

# The Religious and Spiritual Beliefs and Practices of Academic Pediatric Oncologists in the United States

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**Objectives:** Religion and spirituality are increasingly recognized as important in the care of seriously ill patients. This study evaluates religious and spiritual beliefs and practices among pediatric oncology faculty and compares their religiosity and spirituality to the general public.

**Methods:** Information was gathered from a sampling frame of all pediatric oncology faculty working in 13 US News and World Report's "honor role" hospitals. These data were compared with the general public (using the General Social Survey), through frequency distributions, descriptive crosstabs, and tests of significance, including  $\chi^2$  statistics.

**Results:** Eighty-five percent of pediatric oncology faculty described themselves as spiritual. In all, 24.3% reported attending religious services 2 to 3 times a month or more in the past year. Twenty-seven percent of pediatric oncologists believed in God with no doubts. In all, 52.7% believed their spiritual or religious beliefs influence interactions with patients and colleagues. Among the general public 40.1% reported attending religious services 2 to 3 times a month or more in the past year ( $P < 0.01$ ) and 60.4% believed in God with no doubts ( $P < 0.001$ ).

**Conclusions:** Although many have no traditional religious identity, large fractions of pediatric oncology faculty described themselves as spiritual. This may have implications for the education of pediatric oncologists and the spiritual care of seriously ill children and their families.

**Key Words:** pediatric oncology, religion in medicine, spirituality, attitudes of health personnel

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Researchers and healthcare providers are increasingly interested in the role of religion and spirituality in healthcare.<sup>1</sup> They are aware that a patient's spiritual and religious beliefs and practices may play a role in coping with disease, medical decision-making, and other health-related processes<sup>2</sup> and that, to provide the best care, spiritual assessment might be necessary to understand the spiritual and religious perspectives of patients and their families.<sup>3,4</sup> This may be especially so for children (and their families and caregivers) who deal with a cancer diagnosis.<sup>5,6</sup> One study of parents of pediatric cancer patients found that it was centrally important for doctors to understand the caregivers' belief system when designing a care plan for pediatric cancer patients.<sup>7</sup> Another study found that religious and spiritual themes, such as prayer, faith, and access to and care from clergy, were particularly important to patients and families in a pediatric intensive care unit.<sup>8</sup> Other researchers found that medical treatment can be influenced in response to a patient's cultural beliefs and practices.<sup>9–11</sup>

Connections between religion, spirituality, and healthcare may be particularly relevant in dealing with very sick children. Research reveals that many parents of children with cancer use religion and spirituality to cope with their child's illness.<sup>12,13</sup> Researchers have also shown that religion is most salient in patient/doctor interactions involving extreme illness and palliative care. For example, a survey of Massachusetts pediatricians who cared for critically ill newborns found that religious affiliation significantly influenced physicians' treatment decisions,<sup>14</sup> a finding replicated in a large multinational survey of neonatologists.<sup>10</sup> An awareness of and sensitivity to spirituality and religion among pediatric oncologists might help them better understand the lives and situations faced by children and their families who are religious or spiritual.<sup>15–17</sup>

In addition to the religious and spiritual experiences of patients and families, the religious backgrounds of providers may have an influence on patient care and their own coping mechanisms. Just over half (55%) of recently surveyed US physicians report that their religious beliefs influence their practice of medicine.<sup>16</sup> Another study revealed that several physician characteristics were associated with physicians more regularly talking with patients and their families about religion and spirituality. These included physicians' own religious and spiritual identities.<sup>17</sup> Physicians' willingness to withdraw life

support, for example, is directly associated with their own religious identification.<sup>10</sup> Because the diagnosis of cancer in a child is agonizing for each affected family, pediatric oncologists may be challenged to deal with religion and spirituality more frequently than other pediatric health-care providers. Whether a pediatric oncologist understands the norms of a particular religion—for example, Islam—might be crucial in helping parents attempt to comprehend their child's cancer diagnosis.<sup>18</sup>

Researchers have also found that the health and well-being of a physician is important to the care of patients.<sup>19</sup> And physicians who care for extremely ill children may find religious or spiritual beliefs and practices helpful in their own personal coping with illness and death among patients.

Although some studies have examined the influence of pediatric oncologists' religious beliefs and practices on their methods of palliative care, this research used only 1 or 2 basic indicators of religiosity.<sup>20</sup> To the extent that religion and spirituality influence pediatric oncologists and the parents of pediatric cancer patients, it is essential to compare the religious and spiritual beliefs and practices of both groups to understand the similarities and differences between them that might facilitate or impede communication about religious and spiritual issues. This is the first existing systematic survey that collected data from pediatric oncologists necessary to conduct such comparisons. In addition, it is the first detailed survey of religious and spiritual beliefs, preferences, and practices of academic pediatric oncologists in 13 of the most highly ranked US medical centers. We chose to gather such information from this subset of pediatricians because of their influential positions as teachers, researchers, clinicians, medical writers, and leaders in the field of pediatric oncology.

## METHODS

Data for these analyses come from 2 sources. Primary data were collected on pediatric oncology faculty. The survey of pediatric oncologists was part of a broader national study of religion, spirituality, and ethics among physicians as well as natural and social scientists who teach and conduct research in elite US research universities and hospitals. Physicians included in this study comprised a sampling frame of all those practicing oncology and hematology in departments of pediatrics in 13 honor roll hospitals as defined by US News and World Report<sup>21</sup> for a total of 122 pediatric oncology faculty. The methodology to determine honor roll distinction combined hospital reputation, mortality data, and patient-care-related factors; when 6 or more specialty areas showed "exceptional breadth of excellence," the hospital placed greater than 2 SDs above the mean and was granted honor role status. The hospitals included are Stanford Hospital and Clinics, The Johns Hopkins Children's Center, UCLA Medical Center, the University of Michigan Medical Center, Duke University Medical Center, University of Washington Medical

Center, Mayo Clinic, Cleveland Clinic, New York-Presbyterian Medical Center, Massachusetts General Hospital, Hospital of the University of Pennsylvania, University of California San Francisco Medical Center, and Barnes-Jewish Hospital. All pediatric oncology faculty were selected from departments of pediatrics at hospitals in the sample. This study was initially approved by the Rice University Institutional Review Board, where the study was initiated, and receives continuing approval by the University at Buffalo, SUNY Institutional Review Board.

The survey data were collected in May and June 2005. An initial contact letter containing a 15-dollar cash preincentive was sent to each of the pediatric oncologists. Each respondent received a unique identification code with which to log onto a website and complete the survey. Respondents were sent 5 reminder e-mails requesting completion of a web survey. If a respondent did not complete the web survey, the research firm commissioned to field the survey, Schulman, Ronca, and Bucuvalas Inc (SRBI), called respondents up to a total of 20 times, requesting participation over the phone or web, a standard practice in survey research.

The survey asked 34 questions about religious identity, beliefs, practices, ethics, and the intersection of religion and science in the respondent's field. There were also a series of inquiries about academic rank, publications, specialty, demographic information, and educational history. To enable comparisons with information about the general public, many of these questions were replicated from a publicly accessible national survey of US adults.

Data from the General Social Survey (GSS), an annual survey of US adults administered by the National Opinion Research Center at The University of Chicago,<sup>22</sup> were used to make comparisons to the general population. The GSS contains core demographic questions in each wave of administration and supplemental items that are included on a rotational basis. Respondents from the 1998 wave of the GSS were used in these analyses because this wave of the data is the most recent to include comprehensive questions on religion.

The survey data were analyzed using the SPSS 13 statistical computer package for Windows. Survey data were compared with the data about the general population using frequency distributions, descriptive crosstabs, and tests of significance, including  $\chi^2$  statistics. In analysis of data from both the GSS and the survey of pediatric oncology faculty, the category of "no answer" was included.

## RESULTS

Seventy-four academic pediatric oncologists were recruited, resulting in a 60% response rate for the survey. Of the 74 pediatric oncologists who participated, only 3 (4.1%) completed the survey over the phone whereas 71 (95.9%) completed the survey over the web. As the descriptive statistics in Table 1 show, there are differences

**TABLE 1.** Demographics of Pediatric Oncology Faculty and the General Population

	Pediatric Oncologists		General Population	
	%	N	%	N
Sex				
Male	60.8	45	43.5	1232
Female	37.8	28	56.5	1600
No answer	1.4	1	0	0
	100%	74	100%	2832
Marital status				
Married	81.1	60	47.5	1346
Cohabiting	4.1	3	—	—
Divorced	4.1	3	15.7	446
Separated	—	—	3.3	93
Widowed	1.4	1	10.0	283
Never married	8.1	6	23.4	663
No answer	1.4	1	0.0	1
	100%	74	100%	2832
Respondent is a parent				
No children under 18	33.8	25	28.3	802
At least one under 18	62.2	46	71.4	2023
No answer	4.1	3	0.2	7
	100%	74	100%	2832
Race				
White	73.0	54	79.1	2241
Hispanic	4.1	3	—	—
African American	0	0	14.1	400
Asian	16.2	12	—	—
Multiracial	1.4	1	—	—
Other	2.7	2	6.7	191
No answer	2.7	2	0	0
	100%	74	100%	2832
Income				
Below \$40,000	0	0	49.5	1401
\$40,000-\$89,999	4.1	3	13.7	388
\$90,000-\$109,999	16.2	12	0.7	20
\$110,000 and above	59.5	44	1.4	40
No answer	20.2	15	29.6	839
	100%	74	100%	2832
Age				
18 to 35	5.4	4	33.5	948
36 to 45	47.3	35	23.1	654
46 to 55	27.0	20	16.7	472
56 to 65	14.9	11	10.7	302
66 and older	2.7	2	15.9	452
No answer	2.7	2	0	0
	100%	74	100%	2832

between the sample of pediatric oncologists and the general population. First, men comprise 60.8% of the pediatric oncologists in our sample, whereas they are only 43.5% of the general population sample. Similarly, only 37.8% of the pediatric oncology faculty were women, whereas women accounted for 56.5% of the general population sample. A larger proportion of pediatric oncology faculty, when compared with respondents in the general population, was married (81.1% compared with 47.5%). Respondents (71.4%) in the general population had at least 1 child under 18 compared with 62.2% of the pediatric oncology faculty.

The majority of respondents in both samples were white, with whites comprising 73% of the pediatric oncology faculty and 79.1% of the general population sample. The incomes of respondents in the 2 samples also

differed greatly. Although 59.5% of the pediatric oncologists made over \$110,000 annually only 1.4% of the general population made over \$110,000 annually. The majority of pediatric oncology faculty (93.3%) was raised in a religious tradition: 31.1% Protestant, 25.7% Catholic, 25.7% Jewish, and 10.8% other. Only 4.1% were raised without a religious tradition. The majority reported that religion was very important (25.7%) or somewhat important (48.6%) in their family when they were growing up.

When asked about their current religious preferences, the largest proportion of pediatric oncologists listed Jewish (24.3%) followed by none (20.3%). Just over 17% (17.6%) of respondents were Catholic, with the same percentage identifying as Protestant. Close to 15% (14.9%) of respondents identified with another religion not listed above. When respondents' current religious affiliation was compared with the religious tradition in which they were raised, the largest proportion of Jewish pediatric oncologists retained their religious identity; 94.7% retained this identity, although this comparison is not statistically significant ( $P < 0.844$ ). Although 10.8% of respondents were raised in a religion that was not Protestant, Catholic, or Jewish, 14.9% now identify with a non-Christian, non-Jewish religion, although this comparison is also not statistically significant ( $P < 0.455$ ). Similarly, 4.1% of respondents were raised without a religious tradition, but now 20.3% do not identify with a religion ( $P < 0.01$ ). Of those who were raised Protestant, 56.5% are still Protestant, and of those who were raised Catholic, 68% have remained Catholic ( $P < 0.055$  and  $P < 0.231$ , respectively) ( $\chi^2 = 116.582$ ,  $P < 0.001$ ).

### Religious Beliefs

Among the academic pediatric oncologists surveyed: 28.4% believe in God but have some doubts, 2.7% believe in God sometimes, and 9.5% believe in a higher power that is not God. In all, 12.2% reported not believing in God and 16.2% said they do not know if God exists and there is no way to find out. In terms of beliefs about religion, the majority of these oncologists (83.8%) reported believing there are basic truths in many religions, whereas small fractions reported believing there is the most truth in only 1 religion (6.8%) or very little truth in any religion (5.4%).

When asked about the Bible, the majority of pediatric oncologists (45.9%) believed it is the inspired word of God but that not everything in it should be taken literally. A large minority of respondents (32.4%) chose the response "the Bible is an ancient book of fables recorded by man." A very small fraction of the pediatric oncologists (2.7%) described the Bible as the actual word of God that should be taken literally word for word. When pediatric oncologists were asked if they see themselves as spiritual, 47.3% of the population described themselves as very or moderately spiritual, 37.8% described themselves as slightly spiritual, and only 13.5% described themselves as not at all spiritual.

## Religious Behaviors and Influence of Religious and Spiritual Beliefs on Work

Questions about religious and spiritual behaviors were also asked, specifically covering the topics of religious service attendance as well as personal spiritual and religious practices, such as prayer, meditation, and yoga. Overall, these academic pediatric oncologists segregated into 4 distinct groups with respect to their religious service attendance—outside of weddings, baptisms, and funerals. Just over 24.3% reported attending religious services 2 to 3 times a month or more in the past year. A second group (16.2%) reported attending between 6 and 12 times in the past year, and a third group (29.7%) attended 1 to 5 times a year. The final group, comprising nearly one-third of respondents (29.7%), reported not attending religious services at all in the past year.

When asked about private religious or spiritual practices in the past 6 months, 51.4% of oncologists reported privately praying, 24.3% engaged in relaxation techniques, 29.7% privately meditated, 36.5% read a sacred text, 9.5% practiced yoga, and 13.5% engaged in another exercise that they considered spiritual. When asked whether they believed their spiritual or religious beliefs influence their interactions with pediatric oncology patients and colleagues, over one-half (52.7%) believed they do to some extent, whereas 5.4% had no opinion and 39.2% believed they do not.

## Comparisons Between Pediatric Oncologists and the General Population

Comparisons between the sample of pediatric oncology faculty and the GSS sample of the general population revealed that there are statistically significant differences between these 2 populations. Table 2 shows differences between religious tradition of oncologists at age 16 when compared with that of the general public at the same age ( $\chi^2 = 151.368$ ,  $P < 0.001$ ). For example, Table 2, columns 1 and 3 show that 53.3% of Americans were raised in a Protestant home when compared with 31.1% of pediatric oncology faculty ( $P < 0.001$ ).

Further, pediatric oncology faculty have different religious preferences in adulthood when compared with the general American public. Table 2 shows that fewer academic pediatric oncologists are Protestant (17.6%) when compared with the proportion of individuals in the general public who are Protestant (53.8%) ( $P < 0.001$ ). In terms of Catholic respondents, 17.6% of pediatric oncology faculty identified as Catholic when compared with 24.9% the general public who identified as Catholic, although the difference is not statistically significant ( $P < 0.150$ ). Of all the religious categories, there is a larger proportion of pediatric oncology faculty who are Jewish (24.3%) when compared with the American public (1.8%) ( $P < 0.001$ ).

When academic pediatric oncologists were compared with the general public along dimensions of religious belief there were also marked differences. Of those in the general population, only 3.1% answered “do not believe” when asked about the existence of God,

when compared with 12.2% of the pediatric oncologists ( $P < 0.001$ ). Similarly, a lower percentage of pediatric oncology faculty (27%) than members of the American public (60.4%) had no doubts about the existence of God ( $P < 0.001$ ). Table 2, column 5 shows that, overall, the differences in the views about God held by the pediatric oncologists and the general population are statistically significant ( $\chi^2 = 56.859$ ,  $P < 0.001$ ).

When asked about the Bible, the majority of pediatric oncologists (45.9%) believed it is the inspired word of God but that not everything in it should be taken literally, compared with 45.6% of the American public ( $P < 0.960$ ). A large minority of pediatric oncology faculty (32.4%) chose the response, “the Bible is an ancient book of fables recorded by man,” in comparison to 16.1% of the American public ( $P < 0.001$ ). Although 2.7% of the pediatric oncologists described the Bible as the actual word of God that should be taken literally word for word, 27.9% of the American public described the Bible in this way ( $P < 0.001$ ). Overall, differences in views of the Bible between oncologists and the general public are significant ( $\chi^2 = 32.298$ ,  $P < 0.001$ ).

Table 2 reveals statistically significant differences in religious service attendance between respondents in the GSS sample and the sample of pediatric oncologists. Table 2, columns 1 and 3 show that 24.3% of pediatric oncologists reported attending religious services 2 to 3 times a month or more in the past year, compared with 40.1% among those in the general public ( $P < 0.01$ ); and 29.7% reported attending religious services 1 to 5 times per year, compared with 10.5% of the general population ( $P < 0.001$ ). Finally, the percentage of respondents in both samples that reported not attending religious services at all in the past year—excluding weddings, funerals, and baptisms—was the same, with 29.7% of the general sample and 29.7% of pediatric oncology faculty reporting no attendance ( $P = 1.0$ ).

In addition to religious practices, there were also statistically significant differences in self-reported spirituality between the 2 samples. In all, 61.2% of the American public described themselves as very or moderately spiritual, compared with 47.3% of the pediatric oncologists in this sample ( $P < 0.017$ ). Similarly, a smaller proportion of Americans (25.3%) self-described as only slightly spiritual, whereas 37.8% of pediatric oncologists described themselves this way ( $P < 0.05$ ). Finally, 11.8% of respondents in the general population identified as not at all spiritual compared with 13.5% of pediatric oncologists ( $P < 0.660$ , results not statistically significant).

## DISCUSSION

Differences between the personal religiosity and spirituality of pediatric oncology faculty and the general public outlined here have several implications if replicated in future studies. It should be noted, however, that these results are not able to be generalized to all pediatric oncologists, because those we surveyed are a subset of

**TABLE 2.** Religiosity and Spirituality of Pediatric Oncology Faculty Compared With the General Population

	Oncologists (2005)		American Public (GSS, 1998)		$\chi^2$ and <i>P</i> Values
	%	N	%	N	
Importance of religion at age 16					
Very important	25.7	19	—	—	—
Somewhat important	48.6	36	—	—	—
Not very important	20.3	15	—	—	—
Not at all important	5.4	4	—	—	—
	100%	N = 74			
Religious affiliation at age 16					
Protestant	31.1	23	53.3	684	$\chi^2 = 151.368$ <i>P</i> < 0.001
Catholic	25.7	19	30.4	390	
Jewish	25.7	19	1.8	23	
Other	10.8	8	2.9	37	
None	4.1	3	4.8	62	
No answer	2.7	2	6.9	88	
	100.1%	N = 74	100%	N = 1284	
Current religious affiliation					
Protestant	17.6	13	53.8	1524	$\chi^2 = 205.235$ <i>P</i> < 0.001
Catholic	17.6	13	24.9	705	
Jewish	24.3	18	1.8	50	
Other	14.9	11	4.3	122	
None	20.3	15	14.0	396	
No answer	5.4	4	1.2	35	
	100.1%	N = 74	100%	N = 2832	
Religious service attendance					
2-3 times per month or more	24.3	18	40.1	1139	$\chi^2 = 30.361$ <i>P</i> < 0.001
6-11 times to once a month	16.2	12	18.1	513	
1-5 times in past year	29.7	22	10.5	296	
0 times in past year	29.7	22	29.7	840	
No answer	0	0	1.6	44	
	99.9%	N = 74	100%	N = 2832	
Belief in God					
Do not believe	12.2	9	3.1	40	$\chi^2 = 56.859$ <i>P</i> < 0.001
Do not know, no way to know	16.2	12	4.7	60	
Higher power, not God	9.5	7	9.4	121	
Believe sometimes	2.7	2	4.5	58	
Believe with doubts	28.4	21	14.1	181	
Believe, no doubts	27.0	20	60.4	775	
No answer	4.1	3	3.8	49	
	100.1%	N = 74	100%	N = 1284	
View of religion					
Very little truth in any	5.4	4	3.3	42	$\chi^2 = 11.008$ <i>P</i> = 0.012
Basic truths in many	83.8	62	69.6	894	
Most truth in only one	6.8	5	9.8	126	
No answer	4.1	3	17.3	222	
	100.1%	N = 74	100%	N = 1284	
View of the Bible					
Actual word of God, taken literally	2.7	2	27.9	358	$\chi^2 = 32.298$ <i>P</i> < 0.001
Inspired word of God, not literal	45.9	34	45.6	585	
Ancient book of fables	32.4	24	16.1	207	
Do not know/not applicable/no answer	18.9	14	10.4	134	
	99.9%	N = 74	100%	N = 1284	
Spirituality of respondent					
Very spiritual	9.5	7	21.7	314	$\chi^2 = 9.505$ <i>P</i> = 0.050
Moderately spiritual	37.8	28	39.5	571	
Slightly spiritual	37.8	28	25.3	366	
Not at all spiritual	13.5	10	11.8	171	
No answer	1.4	1	1.6	23	
	100%	N = 74	100%	N = 1445	
Participated in the following in previous 6 mo*					
Private meditation	29.7	22	—	—	—
Private prayer	51.4	38	—	—	—
Yoga	9.5	7	—	—	—
Relaxation techniques	24.3	18	—	—	—
Reading a sacred text	36.5	27	—	—	—
Other spiritual exercises	13.5	10	—	—	—
Spiritual or religious beliefs influence interactions with colleagues and patients					
Strongly agree	23.0	17	—	—	—

TABLE 2. (continued)

	Oncologists (2005)		American Public (GSS, 1998)		$\chi^2$ and P Values
	%	N	%	N	
Somewhat agree	29.7	22	—	—	—
Have no opinion	5.4	4	—	—	—
Somewhat disagree	14.9	11	—	—	—
Strongly disagree	24.3	18	—	—	—
No answer	2.7	2	—	—	—
	100%	N = 74			

\*Percentages do not add to 100 because respondents had the option of choosing more than one category.

oncology faculty practicing at a specific set of honor roll hospitals preselected by another agency.

Academic pediatric oncologists emerged in this analysis as religious and spiritual in different ways than the broader American public. Although fewer pediatric oncology faculty remained in the religious tradition of their childhood when compared with Americans more generally, large numbers of pediatric oncologists (47.3%) described themselves as moderately or very spiritual and 70.2% had engaged in a private spiritual or religious practice in the previous 6 months. Much like the academic physicians described in a similar study by Curlin et al,<sup>16</sup> these pediatric oncologists appear more spiritual than traditionally religious. For example, in Curlin's study 20% of physicians identified as being spiritual but not religious, compared with 47.3% of the pediatric oncology faculty who identified as either very or moderately spiritual. This is especially salient in light of the fact that many pediatric oncology faculty are not involved in traditional organized forms of religion.

In particular, because research shows that religion becomes very relevant when parents are dealing with a child's cancer diagnosis, such differences may have important implications for patient care.<sup>12</sup> To address religious and spiritual needs of patients and their families, pediatric oncologists must recognize those differences. Although data is not available to make a direct comparison of the religious beliefs of pediatric oncology faculty with parents of children with cancer, there is reason to believe that parents of children with cancer will be similar in some ways to the general population. For example, 71.4% of respondents in the GSS sample have at least 1 child under 18 years old, and over half are of child rearing age, with almost 57% of respondents in the GSS sample between the ages of 18 and 45. Research reveals that white children are at a higher risk of having childhood cancers than are children of other races.<sup>23</sup> Table 1 shows that 79.1% of respondents in the GSS sample are white. We might assume that parents of children who have cancer would also be similar to respondents in the general population along religious lines. Therefore, comparisons of the religious beliefs of pediatric oncology faculty and the general population may shed light on differences between the religious beliefs of these physicians and the beliefs of the families for whom they care. For example, 27% of pediatric

oncologists believed in God with no doubts, compared with 60.4% of respondents in the general population ( $P < 0.001$ ).

More than half of these pediatric oncologists (52.7%) believed that their spiritual and religious beliefs influence interactions with their patients and colleagues. Whether the religious and spiritual differences between pediatric oncologists and the general public have an impact on patient care and the physician-patient relationship is a direction for further possible research. The results we presented here, held in tension with the pediatricians Grosseohme et al<sup>17</sup> studied, for example, would lead us to expect that pediatric oncology faculty who are personally religious or spiritual would be more likely to think such beliefs might influence interactions with patients and their families.

Future research could attempt to establish why these pediatric oncology faculty emerged as different religiously than members of the general population. One possibility could be education levels. Some research shows that individuals who identify as conservative Protestants have lower educational levels when compared with the general population.<sup>24</sup> Other research, however, shows that the relationship of religiosity to education outcomes is considerably more complicated.<sup>25</sup> And still other research shows that the educated may be more open to eclectic forms of spirituality,<sup>26</sup> which might explain the high proportion of pediatric oncology faculty who are spiritual but not religious.

## CONCLUSIONS

These findings are particularly relevant for understanding how religion and spirituality interface with the practice of medicine. For some families, the cancer diagnosis of a child is a time when existing religious ties are strengthened and new ties are formed.<sup>12,13</sup> Research also reveals that many patients do not feel that their religious or spiritual needs are adequately met by the medical system.<sup>27</sup> Results from this study show that even if most are not engaged in organizational forms of traditional religion, a significant proportion of academic pediatric oncologists may be open to forming bridges with families around issues related to religion and spirituality. In particular, an implication of the above analyses is that such fruitful connections might be made

with families through discussing spirituality rather than traditional religion. Further, because the majority of pediatric oncology faculty (52.7%) think that their religious or spiritual beliefs influence interactions with colleagues and patients, there is greater potential for pediatric oncologists to bring up such issues themselves or connect families with spiritual care when it seems appropriate.

Our findings also have relevance for training pediatric oncologists. Because our study population is a group of academics who are interested in learning about these subjects, there is potential for teaching to occur at the kinds of elite medical settings examined in this research. The results of our study should be viewed in conjunction with other research<sup>17</sup> which shows that a major factor in whether pediatricians give attention to spirituality and religion in clinical practice is having received formal instruction about their role in healthcare. Instruction could examine how to connect religion and spirituality to one's personal well-being as a physician and how to connect religion and spirituality to the context of oncology among children. This may be especially salient because the majority of pediatric oncologists report a lack of medical coursework in palliative care, an area where religion and spirituality are obviously central.<sup>28,29</sup>

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