# Preventive Health Care, Social Influence, and Demographics on Lifestyle of Taiwanese Baby Boomers

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Preventive health care information (PCHI) is a vital aspect of controlling the cost of healthcare and preventing unnecessary medical procedures. The purpose of this study is to examine how demographic variables (i.e., education, gender, age, employment status, and income level), health condition, health knowledge, and social influences (professional, peers, and family), affect lifestyle. Lifestyle is measured by a perceived lifestyle change question and a series of Likert-scale questions that are grouped into two variables, (i.e., healthy lifestyle and healthy actions). The study used data from 390 respondents in Taiwan. Both perceived health knowledge and peers were consistently found to be good predictors for all three types of lifestyle measures. Education, income level, and gender were found to be important predictors for some measures of lifestyle. Perceived health condition was found to be negatively related to healthy actions. This study confirms the importance of demographic variables, perceived health condition, perceived health knowledge, and social influence. These findings then suggest that further research is needed in order to ensure generalizability.

Keywords: Preventive Health Care Information (PHCI), healthy lifestyle, healthy actions, perceived health condition, perceived health knowledge, Taiwanese, baby boomers

## INTRODUCTION

Preventive Health Care (PHC) and Preventive Health Care Information (PHCI) programs have taught people that their involvement in personal health is increasingly important (Durra-Bergman, 2005). Preventive health care (PHC) deals with preventing illnesses so that risk factors and the burden of disease is greatly decreased. There are many levels of PHC that can be sought at any point in one's life. By applying these methods, one can decrease the risk of disease and help prevent symptoms from worsening over time

(Cho and Kim, 2021). Preventive Health Care Information (PHCI) is now widely available as consumers and businesses have become increasingly aware and concerned about the increasing cost of health care and health-related issues (Cangelosi Jr. and Markham 1994). PHCI can be distributed through a variety of ways, such as personal, professional, and peer sources, which allow the consumer to maintain confidentiality should they choose (Joseph-Shehu, et al., 2019). Professional institutions frequently provide information through health fairs (Glanz, Bader, and Iyer, 2012). Personal sources are those closest to the consumer, such as family members, neighbors, or friends. Peer sources include teachers, counselors, or clergy members.

PHCI can be useful for businesses because it allows them to ensure that their employees are taking care of their health and bodies. Depending on company size, on average, between 2.5 and 4.5 percent annual salary costs can be attributed to employees who are not there, and almost half of health claims are preventable. Consequently, businesses that encourage PCHI behaviors can decrease health claims, reduce missed workdays and thereby increase productivity (Danna and Griffin, 1999).

Many preventable deaths are caused by poor lifestyle habits that begin at an early age (Joseph-Shehu, et al., 2019, Cho and Kim, 2021). Of those deaths, 30 to 35 percent are caused by a poor diet or lack of exercise. Living an unhealthy lifestyle ultimately leads to increased health care expenses. As this has begun to be more widely known, there has been an increased interest in PCH methods and nutrition. With increased regulations on the use of tobacco, PCH has shifted its focus in order to educate the public on the benefits derived from adopting a healthy lifestyle, increasing physical activity, and eating healthy (Mokdad, 2004, Larsson, Kaluza and Wolk, 2017, Cho and Kim, 2021).

By including demographic characteristics, we can better understand the underlying information regarding lifestyle. We will be able to determine if income, gender, education, marriage, and age affect the lifestyle and adoption of a healthy lifestyle.

Therefore, the purpose of this study is to look at the relationship between perceived health and social influences are impacted by various demographic variables. This study will begin with a review of the relevant literature and research hypotheses. It will then provide a discussion of the data, its collection, and method of analysis. Study findings and conclusions are then provided.

#### LITERATURE REVIEW

#### **Demographic Analysis**

Educational Attainment: Past research has consistently found that higher levels of education are positively related to healthy lifestyle choices. For example, it has been found that those with higher levels of education are more likely to exercise (Doyle, 1989). Increased education has also been found to be related to reduced cigarette usage (Hanawi, et al., 2020). A report by The National Center for Health Statistics (2015) shows that about 25.8% of American adults with less than a High School degree smoke, while only 7.7% of those with a bachelor's degree or more smoke. Education can be related to health in terms of PHC usage, the services used, and the circumstances the information is used (Thomas, 2010). More highly educated individuals are also more likely to search for PCHI online (Cangelosi Jr., Ranelli, and Kim, 2013; Cho and Kim, 2021). This shows that more educated people believe that health care services are beneficial in relation to people with less education (Thomas, 2010).

*H1:* Persons with higher education are more likely to have a healthy lifestyle.

H2: Persons with higher education are more likely to engage in healthy actions

*H3:* Persons with higher education are more likely to change their lifestyles.

Income: Income has been shown to be a predictor of PHCI usage. Individuals with higher income have been known to use PHCI more, especially in print form (Cangelosi Jr., Ranelli, and Kim 2012), and read or utilize nutritional information (Nayga 2000). More recently, it was found that PCHI was not associated with

greater PCHI knowledge (Cangelosi Jr., Ranelli, and Kim 2010a). In a study conducted in California, it was shown that it is much harder to have a healthy lifestyle for low-income families (French, Tangney and Crane, 2019; Samuels, Craypo, Boyle, Crawford, Yancey, and Flores, 2010).

*H4:* Persons with higher income are more likely to have a healthy lifestyle

**H5:** Persons with higher income are more likely to engage in healthy actions.

*H6:* Persons with higher income are more likely to change their lifestyles.

Gender: Gender has often been a good indicator of PHCI adoption. There has been a plethora of information proving that women live longer than men (Gorman and Read 2006). This can be in part due to women having more short-term illnesses and non-fatal conditions compared to men. On average, women feel that they have to take more control of their lifestyle to help them feel or look a certain way (Ford, Spallek, and Dobson, 2008). Past research has also found that women seek out and use PHCI and the healthcare system more than men (Thomas, 2010). By seeking out more information, women will use the sources from PCHI and apply them to their lives (Cangelosi, Ranelli, and Kim, 2010a). A study found that women were more likely to make a lifestyle change in eating, going to their regular appointments, using nutrition labels, and more (Cangelosi, Kim, and Ranelli 2010b).

*H7:* Women are more likely to have a healthy lifestyle.

*H8:* Women are more likely to engage in healthy actions.

H9: Women are more likely to change their lifestyles.

Age: Some studies have found that age is the most important predictor of PHC demand and use by baby boomers (Tomas, 2010). This finding is not surprising given the size of this age group and the fact that PHCI has been shown to positively affect eating habits, and exercise, and alter one's behaviors to health-conscious ones (Cangelosi Jr., Ranelli, and Markham 2009). This finding is also supported by the fact that younger individuals already tend to be more physically active and focus on their overall wellbeing. Unfortunately, younger individuals have also been found to forego their yearly checkups and avoid going to the hospital. Compared to baby boomers, younger individuals view prevention and education as of equal importance to medical treatment and take more responsibility for their own health and wellbeing through the use of PHCI (Cangelosi Jr., Ranelli, and Kim 2012, Larsson, Kaluza and Wolk, 2017, Hanawi, et al., 2020).

*H10:* Older individuals are more likely to have a healthy lifestyle.

*H11:* Older individuals are more likely to engage in healthy actions.

*H12:* Older individuals are more likely to change their lifestyles.

Health Condition (Perceived Health): Perceived health helps one to determine their overall health status. Health can be considered how one feels emotionally and physically, but it can also include the absence of disease and injury. One can integrate their health concerns into daily decisions, such as going to the gym (Jayanti and Burns, 1998, p. 10). Individuals with higher perceived health could be seen as "wellness orientated" (Jayanti and Burns, 1998, p. 10) and would already engage in healthy activities, leaving a negative effect on lifestyle change (Dutta-Bergman, 2005, Larsson, Kaluza and Wolk, 2017, Cho and Kim, 2021).

- *H13:* People with higher perceived health are more likely to have a healthy lifestyle.
- *H14:* People with higher perceived health are more likely to engage in healthy actions.
- *H15:* People with higher perceived health are more likely to change their lifestyle.

Health Knowledge (Perceived Knowledge): Health knowledge level concerns the perceived amount of knowledge that people perceive themselves to have about their overall health and wellbeing (Petty and Cacioppo, 1986). This knowledge level can influence PHC Seeking Behavior and further influence one's overall lifestyle and healthy actions. If an individual feels they are more knowledgeable about their health, they may be more likely to adopt a healthy lifestyle or engage in healthy actions (Petty and Cacioppo, 1986). However, the inverse may also be true because people with higher levels of health knowledge may be less likely to change their lifestyle because they already feel they integrate their knowledge into their day-to-day lifestyle (Dutta-Bergman, 2005, Larsson, Kaluza and Wolk, 2017; Tan, et al., 2021).

- *H16:* People with higher perceived knowledge are less likely to have a healthy lifestyle.
- H17: People with higher perceived knowledge are less likely to engage in healthy actions.
- H18: People with higher perceived knowledge are less likely to have a lifestyle change.

Social Influences

Personal Influences: Personal influences include spouse, parents, children, relatives, and friend(s). These influences can affect the type of lifestyle that one leads because they influence the way that one can live (Smith and Schultz, 2011). This is especially significant with a spouse, parents, or children because they value the opinion and will adopt their lifestyle to be liked (Deutsch and Gerard, 1955). If one's relatives are eating healthy, they are likely to adopt the same lifestyle in order to be liked (Chen, Nadler, Yang, and Cherry, 2019, Hanawi, et al., 2020; Tan, et al., 2021).

- H19: Personal influences are more likely to have an impact on a healthy lifestyle.
- **H20:** Personal influences are more likely to have an impact on adopting healthy actions.
- **H21:** Personal influences are more likely to have an impact on a lifestyle change.

Peer Influences: Peer influences include teachers, counselors, co-workers, clergy, employers, and neighbors. Having peers that lead a healthy lifestyle will assist one in attaining one of their own (Smith and Schultz, 2011). Peers are those ones who will spend time with the most so having these influences positively affect a healthy lifestyle will positively affect one's health (Chen, Nadler, Yang, and Cherry, 2019, Hanawi, et al., 2020).

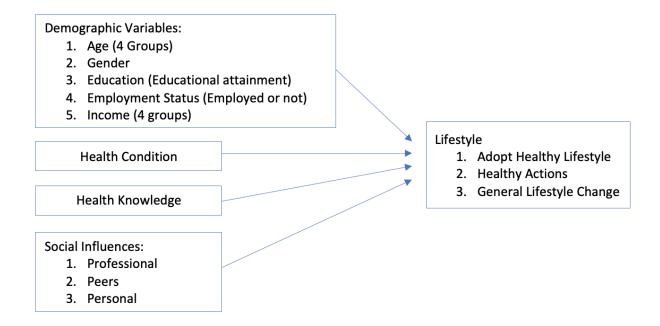
- *H22:* Peer influences are more likely to have an impact on the adoption of a healthy lifestyle.
- **H23:** Peer influences are more likely to have an impact on the adoption of healthy actions.
- *H24:* Peer influences are more likely to have an impact on a lifestyle change.

Professional Influences: Professional influences include physicians, nurses, pharmacists, and dieticians. These influences are the most knowledgeable in the health field. Having these influences should have a positive effect on one's lifestyle because they are able to assist them in finding activities that work best for them (Chen, Nadler, Yang, and Cherry, 2019; Joseph-Shehu, et al., 2019; Tan, et al., 2021).

- *H25:* Professional influences are more likely to have an impact on the adoption of a healthy lifestyle.
- *H26:* Professional influences are more likely to have an impact on the adoption of healthy actions.
- **H27:** Professional influences are more likely to have an impact on the adoption of lifestyle changes.

In addition to examining individual hypotheses, this study proposes a framework (see Figure 1). The model will include demographic variables, health conditions, health knowledge level, and social influences as independent variables. The dependent variable will have three different measures: adopting a healthy lifestyle, healthy actions, or a lifestyle change.

# FIGURE 1 RESEARCH MODEL



### DATA AND METHODOLOGY

The many PHCI items in the survey instrument were adapted from a series of studies done by Cangelosi et al. (2010). Following the original study, simple modifications were made, which included adding additional questions related to lifestyle and lifestyle behaviors. Respondents in Taiwan use Mandarin Chinese. A translation of the survey instrument was necessary. The survey instrument was developed using the standard translation back translation format. A pilot study was then conducted and consisted of 25 experts and Baby Boomers who read Chinese. Many PHC or PHCI items were in the original survey instrument that has historically been found to possess good reliability and validity and has been used in a number of other studies in the USA.

Data for this study were collected in Taipei City and New Taipei City in Taiwan. Graduate students targeted Baby Boomers at large retirement homes or parks in which they were known to frequent to collect data for this convenience sample. The data collection effort produced 390 usable responses.

The data were assessed for normality and outliers through univariate analysis. Following this analysis, a correlation analysis was conducted to assess health conditions, perceived knowledge in PCHI, and the hypothesized importance of the demographic variables. Influences of using PCHI and social media for PCHI were studied similar to McKinzie, Chen, and Cangelosi (2016). An index of the types of social

influences was constructed based on previous studies in order to examine the relationship between the three lifestyle factors.

# **Findings**

The results of the analysis are demonstrated below.

TABLE 1 FREQUENCY DISTRIBUTIONS OF DEMOGRAPHIC BACKGROUND

Variables	Classification of variables	Frequency	Percent	Mean	Std. Dev.
Gender	Female	148	37.9	.62	.486
	Male	242	62.1		
	Total	390	100		
Age	50-54	128	32.8	2.22	1.046
	55-60	102	26.2		
	60+	160	41		
	Total	390	100		
Education	Less than High				
Education	School	48	12.3	3.60	1.474
	High School	111	28.5		
	Associates Degree	88	22.6		
	College Degree	33	33.3		
	Advanced Degree	12	3.1		
	Missing	1	0.3		
	Total	390	100		
Employment	Employed	236	60.5	.61	.489
	Unemployed	154	39.5		
	Total	390	100		
Income	Less than \$30K NTD	163	41.8	2.0577	1.09872
	\$30K – \$45K NTD	89	22.8		
	\$45K – \$60K NTD	73	18.7		
	\$60K and up	56	14.4		
	Missing	9	2.3		
	Total	390	100		

<sup>\*</sup>The exchange rate for NTD is 1 USD = 30 NTD

Table 1 shows the demographic profiles of the 390 survey respondents. Among the respondents, 148 (or 37.9%) are female, and 242 (or 62.1%) are male. The respondents over the age of 60 contributed the most at 41%, followed by the 50-54 age group at 32.8%, with the 55-60 age group contributing the least at 26.2%. Education can be broken down into five groups, less than High School (12.3%), High School (28.5%), Associates Degree (22.6%), College Degree (33.3%), and Advanced Degree (3.1%). About 60.5%

of the respondents were employed either full-time or part-time while 39.5% were unemployed or retired. The majority of respondents made less than 30,000 NTD (1,000 USD) (41.8%), followed by 30,000-45,000 NTD (1,000-1,500 USD) (22.8%), then 45,000-60,000 NTD (1,500-2,000 USD) (18.7%), and the fewest in the highest bracket of 60,000 NTD (2,000 USD) and up (14.4%).

TABLE 2 ALPHA'S, MEANS, AND STD. DEVIATIONS OF A HEALTHY LIFESTYLE AND HEALTHY ACTIONS

Variables	# Items	Alpha	Mean	Std.
Healthy Lifestyle	11	.928	5.0373	.72850
Healthy Actions	4	.845	4.2798	1.0507

Lifestyle was measured via 15 Likert scale items and can be separated into two categories: healthy lifestyle and healthy actions. Cronbach alphas were used to determine reliability (see Table 2). There were 11 items in the lifestyle category. The alpha was found to be .928 (see Table 2). The items included within healthy lifestyle change my eating habits, never started smoking or greatly reduced or quit, scheduled periodic checkups with the family physician, made regular use of nutrition labeling, engaged in stress reduction exercises, changed my sleeping habits, and lost weight, change my social life, engaged in regular exercise, consuming less alcohol, changed my work habits.

In the healthy actions category, there were four items. The alpha was found to be .845 (see Table 2). The items contained within healthy actions join a health club or wellness center, attending health fairs and/or seminars, buying medicine or supplement food, and affecting treatment choices.

Relatively, people are more likely to engage in a healthy lifestyle and less likely to engage in healthy actions (e.g., participate in health clubs, attend health fairs/workshops, buy supplements, etc.) as these things may not be affordable to all baby boomers in Taiwan. The lower mean (4.28) for healthy actions, compared to the higher level of the mean (5.04) for a healthy lifestyle can reflect this phenomenon in Taiwan (see Table 2). Taiwanese are more likely to engage in a healthy lifestyle than healthy actions.

TABLE 3
ALPHA'S, MEANS, AND STD. DEVIATIONS OF SOCIAL INFLUENCES

Variables	# Items	Alpha	Mean	Std.
Personal	5	.860	3.3786	.61584
Professional	4	.921	2.5984	.61749
Peers	6	.860	3.1266	.64498

Social influence variables were measured by 15 Likert scale items and can be separated into three categories: Family, Professional, and Peers. To ensure reliability, we conducted a Cronbach alphas analysis and which was used and presented in Table 3.

There were five items in the family category which yielded an alpha of .860 (see Table 3). The items contained within the personal category are spouse, parents, children, relatives, and friend(s). There were four items in the professional category. The alpha was found to be .921. The items included within the professional category are physician, nurse(s), pharmacist, and dietician. There were six items in the peer category. The alpha was found to be .860. The items included within the peer category are teachers, counselors, co-workers, clergy, employers, and neighbors.

TABLE 4
PEARSON CORRELATION ANALYSIS

	1	2	3	4	5	9	7	8	6	10	12	13
1. Age (4 groups)	1											
2. Education	-0.089											
3. Employment	411**	.205**										
4. Gender	-0.046	225**	113*	1								
5. Income (4 Groups)	130*	.398**	.401**	336**	1							
6. Perceived Health	0.014	0.087	.158**	-0.046	0.078	П						
7. Perceived Knowledge	-0.022	.190**	0.022	.123*	0.043	.142**	П					
8. Personal	0.043	0.05	-0.012	-0.021	-0.045	0.067	0.065	П				
9. Professional	-0.047	.143**	-0.003	.124*	-0.009	-0.003	.147**	.335**	1			
10. Peers	-0.013	.177**	0.079	0.04	0.072	.133**	.106*	.564**	.429**			
11. Healthy Lifestyle	-0.036	.198**	.119*	.200**	0.05	.101*	.340**	.293**	.293**	.364**		
12. Healthy Actions	-0.029	.194**	0.077	0.092	.120*	-0.002	.267**	.224**	.230**	.329**	**599.	1
13. Lifestyle change	.122*	104*	-0.019	-0.074	-0.096	-0.019	360**	164**	174**	186**	448**	405**
** Correlation is significant at the 0.01 level	ant at the 0 (	Ol level										

\*\* Correlation is significant at the 0.01 level \* Correlation is significant at the 0.05 level

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Table 4 shows the Pearson correlation coefficients and significance levels among demographic variables, health knowledge and condition, social influences, and lifestyle and its changes. It was found that education, employment, gender, perceived health, perceived knowledge, personal influences, professional influences, and peer influences are statistically related to having a healthy lifestyle. Education, income, perceived knowledge, personal influences, professional influences, and peer influences are statistically related to healthy actions. Age, education, perceived knowledge, personal influences, professional influences, peer influences, lifestyle, and healthy actions are all statistically related to making changes to decision making.

Regarding relationships among independent variables, we found that education, perceived health, perceived knowledge, family influences and professional influences all proved to be correlated with peer influences. Education, gender, perceived knowledge, and family influences all proved to be correlated with professional influences. No variables proved to be related to personal influences. Education, gender, and perceived health all proved to be correlated to perceived knowledge.

## TABLE 5 SUMMARY OF STUDY HYPOTHESES

H1: Persons with higher education are more likely to have a healthy lifestyle.	Sig.
H2: Persons with higher education are more likely to engage in healthy actions.	Sig.
H3: Persons with higher education are more likely to change their lifestyles.	Sig.
H4: Persons with higher income are more likely to have a healthy lifestyle.	N. S.
H5: Persons with higher income are more likely to engage in healthy actions.	Sig.
H6: Persons with higher income are more likely to change their lifestyles.	N. S.
H7: Women are more likely to have a healthy lifestyle.	Sig.
H8: Women are more likely to engage in healthy actions.	N. S.
H9: Women are more likely to change their lifestyles.	N. S.
H10: Older individuals are more likely to have a healthy lifestyle.	N. S.
H11: Older individuals are more likely to engage in healthy actions.	N. S.
H12: Older individuals are more likely to change their lifestyles.	Sig.
H13: People with higher perceived health are more likely to have a healthy lifestyle.	Sig.
H14: People with higher perceived health are more likely to engage in healthy actions.	N. S.
H15: People with higher perceived health are more likely to adopt lifestyles.	N. S.
H16: People with higher perceived knowledge are less likely to have a healthy lifestyle.	Sig.
H17: People with higher perceived knowledge are less likely to engage in healthy actions.	Sig.
H18: People with higher perceived knowledge are less likely to adopt changes in lifestyle.	Sig.
H19: Personal influences are more likely to have an impact on a healthy lifestyle.	Sig.
H20: Personal influences are more likely to have an impact on adopting healthy actions.	Sig.
H21: Personal influences are more likely to have an impact on a lifestyle change.	Sig.
H22: Peer influences are more likely to have an impact on a healthy lifestyle.	Sig.
H23: Peer influences are more likely to have an impact on adopting healthy actions.	Sig.
H24: Peer influences are more likely to have an impact on a lifestyle change.	Sig.
H25: Professional influences are more likely to have an impact on a healthy lifestyle.	Sig.
H26: Professional influences are more likely to have an impact on adopting healthy actions.	Sig.
H27: Professional influences are more likely to have an impact on a lifestyle change.	Sig.

The findings provided in Table 5 provide important implications for future research. Education was found to be significant in all three hypotheses, healthy lifestyle, healthy actions, and change in lifestyle. Income only has an impact on healthy actions and does not affect a healthy lifestyle or lifestyle change. This finding is intuitive because it takes money to join the club, buy supplements and etc. Age is not

statistically significant for a healthy lifestyle or healthy actions. But age has a positive impact on changes in lifestyle.

A perceived health condition or self-assessed health condition was found to be significantly related to a healthy lifestyle. The positive coefficient signifies that perceived health conditions and a healthy lifestyle are positively related. For example, those who perceive themselves to be healthier are more likely to adopt a healthy lifestyle. But the self-assessed health condition does not affect healthy actions or changes in lifestyle.

Perceived health knowledge was found to be significantly related to all three dependent variables. It means that those who have a higher level of health knowledge are more likely to engage in a healthy lifestyle, healthy actions, as well as lifestyle changes. It supports the importance of PHC and PHCI. The level of PHC or PHCI will affect a healthy lifestyle, healthy actions, and changes in lifestyle.

For hypotheses 19 to 27, it was found that all types of social influences, i.e., personal, peer, and professional, significantly affect a healthy lifestyle, healthy actions, and changes in lifestyle. Baby boomers in Taiwan, in general, will change or adopt healthier lifestyles or actions because they listen to their friends, personal, peers, or professional sources.

TABLE 6 STEPWISE REGRESSION ANALYSIS COMPARISON

	Healthy Lif	<u>estyle</u>	Healthy Act	ions_	Lifestyle Cha	inge
Model	β	t	β	t	β	t
(constant)	2.031	7.608**	1.819	4.950**	4.815	13.750**
Employment	.169	2.465*				
Gender	.228	3.244**				
Education	.074	3.390**	0.088	2.452*		
Age					0.103	2.148*
Perceived Health			160	2.213*		
Perceived Knowledge	.368	5.373**	.460	4.317**	769	-7.534**
Personal Influences	.161	2.401*				
Peer Influences	.217	3.343**	.494	6.115**	220	-2.856**
Professional Influence	.123	1.968*				
R squared	.3	19	.18	7	.1	80

<sup>\*</sup> Level of significance at 0.05.

To simplify the results, we used stepwise regression analysis to predict the dependent variables based on the major constructs which were highly correlated. In this study, three different stepwise regression models were applied: healthy lifestyle, healthy actions, and lifestyle change.

The analysis of the healthy lifestyle model shows that employment, gender, education, perceived knowledge, personal influences, peer influences, and professional influences all affect the respondents' adoption of a healthy lifestyle. To predict a healthy lifestyle, we found three demographic variables, i.e., employment, education, and female. Baby boomers with full-time employment status, higher educational attainment, and are female are more likely to have a healthy lifestyle in Taiwan. Social influences from

<sup>\*\*</sup> Level of significance at 0.01

family, close friends and peers also affect the adoption of a healthy lifestyle in Taiwan. In addition, health knowledge also plays a major role here. These independent variables explain 31.9 percent of the variance of the healthy lifestyle.

In the healthy actions model, education, perceived health, perceived knowledge, and peer influences were found to affect healthy actions. The R-square was found to be 18.7 percent. One interesting finding is that perceived health negatively affects healthy actions. This could be in part due to those that perceive that they are healthier believing that they do not need to engage in healthy actions because they already engage in a healthy lifestyle.

In the lifestyle change model, age was the only demographic variable found to be statistically significant. Peer influence and perceived knowledge were also found to affect lifestyle change. This model has an R-square of 18%. One interesting finding is that peers and perceived knowledge negatively affect a lifestyle change. Peers can negatively affect a lifestyle change because one may feel pressured to continue the life they are already living or because their peers do not engage in a healthy lifestyle. When they are together, they will not engage together. Perceived knowledge can negatively affect a lifestyle change because if one feels that they have higher perceived knowledge, they may not feel that it is necessary to have a lifestyle change.

When given the option to determine which variables are best in the healthy lifestyle model, income and age were no longer significant. In terms of the demographic variables, only education, gender, and employment were found to be accurate predictors of a healthy lifestyle. However, these three demographic variables are not good predictors for the healthy action and lifestyle change models. For the healthy actions model, only education is statistically significant. One finding of particular note is that while education and income are highly correlated, the final model indicates that education is more important than income in relation to healthy action. For the model of lifestyle change, the only demographic variable identified as significant was age. This finding indicates that only older baby boomers in Taiwan are willing to change their lifestyles.

Perceived knowledge was shown to be important to a healthy lifestyle and healthy actions. It is statistically significant in the Pearson correlation analysis and also stayed in the regression model. Additionally, it is found that the perceived level of health information has a negative impact on a lifestyle change. This finding then implies that baby boomers with higher levels of PHC and PHCI are more likely to engage in a healthy lifestyle and healthy actions. Furthermore, since these baby boomers already engage in healthy lifestyles, they are also less likely to change their lifestyles.

The perceived health condition of respondents was found to be important with healthy actions but not with a healthy lifestyle or lifestyle change. This finding implies that self-assessed healthy people are not interested in healthy lifestyles or changes in lifestyle. Moreover, there is a negative relationship between two variables which means that those who assess themselves to be healthier are less likely to engage in healthy actions such as joining a health club or buying supplements.

All of the social influences were found to be highly correlated with each other, and thus, the professional influences were dropped from the model despite them showing importance in the correlation matrix. Interestingly, peers and personal influences were found to be more important than health professionals. This finding, while contrary to expectation, may be due to the more frequent contact that respondents have with peers and/or family and friends than professionals. Peer influences, in general, are relatively more important factors for explaining a healthy lifestyle, healthy actions, and lifestyle changes.

#### **CONCLUSION**

Overall, employment, education, and gender are more likely to affect a healthy lifestyle, while income was found to be more important in healthy actions. Peer influences were found to be important in all models as well. This in part, could be due to the peer influences being the ones that are encouraging healthy behaviors. Perceived knowledge was also found to be important in all three models but has a negative effect on a negative lifestyle change. This could be in part to do with the more one knows, the more likely they

will be to engage in a healthy lifestyle or healthy actions, but when they feel like they know more, they will not engage in lifestyle changes beyond a certain point.

In our study, it is clear that PHC and PHCI are important and affect a healthy lifestyle, healthy actions, or changes in lifestyle for baby boomers in Taiwan. More studies need to be done to explain the real impacts of perceived healthy condition, perceived health knowledge level, and PHCI-seeking behavior on lifestyle and its changes. We hope to encourage more interest and studies in PHC, PHCI, and its impacts on lifestyle.

#### REFERENCES

- Ayers, S.L., & Kroenfield, J.J. (2007). Chronic illness & health-seeking information on the internet. Health: An Interdisciplinary Journal for the Study of Health, Illness & Medicine, 11, 327–347.
- Benjamin, R. (2011). The National Prevention Strategy: Shifting the nation's healthcare system. *Public Health Reports, US Surgeon General*, 126(6), 774–776. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3185312
- Cangelosi, J.D., Jr., Ranelli, E., & Kim, D. (2010a). The distribution of preventive health care information. *International Journal of Business Disciplines*, 21(2), 69–78.
- Cangelosi, J.D., Jr., Ranelli, E., & Kim, D. (2010b). The assessment of face-to-face preventive health care sources. *International Journal of Social Health Information Management*, *3*(4), 31–43.
- Cangelosi, J.D., Jr., Ranelli, E., & Kim, D. (2012). Delivering preventive health care information to more versus less health-oriented consumers: A comparative demographic analysis. *Atlantic Marketing Journal*, 1(1), 65–78.
- Cangelosi, J.D., Jr., Ranelli, E., & Kim, D. (2013). Preventive health care information delivery systems: Is social media relevant? *Atlantic Marketing Journal*, 2(2), 2–13.
- Cangelosi, J.D., Jr., Ranelli, E., & Voss, D. (2009). Demographic correlates of preventive health care attitudes & lifestyle patterns. *International Journal of Business Disciplines*, 20(1),15–25.
- Cangelosi, J.D., Jr., Ranelli, E., Markham, F.S. (1994). A descriptive study of personal, institutional, & media sources of preventive health care information. *Health Marketing Quarterly*, *12*(1), 23–36.
- Cangelosi, J.D., Jr., Ranelli, E., Markham, F.S. (2009). Who is making lifestyle changes due to preventive health care information? A demographic analysis. *Health Marketing Quarterly*, 26(2), 69–86.
- Chen, A., Nadler, S., Yang, H., & Cherry, D. (2019, March 13–16). Preventive health care information influences & behavioral changes. In *The Proceeding of Fiftieth Annual Conference of Southwest Decision Sciences Institute* (pp. 1441–1449). Houston, Texas.
- Cho, S., & Kim, S. (2021). Does a healthy lifestyle matter? A daily diary study of unhealthy eating at home & behavioral outcomes at work. *Journal of Applied Psychology*. Advance online publication. https://doi.org/10.1037/apl0000890. Retrieved October 25, 2021.
- Danna, K., & Griffin, R.W. (1999). Health & wellbeing in the workplace: A review & synthesis of the literature. *Journal of Management*, 25(3), 357–384.
- Deutsch, M., & Gerard, H.B. (1955), A study of normative & informative social influences upon individual judgement. *Journal of Abnormal Social Psychology*, *51*, 629–636.
- Doyle, T.B. (1989). Survival of the fittest. American Demographics, 11, 38–41.
- Dutta-Bergman, M.J. (2005). The relation between health-orientation, provider-patient communication & satisfaction: An individual-difference approach. *Health Communication*, 18(3), 291–303.
- Emmons, K.M., Barbeau, E.M., Gutheil, G., Stryker, J.E., & Stoddard, A.M. (2007). Social influences, social context & health behaviors among working-class, multi-ethnic adults. *Health Education & Behavior*, *34*(2), 315–334.
- Ford, J., Spallek, M., & Dobson, A. (2008). Self-rated health & a healthy lifestyle are the most important predictors of survival in elderly women. *Age & Aging*, *37*(2), 194–200.
- Fox, S. (2013, June). After Dr. Google: peer-to-peer health care. Pew Research Center's Internet & American Life Project. *Pediatrics*, *131*(4). Retrieved from https://pediatrics.aappublications.org/content/131/Supplement\_4/S224

- French, S.A., Tangney, C.C., & Crane, M.M. (2019). Nutrition quality of food purchases varies by household income: The shopper study. *BMC Public Health*, *19*(231). https://doi.org/10.1186/s12889-019-6546-2
- Gorman, B.K., & Read, J.G. (2006). Gender disparities in adult health: An examination of three measures of morbidity. *Journal of Health & Social Behavior*, 47(2), 95–110. Retrieved from http://www.jstor.org/stable/30040304
- Hanawi, S.A., Saat, N.Z.M., Zulkafly, M., Hazlenah, H., Taibukahn, N.H., Yoganathan, D., . . . Low, F.J. (2020). Impact of a healthy lifestyle on the psychological well-being of university students. *International Journal of Pharmaceutical Research & Allied Sciences*, 9(2), 1–7.
- Hofstede, G. (2001). *Culture' Consequences: Comparing Values, Behaviors, Institutions & Organizations Across Nations* (2<sup>nd</sup> edition). Beverly Hills, CA: Sage.
- Hsiao, C. (2003). *Analysis of Panel Data* (Vol. 54). Cambridge, UK: Cambridge University Press. IBM Corp. 2013. IBM SPSS Statistics for Windows. Armonk, NY: IBM Corp. Luth Research. Luth Research Newsletter. Retrieved from www.luthresearch.com
- Hyattsville, M.L., & Nayga, R.M. (2000). Nutrition knowledge, gender, & food label use. *Journal of Consumer Affairs*, 34(1), 97–112.
- Jayanti, R.K., & Burns, A.C. (1998). The antecedents of preventive healthcare behavior: An empirical study. *Academy of Marketing Science Journal*, 26, 6–15.
- Joseph-Shehu, E.M., Ncama, B.P., Mooi, N., & Mashamba-Thompson, T.P. (2019). The use of information & communication technologies to promote healthy lifestyle behaviour: A systematic scoping review. *BMJ Open*, *9*, e029872. doi: 10.1136/bmjopen-2019-029872. Retrieved October 25, 2021.
- Keeney, R.L. (2008) Personal decisions are the leading cause of death. *Operations Research*; Linthicum, 6, 1335–1347, 1555.
- Larsson, S.C., Kaluza, J., & Wolk, A. (2017). Combined impact of healthy lifestyle factors on lifespan: Two prospective cohorts. (Karolinska Institutet, Stockholm, Sweden; Warsaw University of Life Sciences-SGGW, Warsaw, Poland). *Journal of Internal Medicine*, 282, 209–219.
- Manzoli, L., Villari, P., Pirone, G.M., & Boccia, A. (2007). Marital status & mortality in the elderly: A systematic review & meta-analysis. *Social Science & Medicine*, 64(1), 77–94.
- McKinzie, K., Chen, A., Cangelosi, J.D., Jr., & Li, M.F. (2016). Health Information media used by baby boomers in Taiwan. *Quarterly Review of Business Disciplines*, 3(3), 175–194.
- Meyers, L.S., Gamst, G., & Guarino, A. (2013). *Applied Multivariate Research: Design & Interpretation* (Second ed.). Thousand Oaks, CA: SAGE Publications, Inc.
- National Center for Health Statistics. (2015). *Health*. United States, 2014: With special features on adults aged, 55–64.
- Petty, R.E., & Cacioppo, J.T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Psychology*, *19*, 123–205.
- Ryan, S., Riley, A., Kang, M., & Starfield, B. (2001). The effects of regular sources of care & health need on medical care use among rural adolescents. *Archives of Pediatrics & Adolescent Medicine*, 155(2), 184–190.
- Samuels, S., Craypo, L., Boyle, M., Crawford, P., Yancey, A., & Flores, G. (2010). A California endowment's healthy eating, active communities program: A midpoint review. *American Journal of Public Health*, 100(11), 2114–2123.
- Satcher, D., & Higginbotham, E. (2008). The public health approach to eliminating disparities health. *American Journal of Public Health*, *98*(3), 400–403.
- Smith, J.R., Louis, W.R., & Schultz, P. (2011). Introduction: Social influence in action. *Group Processes & Intergroup Relations*, 14(5), 599–603.
- Tai-Seale, M., McGuire, T., & Zhang, W. (2007). Physician & time allocation in primary care office visits. *Health Services Research*, 42(5), 1871–1894.
- Tan, B.C., Lau, T.C., Sarwar, A., & Khan, N. (2021). The effects of consumer consciousness, food safety concern & healthy lifestyle on attitudes toward eating "green". *British Food Journal*, Vol. ahead-

- of-print No. ahead-of-print. Retrieved October 25, 2021. https://doi.org/10.1108/BFJ-01-2021-0005
- Tu, H., & Cohen, G. (2008). Striking Jump in consumers seeking health care information. *Center for Studying Health System Change*, 20, 13–15.
- Wu, T., Majeed, A., & Kuo, K. (2010). An overview of the healthcare system in Taiwan. *London Journal of Primary Care*, *3*, 115–119.
- Yen, S., Kung, P., & Tsai, W. (2014). Factors associated with free adult preventive health care utilization among physically disabled people in Taiwan: nationwide population-based study. *BMC Health Services Research*, *14*, 610. Retrieved from http://www.biomedcentral.com/1472-6963/14/610