

Nurse Practitioners and Health Protective Behaviors:  
What Do They Practice and Teach?

By  
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Health Protective Behaviors

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A descriptive survey of 182 Oregon nurse practitioners (NPs) documented personal practices, and counseling practices about health protective behaviors. Practice locations were 48% urban, 25% suburban, and 27% rural. Practice areas included family, adult, women's health/midwifery, mental health, pediatrics, and geriatrics.

Participants completed the Health-Promoting Lifestyle Profile (HPLP) to describe personal health practices, and additional questions regarding counseling behaviors. Most NPs (85%) reported health promoting lifestyles, obtaining a mean score  $\geq 2.8$  on the HPLP (mean = 3.1). Of nurse practitioners surveyed 76% reported routinely counseling clients about health protective behaviors while seeing a mean of 16.53 clients per day. Those NPs who routinely counsel about health protective behaviors had higher scores on the HPLP, than those who counsel less routinely ( $t = -3.72$ ,  $p < .001$ ). Those NPs who routinely felt qualified to counsel clients had higher scores on the HPLP, than those who felt less qualified ( $t = -2.03$ ,  $p = .04$ ). Nurse practitioners counseled clients more frequently when they felt

qualified to counsel ( $r = .26, p < .001$ ), and counseled more often when they felt clients used the information provided ( $r = .16, p = .03$ ). The three health protective behaviors most frequently counseled about were smoking cessation, exercise, and nutrition. The greatest barriers to counseling were lack of time and lack of reimbursement.

These findings suggest the importance of including material on counseling about health promotion in initial and continuing education programs for NPs. Since lack of time and reimbursement for health promotion counseling were cited as major barriers by NPs, future efforts should be directed at documenting the benefits and reduced health care costs accruing from counseling activities.

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Nurse Practitioners and Health Protective Behaviors:

What Do They Practice and Teach?

In the last decade or two it has become clear that in order to provide health care to all segments of society, the way health care is provided needs to change. The new buzzword health care reform has many people offering opinions about the direction reform should take. Pender (1993) offered a vision of health care in the future that advocated adoption of an illness prevention/health promotion lifestyle. In her view primary care providers help clients make choices that lead to optimal health.

Pender's (1987) Health Promotion Model suggests that one's cognitive-perceptual beliefs such as definition of health, and perceived benefits of and barriers to health promoting behaviors affect the likelihood of adopting a wellness oriented lifestyle. These beliefs in turn are affected by modifying factors such as age, gender and interpersonal influences. Nurse practitioners are knowledgeable health advisors, qualified to evaluate research on health promoting activities. Therefore they can take a leadership role in health care reform emphasizing health oriented care by educating clients and

their families about health protective behaviors, and by encouraging participation in these behaviors. For the purpose of this research, health protective behaviors will be defined as all personal habits or behaviors that prevent illness and/or promote health.

As nurse practitioners (NPs) take a leadership role in educating clients about health protective behaviors they become role models for these same behaviors, and thus the health practices adopted by NPs may influence how they educate clients in a positive or negative way. However, discrepancies exist between what people think they should do, and what they actually do; so NPs may model a behavior differently than they counsel clients to perform that behavior. These behavior-belief discrepancies may result from complex circumstances not addressed by this simple survey; however, the study will help us better understand strategies/barriers to educating clients about health promotion.

#### Review of Literature

In health care we often operate under the premise of "do no harm", but when asking clients to make lifestyle changes we must have some evidence that by making these changes our clients can benefit. Belloc's and Breslow's

(1972) analysis of the population of Alameda County, California concluded that:

"certain common habits of daily life, called good health habits, are positively related to physical health status. Further, the relationship of these habits was shown to be cumulative; those who reported all or many of the good practices were in better physical health, even though older, than those who followed fewer such habits. The relationships were independent of economic status" (p. 420).

The seven health habits discussed by Belloc and Breslow (1972) included sleeping seven to eight hours per night, eating breakfast routinely, eating three meals a day routinely, weighing within the desirable range for height, engaging in routine physical activity, consuming alcohol in moderation, and not smoking; these health behaviors have become known as the "Alameda seven."

Researchers have continued to study the health practices of the Alameda residents. Belloc (1973) surveyed the original respondents, and found that those who slept seven to eight hours a night, exercised, maintained a desirable body weight, consumed no more than

a moderate amount of alcohol, and did not smoke had lower age adjusted mortality rates. Eating three meals a day and eating breakfast were not associated with decreased mortality. In a more recent study Breslow and Breslow (1993) studied this population and found that better health practices and a strong social network not only increased life expectancy, but decreased disability among the survivors.

Studies have been done on other populations looking at these same health practices. Branch and Jette (1984) studied an elderly population who reported themselves as being in excellent health, and found with the exception of getting more or less than seven to eight hours of sleep a night, lack of performing the other health practices did not appear to increase the risk of mortality. Hawkins, Duncan, and McDermott (1988) surveyed volunteers, age 65 and over about health practices. Although good health practices, as defined by the Alameda seven, were related to self-reported health status in older adults, smoking, alcohol consumption, and excess weight for height were unrelated to health status in this study. The authors speculated that this was perhaps because so few of the respondents

exhibited these negative health behaviors. Although the Alameda seven do not encompass the whole of what we believe to be health protective behavior, research on these seven practices provides some evidence that lifestyle can affect health in a positive way.

If NPs are challenging clients to make positive lifestyle changes it is important that as a group NPs are practicing those same health behaviors. To date most published data describe nursing students or nurses. Dittmar, Haughey, O'Shea, and Brasure (1989) surveyed nursing students in New York, and felt that overall this group of students were not "good exemplars of favorable health practices" (p. 28). Soeken, Bausell, Winklestein, and Carson (1989) surveyed a group of student nurses, and found that although 73% of those surveyed described their own health as very good or excellent, the overall compliance with health behaviors surveyed was less than 50% despite the fact that the students felt the behaviors were important for a healthy life. Although nursing students learn about what constitutes healthy behaviors, they did not put this knowledge into practice while in school.

It also seems that many nurses do not use this

information once they have graduated. Haughey, Kuhn, Dittmar, and Wu (1992) surveyed critical care nurses on various health protective behaviors and found that "although some of their health behaviors were generally favorable, numerous others warrant improvement" (p. 206). McMillan (1990) surveyed nurses for compliance with American Cancer Society guidelines for prevention and early detection of cancer, and found that compliance with these guidelines was poor. These findings suggest that despite their educational preparation and knowledge base, nurses are not exemplary role models of health protective behaviors.

The only study reporting this information for NPs examined certified nurse midwives (CNMs) on health promotion/disease prevention issues, and found that "most of the respondents are good health role models" (Holcomb and Mullen, 1986, p. 147). This study demonstrated that this group of CNMs, are acting as role models of health protective behaviors, but it is important to ascertain to what degree other groups of NPs are meeting their own health needs.

Holcomb and Mullen (1986) also found that although respondents felt that they were able to, and did provide

information on health protective behaviors "they reported an overall lack of confidence that their patients would actually make behavioral changes to reduce health risks" (p.147). This brings up two other important questions: 1) do NPs counsel clients about health protective behaviors? and 2) how confident are NPs that clients can make these lifestyle changes?

Barron, Ganong, and Brown (1987) presented NPs with a scenario in which a client was planning pregnancy, and then evaluated the preconception education provided. They concluded that NPs did not use the opportunity provided to counsel their client desiring pregnancy about self-help practices that would help to prevent poor pregnancy outcomes.

Warren and Pohl (1990) surveyed a sample of primary care NPs in Michigan about cancer screening practices. They found that although some screening criteria were being met, many were omitted. The younger clients and women were more often screened for cancer risks than were the elderly and males. Reasons given for not screening clients included lack of feasibility given the practice setting, lack of competence, lack of time, and cost.

Zahand, Coates, Richard, and Cummings (1990)

conducted a study to determine if NPs or physicians were more likely to counsel clients about smoking cessation. They found that NPs were more likely to discuss smoking behaviors, distribute smoking cessation literature, and make follow-up appointments to counsel clients to stop smoking than physicians.

Counseling clients about health behaviors is an important role of the nurse practitioner. Results of the above studies suggest an uneven performance of NPs in this role. Two studies indicated that NPs could work to improve function in this role while the results of the other two studies indicated that NPs were doing a good job. Although perceived barriers to providing clients with information on health protective behaviors were identified in two of the studies, no solutions were offered. Researchers can identify ways to help NPs assist their clients in adopting health promotion activities.

#### Research Questions

1) What is the profile of characteristics of Oregon nurse practitioners who regularly perform health protective behaviors? 2) How often do Oregon nurse practitioners perform health protective behaviors?



3) How often do Oregon nurse practitioners counsel clients about health protective behaviors? 4) What strategies do Oregon nurse practitioners find helpful when counseling clients about health protective behaviors? 5) What are the three health protective behaviors that Oregon nurse practitioners most often discuss with clients?

#### Methods

##### Sample and Setting

The Oregon Nurses Association gave permission to distribute the survey at the Nurse Practitioner Organization's statewide, annual continuing education conference (see Appendix A). The sample was a self-selected convenience sample of NPs attending the conference who agreed to participate. Oregon NPs are independent providers of health care within their scope of practice, as defined by their educational preparation, and have independent prescriptive authority within a regulated pharmaceutical formulary.

##### Design

A descriptive, non-experimental, cross-sectional design was chosen to answer the research questions. A self-selected convenience sample is a form of

non-probability sampling that is less likely than probability sampling to produce an accurate and representative sample of nurse practitioners, in that those NPs who chose to respond to the questionnaire may be those who practice health protective behaviors, and counsel their clients to do the same. A non-probability survey affects the degree to which the results can be generalized. However, little information is available on NPs, so this preliminary study may provide direction for more in-depth research. The inclusion of demographic variables of age, education level, practice specialty, and location of practice will describe respondents, and aid in determining transferability of findings to other similar groups.

A self-administered pencil and paper survey was chosen for data collection. A disadvantage of this type of research is that respondents may answer questions in a socially desirable manner. Advantages include the ease of obtaining a large amount of data in a short period of time, respondents may be more likely to answer sensitive items truthfully because anonymity is maintained, and decreased costs as compared to mailed, telephone, or face-to-face interviews.

Protection of Human Subjects

The data collection process involved the self-administration of a survey with noncontroversial items. The Oregon Health Sciences University Committee on Human Research granted permission for the study. A copy of the cover letter is attached in Appendix B.

Instruments

A copy of the instruments chosen for use is attached in Appendix C. The Health-Promoting Lifestyle Profile (HPLP) (Walker, Sechrist, & Pender, 1987) was used, and additional items were added to include the Alameda seven, early detection practices, counseling behaviors, and demographics. Permission to use the HPLP was obtained from the authors (see Appendix D). The tool contains 48 items divided into six sub-scales; self-actualization, health responsibility, exercise, nutrition, interpersonal support, and stress management. Responses for the items are never-1, sometimes-2, often-3, and routinely-4. Internal consistency, as an indicator of reliability, was measured using Cronbach's alpha. Previously reported internal consistency of the sub-scales ranged from .702 to .904, with an alpha of .922 on the total scale; based on the responses of 952 adults in Midwestern communities,

Table 1  
Internal Consistency of the Health-Promoting Lifestyle Profile Reported in Previous Studies

Author(s)	Population	N	Total	Sub-scales
Duffy (1988)	Women employees of a university	262	.91	.73 - .89
Duffy (1993)	Person's 65 & older	477	.92	.65 - .85
Fleetwood & Packa (1991)	Active duty military officers	520	.90	.75 - .91
Frank-Stromberg, Pender, Walker, & Sechrist (1990)	Ambulatory Cancer patients	385	.932	.739 - .888
Kerr & Ritchey (1990)	Mexican-American migrant farm workers	62	.957	.558 - .931
Kuster & Fong (1993)	Spanish speaking Central Americans	105	.904*	.530 - .841*
O'Brien (1993)	Spousal caregivers of persons with MS	20	.94*	.64 - .89*
Pender, Walker, Sechrist, & Frank-Stromberg (1990)	Employees participating in a health promotion program	589	.93	.68 - .89
Walker, Volkan, Sechrist, & Pender (1988)	Midwestern adults	452	.92	.694 - .898

\*Spanish version; †not given

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and has been used on other populations since; some of these are included in Table 1. Test-retest reliability, based on a sample of 63, at a two week interval, yielded a Pearson's  $r$  of .926 for the total scale, and ranged from .808 to .905 for the sub-scales.

Internal consistency is an evaluation of how well all of the items measure the same concept, and stability reflects the extent to which the same results are obtained over time; reliability coefficients above .70 are considered acceptable. The previously established reliability was accepted by this researcher, and is reported, for this sample, in the results.

Walker et. al. (1987) established content validity by utilizing input from faculty familiar with health promotion literature, and construct validity through factor analysis. Validity refers to how well a scale measures the concept it was designed to measure. The previously established validity was considered adequate for use in this study.

### Procedures

Attendees were approached as they registered, and as they entered and left the conference areas, handed a copy

of the questionnaire and cover letter, and invited to participate. They were instructed to return the survey to a designated box at the registration desk by noon on the final day of the conference.

#### Data Analysis

Data were analyzed in several ways. Demographic data were analyzed, and are reported as percentage of respondents in each category. Data from the HPLP are reported as the mean total score, and the mean score on each sub-scale. Other data on health protective behaviors are reported as percentage of respondents doing the behavior often or routinely. Student's  $t$  test was used to determine if the mean total scores on the HPLP differed significantly for NPs who routinely counseled clients on health protective behaviors, and those who counseled often, sometimes, or never. The  $t$  test was also used to evaluate if there was a significant difference between mean total HPLP scores of those NPs who felt qualified to counsel clients, and those who felt less qualified. The comparisons were made in this manner due to unequal cell size and the small number of NPs reporting that they did not routinely counsel clients or that they did not feel qualified to counsel.

Pearson's  $r$  was used to determine correlations between how frequently practitioners reported counseling about health protective behaviors, and how qualified they felt to counsel about health protective behaviors; and how frequently NPs reported counseling, and how often they felt clients used the information provided. Items 63-64 are reported as percentage of respondents routinely counseling clients and feeling qualified to counsel clients about health protective behaviors. Item 65 is reported as percentage of respondents who felt that clients used information provided routinely, often, sometimes, or never. Items 66-69, strategies used when counseling clients, are ranked in order of frequency of use.

An Alpha of .05 was chosen to evaluate significant differences between groups. The HPLP as it has been used thus far in research does not have a normative score above which the respondent is considered to have a healthy lifestyle, so for the purpose of this study a score of 2.80 or above will be used to indicate a healthy lifestyle. This score was chosen to represent a healthy lifestyle because it indicated participating "often" in health protective behaviors. (Their response options



were 1-never, 2-sometimes, 3-often, 4-routinely).

### Results

Of the 277 nurse practitioners registered for the conference 240 were approached and asked to participate in the study; 235 agreed, and 182 completed surveys. The response rate was 76% of those asked to participate and, represented 66% of the total number of nurse practitioners registered for the conference. Sample demographics are listed in Table 2. The majority of the sample (51%) were between the ages of 36 and 45, mean age of 43.6 years; 96% were female and 95% were Caucasian. Demographics related to education, number of years since graduation, and type of practice are listed in Table 3. Seventy-six percent of the respondents had obtained a Master's degree as their initial preparation for the nurse practitioner role, and 62% had been practicing as an NP for six or more years. The types of practice among respondents included family, mental health, women's health/midwifery, pediatrics and geriatrics. Others reported combined or specialty practices.

Demographic data pertaining to employment were also obtained. Slightly less than half, 48% of respondents,

Table 2

Frequencies and Percentages of Age, Gender and Ethnicity  
of Nurse Practitioners (N = 182)

Variable	Frequency	Percentage*
<u>AGE</u>		
27 - 35	26	15%
36 - 45	91	51%
46 - 55	50	28%
56 - 65	12	7%
<u>GENDER</u>		
Female	171	96%
Male	7	4%
<u>ETHNICITY</u>		
Caucasian	173	95%
Hispanic	3	2%
Asian	2	1%
African-American	1	.6%
Native-American	1	.6%
Other+	2	1%

\*percentage of those responding  
+Native-American/African-American;  
Native-American/Caucasian

Health Protective Behaviors

Table 3  
Frequencies and Percentages for Nurse Practitioner  
Education, Number of Years Since Graduation, and Type of  
Practice (N = 182)

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Variable	Frequency	Percentage*
<u>INITIAL EDUCATION</u>		
Master's Degree	139	76%
B.S. with certificate	24	13%
Other+	19	10%
<u>YEARS SINCE GRADUATION</u>		
5	68	38%
6 - 10	37	20%
11 - 15	43	24%
15	33	18%
<u>TYPE OF PRACTICE</u>		
Family	63	35%
Adult	33	18%
Women's Health/Midwife	31	17%
Mental Health	21	12%
Pediatrics	11	6%
Geriatrics	10	5%
Specialty**	9	5%
Combined Practice++	4	2%

*(2)*

\*Percentage of those who responded  
 +A.D. or Diploma with a certificate, or Post-Masters certificate  
 \*\*urgent care, AIDS, epilepsy, neuro-oncology, chronic disease, family planning, school-based, adolescent, college health, addiction/dependence, oncology, biofeedback, diabetes

++pediatrics & women's health; family & adult; mental health, adult & geriatric; adult & geriatric

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## Health Protective Behaviors

27

reported working in an urban location, 25% suburban, and 27% rural. Numbers of hours worked per week ranged from 8 to 90, with a mean of 37 hours, and a mode and median of 40 hours. Number of clients seen each day by NPs working 30 hours or more per week ranged from 4 to 40, with a mode and median of 15, and a mean of 16.53 clients per day. Those practitioners seeing fewer clients per day were in practice areas where this would be expected, eg. mental health, and those seeing a large number of clients were usually working more than 40 hours per week.

Total scores on the HPLP ranged from 2.25 to 3.74 on a 4 point scale, with a mean score of 3.1 and a standard deviation of .32 (1=never, 2=sometimes, 3=often, 4=routinely). Eighty-five percent of the sample had a score greater than 2.8. The sub-scale scores are listed in Table 4. Cronbach's alpha for this sample was .89 for the total scale, and for the sub-scales ranged from .70 to .89; which is considered adequate reliability.

When asked participants reported performing the following behaviors that improve or protect one's health: 59% have an influenza vaccination yearly, 84% have been vaccinated for Hepatitis B, and 54% have yearly PPDs. Ninety-two percent of the applicable female

Table 4

Nurse Practitioners: Reported Behavior on the  
Health-Promoting Lifestyle Profile for the Total Scale  
and the Sub-scales (N= 182)

	Range	Mean	(SD)
Total Scale	2.25 - 3.74	3.10	(.32)
Sub-scales			
Nutrition	1.67 - 4.00	3.40	(.48)
Exercise	1.00 - 4.00	2.64	(.72)
Self-actualization	2.00 - 4.00	3.44	(.41)
Health Responsibility	1.22 - 3.80	2.71	(.79)
Interpersonal Support	2.14 - 4.00	3.46	(.42)
Stress Management	1.57 - 4.0	2.82	(.51)

SD = Standard Deviation

respondents have yearly pap smears. Other health protective behaviors were reported as follows. Ninety-seven percent of the sample reported using seat-belts often or routinely. A breast self exam was performed every one to three months by 89% of the female respondents. A testicular self exam was performed every one to three months by 43% of the male respondents. The majority of respondents, 89%, reported visiting the dentist every 6 to 12 months. Seventy-five percent of respondents who take medicine do so as directed. The majority of respondents do not own a firearm, but of those who do, 89% state they often or routinely practice firearm safety. The mean number of hours of sleep each night was 7.6, with a range of 4 to 10 hours.

Use of tobacco and excessive use of alcohol are considered unhealthy. Respondents reported the following tobacco and alcohol use patterns. The majority, 94% of those sampled, report that they currently do not smoke. Thirty-four percent of the sample report a smoking history. Of those who had ever smoked, the number of years smoked ranged from 1 to 30 years, with a mode and median of 10 years, and a mean of 12.5 years. Eighty-two percent of those who had smoked in the past are currently

non-smokers.

When asked about alcohol consumption 20% of the sample report that they do not drink alcoholic beverages. Respondents who drank less frequently than once a week reported one drink per sitting (34%) or two to three drinks per sitting (6%). Respondents who drank on a weekly basis reported one drink per sitting (15%) or two to three drinks per sitting (4%). Respondents who drank more frequently than once a week reported one drink per sitting (32%), two to three drinks per sitting (3%), and four to five drinks per sitting (.5%).

When asked about counseling behaviors, 76% of the respondents reported routinely counseling about health protective behaviors, and 80% reported that they routinely felt qualified to counsel about health protective behaviors. Those practitioners who were routinely counseling clients about health protective behaviors had a significantly higher mean score on the HPLP, than did those who were counseling often, sometimes, or never. Data were analyzed in this fashion so that the two groups compared would each have an n  $\geq$  30. The mean HPLP score for those who counsel clients routinely was 3.17, while the score for those who counsel

often, sometimes or never was 2.97 ( $t = -3.72$ ,  $p < .001$ ). Practitioners who reported routinely feeling qualified to counsel clients about health protective behaviors had a higher mean score on the HPLP than did those who often, sometimes, or never felt prepared. Again, data were analyzed in this fashion so that the two groups would each have an  $n \geq 30$ . Those who routinely felt qualified had a mean score on the HPLP of 3.14, while those who often, sometimes, or never felt qualified had a mean score of 3.02 ( $t = -2.03$ ,  $p = .04$ ).

Respondents were also asked how often they felt that clients used the information provided regarding health protective behaviors. Only 4% of respondents thought that clients routinely used the information; 36% felt clients often used the information; 59% felt clients sometimes used the information; and 1% felt that clients never used the information.

There was a significant correlation between how often practitioners were counseling about health protective behaviors, and how qualified they felt to counsel about health protective behaviors; ( $r = .26$ ,  $p < .001$ ). There was also a significant correlation between how often practitioners were counseling and how often



they felt clients used the information provided; ( $r = .16$ ,  $p = .03$ ). Although both of these correlations are very low, and perhaps not clinically relevant in this study, they do indicate possible areas for further research on ways to encourage health care providers to discuss health protective behaviors with their clients.

Seven methods of counseling were listed, and respondents were asked to indicate how often these methods were used. The methods were rank ordered by percentage of practitioners who often or routinely used each method. The seven methods from the most frequently to the least frequently used were written materials, role-modeling, referral, extra-scheduled time, self-help groups, risk assessments, and videos. Respondents were asked to list other methods they used when counseling clients, and these are listed in Table 5.

Practitioners were asked how frequently they discussed 17 specific health protective behaviors with their clients; these behaviors are listed in Table 6, and are reported by the percentage of practitioners who often or routinely counsel clients about these practices. Table 6 also lists the percentage of NPs who often or routinely perform these same behaviors. Data for this

Table 5

Other Methods of Counseling About Health Protective  
Behaviors Reported by Nurse Practitioners

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Reinforcement of the information

Testimony

Setting Educational Goals

Spiritual Counseling

Routine inclusion during appointments

Using support groups in the community

Discussion

Health Belief Model

Extensive health interview

Demonstration

Picture-drawing

Role-playing

Classes

---

Table 6

Percentage of Nurse Practitioners Who Counsel Clients  
Compared to Percentage of Nurse Practitioners Who  
Practice the Behavior (N = 182)

Behavior <sup>a</sup>	Counsel		Practice	
	f	%	f	%
Exercise	160	89%	113	62%
Nutrition	161	89%	153	84%
Sleep	105	58%	150	83%
Tobacco Cessation	163	92%	171	94% <sup>b</sup>
Limiting Alcohol	154	87%	175	96% <sup>c</sup>
O.T.C.s	139	78%	132	75% <sup>d</sup>
Prescriptions	168	93%	132	75% <sup>d</sup>
Ideal Body Weight	96	54%	120	72%
Stress	133	74%	71	39%
Self-esteem	119	66%	156	86%
Dental Care	74	41%	161	89%
Cholesterol	124	70%	125	69%
BSE	138	78%	156	89% <sup>e</sup>
TSE	91	55%	3	43% <sup>g</sup>
PAP	142	80%	155	92% <sup>e</sup>
Seat-belts	80	45%	176	97%
Firearm Safety	23	13%	34	89% <sup>h</sup>

f = frequency; a = %of those responding they often or routinely do the behavior; b = do not smoke; c = use alcohol moderately, occasionally or not at all; d = asked how frequently counseled on use of O.T.C.s & prescription medicines, but how they use medicines in general for personal practice; e = of females; g = of males; h = of those who own firearms

comparison were obtained from specific questions, mean scores from the HPLP sub-scales, and in the case of body weight the percentage whose body mass index (weight in kilograms / height in meters squared) fell between 20 to 25 (Matz, 1987). Practitioners were also asked to list other health protective behaviors they counsel about. These are listed in Table 7. The three health protective behaviors most frequently discussed with clients are: tobacco use, exercise, and nutrition.

Participants were asked to list barriers to counseling clients. The majority of respondents, 58%, listed lack of time as a barrier. Other replies included lack of reimbursement; lack of client receptiveness; language and cultural differences; lack of good materials appropriate for all age and educational levels; difficulty in changing behaviors; poverty and lack of access to a quality lifestyle; and not making it a priority. One person made the comment "a general cultural trend toward the quick fix, versus the belief that one must work toward one's goals."

#### Discussion

The majority of respondents (85%) had a score greater than 2.8 on the HPLP. This score was interpreted

Table 7

Additional Health Protective Behaviors Nurse  
Practitioners Counsel About

MISCELLANEOUS

Drug Abuse  
How to get the most from  
contacts with your  
health care provider  
Immunizations  
Insurance Issues

Skin Self Exam

NUTRITION

Calcium Needs  
Eating Disorders  
Vitamin/Mineral Supplements

SELF-ACTUALIZATION

Aging Skills  
Assertiveness  
Coping Skills  
Developmental Tasks  
Habit Changes  
Positive Relationships  
Rehabilitation  
Self-responsibility for health habits  
Television

SAFETY

Infant Car Seats  
Medication Use Patterns  
Safety for Kids  
Sports Safety  
STD Prevention

VIOLENCE

Date Rape  
Domestic Violence  
Gangs  
Why violence isn't the  
answer

WOMEN'S HEALTH

Birth Control  
Hormone Replacement Therapy  
Mammography  
Menstruation  
Premenstrual Syndrome

as indicating that respondents had a health promoting lifestyle. The rationale for this interpretation is that on average these respondents performed health behaviors "often." However, this average may represent superb health practices in one area and poor practices in other areas. This self report may be biased as health professionals are perhaps unwilling to admit to unhealthy habits despite the anonymity offered by the use of a pencil and paper survey. If participants did indeed report their behavior accurately, then they are doing a good job of role-modeling health behaviors which was the second most frequently reported method of counseling clients about health protective behaviors.

Table 5 reveals some discrepancies between health behaviors and counseling practices. This study did not attempt to ascertain reasons for not following recommended health practices, or the decision making process about which health protective behaviors to discuss with clients; research in these areas might explain some of the discrepancies. One may postulate that because lack of time is listed as a barrier to counseling, NPs choose to spend the time they have discussing the health protective behaviors they consider

most important.

Two of the HPLP sub-scales, exercise and health responsibility, had mean scores of less than 2.8. The exercise sub-scale contains items on supervised and recreational sports, and pulse monitoring. Perhaps scores were lower on this sub-scale for two reasons 1) participants may be involved in individual rather than formal exercise activities, and 2) participants may exercise strenuously enough that they feel they do not need to monitor their pulse. Sixty-two percent of NPs reported often or routinely performing aerobic exercise three times a week. This is comparable to results obtained by Dittmar, et.al. (1989), that 68% of nursing students surveyed were active physically two to four times per week and better than results obtained in two other studies. Haughey, et. al. (1992) found that 44% of critical care nurses surveyed exercise three or more times per week while Holcomb and Mullen (1986) reported that 48% of certified nurse midwives surveyed perform vigorous physical activity at least three times per week.

The health responsibility sub-scale contains items about talking care of one's own health. Because of their professional knowledge, respondent may have felt that

some of the items from this sub-scale were not applicable since these items were originally designed to elicit if lay persons discussed their health with a professional. Some respondents objected to the use of the term "physician" rather than the use of "health care provider" to include NPs. Others questioned how the response option "routinely" could be used for the items on cholesterol and blood pressure, when these need only be checked every five years or once a year, respectively, in healthy individuals. The overall low mean score on this sub-scale is perhaps a reflection of the special knowledge base of this sample.

Ninety-six percent of the participants report often or routinely counseling clients about health protective behaviors. Again this may be a biased result with people reporting better counseling practices than they actually perform. Although, given the barriers of lack of time, lack of reimbursement, and lack of client participation; NPs appear to consider health promotion as a primary role, within their scope of practice, and are encouraging clients to change their behaviors in a way which will have a positive effect on their health.

Of interest is the statistically significant result between frequency of counseling and personal practice



scores on the HPLP. Although the difference is small, and perhaps clinically irrelevant, it does suggest that those with healthier lifestyles are more likely to try to encourage clients to participate in healthier lifestyles. This information might be useful within the context of practitioner education on health protective behaviors, as a reminder to take care of one's self.

It is also interesting to note the direct correlation between frequency of counseling, and perceived use of information by the clients. Are clients more likely to use provided information if they hear it routinely, or are NPs more likely to counsel about health protective behaviors if they feel clients are listening? Thus, it is important for clinicians to seek feedback from clients about the use of information they provide; and for research to be directed at ways to encourage NPs to counsel about health protective behaviors, and to find ways to better help clients use the information provided.

It is also important to note that this survey samples diverse segments of the Oregon nurse practitioner population. A wide range of types of practice were included, and individuals with less than 1 year of experience to those with more than 15 years of experience

responded to the survey. Respondents included NPs reporting rural, suburban and urban practice settings.

#### Conclusion

Overall, 62 - 97% of the NPs in this sample report practicing health protective behaviors, with the exception of stress management, "often" or "routinely." Thus this group of NPs are serving as good role models for their clients which they mentioned as a method of counseling clients about health protective behaviors. Given that a number of NPs reported lack of time and lack of reimbursement as barriers to counseling clients, this group of NPs include client education suggesting it is an important part of their practice. Investigators need to document effective strategies that can be used to overcome these barriers because counseling clients about health protective behaviors is important. It is also important to study the long term outcomes of counseling to show that the increased time spent counseling clients about healthy lifestyles will lead to decreased time and money spent in treating the results of unhealthy lifestyles.

Those NPs who were most likely to counsel clients about health protective behaviors were those who

practiced better health-promoting lifestyles and those who felt more qualified to provide this type of counseling. Two areas in which NPs in this sample could improve their own health practice include exercising aerobically at least three times per week and in the area of stress management. Future NP education should continue to include information on health protective behaviors so those who feel less qualified to counsel have the means to become more qualified. Working together, nurse researchers and nurse practitioners can influence health care reform in a positive way by discovering strategies that encourage people to take responsibility for their own health and participate in health protective behaviors.

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Appendix A

Permission to Distribute and Collect Survey at the  
Nurse practitioner Organization's Conference





OREGON NURSES ASSOCIATION

September 28, 1993

Sonja Rose Scholz  
3211 SW 10th Ave., Apt 302  
Portland, OR 97201

Dear Ms. Scholz

The Nurse Practitioners of Oregon has agreed to allow the distribution of the "Lifestyle Profile" survey during registration on Thursday, September 30, 1993. It is also agreed that it is your responsibility for the collection of this document.

Please see Melanie Churilla at the Valley River Inn conference registration desk.

Sincerely,

A handwritten signature in cursive script that reads "Carol Cottet" followed by a small flourish.

Carol Cottet, Chairperson  
Nurse Practitioners of Oregon

mc

Appendix B  
Cover Letter



OREGON  
HEALTH SCIENCES UNIVERSITY

3181 S.W. Sam Jackson Park Road, SN-FAM, Portland, Oregon 97201-3098 (503)494-8382

*School of Nursing  
Department of Family Nursing*

September 30, 1993

Dear Nurse Practitioner,

As a nurse practitioner, you help clients make choices to attain optimal health. As a nurse practitioner student in the Master's Program at Oregon Health Sciences University, I am asking for your help to complete the following research study. "Nurse Practitioners and Health Protective Behaviors: What Do They Practice and Teach?"

The purpose of this research study is to describe the health practices of nurse practitioners, and the strategies they find helpful in advising their clients about health protective behaviors. Health protective behavior is defined as all personal habits or behaviors that prevent illness or promote health.

Please complete the following survey by circling one response per item, and providing written responses where indicated. The survey consists of 84 items, and will take about 10 minutes to complete. Please return completed surveys to the box labeled HEALTH PRACTICE SURVEYS at the conference registration desk by noon on October 2, 1993.

There is a low risk of breach of confidentiality. This risk will be minimized by keeping completed surveys in a sealed file, and by not associating data with names.

There is no direct benefit to you for participating in this research study. Your responses will contribute to our knowledge of nurse practitioner practices related to health promotion.

The only cost to you for participating in this study is the time it will take to complete the survey (approximately 10 minutes).

Your participation in this research study is voluntary. Completion of the survey indicates your consent to use this information in my research. To protect your privacy do not place your name on the survey. Completed surveys and demographic data will be kept confidential. Data will be kept in a sealed file while at the conference, and will be transferred to a locked file when data collection is complete.

*Schools:  
Schools of Dentistry, Medicine, Nursing*

*Clinical Facilities:  
University Hospital,  
Doernbecher Children's Hospital,  
Child Development and Rehabilitation Center,  
University Clinics*

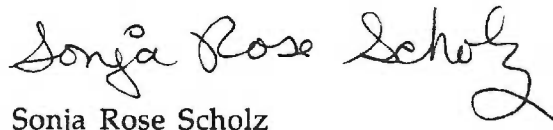
*Special Research Divisions:  
Biomedical Information Communication Center,  
Center for Research on Occupational and  
Environmental Toxicology,  
Vollum Institute for  
Advanced Biomedical Research*

A brief summary of the results will be made available at the next annual NPO meeting. If you wish to have a summary of the results earlier than the next annual NPO meeting please return your name and address on the separate sheet provided, and I will mail you a copy of the results when they become available.

I will be available during the conference to answer any questions you may have regarding this research, or I can be contacted later at (503) 796-9157.

You may keep this cover letter for future reference. Thank you for your assistance.

Sincerely,

A handwritten signature in cursive script that reads "Sonja Rose Scholz". The signature is written in black ink and is positioned above the printed name.

Sonja Rose Scholz

Appendix C  
Survey Tool

## LIFESTYLE PROFILE

**DIRECTIONS:** This questionnaire contains statements regarding your *present* way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the regularity with which you engage in each behavior by circling:

N for never, S for sometimes, O for often, or R for routinely.

	NEVER	SOMETIMES	OFTEN	ROUTINELY
1. Eat breakfast.	N	S	O	R
2. Report any unusual signs or symptoms to a physician.	N	S	O	R
3. Like myself.	N	S	O	R
4. Perform stretching exercises at least 3 times per week.	N	S	O	R
5. Choose foods without preservatives or other additives.	N	S	O	R
6. Take some time for relaxation each day.	N	S	O	R
7. Have my cholesterol level checked and know the result.	N	S	O	R
8. Am enthusiastic and optimistic about life.	N	S	O	R
9. Feel I am growing and changing personally in positive directions.	N	S	O	R
10. Discuss personal problems and concerns with persons close to me.	N	S	O	R
11. Am aware of the sources of stress in my life.	N	S	O	R
12. Feel happy and content.	N	S	O	R
13. Exercise vigorously for 20-30 minutes at least 3 times per week.	N	S	O	R
14. Eat 3 regular meals a day.	N	S	O	R
15. Read articles or books about promoting health.	N	S	O	R
16. Am aware of my personal strengths and weaknesses.	N	S	O	R
17. Work toward long-term goals in my life.	N	S	O	R
18. Praise other people easily for their accomplishments.	N	S	O	R
19. Read labels to identify the nutrients in packaged food.	N	S	O	R
20. Question my physician or seek a second opinion when I do not agree with recommendations.	N	S	O	R
21. Look forward to the future.	N	S	O	R
22. Participate in supervised exercise programs or activities.	N	S	O	R
23. Am aware of what is important to me in life.	N	S	O	R

	NEVER	SOMETIMES	OFTEN	ROUTINELY
24. Enjoy touching and being touched by people close to me.	N	S	O	R
25. Maintain meaningful and fulfilling interpersonal relationships.	N	S	O	R
26. Include roughage/fiber (whole grains, raw fruits, raw vegetables) in my diet.	N	S	O	R
27. Practice relaxation or meditation for 15-20 minutes daily.	N	S	O	R
28. Discuss my health care concerns with qualified professionals.	N	S	O	R
29. Respect my own accomplishments.	N	S	O	R
30. Check my pulse rate when exercising.	N	S	O	R
31. Spend time with close friends.	N	S	O	R
32. Have my blood pressure checked and know what it is.	N	S	O	R
33. Attend educational programs on improving the environment in which we live.	N	S	O	R
34. Find each day interesting and challenging.	N	S	O	R
35. Plan or select meals to include the "basic four" food groups each day.	N	S	O	R
36. Consciously relax muscles before sleep.	N	S	O	R
37. Find my living environment pleasant and satisfying.	N	S	O	R
38. Engage in recreational physical activities (such as walking, swimming, soccer, bicycling).	N	S	O	R
39. Find it easy to express concern, love and warmth to others.	N	S	O	R
40. Concentrate on pleasant thoughts at bedtime.	N	S	O	R
41. Find constructive ways to express my feelings.	N	S	O	R
42. Seek information from health professionals about how to take good care of myself.	N	S	O	R
43. Observe my body at least monthly for physical changes/danger signs.	N	S	O	R
44. Am realistic about the goals that I set.	N	S	O	R
45. Use specific methods to control my stress.	N	S	O	R
46. Attend educational programs on personal health care.	N	S	O	R
47. Touch and am touched by people I care about.	N	S	O	R
48. Believe that my life has purpose.	N	S	O	R

Part 2

Please circle one response per item.

49. I have a yearly influenza vaccine: yes no

50. I have had/am getting the hepatitis B vaccine:  
yes no

51. I have a yearly PPD, or chest X-ray, as recommended?  
yes no

52. I have a pap smear regularly as recommended?  
yes no not applicable

53. I currently:  
a) do not smoke  
b) smoke less than 1 pack per day  
c) smoke 1-2 packs per day  
d) smoke greater than 2 packs per day

54. In the past I:  
a) have never smoked  
b) smoked less than 1 pack per day  
c) smoked 1-2 packs per day  
d) smoked more than 2 packs per day

55. If ever a smoker: number of years smoked \_\_\_\_\_

56. I drink alcoholic beverages:  
a) not at all  
b) less often than once a week  
c) once a week  
d) more often than once a week

57. At any one time when I drink alcohol, I usually have:  
a) 1 drink  
b) 2-3 drinks  
c) 4-5 drinks  
d) more than 5 drinks

58. While in an automobile I wear my seatbelt:  
a) never  
b) sometimes  
c) often  
d) routinely



59. I perform a breast self-exam (female) / a testicular self-exam (male):
- a) once a month
  - b) every 2-3 months
  - c) every year
  - d) do not perform
60. I have my teeth cleaned, and a dental exam:
- a) less frequently than every 2 years
  - b) every 2 years
  - c) every year
  - d) every 6 months
61. I take medications (prescribed, and over-the-counter) as recommended:
- a) routinely
  - b) often
  - c) sometimes
  - d) never
62. I practice firearm safety measures:
- a) routinely
  - b) often
  - c) sometimes
  - d) never
  - e) do not own a firearm
63. During the course of my usual practice I counsel clients on health protective behaviors:
- a) routinely
  - b) often
  - c) sometimes
  - d) never
64. I feel qualified to counsel clients regarding health protective behaviors:
- a) routinely
  - b) often
  - c) sometimes
  - d) never
65. I feel that the information I provide to my clients is used by the client:
- a) routinely
  - b) often
  - c) sometimes
  - d) never

Please use the following response set to answer questions 66-70.  
 N-never; S-sometimes; O-often; R-routinely

- |  | NEVER | SOMETIMES | OFTEN | ROUTINELY |
|--|-------|-----------|-------|-----------|
| 66. I use the following strategies when counseling <u>new clients</u> about health protective behaviors:         |       |           |       |           |
| -extra scheduled time  | N     | S         | O     | R         |
| -health habit videos   | N     | S         | O     | R         |
| -written materials (pamphlets, comics, wall charts, books,etc.)  | N     | S         | O     | R         |
| -Health Risk Assessments   | N     | S         | O     | R         |
| -role-modeling   | N     | S         | O     | R         |
| -self-help groups  | N     | S         | O     | R         |
| -referral  | N     | S         | O     | R         |
| -other _____   | N     | S         | O     | R         |
| 67. I use the following strategies when counseling <u>established clients</u> about health protective behaviors: |       |           |       |           |
| -extra scheduled time  | N     | S         | O     | R         |
| -health habit videos   | N     | S         | O     | R         |
| -written materials   | N     | S         | O     | R         |
| -Health Risk Assessments   | N     | S         | O     | R         |
| -role-modeling   | N     | S         | O     | R         |
| -self-help groups  | N     | S         | O     | R         |
| -referral  | N     | S         | O     | R         |
| -other _____   | N     | S         | O     | R         |
| 68. I use the following strategies when counseling <u>one-time clients</u> about health protective behaviors:    |       |           |       |           |
| -extra scheduled time  | N     | S         | O     | R         |
| -health habit videos   | N     | S         | O     | R         |
| -written materials   | N     | S         | O     | R         |
| -Health Risk Assessments   | N     | S         | O     | R         |
| -role-modeling   | N     | S         | O     | R         |
| -self-help groups  | N     | S         | O     | R         |
| -referral  | N     | S         | O     | R         |
| -other _____   | N     | S         | O     | R         |
| 69. I use the following strategies when counseling <u>specialty clients</u> about health protective behaviors:   |       |           |       |           |
| -extra scheduled time  | N     | S         | O     | R         |
| -health habit videos   | N     | S         | O     | R         |
| -written materials   | N     | S         | O     | R         |
| -Health Risk Assessments   | N     | S         | O     | R         |
| -role-modeling   | N     | S         | O     | R         |
| -self-help groups  | N     | S         | O     | R         |
| -referral  | N     | S         | O     | R         |
| -other _____   | N     | S         | O     | R         |

Please continue to respond:

N-never; S-sometimes; O-often; R-routinely

70. I counsel my clients about the following health protective behaviors:

	NEVER	SOMETIMES	OFTEN	ROUTINELY
-exercise habits	N	S	O	R
-nutrition	N	S	O	R
-sleep habits	N	S	O	R
-tobacco use	N	S	O	R
-alcohol use	N	S	O	R
-correct use/side effects of over-the-counter drugs	N	S	O	R
-correct use/side effects of prescription drugs	N	S	O	R
-ideal body weight	N	S	O	R
-stress reduction	N	S	O	R
-self-esteem / mental-health issues	N	S	O	R
-dental exams	N	S	O	R
-cholesterol levels	N	S	O	R
-breast self-exam	N	S	O	R
-testicular self-exam	N	S	O	R
-pap smears	N	S	O	R
-seat belt use	N	S	O	R
-firearm safety	N	S	O	R
-other _____	N	S	O	R

71. Of those behaviors presented above, please list the three you most frequently discuss with clients.

-----  
-----  
-----

72. What do you see as the greatest barrier to providing health promotion counseling to your clients?

-----

Demographics

73. Age\_\_\_\_\_ 74. \_\_\_Male \_\_\_Female
75. Ethnicity:\_\_\_Caucasian \_\_\_Afro-American \_\_\_Asian  
\_\_\_Hispanic \_\_\_Native American  
\_\_\_Other (please specify)\_\_\_\_\_
76. Height (in inches) \_\_\_\_\_ 77. Weight (in pounds) \_\_\_\_\_
78. Usual number of hours of sleep per night\_\_\_\_\_
79. Usual number of hours worked each week\_\_\_\_\_
80. Location of practice: Rural\_\_\_\_\_ Suburban\_\_\_\_\_  
Urban\_\_\_\_\_
81. Average number of clients seen each day\_\_\_\_\_
82. Type of initial education for nurse practitioner role:  
\_\_\_BS with certificate \_\_\_Master's degree  
\_\_\_other (please specify)\_\_\_\_\_
83. Type of practice: \_\_\_Family \_\_\_Adult  
\_\_\_Mental-Health \_\_\_Pediatric  
\_\_\_Geriatric \_\_\_Women's Health/Midwife  
\_\_\_Specialty (eg. Diabetes, AIDS), (please specify)  
\_\_\_\_\_
84. What year was your initial education for your nurse practitioner role  
completed? \_\_\_\_\_

Thank-you for your assistance. Please return this questionnaire to the box labeled Health Practice Surveys at the conference registration desk by NOON on October 2.

I do wish to receive a brief summary of the results of the study: "Nurse practitioners and health protective behaviors: What do they practice and teach?"

Please print legibly:

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_

ZIP CODE: \_\_\_\_\_

Please separate this form from your questionnaire. Return it to the box labelled Health Practice Surveys located at the conference registration desk by NOON on October 2, only if you wish to receive the results of the study before next year's conference.

Appendix D

Permission to Use the Health-Promoting  
Lifestyle Profile

## HEALTH-PROMOTING LIFESTYLE PROFILE

Dear Colleague:

We are pleased to reply to your request for information about our Health-Promoting Lifestyle Profile. In order to respond promptly to the large volume of correspondence we receive, we have found it necessary to prepare this standard letter containing information that is commonly sought. We hope that you will feel free to write or call as necessary to obtain any further information that you may need.

The Health-Promoting Lifestyle Profile measures health-promoting behavior, conceptualized as a multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization and fulfillment of the individual. The 48-item summated behavior rating scale employs a 4-point response format to measure the frequency of self-reported health-promoting behaviors in the domains of self-actualization, health responsibility, exercise, nutrition, interpersonal support and stress management. It was developed for use in research within the framework of the Health Promotion Model (Pender, 1987), but has subsequently been employed for a variety of other purposes as well. The development and psychometric evaluation of the English language versions were described by Walker, Sechrist and Pender (1987) and scores among the initial study sample were reported by Walker, Volkan, Sechrist and Pender (1988). The translation and psychometric evaluation of the Spanish language version as well as scores among a Hispanic sample were reported by Walker, Kerr, Pender and Sechrist (1990).

Copyright of both English and Spanish language versions of the instrument is held by Susan Noble Walker, EdD, RN, Karen R. Sechrist, PhD, RN, FAAN and Nola J. Pender, PhD, RN, FAAN. You have our permission to copy and use the enclosed Health-Promoting Lifestyle Profile for non-commercial data collection purposes such as research or evaluation projects provided that content is not altered in any way and the copyright/permission statement at the end is retained. The instrument also may be reproduced in the appendix of a thesis, dissertation or research grant proposal without further permission. Reproduction for any other purpose, including the publication of study results, is prohibited without specific permission from the authors.

There is no charge for such authorized use, but we would appreciate receiving notification of your intent to use the instrument and a report of your completed study/project for our files. It is particularly useful to know of any publications reporting use of the instrument so that we can maintain an accurate complete listing. To facilitate record keeping, all information should be sent to:

Susan Noble Walker, Ed.D., R.N.  
Associate Professor  
University of Nebraska Medical Center  
College of Nursing  
600 South 42nd Street  
Omaha, Nebraska 68198-5330  
(402) 559-6561

We thank you for your interest in using the Health-Promoting Lifestyle Profile and wish you much success with your efforts.

Sincerely,

Susan Noble Walker

Karen R. Sechrist

Nola J. Pender

Appendix E

Article to Submit for Publication



## Health Protective Behaviors

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The study was conducted to describe the personal health practices of NPs in Oregon and the counseling about health protective behaviors they provided to clients. A survey using the Health-Promoting Lifestyle Profile was completed by 182 NPs (response rate 76%) attending an annual statewide continuing education conference. The results indicate that NPs practice and routinely counsel clients about health protective behaviors. NPs could improve their personal health practices related to stress management and exercise. The three behaviors clients were most frequently counselled about were smoking cessation, nutrition and exercise.

Economic constraints and health care reform have health care providers seeing increasingly more patients in a seemingly decreasing amount of time. But as the population of the United States ages, thus increasing the amount of time in which to develop chronic illness, it is even more important to find the time to counsel clients about health promotion. As nurse practitioners (NPs) assist clients to make positive lifestyle changes it is important to know if NPs are practicing those same healthy behaviors. Holcomb and Mullen (1986) surveyed a group of certified nurse midwives (CMNs) about general health practices and concluded that "most of the respondents were good health role models" (p. 147).

Results of four studies reveal discrepancies about the performance of NPs in the counseling role. Two groups of researchers felt that NPs could improve their performance in the counseling role (Barron, Ganong & Brown, 1987; Warren & Poh1, 1990). The results of two other studies indicated that NPs were doing a good job of counseling clients about health behaviors (Holcomb & Mullen, 1986; Zahand, Coates, Richard & Cummings, 1990).

#### Research Questions

The study was designed to answer the following questions about health protective behaviors. For the purpose of this research, health protective behaviors

will be defined as all personal habits or behaviors that prevent illness and/or promote health. 1) How often do Oregon NPs perform health protective behaviors? 2) How often do Oregon NPs counsel clients about health protective behaviors?

#### Methods

A descriptive, non-experimental, cross-sectional design was chosen to answer these research questions. The Oregon state nurses association gave permission to distribute the survey at the Nurse Practitioner Organization's statewide, annual continuing education conference. Attendees, which included members and nonmembers of ONA, were approached as they registered, and as they entered and left the conference areas, and invited to participate. Oregon NPs are independent providers of health care within their scope of practice, as defined by their educational preparation, and have had independent prescriptive authority since 1979 based on a periodically updated pharmaceutical formulary.

#### Instruments

The Health-Promoting Lifestyle Profile (HPLP) (Walker, Sechrist, & Pender, 1987) was used, and additional items were added to include other behaviors that are important in maintaining/promoting health, in preventing/detecting disease, counseling behaviors, and

to describe the respondents. Permission to use the HPLP was obtained from the authors. The HPLP contains 48 items divided into six sub-scales: self-actualization, health responsibility, exercise, nutrition, interpersonal support, and stress management. Responses for the items are never-1, sometimes-2, often-3, and routinely-4.

Reliability and validity on the HPLP have been previously established. Internal consistency was measured using Cronbach's alpha, and reported by Walker, et. al. (1987). Alphas for the sub-scales ranged from .702 to .904, with an alpha of .922 for the total scale. This was based on the responses of 952 adults in Midwestern communities. Test-retest reliability, based on a sample of 63, over a two week interval, yielded a Pearson's  $r$  of .926 for the total scale, and ranged from .808 to .905 for the sub-scales. Similar internal consistency for this sample is reported in the results. Walker et. al. (1987) established content validity by utilizing input from faculty familiar with health promotion literature, and construct validity through factor analysis.

#### Data Analysis

Data from the HPLP are reported as the mean total score. Other data are reported in percentages based on respondents performing the behavior often or routinely.

An alpha of .05 was chosen to evaluate significant differences between groups. The authors of the HPLP as it has been used thus far in research have not published a normative score indicating a healthy lifestyle, for the purpose of this study a mean total score of  $\geq 2.80$  on the HPLP will be interpreted as indicative of a healthy lifestyle. Respondents obtaining this score "often" participated in health-promoting behaviors.

#### Results and Discussion

Completed surveys were returned by 182 NPs (response rate 76%). The participants ranged in age from 27 to 65 (mean = 43.6) years old. The majority of respondents (76%) reported initial NP preparation at the Master's level; 13% reported a Bachelor of Science degree with a certificate; and 10% reported an Associate or Diploma degree with certificate, or education at a post-Master's level. Number of years since graduation ranged from less than 1 to 27; (38%)  $\leq 5$  years ago, (20%) 6 - 10 years ago, (24%) 11 - 15 years ago, and (18%)  $> 15$  years ago.

Data describing type and location of NP employment were also obtained. Areas of practice included were family (38%), adult (18%), women's health/midwifery (15%), mental health (12%), pediatrics (6%), geriatrics (5%), and combined or specialty practice (7%).

Respondents represented urban practices (48%), suburban

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(25%), and rural (27%). Number of hours worked per week ranged from 8 to 90 (mean = 37) hours. Number of clients seen each day by NPs working 30 hours or more per week ranged from 4 to 40 (mean = 16.53, median = 15).

The reliability of the HPLP for this sample was considered adequate. The internal consistency, estimated using Cronbach's alpha, was .89 for the total scale, and ranged from .70 to .89 for the sub-scales. Total scores on the HPLP ranged from 2.25 to 3.73 on a 4 point scale (mean =  $3.1 \pm .32$ ). Eighty-five percent of the sample had a score  $\geq$  2.80, and therefore are reporting health-promoting lifestyles.

When asked participants reported performing the following behaviors that improve or protect one's health. Eighty-four percent of the sample have been vaccinated for Hepatitis B which is appropriate given exposure risks of health professionals, 59% have an annual influenza vaccination, and 54% have annual PPDs. Other health behaviors are reported in Table 1. This self-report may be a high estimate of frequency with health professionals unwilling to admit poor habits despite the anonymity of a pencil and paper survey. If participants did indeed report their behavior accurately, then they are doing a good job of modeling health protective behaviors.

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Table 1  
Percentage of Nurse Practitioners Who Counsel Clients  
Compared to Percentage of Nurse Practitioners Who  
Practice the Behavior (N = 182)

Behavior <sup>a</sup>	Counsel		Practice	
	f	%	f	%
Exercise	160	89%	113	62%
Nutrition	161	89%	153	84%
Sleep	105	58%	150	83%
Tobacco Cessation	163	92%	171	94% <sup>b</sup>
Limiting Alcohol	154	87%	175	96% <sup>c</sup>
O.T.C.s	139	78%	132	75% <sup>d</sup>
Prescriptions	168	93%	132	75% <sup>d</sup>
Ideal Body Weight	96	54%	120	72%
Stress	133	74%	71	39%
Self-esteem	119	66%	156	86%
Dental Care	74	41%	161	89%
Cholesterol	124	70%	125	69%
BSE	138	78%	156	89% <sup>e</sup>
TSE	91	55%	3	43% <sup>g</sup>
PAP	142	80%	155	92% <sup>e</sup>
Seat-belts	80	45%	176	97%
Firearm Safety	23	13%	34	89% <sup>h</sup>

f = frequency; a = %of those responding they often or routinely do the behavior; b = do not smoke; c = use alcohol moderately, occasionally or not at all; d = asked how frequently counseled on use of O.T.C.s & prescription medicines, but how they use medicines in general for personal practice; e = of females; g = of males; h = of those who own firearms

"Table 1 about here"

When asked about counseling behaviors in general, 76% of the respondents reported routinely counseling about health protective behaviors. Practitioners were asked how frequently they discussed 17 specific health protective behaviors with their clients. These behaviors listed in Table 1 are reported by the percentage of practitioners who often or routinely counsel clients about these practices, as compared to the percentage of nurse practitioners who often or routinely perform these same behaviors. Self-report data for these comparisons were obtained from specific questions, mean scores from the HPLP sub-scales, and in the case of body weight the percentage whose body mass index (weight in kilograms / height in meters squared) fell between 20 to 25 (Matz, 1987). The three health protective behaviors most frequently discussed with clients were: tobacco use, exercise, and nutrition. Respondents were invited to list additional health protective behaviors they



counseled about that were not included on the survey. Additional behaviors counseled about included: drug abuse, self-care issues, immunization, insurance issues, skin self-exam, nutritional supplements, psychological and developmental issues, positive relationships, safety issues, STD prevention, violence/abuse issues, and women's health issues in addition to birth control and hormone replacement therapy. Seven methods of counseling rank ordered from most to least frequently used were written materials, role-modeling, referral, extra-scheduled time, self-help groups, risk assessments, and videos.

The top three personal health practices included seat-belt use, consuming no more than a moderate amount of alcohol, and avoiding tobacco. Personal practice lapsed in the areas of stress management, testicular self exam (perhaps explained by the age of the sample as compared with the age group for which TSE is recommended), and exercise. There is some support to suggest congruency between personal practice and counseling. Those practitioners who were routinely counseling clients about health protective behaviors had a significantly higher mean score on the HPLP than did those who were counseling often, sometimes or never. Data were analyzed in this fashion so that the two groups

compared would each have an  $n \geq 30$ . The mean HPLP score for those who counsel clients routinely was 3.17, while the score for those who counsel less routinely was 2.97 ( $t = -3.72, p < .001$ ).

The NPs in this sample could improve their counseling performance in the areas of firearm safety, dental care, seat-belt use, ideal body weight, and TSE. In general 80% reported that they routinely felt qualified to counsel about health protective behaviors, but these may be areas in which they felt less prepared to counsel, or one may postulate that NPs choose to discuss the health protective behaviors they consider the most important. Practitioners who reported routinely feeling qualified to counsel clients about health protective behaviors had a higher mean score on the HPLP than did those who often, sometimes, or never felt prepared. Again, data were analyzed in this fashion so that the two groups would each have an  $n \geq 30$ . Those who routinely felt qualified had a mean score on the HPLP of 3.14, while those who often, sometimes, or never felt qualified had a mean score of 3.02 ( $t = -2.03, p = .04$ ). Also of note was the significant correlation between how often NPs counseled about and how qualified they felt to counsel about health protective behaviors ( $r = .26, p < .001$ ). Although this is a small correlation it would be

interesting to see if it became larger in a sample of NPs with a larger number who reported feeling less qualified to counsel. These results do suggest that NPs who practice and are knowledgeable about health protective behaviors are more likely to pass this information on to their clients.

Respondents were also asked how often they felt that clients used the information provided regarding health protective behaviors. Only 4% of respondents thought that clients routinely used the information; 36% felt clients often used the information; 59% felt clients sometimes used the information; and 1% felt that clients never used the information. There was a significant correlation between how often practitioners were counseling and how often they felt clients used the information provided ( $r = .16$ ,  $p = .03$ ). This is a small and perhaps clinically irrelevant correlation, but it would be interesting to ascertain whether clients are more likely to use provided information if they hear it routinely, or if NPs are more likely to counsel if they feel clients are listening? If NPs don't counsel because they feel clients do not use the information then more research should be done in the areas of increasing client compliance with information provided. Other reasons given for not counseling clients included lack of time

(58%) and lack of reimbursement.

#### Conclusion

Overall, 62 - 97% of the NPs in this sample report practicing health protective behaviors, with the exception of stress management, "often" or "routinely." Thus this group of NPs are serving as good role models for their clients which they mentioned as a method of counseling clients about health protective behaviors. Given that a number of NPs reported lack of time and lack of reimbursement as barriers to counseling clients, this group of NPs include client education suggesting it is an important part of their practice. Investigators need to document effective strategies that can be used to overcome these barriers because counseling clients about health protective behaviors is important. It is also important to study the long term outcomes of counseling to show that the increased time spent counseling clients about healthy lifestyles will lead to decreased time and money spent in treating the results of unhealthy lifestyles. This is especially important given the current climate of seeing more clients per amount of time, and the greater percentage of people living long enough to develop chronic illness which could have been prevented if they had been taught to live a healthy life.

Those NPs who were most likely to counsel clients

about health protective behaviors were those who practiced better health-promoting lifestyles and those who felt more qualified to provide this type of counseling. Two areas in which NPs in this sample could improve their own health practice include exercising aerobically at least three times per week and in the area of stress management. Future NP education should continue to include information on health protective behaviors so those who feel less qualified to counsel have the means to become more qualified. The NPs in this sample need to improve counseling behaviors on the issues of firearm safety, seat-belt use, and dental care. These issues may be easily overlooked when trying to squeeze issues like smoking cessation, nutrition, or exercise in a 15 minute appointment; perhaps a tool could be developed to aid NPs in counseling on these issues. Working together, nurse researchers and nurse practitioners can influence health care reform in a positive way by discovering strategies that encourage people to take responsibility for their own health and participate in health protective behaviors.

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