for campaigns that do not require a lot of time or resources. While it is the hope this campaign can be used over and over again barring amendment, it will be initially implemented over the span of twelve weeks with weekly engagement and communication. Below is the detailed campaign framework following the nine-step model outlined in the literature review. A discussion of the overall campaign with a focus on certain aspects will follow.

1. Rationale: Diabetes is the seventh leading cause of death in the United States and the number of diagnosed cases is increasing at alarming rates. Research has found type II diabetes to be preventable through regular exercise and maintaining a normal BMI. While the number of cases of diabetes is higher in people over 30, prevention education to individuals in their 20's can promote lifestyle behavior, specifically related to levels of physical activity and BMI. This has the potential

to decrease the risk of developing type II diabetes in the future, ultimately lowering the overall number of diagnosed diabetics. The campaign will target individuals under 30 at a small accounting firm, ALR, in Cleveland, Ohio. The campaign will be implemented in the offices, as the target individuals spend the majority of their day at work. Further information regarding the target group can be found under “Characteristics of the Target Group.”

2. Aim: To encourage adoption of increased exercise and proper diet, sleep, stress management, and quality individual health maintenance habits as means of lowering BMI and reducing risk of type II diabetes in the target group of individuals under 30

Objectives:

- To raise awareness of type II diabetes including risk factors and prevention methods
 - To identify detrimental health behaviors in one's lifestyle and demonstrate ways to make changes
3. Selection of theoretical model: Social cognitive theory
 4. Method and design of method: A 12-week worksite wellness campaign will be implemented. This campaign will educate individuals on a variety of components directly related to diabetic risk factors: exercise, diet, sleep, stress management, and general health maintenance. Focus will be heavier on aspects related to diet and exercise as a result of research presented in the literature review supporting the notion that a lower BMI and increased physical activity will lower one's risk of developing type II diabetes. Programming will include weekly emails and

monthly posters to promote wellness around the office. These materials will provide educational information, resources, tips, and recent news briefs if applicable. In addition, programming materials will include a calendar of local events and will highlight local restaurants and businesses. The company Twitter and Facebook page will also post information throughout the campaign reiterating content within the programming materials as well as any other information they find informative, motivational, or relevant.

5. Resources and budget: Minimal resources are necessary for campaign implementation. Employees have work-provided laptops and email addresses to receive the materials. Other resources/necessities include:

- Paper, a printer, and ink for printing posters
- Manpower from the individual/s assisting in implementation
- Time

Note: Time will be an especially important factor/resource as the individual/s managing campaign implementation in the office will need to be setting aside time each day to read the latest health news outlets in order to find content to generate in order to keep employees engaged throughout the campaign.

- Spending money for food IF office wants to provide incentives such as healthy lunches, entries to local races or events, etc.

6. Evaluation: In-office word-of-mouth feedback throughout the campaign, measuring participation in local events, and post-campaign satisfaction survey.

7. Action plan: A company wide meeting will be held in June, following the busy season to introduce the wellness campaign and attempt to generate a “wellness committee” within the organization. Members of the wellness committee will serve as ambassadors throughout the campaign and assist with aspects of implementation (ex. generating content for social media). Weekly programming attempts to impact at least one area supported by social cognitive theory’s notion of triadic reciprocation: behavioral, personal, or environmental. Details of specific objectives are found alongside each week’s focus. Proposed weekly programming is as follows:

Table A-1

<u>Week</u>	<u>Weekly Focus</u>	<u>Personal/Cognitive Objectives</u>	<u>Behavioral Objectives</u>
1	Type II Diabetes and Risk Factors	<ul style="list-style-type: none"> • Raise awareness of type II diabetes • Educate employees on risk factors and prevention basics • Outline campaign objectives 	<ul style="list-style-type: none"> • Identify current lifestyle habits increasing one's risk of type II diabetes • Express any questions or concerns with campaign • Set goals for campaign duration
2	Benefits of Exercise and HIIT	<ul style="list-style-type: none"> • Educate employees on benefits of exercise, particularly impact on BMI, and recommended amount per week • Increase self-efficacy by featuring benefits of a variety of exercise options for all abilities including: running, walking, swimming, cycling, strength training, and yoga • Share resources for quick and effective workouts of any ability, notably High Intensity Interval Training (HIIT) • Provide sample HIIT workouts as well as workouts which can be easily done at home 	<ul style="list-style-type: none"> • Evaluate current fitness level, exercise habits, and exercise self-efficacy • Encourage exploring a new type of fitness activity either alone or with a friend • Devise fitness goals for the next 10 weeks and highlight motivating factors
3	Negative Health Effects of Sitting	<ul style="list-style-type: none"> • Raise awareness of sitting disease, including statistics correlated to risk of developing type II diabetes • Share options for decreasing sitting at work including: standing desks and walking meetings 	<ul style="list-style-type: none"> • Implement companywide pledge to stand up and move for five minutes for every hour spent sitting
4	Local Fitness Spotlight	<ul style="list-style-type: none"> • Highlight local gyms, fitness centers, and studios in the downtown Cleveland area • Feature information on local MetroParks and trails • Provide resources for contacting local running, cycling, or swimming groups • Suggest company sponsorship of a local race or summer intramural sports league 	<ul style="list-style-type: none"> • Join a gym, attend a local fitness class, or explore a MetroPark/trail • Sign up for a race or competition • Organize a company intramural team and provide support for one another
5	Nutrition and Healthy Cooking	<ul style="list-style-type: none"> • Raise awareness of nutritional impact on BMI and risk of type II diabetes • Educate employees on nutrition basics, including easy swaps to increase nutritional value in meals • Provide recipes and resources for making quick, healthy meals and snacks • Share tips for smart eating when out at restaurants or events 	<ul style="list-style-type: none"> • Evaluate current nutrition knowledge and habits • Devise nutritional goals for the duration of the campaign • Cook at least one of the recipes shared in the weekly communication • Implement Fresh Friday's or healthy potlucks within in office, encouraging participation from all employees • Encourage more mindful food choices during company outings at restaurants

Table A-2

<u>Week</u>	<u>Weekly Focus</u>	<u>Personal/Cognitive Objectives</u>	<u>Behavioral Objectives</u>
6	Sugar	<ul style="list-style-type: none"> • Raise awareness of the dangers of refined sugar including impact on BMI and mental health and significant relationship to type II diabetes • Educate employees on how to find "hidden sugars" within processed foods and drinks • Encourage consumption of more natural sugars, such as fruit, and less processed foods 	<ul style="list-style-type: none"> • Decrease or stop consumption of processed foods for a week • Practice recognizing hidden sugars within foods while grocery shopping or eating out
7	Staying Hydrated the Healthy Way	<ul style="list-style-type: none"> • Educate employees on the benefits of drinking water, particularly as it relates to BMI, and recommended daily intake • Raise awareness of negative health effects of drinking soda/pop, popular coffee beverages, fruit juices and energy drinks • Provide information on making smarter alcohol choices and suggest alternating alcoholic beverages with water 	<ul style="list-style-type: none"> • Identify current hydration habits, particularly amount of water consumed • Drink recommended daily amount of water every day • Decrease or stop consumption of sugary beverages including pop, fruit juice, energy drinks, and loaded coffee beverages • Suggest removing any unhealthy drink options from company vending machines • Practice responsible alcohol consumption
8	Local Food Spotlight	<ul style="list-style-type: none"> • Highlight local restaurants providing healthy options for all meals at a variety of price points • Highlight area grocery stores and local farmers markets • Feature local dinner clubs or groups sharing common interest in healthy cooking and dining • Feature area businesses providing healthy cooking demonstrations and courses • Raise awareness of the benefits of shopping local and organic when possible 	<ul style="list-style-type: none"> • Explore a local farmers market • Practice more mindful grocery shopping, including eliminating packaged/processed foods • Try a different, healthier restaurant option for a meal
9	Sleep	<ul style="list-style-type: none"> • Highlight benefits of sleeping recommended 7 to 8 hours of sleep each night • Raise awareness of the negative health effects inadequate sleep has on BMI and mental health • Provide tips for better sleep including avoiding electronic devices at least 1 hour before bed • Reiterate benefits of incorporating short, effective workouts such as HIIT into one's exercise regimen as a means of allowing for more sleep 	<ul style="list-style-type: none"> • Get the recommended 7 to 8 hours of sleep each night • Identify factors keeping one up at night if applicable and develop effective nighttime practices to ensure quality sleep • Schedule workouts in order to allow for adequate sleep

Table A-3

<u>Week</u>	<u>Weekly Focus</u>	<u>Personal/Cognitive Objectives</u>	<u>Behavioral Objectives</u>
10	Tools for Stress Management	<ul style="list-style-type: none"> • Raise awareness of the ways stress can negatively impact health and tools to minimize impact • Provide resources for time management and organization as each can be a source of significant stress • Highlight benefits of exercise for stress relief and management • Encourage yoga practice and/or the adoption of meditation techniques • Educate employees on the benefits of a strong social network and support system 	<ul style="list-style-type: none"> • Identify stressors in daily lifestyle • Adopt effective time management and organizational skills • Determine best techniques for individual stress management • Foster a positive environment of social support among coworkers in the office • Explore offering yoga classes at the office
11	Modern Options for Healthcare	<ul style="list-style-type: none"> • Educate employees on the benefits of having a primary care physician and resources for finding one in the area • Highlight healthcare apps such as MyChart to use to communicate with physicians and view health records, test results, etc. • Provide valid references for healthcare websites to seek out health information • Highlight modern health related apps which employees can use for general health maintenance, fitness, dieting, etc. 	<ul style="list-style-type: none"> • Seek out a primary care physician and obtain an annual physical • Explore health information sources and identify favorable options
12	Putting It All Together	<ul style="list-style-type: none"> • Encourage continued adoption of exercise, nutrition, sleep, time management, and stress management habits following campaign conclusion • Highlight importance of annual physicals in order to know where one stands in terms of their health • Provide additional information and resources wanted and/or needed 	<ul style="list-style-type: none"> • Evaluate individual health, habits, and self-efficacy throughout campaign • Assess and restructure goals if applicable • Identify likes and dislikes of campaign implementation and content

8. Implementation: Campaign will begin in mid July and conclude in October.
9. Feedback/future: The leader of implementation and/or wellness committee members will be monitoring feedback throughout the initial implementation. As a leader, one is expected to attend events the campaign suggests for employees (ex. a local 5K, donation yoga class, cooking demonstration at a local grocery) and will monitor attendance at events. A survey will be sent out in November assessing employees' thoughts on the campaign.

Discussion of Proposed Campaign Action Plan and Details

An outline of the campaign has been presented using the nine-step model, and the tables presented detail the action plan for campaign implementation. This section will now discuss the campaign details and provide reasoning for the decisions made regarding both structure and content of the campaign.

This 12-week worksite wellness campaign is targeted to individuals under 30 in an attempt to promote healthy behavior change to lower one's risk of developing type II diabetes. As discussed in the introduction, type II diabetes is one of the leading causes of death in Americans, and the number of diagnosed diabetics continues to rise at significant rates. Research shows one can lower their risk of developing type II diabetes by maintaining a lower BMI and increasing physical activity. This paper presented literature on characteristics of the millennial generation as millennials within a hypothetical company are the target group of the campaign. This generation typically perceive themselves as healthier than they actually are. As presented in the literature review, millennials do not participate in nearly the recommended amount of daily exercise, eat a diet low in fruits, vegetables, and other nutrient rich foods, and binge drink significantly more than other Americans, particularly in their college years. These are all lifestyle characteristics capable of impacting one's BMI. While risk of diabetes increase with age, it seems favorable to target younger individuals as typical health behaviors in the college and early adult years possess the capability to become habitual. These behaviors would undoubtedly be harmful to one's health as he/she ages.

The campaign is designed for execution within a company comprised primarily of young adults. The choice to execute this campaign in an office environment was a result of social cognitive theory's notion suggesting positive changes in one's environment can

lead to positive changes in one's behavior. The campaign presents suggestions to make within the office environment, such as sponsoring a local race, offering in-office yoga, providing nutritious lunches, and removing soda and sugary beverages from vending machines among others. These suggestions are made with the idea being, pending implementation, they will promote positive behavior change within employees. This target group spends the majority of their time at work, both in and out of busy season, leading us to believe the campaign will be most effective in the environment where the target group spends the majority of their time. The campaign also suggests fostering an environment where social support is strong. The office was recognized for its tremendous sense of camaraderie, therefore cementing it as the ideal environment for a campaign promoting behavior change.

As discussed in the literature review, the millennial generation is the first to be truly technology savvy and technology dependent. It is for this reason the chosen primary method of delivery for campaign materials is through email. Employees at ALR already have company emails through which they perform their daily work, therefore they will at least be guaranteed campaign information exposure. Emails are sent out once a week on Mondays. As discussed in the literature review, successful health campaigns must be careful not to present too much or too little information at once. The literature review also suggests campaigns combine both mass media and interpersonal communications. Millennials characteristically live a more fast-paced lifestyle, seeking instant gratification in a variety of aspects of life. It can be inferred this target demographic will not want to read a lot of information. Emails will be straightforward with links for resources and further information if individuals would like to read more. The millennial

generation also holds a strong presence on social media. Social media, as discussed in the literature review, possesses the capability to enhance health promotion and health communication through its unique messaging services encouraging interpersonal influence. Countless valid health based corporations are present on social media, as well as general health and wellness focused organizations, personalities, and bloggers. Social media will be used throughout this campaign at ALR to share valid content and resources and provide motivating and supportive messages to employees as a method of campaign communication supplementary to email. It is also hopeful employees will use social media as a means to communicate with fellow employees and motivate both themselves and one another, increasing one's belief in their own health behavior capability. This is also known as self-efficacy, a concept detailed in the social cognitive theory of the literature review and one recognized as critical to encouraging behavior change.

Campaign resources presenting information include the weekly emails and monthly posters. Weekly emails will contain the information detailed in Table A. Material will be straightforward and brief, providing links to additional, more detailed information and resources. Posters will be used as supplemental sources of information and exposure. These posters will primarily highlight events presented in the emails (i.e. local races, restaurant/grocery events, fitness happenings, etc.) along with infographics related to the overarching concepts of the emails for the month. Infographics provide a combination of information and visual aide, and appear to be growing in popularity and effectiveness with health communication in today's society as they are said to make education more fun. Bright colors will be used to draw employees' attention to the posters. The importance of understanding what the target group deems attractive is

discussed in the designing resources section of the paper. Posters will be posted throughout the office as constant channels of exposure to the information presented in the campaign, another indication of possible behavior change through environmental changes as supported by social cognitive theory. Additionally, content and messages presented in the campaign resources are tailored to the target group of this under-30 demographic, comprised of millennials. Events are featured primarily as a means to engage the target group with some sort of social aspect. Social support is especially beneficial for motivation, encouraging behavior change and increasing self-efficacy.

This section has presented a discussion of the campaign details including reasoning for structure, content, and design. There is a particular focus on how the design utilizes concepts supported by social cognitive theory, the foundation for campaign development. This paper will now explore the limitations of the proposed campaign and implications for future research.

Limitations and Implications for Future Research

There are several limitations within the proposed campaign. The primary limitation is the campaign was designed for a hypothetical company and therefore will not actually be implemented. Though demographics and behaviors are loosely based on a real-life small accounting firm, the details are not factual nor is the company. The proposed campaign cannot be tested in the specific format in which it was reasoned and designed. No data will be collected for future analysis. Future research efforts would benefit from studying a legitimate company and target group to test campaign implementation and effectiveness. Additionally, the primary research method of the campaign does not allow for collecting considerable amounts of data on the employees to

determine the best means of communication for the specific millennial target group. Campaign decisions were made based primarily on information based off field observations. Email, internet, and apps are the focus of the campaign, supported by research stating these are the preferred means of communication within millennials. In regard to emails, the primary channel of campaign information communication, there is no suggested method for confirming whether the emails are actually going to be read by the employees. While sending emails allows for reaching everyone, we have no control over whether the email is actually read or simply put directly into trash.

The proposed campaign is not overly hands on, as argued prior that too much information can often turn people away as it essentially can burn them out or confuse them. While stated in the nine-step model outline for the campaign that money could be needed if the company wanted to incentivize the program, no incentives are put in place. It will likely be harder to encourage and promote change in individuals simply by providing information, whereas providing some incentives might encourage more participation in events and foster increased change, as supported by social cognitive theory. This campaign relies solely on providing health information and the promotion of a healthy environment within the workplace to instill a desire to make positive behavioral changes, which might not necessarily be the most effective process. Future campaigns could benefit from exploring incentive based wellness campaigns within companies. Additionally, the campaign is designed to target a specific group of millennials, with a focus solely on lowering the risk of type II diabetes. There are other chronic health conditions deemed preventable yet significantly impacting the lives of many Americans. Future research efforts should explore other preventable chronic conditions such as heart

disease, stroke, or cancer. These efforts can assist in determining whether the proposed campaign or one similar would be effective in raising awareness and promoting behavior changes to lower one's risk of developing any of the previously mentioned chronic diseases.

Conclusion

Type II diabetes, like other chronic health conditions such as heart disease, is preventable through adoption of healthy lifestyle behaviors such increased physical activity and maintaining a lower BMI. Sadly the number of diagnosed cases in America continues to rise at alarming rates. Communication interventions such as worksite wellness campaigns are uniquely positioned to assist in raising awareness and encouraging behavior change to lower one's risk of developing type II diabetes. Targeting individuals within their workplace environment has the possibly of enhancing the likelihood of behavior change as suggested by social cognitive theory. Young adults, recognized as millennials, are less often targeted in health communication interventions. This could be a result of the idea they are at a lower risk for disease development than older individuals, yet young adults tend to develop habits detrimental to individual health as early on as the college years. Millennials tend to think they know everything, perhaps as a result of the breadth of information available through the internet and other modern methods of communication. Additionally, millennials think they are healthier than they actually are, according to statistics, and they lack awareness of preventative behaviors necessary to lower the risk of chronic diseases such as type II diabetes. This project provides a framework for a proposed worksite wellness campaign targeting men and women under 30 in a small accounting firm. The campaign aims to raise awareness of

type II diabetes, including risk factors and methods for prevention, and promote healthy behavior changes within a variety of risk-related factors, ultimately lowering one's risk of developing type II diabetes.

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