

RESEARCH

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The Sanctification of the Body  
and Behavioral Health Patterns  
of College Students

Annette Mahoney, Robert A. Carels,  
Kenneth I. Pargament, Amy Wachholtz,  
Laura Edwards Leeper, Mary Kaplar,  
and Robin Frutchey

*Department of Psychology  
Bowling Green State University*

This study applies the construct of sanctification to college students' perceptions of their bodies. Students ( $N = 289$ ) completed measures on the extent to which they viewed their bodies as being a manifestation of God (e.g., "My body is a temple of God") and as characterized by sacred qualities (e.g., holy, blessed, sacred). Greater levels of both forms of sanctification were related to higher levels of health-protective behaviors, strenuous exercise, satisfaction with one's body, and disapproval of alcohol consumption as well as to lower levels of illicit drug use, unhealthy eating practices, and alcohol consumption. Viewing the body as having sacred qualities was also related to lower rates of binge eating and illicit drug use.

Of the more than 12 million students enrolled in colleges and universities (National Center for Education Statistics, 1996), many engage in behaviors that place them at risk for serious health problems. For instance, the Centers for Disease Control's (CDC) recent Prevention National College Health Risk Behavior Survey found that approximately 29% of college students had smoked cigarettes in the preceding 30 days, 35% had reported recent episodic heavy drinking (five or more drinks on one occasion), and 14% had recently used marijuana (CDC, 1997). Furthermore, approximately one in five respondents was overweight, three in four

failed to consume five or more servings of fruits and vegetables (i.e., minimum daily recommended levels) during the day preceding the survey, and one in five had eaten three or more high-fat foods in the past 24 hr (CDC, 1997). Only one fifth and one third of college students, respectively, had participated in mild to moderate or vigorous exercise (CDC, 1997). Although the CDC study found that 46% of college students nationwide were attempting to lose weight, other evidence suggests that the number of college women dieters who engage in maladaptive behaviors (e.g., bingeing) is greater than the number of college women dieters who merely reduced calorie intake (Mintz & Betz, 1988; Strien, 1999). Taken together, very large numbers of college students throughout the nation appear to engage in numerous behaviors that place them at risk for future health problems.

Religion is a potentially important, but often overlooked, factor that may be tied to college students' behavioral health. Although college students report lower levels of religiousness than the general population, most still endorse being religious. In a national survey, for example, approximately 77% of college students reported being members of a church, synagogue, or campus religious group. In addition, 85% of college students reported that religion is "very important to fairly important" to them (Gallup & Bezilla, 1992). Furthermore, a few studies with older adolescents and college students echo several substantial reviews (Levin, 1987, 1994) and large-scale epidemiological investigations (e.g., Strawbridge, Cohen, Shema, & Kaplan, 1997) that have identified links between religion and health outcomes in the general population. For example, in an investigation of 994 older adolescents (10th to 12th grade), Newcomb, Maddahian, and Bentler (1986) found significant correlations between a four-item measure of greater religious commitment and less cigarette, alcohol, and other drug use. Similarly, using a large, nationally representative sample of high school seniors, youth who reported greater global religiousness (i.e., three items assessing importance of religion, religious attendance, and denominational affiliation) were less likely to engage in health-compromising behaviors (e.g., drinking and driving), and more likely to behave in ways that enhance their health (e.g., proper nutrition, exercise, and rest; Wallace & Forman, 1998). Finally, in a sample of 1,007 college students, a two-item measure of greater religious attendance and self-reported religiousness was correlated with healthier attitudes and behaviors and fewer health-compromising behaviors and illnesses (Oleckno & Blacconiere, 1991).

Although research suggests that religion may be an important factor related to college students' health, critical questions remain as to what it is about religion that influences their health. Because prior research with this subgroup has relied heavily on global indicators of levels of religiousness (e.g., single items on church affiliation, importance of religion), little is known about particular religiously based beliefs about the body that may be tied to health-related behaviors and attitudes. To advance theory and research on the role of religion in health, this study examines how the construct of sanctification might be applied to the human body and how such perceptions are tied to lifestyle variables that can compromise or enhance health.

As is explained more fully elsewhere (Mahoney, Pargament, Murray-Swank, & Murray-Swank, 2003; Pargament & Mahoney, this issue), the construct of sanctification extends the psychological power of religion and spirituality to many aspects of life, including many seemingly secular objectives. Sanctification is defined as perceiving aspects of life as having divine significance and character<sup>1</sup> (Mahoney et al., 2003; Pargament & Mahoney, this issue). We propose that individuals can sanctify objects, such as the human body, in nontheistic or theistic ways. In nontheistic sanctification, people may ascribe sacred qualities to their body (e.g., holy, blessed, sacred). In theistic sanctification, people may view their body as being a manifestation of God (e.g., My body is a temple of God; my body is a gift from God). Initial studies on sanctification indicate that individuals are more likely to think and act in ways that preserve and protect aspects of their life that they perceive as sacred (Mahoney et al., 1999; Mahoney et al., this issue; Mahoney et al., 2003; Murray-Swank, Pargament, & Mahoney, this issue; Murray-Swank, Mahoney, & Pargament, 2003; Tarakeshwar, Swank, Pargament, & Mahoney, 2001).

Consistent with prior research, we hypothesized that greater sanctification of the body would be related to behaviors and attitudes that reflect a greater investment in maintaining one's physical well-being. This would translate into greater self-protective health patterns as well as greater avoidance of health-compromising beliefs and behaviors. For example, we expected that the more that individuals perceive their body as sanctified, the more likely they would be to hold negative views of smoking, drinking, and illicit drug use and the less likely they would be to engage in these health-compromising behaviors. Similarly, the more that individuals view their bodies in terms of sacred qualities or as being connected to God, the more inclined they would be to engage in health-promoting behaviors, such as exercising regularly and eating healthy and the less likely they would be to engage in unhealthy dieting practices. Finally, the stronger that people's convictions are about the spiritual meaning of their bodies (e.g., my body is holy or my body an instrument of God), the more they may appreciate and accept their bodies. Thus, we expected greater sanctification of the body to be related to greater satisfaction with one's physical appearance and with lower levels of preoccupation with improving personal attractiveness.

Given the purported association of bodily desires with sinfulness in some religious traditions (Glucklich, 2001), some might also argue that greater sanctification of the body would relate to greater asceticism. That is, individuals might be expected to pursue spiritual ideals about the body through excessive self-denial

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<sup>1</sup>In previous articles on sanctification, we defined sanctification as perceiving an object or an aspect of life as having spiritual significance and character. In this issue, we have refined the overarching definition of sanctification to make it more precise. Specifically, we have replaced the term *spiritual* with the term *divine* in the definition. We have come to realize that our initial definition was too broad as it could be interpreted to include demonic elements of the spiritual realm.

and control of bodily urges. Our model of sanctification would, in contrast, predict an insignificant association between sanctification and asceticism. The latter finding would demonstrate differential validity of our measures of sanctification, assuming that other expected findings emerge (i.e., consistent with our model, sanctification measures should correlate only with the previously discussed variables and not with asceticism). Thus, we also included asceticism as a criterion variable in this study.

Finally, the construct of the sanctification of the body encompasses two specific sets of religiously based perceptions about the body. This contrasts prior research on religion and the health of college students, which has concentrated on global indexes of religiousness (e.g., frequency of prayer or church attendance; single-item ratings of the importance of religion and spirituality). In research on religion and health in national samples, such global indexes have consistently been tied to lower rates of health-compromising behaviors, such as cigarette, alcohol, and drug use (Koenig, McCullough, & Larson, 2001). This indicates that theological messages about the importance of avoiding harmful negative health habits may be reinforced by participation in religious organizations and practices. On the other hand, ambivalence appears to exist within religious traditions about the value of investing heavily in the enhancement of the body, with some Jewish and Christian literature suggesting that the "soul" or purely spiritual dimension of human beings is of higher priority than the corporeal dimension (e.g., Plaskow, 1995; Verhey, 1995). This implies that global markers of religiousness in the predominantly Christian culture (such as the United States) may be less consistently linked to exercise, healthy dieting, or satisfaction with one's body or appearance. In contrast, as argued earlier, the sanctification of the body should be related to such variables. Thus, although global religiousness and sanctification of body would be expected to overlap modestly and may have similarities to some health variables, they may also show distinct links with other health variables. To clarify the interplay of global religiousness and sanctification of the body, we conducted analyses to delineate the overlapping and unique contributions these constructs have with various health-related behaviors. Given that this study represents an initial examination of the sanctification of the body, a specific pattern of differential findings were not predicted.

## METHOD

### Participants

Participants were 289 college students (77.5% female) enrolled in a midsized, state university in the Midwest. Three hundred and sixteen participants were initially recruited from several introductory psychology classes and completed the survey for the study anonymously either by attending a prearranged group session or by taking the survey at home and returning it within 1 week. Students were eligible to receive

extra credit points for participation if permitted by their instructor; no monetary compensation or other incentive was provided for participation. Twenty-seven cases were dropped due to incomplete surveys. The resulting sample averaged 19.2 years in age ( $SD = 1.77$ ) and had an average of 13.9 years of education ( $SD = 9.2$ ). The racial breakdown of the sample was 91% Caucasian, 4.8% African American, 1.7% Hispanic, and 2.4% multiethnic or other. The sample was predominantly Protestant (38%) and Roman Catholic (36%), with 1% endorsing Jewish, 11% other, and 14% none. Four items were taken from the General Social Survey (1998) to provide global indicators of the participants' general level of religiousness. The breakdown of frequency of church attendance was: 8% never, 29% twice or less per year, 20% several times per year, 21% one to three times per month, 20% weekly, and 3% several times per week. The breakdown of the frequency of prayer was: 7% several times per week, 30% weekly, 13% one to three times per month, 13% several times per year, 28% twice or less per year, and 11% never. An item on self-rated religiousness yielded a mean of 2.5 ( $SD = .84$ ), based on a 4-point Likert scale with response options of 1 (*not religious at all*), 2 (*slightly religious*), 3 (*moderately religious*), and 4 (*very religious*). A parallel, 4-point Likert item on self-rated spirituality yielded a mean of 2.7 ( $SD = .87$ ). For primary data analyses, these four religious items were summed into one Global Religiousness score.

## Measures

Alpha coefficients for all major study variables are listed on Table 1. In the survey packet that students completed, the two sanctification of the body scales were administered after the scales on health-related variables. The sanctification of the body was assessed with two self-report measures adapted from Mahoney et al. (1999).

*Manifestation of God in the body.* Participants completed a 12-item Manifestation of God in the Body scale to assess the degree to which the body was perceived to be an expression or manifestation of God. Participants used a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) to indicate the degree to which they agreed with the following twelve questions: My body is a temple of God; my body is created in God's image; my body is a gift from God; God is present in my body; God uses my body to do God's will; my body is united with God; my body is bonded to the everlasting Spirit of God; a spark of the divine resides in my body; God lives through my body; God is glorified through my body; my body is an instrument of God; and the power of God moves through my body. To avoid confounding outcomes with this sanctification variable, the items were neutral about the direction of influence of God on the body (i.e., none asked if God helped or hindered bodily well-being). The 12 items were summed to create a total Manifestation of God in the Body score ( $\alpha = .98$ ).

TABLE 1  
Descriptive Statistics on Sanctification of the Body, Global Religiousness,  
and Criterion Indexes

	<i>M</i>	<i>SD</i>	$\alpha$	<i>Range</i>
Sanctification Variables				
Manifestation of God	55.7	20.1	.98	12–84
Sacred Qualities	40.0	14.3	.95	10–70
Global Religiousness	12.9	5.2	.75	2–23
Health Related Variables				
Health Protective Behaviors	26.7	6.3	.76	4–47
Physical Exercise				
Frequency of mild–moderate exercise per week	7.5	2.0	n/a	0–10
Frequency of vigorous exercise per week	6.6	2.2	n/a	0–10
General exercise level and positive attitudes	45.3	10.8	.91	16–65
Physical Appearance				
Subjective satisfaction with body	30.0	5.8	.80	13–44
Preoccupation with improving appearance	40.4	8.0	.87	13–60
Diet and Nutrition				
Healthy nutrition habits	3.6	2.7	.81	0–9
Unhealthy dieting practices	.40	.9	.67	0–5
Binge Eating	9.4	7.2	.88	0–33
Alcohol use				
Disapproval of alcohol consumption	9.1	2.8	.79	3–15
Frequency of alcohol consumption	9.8	7.0	.78	0–34
Illicit drug use				
Disapproval of illicit drug use/experimentation	64.1	10.4	.94	34–75
Frequency of illicit drug use in lifetime	2.7	6.0	.73	0–41
Smoking				
Disapproval of heavy smoking	4.1	1.0	n/a	1–5
Have smoked 100 cigarettes in life—yes/no	32%	n/a	n/a	
Currently nonsmoker, light, or heavy smoker				
Asceticism	15.2	4.6	.66	4–33

*Sacred qualities of the body.* Participants completed a 10-item Sacred Qualities of the Body scale to assess the degree to which the body was perceived as having qualities typically associated with divine, transcendent phenomena. Participants used a 7-point Likert scale ranging from 1 (*does not describe at all*) to 7 (*very closely describes*) to indicate the degree to which the following words applied to the body: blessed, holy, sacred, spiritual, miraculous, divine, hallowed, spirit-filled, heavenly, and religious. The items on this nontheistically oriented scale made no direct mention of a divine being (e.g., God, higher power). A total Sacred Qualities of the Body score was created by summing items ( $\alpha = .95$ ).

*General health-protective practices.* Twenty-six items from the Health Protective Behavior Scale<sup>2</sup> were used to assess participants' propensity to engage

<sup>2</sup>The following four items from the Health Protective Behavior Scale were inadvertently not included in the questionnaire packet in this study: avoid getting chills, watch one's weight, do things in moderation, and get enough exercise.

in a wide variety of overt actions and behaviors with the intent of protecting their physical health (e.g., eat sensibly, get enough sleep, take vitamins, wear a seat belt, get regular medical and dental checkups, watch weight; Harris & Guten, 1979). These items were assessed on a 3-point Likert scale of 0 (*never*), 1 (*sometimes*), or 2 (*almost always*). For the purpose of this study, the item of “pray or live by the principles of religion” question was removed to avoid a potential confound with the sanctification indexes. The items were summed to create a total score for each participant. Prior reliability data on the measure as used in this study were unavailable; the alpha coefficient in this sample was satisfactory at .76. In a large sample of adults, higher scores have been linked to ratings of better physical health (Zomcheck, 2001).

*Physical fitness.* Three indexes of investment in physical fitness were assessed in this study. Two items from the National Health Interview Survey (CDC, 2000) were administered to assess exercise rates, including one item on the frequency of mild to moderate physical exercise and one item on the frequency of vigorous physical exercise. In addition, the 13-item Fitness Orientation subscale of the Multi-Dimensional Body–Self Relations Questionnaire (MBSRQ; Cash, 2000) was used to assess the degree to which participants viewed physical fitness as an important aspect of life and actively devoted energy and time to their fitness. Items from the MBSRQ have a 5-point Likert scale with anchors of 1 (*definitely disagree*), 3 (*neither agree nor disagree*), and 5 (*definitely agree*). The MBSRQ has good reliability and validity (Cash, 2000), with Cronbach alphas ranging from .90 to .91 for the Fitness Orientation scale, .85 to .88 for the Appearance Orientation scale, and .73 to .77 for the Body Areas Satisfaction subscale. One month test–retest ranges from .73 to .94 for the three subscales.

*Satisfaction with physical appearance.* Two subscales of the MBSRQ were used to assess acceptance and preoccupation about physical appearance (Cash, 2000). One subscale, the nine-item Body Areas Satisfaction subscale, asked participants to rate their degree of satisfaction with nine aspects of their body (e.g., overall appearance; face–facial feature; mid-torso–buttocks, hips, thighs, legs). The other subscale, the 12-item Appearance Orientation subscale, assesses the extent to which individuals are mentally preoccupied with and dedicate effort to improving their personal appearance (e.g., I am always trying to improve my physical appearance; before going out in public, I always notice how I look). Items on these subscales were assessed on a 5-point Likert scale, with anchors of 1 (*definitely disagree*), 3 (*neither agree nor disagree*), and 5 (*definitely agree*). Items on each subscale were summed for the respective total scores.

*Dieting and nutritional behaviors.* Three aspects of dieting and nutrition were assessed. Healthy dieting practices were assessed with the 9-item Healthy Dieting Practices subscale from the Dieting Practices Inventory (French & Jeffrey,

1997). This index assesses the extent to which participants engaged in adaptive, healthy nutritional practices in the past year (e.g., increase fruits and vegetables, cut out sweets and junk food from diet, reduce number of calories). These items were answered as 0 (*no*) or 1 (*yes*). Two indexes were used to assess unhealthy and maladaptive dieting behaviors. First, the 5-item Unhealthy Dieting Practices subscale from the Dieting Practices Inventory was used to assess the extent to which participants engaged in counterproductive or risky dieting methods that typically do not result in lasting weight loss (e.g., skips meals, take laxatives or appetite suppressants). Again, these items were answered as 0 (*no*) or 1 (*yes*). Second, the Binge Eating Scale (Gormally, Black, Daston, & Rardin, 1982) was used to assess the degree to which participants lacked confidence in their ability to control urges to overeat and were unable to avoid excessive consumption of food (e.g., overeating at meals, excessive snacking, bingeing, eating when bored). This scale has 15 items, each of which offers a respondent four elaborate response options with regard to a particular food consumption issue; higher scores indicate more maladaptive eating patterns. Items on all three scales were summed to obtain the respective total scores. The Binge Eating Scale is very widely used, and prior research has demonstrated the tool's reliability and validity, with both healthy and unhealthy dieting practices being associated with current dieting status and dieting history (French & Jeffery, 1997; Gormally et al., 1982).

*Illicit drug usage and disapproval.* Illicit drug usage was assessed with seven items from the Confidential Information Questionnaire (CIQ; Johnston, 1973). These items asked about the frequency in the past year with which the participant had consumed marijuana, amphetamines, barbiturates, heroin, hallucinogens, drugs such as Ecstasy, and drugs such as mushrooms. We used the same seven classification groups as the original CIQ but updated the common street names for these drugs on the survey to correspond to current slang. These items had a 6-point Likert scale, with anchors of 5 (*nearly every day*), 4 (*once/twice a week*), 3 (*once/twice a month*), 2 (*3 to 10 times a year*), 1 (*once/twice a year*), and 0 (*never*). Scores were summed for analyses. A similar version of the CIQ has been used in a large-scale, ongoing national study of the behaviors, attitudes, and values of American secondary school students, college students, and young adults since 1975 and has ample reliability and validity evidence (Johnston, O'Malley, & Bachman, 2003).

Disapproval of illicit drug use was assessed with 15 items taken from the CIQ. These items asked about participants' degree of disapproval about peers experimenting with as well as regularly taking the illicit drugs listed previously. These items had a 5-point Likert scale with anchors of 1 (*strongly approve*), 3 (*I feel neutral or can't say/unfamiliar*), and 5 (*strongly disapprove*). Items were summed for a total score.

*Alcohol usage and disapproval.* Three questions from the National Health Interview Survey (CDC, 2000) were used to assess participants' alcohol consumption, including (a) In past two weeks, how many days you have consumed beer, wine, or liquor? (response options were from 0 to 14 days); (b) on average, how many drinks do you consume at a party or social occasion (respondent filled in blank with number); and (c) how often would you say you get "smashed" as a result of drinking (response options were on 5-point Likert scale with anchors of 1 (*never*), 3 (*frequently*), and 5 (*always*)). For this study, the three items were combined for a total score of alcohol use. Disapproval of social drinking and excessive alcohol consumption (e.g., bingeing) was assessed by summing three items from the CIQ about disapproval of alcohol consumption. See the previous discussion for details about response options; items were summed for a total score.

*Smoking history and disapproval.* Behavioral engagement in smoking was assessed with a yes/no categorical item from the National Health Interview Survey (CDC, 2000). This question asked whether participants had smoked at least 100 cigarettes during their lifetime. Disapproval of heavy smoking (i.e., more than one pack of cigarettes per day) was assessed with one item from the CIQ.

*Asceticism.* The eight-item Asceticism subscale of the Eating Disorders Inventory-2 (Gardner, 1991) was used to assess participants' tendency to pursue spiritual ideals through self-denial and control of bodily urges. Items were rated on a 6-point Likert scale ranging from 0 (*never*) to 5 (*always*). Items were summed for a total score.

## RESULTS

### Preliminary Data Analyses

Preliminary data analyses were conducted to examine associations between the two sanctification measures and global indexes of global religiousness. The Manifestation of God in the Body and Sacred Qualities of the Body scores both correlated at  $p \leq .0001$  with participants' reports of the frequency of prayer (respective  $r$ s of .53 and .49), the frequency of religious service attendance ( $r$ s of .58 and .52), self-rated religiousness ( $r$ s of .63 and .57), and self-rated spirituality ( $r$ s of .46 and .40). These findings offer evidence of convergent validity of the two sanctification measures given the moderate correlations with global indexes of religiousness.

Preliminary data analyses were also conducted on correlations between both sanctification measures and the demographic variables of age, gender, race, and year in college. Significant differences emerged for race and gender using one-tailed tests of significance. Specifically, non-White college students reported significantly higher Manifestation of God scores than White college students ( $r =$

.08,  $p < .05$ ). Likewise, the former group had higher Sacred Qualities scores ( $r = .10$ ,  $p < .05$ ). In addition, female college students reported significantly higher Manifestation of God scores than male college students ( $r = .15$ ,  $p < .05$ ). The two groups did not exhibit significantly different Sacred Qualities scores.

### Descriptive Findings on the Sanctification of the Body and Health-Related Variables

The mean rating of the Manifestation of God in the Body score across the 12 items was 55.7 ( $SD = 20.1$ ; range = 12–84). The scores were skewed somewhat upward with 65% of the sample obtaining a total score above 48 and 25% of the sample yielding a total score of 60 or greater. This indicates that the majority of participants' responses to the questions fell midway between "neutral" and "strongly agree." The mean rating of the Sacred Qualities of the Body score across the 10 items was 40.0 ( $SD = 14.3$ ; range = 10–70). The scores were fairly normally distributed with 53% of the sample obtaining a total score above 40 and 20% of the sample yielding a total score of 50 or greater. This indicates that about half of the participants' responses to some or all of the questions fell above "neutral" when asked whether each sacred quality described the body. The Manifestation of God in the Body and Sacred Qualities of the Body scores were correlated at  $r = .66$  ( $p < .0001$ ).

Table 1 displays the means, standard deviations, ranges, and alpha coefficients for the outcome variables. Low to moderate correlations existed between the majority of the outcome measures. The main exceptions included an  $r$  of .67 between general exercise level and frequency of vigorous exercise, an  $r$  of .72 between vigorous and mild to moderate exercise, and an  $r$  of  $-.70$  between alcohol use and alcohol disapproval. The mean  $r$  across all other correlations of the outcome variables was .18 (range of absolute values = .00–.57), thereby warranting that separate correlations be calculated between the sanctification and outcome variables.

### Partial Correlations Between Sanctification of the Body and Health-Related Variables

Consistent with the hypotheses, one-tailed tests of significance were used. Table 2 displays the partial correlations between the two indexes of sanctification of the body and the health-related variables after partialling out gender and race; these two demographic variables were controlled because they were correlated with one or both sanctification indexes and with many of the health outcome variables. Sixty-three percent of the partial correlations indicated small but significant protective links between sanctification of the body and health-related behaviors and acceptance of one's body and physical appearance. Specifically, higher scores on the Manifestation of God and Sacred Qualities scales were related to greater health-protective behaviors ( $r_s = .15$  and  $.30$ , respectively), more positive attitudes and better general exercise habits ( $r_s = .15$  and  $.20$ ), more frequent vigorous exercise

Table 2  
 Partial Correlations of Health-Related Variables With Sanctification of the  
 Body Scales and Global Religiousness Controlling for Gender and Race

	<i>Sanctification of Body</i>		
	<i>Manifestation of God</i>	<i>Sacred Qualities</i>	<i>Global Religiousness</i>
Health Related Variables			
Health Protective Behaviors	.15**	.30***	.15**
Physical Exercise			
General exercise level and positive attitudes	.15**	.20***	.09
Frequency of mild-moderate exercise per week	.07	.11*	.11*
Frequency of vigorous exercise per week	.12*	.16**	.11*
Physical Appearance			
Subjective satisfaction with body	.13*	.25***	.13*
Preoccupation with improving appearance	.04	.04	-.06
Diet and Nutrition			
Healthy nutrition habits	-.05	-.03	.06
Unhealthy dieting practices	-.12*	-.18***	-.13*
Binge eating	-.06	-.14**	-.08
Alcohol use			
Disapproval of alcohol consumption	.11*	.16**	.27***
Frequency of alcohol consumption	-.10*	-.13*	-.23***
Illicit drug use			
Disapproval of illicit drug use/experimentation	.11*	.24***	.21***
Frequency of illicit drug use in lifetime	-.09	-.13*	-.13*
Smoking			
Disapproval of heavy smoking	-.03	-.08	.07
Have smoked 100 cigarettes in life—yes/no	-.09	-.07	-.15**
Asceticism	-.02	-.03	.05

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

( $r = .12$  and  $.16$ ), greater subjective satisfaction with one's body ( $r = .13$  and  $.25$ ), lower likelihood of unhealthy dieting practices ( $r = .12$  and  $.16$ ), and greater disapproval of alcohol use ( $r = .11$  and  $.16$ ) and illicit drug use ( $r = .11$  and  $.24$ ). Perceiving one's body as possessing sacred qualities was also related to more frequent engagement in mild to moderate exercise ( $r = .11$ ), decreased binge eating habits ( $r = -.14$ ), and less frequent consumption of both alcohol ( $r = -.13$ ) and illicit drugs ( $r = -.13$ ). Smoking was the only domain of functioning that was not significantly related to either measure of sanctification. In support of the differential validity for our measures of sanctification, sanctification was not related to asceticism.

#### Partial Correlations Between Global Religiousness and Health-Related Variables

To provide parallel and necessary information on the relations between global religiousness and health-related variables prior to conducting hierarchical analyses,

TABLE 3  
 Unique Contribution of Sanctification of the Body after Controlling for  
 Global Religiousness, Gender and Race

Predictor Variables	Health Protective Behavior		Subject Satisfaction With Body		Disapproval of Illicit Drug Use	
	Beta	R <sup>2</sup> Change	Beta	R <sup>2</sup> Change	Beta	R <sup>2</sup> Change
Step 1		.09***		.05**		.05**
Race	-.03		.04		.04	
Gender	.24***		-.17**		.01	
Global Religiousness	.15**		.14*		.22***	
Step 2		.06		.04**		.03**
Manifestation of God	-.10		-.03		-.19*	
Sacred Qualities	.33***		.26***		.24**	

*Notes.* Hierarchical regression analyses were conducted only with criterion variables that yielded significant partial associations with global religiousness and at least one of the sanctification indexes after controlling for gender and race. The sanctification of the body variables did not make unique contribution to frequency of mild-moderate or vigorous exercise, unhealthy eating habits, alcohol disapproval or use, or illicit drug use after controlling for global religiousness, race, and gender.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

partial correlations were computed between global religiousness and health-related variables, controlling for gender and race (see Table 1). It may be noted that gender was significantly associated with global religiousness ( $r = .15, p < .01$ ), with women more likely to be more religious than men; there was also a trend for non-White students to report higher global religiousness than White students ( $r = .11, p = .07$ ).

#### Hierarchical Analyses on Unique Effects of Sanctification of the Body and Global Religiousness

To address the question of the unique and overlapping effects of sanctification of the body and global religiousness, two sets of hierarchical analyses were conducted on separate health-related variables. These analyses were only conducted with the health-related variables in which significant partial correlations had previously emerged with global religiousness and at least one of the sanctification of body indexes. In one set of hierarchical regressions, Step 1 involved the entry of the predictor variables of race, gender, and global religiousness, and Step 2 involved the entry of the two sanctification of the body indexes. In the complementary set of hierarchical regression, Step 1 involved the entry of the predictor variables of race, gender, and the two sanctification of the body indexes, and Step 2 involved the entry of global religiousness.

The results of the first set of hierarchical analyses were that the sanctification of the body contributed unique variance to three variables: health-protective behavior, subjective satisfaction with one's body, and disapproval of drug use. The con-

struct of sanctification did not make a unique contribution to the frequency of mild–moderate or vigorous exercise, unhealthy eating habits, alcohol disapproval or use, or illicit drug use after controlling for global religiousness, health-protective behaviors, frequency of mild–moderate or vigorous exercise, subjective satisfaction with the body, or unhealthy eating habits, race, and gender. The results of the second set of hierarchical analyses were that global religiousness contributed unique variance to the disapproval and use of alcohol and illicit drugs. Global religiousness did not make a unique contribution to health-protective behaviors, frequency of mild–moderate or vigorous exercise, subjective satisfaction with the body, or unhealthy eating habits.

DISCUSSION

This study represents an initial examination of how one specific set of religiously based beliefs about the body may be connected to health-related attitudes and behaviors for college students. Considerable research suggests that greater general religiousness (e.g., religious affiliation, rates of church attendance, self-rated importance of religion) is tied to lower levels of health-compromising behavior and greater endorsement of health-protective attitudes and behaviors in the general population (e.g., Levin, 1987, 1994; Strawbridge et al., 1997). A handful of studies have ex-

TABLE 4  
Unique Contribution of Global Religiousness after Controlling for Sanctification of Body, Gender and Race

Predictor Variables	Disapproval of Alcohol Use		Alcohol Consumption		Disapproval of Illicit Drug Use		Illicit Drug Use	
	Beta	R <sup>2</sup> Change	Beta	R <sup>2</sup> Change	Beta	R <sup>2</sup> Change	Beta	R <sup>2</sup> Change
Step 1		.12***		.12***		.05**		.02
Race	.21***		-.18**		.04		-.02	
Gender	.20***		-.22***		.01		-.03	
Manifestation of God	.02		-.03		-.19*		-.01	
Sacred Qualities	.13		-.10		.24**		-.10	
Step 2		.06***		.04***		.03**		.02
Global Religiousness	.34***		-.26***		.22***		-.17*	

Notes. Hierarchical regression analyses were conducted only with criterion variables that yielded significant partial associations with global religiousness and at least one of the sanctification indices after controlling for gender and race. Global religiousness did not make a unique contribution to health protective behaviors, frequency of mild–moderate or vigorous exercise, subjective satisfaction with the body, or unhealthy eating habits after controlling for the sanctification of the body indices, race, and gender.

\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

tended this research to college students (Newcomb et al., 1986; Oleckno & Blacconiere, 1991; Wallace & Forman, 1998), a distressing percentage of whom engage in lifestyles marked by risky health behaviors (e.g., CDC, 1997; Mintz & Betz, 1988; Strien, 1999). Little is known, however, about the interface between college students' beliefs about spiritual dimensions of the human body and corresponding health-related behavior patterns and attitudes. This study begins to fill this gap.

Based on initial research on the construct of sanctification (Mahoney et al., 2003; Pargament & Mahoney, this issue), we anticipated that greater perceived sanctification of the body would be linked to greater investment in maintaining one's physical well-being, greater health-protective behaviors, and greater acceptance of one's physical body. Our findings provide modest support for these ideas. Specifically, greater beliefs that God is manifested in the body and that the body is characterized by sacred, transcendent qualities were associated with a general lifestyle orientation of more health self-protective behavior. That is, greater sanctification of the body was positively related to a composite index of a broad range of health-protective beliefs and behaviors, such as wearing a seat belt, eating sensibly, getting enough sleep and relaxation, avoiding overworking, taking vitamins, and so on.

Both forms of sanctification were also associated with a greater sense of subjective satisfaction with one's overall physical appearance and body composition. This suggests that sanctification covaries with the extent to which people find their basic body shape acceptable. This is consistent with various "embodiment" theological teachings (e.g., Johnson, 1996) that encourage individuals to view their bodies as being good and acceptable in God's eyes and as embodying abstract spiritual characteristics. Such beliefs would presumably foster a sense of self-acceptance and worth, even if one's body fails to conform to rigid parameters of social desirability. Interestingly, sanctification was unrelated to the extent to which college students in this study were preoccupied with maintaining their personal appearance. This may simply mean that the constructs are unrelated. However, it is possible that sanctification of the body may discourage vanity and over-involvement in personal grooming for some people; however, for others, sanctification may motivate attention to personal hygiene, perhaps because such behavior conveys the message to oneself and others of a basic respect for one's body. More research would be needed to identify the factors that moderate the link in this manner.

Greater levels of both types of sanctification were also tied to higher rates of vigorous exercise and a higher emphasis placed on prioritizing physical fitness as a part of daily life. In addition, greater sacred qualities of the body was associated with more frequent mild to moderate exercise. These findings suggest that sanctification of the body may provide young adults with a spiritual frame of reference that helps inspire a regular workout routine and physical fitness activities. The results are also consistent with anecdotal reports in the media on the spread of "faith-based" fitness programs in the United States across a wide variety of religious organizations (Marcus, 2001) that promote a view of the connectedness of the body and soul.

Both types of sanctification were also linked to greater disapproval of and less self-reported consumption of alcohol and illicit drugs, even after controlling for gender and race (the exception was the nonsignificant link between manifestation of God in the body and illicit drug use). In addition, both types of greater sanctification were related to lower levels of maladaptive eating and unhealthy strategies to lose weight. Greater perceived sacred qualities was also related to greater self-confidence in controlling urges to overeat. Overall, these findings suggest that the sanctification of the body may provide college students with a cognitive framework that strengthens their resolve to avoid eating habits and substances that are harmful to the body.

The magnitude of links found in this study are on par with other attitudinal predictors previously reported on health practices, with correlations ranging from .04 to .22 in studies using college students and adolescents (Newcomb et al., 1986; Oleckno & Blacconiere, 1991; Wallace & Forman, 1998). But, of course, it should be recognized that the associations that emerged in this study were relatively small in size. Also, null findings emerged for both indexes of sanctification for engagement in healthy nutrition patterns. This may be partly due to the relative scarcity, expense, and inconvenience of health foods, fresh produce, and low-fat food items near or on college campuses. Such obstacles may make it difficult for students to engage in healthy eating patterns that are consistent with their spiritual beliefs about their body. Finally, sanctification was unrelated to disapproval of smoking or a lifetime history of this behavior. However, the restricted range and categorical nature of these two single-item variables may have obscured potential links between smoking behaviors and sanctification.

In this study, we tried to clarify the unique and overlapping links of the sanctification of the body and global religiousness. We found that the sanctification of the body and global religiousness make overlapping contributions to the frequency of mild-moderate or vigorous exercise and unhealthy eating habits after controlling for relevant demographic covariates (i.e., gender and race). Each construct contributes some unique variance to disapproval of illicit drugs after controlling for the other. However, each construct also made unique contributions to some variables that the other construct did not. For sanctification of the body, these factors encompassed diverse health-protective behaviors and subjective satisfaction with one's body. Global religiousness uniquely predicted disapproval of alcohol and the disapproval and use of illicit drugs. The overall pattern of results suggest that beliefs about the sanctification of the body may often originate within and be reinforced by participation in religious organizations. However, whereas traditional religions have tended to send strong, consistent messages about avoiding health-compromising behaviors—particularly smoking, alcohol, and substance abuse—theological stances about investing in the upkeep of the body are more ambivalent. In contrast, the sanctification of the body is conceptually closely tied to investing in and appreciating the body. Further, it appears that these kinds of perceptions uniquely contribute to proactive steps to invest time and energy into one's physical well-being and a high sense of esteem about one's body.

It should be noted that critics could raise at least two objections to the conclusion that the construct of the sanctification of the body offers a promising new direction for the psychology of religion and health. First, this construct does not add unique power in predicting some health-relative factors over and beyond global religiousness. The counterargument is that findings about global indexes of religion and health-related factors provide physicians, mental health professionals, and clergy with little guidance regarding how to understand or communicate with others about the relevance of religious affiliation, general prayer, or church attendance to health-related lifestyle practices. In contrast, scientific evidence that theistic and nontheistic perceptions of the sanctity of the body are relevant to health practices may be useful in applied settings. For example, our findings about links between the sanctification of the body and health practices may provide a platform for practitioners to assess and discuss ways in which religiously based rationales could motivate better health practices.

Another potential criticism is that the sanctification of the body is merely a proxy variable for how highly one values the body in general. In this study, we did not assess participants' self-rated importance of their physical bodies. However, a study conducted on personal strivings (Mahoney et al., this issue) indicates that, although greater sanctification of important life goals overlaps with importance and commitment to strivings, these factors are still distinct from sanctification. Assuming such findings would also apply specifically to beliefs about the sanctity of the body, the sanctification of the body is likely to represent more than a halo effect of the importance of one's body. However, the validity of the construct of the sanctification of the body would be strengthened if this question was directly addressed in future studies about the body and physical health.

Several cautions should be recognized about this study. First, the sample consisted of predominately Caucasian, female students who attended a midsized, state university in the Midwest. The findings need to be replicated with other samples to ensure generalizability across gender, geographical location, race, and culture. In addition, only cross-sectional data were gathered. This means that the associations found between the sanctification of body indexes and health-related behaviors could potentially be accounted for by "third variables," such as personality, mental health variables, or family and social networks that encourage a healthy lifestyle. In addition, the data do not allow us to draw causal inferences. Although our discussion has highlighted ways that perceiving one's body as sacred may encourage a more healthy lifestyle, reverse influences are likely to occur. In other words, people who invest in taking good care of their physical bodies may be more likely to come to think of their bodies in sanctified terms. Longitudinal research is needed to untangle reciprocal influences between the sanctification of the body and health-related cognitions or behaviors over time.

Nevertheless, given the promising results of this initial study, we would encourage further research on the sanctification of the body. Although the associations we found were modest, small changes in behavioral health patterns over a lifetime can

have large health consequences. Longitudinal studies are needed to demonstrate such possible effects of the sanctification of the body over time. In addition, future research is needed that identifies the individuals for whom the sanctification of the body is a more powerful and robust predictor of health-related behaviors. For example, these links may be stronger for youth who have participated in gyms or spas that emphasize spirituality, in church- or synagogue-based fitness programs, or in other organizations that directly promote a close integration of spirituality and body (e.g., Fellowship of Christian Athletes). Research exploring such moderating effects would provide further evidence of the potential of religious institutions, such as campus ministry programs, to facilitate the health and physical well-being of college students. Given the fact that a sizable proportion of students participate in religious activities and view themselves as moderately religious, college- and university-based faith communities represent potentially valuable settings for delivering health-promotion education to many young adults. Professionals in health-related fields could develop more collaborative connections with religious or spiritual organizations based on respect for the theological underpinnings of beliefs about the integration of the body and soul, while offering scientifically sound recommendations about specific health practices that promote physical well-being. Finally, the findings of this study may extend to other segments of the general population. For example, additional research on the role of the sanctification of the body in the elderly or minority subgroups could help support the development of psychospiritual intervention programs that aim to foster physical health by tapping into participants' beliefs about the interface of spirituality and the body. Overall, this study provides some initial evidence of the promising potential of such endeavors.

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