Religion and Psychological Well-being and Distress in Israeli Jews: Findings from the Gallup World Poll

Jeff Levin, PhD, MPH

Professor of Epidemiology and Population Health and Director of the Program on Religion and Population Health, Institute for Studies of Religion, Baylor University, Waco, Texas, U.S.A

ABSTRACT

Background: This study investigates religious predictors of psychological well-being and psychological distress in a five-year national probability sample of Israeli Jews (N = 4,073). Data were taken from the 2006-2010 annual surveys of Israel as a part of the multinational Gallup World Poll.

Methods: Analyses identified religious predictors of five-item scales of well-being and distress, adjusting for effects of several covariates, including health satisfaction. Additional analyses examined differences in religion, well-being and distress, and their interrelationships by categories of Jewish religious identity and observance (hiloni, masorti, dati, and haredi).

Results: Levels of religiousness and of well-being increase as one moves "rightward" across Jewish observance. Self-ratings of importance of religion and religious attendance are significantly associated with well-being, overall, and a religious harmony scale is associated with both well-being (positively) and distress (inversely), and with these measures' respective items, overall and across Jewish observance.

Conclusions: Religious indicators are significant predictors of both psychological well-being and psychological distress in Israeli Jews, regardless of Jewish religious observance.

INTRODUCTION

Over two decades of research has identified religious correlates or determinants of mental health and psychological well-being (1). This association works two ways: greater religiousness, variously assessed, as protective against psychological distress and psychiatric diagnoses (e.g., mood disorders such as depressive symptoms and anxiety) and promotive of psychological well-being (e.g., happiness, life satisfaction, positive affect). As in all epidemiologic studies, these findings are expressed on average and at the population level; there are, of course, exceptions to these trends. This literature also includes findings from clinical and community studies, social and behavioral research by gerontologists, and other population-based research by psychiatric and psychosocial investigators.

Despite the volume of work that has accumulated, the research literature is homogeneous in an important way. Published results overwhelmingly draw on samples of Christians, of one denomination or another, from North America. There are fewer international studies and very few studies of Jews, from Israel or the diaspora. This is ironic, as important early research on religion and mental health derived from samples with substantial Jewish respondents, such as the Midtown Manhattan Study of the 1950s (2).

Research on religious factors in Jewish mental health conducted since then comprises population-based studies of diagnosed psychiatric disorders and self-reports of dimensions of psychological well-being and distress. U.S. studies are few and mostly compare prevalence rates between Jews and non-Jews (3); similarly, Israeli studies tend to compare population subgroups, such as immigrant and native-born Jews (4, 5). This work is instructive, as mental health is a significant predictor of health-related quality of life among adult Israeli Jews (6). Yet while Jewish self-identification is a variable in these studies, for the sake of comparisons, Jewish religious beliefs or practices are not a focus of analysis.

Address for Correspondence: ✉ Dr. Jeff Levin, Institute for Studies of Religion, Baylor University, One Bear Place #97236, Waco, TX 76798, U.S.A. jeff_levin@baylor.edu.

A few Israeli studies have explored the impact of religiousness, broadly defined, on indicators of mental health or well-being. A longitudinal study of retirees found a self-rating of religiosity, defined as observance of religious rituals, to be mildly protective against psychological distress (7). This result was complicated by the observation that religiosity itself increased in response to declines in well-being. A national probability survey of adult Israeli immigrants found that religiosity, defined as observance of religious traditions, was strongly associated with a measure of life satisfaction among immigrants both from the West and from the former Soviet Union (8).

Stratification of respondents by categories of Jewish identity and observance familiar in Israel but not in the diaspora (e.g., secular, traditional, religious, Orthodox) yields additional information, but inconsistent results. A study of elderly Israelis found greater life satisfaction and health among "religiously observant" rather than "traditionally observant" respondents (9). By contrast, in a nationally representative sample of middle-aged urban Israeli Jews, "observant" (i.e., traditional) Jews reported lower scores than "secular" Jews on the SF-36 mental health scale (10). In a sample of Jewish Israeli college students, scores on a Jewish religious beliefs index were associated with greater well-being and less distress, but only among "secular" and "religious" Jews, not among an intermediate category of "traditional" Jews (11).

Studies among the most Orthodox and ultra-Orthodox categories of Israeli Jews suggest some level of protection, epidemiologically, for mental health and well-being. In a study of matched "secular" and "religious" kibbutzim, religious kibbutz members reported a greater "sense of coherence" and less hostility, leading the authors to conclude that "Jewish religious observance may enhance the formation of certain protective personality characteristics" (12, p. 185). Likewise, in a sample of West Bank and former Gaza settlers, the higher the religiosity the less the demoralization, according to the PERI-D Scale (13). Respondents who self-identified as "national-religious" or "national-ultra-religious" had significantly less psychological distress than either "traditional" or "secular" Jews. In another kibbutz study, belonging to a "religious" rather than "secular" community served to mitigate psychological distress and promote better health (14). The authors concluded that "the regulative and integrative function of belonging to a religious community" (p. 119) contributed most to its salutary impact.

Studies of diaspora Jews mostly validate the relative protection afforded Orthodox and ultra-Orthodox Jews for various mental health outcomes. Most notable is a recent series of psychological studies conducted by Rosmarin and colleagues in the U.S. This work has established that higher levels of trust in God (15), beliefs affirming God's benevolence (16), general religiousness and religious practices (17), and gratitude (18) are significantly protective against anxiety and depression among Orthodox Jews. Moreover, high levels of spiritual struggles are associated with poorer physical and mental health among Jews, in general, but with better physical and mental health among the Orthodox (19). An earlier series of British studies of anxiety (20), stress (21), and depression (22) among "strictly orthodox" and "traditionally orthodox" Anglo-Jews explored significant themes related to sociocultural context, but did not identify consistent epidemiologic differences between these groups.

Whether these findings translate to Israel, or to elsewhere in the diaspora, is an open question for several reasons. First, the possibility of "a strong taboo surrounding mental illness" among the ultra-Orthodox (23, p. 1516) may complicate interpretation of results due to underreporting of symptoms. To be fair, if true, this may affect some types of studies and not others, depending upon the mode of assessment; moreover, it is unclear that this would be more or less salient an issue in Israel. Second, the possibility of gender differences in mental health or in putative effects of religion for mental health among the *haredim* has been only minimally explored (24). Third, there is the confusing matter of how U.S. and diaspora categories of religious identity, observance, and affiliation do and do not correspond to Israeli categories (25). Finally, there is evidence that more religiousness, regardless of affiliation or level of observance, is salutary for Jewish mental health. A small study of Jewish adults from Washington, DC, found that religious indicators (interest in broad Jewish topics, commitment to religious traditions, holiday celebration, Jewish organizational activism, and personal belief in God) were associated with higher scores on one or more well-beings scales (26).

Each group of studies tells us something important, but cannot tell us other things. Some make simple comparisons between Jews and non-Jews, others look at intra-Jewish differences, according to various taxonomies. A few examine effects of religiousness among Jews, but most do not. Where they do, religious assessment is minimal. Not all focus on Israeli Jews. Not all are based on large national probability samples. Studies typically

do not assess both positive and negative polarities of well-being. In sum, we must piece together evidence from various sources, each contributing something but none providing a full picture.

The present study makes use of an underutilized data resource in order to extend this prior work. Serendipitously, this source, the Israel sample of the Gallup World Poll (GWP), contains four religious measures and respective indices of psychological well-being and distress, thus enabling a closer look at this subject with population-wide data. While these measures assess neither the fullness of religious experience, Jewish or otherwise, nor the many dimensions and domains of mental health, they provide an opportunity to examine their interrelationship among Israelis and Jews in a way heretofore impossible. Inclusion of a categorical measure of Jewish religious identity and observance (with distinct self-reported categories of *hiloni*, *masorti*, *dati*, and *haredi*; for an explanation, see Measures) also permits a stratified look at this issue and enables validation of recent studies.

Based on prior results, modest as they are, and on the extensive literature on religion and mental health, a few findings are expected. First, greater religiousness is expected to be promotive of well-being and protective against distress. There is mixed evidence from prior studies as to whether certain religious measures exhibit contemporaneous or longitudinal effects on specific types of psychological outcomes in particular populations (27). In light of prior research, a salutary effect is anticipated. However, the Israeli experience differs in norms of Jewish religious expression from the diaspora, including the U.S. Socioeconomic and cultural correlates of religiousness, even how religiousness is defined, differ substantively and incorporate social and political realities and tensions that may deleteriously impact on well-being. In other words, the construction of Jewish identity in Israel differs from the denominational typology found in the diaspora. The categories used in the GWP do not map easily onto respective Jewish movements in, for example, the U.S. Religious involvement thus may not be as uniformly salutary exposure for well-being, epidemiologically, as it appears to be in some U.S. studies. Religion may be more or less salient a correlate of well-being or distress depending upon the extent of one's involvement in Judaism.

Second, less research has been conducted on the mental health impact of religious beliefs, attitudes, or practices relative to studies of overall self-reports of practicing or observing Judaism. So for the religious items included in the GWP battery (see Measures), the present study is somewhat exploratory. Nonetheless, affirmation of greater religiousness, however defined — valuation of religion, attendance at worship service, belief in God — is expected to be salutary, whether through association with well-being or through protecting against distress.

Third, it is also anticipated that the salience of these effects — that is, their magnitude and statistical significance — will be more pronounced as one moves "rightward" across categories of Jewish religious identity and observance (i.e., from secular to Orthodox). Based on prior findings, including the studies of Rosmarin and colleagues, there is reason to expect something of a "dose-response" gradient for well-being and distress as well as for the impact of religiousness on these outcomes. Recent U.S. findings confirm such a gradient for self-assessments of physical health, such that salutary religious effects were observed primarily among Orthodox and Conservative Jews and less so or not at all among Reconstructionist, Reform, or secular Jews (28). In the present study, this would imply greater well-being and less distress moving from *hiloni* to *haredi* Jews, and stronger associations of religion with well-being and distress moving in the same direction.

METHODS

THE GALLUP WORLD POLL (GWP)

These data come from the Israeli sample of the Gallup World Poll (GWP), a continual cross-sectional survey of the adult population of over 150 countries using randomly selected, nationally representative samples (29). Most GWP samples comprise 1,000 people per country per round and use a standard set of core questions, supplemented by additional country-specific or region-specific items. These surveys have been conducted annually, with plans for quarterly surveys in many countries. Data are generally collected via face-to-face interviews, although in some countries telephone interviews are used.

Data were collected in Israel in July, 2006 (N = 1,002); August, 2007 (N = 1,001); September-October, 2008 (N = 1,001); October-November, 2009 (N = 1,000); and October-November, 2010 (N = 1,000). All interviews were conducted in person in Hebrew (or in Arabic or Russian, if needed). The present study uses a combined five-year sample (N = 5,004) and limits analyses to the survey's Jewish respondents (N = 4,073), constituting 81% of the Israeli sample aged 15 and over. For selected analyses, the available sample size is smaller, due to three

study variables being available only in certain rounds of data collection (explained in Data Analysis). To be clear, each year's GWP is a separate cross-sectional survey; this is not a single multi-wave panel and thus all respondents in the combined sample are unique.

Typical of large-scale social surveys, the GWP contains hundreds of items and scales assessing domains of social, political, and economic life. The GWP is best known for its many indices used in aggregate (country-level) analyses, such as national rankings of personal economy, corruption, violence, food and shelter, law and order, optimism, and other constructs (30), as well as in studies of global health and its determinants (31). The GWP also contains item sets assessing psychological well-being and distress, personal health, and religiosity—thus enabling its use here.

The GWP is a promising but largely untapped resource for systematic empirical research, both multinationally and within respective countries, such as Israel. There is also, incidentally, a distinct "Palestinian Territories" sample, enabling future comparative research. The GWP data are not publically available, but accessible to a select group of consulting research scholars, including the present author, who has a research interest in the health of Jews. The GWP's Israeli sample has, to now, been mostly unutilized. The present paper, it is expected, will be the first of a series of analyses using these data.

MEASURES

The GWP Israeli sample contains a few binary religious items. These include *importance of religion* ("Is religion an important part of your daily life?"; recoded as: 0 = no, 1 = yes), *religious attendance* ("Have you attended a place of worship or religious service within the last seven days?"; recoded as: 0 = no, 1 = yes), and *God directly involved* ("Do you believe God is directly involved in things that happen in the world, or not?"; recoded as: 0 = no, 1 = yes). Five additional Likert items (coded from 1 = strongly disagree to 5= strongly agree) were combined into a *religious harmony scale* (α = .69): "I always treat people of other religious faiths with respect," "Most religious faiths make a positive contribution to society," "I would not object to a person of a different religious faith moving next door," "People of other religious faiths always treat me with respect," and, "In the past year, I have learned something from someone of another religious faith."

There is also a measure of *Jewish religious identity and observance* ("What specific Jewish denomination are you?"), recoded as: 1 = *hiloni* (secular; 48.6% of the sample), 2 = *masorti* (traditional; 33.2%), 3 = *dati* (religious; 14.1%), 4 = *haredi* (Orthodox; 4.1%). These categories, as noted, are not the same as the Jewish movements or "denominations" found in the U.S. and throughout the diaspora. *Haredi* means more or less what it does elsewhere: religious Jews subscribing to ultra-Orthodox life styles. *Dati* would be closer to the more strictly Torah-observant side of the diaspora's Modern Orthodox, but is culturally, socioeconomically, and politically distinct from *haredi*. Israelis who self-identify as *masorti* are traditionally religious Jews of non-Ashkenazi origin; there is also a small *Masorti* (Conservative) movement in Israel, but that means something quite different. Finally, *hiloni* Jews, while institutionally unaffiliated or non-religious, nonetheless may be considerably more observant in some ways than liberal affiliated Jews in the diaspora. If this taxonomy is confusing to non-Israelis, it just underscores that these categories are not equivalent to the familiar Jewish denominations found in the West. Based on other estimates (32), the proportional breakdown in this sample is representative of the overall population, although underrepresentation of *haredim* remains a persistent issue in mental health studies.

Outcome measures include two five-item indices constructed for the present study. A *psychological well-being scale* (α = .52) was constructed from five items developed by the GWP to assess "positive experience," or "respondents' experienced wellbeing on the day before the survey." As utilized in the present study, this measure comprises a summary of scores on these items ("Did you feel well-rested yesterday?," "Were you treated with respect all day yesterday?," "Did you smile or laugh a lot yesterday?," "Did you learn or do something interesting yesterday?," and, "Did you experience the following feelings during a lot of the day yesterday? How about enjoyment?"; each recoded as: 0 = no, 1 = yes). Likewise, a *psychological distress scale* (α = .56) was constructed from five items developed by the GWP to assess the opposite polarity of well-being, termed "negative experience." These items ("Did you experience the following feelings during a lot of the day yesterday? How about physical pain?," "How about worry?," "How about sadness?," "How about depression?," and, "How about anger?") were recoded and summarized in the same fashion as in the well-being scale. These indices and their respective questions have been used in research on global prosperity and economic development (33).

Covariates include a single-item self-assessment of health satisfaction ("Are you satisfied or dissatisfied with your personal health?"; recoded as: 0 = dissatisfied, 1 = sat-

isfied) and four sociodemographic variables: age (in years), gender (recoded as: 0 = male, 1 = female), marital status (recoded as: 0 = not married and living together, 1 = married and living together; collapsed from 6 categories), and education (recoded as: 1 = elementary: through 8 years, 2 = secondary/tertiary: 9-15 years, 3 = college degree).

DATA ANALYSIS

All analyses were conducted using SAS version 9.2. Descriptive statistics and ANOVA results for differences in study variables by categories of Jewish religious identity and observance were obtained using the UNIVARIATE and GLM procedures, respectively. Psychometric validation of the several scales was conducted using the CORR procedure.

A strategy of two-step OLS regression was used to model effects of the four religious measures separately on each of the two outcome variables, using the REG procedure. In Model I, gross (unadjusted) or bivariate associations were examined. In Model II, each respective analysis was rerun, adding in measures of the covariates (health satisfaction, age, gender, marital status, education), producing net (adjusted) or multivariable associations. Analyses were conducted separately for the well-being and distress scales in relation to each religious variable. Results are presented both overall and separately for each category of Jewish religious identity and observance. Both unstandardized (b) and standardized (β) regression coefficients are reported, enabling comparisons both across different models in different subsamples and for respective religious indicators and within respective subsamples (34). To facilitate comparison of regression effects across Jewish categories, regression models were also run for the overall sample including a multiplicative interaction term for the Jewish religious identity and observance variable and the respective religious indicator. This provides a de facto test of subgroup differences, indicated by a statistically significant interaction.

A confusing feature of the GWP Israeli data is that not all measures are available at every round of data collection. In the present study, this comes into play as follows. For all analyses reporting findings from the overall sample, in Tables 1 through 3, the full five-year combined sample of Israeli Jews is used (N= 4,073). For all analyses stratifying by Jewish religious identity and observance in these tables, four years of combined data are used, from 2007-2010 (N = 3,247); this variable was not present in the 2006 survey. Two additional sample limitations: the God directly involved variable was only present in the 2009 sample (N = 836) and the religious harmony scale items were only available in the combined 2008-2009 sample (N = 1,596), the latter affecting Table 4 and applicable rows in the other tables.

RESULTS

For nine of eleven study variables, statistically significant differences are observed across the four categories of Jewish religious identity and observance (see Table 1). For three of the religious variables (importance of religion, religious attendance, and God directly involved), there is a significant gradient such that scores steadily

Table 1. *Descriptive Statistics of Study Variables, Overall and by Categories of Jewish Religious Identity and Observance**

	Overall		Haredi		Dati		Masorti		Hiloni			
Study Variables	Mean	(sd)	Mean	(sd)	Mean	(sd)	Mean	(sd)	Mean	(sd)	F	p
Importance of Religion	.41	(.49)	.98	(.12)	.92	(.27)	.60	(.49)	.11	(.31)	826.6	<.0001
Religious Attendance	.33	(.47)	.89	(.31)	.80	(.40)	.42	(.49)	.10	(.30)	500.1	<.0001
God Directly Involved	.75	(.43)	1.00	(.00)	.99	(.10)	.92	(.28)	.56	(.50)	62.46	<.0001
Religious Harmony Scale	16.20	(4.17)	13.61	(4.86)	14.81	(4.69)	16.59	(3.88)	16.63	(3.91)	20.64	<.0001
Psychological Well-Being Scale	3.34	(1.34)	3.63	(1.33)	3.41	(1.39)	3.32	(1.32)	3.27	(1.31)	3.32	.019
Psychological Distress Scale	1.46	(1.34)	1.25	(1.44)	1.56	(1.36)	1.52	(1.36)	1.52	(1.30)	1.74	.157
Health Satisfaction	.80	(.40)	.79	(.41)	.81	(.39)	.83	(.37)	.78	(.41)	3.25	.021
Age	40.14	(16.3)	34.20	(12.1)	39.15	(16.0)	39.63	(16.1)	41.79	(16.5)	12.06	<.0001
Female	.54	(.50)	.52	(.50)	.49	(.50)	.54	(.50)	.55	(.50)	1.75	.154
Married	.58	(.49)	.78	(.42)	.65	(.48)	.57	(.50)	.56	(.50)	11.17	<.0001
Education	2.25	(.49)	2.26	(.46)	2.18	(.46)	2.17	(.46)	2.32	(.50)	24.56	<.0001

*ANOVA results for differences by Jewish religious affiliation in each study variable.

Table 2. *Regressions# of Psychological Well-Being Scale on Religious Indicators, Overall and by Categories of Jewish Religious Identity and Observance*

	Overall		Haredi		Dati		Masorti		Hiloni	
Religious Indicators$	β (b)	se	β (b)	se	β (b)	se	β (b)	se	β (b)	se
Importance of Religion										
Model I: Gross results[d]	.04 (.10)*	.05	.01 (.13)	.96	.11 (.54)*	.25	.02 (.05)	.09	-.03 (-.11)	.12
Model II: Net results[d]	.04 (.11)*	.05	.02 (.18)	.93	.10 (.53)*	.26	.02 (.07)	.09	-.01 (-.05)	.12
Religious Attendance										
Model I: Gross results[&]	.05 (.14)**	.05	-.05 (-.23)	.41	.08 (.27)	.17	.03 (.07)	.09	-.00 (-.01)	.12
Model II: Net results[&]	.05 (.14)**	.05	-.03 (-.11)	.41	.09 (.32)	.18	.04 (.11)	.09	.00 (.02)	.12
God Directly Involved										
Model I: Gross results	.01 (.02)	.11	---	---	-.06 (-.74)	1.3	.02 (.08)	.34	-.02 (-.05)	.13
Model II: Net results	.02 (.07)	.11	---	---	-.04 (-.49)	1.4	.03 (.17)	.33	-.02 (-.05)	.14
Religious Harmony Scale										
Model I: Gross results[&]	.11 (.04)***	.01	.31 (.08)*	.04	.13 (.04)*	.02	.08 (.03)	.02	.14 (.05)***	.01
Model II: Net results[&]	.12 (.04)***	.01	.39 (.10)*	.04	.14 (.04)*	.02	.08 (.03)	.02	.16 (.05)***	.01

#Separate analyses for each of the four religious measures.
$Model I = gross (unadjusted) results; Model II = net (adjusted) results, controlling for effects of health satisfaction, age, gender, marital status, and education.
*p < .05; **p < .01; ***p < .001.
&Statistically significant differences in regression coefficients across Jewish categories.

decline as one moves "leftward" in terms of religious observance, from *haredi* (Orthodox) to *dati* (religious) to *masorti* (traditional) to *hiloni* (secular) Jews. The big drop off is mostly between the Orthodox and religious Jews and the other two categories. For the religious harmony scale, the gradient goes in the opposite direction: *hilonim* and *masortim* are most likely to affirm religious tolerance and respect, and *datim* and *haredim* less so.

The two outcome measures show mixed evidence of religious differences. For psychological well-being, as hypothesized, there is a modest but distinct and statistically significant gradient from the most to the least religious. Scores decline from *haredim* (Mean = 3.63) to *datim* (Mean = 3.41) to *masortim* (Mean = 3.32) to *hilonim* (Mean = 3.27); these are not large differences, but are statistically significant ($F = 3.32$, $p = .019$). For psychological distress, a data trend is visible such that there appears to be less distress as one moves "rightward" from secular to Orthodox Jews, but this does not attain statistical significance.

Results of regressions of both scales onto the religious measures indicate statistically significant associations between religion and well-being or distress, plus distinctive differences in the salience of religiousness depending upon the category of Jewish religious identity and observance. Three of the four religious indicators (importance of religion, religious attendance, and the religious harmony scale) are significant predictors of well-being, overall, even after adjusting for covariate effects (see Table 2). The other religious indicator (God directly involved) is not significantly associated, nor are there subgroup differences. For importance of religion, the greatest net effect is among *datim* ($\beta = .10$, $p < .05$). For the religious harmony scale, at the net level, stronger affirmation of this construct is associated with greater well-being among *haredim* ($\beta = .39$, $p < .05$), *datim* ($\beta = .14$, $p < .05$), and *hilonim* ($\beta = .16$, $p < .001$).

Overall, religiousness exhibits a protective effect on distress only through the religious harmony scale (see Table 3). Stronger affirmation of this construct, at the net level, is associated with less distress overall ($\beta = -.16$, $p < .001$) and among *datim* ($\beta = -.19$, $p < .01$), *masortim* ($\beta = -.15$, $p < .001$), and *hilonim* ($\beta = -.17$, $p < .001$); for *haredi* Jews, the association is not statistically significant. For religious attendance, despite no overall association with distress, interesting subgroup differences emerged. Among *datim*, at the net level, recent attendance at shul is protective against distress ($\beta = -.13$, $p < .001$). (For the *haredim*, the standardized and unstandardized regression coefficients are even larger, but due to a higher standard error and a smaller available sample size they are not statistically significant.) Among the *hilonim*, by contrast, at the net level, greater religious attendance was associated with *more* distress ($\beta = .06$, $p < .05$).

Note that regression estimates for God directly involved among *haredim* are omitted from both Tables 2

Table 3. *Regressions# of Psychological Distress Scale on Religious Indicators, Overall and by Categories of Jewish Religious Identity and Observance*

	Overall		Haredi		Dati		Masorti		Hiloni	
Religious Indicators$	**β (b)**	**se**	**β (b)**	**se**	**β (b)**	**se**	**β (b)**	**se**	**β (b)**	**se**
Importance of Religion										
Model I: Gross results	-.01 (-.04)	.04	-.07 (-.75)	1.0	-.06 (-.31)	.25	-.03 (-.07)	.09	.04 (15)	.11
Model II: Net results	-.01 (-.02)	.04	-.09 (-.98)	.96	-.08 (-.42)	.25	-.03 (-.10)	.08	.04 (.15)	.11
Religious Attendance										
Model I: Gross results&	-.02 (-.07)	.05	-.15 (-.67)	.41	-.13 (-.46)**	.17	-.03 (-.09)	.09	.05 (.23)*	.11
Model II: Net results&	-.01 (-.03)	.04	-.16 (-.69)	.40	-.13 (-.47)**	.16	-.04 (-.11)	.08	.06 (.25)*	.11
God Directly Involved										
Model I: Gross results	-.01 (-.04)	.10	---	---	.03 (.39)	1.3	.03 (.16)	.30	.00 (.00)	.13
Model II: Net results	-.01 (-.02)	.10	---	---	.02 (.29)	1.3	.03 (.12)	.28	.01 (.03)	.13
Religious Harmony Scale										
Model I: Gross results&	-.14 (-.05)***	.01	-.25 (-.08)	.04	-.21 (-.06)**	.02	-.12 (-.04)**	.02	-.15 (-.05)***	.01
Model II: Net results&	-.16 (-.05)***	.01	-.24 (-.07)	.04	-.19 (-.05)**	.02	-.15 (-.05)***	.01	-.17 (-.06)***	.01

#Separate analyses for each of the four religious measures.
$Model I = gross (unadjusted) results; Model II = net (adjusted) results, controlling for effects of health satisfaction, age, gender, marital status, and education.
*p < .05; **p < .01; ***p < .001.
&Statistically significant differences in regression coefficients across Jewish categories.

and 3. They were unevaluable due to an absence of variation in this variable in this subgroup (see Table 1). That is, every single *haredi* member of the sample affirmed God's direct involvement in human affairs; not a single respondent answered otherwise. Therefore, the variable is not actually a variable in this group, and structural model estimates are thus not possible. In statistical terms, the model is not full rank and OLS solutions for the parameters are not unique. This is an unusual occurrence and an interesting finding in its own right, underscoring the substantial differences in religious beliefs and practices among these four groups.

DISCUSSION

As anticipated, religious indicators are significantly associated with measures of psychological well-being and distress. Also as expected, a gradient is observed in religiousness and in well-being, such that higher levels of well-being are reported as one moves "rightward" from secular to Orthodox, except for the religious harmony scale where the gradient goes in the opposite direction. For the relationship between religious indicators and both outcomes, there is no evidence of a gradient; three of the four religious indicators are each significantly associated with one or both measures overall or in one or more subcategories of Jewish religious identity and observance. The most substantial and interesting findings involve the religious harmony scale, an index assessing experience with religious tolerance and respect. Overall and within each of the Jewish religious subgroups, the scale is associated with more well-being or less distress or both. These results, along with those of other studies across the religious spectrum (1), challenge longstanding stereotypes of religious participation as uniformly harmful to well-being or necessarily reflective of psychopathology (35).

One limitation of this study is the prevalence-study or cross-sectional design of the GWP. However, this design feature is offset by the advantages of a national probability sample, a large sample size, and the presence of annual samples that soon will enable application of sophisticated methodologies such as time-series analyses. Moreover, this limitation is also negated by the wording of the outcome measures: both the well-being and distress scales inquire about statuses that occurred "yesterday"; the usual uncertainty in temporal order that limits interpretation of results from prevalence studies is thus not as impactful here.

Another limitation is the low internal-consistency reliability estimates of the well-being and distress scales. In the overall GWP sample of 679,145 respondents from 155 countries, these α values are .64 and .68 respectively, considerably higher than among the

Jewish respondents in the Israeli sample (reported in Measures). While statistically significant associations were nonetheless observed with the religious variables (shown in Tables 2 and 3), the marginal reliability of these scales may have inhibited other associations and serve to restrict interpretation of these results.

To circumvent this problem and supplement the present analyses, separate sets of regressions were run for each of the ten items constituting the two scales (analyses not reported in the tables). Statistically significant associations were found for importance of religion with the smile or laugh a lot and experience feelings of enjoyment items of the well-being scale; for religious attendance with the same variables plus the learn or do something interesting item; and for God directly involved on the smile or laugh a lot item. For the religious harmony scale, by contrast, statistically significant associations emerged for eight of the ten total scale items, all but the well-rested and learn or do something interesting items. The notable finding here is the near ubiquity of affirmation of the value of religious tolerance and respect as both a correlate of well-being and an ostensibly protective factor against distress. This inspired a more detailed look.

In Table 4, results are presented for gross and net regressions of each of the ten psychological well-being scale and psychological distress scale items on the religious harmony scale, overall and separately by categories of Jewish religious identity and observance. As just noted, in the overall sample high scores on the religious harmony scale are significantly associated with eight of the ten scale items. Stratifying by Jewish religious identity and observance reveals that these findings are due to strong and consistent effects mostly among *hilonim* (significant net associations with eight of ten items) and, to a lesser extent, among *masortim* (significant net associations with three items) and *datim* (significant net associations with four items). Among the *haredim*, by contrast, higher scores on the religious harmony scale are of minimal net relevance to particular items, except for a significant association with a single item, smile or laugh a lot. Perhaps this is due to the much smaller subsample size and relatively larger standard errors, as the overall score on this scale is a very strong and significant gross and net correlate of well-being among the *haredim* (see Table 2).

In sum, results appear consistent and straightforward: affirmation of giving and receiving religious tolerance and respect among Jewish Israelis is positively associated with mental health, regardless of one's category of religious identity and observance. These results also hold for two of the other three religious variables — importance of religion and religious attendance — although the religious harmony scale exhibits the most across-the-board impact, across outcomes and across categories of Jewish identity and observance.

These results raise important questions that cannot be answered using the present data. For example, what is it about Jewish religious practice that is or should be

Table 4. *Regressions# of Psychological Well-Being Scale and Psychological Distress Scale Items on Religious Harmony Scale, Overall and by Categories of Jewish Religious Identity and Observance*

	Overall		Haredi		Dati		Masorti		Hiloni	
Scale Items	I	II	I	II	I	II	I	II	I	II
Well-Rested	.03	.03	.11	.12	.08	.08	.04	.03	-.01	-.01
Treated with Respect&	.15***	.16***	.05	.13	.22***	.21***	.09*	.10*	.17***	.18***
Smile or Laugh a Lot&	.07**	.08**	.33*	.42**	.14*	.16*	.02	.02	.07	.08*
Learn or Do Something Interesting&	-.00	.01	.11	.16	-.07	-.08	-.02	-.01	.08*	.08*
Experience Feelings of Enjoyment&	.05*	.07*	.16	.14	.01	.02	.05	.06	.09*	.12**
Experience Feelings of Pain	-.08**	-.08**	-.16	-.22	-.05	-.05	-.06	-.08	-.08*	-.08*
Experience Feelings of Worry	-.05	-.05*	-.17	-.08	-.04	-.03	-.06	-.07	-.06	-.07
Experience Feelings of Sadness	-.11***	-.11***	-.29*	-.26	-.12	-.12	-.08	-.10*	-.12**	-.13***
Experience Feelings of Depression&	-.09***	-.10***	-.04	-.04	-.16*	-.15*	-.11*	-.12**	-.07	-.09*
Experience Feelings of Anger&	-.12***	-.12***	-.14	-.17	-.23***	-.23***	-.09*	-.09	-.11**	-.12**

#Separate analyses for each item of the psychological well-being and psychological distress scales. Reported values are standardized (β) regression coefficients.
$Model I = gross (unadjusted) results; Model II = net (adjusted) results, controlling for effects of health satisfaction, age, gender, marital status, and education.
*p < .05; **p < .01; ***p < .001.
&Statistically significant differences in regression coefficients across Jewish categories.

associated with well-being and distress? This is an issue of "mechanisms," to use the language of sociomedical researchers—or those mediators or moderating variables that account for putative effects of exposure variables (in this instance religiousness) on a given outcome. In other words, what is it about the observance of one's religion that ideally would engender a salutary impact on mental health? What are the characteristics, functions, expressions, or manifestations of religion that are or should be promotive of well-being or preventive of distress? In the literature on religion and mental health, these are thought to include reinforcement of norms of healthy behavior, provision of supportive interpersonal and communal relationships, opportunity for prayer and worship experiences that provide channels for cathartic emotional expression, affirmation of systems of belief and worldview that create a sense of meaning and context for the vicissitudes of life, and engendering of hope and optimism and other positive expectations that frame one's daily experiences (1, 36). Each of these functions of religion is manifestly mental-health impacting, in principle, mostly related to an influence on self-control or self-regulation (37), and each can be recognized in Jewish religious contexts. Certain types of intense religious experience also may be associated with altered states of consciousness which exhibit psychophysiological correlates (38), a subject worth exploring further among Jewish mystics, perhaps.

Such questions are fascinating, but quite beyond the capability of being addressed in existing population surveys. In the GWP, for instance, requisite constructs were not assessed and the prevalence-study design may not be ideal for issues that may require other modes of assessment. Regardless, with the present results in hand, the next step should be to explain, not just to describe. This mirrors an issue at the forefront of the study of religion and mental health for at least 20 years: researchers have dealt extensively with the "what" question, so to speak, but less so with "how" or "why." For the present subject, this would require a data source with requisite instruments that: (a) assess dimensions and domains of mental and physical health in a more sophisticated and clinically validated way than through brief collections of well-being/distress items, (b) measure features of Jewish religious observance and Jewish life in general through validated scales and indices used by psychologists and sociologists of religion or by development of new instruments, and (c) address the myriad possible mediating factors or correlates of mental health or Jewish experience that might account for their apparent interconnection.

This is a tall order. Some existing data sources contain one or perhaps two of these features, but too few Jewish respondents or subjects to enable meaningful analyses. A global or diaspora Jewish health survey would be ideal, but would require considerable coordination, perhaps in partnership with a global survey firm and a consortium of Jewish agencies and academics in Israel, the U.S., and throughout the world. In the meantime, existing data sources can continue to be mined for nuggets of information that can help to paint an epidemiologic portrait of the mental health of Jews, including, where possible, identification of correlates and predictors related to Jewish life, as in the present paper. This is not just an academic exercise: religion is an important, and some might say complicating, issue for caregiving with religious Jewish patients (39) and is a factor in the attitudes and behavior of healthcare practitioners, as well (40, 41). Religion has other diverse implications related to mental health: for psychiatric referral patterns (42), for the work of rabbis and pastoral care professionals (43), and for psychiatric-epidemiologic research on patterns and determinants of psychopathology and psychotherapy utilization among Jews (44).

Acknowledgement

The author would like to thank Jim Clifton, Chairman and CEO; Dr. Gale Muller, Vice Chairman of Worldwide R&D; and Dr. Jon Clifton, Deputy Director of the Gallup World Poll, all from the Gallup Organization, for providing access to the Gallup World Poll data through the mechanism of a Research Scholar Consulting Agreement. He would also like to thank the two reviewers for their very helpful comments.

References

1. Levin J. Religion and mental health: Theory and research. Int J Appl Psychoanal Studies 2010; 7:102–115.
2. Srole L, Langner T. Religious origin. In: Srole L, Langner TS, Michael ST, Opler MK, Rennie TAC, editors. Mental health in the metropolis: The Midtown Manhattan Study. New York: McGraw-Hill, 1962: pp. 300-324.
3. Yeung PP, Greenwald S. Jewish Americans and mental health: Results of the NIMH Epidemiologic Catchment Area Study. Soc Psychiatry Psychiatr Epidemiol 1992; 27:292-297.
4. Mirsky J, Kohn R, Levav I, Grinshpoon A, Ponizovsky AM. Psychological distress and common mental disorders among immigrants: Results from the Israeli-based component of the World Mental Health Survey. J Clin Psychiatry 2008; 69:1715-1720.
5. Levav I, Kohn R, Dohrenwend BP, Shrout PE, Skodol AE, Schwartz S, Link BG, Naveh G. An epidemiological study of mental disorders in a 10-year cohort of young adults in Israel. Psychol Med 1993; 23:691-707.
6. Shmueli A. Subjective health status and health values in the general population. Med Decis Making 1999; 19:122-127.
7. Anson O, Antonovsky A, Sagy S. Religiosity and well-being among retirees: A question of causality. Behav Health Aging 1990; 1:85-97.

8. Amit K. Determinants of life satisfaction among immigrants from Western countries and from the FSU in Israel. Soc Indic Res 2010; 96:515-534.
9. Shkolnik T, Weiner C, Malik L, Festinger Y. The effect of Jewish religiosity of elderly Israelis on their life satisfaction, health, function and activity. J Cross Cult Gerontol 2001; 16:201-219.
10. Shmueli A. Health and religiosity among Israeli Jews. Eur J Public Health 2006; 17:104-111.
11. Vilchinsky N, Kravetz S. How are religious belief and behavior good for you?: An investigation of mediators relating religion to mental health in a sample of Israeli Jewish students. J Sci Stud Relig 2005; 44:459-471.
12. Kark JD, Carmel S, Sinnreich R, Goldberger N Friedlander Y. Psychosocial factors among members of religious and secular kibbutzim. Isr J Med Sci 1996; 32:185-194.
13. Levav I, Kohn R, Billig M. The protective effect of religiosity under terrorism. Psychiatry 2008; 71:46-58.
14. Anson O, Levenson A, Maoz B, Bonneh DY. Religious community, individual religiosity, and health: A tale of two kibbutzim. Sociology 1991; 25:119-132.
15. Rosmarin D H, Pargament KI, Mahoney A. The role of religiousness in anxiety, depression and happiness in a Jewish community sample: A preliminary investigation. Ment Health Relig Cult 2009; 12:97–113.
16. Rosmarin DH, Pirutinsky S, Pargament KI, Krumrei EJ. Are religious beliefs relevant to mental health among Jews? Psychology of Religion and Spirituality 2009; 1:180–190.
17. Rosmarin DH, Krumrei EJ, Andersson G. Religion as a predictor of psychological distress in two religious communities. Cogn Behav Ther 2009; 38:54–64.
18. Rosmarin DH, Krumrei EJ, Pargament KI. Do gratitude and spirituality predict psychological distress? Int J Existential Psychology Psychother 2010; 3:1–5.
19. Rosmarin DH, Pargament KI, Flannelly KJ. Do spiritual struggles predict poorer physical/mental health among Jews? Int J Psychol Relig 2009; 19:244–258.
20. Loewenthal KM, Goldblatt V, Gorton T, Lubitsch G, Bicknell H, Fellowes D, Sowden A. The social circumstances of anxiety and its symptoms among Anglo-Jews. J Affect Dis1997; 46:87-94.
21. Loewenthal KM, Goldblatt V, Lubitsch G, Gorton T, Bicknell H, Fellowes D, Sowden A. The costs and benefits of boundary maintenance: Stress, religion and culture among Jews in Britain. Soc Psychiatry Psychiatr Epidemiol 1997; 32:200-207.
22. Loewenthal K, Goldblatt V, Gorton T, Lubitsch G, Bicknell H, Fellowes D, Sowden A. Gender and depression in Anglo-Jewry. Psychol Med 1995; 25:1051-1063.
23. Devi S. Mental health and religion in Israel's ultra-Orthodox Jews. Lancet 2005; 366:1516-1517.
24. Loewenthal KM, Goldblatt V, Lubtish G. Haredi women, haredi men, stress and distress. Isr J Psychiatry Relat Sci 1998; 35:217-224.
25. Don-Yehiya E. Orthodox Jewry in Israel and North American [sic]. Israel Stud 2005; 10:157-187.
26. Ressler WH. Jewishness and well-being: Specific identification and general psychological adjustment. Psychol Rep 1997; 81:515-518.
27. Levin JS, Taylor RJ. Panel analyses of religious involvement and well-being in African Americans: Contemporaneous vs. longitudinal effects. J Sci Stud Relig 1998; 37:695-709.
28. Levin J. Health impact of Jewish religious observance in the USA: Findings from the 2000–01 National Jewish Population Survey. J Relig Health 2011; online prepublication.
29. Gallup. Worldwide Research Methodology and Codebook. [New York]: Gallup, Inc., 2011.
30. Gallup. State of the World: 2008 Annual Report. New York: Gallup Press, 2008.
31. Clifton J, Gingrich N. Are citizens of the world satisfied with their health? Health Affair 2007; 26:545-551.
32. Friedman TL. The Israeli Jews: 4 distinct camps. New York Times, June 29, 1987:A12.
33. Diener E, Ng W, Harter J, Arora R. Wealth and happiness across the world: Material prosperity predicts life evaluation, whereas psychosocial prosperity predicts positive feeling. J Pers Soc Psychol 2010: 99:52-61.
34. Kim J-O, Ferree GD Jr. Standardization in causal analysis. Sociol Method Res 1981; 10:187-210.
35. Ellis A. Is religiosity pathological? Free Inq 1988; 8(2):27-32.
36. Levin JS, Chatters LM. Research on religion and mental health: An overview of empirical findings and theoretical issues. In: Koenig HG, editor. Handbook of religion and mental health. San Diego: Academic Press, 1998: pp. 33-50.
37. McCullough ME, Willoughby BLB. Religion, self-regulation, and self-control: Associations, explanations, and implications. Psych Bull 2009; 135:69-93.
38. Levin JS, Wickramasekera IE, Hirshberg C. Is religiousness a correlate of absorption?: Implications for psychophysiology, coping, and morbidity. Altern Ther Health M 1998; 4(6):72-76.
39. Bilu Y, Witztum E. Working with Jewish ultra-orthodox patients: Guidelines for a culturally sensitive therapy. Cult Med Psychiatry 1993; 17:197-233.
40. Musgrave CF, McFarlane EA. Israeli oncology nurses' religiosity, spiritual well-being, and attitudes toward spiritual care: A path analysis. Oncol Nurs Forum 2004; 31:321-327.
41. Musgrave CF, McFarlane EA. Intrinsic and extrinsic religiosity, spiritual well-being, and attitudes toward spiritual care: A comparison of Israeli Jewish oncology nurses' scores. Oncol Nurs Forum 2004; 31:1179-1183.
42. Witztum E, Greenberg D, Dasberg H. Mental illness and religious change. Br J Med Psychol 1990; 63:33-41.
43. Cohen J. Judaism and mental illness. Australian Journal of Pastoral Care and Health 2008; 2(2):1-5.
44. Sanua VD. Studies in mental illness and other psychiatric deviances among contemporary Jewry: A review of the literature. Isr J Psychiatry Relat Sci 1989; 26:187-211.