Medical Specialization, Profession, and Mediating Beliefs That Predict Stated Likelihood of Alcohol Screening and Brief Intervention: Targeting Educational Interventions

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Abstract

Practitioner-level educational approaches that promote screening and brief intervention (SBI) seldom consider providers' profession and medical specialization. Strategies that consider these variables may be better equipped to affect change in beliefs and behavior. The aim of this study was to identify beliefs that predict stated likelihood of practicing SBI by specialty and health profession in order to guide the direction of educational strategies. Physicians and nurse practitioners were studied that specialized in family, internal, obstetric gynecology (ObGyn), and pediatric medicine. The results indicated that independent of amount of previous postgraduate alcohol education and knowledge, self-rated competence mediated between specialty and likelihood of practicing SBI. For instance, low self-rated competence for ObGyn was a barrier that suppressed likelihood of practicing SBI. Other findings were that role legitimacy mediated the association between profession and likelihood of SBI, so that lack of role legitimacy was a barrier for physicians but not for nurse practitioners. We suggest that targeted educational strategies for ObGyn and pediatric clinicians may prove more effective than the prevalent one-size-fits all approaches aimed at general adult populations.

Keywords

alcohol screening and brief intervention; physicians; nurse practitioners; attitudinal barriers; education

INTRODUCTION

Attention to educating medical clinicians in screening and brief intervention (SBI) is important because alcohol-related mortality is a significant public health problem accounting for approximately 1 in every 20 deaths in the United States (1). During the course of ongoing care, primary care practitioners have valuable opportunities to recognize and intervene with patients that are drinking in a way that poses harm to themselves or others. Although educators have had success in shaping the beliefs and behaviors of health professionals toward alcohol-related services (2–5), the practice of SBI in primary care settings is far from routine (6–14). El-Guebaly *et al.* (15) suggest that problems with educational efforts include difficulty with recruitment to CME courses (16,17), little rationale for the selection of interventions aside from available resources, and little attention to differences between specialty groups. One strategy to address these concerns may be to

design practitioner-level education to target specific groups of clinicians. Programs that cater to provider's professional backgrounds and views may be better equipped to affect SBI practices. However, to move beyond one-size-fits all approaches to educating primary care providers, we need more understanding of the beliefs and inclinations toward SBI that different professionals bring to their work.

Past studies suggest that health professionals' perceptions of themselves and their patients with alcohol problems are influential in determining the rate of screening and brief intervention. These perceptions include but are not limited to confidence in their ability to identify and respond to alcohol problems (18–22), time available for such activities (23–25); ambiguity about such services as part of their responsibility (23, 26–29); lack of organizational support (23, 30); and pessimism about working with patients with alcohol problems (31–34). More recently, Friedmann *et al.* (34) observed that physicians' views not only influenced SBI practices, but also did the physicians' specialization predict these practices. Specifically, they found that internists and psychiatrists were more likely to screen for alcohol-related problems than were family and obstetric gynecology (ObGyn) physicians; and that compared with family physicians, ObGyn physicians were less likely and psychiatrists were more likely to attempt intervention.

Primary health care providers are important in implementing routine screening and brief intervention because they emphasize health promotion and preventive services. Managed care organizations seek primary care practitioners in order to keep patients healthy and thereby constrain the cost of care (35). A priority in managed care is to reduce risk factors, such as risky drinking, to decrease patients' need for health services. There is broad evidence that screening and brief intervention delivered by physicians or nurse practitioners as part of a primary care visit significantly reduced alcohol consumption by high-risk drinkers (36–42). The nurse practitioner profession originated as a strategy to increase access to primary care in response to a shortage of primary care physicians (43). In the United States the most common specialties in primary care are family, internal, obstetrics, and pediatric medicine. Each specialty has unique opportunities to recognize and act in response to patients' drinking problems (44). For instance, ObGyn specialists are the primary care providers for many women of all ages (45), and pediatric specialists caring for patients from birth to adulthood have valuable opportunities to intervene early in a patient's life (46).

The purpose of this study is to examine 1) whether beliefs about screening and brief intervention (SBI) vary by profession (physician, nurse practitioner) and specialty group (family, internal, ObGyn, pediatrics), and 2) whether the beliefs predict stated likelihood of practicing SBI. The beliefs examined are self-rated competency, role legitimacy, satisfaction working with at-risk patients, organizational resources, skepticism about helping problem drinkers, and time concerns. Age, gender, number of patients seen per week, objective knowledge, and postgraduate alcohol education were included in the analysis because of their potential importance for understanding stated likelihood of practicing SBI.

METHOD

Procedure

In 1999, questionnaires were mailed to a random sample of licensed physicians (MDs) and nurse practitioners (NPs) in a Northern California County, whose population is approximately 1,400,000. The names and addresses of state-licensed MDs and NPs were purchased from the California Office of Consumer Affairs. The physician sample was limited to those who practiced through at least one of the region's several managed care organizations (MCOs). Physicians working with MCOs, but not necessarily exclusively,

were chosen because of their high representation in California and because of the array of primary care practitioners employed by these organizations. The sample of NPs saw patients through one of the region's MCOs and/or one of the city, county, or state government-funded programs (Medi-Cal, Veterans Administration, etc.).

Recruitment materials included an invitation to participate and a return postcard mailed to a random sample of 500 MDs and 300 NPs. Those requesting a questionnaire received either the MD form or the NP form depending on their respective profession. Those not returning the questionnaire within 2 weeks were sent a reminder notice, then telephoned, and, if necessary, sent a follow-up mailing. Because of wrong addresses, 8 questionnaires sent to MDs and 14 sent to NPs never arrived. The response rates for completed questionnaires were therefore 136/492 = 28% for MDs and 168/286 = 59% for NPs. The low response rate compromises our ability to generalize the results, particularly for physicians. This is often the case in studies using survey methods on physicians (12, 21,47). We cannot determine the characteristics of all nonrespondents; however, 83 of them returned postcards indicating no interest or time to complete a questionnaire, and in addition, they responded to a few questions about their clinical practice. This group did not significantly differ from questionnaire recipients in hours of previous training in alcohol problems. Those who requested a questionnaire, however, reported seeing a significantly higher percentage of patients with alcohol-related problems $(M = 15.3\%$, SD = 17.6) than did those who requested not to receive the questionnaire $(M = 8.8\%$, SD = 8.5), F(l, 339) = 7.9, $p < 0.005$. It is possible that those who did not participate had less favorable attitudes toward problem drinkers, were less aware of alcohol problems in their patients, and had less time to complete the questionnaire. The study did not involve an educational intervention; therefore, we have no reason to suspect nonparticipants were especially unwilling to alter their own practices.

Measures

The self-administered questionnaire contained several items on providers' beliefs and clinical practices regarding SBI. The questionnaire referred to at-risk drinkers as people whose alcohol use was excessive enough to possibly lead to health problems (e.g., high blood pressure, accidents) or social problems (e.g., difficulties with work). The questionnaire defined screening as asking patients about the amount of alcohol they drink and the symptoms they experience. Brief intervention was defined as stating medical concerns about a patient's drinking and health-related risks or advising patients to cut back or stop drinking. Other questions pertained to the providers' clinical practice, demographic characteristics, and knowledge relevant to performing SBI.

Background Variables—Age, number of patients seen per week, and postgraduate alcohol education were treated as continuous variables. Postgraduate education was coded 1 (none), 2 (<4 h), 3 (4–10 h), 4 (11–40 h), and 5 (>40 h). Gender, profession, and primary practice fields were coded as dummy variables (female = 1, nurse practitioner = 1, family medicine = 1, internal medicine = 1, ObGyn = 1, and pediatrics = 1).

Stated Likelihood of SBI Practice—One 3-item scale measured likelihood to practice SBI. The items began, "On average, how likely is it in the next 12 months," then proceeded, "…that you will ask patients who are current drinkers about their alcohol consumption," "…that you will state to patients your medical concerns about their drinking patterns or related health risks," and "…that you will write in patients' charts your medical concerns about their drinking patterns or related health risks." Response options ranged from 1 (I do not intend) to 7 (every time). Numeric values for items were summed for a scale ranging from 3 to 21 with Cronbach's alpha of 0.86.

Knowledge—This was measured by six multiple-choice questions pertaining to the drinking guidelines. For example, one item asked what the U.S. Government Dietary Guideline was for moderate drinking in terms of the upper limit of number of drinks per day for men, a second asked what the guideline was for women, and a third asked about circumstances when a patient should be advised to abstain from alcohol. Correct answers were summed for a scale from 0 to 6 correct answers.

Role Legitimacy Beliefs—This was measured by asking, "How often do you think your physician (nurse practitioner) colleagues screen patients for drinking problems?" and "how often do you think… [they] …state medical concerns about patients' drinking patterns and related health risks?" Items were scored on a 4-point scale ranging from "rarely/ never" to "always." Two other items asked, "How do you think your physician (nurse practitioner) colleagues would feel about your screening patients for drinking problems?" and "how do you think… [they] …would feel about your stating medical concerns about patients' drinking patterns and related health risks?" The format of these items came from a formulation to measure subjective norms toward performing a behavior (48, 49). A 4-point scale applied to each item from "they would not approve" to "most of my colleagues would approve." These items are included in Table III.

SBI Practice Beliefs—Seventeen items included in Table III assessed provider beliefs about SBI. Item content came from the alcohol health services research literature on why clinicians fail to conduct SBI. Substantive content also came from focus groups of MDs and NPs that explored the topic of SBI in the primary care setting. The items were scored on a 5-point Likert scale ranging from "strongly agree" to "strongly disagree."

RESULTS

Sample Characteristics

The mean age for participants was 49 years for MDs and 46 years for NPs. The majority of MDs were male (74%) and 96% of the NPs were female. Physicians were 72% White, 7% African American, 15% Asian, 4% Hispanic, and 2% Other. NPs were 83% White, 7% African American, 4% Asian, 3% Hispanic, and 3% Other. Hours of postgraduate training or continuing medical education on alcohol and alcohol-related problems varied little between professions. Twenty percent of MDs and 27% of NPs reported no education of this type at all. The largest category represented 35% of MDs and 31 % of NPs who reported less than 4 h of training. Participants represented a variety of primary fields of practice as shown in Table I. The category "Other" included a variety of specialties including behavioral medicine, gas-troenterology, cardiology, gerontology, endocrinology, opthamology, and ear, nose, and throat medicine. Respondents were instructed to indicate all primary fields of practice that apply.

Bivariate Analysis

We used independent sample *t* tests to learn more about the background variables in relation to stated likelihood of performing SBI. The sample was divided into two groups on the basis of each dichotomous variable. Table II compares the mean scores on likelihood of practicing SBI by gender, profession, and the four specialty areas: family, internal, ObGyn, and pediatrics. Females *(p < 0.02)* and NPs *(p < 0.00)* on average stated a greater likelihood to perform SBI. In addition, family *(p < 0.00)* and ObGyn ($p < 0.04$) practitioners on average indicated a significantly greater likelihood to practice SBI than did those not in these specialties. For those in internal medicine and pediatrics the stated likelihood of performing SBI was statistically no different than those not specializing in these areas.

Factor Analysis of Belief Items

The 21 role legitimacy and SBI practice belief items were entered into an exploratory factor analysis to determine the underlying structure of items. An Oblimin rotation was used because of potential correlation between factors. Six dimensions were found that accounted for 56% of the total variance. The eigenvalues for the six factors ranged from 3.94 to 1.06. Table III shows the factor pattern matrix of the items. The factors represent competence, lack of role legitimacy, satisfaction working with at-risk drinkers, organizational resources, skepticism, and time/compensation.

Predicting Stated Likelihood of Performing SBI

We used a simultaneous equation path analysis (EQS version 5.7) to examine multivariate relationships among stated likelihood of practicing SBI, feeling competent, lack of role legitimacy, satisfaction working with at-risk drinkers, organizational resources, skepticism, time/compensation beliefs, knowledge, and background variables. Standardized factor scores from the factor analysis represented the six belief variables. Table IV is a correlation matrix of all variables in the path analysis.

The initial model assumed competence, lack of role legitimacy, satisfaction working with at-risk drinkers, organizational resources, skepticism, time/compensation beliefs, knowledge, and background variables all had direct effects on stated likelihood of practicing SBI. It was assumed knowledge, age, gender, profession, alcohol education, number of patients seen per week, and primary field of practice—family, internal, ObGyn, and pediatrics—would have indirect effects on likelihood of practicing SBI mediated through the six-factor belief variables. Further assumed was that these background variables had direct effects on stated likelihood of SBI. All prior variables covaried and the error terms for the six mediational belief variables were allowed to covary. This initial model did not provide a good fit ($\chi^2(16) = 33.03$, $p < 0.007$).

Next, Wald tests served to indicate nonsignificant effects that may be dropped to improve the fit of the model to the data. As a result, the effects of satisfaction working with at-risk drinkers, organizational resources, skepticism, and time/compensation beliefs were dropped from the model. The direct effects of family medicine, internal medicine, ObGyn, and pediatrics on likelihood of SBI were also dropped. The resulting model was a large significant improvement over the initial model ($\chi^2(15) = 32.98$, $p < 0.001$). The final model fit the data ($\chi^2(l) = 0.037$, $p < 0.843$) and had a comparative fit index equal to 1.00. Figure 1 illustrates the path diagram. The findings and interpretations are based on cross-sectional data, and therefore cannot reliably separate cause-and-effect relationships between the variables. We did follow logic of causal order however and specified background variables prior to attitudes; and attitudes prior to intended behaviors (50).

Direct Effects

Table V shows the significant path coefficients. Feeling competent was related to increased stated likelihood of practicing SBI. Perceived lack of role legitimacy was related to decreased stated likelihood of SBI. Hours of postgraduate alcohol education increased stated likelihood of practicing SBI, and ObGyn practitioners were associated with an increased stated likelihood of practicing SBI.

Indirect Effects

Several variables had indirect effects on stated likelihood of practicing SBI mediated through self-rated competence. Hours of postgraduate alcohol education (standardized coefficient = 0.09, $Z = 3.34$, $p < 0.001$) and objective knowledge (standardized coefficient = 0.04, $Z = 1.85$, $p < 0.05$) mediated by feeling competent was associated with increased

stated likelihood to screen and briefly intervene. Specialty groups differentially rated their competency to practice SBI independently of the amount of previous postgraduate alcohol education and knowledge they had received. A specialization in family (standardized coefficient = 0.05, $Z = 1.92$, $p < 0.05$) or internal medicine (standardized coefficient = 0.04, $Z = 1.70$, $p < 0.05$) mediated by feelings of competence increased stated likelihood of practicing SBI. In contrast, a specialization in pediatrics (standardized coefficient = −0.08, $Z = −3.00$, $p < 0.001$) and ObGyn (standardized coefficient = −0.04, $Z = 1.77$, $p < 0.05$) mediated by feeling less competent decreased stated likelihood to practice SBI. Finally, NPs were mediated by perceived role legitimacy that was associated with increased stated likelihood of practicing SBI (standardized coefficient = 0.05, $Z=1.91$, $p < 0.05$).

DISCUSSION

The aim of this study was to identify beliefs that predict likelihood of practicing SBI by specialty and health profession in order to guide the direction of educational efforts at the practitioner level. On the basis of our sample of physicians and nurse practitioners, the likelihood of practicing SBI varied across specialty group as a function of self-rated competence. For the ObGyn group, low competence was a barrier that suppressed an inclination to practice SBI. For the pediatric group, low self-rated competence was a barrier that decreased stated likelihood of practicing SBI. We found for family and internal medicine practitioners that high competence increased stated likelihood of SBI. The association between confidence and practicing SBI is consistent with past research (22, 34, 51, 52). However, unlike Schorling *et al.* (22) and Freidmann *et al.* (34), who examined different specialty groups, we found that clinicians' self-rated competence intervened in the relationship between specialization and practice of SBI. The past studies may not have observed the intervening role of competence because the analyses used did not examine mediated influences per se (22, 34). Our findings on specialization may be biased because of categorical overlap; however, there was only 1 MD and 17 NPs who indicated practice in two of the primary care areas. The most substantial overlap we observed in family, internal, ObGyn, and pediatric specializations were with the "Other" category. We believe that this extent of dual specialization is common in primary health care settings. The mutual exclusiveness of the specialty categories in the Freidmann *et al.* study (34) was not mentioned.

Despite what some specialty groups have already learned about alcohol services, they still have competency concerns about applying SBI techniques to their patients. Even when controlling for previous amount of postgraduate alcohol education and objective knowledge, ObGyn specialists were deterred from providing alcohol prevention services by feeling incompetent in using SBI techniques. This is troubling in light of research showing that approximately 20% of women drink some alcohol during pregnancy (53) and even low levels of alcohol use by women who are pregnant can harm the fetus (cited in 54). To build on past educational recommendations to include strategies that increase confidence managing alcohol use disorders (34), the findings here imply that the approaches used to ramp up competence should target specialty groups. We suggest for ObGyn and pediatric specialists that educational approaches move beyond one-size-fits all models to address the specific clinical needs of those specialty practices. By "one-size-fits" all we mean educational materials aimed at general adult populations with a few qualifications made for women, pregnant women, and the elderly. If educators were to cater their SBI materials in terms of the populations these specialties see, then these groups may gain more competencies and be more inclined to apply prevention services. For instance, approaches aimed at ObGyn specialists might want to emphasize the effectiveness of formal screening questionnaires for women (55,56) or how modifications, such as additional questions or lower cutoff scores (54,57), might improve detection. Other examples of useful information

would be how varying levels of alcohol consumption are associated with medical risks that are unique to women (58). Information such as this is already present in journal articles and embedded in educational media (45,59–61), but further assembly, packaging, and dissemination of materials to ObGyn audiences may be beneficial.

A targeted approach may also help to engage less involved practitioner groups. For instance, pediatric specialists may see little relevance in attending a CME course on alcohol SBI because the materials seldom pertain to children and adolescents, in conjunction with their parents. Information on prevention and management of substance abuse for youth is available (46, 62–64), but it would be more reasonable to expect pediatric specialists to attend a CME course on SBI if the presentation was devoted to the populations they see. Multifaceted teaching approaches that include information dissemination, case discussion, role play, and presentation by opinion leaders have been shown to be effective in educating clinicians (2, 65, 66). Such approaches could focus on screening and early intervention for the adolescent substance abuser and his or her parents.

On the other hand, the prevalent model of education, which focuses on general adult populations, appears appropriate for building competency among family and internal medical practitioners. As expected, family practitioners' competency predicted their willingness to practice SBI because health promotion is a clinical priority for them. Internal medicine, however, focuses on diseases and these practitioners need to learn how to identify early stage alcohol abuse (67). Indeed, a subanalysis of an item from the competency scale suggests that the internal medicine clinicians in our sample felt they knew how to "identify at-risk drinkers who have no obvious symptoms of excess consumption" (two-tailed, $r = 0.23$, $p < 0.01$). It is plausible although we cannot determine that the internal medicine group learned this competency in early detection of alcohol problems from postgraduate education, and we note that the internal clinicians reported receiving more alcohol education than any of the other specialty groups (two-tailed, $r = 0.13$, $p < 0.05$).

In regards to profession, our analysis suggests that perceived role legitimacy is not a barrier to SBI for NPs as it is for MDs. Our result that physicians perceive the provision of alcohol services as separate from their medical role is supported by past work (27). The NPs' perceived legitimacy for the activities is compatible with their professional culture and clinical orientation of health promotion (68). Furthermore, these findings are consistent with a subanalysis of this sample (not shown) that found NPs reported significantly more frequent questioning of their patients than did MDs in the behavioral lifestyle areas of smoking, exercise, diet, and stress management. Physicians' perceived lack of role legitimacy from their colleagues suggests that initiatives need to bring higher visibility to the SBI practices of esteemed colleagues, perhaps of members within the respective specialty group (e.g., endorsements, awards, role models). Also, educators should make a priority of responding to skeptics of alcohol-related services and/or behavioral medicine in general, especially if they are opinion leaders, because their views may deter others from practicing preventive services. The vast array of empirical support for the effectiveness of SBI is a crucial component of every type of training to counteract the cynic and to bring a fuller awareness of the potential benefits SBI can have on patients' health.

As mentioned earlier, the generalizability of the findings is limited by the low response rates. It is possible that alcohol and drug issues were more important to the respondents than to those who did not respond. This may explain why respondents reported they saw more alcohol problems in their patients. In addition, only physicians that worked in a clinical capacity with managed care organizations were included in the study, so the findings cannot address all primary care physicians.

It remains to be seen whether educational strategies informed by group differences have an effect on shaping beliefs and SBI practices. As others have previously reported, practitioner-level education while necessary is not sufficient to the successful implementation of alcohol services in primary care settings (69, 70). Although a discussion of the multilevel and varied approaches to implementing programs is beyond the purview of this report, service delivery systems and policy initiatives may also want to consider group differences among health professionals.

Acknowledgments

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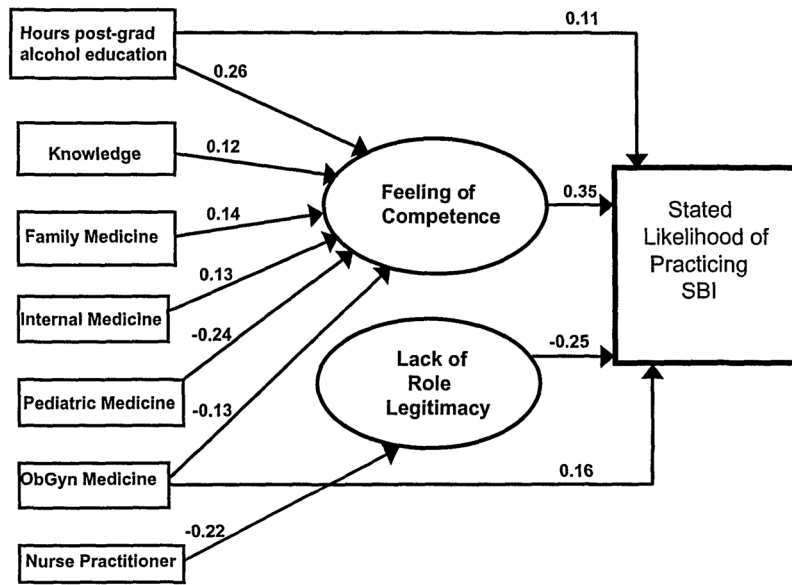
Fig. 1.
Path diagram of variables predicting stated likelihood of practicing SBI.

Table I

Primary Practice by Profession (in %)[a]

	Physicians (*n* = 136)	Nurse practitioners (n = 168)
Family medicine	13	25
Internal medicine	32	16
Obstetrics/gynecology	7	32
Pediatrics	18	12
Surgery	7	1
Emergency medicine	6	3
Anesthesiology	2	0
Neurology	3	1
Radiology	1	0
Psychiatry	5	3
Other	21	38

[a]Percentages do not total 100 because participants were instructed to mark all that apply.

Table II

Comparison of Group Means of Respondents' Stated Likelihood of Practicing SBI

	n	Stated likelihood of practicing SBI[a]	*t* Value	Significance (2-tailed)
Gender			−2.41	0.02
Male	107	14.5		
Female	189	15.8		
Profession			−2.97	0.00
Physician	136	14.5		
Nurse Practitioners	161	16.0		
Family			−2.82	0.00
Yes	58	16.5		
No	239	15.0		
Internal			−0.75	0.45
Yes	67	15.6		
No	230	15.2		
Obstetrics			−2.04	0.04
Yes	62	16.3		
No	235	15.1		
Pediatrics			1.04	0.30
Yes	45	14.6		
No	252	15.5		

[a]Scale ranges from 3 (no intention to perform SBI) to 21 (intend to perform SBI everytime).

Table III

Oblimin Rotation Factor Pattern for SBI Variables

Item	I (Competence)	II (Lack of role legitimacy)	III (Satisfaction working w/ at-risk)	IV (Organizational resources)	V (Skepticism)	VI (Time & compensation)
I know what questions to ask[a]	0.78					
I'm comfortable asking about drinking[a]	0.74					
I don't know how to identify at-risk drinkers with no obvious signs of excess	0.65					
I know how to effectively help patients[a]	0.71					
I am at ease making these statements[a]	0.72					
How often do your colleagues screen?		−0.60				
How do you think your colleagues would feel about you screening patients?		−0.85				
How do you think your colleagues would feel about you briefly intervening?		−0.83				
How often do you think your colleagues intervene?		−0.68				
It is rewarding to work with at-risk drinkers[a]			0.73			
There are no professional benefits			0.46			
Problem drinkers are more noncompliant			0.68			
My organization is without an intervention protocol				−0.67		
The plans I contract with reimburse for alc counseling[a]				−0.69		
There is no information provided for referring patients				−0.70		
I'm not aware of a single problem drinker who cut back					−0.61	
Advising patients to seek assistance is the best I can do					−0.61	
I'm skeptical of behavioral medicine					−0.46	
Given adequate information practitioners can help patients reduce[a]					−0.72	
There is not enough time to advise patients[a]						0.61
Patients would not be willing to pay for counseling						0.60

[a] Items were recoded for analysis so that 1 = strongly disagree to 5 = strongly agree.

Table IV

Correlation Matrix of Research Variables

	Intent to perform SBI	F1	F2	F3	F4	F5	F6	Know	Age	Female	Nurse	Alcohol education	Patients/Week	Family	Internal	ObGyn	Pediatrics
Intent to perform SBI	1.00																
F1	0.38**	1.00															
F2	−0.36**	−0.17*	1.00														
F3	0.23**	0.12	−0.08	1.00													
F4	−0.10	−0.12	0.09	−0.12	1.00												
F5	−0.13*	−0.11	0.04	−0.18**	0.17*	1.00											
F6	0.02	0.05	−0.00	0.13*	−0.04	−0.08	1.00										
Knowledge	0.07	0.15*	−0.10	0.15*	−0.14*	−0.07	−0.03	1.00									
Age	−0.05	0.20**	−0.04	−0.10	−0.11	0.02	0.06	0.01	1.00								
Female	0.14*	−0.07	−0.16*	0.34**	−0.06	−0.09	0.00	0.03	−0.30**	1.00							
Nurse	0.17**	−0.05	−0.23**	0.34**	−0.05	−0.05	−0.05	0.03	−0.21**	0.74**	1.00						
Alcohol education	0.22**	0.35**	−0.01	0.07	−0.16*	−0.15*	0.02	0.19**	0.19**	−0.07	−0.03	1.00					
Patients/week	0.02	0.03	0.04	−0.11	−0.00	0.08	−0.03	0.00	0.06	−0.23**	−0.30**	−0.07	1.00				
Family	0.13*	0.15*	−0.06	0.04	0.11	−0.06	−0.04	0.03	0.05	0.10**	0.16**	−0.04	0.16**	1.00			
Internal	0.04	0.20**	−0.05	0.06	−0.07	−0.05	0.06	0.13	−0.00	−0.17**	−0.18**	0.13*	0.21**	−0.21**	1.00		
ObGyn	0.11	−0.15*	−0.13	0.11	0.01	0.05	−0.07	0.05	−0.06	0.26**	0.30**	−0.07	−0.09	−0.11	−0.26**	1.00	
Pediatrics	−0.07	−0.26**	0.05	−0.04	0.07	−0.06	0.04	−0.02	−0.09	0.11	−0.08	−0.08	−0.00	−0.14	−0.19**	−0.17**	1.00

*
$p = 0.05$;

**
$p = 0.01$ (2-tailed significance).

Table V

Significant Predictors of Stated Likelihood of Practicing SBI, Feeling of Competence, and Lack of Role Legitimacy for SBI

Predictor	Standardized coefficient	Unstandardized coefficient	Robust SE	Z	P
Stated likelihood of SBI practice[a]					
Feeling of Competence	0.35	1.53	0.30	5.13	<0.001
Lack of role legitimacy	−0.25	−1.07	0.29	−3.68	<0.001
Postgraduate alcohol education	0.11	0.29	0.16	1.83	<0.05
ObGyn medicine	0.16	1.68	0.72	2.35	<0.01
Feeling of competence[b]					
Knowledge	0.12	0.10	0.05	1.98	<0.05
Postgraduate alcohol education	0.26	0.18	0.06	3.16	<0.001
Family medicine	0.14	0.33	0.14	2.25	<0.001
Internal medicine	0.13	0.28	0.18	2.04	<0.05
ObGyn medicine	−0.13	−0.31	0.16	−1.92	<0.05
Pediatric medicine	−0.24	−0.66	0.21	−3.17	<0.001
Lack of role legitimacy[c]					
Nurse practitioner	−0.22	−0.45	0.23	−1.95	<0.05

[a] R^2 = 0.30.

[b] R^2 = 0.22.

[c] R^2 = 0.08.