Why Patients Use Alternative Medicine

Results of a National Study

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Context.—Research both in the United States and abroad suggests that significant numbers of people are involved with various forms of alternative medicine. However, the reasons for such use are, at present, poorly understood.

Objective.—To investigate possible predictors of alternative health care use.

Methods.—Three primary hypotheses were tested. People seek out these alternatives because (1) they are dissatisfied in some way with conventional treatment; (2) they see alternative treatments as offering more personal autonomy and control over health care decisions; and (3) the alternatives are seen as more compatible with the patients' values, worldview, or beliefs regarding the nature and meaning of health and illness. Additional predictor variables explored included demographics and health status.

Design.—A written survey examining use of alternative health care, health status, values, and attitudes toward conventional medicine. Multiple logistic regression analyses were used in an effort to identify predictors of alternative health care use.

Setting and Participants.—A total of 1035 individuals randomly selected from a panel who had agreed to participate in mail surveys and who live throughout the United States.

Main Outcome Measure.—Use of alternative medicine within the previous year.

Results.—The response rate was 69%. The following variables emerged as predictors of alternative health care use: more education (odds ratio [OR], 1.2; 95% confidence interval [CI], 1.1-1.3); poorer health status (OR, 1.3; 95% CI, 1.1-1.5); a holistic orientation to health (OR, 1.4; 95% CI, 1.1-1.9); having had a transformational experience that changed the person's worldview (OR, 1.8; 95% CI, 1.3-2.5); any of the following health problems: anxiety (OR, 3.1; 95% CI, 1.6-6.0); back problems (OR, 2.3; 95% CI, 1.7-3.2); chronic pain (OR, 2.0; 95% CI, 1.1-3.5); urinary tract problems (OR, 2.2; 95% CI, 1.3-3.5); and classification in a cultural group identifiable by their commitment to environmentalism, commitment to feminism, and interest in spirituality and personal growth psychology (OR, 2.0; 95% CI, 1.4-2.7). Dissatisfaction with conventional medicine did not predict use of alternative medicine. Only 4.4% of those surveyed reported relying primarily on alternative therapies.

Conclusion.—Along with being more educated and reporting poorer health status, the majority of alternative medicine users appear to be doing so not so much as a result of being dissatisfied with conventional medicine but largely because they find these health care alternatives to be more congruent with their own values, beliefs, and philosophical orientations toward health and life.

JAMA. 1998;279:1548-1553

IN 1993 Eisenberg and colleagues[1] reported that 34% of adults in the United States used at least 1 unconventional form of health care (defined as those practices "neither taught widely in U.S. medical schools nor generally available in U.S. hospitals") during the previous year. The most frequently used alternatives to conventional medicine were relaxation techniques, chiropractic, and massage. Although educated, middle-class white persons between the ages of 25 and 49 years were the most likely ones to use alternative medicine, use was not confined to any particular segment of the population. These researchers estimated that Americans made 425 million visits to alternative health care providers in 1990, a figure that exceeded the number of visits to allopathic primary care physicians during the same period.

Recent studies in the United States[2] and abroad[3,4] support the prevalent use of alternative health care. For example, a 1994 survey of physicians from a wide array of medical specialties (in Washington State, New Mexico, and Israel) revealed that more than 60% recommended alternative therapies to their patients at least once in the preceding year, while 38% had done so in the previous month.[2] Forty-seven percent of these physicians also reported using alternative therapies themselves, while 23% incorporated them into their practices.

When faced with the apparent popularity of unconventional medical practices and the fact that people seem quite willing to pay out-of-pocket for these services,[1] the question arises: What are the sociocultural and personal factors (health status, beliefs, attitudes, motivations) underlying a person's decision to use alternative therapies?

At present, there is no clear or comprehensive theoretical model to account for the increasing use of alternative forms of health care. Accordingly, the goal of the present study was to develop some tentative explanatory models that might account for this phenomenon.

Three theories that have been proposed to explain the use of alternative medicine were tested:

1. Dissatisfaction: Patients are dissatisfied with conventional treatment because it has been ineffective,[5,6] has produced adverse effects,[6,7] or is seen as impersonal, too technologically oriented, and/or too costly.[6-15]

2. Need for personal control: Patients seek alternative therapies because they see them as less authoritarian[16] and more empowering and as offering them more personal autonomy and control over their health care decisions.[14,16-19]

3. Philosophical congruence: Alternative therapies are attractive because they are seen as more compatible with patients' values, worldview, spiritual/religious philosophy, or beliefs regarding the nature and meaning of health and illness.[19-24]

In addition to testing the validity of these 3 theoretical perspectives, this study also sought to determine on an exploratory basis how the decision to seek alternative therapies is affected by patients' health status and demographic factors.

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METHODS

Participants completed an extensive mail survey that gathered information on use of alternative health care, perceived benefits and risks of these therapies, health beliefs and attitudes, views toward and experiences with conventional medicine, political beliefs, and worldview. The original survey instrument was developed by Ray,[24] and the survey was conducted through National Family Opinion, Inc, which maintains a panel of persons who have agreed to be participants in mail surveys. This panel constitutes a representative national sample from which subsamples can be drawn. A random sample of 1500 individuals was drawn from this panel, with 1035 people completing the questionnaire (a response rate of 69%).

Dependent Variable

Following Eisenberg et al,[1] the dependent variable, alternative health care use, a dichotomous measure, was operationalized as used within the previous year of any of the following treatments: acupuncture, homeopathy, herbal therapies, chiropractic, massage, exercise/movement, high-dose megavitamins, spiritual healing, lifestyle diet, relaxation, imagery, energy healing, folk remedies, biofeedback, hypnosis, psychotherapy, and art/music therapy. Several of these treatments, however, were deemed not to be alternative or unconventional if they were used to treat particular health-related problems: (1) exercise for lung problems, high blood pressure, heart problems, obesity, muscle strains, or back problems; (2) psychotherapy for depression or anxiety; and (3) self-help groups for depression or anxiety. The category "alternative medicine" was thus delimited to exclude those practices that are already part of standard medical care and recommendations such as exercise to treat hypertension or psychotherapy to treat depression. (The category "lifestyle diet" could include more standard or conventional dietary recommendations such as a low-fat or low-salt regimen for treating cardiovascular disease or hypertension.)

Analyses were repeated using a second dependent variable, primary reliance on alternative medicine, a dichotomous measure defined by those respondents who reported using primarily alternative therapies to treat health-related problems.

Independent Variables

Table 1 lists the independent variables considered possible predictors of alternative health care use. Since constructs like "satisfaction with conventional medicine" are highly generalized, multiple measures of these variables were used. Using principal components analysis with varimax rotation of selected questionnaire items, 4 multi-item factors were identified: satisfaction with conventional practitioners; health status; belief in the power of religious faith to heal; and belief in the efficacy of conventional medicine.

Since the dependent variable was dichotomous, logistic regression analyses were carried out. Demographic variables were entered in a first block with the remaining variables entered in a second block. These variables were entered together in the second block because their precise causal ordering was not readily apparent (ie, there was no clear theoretical rationale for entering them in separate blocks). The variables that then remained significant ($P<.05$) in the logistic regression analyses constituted the final multivariate model.

Table 1.—Independent Variables

Satisfaction with conventional medicine
General satisfaction: Thinking about the last time you went to see a medical doctor, how satisfied were you with the care you received? (4-point scale*)
Satisfaction with practitioners†
The last time you had important questions about your health care, and you asked a medical doctor about them, did you understand the answers? (4-point scale)
How much confidence do you have in the medical doctor you see most often for your health care? (4-point scale)
How much trust do you have in the medical doctor you see most often for your health care? (5-point scale)
Lack of trust: I don't trust doctors and hospitals, so I use them as little as possible. (yes/no)
Need for control
What do you prefer for involvement in decisions about your health care? Would you prefer to
___ Keep control in your own hands?
___ Have an equal partnership with the doctor?
___ Leave it in the doctor's hands?
Philosophical/value congruence
Belief in the power of religion†
When I have health problems, I try prayer first, then go to the doctor if I get really sick. (yes/no)
When I have health problems, I depend primarily on prayer and God's help. (yes/no)
Holistic philosophy
The health of my body, mind, and spirit are related, and whoever cares for my health should take that into account. (yes/no)
Classification in the value subculture "cultural creatives,"‡ those who are at the leading edge of cultural change and tend to be interested in psychology, spiritual life, self-actualization, self-expression, like the foreign and exotic, and enjoy mastering new ideas
Experiences of and/or beliefs about religion and spirituality (19 questions: yes/no/not sure)
Participation in a nontraditional religious or spiritual group (yes/no)
Belief in the efficacy of conventional medicine†
I put myself into my doctor's hands, to take care of things for me, and to tell me what's best for my health. (yes/no)
I take my body to the doctor's office, and I expect the doctor to "fix it." (yes/no)
I trust my medical doctor to do the best that Western medicine can do for me regardless of cost. (yes/no)
Health factors
Health problems
26 specific health problems (dichotomous measures: lung; hypertension; heart; diabetes; cancer; digestive; urinary tract; gynecologic; neurological; sprains; dermatological; allergies; dizziness; anxiety; depression; insomnia; acquired immunodeficiency syndrome; addiction; obesity; chronic dental; arthritis; back; headaches; chronic pain; chronic fatigue; other condition)
Health status†
Would you say that your health in general is excellent, very good, good, fair, poor?
During the past 12 months, about how many days did illness or injury keep you in bed more than half the day?
How much bodily pain have you had during the past 4 weeks? (5-point scale)
Demographic factors
Education, sex, income, race, and age

*All such multiple-point questions used standard Likert checkoff scales.
†Multi-item variable derived from factor analysis of selected questionnaire items.
‡Ray[24,29] has identified 3 value subcultures in the US population, termed "the cultural creatives," "the moderns" who represent mainstream popular culture and values, and "the heartlanders," a subculture characterized by fundamentalist and traditional values and beliefs.

Hypotheses

The following hypothesized relationships were tested in the multiple logistic regression:

1. Users of alternative health care will be distinguished from nonusers in that they will (*a*) report less satisfaction with conventional medicine; (*b*) demonstrate a greater desire to exercise personal control over health-related matters; and (*c*) subscribe to a holistic philosophical orientation to health.

2. Since the majority of health care alternatives are not covered by insurers, having access to more financial resources will predict use of alternative medicine.[25,26]

3. As suggested by previous research,[1,26-28] higher levels of education will be predictive of alternative medical use.

4. Users of alternative health care will be more likely to be part of a cultural group, described by Ray[24,29] as "cultural creatives," and identifiable by the following values: commitment to environmentalism; commitment to feminism; involvement with esoteric forms of spirituality and personal growth psychology, self-actualization, and self-expression; and love of the foreign and exotic. These individuals tend to be at the leading edge of cul-

tural change and innovation, coming up with the most new ideas in the society, and are therefore hypothesized to be more inclined to use alternative health care.

(Ray developed his value classifications, what he termed "value subcultures," empirically using factor analysis and multidimensional scaling to create orthogonal value dimensions. K-means clustering was then used to cluster respondents into the different value groupings. According to Ray,[24] the cultural creative group has been steadily growing in the culture at large since the late 1960s and now represents approximately 44 million Americans [23.6% of the adult population]. While there is likely some crossover in terms of values and orientation with those identified by the popular media as New Agers, the latter term has no operational definition while the categorization of cultural creative is based on empirical research examining specific values held by individuals in the culture at large.)

5. Those who report relying primarily on alternative forms of health care will be more likely to subscribe to a holistic philosophy of health (their greater commitment to these health practices being reflected in a set of health beliefs that are more congruent with many forms of alternative medicine).

RESULTS

Demographic Characteristics

Survey respondents were comparable to census data from the same time period with the exception of a slight underrepresentation of younger, less educated, and poor persons (Table 2).

Table 2.—Demographic Characteristics of Survey Sample (N=1035)

Variables	Sample, %	Users of Alternative Medicine, %
Age, y		
18-24	7.9	35
25-34	21.5	41
35-49	34.8	42
50-64	18.0	44
>64	17.9	35
Race/ethnicity		
White	79.5	41
Black	8.3	29
Hispanic	7.5	40
Asian/Pacific Islander	0.9	44
Native American	0.7	71
Other	3.1	44
Sex		
Male	48.6	39
Female	51.4	41
Education		
High school or less	30.2	31
Some college	26.3	47
Bachelor's degree	15.3	45
Graduate degree	8.7	50
Household income, $		
<12 500	11.9	33
12 500-24 999	15.3	42
25 000-39 999	25.3	36
40 000-59 999	22.9	44
≥60 000	24.7	44

Health Problems

Respondents were asked whether they had experienced any of a list of 26 health-related problems within the past year (Table 1). They were then asked to list the 3 most "bothersome" or "serious" ones. The top 5 problems listed were (1) back problems (19.7%); (2) allergies (16.6%); (3) sprains/muscle strains (15.7%); (4) digestive problems (14.5%); and (5) lung problems, pneumonia, or respiratory infections (13%).

Frequency of Use of Alternative Medicine

Forty percent of respondents reported using some form of alternative health care during the past year. The top 4 treatment categories were chiropractic (15.7%); lifestyle diet (8.0%); exercise/movement (7.2%); and relaxation (6.9%). The most frequently cited health problems treated with alternative therapies were chronic pain (37%); anxiety, chronic fatigue syndrome, and "other health condition" (31% each); sprains/muscle strains (26%); addictive problems and arthritis (both 25%); and headaches (24%).

Analyses were also carried out to determine which specific treatments were being used for which therapeutic modalities. Table 3 lists the top 10 health problems (in terms of percentage who treated them with alternative medicine) and the most frequently used alternative therapies for each.

Table 3.—Most Frequently Used Alternative Therapies for Specific Health Problems

Health Problems	Most Frequently Used Alternatives (No.)
Chronic pain	Exercise (12)
	Chiropractic (7)
	Massage (6)
Anxiety	Relaxation (11)
	Exercise (8)
	Herbs (3)
	Art/music therapy (3)
	Massage (3)
Chronic fatigue syndrome	Massage (3)
	Exercise (3)
	Self-help group (2)
	Megavitamins (2)
Sprains/muscle strains	Chiropractic (38)
	Exercise (22)
	Massage (10)
	Relaxation (6)
	Herbs (6)
Addictive problems	Psychotherapy (2)
	Self-help groups (2)
Arthritis or rheumatism	Exercise (17)
	Chiropractic (12)
	Homeopathy (5)
	Herbs (5)
	Other (5)
Severe headaches	Chiropractic (20)
	Massage (5)
	Exercise (5)
	Relaxation (4)
Depression	Relaxation (9)
	Exercise (5)
	Herbs (4)
Digestive problems	Lifestyle diet (7)
	Other (6)
	Relaxation (6)
	Herbs (5)
	Chiropractic (5)
Diabetes	Lifestyle diet (8)
	Exercise (7)
	Other (2)

Although certain alternative therapies tended to be used more frequently, a broad range of alternatives were, in fact, being used for the majority of health problems. For example, although chiropractic care represented close to 50% of all alternative treatments used for headaches, individuals also reported using acupuncture, homeopathy, megavitamins, spiritual healing, lifestyle diets, relaxation, massage, folk medicine, exercise, psychotherapy, and art/music therapy to treat this health problem. A similar pattern is evident across many of the health problems listed on the survey; ie, although particular alternative treatments may predominate, use is by no means confined to any particular therapy or even a few therapies.

Multivariate Statistics

The following variables predicted use of alternative medicine in the multiple logistic regression (criterion for entering was $P<.05$): (1) being more educated; (2) being classified in the value subculture of cultural creatives; (3) having a transformational experience that changed the person's worldview; (4) having poorer overall health; (5) believing in the importance of body, mind, and spirit in treating health problems (holistic health philosophy); and (6) reporting any of the following health problems: anxiety, back problems, chronic pain, or urinary tract problems. Table 4 presents the intercorrelations of all hypothesized predictors and use of alternative medicine. Table 5 presents the adjusted odds ratios and 95% confidence intervals for the independent variables that emerged as significant predictors.

Contrary to a number of previous findings[6-13,27] and the present study's hypothesis, negative attitudes toward or experiences with conventional medicine were not predictive of alternative health care use. Among those who reported being highly satisfied with their conventional practitioners (54%), 39% used alternative therapies, while 40% of those reporting high levels of dissatisfaction (9% of respondents) were users of alternative medicine.

Although there was a trend in the direction of those desiring to keep control in their own hands being more likely to use alternative medicine, this variable was also not a significant predictor of alternative medicine use as hypothesized.

Racial/ethnic differences also did not predict use of alternative medicine. Use was found across all groups (eg, whites,

Table 4.—Intercorrelations of Hypothesized Predictor Variables and Use of Alternative Medicine

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Use of alternative medicine	. . .													
2. Being a "cultural creative"	0.17*	. . .												
3. Having desire for control over health	0.03	0.04	. . .											
4. More education	0.13*	0.12*	0.07†	. . .										
5. Belief in efficacy of conventional care	−0.08†	−0.17*	−0.17*	−0.17*	. . .									
6. Poorer health status	0.13*	−0.01	−0.11*	−0.14*	0.10‡	. . .								
7. Higher income	0.06†	0.18*	0.16*	0.41*	−0.16*	−0.19*	. . .							
8. Dissatisfaction with conventional care	0.01	0.03	0.12*	−0.11‡	−0.14*	0.11‡	−0.05	. . .						
9. Urinary tract problems	0.07†	0.01	−0.01	−0.03	0.03	0.02	−0.05	−0.01	. . .					
10. Chronic pain	0.10‡	0.06	0.00	0.01	0.02	0.13*	0.03	0.08‡	−0.01	. . .				
11. Back problems	0.15*	0.03	0.03	−0.02	−0.03	0.10‡	0.02	0.11‡	−0.08†	0.01	. . .			
12. Anxiety	0.12*	0.06	0.00	0.03	−0.01	0.02	0.10‡	−0.04	−0.03	−0.04	−0.02	. . .		
13. Transformational experience	0.12*	0.02	0.04	0.01	−0.02	0.06	−0.05	0.03	−0.02	0.03	−0.01	0.01	. . .	
14. Holistic philosophy	0.13*	0.18*	0.07†	0.07†	0.04	0.00	0.07†	−0.02	−0.02	0.05	−0.02	0.11*	0.11*	. . .

*$P<.001$.
†$P<.05$.
‡$P<.01$

Table 5.—Significant Predictors in the Multiple Logistic Regression (N=1035)

Variables	Adjusted Odds Ratio (95% Confidence Interval)	*P*
Education*	1.20 (1.10-1.31)	<.001
Health status*	1.32 (1.15-1.52)	<.001
"Cultural creative"	1.95 (1.43-2.67)	<.001
Holistic philosophy	1.42 (1.08-1.86)	<.02
Had transformational experience	1.76 (1.26-2.48)	<.005
Anxiety	3.13 (1.64-5.96)	<.001
Back problems	2.30 (1.66-3.20)	<.001
Urinary tract problems	2.16 (1.32-3.52)	<.005
Chronic pain	1.98 (1.13-3.48)	<.02

*These variables were coded on a 5-point Likert scale (all other independent variables were dichotomous).

41%; blacks, 29%; Hispanics, 40%). (Percentages of Asian and Native American respondents who used alternative medicine are not reported here as their overall numbers in the sample are too small. Also, the fact that certain ethnic groups had relatively low representation in the sample may explain why they did not emerge as predictors in the regression.) No significant differences were found with respect to sex with 41% of women and 39% of men reporting use of alternative health care. Finally, neither income nor age predicted use of alternative medicine in the regression.

The results do, however, provide strong support for the philosophical/value congruence theory in several ways. First, as hypothesized, having a holistic philosophy of health ("The health of my body, mind, and spirit are related, and whoever cares for my health should take that into account") was predictive of alternative health care use. Among those subscribing to this philosophy, 46% reported being users of alternative medicine, while only 33% of those not endorsing the item were users. This finding suggests that use of alternative medicine may, in part, reflect shifting cultural paradigms, particularly with respect to recognizing the importance of spiritual factors in health. Second, the statement, "I've had a transformational experience that causes me to see the world differently than before," also emerged as a significant predictor. Of those who answered "yes" (18.3%), 53% reported use of alternative health care compared with 37% of those who responded "no" or "not sure." Third, those categorized as cultural creatives were significantly more likely to use alternative health care. Among this subcultural group, 55% reported using alternative health care compared with only 35% of those not in this group.

Education emerged as the 1 sociodemographic variable that predicted use of alternative medicine; individuals with higher educational attainment were more likely to use alternative forms of health care (eg, 31% of those with high school education or less reported use compared with 50% of those with graduate degrees).

The 3-item factor, health status, also emerged as a significant predictor of alternative health care use, with use increasing as health status declined. A number of specific health problems (ie, back problems, chronic pain, anxiety, and urinary tract problems) were also predictive of alternative health care use. These results suggest that experiencing certain health problems increases the likelihood that one will be a user of alternative medicine in a general sense (ie, not simply to treat that particular disorder). For example, those individuals citing anxiety as 1 of their 3 most serious health problems were almost twice as likely as nonanxiety sufferers (67% vs 39%) to be users of alternative health care.

To test the validity of the logistic regression model, 2 techniques were used. First, predicted values from the multivariate equation were divided into quintiles. The percentage of respondents within each quintile who used alternative medicine was then calculated. This analysis is typically used to assess the extent to which there is any clinical or policy relevance to the predictor variables beyond their being statistically significant.[30] Within the quintile of lowest predicted value scores, 17% used alternative medicine; within the highest quintile, 68% were users. These results suggest that the model is fairly strong and has practical (not merely statistical) significance.

To further examine the model's validity, the sample was randomly split into 2 even subsamples, and separate logistic regressions were run for each. These multivariate models were then compared, and there were no significant differences observed in the coefficients of each model. Finally, predicted values were again divided into quintiles in each subsample, and the spread of probabilities across each group was quite consistent between each model and in comparison with the overall regression model.

Primary Reliance on Alternative Medicine

To test whether individuals who report relying primarily on alternative forms of health care show a different profile from those who use alternative medicine more in conjunction with conventional means, separate logistic analyses were carried out. This exploratory analysis suggests that primary reliance on alternative forms of medicine is explained by a considerably different set of variables. The following independent variables were significant predictors in the multiple logistic regression: (1) distrust of conventional physicians and hospitals; (2) desire for control over health matters; (3) dissatisfaction with conventional practitioners; and (4) belief in the importance and value of one's inner life and experiences. The fact that only 4.4% (n=45) of the sample was categorized as relying primarily on alternative forms of health care is consistent with previous findings [1] suggesting that the vast majority of individuals appear to use alternative therapies in conjunction with, rather than instead of, more conventional treatment.

In contrast to individuals who use alternative therapies in conjunction with conventional medicine, for whom dissatisfaction with conventional medicine was

not a significant predictor of alternative health care use, 2 of the 4 predictors of primary reliance on alternative medicine reflect a general lack of trust in and satisfaction with conventional medical care. It is also individuals who report a desire to keep control in their own hands who are more likely to report relying primarily on unconventional forms of health care.

Education and health status did not predict primary reliance on alternative medicine. Neither being a cultural creative nor holding a holistic philosophy of health was a significant predictor in this model. These findings suggest that, contrary to my hypothesis, those evidencing a greater commitment to or reliance on alternative health care may be doing so primarily as a result of their dissatisfaction with conventional medicine rather than on ideological or philosophical grounds.

Because of the small sample size in the above analyses and the relatively imprecise measure of the dependent variable (ie, one can only infer that respondents who report relying primarily on these alternatives tend to use them more as a replacement than as a complement to conventional approaches), one must interpret these findings with caution.

Perceived Benefits of Alternative Medicine

Perceived benefits of alternative therapies were considered as potential determinants of use (eg, if someone reports receiving some benefit from a given treatment, this could in turn serve as an important determining factor in future health care decisions). The 2 most frequently endorsed benefits were, "I get relief for my symptoms, the pain or discomfort is less or goes away, I feel better," and "The treatment works better for my particular health problem than standard medicine's." These responses suggest that the most influential or salient factor in people's decision to use alternative health care may be its perceived efficacy. The response, "The treatment promotes health rather than just focusing on illness," was the third most frequently reported benefit and offers further support for the philosophical congruence theory.

COMMENT

The present study was designed to provide a comprehensive analysis of factors influencing the decision to use various forms of alternative health care. Based on the results from the multiple logistic regression, users of alternative medicine (40% of those surveyed) can generally be characterized as follows: Users tend to be better educated and to hold a philosophical orientation toward health that can be described as holistic (ie, they believe in the importance of body, mind, and spirit in health). They are more likely to have had some type of transformational experience that has changed their worldview in some significant way, and they tend to be classified in a value subculture as cultural creatives. Users of alternative health care are also more likely to report poorer health status than nonusers.

Relief of symptoms is the main benefit reported (the perceived efficacy of alternative medicine being cited nearly twice as often as other reported benefits). A central finding is that users of alternative health care are no more dissatisfied with or distrustful of conventional care than nonusers are.

Among those categorized as primarily reliant on alternative health care—fewer than 5% of the surveyed population—a different pattern emerged. Unlike those who used alternative therapies in conjunction with or as a supplement to conventional forms of medical care, these individuals were more likely to be dissatisfied with and distrustful of standard care as well as desirous of maintaining exclusive control over their health care decisions. They were also more likely to report being interested in their inner life and experiences, suggesting some crossover with the set of spiritually relevant variables that predicted nonexclusive use of alternative health care. These results suggest that future studies examining predictors of alternative health care use need to more carefully measure this phenomenon so that individuals who use these therapies in conjunction with or as a supplement to conventional means can be clearly distinguished from those who use them predominantly or more exclusively.

Several possible interpretations can be offered for certain variables that emerged as predictors of alternative health care use. Education, for example, may increase the likelihood that people will (1) be exposed to various nontraditional forms of health care through their own reading of popular or academic books on the subject; (2) educate themselves about their illnesses and the variety of treatments available to them; and/or (3) question the authority of conventional practitioners (ie, be less inclined simply to accept unquestionably the physician's knowledge and expertise).

There are also at least 2 possible explanations for the finding that poorer health status predicts alternative medical use. First, since those who are in poor health have, by definition, had less success in treating their health problems, their continued suffering may have prompted them to seek out alternatives. Second, a significant number of individuals who report poor health, more pain, disability, and physical symptoms may be somatizers. Somatization has been defined as "the propensity to experience and report somatic symptoms that have no pathophysiological explanation, to misattribute them to disease, and to seek medical attention for them."[31] Since research suggests that somatizers are disproportionately high users of medical services, get more medical tests, and tend to experiment with (shop around for) different health care practitioners, it seems reasonable that they would be more likely to seek out various health care alternatives.[32] It would be useful to design future studies examining predictors of alternative health care use in such a way that somatizers and nonsomatizers can be differentiated more clearly.

There are also several possible explanations for the finding that alternative medicine users are more likely to subscribe to a holistic philosophy of health. People who hold this philosophical orientation may be attracted to alternative forms of health care because they see in these therapeutic systems a greater acknowledgment of the role of nonphysical (mind/spirit) factors in creating health and illness. An alternate explanation (which would reverse the direction of causation) is that people who have been involved with alternative medicine have had their belief systems influenced by these therapeutic modalities and the philosophies underlying them.

That users of alternative health care are more likely to report having had a transformational experience that changed the way they saw the world lends partial support to the hypothesis that involvement with alternative medicine may be reflective of shifting cultural paradigms regarding beliefs about the nature of life, spirituality, and the world in general. As suggested by Charlton,[20] a subset of individuals may be attracted to these nontraditional therapies because they find in them an acknowledgment of the importance of treating illness within a larger context of spirituality and life meaning.

The apparent effect of one's spiritual/philosophical orientation on involvement with alternative health practices is further supported by the finding that being a cultural creative is a significant predictor of use. This suggests that the growing interest in alternative medicine may not simply represent a shift in individual beliefs about the nature of health and illness, but is rather a phenomenon that is transmitted through and influenced by the culture. This interpretation is supported by the finding that the effect of membership in this value subculture is not accounted for simply by holding a holistic philosophy of health; that is, both of these variables contributed independently in the logistic regression equation.

As with other studies that attempt to explain complex human behavioral phenomena, a significant amount of variance

is not explained by the regression equation. There are obviously unaccounted for variables such as a general openness to novelty and experimentation, or curiosity, that need to be examined in future studies. Another possibility is measurement error associated with the independent variables; for example, the variable "belief in the importance of body, mind, and spirit" might be interpreted differently depending on one's religious background. Moreover, the decision to use alternative medicine is sufficiently context or situation dependent (eg, influence of significant others who have used or not used various alternatives) to make prediction quite difficult.

Another limitation to this study is its cross-sectional nature, which precludes drawing any definitive conclusions regarding cause-and-effect relationships. For example, it is unclear whether holding a holistic philosophical orientation has led certain individuals to seek out alternative therapies, whether exposure to these therapies has somehow influenced the way they view health and illness, or whether both effects occur. Moreover, the reliance on self-report may weaken the internal validity of the study as retrospective accounts of one's health status, health practices, and reasons for making certain health care decisions may be subject to distortion and inaccuracy.

Since the sample underrepresented the poorer, less educated, and non–English-speaking segments of the population, it is unclear if (and how) the results would be different had these groups been better represented. It is possible that the modest overrepresentation of more educated respondents in the study sample may have slightly inflated the estimates of use of alternative therapies. Finally, since information could not be obtained on nonrespondents, there remains the possibility of some self-selection bias in the study sample.

Despite these limitations, the study results make several contributions to our understanding of alternative health care use. First, the results provide useful information to conventional practitioners about the health beliefs and practices of many of their patients and may suggest areas where practitioners and the present health care system may be failing to meet peoples' health care needs adequately. This seems particularly important given research suggesting that the vast majority of medical symptoms are self-diagnosed and self-treated[33] and that a significant portion of alternative medical use (eg, use of herbal therapies and nutritional supplements) falls into the realm of self-care.[1] Subsequently, if health care professionals are to effectively support individuals in making informed, safe, and appropriate choices, it is critical that they develop greater awareness of the nature of, potential efficacy of, and reasons for patients' use of unconventional self-care approaches.

Second, the results can help identify and clarify prevailing cultural conceptions about and attitudes toward health and illness and examine the degree to which the growing interest in alternative medicine may represent a type of cultural (Kuhnian[34]) paradigm shift regarding health beliefs and practices. Results from the present study lend support to the notion that for many individuals, the use of alternative health care is part of a broader value orientation and set of cultural beliefs, one that embraces a holistic, spiritual orientation to life.

Third, the information derived from this and similar studies can serve as a useful adjunct to data derived from controlled studies of the clinical efficacy of alternative therapies. These combined research efforts not only have the potential to change some of the ways conventional biomedicine is practiced, but can also serve to stimulate further dialogue among the biomedical community, governmental agencies, insurance companies, and managed care organizations regarding the potential value of alternative treatments.

Finally, as policymakers and health care professionals continue to debate reforms of the present health care system, it seems important to understand why a significant portion of the population is going outside mainstream biomedicine to treat a variety of illnesses and to maintain their general health and well-being.

I would like to thank Paul Ray, PhD, for making available the data set that was used in the present study, Helena Kraemer, PhD, for her statistical consultation, and Helen Astin, PhD, and Alexander Astin, PhD, for their very helpful comments and suggestions on earlier drafts of the manuscript.

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