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Religiousness and Subjective Well-Being Among Israeli-Palestinian College Students: Direct or Mediated Links?

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Abstract Espousing a positive psychology orientation, this study aimed to explore the links between religiousness and subjective well-being, and test whether social support and self-control mediate the expected associations between these two variables. Participants were 264 Israeli-Palestinian college students, who were asked to provide demographic information and complete measures of religiousness, social support, self-control, subjective happiness, positive emotions and negative emotions. We found that religiousness was positively correlated with both subjective happiness and positive emotions, but no significant correlation was found between religiousness and negative emotions. Both social support and self-control partially mediated the links between religiousness and both subjective happiness and positive emotions. The findings of the study, as well as its implications and limitations, are discussed.

Keywords Religiousness · Subjective well-being · Social support · Self-control · Israeli-Palestinians

1 Introduction

In recent years, subjective well-being (SWB) has been receiving a growing empirical attention from researchers in various disciplines (Vella-Brodrick et al. 2009). This body of research, in contrast to past research that focused merely on pathology, focuses on personal resources that can enhance people's quality of life and contribute to their psychological

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well-being (Seligman 2003; Seligman and Csikszentmihalyi 2000; Wood et al. 2011). This recent transition toward positive psychology reflects peoples' wish to lead a more productive and fulfilling life, and to identify and develop their strengths (Joseph and Linley 2006).

Generally, the term SWB refers to how people experience the quality of their lives and appraise their internal experiences (Diener 1994, 2008). SWB is defined as a person's cognitive and affective evaluations of his or her life. These evaluations include emotional reactions to events as well as cognitive judgments of satisfaction and fulfillment. Empirical studies have found positive associations between SWB and a sense of control in life (McConnell et al. 2005; Veenhoven 1991), an ability to cope with stress and conflict (Argyle 1987), a sense of belonging (Agbaria et al. 2012; Bolger et al. 2000), and satisfying relationships, pro-sociality and peacefulness (Lyubomirsky et al. 2005).

Previous studies, conducted mostly with western samples, have demonstrated links between religiousness and general health and well-being. However, only few of these studies have espoused a positive psychology orientation, and to our best knowledge, no empirical studies tested the links between religiousness and well-being among Israeli-Palestinian samples. The current investigation aims to fill these two gaps in the literature. Further, this study tackles the still-unanswered question regarding the nature of the links between religious beliefs and practices and health and well-being: are these links are direct or mediated by other variables? Hence, given the importance of uncovering mediators between religiousness and well-being, another objective of the study is testing whether social support and self-control mediate the expected links between religiousness and SWB.

2 Literature Review

2.1 Religiousness and Health and Well-Being

Before the 1990s, the relationship between religion and health was for the most part a neglected area of research (Miller and Thoresen 2003). In the last two decades, this picture has changed dramatically; a considerable body of research has emerged regarding the relationship between religion and health (Hood et al. 2009; Koenig et al. 2012; Kim-Prieto 2014; Paloutzian and Park 2013; Pargament 2013). These studies have indicated that religion plays a central role in people's lives and, by and large, is related to better human functioning and well-being. Consider the following examples.

Cross-sectional and longitudinal studies have consistently found significant associations between religious attendance and health status indicators, including specific conditions such as hypertension, general measures of functional disability, and overall mortality (Koenig et al. 2001). For example, McCullough et al. (2000) conducted a meta-analysis of data from 42 independent samples examining the association of a measure of religious involvement and all causes of mortality. They found that, even after controlling for a variety of potential confounding variables, religious involvement was significantly associated with lower mortality, indicating that people with higher religious involvement were more likely to be alive at a follow-up than people lower in religious involvement.

In a meta-analysis of 100 studies examining the relationship between religiousness and mental health conducted by Koenig and Larson (2001), religious beliefs and practices were related to greater well-being in 79 (nearly 80 %) of the studies. Religion and spirituality have been associated with greater levels of attachment security (see Granqvist and Kirkpatrick 2013, for a review), meaning in life (Park et al. 2013), comfort (e.g., Exline et al. 2000), and

self-control (e.g., McCullough and Willoughby 2009). Salutary effects of religion have also been demonstrated with other dimensions of mental health and illness, such as self-esteem and mastery, depressive symptoms and anxiety (for reviews, see Hood et al. 2009; Koenig et al. 2012). Overall, this literature indicates that there is a positive relationship between religious and spiritual involvement and well-being.

However, the vast majority of research on the relationship between religion and health and well-being has been conducted in the United States, focused almost exclusively on Christian populations, and largely neglected people from other traditional faiths and different areas in the world (Abu-Raiya 2013; Abu-Raiya and Pargament 2011; Abdel-Khalek 2014). Muslim populations and people from the middle east area have been particularly neglected. Recently, this picture has begun to change as empirical studies on the psychology of Islam have grown in number. Collectively, this emerging body of empirical research has underscored the centrality of Islam to the lives of Muslims and identified clear connections between Islamic beliefs, practices and methods of coping and the well-being of Muslims (Abdel-Khalek 2009; Abu-Raiya and Pargament 2011; Abu-Raiya et al. 2008; Aflakseir and Coleman 2011; Gardner et al. 2013; Khan and Watson 2004; Ghorbani and Watson 2006).

A few empirical studies utilizing Muslim samples have exclusively focused on SWB (e.g., Abdel-Khalek 2010, 2011; Suhail and Chaudhry 2004). In general, these studies found that religiousness was linked to enhanced sense of well-being. For example, working with a sample of Palestinian children and adolescents, Abdel-Khalek and Eid (2011) found positive links between self-rated religiousness and self-rated happiness, satisfaction with life, physical and mental health, and a negative link between self-rated religiousness and depression.

This growing body of research on the links between Islamic beliefs and practices and well being underscores the relevance of Islam to Muslims' lives and well-being. Nonetheless, this body of research is still in its infancy. Further research is needed so we can broaden and deepen our understanding of the relationship between Islam and well-being. This study takes another step in this direction. But in contrast to most past research conducted with Muslim and non-Muslim samples that focused merely on pathology, this investigation espouses a positive psychology orientation that reflects peoples' wish to lead a more productive and fulfilling life.

2.2 Religiousness and Well-Being: Potential Mediators

A major question that has concerned psychologists and other social scientists for a number of years is how the links between religiousness and health and well-being can be explained. Two sets of possible explanations have been offered: The reductionistic and the non-reductionistic (Abu-Raiya and Pargament 2014). The basic idea behind the reductionistic explanation is that the links between religiousness and well-being are not direct, but rather mediated by non-spiritual variables. According to this line of thinking, religiousness might lead to some "secular" consequences (e.g., sense of meaning, sense of belonging) and that those secular elements of life are what eventually lead to outcomes. In contrast, according to the non-reductionistic explanation, religion is inherently linked to health and well-being because it constitutes a system of ultimate beliefs and practices and a source of deepest values, commitments and world view.

Following the reductionistic approach, researchers have attempted to uncover variables that can serve as mediators of the relationship between religion and well-being. A few studies have found that religiousness and well-being are mediated by other variables (e.g.,

Frazier et al. 1995; McIntosh et al. 1993; Park and Cohen 1993). Across these studies, it appears that religiousness may exert its beneficial effects on well-being through three general pathways: a framework of beliefs that may facilitate cognitive restructuring of meaning, the social support of the religious community, and a sense of self-control (Tix and Frazier 1998). On the other hand, a few studies have shown that religion's contribution to several elements of health and well-being is unique and cannot be explained by other variables (e.g., Emmons 1999; McCullough et al. 2000; Tix and Frazier 1998).

Thus, to date, it is far from clear whether the links between religiousness and health and well-being are direct, or rather, partially or fully mediated by other variables. Additional research that examines potential mediators between religion and well-being is surely needed. In this study, we take a further step toward clarifying this important issue by testing whether social support and self-control mediate between religiousness and indices of well-being among an Israeli-Palestinian sample. To our best knowledge, this is the first attempt of its kind to be carried out with Muslim samples.

2.3 Context of the Study

Israeli-Palestinians are those Palestinians who hold the Israeli citizenship. They are the remnants and descendants of the pre-1948 War community of Mandatory Palestine that remained within the borders of the State of Israel after its establishment (Bligh 2003). With regard to religious affiliation, though the majority of Israeli-Palestinians are Muslim, particularly of the Sunni branch of Islam, a significant portion of them (about 25 %) are Christian.

The question is why to study the links between religiousness and SWB among this population? Besides the reasons provided earlier, there are two main relevant characteristics of this population that make it even more compelling to study these variables.

First, this group is highly religious. Members of this population, especially the Muslims among them, tend to show a strong adherence to religious beliefs and practices (Abu-Raiya 2013). These religious beliefs and practices are not displayed in the private sphere only; they are also quite present in the public sphere. It could be argued that religion among this group is a "social norm" (Stavrova et al. 2013). Stavrova et al. found that happiness effect of religiousness is significantly larger in countries where the social norm of religiousness is strong.

Second, as a national, ethnic and religious minority in the predominantly-Jewish Israel, Israeli-Palestinians experience discrimination in multiple aspects of life such as employment and ownership of land (Pappe 2011). As research has shown, religious beliefs and practices can serve valuable coping strategies to deal with stressors in general, and stressors associated with discrimination and oppression in particular (Abu-Raiya and Pargament 2014).

2.4 The Present Investigation

This study is unique in three main respects. First, in contrast to the vast majority of studies in this area which have focused on maladaptive aspects of human functioning, this study espouses a positive psychology orientation.

Second, this investigation examines the links between religiousness and SWB among a population that has not received any empirical attention, namely Israeli-Palestinians. To achieve this goal, we utilize a sample of college students, and use measures of religiousness, subjective happiness, positive emotions, negative emotions, social support and

self-control. Based on previous research, we hypothesize that higher scores on religiousness will correlate with higher scores on both subjective happiness and positive emotions. On the other hand, higher scores on religiousness will correlate with lower scores on negative emotions.

Finally, this study tackles an important question regarding the nature of the links between religious beliefs and practices and health and well-being: are these links are direct or mediated by other variables? To help answer this important question, this study tests whether social support and self-control mediate the relationship between religiousness and SWB.

3 Methods

3.1 Study Sample

The sample consisted of 264 Palestinian college students living in Israel. Table 1 shows the demographic characteristics of this sample. The ages of participants ranged from 18 to 43 years with a mean of 21.30 years ($SD = .72$). Most participants were Muslim (92.4 %), female (71.8 %), single (73.4 %), at their first or second year of college (82.4 %) and live in a village (66.2 %).

3.2 Measures

3.2.1 Religiousness

Religiousness was assessed via the general religiosity subscale, a subscale of religiousness identified by Kendler et al. (2003) via a factor analysis in a comprehensive study on the links of religion and well-being. This dimension of religiousness reflects the person's concern and involvement with spiritual issues, including sensing his/her place within the universe and his/her active involvement with God on a day-to-day basis and at times of crisis. This measure was developed originally in English. For the purpose of this study, it

Table 1 Characteristics of sample

Age	$M = 21.3$, $SD = .72$, $R = 18$–43
Gender (%)	Female = 71.8
	Male = 28.2
Marital status (%)	Single = 71.8
	Married = 27
	Divorced = 1.2
Religious affiliation (%)	Muslim = 92.4
	Christian = 7
	Not indicated = .6
Year of college (%)	1st year = 34.4
	2nd year = 48.1
	3rd year = 17.5
Residence (%)	Live in village = 62.2
	Live in town = 36.4
	Not indicated = 1.4

M mean, *SD* standard deviation, *R* range

was translated to Arabic by the first researcher (H. A.) who is a bilingual. To check on the accuracy of the translation, another bilingual (who has a PhD in psychology) conducted a back-translation from Arabic into English. No serious deviations were discovered between the original wordings and the back-translated version. Then the Arabic survey was edited for grammar and syntax errors by a professional editor. To insure the suitability of this measure to Israeli-Palestinians, the translated questionnaire was reviewed by two religious experts. Based on their feedback, some items were slightly modified, others were added and still others were omitted. For example, the word "church" was replaced by "place of worship" and the word "sin" was replaced by "fault;" the items "I consider drinking alcohol is religiously forbidden" and "I treat my parents respectfully" were added, and; the item "I often confess my sins to a priest at the church" was omitted. Participants responded to each of the remaining 31 items on a 5-point scale ranging from 1 (*never*) to 5 (*always*). Higher scores on this instrument reflect greater religiousness. In this study, a Cronbach's coefficient of $\alpha = .93$ was found for this subscale.

The remaining measures utilized in this study were previously translated from English to Arabic and used in previous studies with Israeli-Palestinians (Agbaria and Ronen 2010; Agbaria et al. 2012).

3.2.2 Happiness

Happiness was assessed via the Subjective Happiness Scale, a 4-item scale developed by Lyubomirsky and Lepper (1999). For each item, participants were asked to circle the number that best characterizes them on a 7-point scale ranging from 1 (characterizing low levels of happiness) to 7 (characterizing high level of happiness). A sample item of this scale is "In general, I consider myself a very happy person." Higher scores on this scale indicate higher levels of happiness. In a previous study of Arab adolescents (Agbaria et al. 2012) a Cronbach's coefficient of $\alpha = .70$ was found. In the current investigation, a Cronbach's coefficient of $\alpha = .82$ was found for this scale.

3.2.3 Positive and Negative Emotions

The frequency by which participants experience positive and negative emotions was assessed by the Positive and Negative Affect Schedule (PANAS) developed by Watson et al. (1988). This 20-item instrument is composed of two 10-item subscales: positive affect (e.g., "happy", "excited") and negative affect (e.g., "upset", "hostile"). Participants responded to each item in this scale on a 5-point scale ranging from 0 (*very slightly or not at all*) to 5 (*extremely*). Higher scores on positive affect indicate the experience of more positive emotions, while higher scores on negative affect indicate the experience of more negative emotions. In a previous study of Arab adolescents (Agbaria et al. 2012) a Cronbach's coefficient of $\alpha = .80$ was found for positive emotions and $\alpha = .79$ for negative emotions. In the current study, Cronbach's coefficients of $\alpha = .82$ and .84 were found for positive emotions and negative emotions, respectively.

3.2.4 Self-Control

Self-control was assessed via the Adolescence Self-Control Scale. This scale was developed originally by Rosenbaum (1980) for the purpose of estimating individual differences in self-control skills. The scale tests self reporting about the use of cognitions (such as

instructions to self) and the application of problem-solving strategies, in order to cope with emotional and physiological responses. The scale was adapted for adolescents by Rosenbaum (1980). It consists of 32 items that express various parameters of self-control skills: gratification postponement, overcoming pain, planning ability, use of self instructions. Participants were asked to evaluate each item on a 6-point scale, ranging from −3 (*very uncharacteristic of me*) to 3 (*very characteristic of me*). The scale contains nine reverse-scored items. Higher scores on this scale indicate higher levels of self-control. In a previous study of Arab adolescents (Agbaria et al. 2012) a Cronbach's coefficient of $\alpha = .77$ was found for this scale. In the current investigation, a Cronbach's coefficient of $\alpha = .75$ was found for this scale.

3.2.5 Social Support

Social support was measured via the Interpersonal Support Evaluation List (ISEL) developed by Cohen et al. (1985). The original scale consists of 40 items, which reflect four dimensions of social support (Appraisal, Belonging, Tangible Support, and Self Esteem Support). The internal consistency of the ISEL in the validation study was $\alpha = .90$. In this study, we used a short version of this scale. This short version includes 12 items, with four items reflecting each of the first three dimensions mentioned above (sample item: "I feel that there is no one I can share my most private worries and fears with"). Participants responded to each item in this scale on a 4-point scale ranging from 1 (*definitely false*) to 4 (*definitely true*). Higher scores reflect greater perceived support. In a previous study of an Arab population (Agbaria et al. 2012) a Cronbach's coefficient of $\alpha = .78$ was found for this short version of the scale. In this study, a Cronbach's coefficient of $\alpha = .73$ was found for this version of the scale.

3.3 Procedure

The research questionnaires were approved by the Ministry of Education's Chief Scientist, following which they were distributed in three teachers' training Arabic colleges in Israel. After receiving the colleges' approvals, letters were sent to students in which the study's purpose was explained. Students were asked to indicate on the letter whether they agree or disagree to filling out the questionnaires. At the last stage, the second author went to each college, entered the lectures' rooms, and explained the purpose of the study to students, emphasizing the fact that they were to be filled anonymously, and that the findings will be used purely for research purposes. The response rate was very high; 92 % of the questionnaires (276 out of 300) distributed were returned to the author. However, 12 of the questionnaires were partially completed, and hence were eliminated from the analyses.

3.4 Analytic Overview

To provide general information regarding the variables used in this study, descriptive statistics (mean, standard deviation, range, and median) for each variable were computed. To test whether the study's main hypothesis was confirmed, we first calculated correlation coefficients between religiousness and the three indices of SWB (i.e., subjective happiness, positive emotions, negative emotions). Second, we performed regression analyses to determine whether significant results remained after controlling for other predictors (i.e., demographic variables, social support, self-control). Finally, to answer the question

whether social support and self-control mediate the relationship between religiousness and the different indices of well-being, we performed mediational analyses. Specifically, we followed the Baron and Kenny (1986) method and performed Sobel (1982) tests.

4 Results

4.1 Descriptive Statistics

As Table 2 shows, participants scored relatively high on social support and religiousness, relatively moderate on subjective happiness, positive emotions and self-control, and relatively low on negative emotions.

Independent sample *t* tests revealed that there were no significant differences between males and females in any of the variables, except religiousness; females ($M = 4.22$, $SD = .54$) scored significantly higher than males ($M = 3.92$, $SD = .61$) on religiousness ($t = 2.20$, $p < .05$). Independent sample *t* tests revealed also that there were no significant differences between people living in villages and people living in towns in any of the variables, except subjective happiness; people living in towns scored significantly higher on subjective happiness than people living in villages ($t = 3.11$, $p < .01$). A One-way ANOVA indicated that there are no significant differences between people from different marital statuses in any of the variables. The same was found regarding religious affiliation.

4.2 Correlational Analyses

Table 3 presents a full correlation matrix containing all the study's continuous variables. As the table shows, religiousness was positively correlated with both social support and self-control, and with both subjective happiness and positive emotions. The correlation between religiousness and negative emotions was insignificant.

4.3 Hierarchical Regression Analyses

Because the negative emotions measure did not significantly correlate with religiousness, it was excluded from further analyses. To determine whether religiousness predicts subjective happiness and positive emotions after controlling for demographics, social support and self-control, hierarchical regression analyses were conducted with subjective happiness and positive emotions measures as criterion variables (see Table 4). In Model 1, the predictors entered into the hierarchical regression analyses were the demographic variables (i.e., age, gender, years in college, residence, religious affiliation, marital status). In this

Table 2 Descriptive statistics

Variable	Mean	SD	Range	Median
Religiousness	4.14	.58	2.23–5.00	4.25
Social support	3.16	.53	1.64–3.36	3.18
Self-control	1.08	.72	−.79–2.54	1.16
Happiness	4.92	1.31	1.00–7.00	5.00
Positive emotions	3.57	.66	1.40–5.00	3.60
Negative emotions	2.27	.77	1.00–4.60	2.10

Table 3 Correlation matrix

	Age	Social Support	Religiousness	Self-control	Happiness	Positive emotions	Negative emotions
1	1						
2	−.01	1					
3	−.03	.198**	1				
4	.03	.181**	.318**	1			
5	.09	.30**	.203**	.178**	1		
6	.17*	.288**	.255**	.344**	.401**	1	
7	−.15*	−.344**	.02	−.265**	−.416**	−.369**	1

* $p < .05$, ** $p < .01$

Table 4 Predictors of subjective happiness and positive emotions

	Happiness (β)			Positive emotions		
	Model 1[a]	Model 2[b]	Model 3[c]	Model 1[a]	Model 2[b]	Model 3[c]
Age	.05	.03	.05	.14	.11	.09
Gender	.02	.03	.03	.06	.03	.03
Religious affiliation	.03	.02	.01	.05	.04	.03
College year	.01	.01	.01	.09	.05	.05
Residence	.25**	.19*	.17*	.12	.11	.09
Marital status	.04	.04	.05	.06	.06	.04
Social support		.27**	.24**		.23**	19**
Self-control		.18**	.16*		.32**	.26*
Religiousness			.17*			.19**
Overall R squared	.04**	.18**	.22**	.03	.21**	.26**
Change in R squared		.14**	.04**			.05**

* $p < .05$, ** $p < .01$

[a] Predictors: age, gender, religious affiliation, college year, residence, and marital status

[b] Predictors: age, gender, religious affiliation, college year, residence, marital status, social support and self-control

[c] Predictors: age, gender, religious affiliation, college year, residence, marital status, social support and self-control, religiousness

model, residence ($\beta = .25$, $p < .01$) predicted greater subjective happiness. None of the demographic variables predicted positive emotions. For Model 2, social support and self-control were added to the predictors in Model 1. Focusing on subjective happiness as the criterion variable, the change in R^2 from Model 1 to Model 2 was significant (R^2 *change* $= .18$, $p < .01$). In this model, residence ($\beta = .19$, $p < .01$), social support ($\beta = .27$, $p < .01$) and self-control ($\beta = .18$, $p < .05$) predicted greater subjective happiness. With respect to positive emotions as the criterion variable, the change in R^2 from Model 1 to Model 2 was significant too (R^2 *change* $= .21$, $p < .01$). In this model, social support ($\beta = .23$, $p < .01$) and self- control ($\beta = .32$, $p < .01$) predicted greater positive emotions.

For Model 3, religiousness was added to the predictors in Model 2. Focusing on subjective happiness as the criterion variable, the change in R^2 from Model 2 to Model 3 was significant (R^2 *change* = .04, $p < .01$). Residence ($\beta = .17$, $p < .05$), social support ($\beta = .24$, $p < .05$), self-control ($\beta = .16$, $p < .05$) and religiousness ($r = .17$, $p < .05$) predicted greater subjective happiness. With respect to positive emotions as the criterion variable, the change in R^2 from Model 2 to Model 3 was significant too (R^2 *change* = .05, $p < .01$). Social support ($\beta = .19$, $p < .01$), self-control ($\beta = .26$, $p < .01$) and religiousness ($\beta = .19$, $p < .01$) predicted greater positive emotions.

The results of the correlational and regression analyses were the means through which we made decisions regarding the main hypothesis of the study. This hypothesis stated that religiousness would positively correlate with both subjective happiness and positive emotions, and negatively correlate with negative emotions. This hypothesis was partially confirmed. Correlational analyses indicated that students who scored higher on religiousness tended to score higher on both subjective happiness and positive emotions. No significant association was found between religiousness and negative emotions. Regression analyses showed that after controlling for the effects of demographic variables, social support and self-control, religiousness remained a significant predictor of positive emotions and subjective happiness.

4.4 Mediational Analyses

Regression analyses were conducted to determine whether social support and self-control mediated the relationship between religiousness (the independent variable) and subjective happiness and positive emotions (the dependent variables). The method suggested by Baron and Kenny (1986) was used to evaluate mediation effects. According to this method, the independent variable (IV), the dependent variable (DV), and the potential mediator must be significantly correlated to establish mediation. These conditions were met in all four possibilities. In these instances, three separate regression equations were run. In Eq. 1, the potential mediator was regressed on the IV. In Eq. 2, the DV was regressed on the IV. In the third Equation, the DV was regressed on both the IV and the potential mediator. Mediation was indicated when the effect of the IV on the DV was less in the third equation than in the second. This was determined by comparing standardized beta coefficients from Eqs. 2 and 3 (the standardized coefficient should be less in Eq. 3 than in Eq. 2). To provide a more formal assessment of mediation effects, we also conducted Sobel's (1982) tests. This test assesses whether the indirect effect of the IV on the DV via the mediator is significantly different from zero.

Table 5 displays the results of the regression analyses and Sobel's tests for mediation. Focusing on social support as a mediator and subjective happiness as a DV, the standardized beta coefficient was less in Eq. 3 ($\beta = .15$) than in Eq. 2 ($\beta = .20$). Inspection of the result of Sobel's test ($Z = 1.71$, $p < .05$) confirms this finding and indicates that social support acts as a mediator between religiousness and subjective happiness. Focusing on social support as a mediator and positive emotions as a dependent variable, the standardized beta coefficient was less in Eq. 3 ($\beta = .23$) than in Eq. 2 ($\beta = .25$). Inspection of the result of Sobel's test ($Z = 2.50$, $p < .01$) confirms this finding and indicates that social support acts as a mediator between religiousness and subjective happiness.

With regard to self-control as a mediator and subjective happiness as a dependent variable, the standardized beta coefficient was less in Eq. 3 ($\beta = .16$) than in Eq. 2 ($\beta = .20$). Inspection of the result of Sobel's test ($Z = 1.75$, $p < .05$) confirms this finding and indicates that self-control acts as a mediator between religiousness and subjective

Table 5 Regression analyses for social support and self-control as mediators between religiousness and well-being indices

IV	Mediator	DV	Step 1	Step 2	Step 3	$\Delta\beta$	Z
Religiousness	Social support	Happiness	$\Delta R^2 = .04^{**}$ $\beta = .20$	$\Delta R^2 = .04^{**}$ $\beta = .20$	$\Delta R^2 = .11^{**}$ $\beta = .15$	.05	1.71*
Religiousness	Social support	Positive emotions	$\Delta R^2 = .04^{**}$ $\beta = .20$	$\Delta R^2 = .06^{**}$ $\beta = .25$	$\Delta R^2 = .13^{**}$ $\beta = .23$	.02	2.5**
Religiousness	Self-control	Happiness	$\Delta R^2 = .09^{*}$ $\beta = .31$	$\Delta R^2 = .04^{**}$ $\beta = .20$	$\Delta R^2 = .05^{**}$ $\beta = .16$	.04	1.75*
Religiousness	Self-control	Positive emotions	$\Delta R^2 = .09^{*}$ $\beta = .31$	$\Delta R^2 = .06^{**}$ $\beta = .25$	$\Delta R^2 = .13^{**}$ $\beta = .14$	.11	3.11**

Step 1: Mediator regressed on independent variable

Step 2: Dependent variable regressed on independent variable

Step 3: Dependent variable regressed on independent variable and mediator; β standardized beta coefficient; $\Delta\beta$ change in standardized beta from regression Eq. 2 to regression Eq. 3 (Baron and Kenny 1986); Z test of whether indirect effect of independent variable on dependent variable via mediator is significantly different from zero (Sobel 1982)

* $p < .05$, ** $p < .01$

happiness. With regard to self-control as a mediator and subjective positive emotions as a dependent variable, the standardized beta coefficient was less in Eq. 3 ($\beta = .14$) than in Eq. 2 ($\beta = .25$). Inspection of the result of Sobel's test ($Z = 3.11$, $p < .01$) confirms this finding and indicates that social support acts as a mediator between religiousness and subjective happiness.

In sum, the results of the mediational analyses revealed that both social support and self-control emerged as mediators between religiousness and both subjective happiness and positive emotions. It is important to emphasize that social support and self-control emerged as *partial* rather than full mediators of the relationship between religiousness and both subjective happiness and positive emotions. That is, the mediating variables reduced but did not eliminate the links between religiousness and indices of SWB.

5 Discussion

5.1 Overview

This study espoused a positive psychology orientation and used a sample of Israeli-Palestinian college students, to examine the links between religiousness and SWB, and test whether social support and self-control act as mediators between these two variables. SWB was assessed via subjective happiness, positive emotions and negative emotions. In what follows, we present the study's main findings and contextualize them in the literature. We also point to the study's implications and major limitations and suggest a few directions for future research.

5.2 Main Findings

The chief finding of the study was that religiousness constitutes an important predictor of positive emotions and subjective happiness among Palestinian college students in Israel.

This finding is consistent with findings from a large body of research testifying to the links between religiousness and positive indicators of happiness and well-being (see Abu-Raiya and Pargament 2011; Paloutzian and Park 2013, for reviews).

On the other hand, religiousness did not appear as a significant predictor of negative emotions. This finding is inconsistent with previous studies showing negative associations between religiousness and unconstructive psychological conditions in which negative emotions play a central role, such as depression and anxiety (Bowen et al. 2006; Koenig 1998). One possible explanation for this surprising finding could be that Muslims perceive negative emotions and suffering in such ways that may be unconnected to well-being (Joshanloo 2013). For example, hardship could be viewed by Muslims as a test of their faith, a test that they should tolerate while being grateful to God. In this sense, psychological difficulties may not be necessarily a source of distress and strain, but rather an inherent part of human life.

How can the relationship between religiousness and SWB be explained? Here we suggest two potential explanations: the non-reductionstic and reductionstic (Abu-Raiya and Pargament 2014). According to the non-reductionstic explanation, a direct, unique, non-mediated connection exists between religiousness and well-being (Abu-Raiya and Pargament 2014; McCullough et al. 2000). Stated differently, religion certainly interacts with other basic human processes, but it may not be fully reduceable to these processes; it represents a significant dimension of life that stands on its own ground.

On the other hand, the reductionistic explanation submits that the psychological benefits of religion are not the consequences of something inherent in religion itself but rather to some byproducts of religion. Stated differently, the links between religiousness and well-being are not direct, but rather mediated by other, non-spiritual/religious variables. This explanation has received some empirical support in this study. Religiousness seems to help the person develop social support networks and self-control skills, which in turn enhance the well-being of the person. It should be noted, nonetheless, that social support and self-control emerged as *partial* rather than full mediators of the relationship between religiousness and subjective happiness and positive emotions. That is, social support and self-control reduced but did not eliminate the links between religiousness and indices of SWB.

The fact that social support and self-control have not appeared as full mediators between religiousness and SWB does not necessarily attest to accuracy of the assertions of the non-reductionistic explanation. It might be, for instance, that another variable that was not explored in this study (e.g., meaning in life, sense of belonging and community, benevolent interpretations of life events) turn out to be a full mediator. Furthermore, the study's findings do not rule out that adding social support and self-control along with other variables (e.g., meaning in life) simultaneously in the mediational analysis could render the direct link between religiousness and SWB non-significant. Hence, the current data cannot logically support or refute any of the two explanations (reductionistic and non-reductionistic) discussed.

Despite its usefulness in making sense and organizing the accumulating data, it can be argued that the distinction made by the reductionstic and non-reductionstic explanations is too general and not differentiated enough. In this regard, theorists in the SWB area have tried to articulate differentiated ways through which the individual can potentially obtain a sense of well-being. For example, Vella-Brodrick et al. (2009) submitted that happiness can be accomplished by three distinct pathways: pleasure, engagement, and meaning. It might be useful to consider whether religiousness leads to SWB through these three, or other specific or distinct, pathways. Of course, to get a clearer picture of the pathways that

connect religion to well-being, additional research is needed that examines potential mediators between religion and well-being more comprehensively.

5.3 Implications, Limitations, and Future Directions

The findings of this study have an important "take-home" message for mental health professionals: The relevance of religious beliefs and practices to the well-being of Israeli-Palestinians highlights the need for greater attention to religion when dealing with this population. Failure to do so could lead to an incomplete and perhaps distorted picture of the lives of Israeli-Palestinians. This attention should be translated into inquiring about the religious life of Israeli-Palestinian clients and developing psychotherapy modalities that incorporate religious elements. This suggestion is further supported by findings of studies with Muslims from other parts of the world. These studies have found that different forms of religious psychotherapy are effective with Muslim clients who suffer from anxiety, depression, and bereavement (e.g., Razali et al. 2002, 1998).

Given that empirical studies on the links between religiousness and SWB are in short supply, this study should still be considered exploratory and its results should be considered with caution. In addition, the results should be interpreted in light of the following limitations. First, the sample consisted of college students, mostly Muslims and females, a fact which limits the generalizability of the findings to the larger population. Future studies should attempt to replicate and generalize these findings to more diverse samples. Second, the methods of the present study are correlational and its results are cross-sectional. Consequently, we cannot make causal inferences based on its results; religiousness could be the cause or result of SWB. Longitudinal and experimental studies are needed to assess the causal connection between these variables. Third, the study utilized a survey format and its findings were based on self-report data. Although the instruments used have good psychometric properties, self-report measures can be subject to bias. Future studies should explore the use of laboratory-based behavioral tasks and physiological measures. Finally, this study examined only indices of SWB. To further clarify the picture of the links between religiousness and SWB, future research should test further indices of well-being (e.g., satisfaction in life).

Despite these limitations, this study constitutes a further important step in exploring the links between religiousness SWB, and the first step in exploring these links among Israeli-Palestinian populations. It points to the positive role that religiousness plays in the lives of people and urges researchers to further explore this important dimension of life.

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