Clinical and Experimental Psychology

Kibret, Clin Exp Psychol 2016, 2:1
DOI: 10.4172/2471-2701.1000113

Research Article Open Access

Health-Related Behaviors, Health Consciousness and Psychological Wellbeing among Teaching Faculty in Jimma University, Ethiopia

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Abstract

This study examined the health consciousness, health-related behaviors and psychological wellbeing of a sample of 110 teaching faculty at Jimma University. A structured questionnaire was used to generate primary data. Descriptive statistics, multiple regression and partial correlation analysis were conducted to determine the independent and combined contributions of health-related behaviors and health consciousness in predicting psychological wellbeing. It was found that in tune with our expectations, most participants had proper health-related behaviors, paid attention to their personal health and had a high sense of psychological wellbeing. Furthermore, it was noted that health-related behavior was a statically significant independent predictor of psychological wellbeing. It looks that health-related behavior and health consciousness were influencing optimal functioning and development at one's true and highest potential during adulthood. Further line of inquiry was also suggested.

Keywords: Health behaviors; Health consciousness; Psychological wellbeing

Introduction

Health can be viewed as a prerequisite for both individual (human) and national development [1]. Evidences suggest that poverty is directly linked to ill-health, high rate of mortality, and shorter life expectancy. Development economists suggest the need to improve health to break the vicious cycle of poverty.

In fact, the essence of health (meaning, goals, and approaches) has drastically changed over the last few years from a mere focus on the presence and absence of disease to a more inclusive definition in which promotion and prevention (instead of only curing) turned out to be the internationally sought goals as indicated in the Alma Ata Declaration of Health for All by the Year 2000 [2] and in the Ottawa Charter [3]. In these declarations, there has been a shift away from "curing disease" to the "prevention of disease" and even more fundamentally to the "promotion of health" (through such factors as appropriate diet and exercise, and the avoidance of unhealthy substances). With this shift in goals, there came as well a shift in approach from an exclusively individualized and biologically oriented strategy to one that recognizes the potential role of the social and behavioral factors in the health area [4]. Not only was the approach to attaining and promoting health redefined, but the actual definition of health, too, was also extended to mean a "state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity." The concept 'health' was understood in a new light to mean' a highly subjective experience' or 'a mental representation guiding responses to symptoms and various kinds of health threats' [5] that is 'influenced by different(biological, socio-cultural, and psychological) factors' whose enhancement is 'construed not just as a professional responsibility of health specialists but rather as the responsibility of everyone'.

These changed views have made major topics of research and application of health to focus on such positive aspects as quality of life [6], human health [7], and psychological wellbeing [8]. In fact, psychological wellbeing was basically introduced into the stalk of health literature and, as a result, has increasingly become popular and serviceable during these periods.

Psychological wellbeing is a multidimensional construct [8], an ability to live rich, meaning-full, and vital lives [8], life full with vitality and meaning [9], an optimal functioning and development of one's true and highest potential [9], and an experience that is mainly structured by the individuals' choices of life or lif style factors [5]. Health-related behavior is one such factor [5] structuring psychological wellbeing.

Health-related behavior is any overt behavior or personal attribute that either enhances or damages physical, psychological and social wellbeing now and in the future [8]; even when heredity or environment is a negative factor and vice –versa [5].That is, individual choices for life can enhance or jeopardize his/her optimal functioning and development at one's true and highest potential. About 70%-80% of the person's highest potential functioning is largely determined by the decision an individual makes about how to live his/her life [5].

These behaviors, which have important implications for psychological wellbeing, can in turn be influenced, both positively and negatively, by an individual's health consciousness [9]; i.e. an individual's awareness of health improving ventures and an understanding that one's health is dependent on the extent to which an individual takes care of himself/ herself [9]. According to Dayan, variations in health values were found to have a significant relationship with some health practices (such as substance abuse), and health status (such as better physical, but not mental, health). A number of other investigations also support the view that health- related behaviors and health-related consciousness are positively correlated with psychological wellbeing [7,9-15]. Common sense would also inform that as individuals are concerned about their

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Received: November 12, 2015; **Accepted:** December 22, 2015; **Published:** December 29, 2015

Citation: Hassen A, Kibret TB (2016) Health-Related Behaviors, Health Consciousness and Psychological Wellbeing among Teaching Faculty in Jimma University, Ethiopia. Clin Exp Psychol 2: 113. doi:10.4172/cep.1000113

health, they will have a great sense of control over one's life; a feeling of empowerment and higher self-esteem; easily adapt to changes in life and function with one's highest potential. Health conscious individual are likely to eat and sleep sensibly, get enough exercise, avoid substance abuse and get necessary medical care. These would eventually shape their psychological wellness.

There are, however, two important concerns to be raised here regarding the relationships among health consciousness, health-related behavior and psychological wellbeing. First and foremost, how are these health attributes integrated in the health profiles particularly of educated people? Evidences indicate that there is a positive association of education with health enhancing behavior practices and that learning can develop a number of psychological qualities including self-confidence, self-efficacy, self-understanding, etc. [15]. However, other research findings [17-19] and practical observations also indicate the possibility that better-educated individuals may engage in health-risking behaviors. For instance, contrary to popular beliefs that link idleness and less educated with khat consumption, a survey carried out in Addis Ababa's hub for that consumption found that a significant number of khat consumers were employed (52.8%) and educated(59.4%)or attended higher education [17]. Furthermore, though bulk of literature in the western world generally reveal that adults with high educational level and better socio-economic status engage in health enhancing habits, studies that dwelt on some common health risking habits in adulthood still indicated that many of them engage in health risking behaviors in Ethiopia [20-25].

These inconsistencies may result mainly from cultural differences. There are substantial evidences supporting that the meaning, causes and therapies of health can vary according to our beliefs, values, customs, and cultural practices [1]. The question is then given that there are lots of harmful traditional health practices in the Ethiopian cultures, that there are many instances in which cultural practices are tolerant of a number of health-endangering experiences (different kinds of local alcohols, local drugs that have come quite common today like chat, dietary preferences for meat, derogatory attitude towards exercise..), and that the greater majority of the Ethiopian people subscribe to one form of religion or another, then how far educated people develop health behaviors against these predicaments? That is, how far can we say then that education informs behavior?

In fact, research has been adequately conducted in the area of health-related behaviors; psychological wellbeing and other related concepts in the western setting. But, culture has been a major moderator in determining not only health profile but also the patterns of relationships among health variables and hence there is a need to examine these issues in a new cultural setting.

Although few studies have been attempted in Ethiopia that focus on identifying some common health risking habits and what psychological problems these habits had brought up on the participants, it seems that no attempt has been made so far to investigate the role of health – related behaviors and health consciousness in explaining psychological wellbeing. Hence, the assumption that better-educated people are health conscious and practice health enhancing behaviors has not been critically examined.

This research attempts to examine this issue raising three specific questions: What is the status of health consciousness, health-related behaviors, and psychological wellbeing of the participants? How do health-related behaviors, health consciousness and psychological wellbeing correlate among themselves? And, is psychological wellbeing significantly affected by health-related behaviors, or health consciousness, or both?

Methods

Participants

This study was conducted in Jimma University, Jima Town, located in the western part of Ethiopia about 335 KM from Addis Ababa. The population consisted of a total of 990 teachers (82 Females and 908 males) working at Jimma University at the time of data collection for this project. The teaching faculty who were on leave (255) were excluded and hence the sampling frame consisted of a total of 735 (675male & 60female) teachers. This target population was firstly stratified by gender and then 15 % of the population was randomly selected from each stratum yielding a total of 110 (101males & 9 females) participants. Table 1 presents the distribution of the population and sample by faculty and gender.

Instruments

Data were collected using a questionnaire consisting of four parts. The first part seeks to inquire about the personal background of the respondents: gender, age, qualification and work experience. The remaining three parts are scales meant to measure health-related behavior, health consciousness, and psychological wellbeing. These scales are briefly described here under.

Health-related behaviors measure: Health-related behaviors refer to habits, practices and activities or personal attributes that either enhance or put at risk the overall functioning of the participants [8] including physical, mental, and psychosocial wellbeing or any combination thereof in two directions: health behavior (or preventive health behaviors) and risk behavior (or health risk behavior). Therefore, heath-related behavior is any overt behavior or personal attribute that is considered to contribute to distal or proximal enhancement, maintenance and/or restoration of physical, mental, and social well-being and/or distal or proximal) disease prevention and vice-versa. Health- behaviors (such as exercise) are expected to enhance health and risk behaviors (such as smoking, alcohol consumption…) are expected to endanger health. Accordingly, the *'Health-Related Behaviors Measure'* includes drug-free behavior, medical checkup, stress management, safety and safe sex, physical activity, and food concern habits. It consisted of 23 items on which the participants are to rate themselves on a three point rating-type scale ranging from "most of the time" (or 3 points) to" never" (or 1 point).

Health consciousness measure*:* Health consciousness refers to the extent to which participants are concerned, involved and interested in information about their (physical, mental, emotional, and social) health. The 'Health Consciousness Measure' consisted of 20 'true' or

Faculty/college	Population			Sample		
	Male	Female	Total	Male	Female	Total
Public Health and Medical Sciences	200	27	227	30	4	34
Business and Economics	67	5	72	10	1	11
Social Sciences and Law	167	6	173	25	1	26
Engineering Sciences	114	7	121	17	1	18
Agriculture and Veterinary Medicine	67	7	74	10	1	11
Natural Sciences	60	8	68	9	1	10
Total	675	60	735	101	9	110

Table 1: Distribution of accessed population by college, gender and sample considered.

'false' statements intended to measure to what extent the participants are concerned about their health and to what extent the statements are true or false for them concerning their health consciousness.

Psychological wellbeing measure: This fourth part was meant to refer to the participants' meaningful engagement in life, self- realization or participants' optimal psychological functioning and development at one's true highest potential. This psychological wellbeing is operationalized in terms of six dimensions: *'autonomy'*(capacity to be self-determined and independent, even if it means going against conventional wisdom), *'environmental mastery'* (capacity to manage everyday life circumstances and create a surrounding context that fits with personal needs and values), *'self-acceptance'* (positive attitude towards the self, acknowledge everything constituting the self and acceptone's good and bad qualities), *'purpose in life'* (sense of direction in life and seeing meaning in one's present and past life), *'personal growth'* (feelings of continued development, viewing the self as growing and expanding, and openness to new experiences), and *'positive relationship with others'* (interpersonal wellbeing-having close, satisfying ties with others). Each of these six dimensions consisted of 14-items assessing unique dimensions of psychological wellbeing. Hence, the 'Psychological Wellbeing Measure' consisted of a total of 48 items to be rated on a five point scale that ranges from 1 (= strongly disagree) to 5(= strongly agree).

Procedures

The procedures followed in constructing, validating, administering, coding and analyzing data are briefly discussed here under.

Construction: While the 'Psychological Wellbeing Measure' was adopted from Psychological Wellbeing Scale originally developed by the other measures were assembled by the researchers based on relevant content reviewed in the literature and the ensuing operationalization of variables contained thereof.

Validation: The procedure of validation was that the pool of items (29 questions for health-related behaviors, 57 questions for psychological wellbeing and 19 questions for health consciousness) were subjected to experts' judgment for content relevance, cultural sensitivity, item overlaps, and clarity. Eight graduate students and an assistant professor of psychology were the professionals used to constitute the panel of experts. Among many other observations, more interesting in this first phase was that the number of items was reduced by half from the original scale of psychological wellbeing. This is because there were many (about 17) statements having very close and similar meaning (e.g. I like most parts of my personality and I like most aspects of my personality). There are also some other (4) items discarded for lack of clarity and related-other problems. Comments on the other two scales given by the panel of experts were also accommodated and a draft booklet was prepared for the second phase of validation. That is, based on the result of the experts' ratings, 25 questions for health-related behaviors, 53 questions for psychological wellbeing and 22 questions for health consciousness (three items being suggested by the panel for inclusion) were generally made ready for a pilot test or pretest. This pretest was conducted in order to improve clarity of items, determine time needed for administration and also check the reliability of the scales. The data for the pilot study was collected from a sample of 27 randomly selected postgraduate students in Addis Ababa University who were working as lecturers in different regional universities of the country at the time of piloting.

After administration of the scales, item analysis was conducted by computing item-total correlations. This computation yielded that out of 25 items measuring health-related behaviors, 2 items having less contribution to the final correlation were eliminated. Similarly, out of 53 items measuring psychological wellbeing, 5 items were discarded. In the same way, from the total 22 items measuring health consciousness, 2 were eliminated. In all cases, the elimination and modification was done based on item total correlation results. Items with less than 0 .15 item total correlation were either modified or dropped. Then finally, Chronbach alpha reliability was computed for each of the three sub-scales (see Table 2) generally yielding indices that appear fairly comparable (with the original scale for Psychological wellbeing) and very well acceptable.

Administration: The administration of the final version of the scales followed the following procedures:

(a) Three 3rd year students were selected from Jimma University as assistant researchers. Their roles were to assist the researcher during the distribution and collection of the questionnaire to and from the participants.

(b) Orientation was given to the research assistants to enable them understand the purpose of the study and clarify procedures and directions.

(c) Before the distribution of the questionnaire, respondents were briefed orally about the purpose of the study.

(d) The instruments were filled in and returned within two weeks of administration and the response rate was 100 %.

Coding: Items were scored in such a way that positive responses to statements indicating desired (behavior, consciousness, and wellbeing) possessions (e.g., "My decisions are not usually influenced by what everyone else is doing, "I am good at managing the responsibilities of daily life") were keyed to take highest scores and vice versa. Hence, higher scores indicate higher better health behavior, consciousness, and psychological wellbeing.

Data analysis: The following statistical techniques were employed to analyze the coded data: First, descriptive statistics was used to determine the magnitude of healthy behavior, health consciousness and psychological wellbeing. This was then followed by a One-Sample mean test to determine the significance of the levels identified. Once the significance of the levels of occurrence of the three measures is determined, then ate to compare and contrast the three measures through product-moment correlation analysis. One sample mean test/ chi square for goodness of fit to check level of their health behavior, consciousness, and psychological wellbeing. Finally, using this bivariate correlation indices as an input, further advanced analysis was made to determine the combined (regression analysis) and independent (partial correlation) contribution of Health-related behaviors and consciousness in predicting psychological wellbeing.

Findings

Background characteristics of participants

Before presenting the results of this study, we need to show the background characteristics of the participants involved as data sources. Table 3 has these background characteristics to show. Note in this table that all the colleges are represented in the sample including those having teaching faculty from health sciences and are expected in principle to be health conscious and adopt healthy life styles. All participants are with a minimum of first degree, more than five years of teaching experience, and a mean age of 32 years. Gender-wise, female participants were very small showing in fact that the University is as yet male-dominated. It

Measures	Number of items	Cronbach alpha
'Health-Related Behaviors' Scale	25	0.77
'Health Consciousness' Scale	22	0.82
"Psychological Wellbeing' Scale	55	0.74

Table 2: Reliability indices (Cronbach alpha) of the three measures.

Factors	Categories of factors	Freq.	Percent
College/ faculty	Public Health and Medical Sciences	34	31
	Business and Economics	11	10
	Social Sciences and Law	26	24
	Engineering Sciences	18	16
	Agriculture, Veterinary Medicine	11	10
	Natural Sciences	10	9
Qualification	BA	45	41
	MA and above	65	59
Teaching Experiences	1-5	66	60
	6-10	28	25
	>11	16	15
Gender	Female	9	8
	Male	101	92
Age of participants	Minimum	20	
	Maximum	54	
	Mean	31.86	
	Std.	7.88	

Table 3: Background characteristics of respondents.

can also be noted that about a third of them are from Public Health and medical Sciences followed by the second highest (24%) group from Social Sciences and Law. The rest 35% constitute Engineering, Agricultural, and Natural sciences.

Status of participants on health-related behaviors, health consciousness and psychological wellbeing

The responses summarized on Table 4 indicate that the mean ratings on all sub-variables and variables are higher than the expected mean (which is in the middle of the rating scale, i.e. "sometimes or 2") except for exercise; in fact medical checkup is not also meaningfully above from the expected mean. The total mean ratings suggest that the health-related behaviors are generally well above the expected average. It has to be noted, however, that the behaviors of the respondents are below the maximum expected (i.e. a rating point of 3) rating score suggesting that there are still those who are drug users, fail to manage stress and their safety, and practice unsafe sex. We shall discuss next these issues separately for each measure. To begin with health-related behaviors, Table 4 presents the summary of responses of participants on seven specific domains of health behaviors. Participants have displayed mean ratings that are significantly well above the expected mean (Mean=1.5)in the overall health-related behavior measure (t_{109} = 3.54, P<0.00) in almost all the domains of behaviors (df_{109}, P<0.05). However, there are differences in the levelsthese behaviors are contained such that physical exercise is the least and drug-free behavior is the highest to be practiced. Table 5 shows participants' score on the second variable (i.e. health consciousness). The main intention was to know the awareness participants have regarding their health. A score of 20 is expected to be the maximum, while 10 is the mean and 0 is the minimum.

As indicated on Table 5, more than 65% of the participants are with affirmative responses to about 14 of the 20 items. To site some of the extreme cases, about 85% of participants are alert to change their health

Sub-domains of health-related behaviors	Statements	Most of the time	Sometimes	Never
1.Drug free behavior *(Mean=2.74)**	I smoke tobacco products (such as cigarettes, cigars or pipes)	3	5	102
	I chew khat	1	17	92
	I consume alcohol (beer, wine, katikala, Tej…)	4	60	46
	I excessively use drugs (prescription or illegal)	6	3	101
2.Medical check up *(Mean= 2.30)**	I follow up medical advice and take the medications as prescribed	78	20	12
	I check product effectiveness before buying medicines	50	50	10
	I have regular medical checkups and seek medical advice when symptoms are present	19	66	25
3.Stress management *(Mean= 2.38)**	I find time for family, friends, or things I specially enjoy	34	63	13
	I attempt to avoid stressful situations	50	58	2
	I am able to identify situations in daily life that cause stress	58	48	4
4.Safety habits *(Mean= 2.55)**	I am carefully to keep my hygiene	80	25	5
	I avoid friends who engage in risking habits	57	44	9
	I avoid places of smoking and other illegal drugs	58	48	4
5.Exercise *(Mean=1.81)**	I do exercises that elevate my heart rate	7	60	43
	I do exercise for flexibility, muscle fitness or weight control	16	72	22
6.Safe sex habits *(Mean=2.67)**	I abstain from sex or limit sexual activity to a safe partner	78	21	11
	I practice safe procedures for avoiding STD's	85	20	5
7.Proper food concerns *(Mean=2.25)**	I consume only as many calories as I expend	17	82	11
	I limit the amount of fats and cholesterol	28	62	20
	I drink more water than soft drinks	66	38	6
	I eat my meal at the right time	45	62	3
	I limit the amount of salt and sugar content	35	60	15

Grand Mean for health-related behaviors=2.40*
*P<0.05**

Table 4: Status of participants on health-related behaviors (N=110).

by taking preventive measures, 87% were interested in information about health and pay attention to their health before they get sick, and the greater majority know that alcohol even in small amount (56%), khat chewing (86%) and smoking (92%) are bad for health and also know that those health enhancing habits such as exercise (74%), paying attention for food (69%) and so on are important to keep health for life. In general, the overall mean rating (0.70 out of a total of 1) of health consciousness is very close to the maximum and hence is statistically strong (t_{109} =4.96, P< 0.00). We can also note that health consciousness is even higher than health behavior.

The third and last one is Psychological wellbeing. Summary of self-ratings on the 48 items of psychological wellbeing measure is presented by the sub-domains on Table 6. Note that in all the sub-domains, the observed mean ratings are significantly higher than the expected mean

Statements	Proportion of those endorsing the statement	
	Freq.	%
1. I am alert to change my health	94	85.5
2. I take responsibility for the state of my health	97	88.0
3. I only worry about my health when I get sick	43	39.0
4. I am interested in information about my health	96	87.0
5. To maintain a sized figure, exercise is very important	104	95.0
6. I reflect a lot about my health	65	59.0
7. I am very self-conscious about my health	75	68.0
8. I am generally attentive to my inner feelings about my health	81	74.0
9. I am constantly examining my health	44	40.0
10. I am careful what I eat in order to keep my weight under control	41	37.0
11. My health depends on how well I take care of my self	88	80.0
12. Regulating diet, exercising,… will keep my health for life	97	88.0
13. I am more health conscious than most of my friends	47	43.0
14. Smoking is bad for health	101	92.0
15. Alcohol consumption bad for health even in small amount	62	56.0
16. Chewing khat is bad for health	95	86.0
17. Exercises help succeed in all facets of my life	81	74.0
18. I am very involved in my health	71	65.0
19. Air pollution bother me	83	76.0
20. I am concerned about the contents of the food I take	76	69.0

Mean=14.02 (or 0.701)* P<0.00

Table 5: Status of health consciousness of participants (N=110).

Variables	No. of items	Mean	Standard deviation
Autonomy	8	28.64*	4.78
Environmental mastery	8	28.78*	3.750
Personal growth	8	30.85*	4529
Positive relationship	8	29.79*	5.41
Purpose in life	8	29.31*	3.677
Self-acceptance	8	31.25*	3.76
Total	48	178.62*	18.18

*P<.05

Table 6: Scores on the six sub-domains of psychological wellbeing.

(i.e. 24) and hence the mean ratings for the total scale (178.62) is higher than the expected (144) significantly (t_{109}=4.76, P<0.00).

Relationship among behavior, consciousness and wellbeing

It may interest us to know how far these subjective experiences relate among themselves. One may say that because all of them seem to follow similar patterns, there can possible be some kind of relationship among themselves. Table 7 presents an actual measure of relationship among the main and sub-variables.

As indicated on Table 7, a significant positive correlation was found among health consciousness health-related behaviors, and psychological wellbeing as it is also displayed in Figure 1 for clarity purposes. As it can be seen in this figure as well as the correlation table, there is a significant overlap between health-related behaviors and health consciousness and this overlap needs to be controlled in predicting psychological wellbeing. The next analysis uncovers the combined and independent effect of these two measures in predicting psychological wellbeing by controlling the relationship between them.

Predicting psychological wellbeing from health consciousness and behavior

The multiple correlation of the two predictors with psychological wellbeing (Table 7) suggests that the overall accounted variance (21%) is significant ($F_{2, 108}$=12.307, P<0.05) and this appears mainly the contribution of health-related behavior. This is mainly because when the effect of health consciousness was controlled, the relationship between health behavior and psychological wellbeing was found to be statistically significant ($F_{1,109}$=24.744, P<0.05). On the other hand, the correlation of health consciousness with psychological wellbeing is insignificant when the relationship health consciousness has with health-related behavior is partialled out ($F_{1,109}$=1.744, P>0.05).

Discussion

This study examined the status of participants' health consciousness, health-related behaviors and psychological wellbeing, the interrelationship among these three variables and the relative contribution of the first two variables in predicting the former. The study was conducted in a setting (Jimma Town) where there are lots of health endangering experiences in the environs: high concentration of local drugs (like Chat) and alcoholic beverage which are culturally acceptable, teaching and research loads among the university faculty causing stress, and little opportunity for the faculty to break the

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
Autonomy(X_1)								
Environmental mastery (X_2)	.457							
Personal growth (X_3)	.253	.261						
Positive relationship (X_4)	.350	.507	.327					
Purpose in life (X_5)	.307	.381	.366	.450				
Self-acceptance (X_6)	.377	.333	.473	.532	.459			
Health consciousness(X_7)	**.245****	.223	-.008	.091	.215	.032		
health –related behaviors (X_8)	.300	.497	.263	.310	.295	.158	.480	
Psychological wellbeing total (X_9)	.665	.689	.639	.777	.682	.744	**.186***	.432

** Correlation is significant at 0.01 level (2-tailed).* Correlation is significant at 0.05 level (2-tailed).

** Correlation is significant at 0.01 level (2-tailed).* Correlation is significant at 0.05 level (2-tailed).

Table 7: Inter-correlation matrix among the variables.

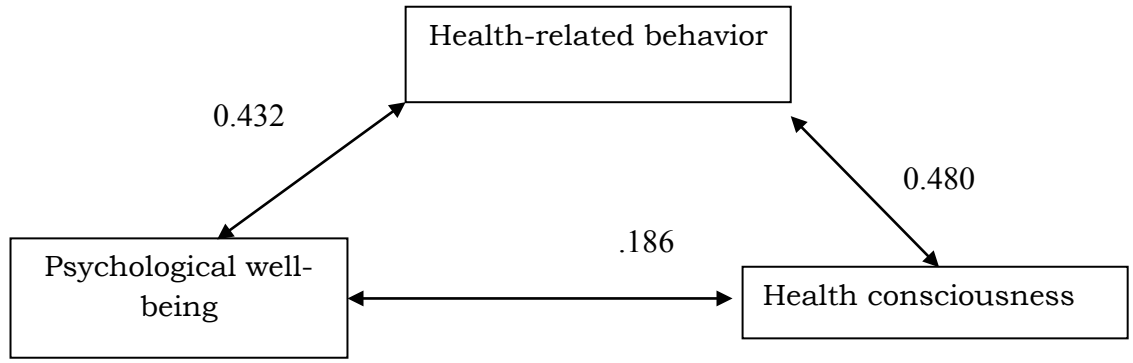

Figure 1: Empirical model illustrating how psychological wellbeing iscorrelated with health consciousness and health-related behavior.

Multiple correlation and partial correlations	Correlation indices
Over all R	0.459*
Health-related behavior and Psychological wellbeing (health-consciousness partialled out)	0.398
Health consciousness and Psychological wellbeing (health-related behavior partialled out)	-0.027

*P<0.05

Table 8: Multiple correlation and partial correlations.

monotony of life. The participants were from the higher educational background (minimum BA/ BSC degree). The participants were with an average age in which our body needs to have an eye of its own in the sense that we need to stop exercising casual life and adopt a life style that is health-friendly.

Given that the participants are with higher educational background, it may not be a surprise that most of the participants in this study were found to have positive health-related behaviors, positive health concerns and have high sense of psychological wellbeing in tune with some previous research. Coming more specifically to health consciousness, it is in principle the case that consciousness in all its forms is likely to improve with education and logically implying that the participants are with reasonable level of health consciousness, to begin with. Commensurate with this expectation, the present participants were found to pay attention to their health, involve in their health matters and have favorable health-related knowledge. In fact, their level of health-consciousness even appears much better than the other two measures of subjective health.

As regards health-related behavior, participants of this study report to follow healthy behaviors: have drug- free behavior, medical checkup habits, stress management skills, positive safety habits, safe sexual practice, and concerns about diet. However, exercise was found to be significantly lower than the expected mean. That is, engagement in physical exercise was found to be low among the participants. This was not because of lack of awareness about the importance of physical exercise. For example, more than three-fourth of the participants endorse statements like, "exercise helps succeed in all facets of life" and "exercise is important to maintain a sized figure". It could rather be a function of a number of other factors: attitudinal problem instilled particularly in the early years of schooling. It is not uncommon to observe in many Ethiopian schools to use physical exercise as a punishment when students misbehave in class or outside. This may eventually corrupt the attitude students may have towards physical exercise when they grow up. Or it could be because of perceived lack of time, physical space and a supporting partner. It is, however, critically important to develop a proper exercising habit because physical passivity tends to increase with age and this may make people become vulnerable to different illnesses. Early preventive exercising measures are likely to reduce not only age-induced physical vulnerability but also job-related vulnerabilities. White-collar workers (including university professors), who are seated on computers or in office for long hours, are likely to be vulnerable to different kinds of physical inactivity and stressors. Some organizations circumvent such vulnerability by designing office-attached gyms and

allocating special time for workers to exercise together.

The third dimension of subjective health that is of much concern in this study is psychological wellbeing. As in other measures of health, findings indicated that participants have high sense of psychological wellbeing: are autonomous, adaptive, purposive, and self-accepting with sense of personal growth and positive relationship with others.

Now, the central question is "does health consciousness explain health-related behavior" and "does this behavior cause an overall sense of wellness?" The inter-correlation analysis has shown in fact that consciousness is significantly correlated with behavior and behavior with wellbeing. This positive correlation indicates that if an individual is health conscious, then the person will likely adopt positive health-related behaviors, develop high sense of psychological wellbeing; eventually implicating on the individuals' health status perception. Generally, health- related behaviors and health-related knowledge are positively correlated with psychological wellbeing. These findings are generally consistent with many other previous research outcomes. On the other hand, a good sense of psychological wellbeing help the individual to become health conscious, and help to exercise healthy behavior and to drop unhealthy life style factors. That is, having high sense of psychological wellbeing may serve as a parameter of overall health and health-related habits. Having sense of psychological wellbeing may be a precondition for growth motives; it may support one's health–related activities and motivation, improve sociability and open-mindedness, increase one's problem solving capacity, support a positive view of positive health-related behaviors and health perception. Similar findings were reported in many other previous research that psychological wellbeing serves as a protective or buffer against the negative influences of adverse experience on biology and health, or that psychological wellbeing helps individuals to practice health enhancing behaviors, become health conscious and rate one's health to be in better condition.

To discuss, relationships in terms of domain-specific measures, we can note that the significant positive correlation was found between health-related behaviors and the five dimension of psychological wellbeing indicating that having health enhancing habits can increase the individual's autonomy, environmental mastery, personal growth, purpose in life, quality relationship with others and self- acceptance. On the other hand, a person who has high level of purpose in life, growth, autonomy, adaptation, quality ties to others and soon may employ healthy life styles [11,14]. In fact, health consciousness is significantly correlated only with three measures of psychological wellbeing: autonomy, environmental mastery, and purpose in life.

The last analysis attempted to determine how far health consciousness and behavior collectively explain psychological wellbeing. In fact, a significant variance in psychological wellbeing was explained by the combined use of the two variables. But, partiallng out the correlation between the two predictor variables was found to make the role of health consciousness insignificant while the role of health-related behavior still remains strong. This would mean that health behavior encompasses health consciousness plus some other qualities that affect psychological wellbeing. This also means that to improve psychological wellbeing, it may suffice to make interventions on improving health-related behaviors. This also means that to design a cost-effective strategy, we may only target at health-related behaviors and this would improve both health consciousness and psychological wellbeing. This finding goes in line with findings of that individuals who use drugs have significant low level of psychological wellbeing. Similarly indicated that general wellness (the ability to live life fully with vitality and meaning)is largely determined by the decisions individuals make as to how to live his/her life. What the individual employs as a life style affects his/ her psychological wellbeing profoundly.

Conclusions

Participants of this study were health conscious, had positive health-related behaviors and psychological wellbeing. However, their level of functioning in these areas is not at the optimal level. For instance, they pay less attention to balancing diet and follow inactive life style. A significant positive correlation was found between health consciousness, health-related behaviors and psychological wellbeing. However, compared to health consciousness, health-related behavior was more significant in predicting psychological wellbeing. Health consciousness was not correlated with three out of the six measures of psychological wellbeing.

Even though participants had positive health-related behaviors and health consciousness, there are some life style factors (attention to dietary concerns; engagement in physical activity) that may jeopardize health sometime in the latter years. Therefore, it is recommended that institutions create conducive environment in the work place that could promote physical exercise. Institutions may need to mobilize such inclusive activities as sport clubs and matches for staffs so that they may, in doing so, get inspired to start to pay attention to diet, refrain from health risking habits (such as chewing khat, consuming alcohol and cigarette smoking).Individuals, too, need to develop an understanding that induction in to any single health improving activity (exercise, or avoiding health-endangering practice) will serve a motivational value to start to work on another set of changes and so on. These gradual induction processes in a chain of changes will eventually transform health-behavior, health, consciousness and psychological wellbeing. It has to be noted, however, that effective change in subjective experience health is less likely to happen unless individuals are involved in health improving practices or behaviors.

Finally, this research was conducted only in one institution and this would restrict range of variability and ultimately the role of predictors. Hence, there is a need for further research including teachers at primary and secondary levels of education. More importantly, employing qualitative tools would also help tapping data about cultural beliefs and practices that determine behaviors and life styles.

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