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NOT BY COMMANDMENT OR CONSTRAINT: THE RELATIONSHIP BETWEEN THE DIETARY BEHAVIORS OF COLLEGE-AGED LATTER-DAY SAINTS AND THEIR INTERPRETATION OF THE WORD OF WISDOM

by

Rick B. Jorgensen

A dissertation submitted to the faculty of

Brigham Young University
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Department of Exercise Sciences

Brigham Young University

August 2008

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BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

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This dissertation has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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BRIGHAM YOUNG UNIVERSITY

As chair of the candidate's graduate committee, I have read the dissertation of Rick B. Jorgensen in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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ABSTRACT

NOT BY COMMANDMENT OR CONSTRAINT: THE RELATIONSHIP BETWEEN THE DIETARY BEHAVIORS OF COLLEGE-AGED LATTER-DAY SAINTS AND THEIR INTERPRETATION OF THE WORD OF WISDOM

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Doctor of Philosophy

Latter-day Saints are recognized throughout the world by their peculiar dietary code known as the Word of Wisdom. It is accepted by the Church as revelation and contains both proscriptions and prescriptions. Different levels of interpretation, understanding and observance of the principles in the Word of Wisdom make it a unique Latter-day Saint religious health code. The study population consists of college-aged male and female members of The Church of Jesus Christ of Latter-day Saints from Brigham Young University and a Latter-day Saint student stake affiliated with Utah Valley University. A questionnaire was conceptualized, designed and validated over a one year rigorous process. The responses of 720 participants were evaluated using frequency distributions and measures of central tendency. The *t* statistic was used for testing the null hypothesis of equality of means between independent groups and

computed using approximate degrees of freedom from Satterhwaite's approximation when the variances between the two groups are unequal. Logistic regression was used with the stepwise option to identify demographic variables associated with selected interpretation variables. Two-sided tests of significance were based on the 0.05 level against a null hypothesis of no association. Participants generally interpret and comply with the proscriptions in the Word of Wisdom. Participants can identify the prescriptions, but actual behaviors are far below scientific and government recommended minimums. The interpretations and behaviors of this sample provide valuable insights for those interested in the Word of Wisdom and its connection to the standards of the Church.

ACKNOWLEDGMENTS

I would like to thank all who have assisted in this undertaking, Brigham Young University and the Church for offering valuable opportunities in education, and the patience and tolerance of my wife Kristen and my children. In accomplishing this work I must acknowledge that Dr. Steve Aldana gave me the vision to do my doctoral study in what I wanted, in order to become what I wanted to become. Dr. Ray Merrill deserves the most special thanks for always making time for me and staying with me from the beginning to see this project through to the end, he is as kind as he is bright, and has been a constant through this lengthy and difficult process. I wish to thank Dr. Phil Allsen for taking over the responsibility of being my chair and constant supporter and Dr. Richard Sudweeks for his endless contributions to this research project even though he is so busy in a different college. I thank Dr. Gordon Lindsay for his passion for and expertise on the Word of Wisdom and his persistent readiness. I thank Dr. Larry Hall and Dr. Bill Myrer for encouraging me to do this study on the Word of Wisdom almost two years ago. Last I wish to thank the late Dr. Paul Peterson who first inspired me as a graduate student and later served on my doctoral committee until he passed away in September 2007. A special thanks to Dr. Richard Cowan for taking his place.

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Not by commandment or constraint — the relationship between the dietary behaviors of college-aged Latter-day Saints and their interpretation of the Word of Wisdom

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Introduction

In 2007, there were over 13 million members of The Church of Jesus Christ of Latter-day Saints, organized in 27,827 congregations, and in 176 nations, territories and countries. Latter-day Saints are recognized throughout the world by their missionaries, their temples, their houses of worship, and often by their dietary code known as the Word of Wisdom.² According to the *Encyclopedia of Mormonism*, "Word of Wisdom is the common title for a revelation that counsels Latter-day Saints on maintaining good health," by primarily abstaining from alcohol, tobacco, coffee and tea.³ Historians inside and outside the Church indicate that active Latter-day Saints might be distinguished more by this outward practice of abstinence than by any other practice.⁴ Considering the public implications of required abstinence from the prohibited substances mentioned in the Word of Wisdom, some assume that it is entirely a prohibitive commandment. Yet, recent Church leaders have taught that the Word of Wisdom is primarily spiritual in nature.^{5 6 7 8} ⁹ ¹⁰ ¹¹ It is accepted by the Church as revelation with readily acknowledged proscriptions (i.e., prohibited items), and yet it also contains prescriptive items that are encouraged for consumption. Different levels of interpretation, understanding, and observance of the principles in the Word of Wisdom make it a unique Latter-day Saint religious health code.

An historical analysis of the Word of Wisdom describes how it was first received, "not by commandment or constraint," but was later sustained by the Church as a commandment. Since 1833, the Word of Wisdom has increased in relevance and ultimately became a requirement for admittance into the Latter-day Saint temples. 14 15

This transitional time, coupled with its public visibility, has subjected the Word of Wisdom to a wide variety of interpretations. On February 27, 1833 members of the School of the Prophets in Kirtland, Ohio were counseled to live by the precepts found in the Word of Wisdom. One year later Joseph Smith and the Kirtland high council met and sustained a policy "that no official member of this Church is worthy to hold an office after having the Words of Wisdom properly taught to him, and he, the official member, neglecting to comply with, or obey them." When it was first published in the 1835 edition of the Doctrine and Covenants members of the Church accepted it as scripture, even though it was not yet generally recognized as a commandment. Hyrum Smith chose the Word of Wisdom for a fiery Sabbath Day speech in 1842. It may be that some of the early Latter-day Saints were not taking it as seriously as Hyrum believed they should. He called upon the members of the Church to live by what God had commanded in scripture, including what man should and should not eat. 19

In a General Conference address in September 1851, President Brigham Young asked the Saints to keep the Word of Wisdom, saying directly to the priesthood, "I will draw the line and know who is for the Lord and who is not, and those who will not keep the Word of Wisdom, I will cut off from the Church."²⁰ Brigham and his successors frequently called upon the people of the Church to live the Word of Wisdom.²¹ In the early 1860s Brigham publicly acknowledged his victory over the prohibited substances in the Word of Wisdom, although he said he had struggled with them all of his life.²² Presidents of the Church in the nineteenth century were generally merciful to those that

struggled with use of these substances, particularly for those that had developed habits to these substances prior to 1833.²³

During the early twentieth century President Joseph F. Smith and his successor Heber J. Grant signified a notable transition in the emphasis of the Word of Wisdom as a requirement that should be followed explicitly. Adherence became a requirement for full priesthood participation and for temple attendance among the general body of the Church. 24 From the 1890s into the 1920s, Church priesthood leaders reported progress had been made in regards to obedience to the Word of Wisdom.²⁵ Jan Shipps, a noted scholar and historian, wrote that the Latter-day Saint Church used two strategies during this period, their welfare program and their distinct dietary code to focus attention on their peculiar ethnicity or 'peoplehood.' Other historians and scholars have made similar observations, directing their interpretations of an increased emphasis on the Word of Wisdom as a strategy to draw attention away from polygamy and, yet, maintain Mormons exclusivist doctrines.²⁷ The Word of Wisdom has clearly undergone changes in emphasis and interpretation during its 175-year history, and although it is acknowledged by Church leaders that it was not originally given as a commandment, ²⁸ it has been progressively sustained as one by Church membership.²⁹

Today, the Church *Handbook of Instructions* for local leaders contains two small paragraphs under the heading Word of Wisdom.³⁰ The first paragraph reads, "the only official interpretation of 'hot drinks' (D&C 89:9) in the Word of Wisdom is the statement made by early Church leaders that the term 'hot drinks' means tea and coffee." The second paragraph directs Latter-day Saints "that they should not use any substance that

contains illegal drugs" and further excludes any harmful or habit-forming substances unless under the care of a competent physician. Hence, the Church has clarified certain aspects of the original revelation now found in D&C 89, and emphasized abstinence from harmful substances as the basis of the Word of Wisdom. This emphasis has lead some to generalize that it is strictly a list of "don'ts." Nevertheless, the Word of Wisdom contains both prescriptive directives as well as proscriptive statements.³¹ The prescriptive directives are to eat wholesome herbs such as fruits in their season; vegetables in abundance; grains, such as wheat; and to eat meat sparingly. These prescriptions are perhaps less emphasized because adherence to the prescriptive items is not required for full participation in the Church. In addition, these prescriptions are somewhat vague, which has led to various interpretations and, consequently, differences in practice.³² ³³

The purpose of this study was to determine to what extent the dietary behaviors of college-aged Latter-day Saints are associated with their interpretation of the Word of Wisdom. The participant's awareness of the proscriptions compared with the prescriptions in the Word of Wisdom was also considered, along with the influence of other related factors such as gender, race, and returned missionary status on their interpretations and behaviors.

Methods

Population and Sample

The study population consists of college-aged male and female members of The Church of Jesus Christ of Latter-day Saints. A convenience sample of college-aged students was taken. Participants were sampled from Brigham Young University (BYU)

and a Latter-day Saint singles stake that consisted primarily of Utah Valley University (UVU) students. A few participants were not currently enrolled at UVU, but attended the Latter-day Saint student stake. A required ecclesiastical endorsement and required Honor Code compliance at Brigham Young University resulted in some minor differences in responses between the two groups. These differences are explained statistically in the results.

Data Collection

The survey was proctored in person by the researcher. Of 762 questionnaires administered, 29 individuals had missing age or baptismal information and 13 were older than 35. These surveys were excluded from the current study, leaving 720 subjects (355 from BYU and 365 from the UVU stake) for analysis. The only categorical difference in those removed from the analysis involved race, with 3% of Caucasian and 8% of the other racial groups removed. At BYU, undergraduate classes were randomly selected, with all students choosing to participate. At the LDS student stake near UVU, all priesthood and relief society classes were given the survey, with all in attendance completing it.

The Instrument

The process of constructing the questionnaire for this research survey was completed over a one-year period and was conceptualized with the help of five individuals trained in research design and analysis. Approximately 500 students and faculty from BYU assisted in the development of the survey through open responses,

focus groups and pilot studies. A class of BYU students first answered four open-ended questions about the Word of Wisdom:

- 1. Please list the first three things that come to your mind when you think of the Word of Wisdom?
- 2. In addition to the "Don'ts" in the Word of Wisdom what are the "Do's"?
- 3. What other behaviors does the Word of Wisdom encourage?
- 4. What are the promised blessings for those who observe the Word of Wisdom? Forty-nine students completed the survey and their responses were evaluated. It was determined that two of the questions could be collapsed into one, "In addition to the Don'ts in the Word of Wisdom what other behaviors does the Word of Wisdom encourage?" Ninety more students were given those three open ended questions and their responses tabulated. A series of common responses were identified. The students' responses were used in constructing the questions for a pilot survey. The pilot questionnaire was written, evaluated and revised with input from three different focus groups.

An undergraduate religion class at BYU was given the pilot questionnaire. Students were encouraged to carefully respond to all questions and given sufficient time to do so. Responses from the pilot study were gathered from 236 students and a statistical assessment of the responses was conducted for reliability. In addition, two outside experts were consulted to review selected items for content validity. Modifications were made to the instrument and two more focus groups of approximately 30 students each provided

input for clarifications to the questions, with the final version of the instrument approved by the original five experts.

The questionnaire consists of three main sections: demographic information, health and behavior questions, and Word of Wisdom interpretation questions.

Demographic questions included gender, age, race, marital status, returned missionary status, location the survey was taken, family income, location where they were raised, mother's education, father's education, and whether they adhered to the Word of Wisdom during their teenage years or whether it was adhered to in the home. Weight and height were also collected in order to compute body mass index (BMI). Baptismal age was collected to determine time in the Church. Body mass index was calculated by multiplying weight in pounds by 703 and then dividing this product by height in inches squared.

Participants were also asked to give their interpretation of the terms "strong drink," "hot drinks," "wholesome herbs," and what it means to eat meat "sparingly." Questions were asked to identify the frequency of consuming vegetables, fruits, bran or whole grain cereal, brown rice or whole wheat breads, meat of any kind, coffee, tea, alcoholic beverages, tobacco, and drugs. Questions were also asked about the average number of days per week participants were physically active (i.e., increased their heart rate for at least 20 minutes) and the average number of days per week they received sufficient sleep.

The health behavior questions were designed to focus on the different substances specifically addressed in the Word of Wisdom. These questions were developed using

items from the Center for Disease Control's Behavioral Risk Factor Surveillance System (CDC's BRFSS survey) as a template.³⁴ The questions regarding the interpretation of the Word of Wisdom were developed to correspond with the behavior questions relating to the specific items addressed in the Word of Wisdom. The questionnaire took an average of 10-15 minutes to complete. Responses were recorded on scan sheets, which were tabulated through the testing center at BYU. The study was approved by the Institutional Review Board at Brigham Young University.

Statistical Techniques

Frequency distributions and measures of central tendency and dispersion were used to describe the study participants. The *t* statistic was used for testing the null hypothesis of equality of means between independent groups, with the *t* statistic computed using approximate degrees of freedom from Satterhwaite's approximation when the variances between the two groups are unequal.³⁵ Logistic regression was used with the stepwise option to identify demographic variables associated with selected interpretation variables. Two-sided tests of significance were based on the 0.05 level against a null hypothesis of no association. Analyses were performed using SAS version 9.1.³⁶

Results

The average age of the study participants was 22.0 (SD = 2.7), with ages ranging from 18 to 35. Mean baptismal age was 8.3 (SD = 1.8), with baptismal age ranging from 8 to 23 years old. Study participants were primarily Caucasian; single; adhered to the Word of Wisdom during their adolescent years; had a family income greater than

\$50,000; and came from families where parents had a degree from college, trade or technical school or a graduate degree (table 1). In addition, a higher percentage of participants were male, returned missionaries, and from states outside of Utah.

Selected dietary, physical activity, and sleep behaviors are described according to gender in table 2. The table also compares responses for these items between males and females. Participants were most likely to eat 2-3 servings of vegetables per week, slightly less than 1 serving of fruit per day, between 3 to 4 servings of bran or whole grain cereal a week, and between 3 to 4 servings of brown rice or whole wheat breads a week. In regards to meat, male participants were most likely to eat at least one serving a day whereas females were most likely to eat between 3 to 4 servings a week. Males ate significantly more servings of meat than females, and were also significantly more likely to have used tobacco. Females ate significantly more servings of the tables, bran or whole grain cereals, and brown rice or whole wheat bread per week than their male counterparts. Incidentally, females were also more likely to have drunk coffee. In general, the data suggest that study participants have a very low level of tobacco, alcohol, or illicit drug use, but also have fairly poor diets, low levels of physical activity, and poor sleep practices.

The questionnaire asked whether selected items should be interpreted as "strong drink," as described by the Word of Wisdom (table 3). The items most likely considered to be strong drinks were beer (97%), liquor or spirits (96%), and wine (96%). A clear majority also categorized coffee (84%) and selected teas (70%) as strong drinks. Only a slight majority considered energy drinks (52%) and nonalcoholic beer (52%) to be strong

drinks and less than 18% classified caffeinated soft drinks as strong drink. The proportion who considered beer to be a strong drink was higher among Caucasians, BYU students, and those raised in the United States outside of Utah. Returned missionaries were significantly less likely to say soft drinks were a strong drink; females were significantly more likely than males to classify coffee as a strong drink; younger participants, those from lower income categories, and those who adhered to the Word of Wisdom during adolescence were significantly more likely to classify energy drinks as strong drink; Caucasians were significantly more likely to classify liquor or spirits as strong drink; not returned missionaries and those who adhered to the Word of Wisdom during adolescence were more likely to classify non alcoholic beer as a strong drink; females were significantly more likely to classify selected teas as strong drink; and Caucasians, returned missionaries, and BYU students were significantly more likely to classify wine as a strong drink.

Participants were also asked whether they interpreted selected items as "hot drinks," as described by the Word of Wisdom (table 4). The items most likely interpreted as "hot drinks" were coffee (98%) and black tea (96%). Many interpreted decaffeinated coffee (85%) and green tea (82%) as "hot drinks" but not herbal tea. A strong majority (78%) identified iced tea as a hot drink as described by the Word of Wisdom. Those more likely to interpret iced tea as a hot drink were non-Caucasian, returned missionaries or those of a younger age. Considering herbal tea only, 26% interpreted it as a hot drink and they were more likely to be males, not Caucasian, or not returned missionaries.

Interestingly, 32% of participants considered any scalding drink as a "hot drink," and

they were more likely to be from the UVU affiliated stake or non-Caucasian. The sample was split on interpreting cultural drinks as "hot drinks" and only 5% of those surveyed interpreted hot chocolate or hot cider as a "hot drink."

Participants were divided in their interpretation of dietary supplements as "wholesome herbs," as mentioned in the Word of Wisdom (table 5). The division was nearly equal with 49.58% interpreting "wholesome herbs" to include dietary supplements and 50.42% indicating that they were not. A related item questioned whether "plants for treating human illnesses" should be interpreted as "wholesome herbs," although many would argue that that is what a dietary supplement actually is, the interpretation from this population was significantly different. Of those sampled, 88% interpreted "wholesome herbs" in the Word of Wisdom to include plants which are used for treating human illnesses and only 50% interpreted dietary supplements as such. When the plants being considered were plants like marijuana and opium, only 6% interpreted those plants as being wholesome herbs, and those who did were more likely to be those who according to self reporting did not adhere to the Word of Wisdom in their adolescence (table 5).

Under the same category of the wholesome herbs (table 5), 95% thought that these words referred to "plants for human consumption." Those that selected edible plants as wholesome herbs were more likely to have indicated that in the home in which they were raised there was regular observance of the Word of Wisdom. When plants were further categorized in other questions as grains, fruits or vegetables, the percentages dropped slightly. In interpreting grains as a "wholesome herb," with wheat given as the example of a grain, 92.31% said yes they were a wholesome herb according to the Word

of Wisdom. Slightly less participants 91.90%, interpreted vegetables as a wholesome herb, and 88.56% marked fruits as a wholesome herb.

Only 40 participants had a history of smoking. There was no association between history of smoking and the items listed in table 6, nor was there a significant association between the items listed in the table and adolescent years or home observance to the Word of Wisdom.

Participants were not unified on the interpretation of the Word of Wisdom with respect to meat (table 7). Slightly more than half (61%) did not interpret the Word of Wisdom as limiting the consumption of meat according to the time or season of the year. A majority (71%) indicated that eating meat "sparingly" (D&C 89:12), refers to both how often (frequency) an individual should eat meat and the amount (quantity) of meat an individual should eat at one time. Considering an additional interpretation of eating meat "sparingly," the question was asked of how often an individual should eat meat to comply with that directive. The three selections which combined for a majority of 78% were "once or twice a week" (28%), "3-6 times a week" (32%), and "everyday" (18%). The remaining choices all had less than 8% individually. The percentage who eat meat once or more daily significantly varied according to their interpretation of the Word of Wisdom directive to eat meat "sparingly" (figure 1). Frequency of meat consumption was directly associated with their interpretation of eating meat "sparingly."

On the question of whether the drug use, including illicit drugs as well as the nonprescribed recreational use of prescription drugs, is prohibited by the Word of Wisdom, 87% of respondents selected "Definitely Yes" (table 8). The percentage of

participants with a history of illicit drug use varied significantly according to whether they thought the Word of Wisdom specifically prohibited illicit drugs (figure 2). Those who were definite that illicit drugs were specifically prohibited or it was not specifically prohibited in the Word of Wisdom, were significantly less likely to have used illicit drugs than those who were less sure.

Nearly 95% of the survey participants indicated that both obtaining sufficient sleep (93.53%) and exercising regularly (93.76%) are recommended by the Word of Wisdom (table 9). The mean number of days in a typical week of sufficient sleep did not significantly vary according to whether they believed obtaining sufficient sleep is recommended by the Word of Wisdom (mean of 3.61 days per week for Yes and 3.56 for No; P = 0.8696). In addition, the mean number of days participated in physical activity for at least 20 minutes did not significantly vary according to whether they believed exercising regularly is recommended by the Word of Wisdom (3.85 for Yes and 3.64 for No; p = 0.4549).

Discussion

The results show how this group of college-aged Latter-day Saints interprets the prescriptions as well as the proscriptions in the Word of Wisdom and the relationship of those interpretations to their behaviors. The study participants were generally united in their interpretation of and their abstinence from alcohol, tobacco, and drugs from the list of prohibitions, but demonstrated that there remains notable differences in their interpretations and observance of "hot drinks" such as coffee and tea, especially in regards to the various sub-categories of these beverages. There was little agreement in

regards to their interpretation and observance of the prescriptive items in the Word of Wisdom. Generally speaking, the group's consumption of the prescriptions in the Word of Wisdom is much lower than the scientific and government recommended minimums for a healthy diet.

General agreement from the participants on the proscriptions may be in part from an overall emphasis by the Church on those items. This study showed that a significant majority (>96%) of participants identified beer, liquor or spirits, and wine as "strong drinks" and most had never (88%) or only once or twice in their life (9%) drank alcohol. In addition, a clear majority also identified coffee (84%) and selected teas (70%) as strong drinks; although as a whole, the group significantly (>96%) identified coffee and tea as the "hot drinks" referred to in the Word of Wisdom.

With the study population evenly divided on whether items such as energy drinks and nonalcoholic beer are prohibited as "strong drinks," there may be justification for identifying reasons for this division in interpretation and practice in further research. Caffeinated soft drinks were also considered strong drinks by 18% of the participants. Church leaders have refused to take an official position on the caffeinated beverage issue since it was first raised in 1917 in the *Improvement Era* magazine.³⁷ Both sides of the caffeinated beverage issue cite the lack of or the presence of some of these beverages at Church owned locations as justification for defending their position. In regards to issues like these, recent Church leaders have explained that their reason for the lack of an official stance on all items available is that it is unfeasible and unnecessary and that common sense is required for these issues.^{38 39}

Considering all forms of tobacco, 96% or more identified them as prohibited by the Word of Wisdom. Most participants either understand or accept that the use of illicit drugs is also prohibited by the Word of Wisdom. A strong majority (87%) of participants indicated that the use of illicit drugs and nonprescribed recreational use of prescription drugs is prohibited by the Word of Wisdom. In addition, those who were unsure whether drugs were prohibited were significantly more likely to have had a history of illicit drug use.

The results further support the perception that certain types of tea and coffee may not be prohibited by the Word of Wisdom. Approximately 85% of those surveyed said decaffeinated coffee is prohibited, but only 26% identified herbal tea as prohibited by the Word of Wisdom. This difference supports the reasoning that interpretations go beyond the mere names of coffee and tea. Although black tea was identified as a "hot drink" by more than 96% of participants, only 82% believed that green tea was considered a "hot drink." Many Latter-day Saint missionaries have international experiences that expose them to cultural drinks similar to various coffees and teas. Participants were equally divided on whether selected cultural drinks (chichi, colonche, mate, pulque, etc.) are "hot drinks" according to the Word of Wisdom. There was a significant difference in the response of returned missionaries as opposed to not returned missionaries. Returned missionaries were significantly more likely to identify iced tea as prohibited and significantly less likely to mark herbal tea as prohibited. Additionally, more than 5% of all participants indicated that "hot drinks" also refer to hot chocolate and hot cider. Without official statements regarding modern types of "hot drinks," they will remain

open to various interpretations in regards to the Word of Wisdom. The lack of unity in interpretation may stem from differing opinions from parents, local priesthood leaders and teachers as they instruct on the Word of Wisdom.

An emphasis by parents, leaders, and teachers in the Church on those items prescribed for the benefit of mankind could have long-term health benefits not only for those sampled in this study, but many other Latter-day Saints as well. Further, modern interpretation and compliance with some principles found in the Word of Wisdom may be influenced by cultural trends of health consciousness or by societal fads and available consumable goods. Many of today's drinks, other consumable products, and diverse stimulants had not been invented in 1833 when Joseph Smith first issued the Word of Wisdom, therefore they are not specifically mentioned by name nor proscribed or prescribed. Former President of the Church, Gordon B. Hinckley, indicated that common sense is required to recognize those modern items that are not specifically prohibited by the historical Word of Wisdom. 40 The specific passage in D&C 89 that transitions from prohibited items to those prescribed reads, "And again, verily I say unto you, all wholesome herbs God hath ordained for the constitution, nature, and use of man — Every herb in the season thereof, and every fruit in the season thereof; all these to be used with prudence and thanksgiving."41 The Word of Wisdom also encourages the consumption of all grain for man and beast with an emphasis on wheat to be the staff of life for man. 42 A large body of modern scientific research supports these prescriptions as promoting better health, especially that grains and wholesome herbs should be the base of a healthy diet. 43 ⁴⁴ ⁴⁵ ⁴⁶ ⁴⁷ ⁴⁸ Although 90% or more of the study participants identified fruits, vegetables

and grains as wholesome herbs or encouraged by the Word of Wisdom, their average consumption of these foods was well below scientific and government recommended levels 49 50

Participants generally recognized those items that are prescribed as what mankind should eat, but their actual behaviors indicate that they do not generally use grains or fruits and vegetables as frequently as recommended. Wheat, fruits and vegetables do not appear to be their main food sources and they are not generally eating a healthy plant-based diet. Participants averaged only 2-3 servings of vegetables per week and slightly less than 1 serving of fruit per day. Further, considering the Word of Wisdom's recommendation for wheat to serve as the "staff of life," this group ate on average between 3 to 4 servings of bran or whole grain cereal a week, and between 3 to 4 servings of brown rice or whole wheat breads a week. These are less than the recommended serving sizes per day, not per week.

This study also addresses the consumption of meat, one of the more sensitive aspects of the Word of Wisdom. The wording in D&C 89 regarding meat is interpreted as both proscriptive and prescriptive. To eat meat "sparingly" and "only in times of winter, or of cold, or famine" are explicit phrases used in the Word of Wisdom. Verse 12 reads, "Yea, flesh also of beasts and of the fowls of the air, I, the Lord, have ordained for the use of man with thanksgiving; nevertheless they are to be used sparingly;" The word *sparingly* is today open to broad interpretations since it is often used as a comparative adverb. This was the case with this study sample (table 7 and figure 1).

There was a low correlation among participants between their interpretation and consumption with respect to meat. The majority (71%) indicated that the word "sparingly" refers to both how often, the frequency with which an individual should eat meat and the amount, or the quantity of meat an individual should eat at one time. Considering eating meat "sparingly," the question was asked of how often an individual should eat meat to comply with that directive. The combined majority (78%) chose three of ten choices for their interpretation of frequency, "once or twice a week" (28%), "3-6 times a week" (32%), and "everyday" (18%). The percentage who eat meat once or more daily significantly varied according to their interpretation of the Word of Wisdom directive to eat meat "sparingly." Frequency of meat consumption was directly associated with their interpretation of what it means to eat meat "sparingly."

In 1828, Noah Webster gave the word sparingly the five following definitions: 1) adv. Not abundantly. 2) Frugally; parsimoniously; not lavishly. 3) Abstinently; moderately. 4) Seldom; not frequently. 5) Cautiously; tenderly. Under the third definition he wrote, "Christians are obliged to taste even the innocent pleasures of life but *sparingly*." More than 50% of the participants ate at least one serving of meat per day. The modern tendency towards increased meat consumption has evolved from many factors, some of which include social philosophies concerning protein, aggressive marketing, appealing taste, increased convenience and modern refrigeration. Super sizing our portions and increasing the frequency appear to be the modern social trends of meat consumption in spite of sound scientific, physiological and even theological reasoning to eat meat sparingly. Super Super

Doctrine and Covenants Section 89 verse 13 addresses the issue of meat consumption according to the climate or season of the year, "And it is pleasing unto me that they should not be used, only in times of winter, or of cold, or famine." In this study, more than half (61%) did not interpret the Word of Wisdom as limiting the consumption of meat according to the season, time of year, or famine conditions. The comma after the word "used" in v. 13 did not appear until the 1921 edition of the Doctrine and Covenants. The comma issue is just one reason the consumption of meat can be a sensitive or controversial part of the Word of Wisdom.

This study did not attempt to approve or support vegetarianism, nor did it try and discredit it. John A. Widstoe, an Apostle in the Church as well as a scientist, argued that people can indeed live long healthy lives eating only plant protein without eating any meat, but that they would need to be very knowledgeable on the subject of plant protein in order to be healthy.⁵⁶ His recommendations to eat meat sparingly as the Word of Wisdom directs are supported by more recent scientists who strongly recommend eating meat sparingly if at all.⁵⁷ ⁵⁸ ⁵⁹ Church leaders have clarified that the Word of Wisdom recommends eating meat sparingly and that Church members cannot ignore other passages of scripture that warn against prohibiting its consumption altogether.⁶⁰ ⁶¹

The potential need for clarification on some of the sub-categories of the proscriptions and an increased emphasis on the prescriptions could compliment the positive practice of abstinence from harmful substances by increasing healthy lifestyles and preventing disease through a plant based diet. Scientists have already identified that

Latter-day Saints have an increased lifespan, primarily because of abstention from tobacco smoking and alcohol. 62 63 64

A few study limitations need to be mentioned. Due to the Church's policy of protecting the privacy of its members, obtaining a representative sample of the membership of The Church of Jesus Christ of Latter-day Saints was not feasible for this study. Therefore the focus for this study was on a sample of active college-aged Latterday Saints from BYU and a Latter-day Saint student stake affiliated with UVU. Although the sample was large and contained more students raised in states other than Utah, these students do not necessarily represent all college-aged Latter-day Saints. The sample was primarily Caucasian, with most individuals from the United States. Also, the mean baptismal age of the sample was 8.3 indicating that a majority of the sample were also lifetime members of the Church. Hence, generalization to all college-aged Latter-day Saints is not appropriate. An additional limitation was the necessity of self-reported data on sensitive issues dealing with the Word of Wisdom, which may have resulted in biased responses; however, the anonymous nature of the survey should have minimized such bias. Since a representative sample of the entire Church could not be obtained, the results of this study are not generalizable to every Latter-day Saint.

The rising problem of prescription drug abuse among Latter-day Saint youth is a current problem.⁶⁵ In this study the use of illicit drugs and the recreational use of prescription drugs was not separated. There are indications that some subjects felt as though the abuse of prescription drugs is not illegal since the drugs themselves are

prescribed. Further research is necessary to evaluate the extent of the abuse and what relationship it may have with an interpretation of the Word of Wisdom.

The survey also asked questions about physical activity and sleep behaviors, although these items are not directly addressed in D&C 89. Participants were asked how many days a week they engaged in a minimum of 20 minutes of physical activity which increased their heart rate. Less than 10% of males and females met the recommended minimums of physical activity. This is a concern because of a number of chronic health conditions that are associated with physical inactivity. The results on sleep practices were not surprising since college students often fail to get sufficient sleep. Less than 5% of males and females felt they got enough sleep each night. The highest percentage of participants indicated they received sufficient sleep on only three or four nights a week for males and females. Further research is necessary to connect this to their interpretations and compliance with the Word of Wisdom.

Conclusion

The Word of Wisdom, given as a revelation to the Church in 1833 "for a principle with promise" and "not by commandment or constraint" eventually became recognized as a requirement for leadership and full fellowship in all the ordinances and practices of the Church. The results confirm the success of emphasizing the prohibitions from the Word of Wisdom for many years by the level of obedience and compliance from this sampled population. There was both unified interpretation of and a high level of compliance with those prohibited items described in the Word of Wisdom. Scientific health data continues to validate the warnings of those prohibitions found in the Word of

Wisdom. Scientific research also supports claims in the Word of Wisdom that wheat should be a main staple for man, that fruits and vegetables should be a main part of one's diet, and that meat should be eaten sparingly. Participants recognized to a large extent the prescriptions found in the Word of Wisdom but low levels of compliance were observed. This may be related to the lack of emphasis on the prescriptions in the Word of Wisdom, or it may be due to parents, teachers and leaders in the Church not providing clear interpretation and counsel on these prescriptions.

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Table 1. Characteristics of study participants

Table 1. Characteristics of study participants		
Item	No.	%
Gender		
Male	397	55
Female	323	45
Race		
Caucasian	651	91
Non-Caucasian	68	9
Marital Status		
Married	75	10
Not Married	644	90
Returned Missionary		
Yes	386	54
No	334	46
Location of Survey Sample		
LDS Student Stake UVU	365	51
Brigham Young University	355	49
Family Income	333	.,
Less than \$30,000	58	8
\$30,000 to \$49,999	116	16
\$50,000 to \$49,799 \$50,000 to \$69,999	183	26
\$70,000 to \$89,999	133	19
\$90,000 to \$89,999 \$90,000 or more	225	31
	223	31
Location where raised	207	12
Utah	307	43
United States but not Utah	382	53
Outside of the United States	29	4
Mother's Education Level	4.4	
Did not finish high school	11	1
High school	80	11
Some College / Trade or Technical School	263	37
Degree from College, Trade or Technical School	256	36
Graduate Degree	109	15
Father's Education Level		
Did not finish high school	17	2
High school	51	7
Some College / Trade or Technical School	136	19
Degree from College, Trade or Technical School	225	31
Graduate Degree	288	40
Teenage Adherence to the W of W		
All of the time	542	75
Most of the time	128	18
Sometimes	28	4
Never	20	3
Adherence to the W of W in home		
All of the time	600	83
Most of the time	64	9
Sometimes	31	4
Never	24	3
Column percentages sum to 100. Numbers may not sum to 720		J

Item	Male	Male	Female	Female	P value*
	No.	%	No.	%	
Vegetable Servings					
Never	4	1.01	2	0.62	0.0064
1-3 servings a month	22	5.54	20	6.21	
1 serving a week	48	12.09	27	8.39	
2-3 servings a week	98	24.69	69	21.43	
4-6 servings a week	71	17.88	51	15.84	
1 serving a day	77	19.40	63	19.57	
2 servings a day	56	14.11	58	18.01	
3 servings a day	18	4.53	24	7.45	
4 servings a day	3	0.76	4	1.24	
5 or more servings a day	0	0.00	4	1.24	
Fruit Servings					
Never	1	0.25	2	0.62	0.216
1-3 servings a month	9	2.27	22	6.83	
1 serving a week	30	7.56	17	5.28	
2-3 servings a week	80	20.15	51	15.84	
4-6 servings a week	80	20.15	49	15.22	
1 serving a day	68	17.13	45	13.98	
2 servings a day	75	18.89	73	22.67	
3 servings a day	35	8.82	45	13.98	
4 servings a day	13	3.27	12	3.73	
5 or more servings a day	6	1.51	6	1.86	
Bran or Whole Grain Cereal					
Never	27	6.80	10	3.10	0.030
1-3 servings a month	52	13.10	37	11.46	
1 serving a week	46	11.59	40	12.38	
2-3 servings a week	77	19.40	62	19.20	
4-6 servings a week	60	15.11	37	11.46	
1 serving a day	83	20.91	87	26.93	
2 servings a day	35	8.82	28	8.67	
3 servings a day	11	2.77	18	5.57	
4 servings a day	3	0.76	3	0.93	
5 or more servings a day	3	0.76	1	0.31	
Brown Rice / Whole Wheat Breads					
Never	23	5.79	18	5.57	0.0004
1-3 servings a month	61	15.37	31	9.60	
1 serving a week	51	12.85	27	8.36	
2-3 servings a week	74	18.64	66	20.43	
4-6 servings a week	61	15.37	40	12.38	
1 serving a day	73	18.39	66	20.43	
2 servings a day	40	10.08	50	15.48	
3 servings a day	12	3.02	22	6.81	
4 servings a day	2	0.50	3	0.93	
5 or more servings a day	0	0.00	0	0.00	
Meat of Any Kind					
Never	1	0.25	6	1.86	< 0.000
1-3 servings a month	9	2.27	25	7.74	
1 serving a week	7	1.77	27	8.36	
2-3 servings a week	55	13.89	75	23.22	
4-6 servings a week	74	18.69	65	20.12	

1 serving a day	113	28.54	79	24.46	
2 servings a day	113	28.54	41	12.69	
3 servings a day	20	5.05	2	0.62	
4 servings a day	1	0.25	1	0.31	
5 or more servings a day	3	0.76	2	0.62	
Coffee Never	260	00.01	272	94.50	0.0097
- 1 - 1 - 1	360	90.91	273	84.52	0.0097
Once or twice during your life When you are sick	27 2	6.82 0.51	34 0	10.53	
1-3 times a month	3	0.31	10	0.0 3.10	
Once a week	1	0.76	2	0.62	
2-3 times a week	3	0.23	2	0.62	
4-6 times a week	0	0.70	0	0.02	
Once a day	0	0.00	1	0.00	
2 times a day	0	0.00	1	0.31	
3 or more times a day	0	0.00	0	0.00	
Black Tea	O	0.00	O	0.00	
Never	382	96.22	305	94.43	0.1265
Once or twice during your life	13	3.27	14	4.33	0.1203
When you are sick	1	0.25	0	0.00	
1-3 times a month	1	0.25	3	0.93	
Once a week	0	0.00	1	0.31	
2-3 times a week	0	0.00	0	0.00	
4-6 times a week	0	0.00	0	0.00	
Once a day	0	0.00	0	0.00	
2 times a day	0	0.00	0	0.00	
3 or more times a day	0	0.00	0	0.00	
Green Tea					
Never	339	85.61	266	82.35	0.2107
Once or twice during your life	43	10.86	34	10.53	
When you are sick	3	0.76	12	3.72	
1-3 times a month	7	1.77	6	1.86	
Once a week	2	0.51	2	0.62	
2-3 times a week	1	0.25	3	0.93	
4-6 times a week	0	0.00	0	0.00	
Once a day	0	0.00	0	0.00	
2 times a day	0	0.00	0	0.00	
3 or more times a day	1	0.25	0	0.00	
Herbal Tea					
Never	156	39.39	144	44.58	0.2632
Once or twice during your life	105	26.52	53	16.41	
When you are sick	79	19.95	74	22.91	
1-3 times a month	39	9.85	24	7.43	
Once a week	9	2.27	15	4.64	
2-3 times a week	7	1.77	3	0.93	
4-6 times a week	0	0.00	7	2.17	
Once a day	1	0.25	3	0.93	
2 times a day	0	0.00	0	0.00	
3 or more times a day	0	0.00	0	0.00	
Alcoholic Beverages	250	00 16	205	00 51	0 4717
Never	350	88.16	285	88.51	0.4717
Once or twice during your life	36	9.07	32	9.94	
When you are sick	0	0.00	1	0.31	

1.2.6	0	2.27	2	0.02	
1-3 times a month	9	2.27	3	0.93	
Once a week	1	0.25	0	0.00	
2-3 times a week	0	0.00	0	0.00	
4-6 times a week	1	0.25	1	0.31	
Once a day	0	0.00	0	0.00	
2 times a day	0	0.00	0	0.00	
3 or more times a day	0	0.00	0	0.00	
Tobacco Products of Any Kind					
Never	370	93.20	310	95.98	0.0486
Once or twice during your life	22	5.54	12	3.72	
When you are sick	0	0.00	0	0.00	
1-3 times a month	0	0.00	0	0.00	
Once a week	0	0.00	1	0.31	
2-3 times a week	0	0.00	0	0.00	
4-6 times a week	2	0.50	0	0.00	
Once a day	0	0.00	0	0.00	
2 times a day	1	0.25	0	0.00	
3 or more times a day	2	0.50	0	0.00	
Drugs(Illegal/Non-prescribed)					
Never	356	89.67	307	95.05	0.1219
Once or twice during your life	32	8.06	7	2.17	
When you are sick	3	0.76	6	1.86	
1-3 times a month	4	1.01	2	0.62	
Once a week	0	0.00	0	0.00	
2-3 times a week	0	0.00	1	0.31	
4-6 times a week	2	0.50	0	0.00	
Once a day	0	0.00	0	0.00	
2 times a day	0	0.00	0	0.00	
3 or more times a day	0	0.00	0	0.00	
Physically Active / 20 Minutes of	Ŭ	0.00	Ŭ	0.00	
Increased Heart Rate					
Days per Week					
Zero	16	4.03	10	3.10	0.4911
One	40	10.08	19	5.88	0.1711
Two	47	11.84	47	14.55	
Three	71	17.88	61	18.89	
Four	62	15.62	57	17.65	
Five	76	19.14	62	19.20	
Six	67	16.88	50	15.48	
Seven	18	4.53	17	5.26	
Sufficient sleep in a typical week Days per	10	4.55	17	3.20	
Week					
Zero	10	2.52	17	5.26	0.0600
One	32	8.06	38	11.76	
Two	64	16.12	46	14.24	
Three	84	21.16	60	18.58	
Four	69	17.38	65	20.12	
Five	69	17.38	50	15.48	
Six	38	9.57	29	8.98	
Seven	31	7.81	18	5.57	
G 1 1001 Y NY			7201	c · ·	

Column percentages sum to 100 by Item. Numbers may not sum to 720 because of missing responses to the specific items.
*Based on the Mantel-Haenszel Chi-Square test for trend

Table 3. Interpretation of selected items as "strong drink" according to the Word of Wisdom

Table 3. Interpretation of selected items as strong drink accord	mig to the wo	iu oi wisuoii	<u>. </u>
	No.	%	Significance
Beer			
Yes	699	97.08	Caucasian, BYU, US
No	21	2.92	
Caffeinated soft drinks			
Yes	132	18.33	Non Returned Missionaries
No	588	81.67	
Coffee			
Yes	604	83.89	Females
No	116	16.11	
Energy drinks (e.g. Red Bull, Rock Star, Adrenaline Rush, etc.)			
Yes	371	51.60	Younger, Lower income,
No	348	48.40	Adhered
Liquor or spirits (e.g. vodka, whiskey, etc.)			
Yes	693	96.38	Caucasian
No	26	3.62	
Non-Alcoholic beer			
Yes	370	51.60	NonRM, Adhered
No	347	48.40	
Selected Teas			
Yes	501	69.78	Females
No	217	30.22	
Wine			
Yes	693	96.38	Caucasian, RM, BYU
No	26	3.62	

Table 4. Interpretation of selected items as "hot drinks" according to the Word of Wisdom

Item No. % Variables significantly associated with the selected item Any Scalding Drinks Yes 232 32.36 UVU, Other Race No 485 67.64 Black Tea Yes 690 96.10 Caucasian, RM, Teen Adherence No 28 3.90 Utah/US, Caucasian, Teen Adherence Yes 589 82.15 Utah/US, Caucasian, Teen Adherence No 128 17.85 Herbal Tea Yes 188 26.22 Males, Other race, Non Returned Missionaries No 529 73.78 Other race, Returned Missionaries, Younger Age Coffee Yes 707 98.47 BYU No 11 1.53 1.53 Decaffeinated Coffee Yes 611 85.22 UVU, Other Race No 106 14.78 14.85 14.85 14.85 Drinks of Cultural Tradition Yes 366 51.62 UVU, Females No 48.38 UVU, Non RM 14.83 Hot	Table 4. Interpretation of selected items as "hot drinks" according to the Word of Wisdom					
Yes 232 32.36 UVU, Other Race No 485 67.64 Black Tea Yes 690 96.10 Caucasian, RM, Teen Adherence No 28 3.90 Green Tea Yes 589 82.15 Utah/US, Caucasian, Teen Adherence No 128 17.85 Utah/US, Caucasian, Teen Adherence No 128 17.85 Utah/US, Caucasian, Teen Adherence Yes 188 26.22 Males, Other race, Non Returned Missionaries No 529 73.78 Other race, Returned Missionaries, Younger Age No 160 22.32 Other race, Returned Missionaries, Younger Age No 11 1.53 BYU Decaffeinated Coffee Yes 611 85.22 UVU, Other Race Yes 366 51.62 UVU, Other Race No 343 48.38 Hot Chocolate Yes 39 5.43 UVU, Non RM Hot Cider Yes 41 5.72 Non RM	-	No.	%	Variables significantly associated with the selected item		
No 485 67.64 Black Tea Yes 690 96.10 Caucasian, RM, Teen Adherence No 28 3.90 Caucasian, RM, Teen Adherence No 28 3.90 Green Tea Tea Utah/US, Caucasian, Teen Adherence No 128 17.85 Herbal Tea Wales, Other race, Non Returned Missionaries No 529 73.78 Iced Tea Ves 557 77.68 Other race, Returned Missionaries, Younger Age No 160 22.32 BYU Coffee Yes 707 98.47 BYU Decaffeinated Coffee Yes 611 85.22 UVU, Other Race No 106 14.78 UVU, Females No 343 48.38 UVU, Females Hot Chocolate Yes 39 5.43 UVU, Non RM No 679 94.57 UVU, Non RM Hot Cider Yes 41 5.72 Non RM	Any Scalding Drinks					
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No 28 3.90 Green Tea Yes 589 82.15 Utah/US, Caucasian, Teen Adherence No 128 17.85 Utah/US, Caucasian, Teen Adherence No 128 17.85 Utah/US, Caucasian, Teen Adherence Yes 188 26.22 Males, Other race, Non Returned Missionaries No 529 73.78 Other race, Returned Missionaries, Younger Age No 160 22.32 Part of the race, Returned Missionaries, Younger Age Yes 707 98.47 BYU No 11 1.53 BYU Decaffeinated Coffee Yes 611 85.22 UVU, Other Race No 106 14.78 UVU, Females Drinks of Cultural Tradition Yes 366 51.62 UVU, Females No 343 48.38 UVU, Non RM Hot Chocolate Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider Yes 41 5.72 N	Black Tea					
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No 128 17.85 Herbal Tea Yes 188 26.22 Males, Other race, Non Returned Missionaries No 529 73.78 Other race, Returned Missionaries, Younger Age Iced Tea Yes 557 77.68 Other race, Returned Missionaries, Younger Age No 160 22.32 BYU Coffee Yes 707 98.47 BYU No 11 1.53 BYU Decaffeinated Coffee Yes 611 85.22 UVU, Other Race No 106 14.78 UVU, Females No 343 48.38 UVU, Females No 343 48.38 UVU, Non RM No 679 94.57 UVU, Non RM Hot Cider Yes 39 5.43 UVU, Non RM No 679 94.57 Non RM	Green Tea					
Herbal Tea Yes 188 26.22 Males, Other race, Non Returned Missionaries No 529 73.78 Iced Tea Tyes 557 77.68 Other race, Returned Missionaries, Younger Age No 160 22.32 Coffee Yes 707 98.47 BYU No 11 1.53 Decaffeinated Coffee Yes 611 85.22 UVU, Other Race No 106 14.78 Drinks of Cultural Tradition Yes 366 51.62 UVU, Females No 343 48.38 Hot Chocolate Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider Yes 41 5.72 Non RM	Yes	589	82.15	Utah/US, Caucasian, Teen Adherence		
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Yes 557 77.68 Other race, Returned Missionaries, Younger Age No 160 22.32 Coffee Yes 707 98.47 BYU No 11 1.53 Decaffeinated Coffee Yes 611 85.22 UVU, Other Race No 106 14.78 Drinks of Cultural Tradition Yes 366 51.62 UVU, Females No 343 48.38 Hot Chocolate Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider Yes 41 5.72 Non RM	No	529	73.78			
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Coffee Yes 707 98.47 BYU No 11 1.53 Decaffeinated Coffee Yes 611 85.22 UVU, Other Race No 106 14.78 Drinks of Cultural Tradition Yes 366 51.62 UVU, Females No 343 48.38 Hot Chocolate Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider Yes 41 5.72 Non RM	Yes	557	77.68	Other race, Returned Missionaries, Younger Age		
Yes 707 98.47 BYU No 11 1.53 Decaffeinated Coffee Fes 611 85.22 UVU, Other Race No 106 14.78 Drinks of Cultural Tradition Females Yes 366 51.62 UVU, Females No 343 48.38 48.38 Hot Chocolate Fes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider Yes 41 5.72 Non RM	No	160	22.32			
No 11 1.53 Decaffeinated Coffee 4 4 Yes 611 85.22 UVU, Other Race No 106 14.78 Drinks of Cultural Tradition 4 4 Yes 366 51.62 UVU, Females No 343 48.38 Hot Chocolate 4 4 Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider 41 5.72 Non RM	Coffee					
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Yes 611 85.22 UVU, Other Race No 106 14.78 Drinks of Cultural Tradition 366 51.62 UVU, Females No 343 48.38 Hot Chocolate Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider Yes 41 5.72 Non RM	No	11	1.53			
No 106 14.78 Drinks of Cultural Tradition 366 51.62 UVU, Females No 343 48.38 Hot Chocolate 48.38 UVU, Non RM No 679 94.57 Hot Cider 41 5.72 Non RM	Decaffeinated Coffee					
Drinks of Cultural Tradition Yes 366 51.62 UVU, Females No 343 48.38 Hot Chocolate Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider Yes 41 5.72 Non RM	Yes	611	85.22	UVU, Other Race		
Yes 366 51.62 UVU, Females No 343 48.38 Hot Chocolate Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider 41 5.72 Non RM	No	106	14.78			
No 343 48.38 Hot Chocolate 48.38 Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider 41 5.72 Non RM	Drinks of Cultural Tradition					
Hot Chocolate Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider 41 5.72 Non RM	Yes	366	51.62	UVU, Females		
Yes 39 5.43 UVU, Non RM No 679 94.57 Hot Cider 41 5.72 Non RM	No	343	48.38			
No 679 94.57 Hot Cider 41 5.72 Non RM	Hot Chocolate					
No 679 94.57 Hot Cider 41 5.72 Non RM	Yes	39	5.43	UVU, Non RM		
Hot Cider Yes 41 5.72 Non RM	No	679	94.57			
Yes 41 5.72 Non RM						
		41	5.72	Non RM		
	No					

Table 5 Interpretation of selected items as "wholesome herbs" as meant by the Word of Wisdom

Item	No.	%	Variables significantly associated with
			the selected item
Dietary supplements			
Yes	355	49.58	
No	361	50.42	
Fruits			
Yes	635	88.56	Non RM
No	82	11.44	
Grains (e.g. wheat)			
Yes	660	92.31	
No	55	7.69	
Plants for human consumption			
Yes	678	94.96	Caucasian, Home Observance to
No	36	5.04	W of W
Plants necessary for nutrition			
Yes	694	96.93	UVU, Males
No	22	3.07	
Plants for treating human illnesses			
Yes	628	87.71	Utah & US
No	88	12.29	
Plants such as marijuana & opium			
Yes	45	6.28	Other Race, Non Adolescent Adherence
No	671	93.72	to W of W
Vegetables			
Yes	658	91.90	
No	58	8.10	

Table 6 Interpreting selected tobacco items as "prohibited" by the Word of Wisdom

Table 6 Interpreting selected tobacco items as	promotica by the	Word of Wisdom
Item	No.	%
Smoking nicotine-free tobacco		
Yes	683	95.52
No	32	4.48
Smoking substances other than tobacco		
Yes	685	95.67
No	31	4.33
The use of fine ground tobacco or snuff		
Yes	691	96.64
No	24	3.36
The use of spitting or smokeless tobacco		
Yes	689	96.36
No	26	3.64

Table 7 Interpretation of meat consumption according to the Word of Wisdom

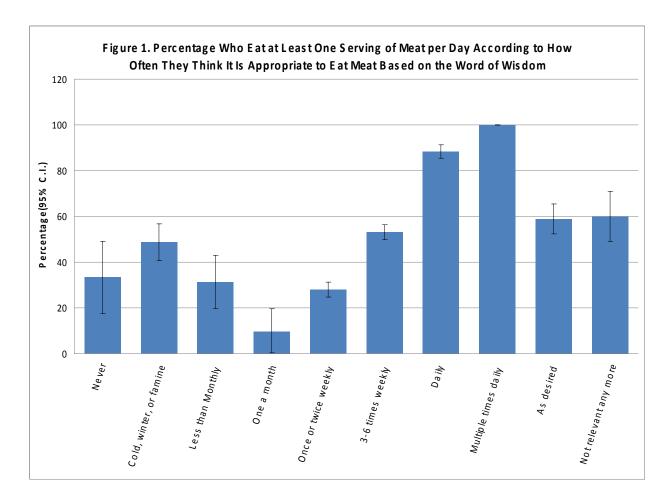
Items	No.	%
Should the frequency of eating meat vary according to the time or season of the year?		
Yes	277	38.74
No	438	61.26
The phrase "eat meat sparingly" (D&C 89:12), primarily refers to:		
How often (frequency) an individual should eat meat	70	9.80
The amount (quantity) of meat an individual should eat at one time	105	14.71
Both of the above	510	71.43
None of the above	29	4.06
To comply with the Word of Wisdom directive to "eat meat sparingly" (D&C 89:12), how often should an individual eat meat:		
Never	9	1.28
Only when cold, during the winter time, or in a famine	39	5.55
Rarely (Less than Once a month)	16	2.28
Once a month	10	1.42
Once or twice a week	197	28.02
3-6 times a week	222	31.58
Everyday	128	18.21
Multiple times per day	6	0.85
As desired	56	7.97
The phrase "eat meat sparingly" does not apply in this day of refrigeration	20	2.84

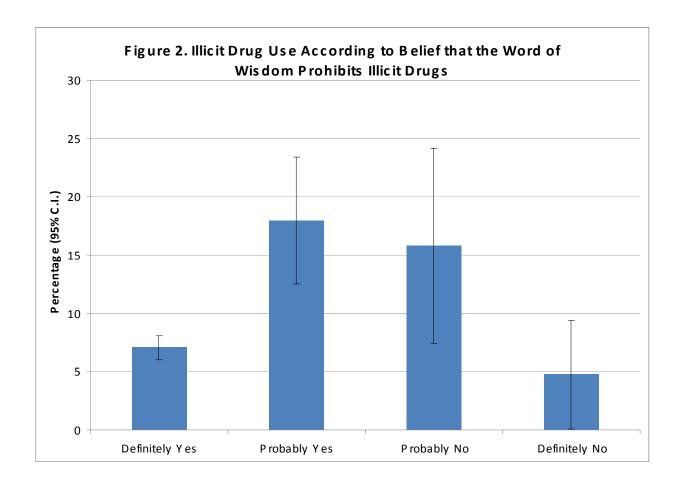
Table 8 Interpreting the exclusion of drugs by the Word of Wisdom

Item	No.	%
The use of drugs, including illicit drugs as well as the non-prescribed recreational use of prescription drugs, is prohibited by the Word of Wisdom:		
Definitely Yes	622	87.36
Probably Yes	50	7.02
Probably No	19	2.67
Definitely No	21	2.95

Table 9 Sleep and Physical Activity

Item	No.	%
Obtaining sufficient sleep is recommended by the Word of Wisdom		
Yes	665	93.53
No	46	6.47
Exercising regularly is recommended by the Word of Wisdom		
Yes	661	93.76
		,
No	44	6.24





Appendix A

Prospectus

Chapter 1

Introduction

Members of The Church of Jesus Christ of Latter-day Saints (LDS), sometimes referred to as the Mormons, are frequently recognized throughout the world by their peculiar dietary restrictions. The foundation of their peculiar health behaviors is found in a revelation titled Section 89 of the Doctrine and Covenants, which is one of the books in the LDS scriptural cannon. Latter-day Saints accept the Doctrine and Covenants as revelation, including the relevant section containing their health code, which is called the Word of Wisdom (Doctrine and Covenants [D&C], 1981).

Imbedded in the Word of Wisdom (D&C, 1981) is a list of proscriptive and prescriptive items given under religious inspiration of what to eat as well as those substances which are prohibited or discouraged for man to consume. This Latter-day Saint health code has been interpreted by the leaders of The Church of Jesus Christ of Latter-day Saints for the benefit of its members and all of mankind. An emphasis by the Church for nearly two centuries has been given to abstinence from harmful substances and those with addictive natures (Peterson, 1972). This emphasis has lead some to interpret the Word of Wisdom as strictly a list of don'ts.

For those who first come into contact with the Latter-day Saint health code, abstinence from coffee is often perceived as the primary focus of the Word of Wisdom. In actuality, abstaining from coffee is only one portion of the Latter-day Saint Word of Wisdom. This health code is frequently oversimplified into a few statements prohibiting alcohol, tobacco, coffee and tea. This may be due to the fact that abstinence from certain

prohibited substances is acknowledged by the Church as one of the standards of the Church and requisite for members who desire to be in full fellowship with the Church. Adherence to the Word of Wisdom is expected in order to fully participate in all Latterday Saint ordinances, including entrance into LDS temples (Church Handbook, 2006).

The Word of Wisdom is a complex document with both modern and historically significant interpretations (Widstoe, 1937). The level of required compliance for full fellowship in the Church of Jesus Christ of Latter-day Saints has changed over time. The Word of Wisdom has been taught as a doctrine of the Church since the revelation was received in 1833, but not until the twentieth century was it officially established as a test of fellowship (Church Handbook, 1934). Faithful members were 'expected' to comply with this revelation deemed a health code, dating back to its inception, but there was great variability as to what constituted compliance (Peterson, 1972).

Today, members of The Church of Jesus Christ of Latter-day Saints throughout the world are very familiar with the revelation containing the Word of Wisdom as found in Doctrine and Covenants section 89. They are taught about the Word of Wisdom regularly in their religious services and Sunday school and often gain knowledge of its contents in their earliest classes of primary. Those seeking membership in The Church of Jesus Christ of Latter-day Saints are required to answer specific questions regarding their compliance to the proscriptions in the Word of Wisdom prior to their baptism and confirmation into the Church (Church Handbook, 2006). Thus, information concerning the Word of Wisdom has been propagated since the earliest days of the Church and now

interpretations, as well as associated behaviors, are significant elements of orthodoxy and orthopraxy in the Church (Bowden 2005; Farlex, 2007).

It is acknowledged that Latter-day Saints recognize and may even delight when science seems to agree with their stated beliefs and practices. This is arguably due to their incessant search for truth. This constant searching and seeking to establish truth has also been aggressively pursued with the Word of Wisdom (Widstoe, 1960). In recent decades the scientific world has agreed that many of the substances which are prohibited by the Word of Wisdom are indeed harmful or at least unhealthy. Latter-day Saints have also been recognized for their longevity in significant modern research (Enstrom, 1989). These scientists suggested that the Latter-day Saint lifestyle is what contributes to their increased longevity and may be tied to adherence to the Word of Wisdom.

The Word of Wisdom's list of proscriptions or prohibited substances is recognized by those in and outside of the Church. These proscriptions are alcohol, tobacco and hot drinks, which are defined as coffee and tea. Modern prophetic interpretation has also included illicit drugs and other harmful or addictive substances (Church Handbook, 2006). The prescriptions as found in Doctrine and Covenants Section 89 encourage the eating of seasonal fruits, all wholesome herbs like vegetables and other beneficial plants, and grains such as wheat. The prescriptions may be a side note for some Latter-day Saints. The perceived emphasis on the proscriptions being the Word of Wisdom and the nature of their evolution over time as a standard of worthiness for temple attendance has lead to questions about what constitutes full compliance with the principles and elements associated with it. An analysis of the interpretation and correlated

compliance with the Word of Wisdom by a sample of college aged Latter-day Saints is the subject of this research.

Statement of Purpose

The purpose of this study is to investigate the relationship of how a college aged Latter-day Saint population interprets the Word of Wisdom and how their health behaviors correspond with those interpretations.

Hypothesis

The null hypothesis is that there is no correlation between how an individual interprets the Word of Wisdom and their health behaviors as found in typical practice.

The research hypothesis is that there is a relationship between how an individual interprets the Word of Wisdom and how they practice it in their typical health behaviors.

An additional null hypothesis is that there are no distinctions or differences in how individual Latter-day Saints interpret the Word of Wisdom. The corresponding research hypothesis states that there are various interpretations of the Word of Wisdom and that those different interpretations are reflected in day to day compliance with the Word of Wisdom.

Definition of Terms

Proscriptions in the Latter-day Saint "Word of Wisdom" are things contained in Section 89 of the Doctrine and Covenants as interpreted and taught by current prophets that we should not eat, drink or consume, i.e., things which are forbidden, banned or prohibited.

Prescriptions, in the context of this research, refer to those elements found in the Word of Wisdom which are prescribed, encouraged or commanded, such as certain elements of food and drink listed as beneficial for use by man.

Orthopraxy is a term derived from Greek ($op\theta o\pi p\alpha\xi t\sigma$?) meaning "correct practice." It refers to accepted religious practices and may include both ritual practices as well as interpersonal acts. Some religions, notably Islam and Animism, are more concerned with orthopraxis than orthodoxy (though the latter may also be considered important). This explains why some argue that equating the terms "faith" and "religion" presents a Christian-biased notion of what the primary characteristic of religion is (Bowden, 2005; Farlex, 2007).

Orthodoxy(REF-8), from the Greek *ortho* ("right," "correct") and *doxa* ("thought," "teaching," "glorification"), is typically used to refer to the correct theological or doctrinal observance of religion, as determined by some overseeing body. The term did not conventionally exist with any degree of formality in the sense in which it is now used prior to the advent of Christianity in the Greek-speaking world, though the word can occasionally be found in ancient literature in similar contexts (Bowden 2005; Farlex, 2007).

Delimitations

In any doctoral research there are limitations to the time one can spend on the chosen subject. This research is no exception. In an attempt to do a feasible study in a reasonable length of time, the research question was narrowed to a specific focus of modern interpretations of the Word of Wisdom by college aged Latter-day Saints and

how their interpretations were associated with their health practices. Therefore any attempt to generalize this information to the entire body of The Church of Jesus Christ of Latter-day Saints would be inappropriate.

Extensive research was done on how to collect a representative sample of The of Jesus Christ of Latter-day Saints and due to the sensitive nature of the subject and the size, spread, and inaccessibility of a sample of the Church, the population was delimited to LDS college aged males and females. A convenient sample was identified for feasibility purposes and due to limited accessibility of Church membership for research purposes. A sample of LDS College aged students from Brigham Young University and Utah Valley University will be surveyed for this study.

An additional delimitation is that it is survey research which required the development of a questionnaire. In descriptive research a survey is defined as a "Technique of descriptive research that seeks to determine present practices or opinions of a specified population; [survey research] can take the form of a questionnaire, interview, or normative study (Thomas, 2001). As noted, it is impossible to have a perfect survey and it is a fallacy that a questionnaire is easy to create (Thomas, 2001). The questionnaire to be used in this research survey is not an exception to those ideas. It was developed over a period of nearly one year and included multiple focus groups, two pilot studies, two face validity tests, aggressive research with open ended questions given to hundreds of college aged Latter-day Saints and careful step by step scrutiny by a qualified and talented doctrinal committee (see chapter three).

Assumptions

Any time you ask participants in a research study to report their personal behavior, and in this case their personal interpretations as well, there is the possibility that they will not report honestly to all questions. All attempts to maintain anonymity in this research are to eliminate participants reporting false information and to remove any motivation they may have for reporting false data.

It is assumed that those responding to this survey will be college-aged Latter-day Saints and demographic data will be included to insure this. Again, honesty in reporting this data will be requested in the directions of the survey. An additional limitation is possible since the compliance questions require participants to evaluate and report their typical behaviors. It is acknowledged that recall behaviors are sometimes misreported. Limitations

Since those invited to participate cannot be forced to respond, there is potential for some limitations if a low percentage of those invited to participate actually respond. There is not an exact way to eliminate the reporting of false information, but incentives have been utilized in the development of the measurement instrument and small comfortable classroom environments will be chosen to facilitate the gathering of final survey responses. Participants are also asked in the directions for the questionnaire to, "answer all questions as completely, accurately and honestly as possible." Due to the selected population, the results of this study will not be generalizable to the entire membership of The Church of Jesus Christ of Latter-day Saints, even though the Word of Wisdom is applicable and accepted by the general population of the Church as doctrine.

Chapter 2

Review of Literature

Although scriptural mandates and directions concerning food and drink are readily found in the Old and New Testaments of the Bible, the Word of Wisdom as found in Doctrine and Covenants Section 89 is the Latter-day Saint health code accepted by members of the Church as canonized scripture (1981). Even so, the Word of Wisdom is a uniquely religious directive on human consumption, originally "given for a principle with promise" and "not by commandment or constraint" (D&C 89:2-3). The Word of Wisdom is historical in its context, primarily religious in its modern application by Church leaders and scientific as a recognized health code. The literature regarding the Word of Wisdom comes from multiple disciplines and is published in a wide variety of venues. Since the focus of this study is the modern interpretation of the Word of Wisdom by a group of college-aged Latter-day Saints and how their interpretations relate to their dietary behaviors, a review of the applicable historical and modern literature is appropriate. It is difficult to consider modern interpretations of the Word of Wisdom without a historical context of this important component of the Latter-day Saint religion.

In the 21st century Latter-day Saints are frequently recognized throughout the World by their observance of the Word of Wisdom as a peculiar practice (*Encyclopedia*, 1992; McBrian, 1929; Shipps, 2007). The emphasis and interpretation of items found in the Word of Wisdom has evolved over nearly two centuries since its origin. Modern interpretation and compliance with some principles found in the Word of Wisdom may be influenced by cultural trends of health consciousness or by societal fads and available

consumable goods. Many of today's drinks, other consumable products and diverse stimulants of every kind were not invented in 1833 and are not specifically mentioned by name in the Word of Wisdom. Former President of the Church Gordon B. Hinckley indicated that common sense is required to recognize those modern things that are prohibited by the historical Word of Wisdom (Hinckley, 1989).

The Word of Wisdom is considered a controversial topic by some members of The Church of Jesus Christ of Latter-day Saints and among some outsiders who primarily associate it with the standards of worthiness for members of the LDS Church. It is perceived by some as a club to control people rather than a document with internal promises of health based upon compliance. John A. and Leah D. Widstoe made a monumental contribution to the study of the Word of Wisdom in their landmark text which was reviewed and edited by multiple members of the Quorum of the Twelve Apostles of the Church (Widstoe, 1937). The Widstoe's notable research on the Word of Wisdom helps explain the complex and sometimes controversial requirement of observance as part of the standards of the Church.

The Word of Wisdom has clearly undergone changes in emphasis and interpretation during its 175 year history, and although it is acknowledged by Church leaders that it was not originally given as a commandment (Packer, 2007) it has been progressively sustained as one by the membership of the Church (Smith, 1908). Although the Word of Wisdom was not given as a commandment on February 27, 1833, it was progressively accepted as binding for leaders and ultimately for all members of the Church (Alexander, 1981; *Kirtland Minute Book*, 1834; Packer, 2007; Smith, 1908;).

The Prophet Joseph Smith's introduction to the revelation reads "showing forth the order and will of God in the temporal salvation of all Saints in the last days —."

(D&C 89:2). Although a historical analysis of the setting for the Word of Wisdom does not ratify a central intent of health in the revelation, in text promises of health based upon compliance of the principles found in the Word of Wisdom, coupled with Joseph's introduction describe a healthy motive. The Word of Wisdom is taught by leaders of the Church today to have primarily a spiritual intent with promised health benefits based upon obedience to the principles built therein. Understanding the historical setting of the Word of Wisdom provides a context for instructing more perfectly the principles upon which it is based, assisting those diligently trying to understand and live by its precepts.

The 1830s in North America were marked by extensive religious fervor. There was also great excitement concerning a plethora of different ideas and philosophies.

Health and hygiene, including an overall concern with human well being, were significant issues of interest in that day, particularly with those concerned and familiar with the lack of either in frontier America. The temperance movement arose in the United States during this time of religious awakening. In some cases the same individuals who were engaged in the religious movements were also concerned with the Temperance Societies, but this was not universally the case. By one account, "the ruinous consequences of ardent spirits, and their increasing consumption in the United States of America, gave rise to the Temperance Societies" (Griffiths, 1835). Some critics may argue that Joseph Smith's revelation on the Word of Wisdom was given solely because of

the temperance movement in Kirtland, Ohio. Since some early Latter-day Saint converts were involved in the temperance movement, it may have contributed to the setting which motivated Joseph Smith's question concerning the use of tobacco during those early priesthood meetings, but early witnesses and records of those events surrounding the Word of Wisdom give additional reasons (Peterson, 1972).

The History of the Church (History, 1980), as well as the most recent publication of the Doctrine and Covenants (1981), both state that Joseph was pondering upon the question of tobacco use during the School of the Prophets, which were early Church leadership meetings, when he received the revelation known as the Word of Wisdom. Joseph Smith's wife, Emma Hale Smith, may also have had some influence on Joseph asking the question which preceded the reception of the Word of Wisdom. It is reported that the duty of cleaning up the spittle following the meetings of the School of the Prophets in the Newel K. Whitney Store may have fallen on Emma's shoulders (Church History, 1989). Years later Brigham Young reflected on the events that surrounded those February 1833 meetings and the origin of the Word of Wisdom.

"I think I am as well acquainted with the circumstances which led to the giving of the Word of Wisdom as any man in the Church . . . The first school of the prophets was held in a small room situated over the Prophet Joseph's kitchen. Over this kitchen was situated the room in which the Prophet received revelations and in which he instructed his brethren. The brethren came to that place for hundreds of miles to attend school in a little room probably no larger than eleven by fourteen. When they assembled together in this room after

breakfast, the first (thing) they did was to light their pipes, and while smoking, talk about the great things of the kingdom, and spit all over the room, and as soon as the pipe was out of their mouths a large chew of tobacco would then be taken. Often when the Prophet entered the room to give the school instructions he would find himself in a cloud of tobacco smoke. This, and the complaints of his wife at having to clean so filthy a floor, made the Prophet think upon the matter, and he inquired of the Lord relating to the conduct of the Elders in using tobacco, and the revelation known as the Word of Wisdom was the result of his inquiry." (Young, 1868)

This historical narrative demonstrates the temporal setting in which the Word of Wisdom was received. It can be viewed as both a temporal and a spiritual law in this historical context and this contributes to its historically varied orthodoxy and orthopraxy in the Church.

When the Word of Wisdom was first given on February 27, 1833, to members of the school of the prophets in Kirtland, Ohio, they were counseled to live by its precepts (History of the Church, 1980). One year later Joseph Smith and the Kirtland high council met and sustained a policy "that no official member of this Church is worthy to hold an office after having the Words of Wisdom properly taught to him, and he, the official member, neglecting to comply with, or obey them" (Kirtland, 1834). When it was first published in the 1835 edition of the Doctrine and Covenants members of the Church accepted it as scripture, even though it was not yet generally recognized as a commandment (Harper, 2007). In the years following 1833, through about 1837 or 1838,

especially among the Church members in Ohio, the Word of Wisdom approached near abstinence status (Alexander, 1981; Harper, 2007; Peterson, 1972). Apparently Brigham Young in 1847 at Winter Quarters said the Word of Wisdom was once a test of fellowship and he was likely referring to this time (Alexander, 1981). Clearly, as Church members were driven from Ohio and Missouri then Illinois, there were other matters more important than the Word of Wisdom. Early Missouri leaders like David Whitmer did not take the Word of Wisdom as literally or as seriously as some (Alexander, 1981). The Nauvoo period of the Church from 1839-1844 appears to have been loose in regards to Word of Wisdom enforcement. According to historian Thomas Alexander, for whatever reason, Church leaders chose not to enforce a rigid application during that time (Alexander, 1986).

In 1842 Hyrum Smith chose the Word of Wisdom for a fiery Sabbath Day speech. It appears as if some of the early Latter-day Saints were not taking it as seriously as Hyrum believed they should. He called upon the members of the Church to live by what God had commanded in scripture, including what man should and should not eat (Smith, 1842). In a General Conference address in September 1851, President Brigham Young asked the Saints to keep the Word of Wisdom, saying directly to the priesthood, "I will draw the line and know who is for the Lord and who is not, and those who will not keep the Word of Wisdom, I will cut off from the Church" (Frontier Guardian, 1851). Brigham and his successors frequently called upon the people of the Church to live the Word of Wisdom but were patient and tolerant for those who were trying to conform (Peterson 1972). In the early 1860's Brigham publicly acknowledged his own victory over the

prohibited substances in the Word of Wisdom, and said he had struggled with them all of his life (Peterson & Walker, 2003).

The Church in the nineteenth century was generally merciful to those that struggled with the prohibited substances from the Word of Wisdom, particularly for those that had developed habits to these substances prior to 1833 (Alexander 1981; Peterson, 1972; Peterson & Walker, 2003). Under John Taylor there was a minor Word of Wisdom reform movement in the 1880s. Peterson concluded that reform fervor became a victim of the federally mandated crusade against polygamy, summarizing "Generally speaking, Word of Wisdom observance in the 19th century was characterized by: (1) a stress on moderation rather than abstinence (2) a tendency to not classify wine as a strong drink (3) an avoidance of drunkenness" (Peterson, 1972).

During the early twentieth century President Joseph F. Smith and his successor Heber J. Grant signified a notable transition in the emphasis of the Word of Wisdom as a requirement that should be followed explicitly (Alexander, 1986). From the 1890s into the 1920s, priesthood leaders in the Church reported that apparent progress had been made in regards to obedience to the Word of Wisdom (Peterson, 1972.) Jan Shipps, a noted scholar and historian, wrote that the Latter-day Saint Church used two strategies during this period, their welfare program and their distinct dietary code to focus attention on their peculiar ethnicity or "peoplehood" (2007). Other historians and scholars have made similar observations, directing their interpretations of an increased emphasis on the Word of Wisdom, claiming it was a strategy to draw attention away from polygamy and, yet, maintain for the Mormons exclusivist doctrines (O'Dea, 1955; Shipps, 2007).

Available Church records and official statements do not validate that there was any concentrated design to emphasize the Word of Wisdom as a distraction from other Latter-day Saint public practice, nor that it was purposefully emphasized after the turn of the 19th century, to become a distinguishing Latter-day Saint characteristic. On the contrary there are indications that reform movements on the Word of Wisdom were periodic through Church history.

It is true however that the interpretation of, commentaries regarding and compliance with the Word of Wisdom have evolved during the last 175 years. According to Joseph F. Smith, the reason the Lord did not make it a commandment initially was that it would have brought good people under condemnation. A grace period was not only necessary but merciful. "The reason undoubtedly why the Word of Wisdom was given "not by commandment or constraint" was that at that time, at least, if it had been given as a commandment it would have brought every man, addicted to the use of these noxious things, under condemnation; so the Lord was merciful and gave them a chance to overcome, before He brought them under the law (Smith, 1913).

Temple recommends are first mentioned in the 1913 edition of The Church of Jesus Christ of Latter-day Saints Annual Instructions for priesthood leaders, but there is no mention of the Word of Wisdom in it (Church Annual Instructions, 1913). Adherence to the Word of Wisdom was simply a stated requirement for temple recommends for the general body of the Church by 1934 (Church Handbook, 1934). To receive a recommend to the temple in 1940 the Church Handbook of Instructions required sustaining the General Authorities, paying an honest tithe, and "No person should be given a

recommend to the Temple . . . who does not either observe the Word of Wisdom or expresses a willingness to undertake to observe the Word of Wisdom; and who is not otherwise fully worthy by believing in and living the gospel" (Handbook, 1940). The next handbook issued was in 1944 and the section on the Word of Wisdom was the same.

The next major change in the General Handbook of Instructions regarding the Word of Wisdom comes in 1960. It reads, "Every perspective Serviceman is to be interviewed by his bishop before he enters the service. The bishop, as guided by the spirit, should counsel him (or her) to: Maintain Church standards, especially those pertaining to chastity and the Word of Wisdom" (General Handbook of Instructions, 1960). In that same 1960 edition under temple recommend interviews members are asked, "that they observe the Word of Wisdom, abstaining from tea, coffee, tobacco, and liquor" (General Handbook, 1960). The next edition of the handbook in 1963 includes a section on the Word of Wisdom as it relates to Non-Church Organizations using Church Building, "Smoking and the serving of liquor, tea or coffee will not be permitted" (General Handbook, 1963).

The first time observing the Word of Wisdom is specifically listed in the General Handbook as a prerequisite for ordination to the Melchizedek Priesthood is 1968. In that same edition, there is only one notable change in regards to the Word of Wisdom in the temple recommend section, and it is the substitution of the phrase "alcoholic beverages" for liquor (General Handbook, 1968). In 1976 the next edition of the General Handbook was issued with direct interview questions for receiving a temple recommend, including "Do you keep the Word of Wisdom?" (General Handbook, 1976). In the 1983 edition of

the handbook in the "Church Policies" section under the subheading of the Word of Wisdom, an interpretation for "Hot Drinks" from Doctrine and Covenants Section 89 is given for the first time. It clarifies hot drinks as tea and coffee (General Handbook, 1983). In that same edition it states that, "Church leaders have advised members against drinking any beverage that contains drugs or other ingredients that are harmful or habit-forming" (General Handbook, 1983). Interestingly it also instructs local leaders to discourage Church members from "handling, selling or serving alcoholic beverages and should not call members who are involved in these practices to church positions unless clearly warranted" (General Handbook, 1983).

As the Word of Wisdom became more a part of recognized Church standards as well as a requirement for temple attendance during the early 20th century, public interest in it increased. It is possible that no one spent more time on the Word of Wisdom on a scientific as well as spiritual level than Apostle Dr. John A. Widstoe. He tirelessly researched the topic with his scientific background for much of his life. His studies coupled with his faithful service in the Church, make him a standard to consider when studying the word of wisdom. Some of the young people of this day challenged with the elements of the Word of Wisdom may only recognize his name as a leader of the Church long since passed away, or others as just a name on a science building at Brigham Young University. Many of the issues in the Word of Wisdom that Latter-day Saints question today, were addressed by him more than half a century ago (Widstoe, 1937). A serious treatise of the Word of Wisdom should include a search of his writings on each of the considered elements in the Word of Wisdom.

The Word of Wisdom has for some time been associated with the medical profession. When Latter-day Saints consider what they should or should not eat, they may often wonder what doctors think about the 1833 revelation. In 1929, Dr. L. Weston Oaks, M.D., wrote a book from a medical perspective, focusing on the advantages of abstaining from alcohol, tobacco, coffee and tea (1929). Much later Dr. Kenneth E. Johnson wrote how the Word of Wisdom as a food plan is a disease prevention diet (Johnson, 1993). This modern medical approach to the Word of Wisdom attempted to draw attention to a focus on health and nutrition supported by the Word of Wisdom. Unfortunately, many Latter-day Saints never heard of the Johnson text and its sound reasoning largely went unnoticed. Other lesser known texts such as Geddes (1964), Doxey (1975), and Kinmont (1999), come from lay members of the Church attempting to get the word out that the Word of Wisdom is important to them and that it should be important to all.

After writing the landmark study on the Word of Wisdom with her husband John A. Widstoe in 1937, Leah Widstoe wrote "How To Be Well" in 1943 for "every family that makes the welfare of the members its first priority (Widstoe, 1943). This text offers a practical health guide for day to day living built soundly on the principles found in the Word of Wisdom. Its format and design with recipes and daily food guide schedules looks like a predecessor for many of the health and nutrition books written by scientists today (Aldana, 2005; Campbell, 2005; Esselstyn, 2007); Katz, 2002; Nestle, 2006; Willett, 2001).

From 1958 there are three noted texts on the Word of Wisdom. Ora Pate Stewart wrote a theological text on the Word of Wisdom from the perspective that it is man's responsibility to learn God's will and to do it (Stewart, 1958). Professor Wilford Smith did an ecological study judging what Latter-day Saints were practicing in regards to the Word of Wisdom from the perspective of LDS bishops and 1041 LDS homes who professed abstinence (Smith, 1958). Dr. L. Weston Oaks wrote his second book on the Word of Wisdom as a culmination of his life's study, focusing on the benefits for those who choose to live by the precepts found in the Word of Wisdom (Oaks, 1958). A 1960 compilation of important writings from the life of John A. Widstoe addressed evidences for many Latter-day Saint doctrines and beliefs, including the Word of Wisdom (Widstoe, 1960). This compilation of writings was made following his death in 1952, after a lifetime of teaching and instructing on the nutritional and scientific principles found in the Word of Wisdom.

Today, the Church Handbook of Instructions for local leaders contains two small paragraphs under the heading Word of Wisdom (Church Handbook, 2006). The first paragraph reads, "the only official interpretation of 'hot drinks' (D&C 89:9) in the Word of Wisdom is the statement made by early Church leaders that the term 'hot drinks' means tea and coffee." The second paragraph directs Latter-day Saints "that they should not use any substance that contains illegal drugs" and further excludes any harmful or habit-forming substances unless under the care of a competent physician. Hence, the Church has clarified certain aspects of the original revelation now found in D&C 89, and emphasized abstinence from harmful substances as the basis of the Word of Wisdom.

This emphasis has lead some to generalize that it is strictly a list of "don'ts."

Nevertheless, the Word of Wisdom contains both prescriptive directives as well as proscriptive statements (1981). The prescriptive directives are to eat wholesome herbs such as fruits in their season; vegetables in abundance; grains, such as wheat; and to eat meat sparingly. These prescriptions are perhaps less emphasized because adherence to the prescriptive items is not required for full participation in the Church. In addition, these prescriptions are somewhat vague, which has led to various interpretations and, consequently, differences in practice.

The Word of Wisdom continually reminds Latter-day Saints of their religious responsibilities. Over the course of time Church leaders have chosen to make the proscriptions or the list of don'ts a test of fellowship and they have not chosen to do that with the do's or the prescriptions. Peterson suggested some possible considerations for why the leaders of the Church do not give equal emphasis to the prescriptions: (1) Possibly non-compliance with the don'ts can be shown to be more deleterious or harmful. It would seem there are greater social, moral and spiritual consequences involved in not adhering to the don'ts than the do's. (2) There may be a practical dimension. You can measure obedience much more efficiently and quickly with regard to the don'ts. (3) Things may change. Lorenzo Snow did say in the late nineteenth century that the time would come when meat-eating would constitute as severe an infringement as anything else. Obviously, that has not yet happened (Peterson, 1972).

The Introduction of the Revelation

The first three verses in Doctrine and Covenants section 89 (1981) were written initially as introductory material by Joseph Smith and were not included as text with the rest of the revelation until the 1876 edition of the Doctrine and Covenants (Doctrine and Covenants, 1835; Woodford, 1974). Those first three verses, formerly introductory material, explain the context and purpose of the revelation (1981).

- 1 A WORD OF WISDOM, for the benefit of the council of high priests, assembled in Kirtland, and the church, and also the saints in Zion—
- 2 To be sent greeting; not by commandment or constraint, but by revelation and the word of wisdom, showing forth the order and will of God in the temporal salvation of all saints in the last days—
- 3 Given for a principle with promise, adapted to the capacity of the weak and the weakest of all saints, who are or can be called saints.

Verse four of Section 89 in the 1981 edition of Doctrine and Covenants contains the Lord's reasoning and explanation for revealing the Word of Wisdom through Joseph Smith. "Behold, verily, thus saith the Lord unto you: In consequence of evils and designs which do and will exist in the hearts of conspiring men in the last days, I have warned you, and forewarn you, by giving unto you this word of wisdom by revelation" (1981). This is the way the revelation began when it was first published in the Doctrine and Covenants (1835).

The Proscriptions

The Word of Wisdom in Doctrine and Covenants Section 89 describes the proscriptions in verses 5-9, 17. Verses 5-7 contain the prohibitive directives concerning wine and strong drink, with a later clarification in verse 17 for barley being acceptable for making mild drinks.

5 That inasmuch as any man drinketh wine or strong drink among you, behold it is not good, neither meet in the sight of your Father, only in assembling yourselves together to offer up your sacraments before him.

6 And, behold, this should be wine, yea, pure wine of the grape of the vine, of your own make.

7 And, again, strong drinks are not for the belly, but for the washing of your bodies.

17 Nevertheless, wheat for man, and corn for the ox, and oats for the horse, and rye for the fowls and for swine, and for all beasts of the field, and barley for all useful animals, and for mild drinks, as also other grain.

Verse 8 outlines the benefits and uses of tobacco while prohibiting it for man. "And again, tobacco is not for the body, neither for the belly, and is not good for man, but is an herb for bruises and all sick cattle, to be used with judgment and skill." Verse 9 prohibits hot drinks. This prohibition was clarified as early as 1842 by Hyrum Smith as referring to coffee and tea. This clarification has been verified in recent priesthood leadership handbooks of instruction which read, "Hot drinks are to be defined as coffee and tea" (2006). Former President of the Church, Gordon B. Hinckley, indicated that common

sense is required to recognize those modern items that are not specifically prohibited by the historical Word of Wisdom (Hinckley, 1989).

The Prescriptions

The specific passage in Doctrine and Covenants Section 89 that transitions from prohibited items to those prescribed begins in verses 10-11 which read, "And again, verily I say unto you, all wholesome herbs God hath ordained for the constitution, nature, and use of man — Every herb in the season thereof, and every fruit in the season thereof; all these to be used with prudence and thanksgiving" (D&C 89:10-11). The Word of Wisdom also encourages the consumption of all grain for man and beast with an emphasis on wheat to be the staff of life for man (D&C 89:14-17). Modern scientific research supports these prescriptions as promoting better health (Mypyramid.gov, 2005; Xiang Gao 2006) and scientists are trying to put in readily available reader friendly texts that grains like wheat should be the basis of a healthy diet (Willett, 2001; Katz, 2002; Campbell, 2005; Aldana, 2005; Nestle, 2006; Esselstyn, 2007). The Word of Wisdom recommends that wheat should be the "staff of life" for men and modern research supports those claims indicating that whole grains are essential in disease prevention (Slavin, 2001).

Potentially the most controversial portion of Doctrine and Covenants Section 89 are verses 12-13 and the second half of 14 and verse 15. These versus discuss the consumption of meat, "Yea, flesh also of beasts and of the fowls of the air, I, the Lord, have ordained for the use of man with thanksgiving; nevertheless they are to be used sparingly; And it is pleasing unto me that they should not be used, only in times of

winter, or of cold, or famine. . . . and all wild animals that run or creep on the earth; And these hath God made for the use of man only in times of famine and excess of hunger." The comma after the word "used" in v. 13 did not appear until the 1921 edition (Peterson, 1972). The addition of the comma seems correct in context of both the preceding and following verses. Regarding verse 15, Ezra Taft Benson, later a President of the Church, taught that the antecedent of the word "these" in this verse is the phrase "wild animals that run or creep on the earth" in v. 14. It seems he is interpreting the Word of Wisdom to suggest that domesticated animals normally be used for food, and that wild animals should be killed and eaten only in times of famine or hunger (Benson, 1971). It should be recognized that this was one passing statement by Elder Benson and he did not pursue this idea and it certainly falls short of anything that would constitute Church doctrine or practice.

The Word of Wisdom as found in Section 89 has been taught in a broader context by Church leaders (Benson, 1983; Packer 1996,) to include other related scriptures from the Doctrine and Covenants which address issues such as obtaining adequate sleep (D&C 88:124) and why it is not appropriate to preach that man should abstain from meat (D&C 49:18). Although the Word of Wisdom has been referenced many times by leaders of the Church in General Conferences, most are minor references about general Latter-day Saint standards or behavior. When the Word of Wisdom is addressed by Church leaders as the main topic of their speech, their focus is primarily spiritual.

The Promises

Doctrine and Covenants Section 89 verses 18-21 contain the promises built upon practicing the principles discussed in the previous portions of the text.

18 And all saints who remember to keep and do these sayings, walking in obedience to the commandments, shall receive health in their navel and marrow to their bones;

19 And shall find wisdom and great treasures of knowledge, even hidden treasures;

20 And shall run and not be weary, and shall walk and not faint.

21 And I, the Lord, give unto them a promise, that the destroying angel shall pass by them, as the children of Israel, and not slay them. Amen.

These verses refer to a spiritual endowment according to McConkie and Ostler (2000). Indeed the Word of Wisdom in 1833, just as it is interpreted today by the leaders of The Church of Jesus Christ of Latter-day Saints, may have been given primarily for spiritual health instead of physical (Benson, 1983; Faust, 1992; Packer, 1996, 2007; Perry, 1996; Wirthlin, 1995). These modern prophets have taught that the physical is important in order to facilitate the spiritual. Therefore, although the Word of Wisdom is much more than just a physical health code and primarily a spiritual law, physical health is important and obedience is requisite in order to warrant the promised blessings listed in the actual text.

Modern Health Applications

Progressive scientific health data has in recent decades, validated the warnings of the specifically stated prohibitions found in the Word of Wisdom. Modern science also supports the Word of Wisdoms claims that grains such as wheat should be the staple food for man, that they should eat an abundance of healthy seasonal fruits and vegetables, while limiting the consumption of meat. The growing trend of domestic and international obesity among adults as well as children, gives cause to evaluate potential health benefits for Latter-day Saints who focus on the prescriptions as well as the proscriptions as recorded in the Word of Wisdom.

In 1989 Dr. Enstrom published a scientific article in the *Journal of the National Cancer Institute*. For his research he studied a group of active Latter-day Saint High Priests from the State of California. He concluded that these Latter-day Saints lived longer than average by as much as 10 years (Enstrom, 1989). Other scientists have suggested that the research based longevity of Latter-day Saints could be mostly attributable to their abstinence of alcohol and tobacco (Merrill and Hilton and Daniels, 2003; Merrill, 2004). President Gordon B. Hinckley referenced Enstrom's work citing it as good reason to take care of our bodies, and the valuable price of extra years of life (Hinckley, 1989). The Seventh-day Adventists have a religiously motivated health code which promotes similar healthy behaviors as the Word of Wisdom, but also includes a recommended vegetarian diet. Modern scientific research is indicating that they have a higher life expectancy at age 30 than any other California population and may live longer than any formally defined population (Fraser and Shavlik, 2001). Better observance by

Latter-day Saints of both the prescriptions as well as the proscriptions in the Word of Wisdom may signify an even greater increase in longevity of life.

Compliance for Worthiness

Today faithful members of The Church of Jesus Christ of Latter-day Saints throughout the world are expected to comply with the Word of Wisdom as a revelation and an important health code. Lifetime Latter-day Saints are very familiar with the Word of Wisdom and converts are taught about it from the time they become acquainted with the Church. All must agree to live by its principles before they can become members of The Church of Jesus Christ of Latter-day Saints. They are required to commit to specific principles in the Word of Wisdom prior to their baptism and confirmation into the Church. Today, Latter-day Saints are often recognized by outsiders for their compliance to principles found in the Word of Wisdom. If they are to continue to be a positively peculiar people, in a day when all forms of unhealthy substances are consumed, they must live the principles of the Word of Wisdom as they are taught and interpreted by modern prophets in The Church of Jesus Christ of Latter-day Saints.

Chapter 3

Methods

This methods chapter is divided into six sections: population, sample, process, instrument, data collection and statistical analysis.

Population

The intended study population is comprised of college-aged male and female members of The Church of Jesus Christ of Latter-day Saints. A college student population was selected recognizing the stated delimitation of surveying a representative sample of the entire membership of The Church of Jesus Christ of Latter-day Saints. Permission to access and study a representative population of the entire Church was not given.

Sample

Due to differences in average academic standards of admittance, student demographic differences, and required ecclesiastical endorsements at Brigham Young University (BYU), students from Utah Valley University (UVU) formerly UVSC will also be surveyed in an attempt to obtain a more representative sample of college-aged Latter-day Saints. Although most individuals surveyed will be students from either Brigham Young University or Utah Valley University, the sample will include some college-aged non students who attend student wards in a student stake associated with UVU. These Universities were selected because it was estimated that the enrollment at each of these Universities would include a large percentage of Latter-day Saint students. According to BYU admissions, 98% of all students Fall semester of 2006 were Latter-day Saint (BYU

Demographics, 2006). At State universities specific religious demographic data is not available because the information is not collected.

Process

A survey is defined in this study as a 'Technique of descriptive research that seeks to determine present practices or opinions of a specified population; [survey research] can take the form of a questionnaire, interview, or normative study' (Thomas, 2001). This study included a significant research effort to develop and construct an adequate measuring tool which could address the problem statement and answer the related research questions.

The initial idea for the original problem statement initiated the need to develop an adequate questionnaire, focused on whether Latter-day Saints' understanding of the Word of Wisdom could be correlated with their compliance of the Word of Wisdom. Over time, the initial question evolved to focus on the general understanding and compliance of a Latter-day Saint population to the proscriptions as well as the prescriptions found in the Word of Wisdom. A hypothesis was developed that the prohibited substances in the Word of Wisdom received all the emphasis and those foods encouraged for man in the Word of wisdom were largely ignored.

After interviewing various students and professors not associated with the committee, it was determined that the study's emphasis on the prescriptions versus the proscriptions was complicated by a common misunderstanding of the distinction between the vocabulary words proscription and prescription as they pertained to the Word of Wisdom. It was determined that any survey would need to be carefully constructed so that the

vocabulary would not confuse those asked to respond. Furthermore, additional challenges were evident in those first interviews relating to the various individual's interpretation of the Word of Wisdom.

The initial intention was to survey incoming freshman students at BYU to get a demographically diverse population which had not yet been influenced by BYU in their knowledge and practices of the Word of Wisdom. The initial plan was to survey a demographically diverse population coming to BYU that could provide a somewhat representative sample of what was being taught and observed from the Word of Wisdom by Latter-day Saint families around the country. It was determined that this sample would still not be a representative sample of the Church, so significant time and effort were exhausted in an attempt to obtain a representative sample of The Church of Jesus Christ of Latter-day Saints. As the delimitations of chapter one indicate, it was unfeasible and impossible to obtain a representative sample of the Church and publish the data in any fashion, so the population was delimited to college-aged Latter-day Saints.

The process of constructing a pilot questionnaire began through multiple discussions with professors on the doctoral committee, the graduate chair and the department chair. They were asked about the Word of Wisdom and those topics, which from their experience, should be covered on a questionnaire. Using input from multiple professors, four open ended questions were written and approved by members of the committee with experience in the construction and use of surveys. A class of students from BYU was selected and given the following four open ended questions about the word of wisdom:

- 1. Please list the first three things that come to your mind when you think of the Word of Wisdom?
- 2. In addition to the Don'ts in the Word of Wisdom what are the Do's?
- 3. What other behaviors does the Word of Wisdom encourage?
- 4. What are the promised blessings for those who observe the Word of Wisdom? Forty-six students responded to all four of the above questions and three more students responded to two of the four.

The responses from the 49 participants were evaluated with a member of the committee and it was determined that two of the questions could be combined into one better question. Questions 2 and 3 were combined to read, "In addition to the Don'ts in the Word of Wisdom what other behaviors does the Word of Wisdom encourage?" Ninety more students were given those three open ended questions and their responses were tabulated. A series of common responses were identified and tabulated, as were unique responses that were determined to be potentially influential. Those student responses were eventually used to construct the knowledge based questions for a pilot survey. Those knowledge based questions were set up for participants to identify certain statements as being prohibited, encouraged or neither by the Word of Wisdom.

In addition to creating the knowledge-based questions, various health surveys were researched to find and develop appropriate questions for determining compliance to issues related to the specific categories discussed in the Word of Wisdom. Specific health behavior questions related to the Word of Wisdom were unavailable, since this type of a study on the Word of Wisdom had not previously been done. So compliance questions

were written following a template from similar questions from the Center for Disease Control National Center for Chronic Disease Prevention and Health Promotion Behavioral Risk Factor Surveillance System (CDC, 2007).

The demographic questions for the pilot study were constructed based on input from the committee members with experience working with surveys. Limitations were imposed in order to maintain a feasible length for the questionnaire. Some potentially informative questions were eliminated because they were not directly related to necessary control factors or the refined research question. A pilot questionnaire was written and then reviewed by three different focus groups. The first focus group consisted of two teachers, two students and one administrative assistant. As they evaluated the questionnaire, their input and suggestions were noted by the researcher who led the discussion for the focus group. Modifications were made and the questionnaire was shown to a second focus group comprising three professors who teach Religion 325, the religion class which includes coverage of Doctrine and Covenants section 89, the scriptural text for the Word of Wisdom. These three professors all contributed to refinements on the questionnaire, including their preferences on the ordering of demographic questions first, knowledge questions second and compliance questions last. All agreed that the compliance questions could bias the knowledge based questions if they came first.

The refined questionnaire was then given to a third focus group of approximately 30 random students selected from a professor willing to give class time for the research.

The researcher made specific requests from the anonymous students for written and

verbal critique of each question for clarity and consistency. The researcher lead the discussion and took notes on the verbal questions and comments made in the class setting and added them to the written commentaries from each of the 30 students. The questionnaire was again refined after tabulating the responses from those 30 students and implementing necessary changes. At this point in time the questionnaire still harbored some noted problems with participants interpreting various questions from the survey differently. The main concern was based on whether the "Word of Wisdom" constituted just what was specifically listed in Doctrine and Covenants section 89, or whether it also included what they understood as additional elements of the Word of Wisdom. Some vocabulary in the questions on the knowledge based section was also misunderstood. It was determined that a pilot study of approximately 200 students would be adequate to statistically evaluate the questions and help improve the overall questionnaire (see the pilot questionnaire in Appendix C).

A BYU Religion 130 class, a freshman dominated missionary preparation course, was surveyed using the pilot questionnaire. The professor of the large class encouraged all students to respond completely in the name of helping the cause of the researcher for graduate studies purposes. The professor gave the students class time to fill out the pilot survey under the direction of the researcher. Of an estimated 250 students in class, 236 participated and the data from those 236 questionnaires was painstakingly entered point by point. Incidentally, this lengthy process of data entry helped determine that the final questionnaire should be written so it could be administered and the data entered using a scan sheet. A preliminary general statistical analysis of the responses from the 236

questionnaires was done using the statistical software SPSS. It showed that some of the knowledge based questions were not working as well as others and some of the demographic questions were not necessary. The compliance questions provided interesting data and encouraged the researcher as well as committee members that more research opportunities were available and could be done later in related areas. A follow-up analysis on the data from the 236 questionnaires was then done with the help of another statistician using the SAS program and the questions were evaluated by an additional professor from the committee. With a statistical evaluation from two professors on the committee, another committee meeting was scheduled to look carefully at each question on the survey.

During the next committee meeting it was decided that a slightly different approach to the problem statement might be necessary for clarity in addressing the research question. The survey was again under construction and was significantly modified with an emphasis on the individual participant's interpretation of the Word of Wisdom as opposed to their specific knowledge of what was listed and what was not specified in Section 89 of the Doctrine and Covenants. The way they interpreted the Word of Wisdom collectively instead of their knowledge of D&C 89 would be correlated with how their behaviors associated with the elements in the Word of Wisdom. This change required a rewrite of the knowledge based portion of the questionnaire and therefore a new set of open ended questions were written to find out how to best evaluate how students interpreted various parts of the Word of Wisdom.

Doctrine and Covenants Section 89 was reevaluated and then separated into the pertinent components of which Latter-day Saints are known to interpret in different ways. Committee members determined what issues needed to be directly addressed and the researcher developed eight new questions which were sent among the committee. These were then modified into six questions with multiple parts. These questions were given to a class of 29 students and all responded. Those responses were tabulated and the questions were revised. Responses were then gathered from 47 additional students. These 47 students' responses, in addition to the previous 30, were used to construct eleven new questions which replaced the knowledge based section on the pilot survey.

A committee meeting was again held where all committee members were present and the questionnaire was aggressively scrutinized. Each question on the survey was evaluated individually and some modifications were suggested in all three of the major sections. The demographic data were modified to correlate more directly with the Word of Wisdom. The compliance questions were strengthened by adding more specific questions and improving the response choices for each question. The interpretation questions were refined and deemed a significant improvement over the knowledge based questions which had been predominantly recognition questions. The committee determined that two outside specialists needed to be consulted concerning specific information on certain interpretation questions and those professors were subsequently interviewed at length by the researcher.

The committee readdressed the issue of the population to be sampled and it was determined that they did not need to be incoming freshman, because the focus was no

longer on trying to capture what knowledge they may have gained about the Word of Wisdom from home. The new emphasis drew upon their knowledge and experience with the Word of Wisdom by measuring how they interpreted it. The committee determined that after all the suggestions were implemented the refined survey should be given to 20-30 more students to check the final survey for face validity. It was given to a class where 30 students filled out the survey while participating in a group discussion checking it for face validity. With an incentive for them and the professor of the randomly selected class, the students asked questions of the researcher as well as wrote down their individual insights. The questions were each checked for clarity and students offered verbal and written suggestions. Some included suggestions for other potential questions. Their responses were tabulated and after each was considered, slight modifications were made to grammar and some unrecognizable response choices were removed. The lengthy process of constructing the questionnaire was completed and pilot tested by a class of approximately 40 students to ensure that the directions, the scan sheet and the overall survey was user friendly. The resultant questionnaire from that research process is the measuring tool presented in the proposal defense.

The Instrument

The questionnaire consists of three main sections: demographic information, health behavior compliance questions and Word of Wisdom interpretation questions (Appendix B). The questions in the demographic section were developed to deal with potentially confounding factors to Word of Wisdom research. The health behavior questions were constructed to focus on the different substances specifically addressed in

Doctrine and Covenants section 89 concerning the Word of Wisdom and others commonly connected to it. These questions were developed using some questions from the Behavioral Risk Factor Surveillance System as a template (CDC, 2007). The interpretation questions were developed to correspond with the behavior questions relating to the specific items addressed in the Word of Wisdom.

Data Collection

The survey will be administered by the researcher himself to Brigham Young University students in random courses where each student will be invited to participate. It will be presented as completely voluntary and anonymous. College-aged Latter-day Saints from an LDS student stake affiliated with Utah Valley University will also be given the questionnaire through their ecclesiastical units. It will be administered through the student wards. The pre-existing ecclesiastical organization of the student stake will be utilized to facilitate the administration of the survey for each potential responder. The researcher will administer the questionnaires through each of the Relief Society meetings comprising the women from each ward and in each of the priesthood quorums comprising the men of each ward. The researcher will explain the survey and count potential responders and compare the numbers present to the number of questionnaires collected. The survey will remain anonymous for those responding in BYU classes as well as those responding through their student stakes. No identifying link will be made to those responding and the questionnaires. The committee determined that at least 100 responses will be needed from each of the Universities.

Statistical Analysis

Conventional summary statistics will be used to describe the variables. Crosstabulations will be used to perform bivariate analysis between variables, with statistical significance based on the chi-square test for equal proportions and the t test for independence. Regression techniques will be used to assess associations between variables, adjusting for potential confounders. The data from the demographic questions will be used to put the information in context and control for confounding factors.

Compliance variables to the Word of Wisdom will be regressed on the interpretation variables to the Word of Wisdom. A composite score, which measures the student's compliance of the Word of Wisdom, will be regressed on a composite score interpretation variable to the Word of Wisdom. Results will be tabulated and presented in tables and charts with accompanying written summaries and interpretations.

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Appendix B

Questionnaire

Research Survey for College Aged Latter-day Saints

This survey is completely anonymous such that no personal identifying information will be collected or linked with your responses. Please answer the following questions as completely, accurately, and honestly as possible. Thanks for your time and thoughtful consideration to these questions.

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Follow the example scan sheet (right) and fill in the numerical bubbles under the "IDENTIFICATION" section with your age, height, weight, and baptismal age.

	or	02222222
What is your age in years (e.g. 21)?		3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
What is your height in inches (e.g. 5'8" = 68")?	FACUL 200	6666666 77777077 888688888
What is your weight in pounds (e.g. 175)?	TY USE O	9 9 9 9 9 9 9 AGE HEIGHT WEIGHT BAPTISM AGE Answers must use leading zeros Example: If baptism age is eight then
At what age were you baptized a Latter-day Saint (e.g. 08)?	ΘŽ	mark 08

Mark all of your responses to questions 1-60 on the scan sheet and not on the survey

- 1. Which geographic location **best** represents where you were raised?
 - A. Utah
 - B. United States but not Utah
 - C. Outside of the United States
- 2. What is your gender?
 - A. Male
 - B. Female
- 3. Are you Caucasian?
 - A. Yes
 - B. No
- 4. Are you a Returned Missionary?
 - A. Yes
 - B. No
- 5. Are you married?
 - A. Yes
 - B. No

- 6. During your teenage years how regularly did you adhere to the Word of Wisdom?
 - A. All of the time
 - B. Most of the time
 - C. Sometimes
 - D. Never
- 7. In the home where you were raised, how regularly was the Word of Wisdom observed?
 - A. All of the time
 - B. Most of the time
 - C. Sometimes
 - D. Never
- 8. In the home where you were raised, to the best of your knowledge, what was your family's annual income?
 - A. Less than \$30,000
 - B. \$30,000 to \$49,999
 - C. \$50,000 to \$69,999
 - D. \$70,000 to \$89,999
 - E. \$90,000 or more
- 9. Which best describes the highest level of education completed by your Mother:
 - A. Did not finish high school
 - B. High school
 - C. Some College / Trade or Technical School
 - D. Degree from College / Trade or Technical School
 - E. Graduate Degree
- 10. Which best describes the highest level of education completed by your Father:
 - A. Did not finish high school
 - B. High school
 - C. Some College / Technical School
 - D. Degree from College / Trade or Technical School
 - E. Graduate Degree
 - F.

On questions 11-24 select one answer which most accurately describes your typical behavior

- 11. A serving of vegetables is about one cup. How many total servings of any combination of vegetables do you typically eat?
 - A. Never
 - B. 1-3 servings a month
 - C. 1 serving a week
 - D. 2-3 servings a week
 - E. 4-6 servings a week
 - F. 1 serving a day
 - G. 2 servings a day
 - H. 3 servings a day
 - I. 4 servings a day
 - J. 5 or more servings a day

- 12. A serving of fruit is defined as one cup of fruit or one piece of fruit or a glass (cup) of real fruit juice. How many total servings of any combination of fruit do you typically consume?
 - A. Never
 - B. 1-3 servings a month
 - C. 1 serving a week
 - D. 2-3 servings a week
 - E. 4-6 servings a week
 - F. 1 serving a day
 - G. 2 servings a day
 - H. 3 servings a day
 - I. 4 servings a day
 - J. 5 or more servings a day
- 13. How often do you typically eat bran or whole grain cereals? (e.g. oatmeal, homemade mush, cheerios, Shredded Wheat, Raisin Bran, Grape-Nuts, Granola etc.)
 - A. Never
 - B. 1-3 times a month
 - C. Once a week
 - D. 2-3 times a week
 - E. 4-6 times a week
 - F. Once a day
 - G. 2 times a day
 - H. 3 times a day
 - I. 4 times a day
 - J. 5 or more times a day

K

- 14. How often do you eat brown rice or whole wheat breads?
 - A. Never
 - B. 1-3 times a month
 - C. Once a week
 - D. 2-3 times a week
 - E. 4-6 times a week
 - F. Once a day
 - G. 2 times a day
 - H. 3 times a day
 - I. 4 times a day
 - J. 5 or more times a day
- 15. How often do you eat meat of any kind (e.g. red meat, pork, chicken or fish)?
 - A. Never
 - B. 1-3 times a month
 - C. Once a week
 - D. 2-3 times a week
 - E. 4-6 times a week
 - F. Once a day
 - G. 2 times a day
 - H. 3 times a day
 - I. 4 times a day
 - J. 5 or more times a day

- 16. How often do you drink coffee?
 - A. Never
 - B. Once or twice during your life
 - C. When you are sick
 - D. 1-3 times a month
 - E. Once a week
 - F. 2-3 times a week
 - G. 4-6 times a week
 - H. Once a day
 - I. 2 times a day
 - J. 3 or more times a day
- 17. How often do you drink black tea?
 - A. Never
 - B. Once or twice during your life
 - C. When you are sick
 - D. 1-3 times a month
 - E. Once a week
 - F. 2-3 times a week
 - G. 4-6 times a week
 - H. Once a day
 - I. 2 times a day
 - J. 3 or more times a day
- 18. How often do you drink *green* tea?
 - A. Never
 - B. Once or twice during your life
 - C. When you are sick
 - D. 1-3 times a month
 - E. Once a week
 - F. 2-3 times a week
 - G. 4-6 times a week
 - H. Once a day
 - I. 2 times a day
 - J. 3 or more times a day
- 19. How often do you drink herbal tea?
 - A. Never
 - B. Once or twice during your life
 - C. When you are sick
 - D. 1-3 times a month
 - E. Once a week
 - F. 2-3 times a week
 - G. 4-6 times a week
 - H. Once a day
 - I. 2 times a day
 - J. 3 or more times a day

- 20. How often do you drink alcoholic beverages?
 - A. Never
 - B. Once or twice during your life
 - C. When you are sick
 - D. 1-3 times a month
 - E. Once a week
 - F. 2-3 times a week
 - G. 4-6 times a week
 - H. Once a day
 - I. 2 times a day
 - J. 3 or more times a day
- 21. How often do you use tobacco products of any kind (e.g. smoke, chew, snuff etc.)?
 - A. Never
 - B. Once or twice during your life
 - C. When you are sick
 - D. 1-3 times a month
 - E. Once a week
 - F. 2-3 times a week
 - G. 4-6 times a week
 - H. Once a day
 - I. 2 times a day
 - J. 3 or more times a day
- 22. How often do you use drugs? (e.g. illegal substances or non-prescribed recreational use of prescription drugs etc.)?
 - A. Never
 - B. Once or twice during your life
 - C. Only when you are sick
 - D. 1-3 times a month
 - E. Once a week
 - F. 2-3 times a week
 - G. 4-6 times a week
 - H. Once a day
 - I. 2 times a day
 - J. 3 or more times a day
- 23. How many days in a typical week do you participate in a physical activity for at least 20 minutes at a time? (Such as brisk walking, bicycling, running, aerobics, swimming or any other activity that causes an increase in breathing or heart rate.)
 - A. Zero
 - B. One
 - C. Two
 - D. Three
 - E. Four
 - F. Five
 - G. Six
 - H. Seven

24. .	How many days in a typical week do you believe that you get sufficient sleep?
	A. Zero
	B. One
	C. Two
	D. Three
	E. Four
	F. Five
	G. Six
	H. Seven
	11. Seven
For	Questions 25-32 indicate Yes for each item you interpret as a "strong drink," according
10 11	ne Word of Wisdom and No for those which are not.
25	Door
23.	Beer
	A. Yes
	B. No
26.	Caffeinated soft drinks
	A. Yes
	B. No
27.	Coffee
	A. Yes
	B. No
28.	Energy drinks (e.g. Red Bull, Rock Star, Adrenaline Rush, etc.)
	A. Yes
	B. No
20	Liquor or spirits (e.g. vodka, whiskey, etc.)
29.	A. Yes
20	B. No
<i>5</i> 0.	Non-Alcoholic beer
	A. Yes
	B. No
31.	Selected Teas
	A. Yes
	B. No
32.	Wine
	A. Yes
	B. No
For	Questions 34-42 indicate Yes for each item you interpret as a "hot drink," according to
	Word of Wisdom and No for those which are not.
33	Any scalding drinks
55.	A. Yes
	B. No
3/1	Black Tea
J4.	A. Yes
	B. No

B. No

A. Yes B. No

49. Plants such as marijuana, opium etc.

35. Green Tea A. Yes B. No 36. Herbal Tea A. Yes B. No 37. Iced Tea A. Yes B. No 38. Coffee A. Yes B. No 39. Decaffeinated Coffee A. Yes B. No 40. Drinks of cultural tradition (e.g. chicha, colonche, mate, pulque, etc.) A. Yes B. No 41. Hot Chocolate A. Yes B. No 42. Hot Cider A. Yes B. No For Questions 43-50 indicate Yes for each item you interpret as a "wholesome herb," according to the Word of Wisdom and No for those which are not. 43. Dietary supplements A. Yes B. No 44. Fruits A. Yes B. No 45. Grains (e.g. wheat) A. Yes B. No 46. Plants for human consumption A. Yes B. No 47. Plants necessary for nutrition A. Yes B. No 48. Plants for treating human illnesses A. Yes

- 50. Vegetables
 - A. Yes
 - B. No

<u>For Questions 51-54 indicate Yes for each item you interpret as prohibited by the Word of Wisdom and No for those which are not.</u>

- 51. Smoking nicotine-free tobacco
 - A. Yes
 - B. No
- 52. Smoking substances other than tobacco
 - A. Yes
 - B. No
- 53. The use of fine ground tobacco or snuff
 - A. Yes
 - B. No
- 54. The use of spitting or smokeless tobacco
 - A. Yes
 - B. No

<u>For questions 56-60 select which answer most accurately describes your interpretation of the Word of Wisdom</u>

- 55. Should the frequency of eating meat vary according to the time or season of the year?
 - A. Yes
 - B. No
- 56. The phrase "eat meat sparingly" (D&C 89:12), primarily refers to which of the following?
 - A. How often (frequency) an individual should eat meat
 - B. The amount (quantity) of meat an individual should eat at one time
 - C. Both of the above
 - D. None of the above
- 57. To comply with the Word of Wisdom directive to "eat meat sparingly" (D&C 89:12), how often should an individual eat meat?
 - A. Never A vegetarian diet should be followed
 - B. Only when cold, during the winter time, or in a famine
 - C. Rarely or once in a great while (Less than Once a month)
 - D. Once a month
 - E. Once or twice a week
 - F. 3-6 times a week
 - G. Everyday
 - H. Multiple times per day
 - I. As desired
 - J. The phrase "eat meat sparingly" does not apply in this day of refrigeration

- 58. Do you believe that the use of drugs, including illicit drugs as well as the non-prescribed recreational use of prescription drugs, is prohibited by the Word of Wisdom?
 - A. Definitely Yes
 - B. Probably Yes
 - C. Probably No
 - D. Definitely No
- 59. Do you believe that obtaining sufficient sleep is recommended by the Word of Wisdom?
 - A. Yes
 - B. No
- 60. Do you believe that exercising regularly is recommended by the Word of Wisdom?
 - A. Yes
 - B. No