College students' perception of family influence impacting their health and lifestyle

TEACH[R]

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Abstract

Family influence affects the entire family, especially children, adolescents and even young adults once they leave home. The purpose of this study was to determine college students' perception of family influence impacting their health and lifestyle. This was a cross-sectional, non-experimental study with a descriptive design that used social learning theory to inform and guide the process. The study included 120 college students in a faith-based institution. Each student completed a Likert-type survey (4-point agreement scale) that pertained to their perception of health, and the degree of influence peers and family have on their health. The data analysis showed that respondents are in most agreement (*M* = 3.34, *SD* = 0.615) that "*family has influenced my idea of health*", 94.2% indicating their agreement. Three reliable factors and scales - Family Influence (FI) (α = 0.764), Positive Family Impacts (PFI) (α = 0.679) and Negative Impacts (NI) α = 0.613) - were established. Most students indicated agreement with perceiving FI (54.2%) and PFI (58%) with low frequencies of disagreement (19.2% and 14.1% respectively). Most disagreed with perceiving NI (61.7%), but 11.7% agreed they experienced negative health impacts. A weak to moderate positive association between FI and PFI (r = 0.334), a moderate but negative correlation between FI and NI (r = -0.429), and a very weak negative correlation between PFI and NI (-0.242) emerged on analysis. Some statistically significant differences in the mean scales for groups defined by four demographic variables - age, gender, family type and religion, but not ethnicity, were confirmed. The general importance of family health education as a integrative public health potential and contributor to student wellbeing, is asserted. The importance of the contribution of this study to Christian education is the known dependence of effective learning experiences (including spirituality) on student wellbeing.

> *The importance … of this study to Christian education is the known dependence of effective learning experiences (including spirituality) on student wellbeing.*

Healthy lifestyles are developed and modelled in the family. Level of health habit adoption is impacted in childhood, adolescence and young adulthood and potentially moderated by factors including family structure, parenting style and parental knowledge. Current changes in 'families' may be challenging this transmission of healthy practices, shifting this role into other domains such as the extended family; peers and wider social and community groups including schools, colleges, and university; sporting clubs and churches. Since a core mission of Christian education is effective learning, and this is significantly influenced by the students' level of healthy wellbeing, achieving high levels of student wellbeing becomes an associated prior purpose.

Most college students do not live at home during the school year, which means they are responsible for making their own decisions regarding many things, including health behaviours. "Scholars have posited that family communication is a proximal source of influence on health attitudes and behaviors" (Baiocchi-Wagner & Talley, 2013, p. 194). However, the degree to which communication among family members influences an individual's health is not well understood (Baiocchi-Wagner & Talley, 2013). The purpose of this study was to determine college students' perception of family influence impacting their health and lifestyle.

> *"There is an association between over-protective parents and … behaviours in the adult child. … unhealthy eating, lack of exercise, unprotected sexual practices, and smoking."*

Background

The National Center for Health Statistics published a report in 2009 which indicated that obesity rates had tripled among young adults between 1971-1974 and 2005-2006 (Baiocchi-Wagner & Talley, 2013). Also, Ramanathan and Crocker (2009) affirmed, "physical activity rates for youth are insufficient for health benefits, whereas inactivity-related diseases like obesity are on the rise" (p. 492). As the United States faces this increasing obesity rate, it is important to understand which health influences are leading to the weight problem. Young adulthood is the time that people start making independent life choices (Paredes, Ferreira, & Pereira, 2014), so to understand the obesity problem, it is essential to determine what variables young adults take into consideration when making healthy choices.

Paredes et al. (2014) asserted that obesity in young adults is not the only health issue prevalent in today's society; college students are provided more opportunities to engage in risky behaviours as they live away from home. There is an association between overprotective parents and unhealthy behaviours in the adult child. The unhealthy behaviours in this context are unhealthy eating, lack of exercise, unprotected sexual practices, and smoking. Based on the research reviewed, the amount of influence that the family holds in affecting college students' perceptions should be examined. It is possible that providing family education could be an effective way to improve health promotion for young adults (Paredes et al., 2014).

Problem, Purpose, and Research Question

Baiocchi-Wagner and Talley (2013) found that "investigating young adult health is exceedingly important, as the time between the ages of 18 and 29 'sets the foundation for future health behaviors and health status'" (p. 193). With more health problems related to risky behaviour and obesity on the rise among adults, it is essential to examine influential factors, such as family influence, in young adults' lives. The majority of students attending college are young adults, and family influences on their health have rarely been studied. The purpose of this study was to determine college students' perception of family influence impacting their health and lifestyle. The research question was: Do college students perceive a family influence impacting their health and lifestyle?

Review of the Literature

All research articles were obtained from the institutional library and the Cumulative Index of Nursing and Allied Health Literature (CINAHL) database. Eight of the peer-reviewed sources can be applied to studying family's influence on college students' health perceptions. The articles were written between 2009 and 2015. Keywords, such as, *family's influence on health, health perception,* and *student's health* were used to find the articles.

Parental Role in Modelling Health Beliefs and Habits

Ramanathan and Crocker (2009) implemented qualitative methods to answer, "what role do personal, familial, and cultural attitudes and social norms towards activities have on actual physical activity behavior of the Indian Diaspora" (p. 493). This study interviewed six female teens between the ages 15-19 years old whose families were socioeconomically middle- to upper- class. From these interviews, all participants conveyed their parents were physically active in childhood and adulthood, serving as role models for their own level of physical activity. Furthermore, Ramanathan and Crocker discovered that "participants also felt that their parents served as sources of social support through encouragement (e.g., verbal affirmations), facilitation (e.g., buying access to sports equipment), and involvement (e.g., engaging in activity with them)" (p. 497).

In another study, Burke, Woszidlo, and Segrin (2013) asserted that "the association between social skills and psychosocial problems, such as loneliness

and anxiety, is important given the deleterious emotional, physical, and social consequences associated with these problems" (p. 78). Results suggested that "adult children's social skills can be influenced by their fathers' interactional skills," but "maternal influence upon adult children's social skills is non-significant in this sample" (Burke et al., 2013, p. 87).

To assess common health beliefs among college students, Downey and Chang (2013) completed four interrelated studies using a mixed-method design. Upon assessing the college students' answers, Downey and Chang revealed that psychosocial factors were associated with the general perception of health, while less importance was placed on the "absence of illness" (p. 828). Some of these variables influence personal health behaviours and choices. Paredes et al. (2014) observed that "the quality of university students' relationship with their parents mediated the association between mental health, physical symptoms and health behaviour" (p. 43).

Poutianinen, Levalahti, Hakulinen-Viiltanen, and Laatikainen (2015) hypothesised that adolescents who lived in families with mothers or fathers who smoked were at a higher risk to develop smoking behaviours than adolescents whose parents did not smoke. They observed 6,506 children, from the age of 0.5-15 years old, in Finland. The results confirmed that parental smoking was associated with smoking in both boys and girls (Poutianinen et al., 2015).

In summary, parents have served as social support through encouragement, facilitation, and becoming involved in activities with their children. Verbal interaction, financial help, and involvement made a difference in family relationships. These studies imply that there is a parental influence, potentially through modelled behaviour in living healthily, which establishes a habit of healthy lifestyle choices that seem to subsequently affect their children's health choices.

Impact of Parental Involvement in Health Choices

Baiocchi-Wagner and Talley (2013) examined the association between family communication patterns and young adults' patterns of diet and physical activity. This quantitative study included 433 dyads; each dyad consisted of a young adult and an influential family member of the young adult's choice. The age range of the young adults was 18 to 27 years while the age range of the family member was 18 to 87 years. These researchers found that "individuals from families who habitually discuss diet and physical activity also are more likely to perform healthy diet and physical activity-related behaviors" (p. 202), which indicated a positive association between family communication and young adults' health behaviours.

It is also claimed that, "Health-related behavior is acquired, developed, maintained, and potentially changed within a family" (Deutsch, Frese, & Sandholzer, 2014, p. 689). This quantitative study in Germany included 273 office-based family physicians who completed a questionnaire assessing their perspective of families having high impact roles in the health behaviours of an individual (Deutsch et al., 2014). The researchers found that when the family was involved in the care of an individual and the physicians were family-centered care oriented, the outcomes of the patient increased (Deutsch et al., 2014).

Ali and Dean (2015) studied non-resident fathers and their influence in the development of cigarette smoking behaviours in their adolescent children over a 14-year period. This was a quantitative, longitudinal study, which surveyed adolescents, grades 7 through 12, among 132 schools in the United States. The survey consisted of questions regarding the participants' smoking behaviours and relationship characteristics with non-residential fathers and their parental involvement. Ali and Dean found that "easy access to cigarettes and non-residential father smoking are both positively correlated with smoking" (p. 318).

In summary, college students are likely to continue the same health behaviours and practices as their family. The research studies showed an association between the student's decisions and the family's example of health-related practices and beliefs when the students are deciding for themselves what they should put into practice. Many elements are likely to influence what the student puts into practice, and family is one of the most influential factors.

Theoretical Framework

The social learning theory describes one's action or behaviour as a direct result of the environment around the individual and what they have seen and learned. Bandura (1971) acclaimed, "Most of the behaviors that people display are learned, either deliberately or inadvertently, through the influence of example" (p. 5). Some actions are performed without any explanation as to where the individual saw it; however, most of the time when an action is carried out, it is because the individual saw someone else doing the same thing. Observational learning classifies, describes and explains how the individual forms a new response based on what he or she saw happen (Bandura, 1971, pp. 5, 6).

Most college students know what their families believe about health and see the different types of health practices used in their home, and often those are the practices they use, without discerning what is helpful or harmful to their health. College students

"Most of the behaviors that people display are learned, either deliberately or inadvertently, through the influence of example"

are starting to have to think for themselves because their guide is no longer around to model certain behaviours. As part of this process, students arouse their long-term memory of what they did in the past, or what they saw being performed, and they rely on those memories as a 'reliable' guide. College students put this attitude or behaviour into practice after remembering what they were surrounded by.

College students also use their peers as a guide within this process. Peer acceptance is an important element of college life. If students act out a health behaviour they learned from their family, and their peers scoff and dismiss it, they are not likely to continue that behaviour, for peer pressure is stronger than familial influence (Practice Update, 2001). However, when students practice a health behaviour and their peers eagerly accept it and even join in, the college student will continue that behaviour, based on the positive feedback received. Bandura (1971) believed that "behavior is learned, at least in the rough form before it is performed" (p. 8).

> *"when students practice a health behaviour and their peers eagerly accept it and even join in, the … student will continue that behaviour"*

In conclusion, the behaviours of college students are examples of the outcome of social learning theory. Students see models around them while growing up and commit to long-term memory everything they are witnessing. Once they come to college and those models are no longer around, they choose to draw out from long-term memory, what behaviours and actions should be put into practice. The students who once relied heavily on their family members, are now forced into deciding for themselves between what they remember, and what they now think are the healthiest practices and beliefs. Peer influence can be a significant distraction from, or support towards, positive health practice.

Methodology

The research design

To effectively collect data from a broad spectrum of students, the best method was implementing a cross-sectional, non-experimental, descriptive design. By using this method the researchers were able to sample a wide variety of participants whose demographics could inform the analysis. Consequently. using a survey gave the best representation of the college's entire student population. Further, completing the survey was more convenient for students than the alternative, more time-consuming data collection methods. Permission was granted to execute the survey over a two-day period, outside the cafeteria during lunchtime.

The survey instrument

The survey instrument was created after completing a detailed review of the literature. Five items at the beginning of the survey gathered demographic information. Two peer groups, as well as the professor and an additional faculty member, reviewed and provided feedback to establish face validity. Corrections were made based on feedback. The final tool was comprised of twenty statements, considered valid in this research study, but the validity has not been tested in other studies. Bias was avoided to the best of the researchers' ability. A 4-point Likert-type scale, used to assess the level of agreement with perceptions of how different variables affect health habits, required selection of one of the following coded responses: strongly disagree = 1, disagree = 2, agree = 3, or strongly agree = 4.

Ethical approval

Approval from the Institutional Review Board (IRB) was acquired before beginning this research study. Informed consent was gained from those who agreed to participate in the survey. For confidentiality, the participants' names and other identifying factors were not collected. The signed consents were kept separate from the completed surveys.

The sample

The college had a population of about 2000 students. Based on the meal tickets purchased, 718 students typically used the cafeteria on a regular basis. The survey was distributed outside the cafeteria because this was where on any given day; approximately half of the undergraduate student population assembled for meals. All participants were 18 years of age and older. The convenience sample included both male and female students. The participants were given directions to complete the survey, informed of potential risks and implications, and ensured confidentiality. Incomplete surveys were not taken into account, being excluded from the analysis.

Data collection and protection

The survey was executed outside the cafeteria during lunchtime over a two-day period. As the students completed the forms, surveys and informed consents were separated. This process of submitting the surveys ensured confidentiality. The participants were then thanked and offered candy in appreciation for completing the survey. On these two days, an estimate of 718 students used the cafeteria, and a total of 134 surveys were submitted, but because 14 were incomplete, only 120 surveys were considered valid. The response rate achieved was (120/718) 16.7%. All collected data for this research was submitted to the college school of nursing to be stored electronically for a minimum of three years. The school of nursing staff scanned the data into the computer and stored it on discs in a locked cabinet in a locked storage room. No one, other than the nursing

administrators or the research coordinators, has access to the stored records.

Results

In this descriptive study, 120 college students were surveyed to answer the research question, "Do college students perceive a family influence impacting their health and lifestyle?" The purpose was to determine college students' perception of family influence impacting their health and lifestyle. The results of this study were compared to eight relevant, peer-reviewed articles. The results showed a relatively positive outcome for both student and their parent health practices.

Table 1 contains the demographic information. The majority of students surveyed were female (58%). The most common age range among participants was 18-20 years old (65%). Results showed that the ethnicity of participants was predominantly Caucasian (88%). When asked if they were brought up in the Christian faith, the majority of students answered: "yes" (91%). Of the students surveyed, most agreed growing up in a traditional two-parent household (83%).

Descriptive Statistics

Descriptive statistics were analysed to investigate the research question "Do college students perceive a family influence impacting their health and lifestyle?" The statements were ranked from highest to lowest mean score as agreed by the participants and then tabulated (see Table 2). The table assembled also includes descriptive statistics—the frequency and percentage frequency for each item; the standard deviation of the scores representing the level of agreement, quantifying the amount of variation from the mean level of agreement score; the standard error of the mean, indicating the deviation of the sample mean from the population mean; and the interpretation of the mean in terms of the scale. These interpretations were derived from multiple *One Sample t-tests* to distinguish which means were statistically significantly different from scale scores corresponding to strongly disagree = 1, disagree = 2, uncertain = 2.5, agree = 3, and strongly agree = 4.

Table 1: Descriptive statistics for participant demographic and background

Variable / Categories		f	%
Gender			
	Male	50	42
	Female	70	58
Age Range			
	18-20	78	65
	21-23	39	33
	24-26	3	2
Ethnicity			
	Caucasion	105	88
	African American	6	5
	Asian	1	1
	Hispanic	2	2
	Other	6	4
Brought up in the Christian faith			
	Yes	109	91
	No	11	9
Grew up in traditional two-parent household			
	Yes	100	83
	No	20	17

Note. (n = 120).

Differences in the Means and Levels of Agreement Item means can be classified into six different groupings of level of agreement ranging from Agree ($2.75 < M < 3.5$) through Uncertain ($2.25 < M < 2.75$) to Disagree ($1.5 < M < 2.25$).

Agreement

Items showing agreement ($2.75 < M < 3.5$) divide into three different groupings, the one item most agreed (Item 1, $M = 3.34$), being different to eight items (Items 5, 19, 15, 3, 2, 8, 12, 9) with a lower level of agreement but not statistically different means ($2.84 < M < 3.1$), and finally one item with a different and lowest level of agreement (Item 14, $M = 2.76$).

Respondents were in most agreement ($M = 3.34$, $SD = 0.615$) that "*family has influenced my idea of health*" [Item 1] and at a different higher level of agreement to all other items ($p < 0.050$). All but 7 (5.8%) agreed with this statement.

Agreement at a lower level, with means not different to $M = 3.00$—Agree ($p < 0.001$, except for Item 9, $p = 0.006$) are expressed for **family influence**: *shaping eating habits* [Item 5], further *My health practices are similar to those of my family* [Item 2]; a **family trait**: *having consistent spiritual practices that I follow* [Item 19]; **family (health) habits** *eating well balanced meals* [Item 8], *demonstrating positive health habits* [Item 3], and **personally possessing**: *effective ways to positively handle stress* [Item 15], a practice of *exercising for 30 minutes five times per week* [Item 12], and *eating well-balanced meals* [Item 9]. The mean for a family characteristic—*My family members have effective ways to positively handle stress* [Item 14]—also indicated agreement but at a different and lowest level of agreement ($M = 2.76$, $SD = 0.698$).

> *"Respondents were most in agreement that "family influenced my idea of health" … All but 7 agreed"*

> *Overall respondents confidently asserted recognition of health habits in their family, shared spirituality, the influence of family, and adoption of health habits …, yet uncertainty pervaded almost half the items*

Table 2: Descriptive statistics for questionnaire items ordered by mean score and level of agreement (Agree, Uncertain, Disagree)

Item no.	Item		SD	D	A	SA	Total	*M*	*SD*	*SE*	Level Agree
01	My family has influenced my idea of health.		1	6	64	49	120	3.34	0.615	.056	Most agreed
		%	0.8	5	53.3	40.8	100				
05	My family's eating habits have shaped my own eating habits.		0	19	70	31	120	3.10	0.640	.058	Agree
		%	0	15.8	58.3	25.8	100				
19	My family has consistent spiritual practices that I follow.		4	21	56	39	120	3.08	0.795	.073	Agree
		%	3.3	17.5	46.7	32.5	100				
15	I have effective ways to positively handle stress.		4	16	73	27	120	3.03	0.704	.064	Agree
		%	3.3	13.3	60.8	22.5	100				
03	My family demonstrates positive health habits.		0	30	60	30	120	3.00	0.710	.065	Agree
		%	0	25	50	25	100				
02	My health practices are similar to those of my family.		5	23	60	32	120	2.99	0.794	.072	Agree
		%	4.2	19.2	50	26.7	100				
08	My family members eat well-balanced meals regularly.		2	28	65	25	120	2.94	0.714	.065	Agree
		%	1.7	23.3	20.8	20.8	100				
12	I exercise 30 minutes or more, 5 days a week.		11	28	42	39	120	2.91	0.961	.088	Agree Highest SD
		%	9.2	23.3	35	32.5	100				
09	I eat well-balanced meals regularly.		0	34	71	15	120	2.84	0.622	.057	Agree Lowest SD
		%	0	28.3	59.2	12.5	100				
14	My family members have effective ways to positively handle stress.		5	32	70	13	120	2.76	0.698	.064	Different Lowest Agree
		%	4.2	26.7	58.3	10.8	100				
10	My family's exercise habits have shaped my own exercise habits.		13	38	48	21	120	2.64	0.896	.082	Uncertain
		%	10.8	31.7	40	17.5	100				
16	Because of my family upbringing, I distance myself from friends who engage in unhealthy behaviours.		8	52	45	15	120	2.56	0.797	.073	Uncertain
		%	6.7	43.3	37.5	12.5	100				
13	The way I handle stress is similar to the way my family deals with stress.		6	51	56	7	120	2.53	0.685	0.063	Uncertain
		%	5	42.5	46.7	5.8	100				
20	I make my own choices and don't depend on family to influence me.		12	48	45	15	120	2.53	0.840	.077	Uncertain
		%	10	40	37.5	12.5	100				
04	I have developed some bad health habits from my family.		16	42	53	9	120	2.46	0.819	.075	Uncertain
		%	13.3	35	44.2	7.5	100				
18	Unlike my family members, my friends display more positive health habits.		10	61	41	8	120	2.39	0.737	.067	Uncertain
		%	8.3	50.8	34.2	6.7	100				
17	My peers impact my ideas of health more than my family members.		11	60	42	7	120	2.38	0.734	.067	Uncertain
		%	9.2	50	35	5.8	100				

Table 2: Descriptive statistics for questionnaire items ordered by mean score and level of agreement (Agree, Uncertain, Disagree) - (continued)

Item no.	Item		SD	D	A	SA	Total	*M*	*SD*	*SE*	Level Agree
11	My family members exercise 30 minutes or more, 5 days a week.		26	43	37	14	120	2.33	0.945	0.086	Uncertain
		%	21.7	35.8	30.8	11.7	100				
07	I go out to eat more often than eating homemade meals.		28	55	26	11	120	2.17	0.892	.081	Different Lowest
		%	23.3	45.8	21.7	9.2	100				disagree
06	My family members go out to eat more often than eating homemade meals.		44	53	17	6	120	1.88	0.836	0.076	Disagree
		%	36.7	44.2	14.2	5	100				

Key: SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree, *M* = Mean, *SD* = Standard Deviation, *SE* = Standard Error of the Mean

Note. (*N*=120). Items were rated on a 4-point Likert-type scale ranging from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*), so higher means indicate higher levels of agreement.

Uncertainty

Eight items (10, 16, 13, 20, 4, 18, 17, 11) expressed for the overall group, uncertainty ($2.33 < M < 2.64$), being not different to 2.50, but being different to all other groups of means ($p < 0.001$ except for Item 11 for which $p=0.045$).

These means indicated equal uncertainty for one **family trait**—*My family members exercise 30 minutes or more, 5 days a week* [Item 11]; seven personal traits—four implying **family influence**: *Because of my family upbringing, I distance myself from friends who engage in unhealthy behaviours* [Item 16], *The way I handle stress is similar to the way my family deals with stress* [Item 13], *I have developed some bad health habits from my family* [Item 4], *My family's exercise habits have shaped my own exercise habits* [Item 10]; and one **personal trait**, related to volition—*I make my own choices and don't depend on family to influence me* [Item 20]; and two related to a **peer trait** and **peer influence**—*Unlike my family members, my friends display more positive health habits.* [Item 18], *My peers impact my idea of health more than my family members* [Item 17].

Disagreement

A **personal trait** item mean ($M = 2.17$) for Item 7 *I go out to eat more often than eating homemade meals* indicated lowest disagreement, and was different to the mean for a **family trait** Item 6 *My family members go out to eat more often than eating homemade meals*, indicating most disagreement ($M = 1.88$, $p<0.001$, except for Item 7, $p <0.05$).

Table 3. includes a graphical representation of levels of agreement across themed items to support the synthesis of the descriptive statistics. Overall respondents confidently asserted recognition of health habits in their family, shared spirituality, the influence of family, and adoption of health habits similar to their families, yet uncertainty pervaded almost half the items (8/20). This included the origin of bad habits, the choice to avoid 'risk-takers', family exercise, comparative peer health, and peer pressure.

The highest mean occurring for Item 1— *My family has influenced my idea of health*—and the high percentage (94%) of respondents indicating some level of agreement provided the most positively affirmed opinion derived from these single item descriptive statistics. In response to the research question—Do college students perceive a family influence impacting their health and lifestyle?—descriptive analysis asserts "yes", almost all college students in this sample, did agree with the premise of the research question.

Factor analysis

To provide a stronger basis for asserting the influence of family on student health habits, the data were factor analysed to access a measure consisting of more than one item. Under oblique rotation (delta=0.2) three factors emerged, Family Influence (FI) ($\alpha = 0.764$), Positive Family Impact (PFI) ($\alpha = 0.679$) and Negative Impact (NI) ($\alpha = 0.613$). Tables 4-6 indicate the items within each factor. Tavakol and Dennick (2011, p. 54) reference earlier work including Nunally's

> *"My family members go out to eat more often than eating homemade meals, indicat[ed] most disagreement"*

(1978) assertion of the acceptability for research use of factors with alpha values 0.7 – 0.95. Sekaran (2003, p. 311) agrees with the following category levels: < 0.60 poor, a range about 0.70 acceptable and > 0.80 good. Nawaz (2017) with other "post" respondents provides interpretation of the usefulness of different levels of Cronbach's alpha suggesting that in the exploratory stage of research, values > 0.60 but less than 0.70 are useful as any proposed factor and scale (measure) is developed. Only the Negative Impact factor falls into this "poor" category.

Acknowledging there was no missing data for any item (all surveys were complete) factor scales were created, such that the same agreement metrics applied (sum of scale scores/number of scale items). Interpretation of each factor scale frequency table indicated the percentages in different agreement levels. From the FI scale a majority (58.3%) agreed they perceived family influencing their health habits, however 19.2% did not observe this and 22.5% were uncertain. Based on the PFI scale frequencies, a slightly smaller but similar percentage (54.2%) acknowledged positive impacts as an outcome of family influence, more expressed uncertainty (30.8%) but fewer disagreed (14.1%). Negative health impacts were recognised by a small minority (11.7%), a larger proportion were uncertain of this experience (26.6%), but a large majority (61.7%) disagreed that they were negatively impacted in their health habits.

> *"one significant difference … Non-Christian family members disagree[d] they experienced positive impacts from parents … while Christian family students perceived health outcomes"*

Relationships between factors

All Pearson's Correlations between the factors were statistically significant, most at the $p < 0.001$ level (see Table 7.), indicating a weak to moderate positive association between FI and PFI ($r = 0.334$), a moderate but negative correlation between FI and NI ($r = -0.429$), and a very weak negative correlation between PFI and NI (-0.242). These observed associations cannot be implied as causal relationships, but this could be the case, prompting an extension of this research.

Demographic impacts - differences

The relationship of the demographic variables – age, gender, ethnicity, religion and family type – to each of the study factors, was investigated by One-way ANOVA.

Age

An age group difference was established for Family Influence (FI) [$F(117, 2) = 4.020$, $p = 0.020$], but post hoc Tukey and Scheffe tests did not establish statistical differences by age group, however a significant Tukey's HSD Homogeneous Subset difference between the 21-23 years range respondents ($M = 2.222$, disagree) and the 18-20 years of age subset ($M = 2.844$, $p = 0.05$), was asserted. This result is impacted by the small sub-sample of the older age group (n = 3).

Gender

One gender difference for Negative Impacts (NI) was asserted [$F(118,1) = 8.814$, $p = 0.004$], indicating females disagreed ($M = 2.226$) they experienced negative health outcomes, but that males claimed greater disagreement ($M = 1.973$).

Ethnicity

No differences were confirmed between ethnic groups for any factor. However, the small sub-sample of six African Americans were the only group to indicate uncertainty with perceiving positive family impacts ($M = 2.361$) on their health. For the remaining factors, all group means indicated agreed perception of Family Influence and disagreement with perceiving Negative Impact on health.

Religion

Analysis for the influence of religious affiliation indicated only one significant difference being for Positive Family Impact (PFI) [$F(118,1) = 16.954$, $p = 0.000$], Non-Christian family members disagreeing they experienced positive impacts from parents ($M = 2.242$), while Christian family students perceived health outcomes ($M = 2.803$).

Family type

Oneway ANOVA by family type indicated significant group differences for FI, PFI and NI. The traditional family group means indicated agreement with perception of both family influence ($FI_{trad} = 2.803$) and positive impact ($PFI_{trad} = 2.827$) being significantly different [$F_{FI}(118,1) = 4.764$, $p = 0.031$ and $F_{PFI}(118,1) = 18.2$, $p = 0.000$] to the uncertainty evident in the non-traditional families for both factors ($FI_{ntrad} = = 2.525$ and $PFI_{ntrad} = 2.375$). A different [$F(118,1) = 4.192$, $p = 0.0431$) lower mean ($NI_{trad} = 2.082$) indicates students from traditional families disagreed they perceived negative health outcomes while non-traditional family students expressed uncertainty ($NI_{nontrad} = 2.317$).

Discussion

The participants can be summarized as mostly white, young, predominantly female students who were brought up in the Christian faith, studying at a Christian college having grown up in a traditional two-parent home. Based on the results, the majority of participating students felt their family influenced their ideas of health.

Initial findings were not a surprise based on a four-point ranking of agreement within the survey. On the forced decision scale (no uncertain option)

Table 3: Agreement associated with themes

Item	Disagree	Least Disagree	Uncertain	Least Agree	Agree	Most Agree
Family influence						
1. My family has influenced my idea of health.						■
5. My family's eating habits have shaped my own eating habits.					■	■
2. My health practices are similar to those of my family.					■	■
4. I have developed some bad health habits from my family.			■	■	■	■
10. My family's exercise habits have shaped my own exercise habits.			■	■	■	■
13. The way I handle stress is similar to the way my family deals with stress.			■	■	■	■
1. Because of my family upbringing, I distance myself from friends who engage in unhealthy behaviours.			■	■	■	■
Family trait						
19. My family has consistent spiritual practices that I follow.					■	■
6. My family members go out to eat more often than eating homemade meals.	■	■	■	■	■	■
Family (health) habits						
3. My family demonstrates positive health habits.					■	■
8. My family members eat well-balanced meals regularly.					■	■
14. My family members have effective ways to positively handle stress.				■	■	■
11. My family members exercise 30 minutes or more, 5 days a week.			■	■	■	■
Peer Influence						
17. My peers impact my idea of health more than my family members.			■	■	■	■
Peer trait						
18. Unlike my family members, my friends display more positive health habits.			■	■	■	■
Personal traits						
9. I eat well-balanced meals regularly.					■	■
12. I exercise 30 minutes or more, 5 days a week.					■	■
15. I have effective ways to positively handle stress.					■	■
20. I make my own choices and don't depend on family to influence me.			■	■	■	■
7. I go out to eat more than eating homemade meals.		■	■	■	■	■
6. My family members go out to eat more often than eating homemade meals.	■	■	■	■	■	■

> *"The traditional family group means indicated agreement with perception of both family influence … and positive impact … being significantly different …to the uncertainty evident in the non-traditional families for both factors"*

most of the 20-items on the scale had a level of agreement above the midpoint of the scale, indicating the 120 student participants appeared to think family influences were strong contributors to their health and lifestyle. Reinterpretation of the means after the introduction of an 'Uncertain' value (2.5) to the four-point scale, reveals some pervasive uncertainty (8 of the 20 item means) overall. This is consistent with the increasing assertion of emerging independence and individualism in young adulthood.

The findings that emerged from the study are consistent with the literature asserting that family influence affects behaviours in children, adolescents, and young adults (Practice Update, 2001), eating habits (Faber, Dube, & Belanger, 2009), physical activity (Anderson, Hughes, & Fuemmeler, 2007), and lifestyle choices (Strafstrom, 2014). The survey data analysis revealed that most college students perceived family influences their health. Paredes et al. (2014) indicated that parents affect their children's health behaviours and lifestyle choices, especially as they start making their own decisions as young adults. This corresponds with college students' perceptions, the findings indicating students were agreeing to having similar health practices to their family.

As discussed in the literature review, Ramanathan and Crocker (2009) studied how parents serve as role models for their children's level of physical activity. As an example, while college students agreed that family influences their exercise habits, the analysis showed that students perceived that they exercise more than their families – similar but different. Baiocchi-Wagner and Talley (2013) examined the importance of family influence on healthy dietary habits in young adults.

> *"The findings that emerged from the study are consistent with the literature asserting that family influence affects behaviours in children, adolescent and young adults"*

Table 4: Family Influence (FI) factor item statistics

No.	Item	Mean	SD	Load
q01	My family has influenced my idea of health.	3.342	.615	0.495
q03	My family demonstrates positive health habits.	3.000	.710	0.529
q10	My family exercise habits have shaped my own exercise habits.	2.642	.896	0.706
q11	My family members exercise 30 minutes or more, 5 days a week.	2.325	.945	0.751
q17*	Family influences me more than peers.	2.625	.734	0.512
q18*	Unlike my friends, my family members display more positive health habits.	2.608	.737	0.736

*Indicates reverse coded item

Table 5: Positive Family Impact (PFI) factor item statistics

No.	Item	Mean	SD	Load
q05	My family's eating habits have shaped my own eating habits.	3.100	.640	0.564
q13	The way I handle stress is similar to the way my family deals with stress.	2.533	.685	0.599
q14	My family members have effective ways to positively handle stress.	2.758	.698	0.583
q16	Because of my family upbringing, I distance myself from friends who engage in unhealthy behaviors.	2.558	.797	0.487
q19	My family has consistent spiritual practices that I follow.	3.083	.795	0.753
q20*	I consider my family in making my choices.	2.475	.840	0.608

*Indicates reverse coded item

Table 6: Negative Impact (NI) factor item statistics

No.	Item	Mean	SD	Load
q04	I have developed some bad health habits from my family.	2.458	.819	0.382
q06	My family members go out to eat more often than eating homemade meals.	1.875	.836	0.581
q07	I go out to eat more often than eating homemade meals.	2.167	.892	0.670
q09*	I do not eat well balanced meals.	2.158	.622	0.545
q12*	I do not exercise for 30 minutes on 5 days in the week.	2.092	.961	0.604
q15*	I do not effectively and positively deal with stress.	1.975	.704	0.518

*Indicates a recoded item

Table 7: Correlations between Family Influence, Positive Family Impact and Negative Impact

Scale		(FI) Scale	(PFI) Scale	(NI) Scale
Family Influence (FI) Scale		1.000	0.334**	-0.429**
Sig. (2-tailed)			0.000	0.000
Positive Family Impact (PFI) Scale		0.334**	1	-0.242**
Sig. (2-tailed)		0.000		0.008
Negative Impact (NI) Scale		-0.429**	-0.242**	1
Sig. (2-tailed)		0	0.008	
	n	120	120	120

** Correlation is significant at the 0.01 level (2-tailed).

The analysis indicated that most participants' family members ate well-balanced meals regularly. The participants agreed that their families' eating habits shaped their own, which was supported by the data showing many participants agreed they ate well-balanced meals regularly.

Correlations suggest highly perceived family influence (FI) was associated (not necessarily causally) with self-observed high levels of positive health impacts (PFI) and low perception of negative health outcomes (NI) and vice versa. Further, the perception of a positive impact of family (PFI) was negatively related to the perception of negative personal health outcomes (NI). Experiencing positive health impacts was associated with a reduced likelihood of perceiving negative impacts on health.

The influence of the demographic variables is mostly predictable, being consistent with other research findings. As an individual moves into adulthood, knowledge, experience and spheres of influence, expand. Consequently, the expression of individuality and personal responsibility within decision-making, moderates perception of personal health attitudes, habits and behaviours as being consequent to family influence. No influence of ethnicity is apparent within this sample, potentially due to the pervasiveness of health education across ethnic groups in the US or alternatively, and more probably, due to the small sample size and its relative homogeneity. Christian values, 'commission' in parents, a responsibility for sharing with children what is most beneficial, and guiding their behaviour by example to on average achieve positive outcomes. Overall non-Christian families in this sample did not achieve this for their children. Similarly, the traditional family group held agreement with perceptions of Family Influence and Positive Impact while the non-traditional family with potentially dispersed, unintegrated and possibly inconsistent parental modelling results in uncertainty about both the influence and positive impact of family.

Limitations and Implications

The homogeneity of the sample is a limitation. Selection bias was another limitation because those who feel they have something to say probably responded. The results lack generalisability because of the small sample size and homogeneity. It is possible that students with poor habits did not want to answer the survey. The data collection tool was new and not tested for reliability. Another limitation of data collection was the survey statement regarding how often the students ate out instead of eating homemade meals. Most students have a meal provided on campus, so there was a higher incidence of eating in the cafeteria among students.

By collecting data about the degree of family influence on the health perceptions of college students, health care professionals may understand the importance of family-centered care and health education. As a consequence, in the future, the health beliefs and behaviours of a family can be altered to encourage more positive and sustainable health outcomes for the entire family unit. This will ensure a continuity of positive health behaviours that may endure for generations to come, creating a healthier future society. However, caution should shape expectations due to the limitations of this work.

> *"the non-traditional family with potentially dispersed, unintegrated and possibly inconsistent parental modelling results in uncertainty about both the influence and positive impact of family"*

Recommendations

As shown in the results, college students on average believed that the family does influence health. Deutsch et al. (2014) stated, "Health-related behavior is acquired, developed, maintained, and potentially changed within a family." With that quote in mind, a recommendation would be to focus on family education as a means of health promotion. By educating the family, common understanding can be gained by each family member, which leads to behaviour change and ultimately more positive health practices. This study focused on the health perception related to family influence; however, further research is needed to examine specific health habits present because of family influence, and how this influence is exerted—being perceived by their child, initiating healthy lifestyle adoption. However, the impact of this strategy overlooks the current college-age population implications.

A second recommendation is applicable in the unique context of this Christian College or similar

institutions. If low perception of family influence and positive health impacts are both associated with negative health impacts, can the unique College context provide a substitute for family influence? Provided the majority of students have experienced family modelling of positive health habits, as this data suggests, the opportunity to influence peers whose family has not portrayed positive health habits, should be proactively leveraged by engaging and informing peer-support strategies. Suitable strategies include health knowledge sharing, establishing peer expectations, and participatory health habit adoption through inclusion in healthy lifestyle activities. Students whose family interaction has limited their health adoption, can gain immediate benefit from this direct strategic intervention.

Finally, added analysis of single items and further investigation of groups, including the level of both family and peer influence, should be completed to explore interactions, and healthy lifestyle implications for young adults.

> *"further research is needed to examine specific health habits present because of family influence, and how this influence is exerted"*

Conclusion

In this study, the participating students felt their family influenced their idea of health and the majority considered their family demonstrated health habits, shaped their eating habits, shared participation in spiritual practices, and molded them to handle stress. Family life affects the entire family, including students once they leave home. Family communication and structure has been shown to affect directly young adults' health behaviours in agreement with other conclusions (Baiocchi-Wagner & Talley, 2013). Previous research emphasised the need to examine current health problems at the family level (Deutsch et al., 2014; Paredes et al., 2014; Practice Update, 2001). When familial influence was assessed among college students, implications concerning education for the family unit were more clearly understood. The specific circumstances that suggest a peer influence strategy might be an effective intervention, also emerged. Concepts of social learning provide a conceptual framework for understanding and planning change in health associated attitudes and behaviours. TEACH

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