

## Psalms for Safety

### Magico-Religious Responses to Threats of Terror

Richard Sosis

Department of Anthropology, U-2176, University of Connecticut, Storrs, CT 06269-2176, U.S.A. (richard.sosis@uconn.edu). 4 VII 07

Examination of the extent to which women in the northern Israeli town of Tzfat recited psalms to cope with the stress of the Second Palestinian Intifada reveals that knowing someone who was killed in the Intifada, experiencing an income loss, and believing that Tzfat would be attacked by terrorists were strong predictors of psalm recitation among self-identified secular but not religious interviewees. Among secular interviewees who believed that Tzfat would be attacked, psalm recitation was negatively correlated with short- and long-term precautionary behavioral strategies such as caution after an attack and avoiding buses, restaurants, and large crowds. No such relationship was found among religious interviewees, although they were less likely to make precautionary behavioral changes. These findings underscore the importance of magico-religious practices as coping mechanisms that may reduce anxiety and provide perceptions of control under conditions of high stress and uncertainty.

While there is a considerable literature exploring how religion might motivate and facilitate terrorism (Atran 2003; Sosis and Alcorta 2007), surprisingly little work has examined how terrorism impacts religiosity. The few existing data, only briefly mentioned in reports largely focusing on other behavioral responses to terror, indicate that increased religiosity is a common response to exposure to terror and suggest an important role for religion in moderating the stress effects of terror. For example, Schuster et al. (2001) found that 90% of Americans claimed to “turn toward prayer or religion” following 9/11, and Bleich, Gelkopf, and Solomon (2003) report that 60% of Israelis claimed “faith in God” as a coping mechanism for stress caused by terrorism.

None of this work, however, evaluates the determinants of religious responses to threats of terror or the relationship between religious and other coping strategies. The research presented here, focusing on Israeli women’s responses to the Second Palestinian Intifada, aims to fill these lacunae. First, I document the extent to which women in the northern Israeli town of Tzfat recited psalms to cope with the stress of the Intifada and the efficacy attributed to psalm recitation. Second, I examine demographic and socioeconomic determi-

nants of psalm recitation. Third, I evaluate whether psalm recitation is negatively correlated with short-term precautionary responses to terrorism such as caution on the day after an attack and long-term precautionary strategies such as refraining from riding buses or eating in restaurants.

Aside from folk wisdom (e.g., “There are no atheists in foxholes”), two related areas of research suggest that we might expect those who are exposed to chronic terrorism to turn toward religion. First, more than 75 years ago Malinowski argued that “both magic and religion arise and function in situations of emotional stress” (1948 [1925], 87). He ultimately distinguished between magic and religion (see Tambiah 1990, 68), but later anthropologists have recognized the significant overlap between the two social phenomena (Hammond 1970). Briefly, Malinowski argued that under conditions of uncertainty individuals will turn toward magic to exercise some control over an unpredictable situation. His hypothesis, which was consistent with the fishing activities of the Trobriand Islanders he studied, has more recently been dubbed the “uncertainty hypothesis” (Burger and Lynn 2005). While some anthropologists have rejected it (e.g., Kroeber 1963), others have found support for it in a variety of populations facing unpredictable conditions, including baseball players (Burger and Lynn 2005; Gmelch 1978), test-taking students (Felson and Gmelch 1979), craps shooters (Henslin 1967), and targets of warfare (Keinan 1994). Further supporting Malinowski’s argument, experimental research has shown that a desire for control is an important motivation for magical behaviors (Keinan 2002). Second, studies by medical researchers and psychologists show that religious practices and beliefs are generally associated with reduced stress, anxiety, and depression (Koenig, McCullough, and Larson 2001). Moreover, research indicates that prayer and other religious practices facilitate coping with stressful conditions by increasing one’s sense of control (Koenig, Larson, and Larson 2001).

While throughout their history Israelis have been regularly exposed to threats of terror, after September 2000, with the beginning of the Second Palestinian Intifada, the frequency and severity of attacks reached new heights. Over the following three years there were thousands of attempted attacks, including drive-by shootings, stabbings, and suicide bombings, and over 100 that resulted in at least one fatality (Israel Ministry of Foreign Affairs n.d.). In the Intifada’s most prolific year, 2002, there were more than 450 fatalities, whereas terror-related fatalities had never exceeded 100 per year prior to the Intifada. Studies by Klar and colleagues (Klar, Medding, and Sarel 1996; Klar, Zakay, and Shavrit 2002) show that Israelis characterize terrorist attacks as both uncontrollable and unpredictable. Commenting on the Israeli experience, Noy notes that “the prolonged effect of the uncertainty of when, where or how an attack will occur can result in disturbance to normal functioning and psychic life, leading to the development of an on-going and pervasive state of generalized anxiety and disruption of life” (2004, 31). Thus the Intifada created the

conditions of stress and uncertainty in which magico-religious practices and beliefs are expected to flourish.

In addition to documenting the practices and beliefs surrounding psalm recitation by Israeli women during the Intifada, I will evaluate two sets of hypotheses. The first is that women who are religious, have been more affected by the Intifada (here measured as having known someone killed or suffered a loss of income), and believe that there will be a local attack are more likely to recite psalms in response to the Intifada. The second is that reciting psalms will be negatively correlated with other short- and long-term precautionary behavioral responses to the Intifada. It is assumed that increased stress will lead to an increase in precautionary strategies such as avoiding buses, restaurants, and crowded areas. Klar, Zakay, and Shavrit (2002) found that perceived vulnerability to a terrorist attack was the most important predictor of precautionary behaviors. Precautionary behaviors are a means by which individuals can maintain a sense of control when conditions are uncertain. If psalms serve to reduce stress and increase one's sense of control under conditions of high uncertainty, we would expect those who are reciting psalms to be less likely to change their routines in response to the stress of the Intifada than those who are not reciting psalms.

## Methods

### *The Study Site*

Tzfat, recognized as the home of Jewish mysticism, has over 30,000 residents, maintaining an eclectic mix of secular and religious Jews who peacefully coexist. While during the Intifada the threat of terrorism was real and constant in Tzfat, no attacks ever occurred there. In fact, some interviewees claimed that Tzfat benefited from divine protection owing to the number of *tzaddikim* (holy people) buried there. Its relative safety was a significant factor in my choosing it as a field site from June 2002 through August 2003. The closest attack was a suicide bus bombing (on August 2, 2002, killing seven Israelis) outside of Meron, which lies on an adjacent hill visible from Tzfat.

All interviews were conducted at Tzfat's Ministry of the Interior, which provides passports, visas, and birth certificates, handles changes to national ID cards (e.g., every change of residence requires a visit to the ministry), and performs assorted other services. I decided to conduct the interviews there because it seemed likely to produce a fairly random sample of Tzfat residents; all Israelis require the services of the ministry occasionally, and the long lines provided interviewers with a generally willing pool of participants.

### *Sample Population*

Two primary factors motivated the decision to focus on women. First, it is a standard finding in the trauma literature that women have more significant responses to trauma than men (e.g., Fullerton, Ursang, and Epstein 2001), including

higher levels of symptoms of posttraumatic stress disorder following terrorist attacks (Bleich, Gelkopf, and Solomon 2003; Schuster et al. 2001; Silver et al. 2002). Furthermore, Klar, Zakay, and Shavrit (2002) found that Israeli women were more likely to make precautionary behavioral changes in response to the Intifada than men. Second, within Orthodox Judaism women have greater flexibility in ritual practice than men. Orthodox (especially Haredi) male life is saturated with ritual requirements (Stadler 2002). Men are expected to spend their free time in the study of religious texts or prayer, and therefore it is unclear how religious practices could be impacted by terror.<sup>1</sup> Therefore, in contrast to the selection of the study location, which was a relatively conservative choice considering the issues being explored,<sup>2</sup> the choice of the study population was intended to maximize the effects of terror on religiosity.

### *Data Collection*

The survey instrument was developed after conducting 16 open-ended interviews on religious responses to the Intifada. Four local Israeli women were subsequently trained to conduct protocol-based interviews, and 367 interviews were conducted between February and August 2003. To limit the effects of particular attacks on interviewee responses, no interviews were conducted for 48 hours after a fatal terrorist attack. There were 12 such attacks during the seven-month study period, and at least one occurred in six of those months.<sup>3</sup>

## Results

### *Independent Variables*

The independent variables used in the analyses are presented in table 1. "Research day" refers to the day on which the interview was conducted over a possible 186 days from February to August 2003.<sup>4</sup> Israelis broadly identify themselves religiously as secular (*chiloni*), traditional (*masorti*), or religious (*dati*).<sup>5</sup> "Traditional" typically refers to Jews who respect tradition but do not strictly adhere to Jewish law (*halacha*). Given their undefined character (e.g., some keep *kashrut* [dietary laws] and Shabbat, others do not) and small representation in the data set ( $n = 36$ ), they are ignored in most of

1. A small sample of men interviewed ( $n = 20$ ) reported much lower rates of additional religious practice in response to the Intifada than women. Several interviewees claimed greater fervor or concentration (*kavanah*) during prayer, suggesting that when time is a significant constraint individuals may increase focus on the rituals already required rather than performing additional ones.

2. In contrast, for example, to Jerusalem or Netanya, which have both suffered repeated terrorist attacks.

3. The terror-related fatality rate in 2003 was second only to that of 2002.

4. "Research day" was included to evaluate if there were any time-related trends in responses over the course of the study.

5. Within these broad categories there are many subdivisions, especially among the religious.

Table 1. Independent Variables Used in Analyses

Independent Variable (Coding Schema)	Mean	Standard Deviation	Percentage
<b>Demographic</b>			
1 Age (18–62)	28.43	10.50	–
2 Years of education (7–22)	13.09	2.05	–
3 Born in Israel (0/1)	0.85	0.36	–
4 Sephardi (0/1)	0.74	0.44	–
5 Politically right-wing (0/1)	0.81	0.40	–
6 Monthly income	1.49	0.71	–
1 = ≤ 3,000 NIS <sup>a</sup>	–	–	63.4
2 = 3,001–5,000 NIS	–	–	23.9
3 = > 5,000 NIS	–	–	12.7
<b>Religious</b>			
7 Religiosity	2.59	0.74	–
1 = Secular	–	–	15.3
2 = Traditional	–	–	10.1
3 = Religious	–	–	74.6
8 Belief index	2.74	0.61	–
1 = Low	–	–	13.9
2 = Moderate	–	–	12.2
3 = Absolute	–	–	73.8
9 Ritual index	4.63	1.37	–
1 = Very low	–	–	2.1
2	–	–	7.8
3	–	–	9.9
4	–	–	18.9
5	–	–	30.9
6	–	–	27.3
7 = Very high	–	–	3.0
<b>Experiential</b>			
10 Knew someone killed in Intifada (0/1)	0.56	0.50	–
11 Income decreased during Intifada (0/1)	0.38	0.49	–
12 Believe Tzfat will be attacked (0/1)	0.78	0.40	–
<b>Other</b>			
13 Research day (1–186)	86.21	46.49	–

<sup>a</sup>At the time of the research 1 U.S. dollar equaled approximately 4.5 New Israeli Shekels (NIS).

the analyses presented below. The distribution of religiosity in the sample is unlikely to represent Tzfat accurately; it presumably has a higher percentage of secular and traditional residents than is indicated. The cause of this bias is unclear but may reflect the fact that religious women have high fertility rates (Berman 2000) and births must be registered at the ministry.

The belief index was calculated as follows: First, interviewees were asked to rate their belief in God on a ten-point scale (1 = no belief; 10 = absolute belief). Second, interviewees were asked to rate the statement “God determines when someone dies” on a ten-point scale (1 = strongly disagree; 10 = strongly agree). These responses, which were highly correlated (Pearson  $r = .73$ ), were summed, creating a scale from 2 (no belief) to 20 (absolute belief), and subsequently clustered to reduce the number of categories. Many interviewees received a score of 20 (because of the high percentage of religious interviewees), and no interviewees received a score between 9 and 14. Therefore the data were trichotomized as follows: 1 = 2–8; 2 = 15–19; 3 = 20.

The ritual index was calculated from three questions aimed

at capturing diverse levels of ritual observance: “How often do you fast on Yom Kippur?” “How often do you attend synagogue for prayer?” “How often do you visit the graves of *tzaddikim*?” Responses to these questions were trichotomized and then summed, resulting in a seven-point scale from 3 to 9. These data were reduced by 2 to create a scale from 1 (low level of ritual activity) to 7 (high level).

#### *Magico-Religious Practices and Beliefs*

Open-ended interviews revealed a variety of practices that it was believed could improve what was known as the *matzav* (situation) as well as directly protect one from a terrorist attack, including giving charity, checking the parchment inside phylacteries and *mezuzot* (which hang on the doorframes of Jewish homes), wearing *tzitzit* (a garment with fringes worn by men), carrying a picture of a *tzaddik*, doing *mitzvot* (religious commandments), and reciting psalms. Interviews revealed that psalm recitation was considered the most efficacious of these practices. Asked to rate the statement “Reciting psalms protects one from an attack” on a scale of 1 (strongly

disagree) to 10 (strongly agree), 58.6% of interviewees chose 10, and the mean response was 7.65 ( $SD = 3.41$ ,  $n = 353$ ).<sup>6</sup> The corresponding figures for wearing *tzitzit* and carrying a picture of a *tzaddik* were 49.9% (mean 6.84) and 30.0% (mean 5.46) respectively. Interviewees ( $n = 355$ ) were also asked to rate the statement "Reciting psalms can improve the *matzav*." Over 77% of the religious and over 35% of the secular chose 10 whereas less than 4% of the religious and less than 29% of the secular chose 1.

While reciting psalms is not mandated by Jewish law, many religious women in Israel regularly do so as a spiritual practice. Given the strong beliefs in the power of psalms to protect one from an attack and improve the overall situation, it is not surprising that many women in the sample—83.0% of the religious and 35.7% of the secular—were reciting psalms specifically in response to the Intifada.<sup>7</sup> While reciting psalms is generally a private ritual, during the Intifada women throughout Tzfat (and elsewhere in Israel) organized to ensure that the entire Book of Psalms was collectively recited at least once a day. Women were assigned 5 or more of the 150 psalms to recite either at communal gatherings or, more commonly, in private at their convenience.

#### Hypothesis 1: Determinants of Psalm Recitation

Religiosity has a strong affect on psalm recitation; as indicated above, self-identified religious women are more than twice as likely to recite psalms as self-identified secular women. Both the belief index and the ritual index are also strong predictors of psalm recitation (ritual index:  $df = 6$ ,  $n = 330$ ,  $F = 13.8$ ,  $p < .0001$ ; belief index:  $df = 2$ ,  $n = 355$ ,  $F = 33.3$ ,  $p < .0001$ ). However, neither index explains much variance within the religious and secular populations (table 2). Among the de-

6. Across analyses  $n$ -values vary because of missing responses on the protocol-based interview.

7. It is not claimed here that these percentages reflect psalm recitation throughout Israel. Had the research been conducted in a predominantly secular area such as Tel Aviv, the rate of psalm recitation by secular residents would surely have been lower. However, other researchers report praying among some self-identified secular Israelis (e.g., Lazar, Kravetz, and Frederich-Kedem 2002).

Table 2. Analysis of Variance Models for Psalm Recitation by Belief and Ritual Indices

Independent Variable	F Ratio	p Value
Secular		
Belief index ( $n = 48$ , $r^2 = .03$ )	0.62	0.543
Ritual index ( $n = 52$ , $r^2 = .13$ )	2.47	0.073
Religious		
Belief index ( $n = 270$ , $r^2 = .01$ )	1.26	0.263
Ritual index ( $n = 247$ , $r^2 = .02$ )	1.24	0.295

Table 3. Logistic Regression Analyses of the Probability of Psalm Recitation

Independent Variable	Parameter Estimate (Standard Error)
Intercept	3.22 (1.15)
Age	-0.02 (0.02)
Education	-0.10 (0.07)
Monthly income	0.02 (0.20)
Sephardi	0.35 (0.32)
Born in Israel	-0.65 (0.48)
Right-wing	1.19 (0.46)**
Research day	-0.001 (0.003)

Note:  $n = 294$ , full-model chi-square = 15.91.\*\*

\*\* $p < .05$ .

mographic variables (table 3), the only significant one is political preference; those who are right-wing are more likely to recite psalms.<sup>8</sup> Experiential variables, however, explain considerable variance within the religious and secular populations. Figure 1 shows that knowing someone who was killed in the Intifada, experiencing a decrease in income, and believing that Tzfat will be attacked have strong impacts on the likelihood that the secular will recite psalms. These variables have little effect on the probability of additional psalm recitation among the religious (table 4).

#### Hypothesis 2: Psalm Recitation and Precautionary Behavioral Responses

Two items in the interview were aimed at assessing whether psalm recitation was correlated with other behavioral responses to the Intifada. To assess long-term precautionary strategies, interviewees were asked to indicate if they did any of a set of activities less because of the *matzav* (table 5). Over 51% reported having made at least one precautionary behavioral change. Model 1 of table 6 examines potential demographic predictors of precautionary behavioral changes. Those with more education are less likely whereas those with higher incomes are more likely to have made a change.<sup>9</sup> Age exhibits an inverted-U-shaped relationship; young adults and the elderly are least likely to have made a long-term precautionary change. Model 2 shows that, controlling for the significant demographic factors of Model 1, knowing someone who was killed and experiencing a decrease in income are not significant predictors of precautionary behavioral changes, whereas believing that Tzfat will be attacked is a strong pre-

8. It is unclear how this result should be interpreted. Political preference is not correlated with religious self-identification or perceptions of the likelihood that Tzfat will be attacked.

9. One interpretation of these findings is that those with higher education have more accurate information concerning the very low probability of experiencing an attack, whereas those with higher incomes have the financial means to avoid certain risks (e.g., taking taxis rather than buses, shopping in a supermarket rather than the cheaper open market, etc.) even if they recognize the low probability of an attack.

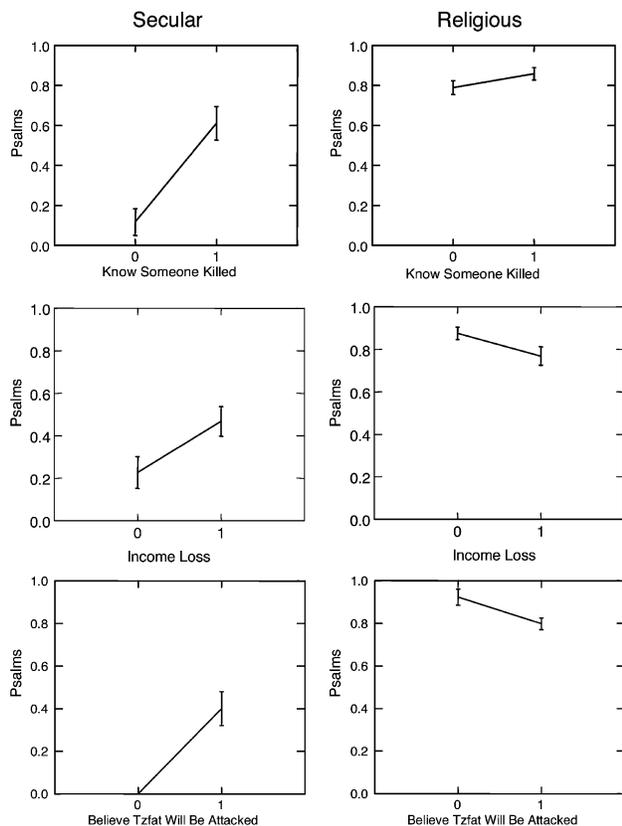


Figure 1. Probability of psalm recitation by knowing someone killed in the Intifada (*top*), experiencing an income loss (*center*) and belief that Tzfat will be attacked (*bottom*) for self-identified secular and religious populations.

dicator. Model 3 indicates that reciting psalms is not a predictor of precautionary behavioral change, nor is there any significant interaction with religious self-identification. Model 4 shows that, controlling for the demographic factors significant in Model 1, religious self-identification and the belief index are negatively related to precautionary changes, whereas the ritual index is not significantly related.

If reciting psalms plays a role in reducing stress and increasing one’s sense of control, its relationship with other behavioral responses to the Intifada is likely to be a function of whether one believes that Tzfat will be attacked. Among those who believe that Tzfat will be attacked (78.3% of the sample), reciting psalms is a significant predictor of having made at least one long-term precautionary change, whereas religious self-identification is not a significant predictor when demographic variables are controlled (table 7). There is a significant interaction effect between psalm recitation and religious self-identification. Figure 2 shows that among the religious reciting psalms in response to the Intifada is unrelated to precautionary changes, while among the secular those who recite psalms are much less likely to have made a precautionary change than those who do not.

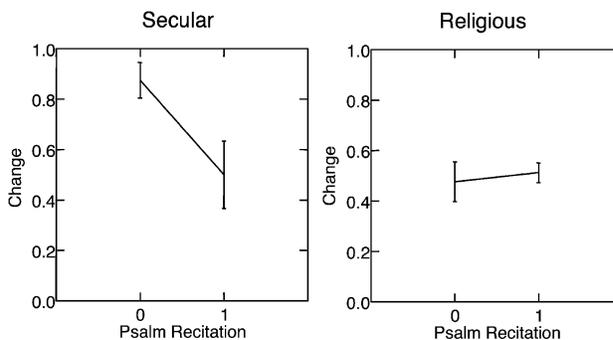


Figure 2. Probability of making at least one precautionary behavioral change by psalm recitation for self-identified secular and religious populations that believe Tzfat will be attacked.

To assess the relationship between psalm recitation and short-term precautionary responses to the Intifada, interviewees were asked to rate the statement “I am more careful when I leave the house on the day after an attack” on a ten-point scale (1 = strongly disagree, 10 = strongly agree). The results (tables 8 and 9 and fig. 3) are similar to those for long-term responses. Model 1 of table 8 shows that of the demographic variables only age and education are predictors of caution after an attack. Model 2 shows that, controlling for the significant demographic factors of Model 1, knowing someone who was killed and experiencing a decrease in income are not predictors of caution after an attack, whereas believing that Tzfat will be attacked is a strong predictor. Model 3 indicates that reciting psalms is not a predictor of caution after an attack, nor is there a significant interaction with religious self-identification. Model 4 indicates that, controlling for the demographic factors significant in Model 1, religious self-identification and the belief index are negatively related to caution, whereas the ritual index is not significantly related. Among those who believe that Tzfat will be attacked, psalm recitation is a predictor of caution after an attack, and there is a significant interaction effect between religious self-

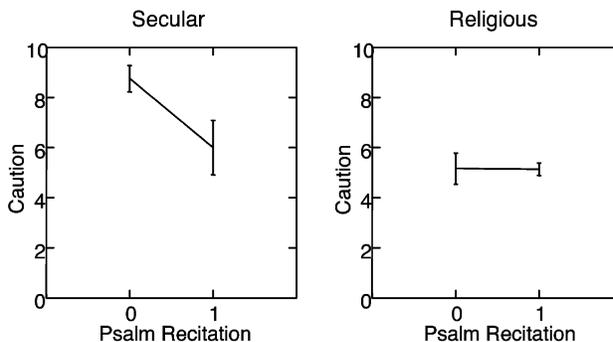


Figure 3. Caution on the day after a terrorist attack by psalm recitation for self-identified secular and religious populations that believe Tzfat will be attacked.

Table 4. Analysis of Variance Models for Psalm Recitation by Experiential Variables

Independent Variable	F Ratio	p Value
Know someone killed ( $n = 318, r^2 = .27$ )	23.20	< .0001
Religious	62.11	< .0001
Know someone killed * Religious	13.12	< .001
Right-wing	12.06	0.001
Income loss ( $n = 296, r^2 = .24$ )	1.36	0.245
Religious	68.09	< .0001
Income loss * Religious	9.12	0.003
Right-wing	7.73	0.006
Tzfat will be attacked ( $n = 312, r^2 = .25$ )	4.05	0.045
Religious	90.94	< .0001
Tzfat will be attacked * Religious	14.89	< .001
Right-wing	11.84	0.001

identification and psalm recitation (table 9). Figure 3 shows that among those who believe that Tzfat will be attacked, the secular who are not reciting psalms are the most likely to be cautious after an attack, whereas for the religious reciting psalms is largely unrelated to such caution.

## Discussion

The above analyses indicate that religiosity, whether measured as self-identification, belief, or ritual practice, is a strong pre-

Table 5. Behaviors Performed Less Because of Intifada ( $n = 365$ )

Behavior	Percentage
Ride in a bus	37.8
Attend large events	24.7
Vacation in Israel	24.1
Eat in a restaurant	14.8
Shop in the open market	13.2
Vacation outside of Israel	12.6
Sit in a café	11.5
Leave house	7.7
Travel in a car	4.4

dictor of psalm recitation in response to the Intifada. However, within the self-identified religious and secular populations, the belief and ritual indices do not predict psalm recitation. Some of the secular who claim no belief in God and do not participate in other Jewish rituals recite psalms while some who maintain high levels of belief and moderate levels of ritual practice do not recite psalms. Of particular importance in explaining variation in psalm recitation among the secular is belief that Tzfat will be attacked. Knowing someone killed in the Intifada and suffering an income loss are also associated with psalm recitation among the secular. These factors probably influence psalm recitation by affecting one's perception of vulnerability to attack.

The above analyses also reveal that a substantial percentage

Table 6. Logistic Regression Analyses of the Probability of Making a Long-term Precautionary Behavioral Change

Independent Variable	Model 1	Model 2	Model 3	Model 4
	Parameter Estimate (Standard Error)	Parameter Estimate (Standard Error)	Parameter Estimate (Standard Error)	Parameter Estimate (Standard Error)
Intercept	-4.32 (1.54)	-9.71 (1.94)	-4.01 (1.48)	-8.29 (2.18)
Age	0.41 (0.09)***	0.51 (0.11)***	0.33 (0.09)***	0.37 (0.10)***
Age <sup>2</sup>	-0.005 (0.001)***	-0.006 (0.001)***	-0.004 (0.001)***	-0.005 (0.001)***
Education	-0.19 (0.07)***	-0.14 (.08)*	-0.15 (0.07)**	-0.13 (0.07)*
Monthly income	0.33 (0.19)*	0.16 (0.21)	0.34 (0.18)*	0.45 (0.21)**
Sephardi	-0.36 (0.31)	-	-	-
Born in Israel	-0.08 (0.45)	-	-	-
Right-wing	-0.15 (0.32)	-	-	-
Research day	-0.001 (0.003)	-	-	-
Know someone killed	-	0.004 (0.31)	-	-
Income loss	-	-0.07 (0.33)	-	-
Believe Tzfat will be attacked	-	1.52 (0.38)***	-	-
Psalm recitation	-	-	0.21 (0.59)	-
Psalm recitation * Religious	-	-	-0.34 (0.56)	-
Religious	-	-	-	-4.23 (2.05)**
Belief index	-	-	-	-2.65 (1.01)***
Ritual index	-	-	-	-0.11 (0.18)

Note: Model 1,  $n = 296$ , full model chi-square = 39.03\*\*\*; Model 2, 262 and 55.14\*\*\*; Model 3, 275 and 25.34\*\*\*; Model 4, 253 and 44.21\*\*\*.

\* $p < .10$ .

\*\* $p < .05$ .

\*\*\* $p < .01$ .

Table 7. Analysis of Variance Models for Making a Long-term Precautionary Behavioral Change among Those Who Believe Tzfat Will Be Attacked

Independent Variable	Model 1	Model 2
	F Ratio	F Ratio
Psalm recitation	3.98**	7.21***
Religious	4.65**	0.91
Psalm recitation * Religious	5.25**	13.30***
Age	–	3.29*
Education	–	0.36
Monthly income	–	0.18

Note: Model 1,  $n = 248$ ,  $r^2 = 0.05$ ; Model 2, 205 and 0.10.

\* $p < .10$ .

\*\* $p < .05$ .

\*\*\* $p < .01$ .

of the population has made precautionary behavioral changes as a consequence of the Intifada.<sup>10</sup> The results for long- and short-term precautionary changes are remarkably similar, suggesting the robustness of the findings. Age, education, and belief that Tzfat will be attacked are all important predictors of precautionary changes. Those who identify themselves as religious and maintain high levels of belief are less likely to have made precautionary changes. This difference in behavior

10. In a nationwide study conducted in the fifteenth month of the Intifada, Klar, Zakay, and Shavrit (2002) found that 55% of their sample had made at least one precautionary change.

between the secular and the religious does not appear to be influenced by political preferences (while being-right-wing is associated with psalm recitation, it does not predict precautionary changes), nor do the religious perceive less of a threat than the secular: 78.8% of the religious and 76.9% of the secular believe that Tzfat will be attacked ( $t = 0.29$ ,  $p = .77$ ). Moreover, the religious are more likely to know someone killed in the Intifada than the secular (54.8% versus 38.5%;  $t = 2.91$ ,  $p = .03$ ).<sup>11</sup>

Tables 6 and 8 (Model 3) indicate that psalm recitation has no relation to short- or long-term precautionary responses. However, considering only those who believe that Tzfat will be attacked—in other words, those who are most likely to be experiencing Intifada-related stress—psalm recitation is strongly associated with lower levels of long- and short-term precautionary change among the secular, whereas it remains unrelated among the religious (tables 7 and 9, figures 2 and 3). These analyses do not demonstrate a causal association between psalm recitation and maintenance of regular behavioral routines, because measures of stress and sense of control which could provide the missing links are lacking. However, the consistency of the findings in several behavioral domains

11. This may be because of their wider social networks and their knowing more residents of areas with high terror-related fatality rates, such as Jerusalem, the West Bank, and Gaza. Members of the self-identified traditional population were the most likely to know someone killed in the Intifada.

Table 8. Multiple Regression Analyses of Caution after an Attack

Independent Variable	Model 1	Model 2	Model 3	Model 4
	Parameter Estimate (Standard Error)	Parameter Estimate (Standard Error)	Parameter Estimate (Standard Error)	Parameter Estimate (Standard Error)
Intercept	4.55 (2.18)	2.48 (1.77)	6.91 (1.45)	3.19 (2.15)
Age	0.14 (0.08)*	0.03 (0.02)	0.05 (0.02)**	0.49 (0.02)**
Age <sup>2</sup>	–0.001 (0.001)	–	–	–
Education	–0.24 (0.11)**	–0.16 (0.11)	–0.20 (0.10)*	–0.16 (0.11)
Monthly income	0.34 (0.31)	–	–	–
Sephardi	–0.52 (0.52)	–	–	–
Born in Israel	0.75 (0.73)	–	–	–
Right-wing	0.04 (0.55)	–	–	–
Research day	0.001 (0.005)	–	–	–
Know someone killed	–	0.65 (0.44)	–	–
Income loss	–	0.29 (0.46)	–	–
Believe Tzfat will be attacked	–	1.91 (0.54)***	–	–
Psalm recitation	–	–	–0.95 (1.08)	–
Psalm recitation * Religious	–	–	0.32 (1.04)	–
Religious	–	–	–	–3.69 (1.41)**
Belief index	–	–	–	–1.31 (0.68)*
Ritual index	–	–	–	–0.42 (0.26)

Note: Model 1,  $n = 280$ ,  $r^2 = 0.02$ ; Model 2, 289 and 0.07; Model 3, 292 and 0.02; Model 4, 268 and 0.02.

\* $p < .10$ .

\*\* $p < .05$ .

\*\*\* $p < .01$ .

Table 9. Analysis of Variance Models of Caution after an Attack among Those Who Believe Tzfat Will Be Attacked

Independent Variable	Model 1	Model 2
	F Ratio	F Ratio
Psalm recitation	5.07**	13.21***
Religious	13.11***	8.14***
Psalm recitation * Religious	4.91**	8.65***
Age	–	0.02
Education	–	9.88***

Note: Model 1,  $n = 240$ ,  $r^2 = 0.10$ ; Model 2, 224 and 0.17.

\* $p < .10$ .

\*\* $p < .05$ .

\*\*\* $p < .01$ .

strongly suggests some underlying inverse relationship between these coping mechanisms.

If psalm recitation reduces stress and increases one's sense of control, why does it seem to be effective only among the secular? I offer here four possible explanations. First, the religious may be more fatalistic ("My fate is in God's control") than the secular and thus less likely to change their routines in response to the threat of terror. However, this explanation is inconsistent with the encapsulated nature of religious belief, which generally shields believers from life-ending sacrifices (Bulbulia 2006). Moreover, Judaism in particular is not fatalistic (but see Stadler 2002).<sup>12</sup> Second, among the religious there may be social pressures to recite psalms, and therefore some women who do not feel a stress-related need to recite psalms may do so because someone has asked them to. The secular are unlikely to face similar social pressure or expectations, and therefore those who decide to recite psalms must be particularly self-motivated. A third possibility is that the stress-reducing benefits that rituals offer face diminishing returns. Consequently, if one has recently begun reciting psalms (as among the secular), its effects are probably much greater than for those (as among the religious) who are simply reciting additional psalms because of the Intifada. The fact that the religious, regardless of psalm recitation, are less likely to have made precautionary behavioral changes than the secular is consistent with this interpretation. A fourth possibility is that the data presented here suffer from phenotypic correlation problems. For example, if religious women who are experiencing Intifada-related stress are more likely to recite psalms in response to the Intifada than religious women who are not stressed, then it is possible that had these women *not* recited psalms they would have made more precautionary changes. By reciting psalms, however, they were similar in their behavioral responses to women who were not stressed by the prospect of an attack.

The results presented here have significant implications for

12. Judaism disapproves of reliance on miracles and encourages individual effort (*hishtadlut*) to ensure one's health, safety, and livelihood.

three areas of research. First, the data are supportive of the uncertainty hypothesis and suggest the need for further work to isolate the psychological mechanisms involved in producing magico-religious behaviors under conditions of uncertainty. The large percentage of interviewees who strongly believed in the ability of psalm recitation to offer protection and improve uncertain conditions is consistent with other anthropological work showing that a primary motive for employing magic is to control otherwise uncontrollable forces (e.g., Felson and Gmelch 1979). In contrast to previous work, this study has shown that a magico-religious practice is related to specific behavioral outcomes, namely, avoiding precautionary changes. Second, the results highlight the importance of religious practices as a mechanism for coping with stress and underscore the need for anthropologists to collaborate with health care providers and researchers who are exploring stress responses to terror and other traumas; such collaborations are bound to be mutually beneficial.

Lastly, these data also have important implications for evolutionary models of religion.<sup>13</sup> First, the data indicate that even atheists may turn toward ritual practice under conditions of stress, suggesting that the mechanisms producing these responses are overriding other belief systems.<sup>14</sup> Second, several evolutionary explanations of religion place the stress-reducing benefits of ritual at their core, focusing on their assumed health-promoting placebo effects (Bulbulia 2006; McClennon 2002). Third, recent controlled experiments show that priming subjects with thoughts of death increases supernatural belief (Norenzayan and Hansen 2006, 185): "Thoughts of death may trigger a distinct evolved cognitive inclination to process information from the world in agentive terms as a religious survival habit."

In the data presented here there is no significant difference in supernatural belief between those who do and do not believe that Tzfat will be attacked.<sup>15</sup> However, the data do suggest that conditions of life-threatening stress such as exposure to terrorism may elicit evolved motivations to turn toward culturally learned rituals in order to gain some control of an otherwise uncertain situation.

13. Refraining from precautionary behaviors is not necessarily maladaptive. Even during the height of the Intifada, Israelis were more likely to be killed in an automobile accident than in a terrorist attack (Stecklov and Goldstein 2004). The data presented here are of course insufficient to evaluate whether psalm recitation in the study population was an adaptive response.

14. Prayer among atheists may not be uncommon. For instance, Bleich, Gelkopf, and Solomon (2003) claimed that 53.8% of their respondents were atheists yet 59.8% of their respondents turned toward God to cope with terrorism. Even atheistic anthropologists report praying on occasion (Konner 2003, xxii).

15. The mean belief index is 2.74 ( $n = 281$ ,  $SD = 0.61$ ) for those who believe that Tzfat will be attacked and 2.77 ( $n = 68$ ,  $SD = 0.65$ ) for those who believe that it will not be attacked ( $t = 0.32$ ,  $p = 0.75$ ).

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