Individual spirituality, workplace spirituality and work attitudes
An empirical test of direct and interaction effects

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Abstract
Purpose – This paper aims to examine the direct effects of three workplace spirituality aspects – meaning in work, community at work, and positive organizational purpose – and individual spirituality on three work attitudes – job satisfaction, job involvement, and organizational commitment. It also seeks to examine the interactive effects of these three workplace spirituality aspects and individual spirituality on these three work attitudes.

Design/methodology/approach – The paper briefly outlines the existing workplace spirituality research, indicates the required research and places this study in that backdrop. It then outlines theory building for specifying a set of hypotheses. It uses data from a sample of managerial level employees from India to test the hypotheses.

Findings – The study results provided considerable support for the hypothesized relationships between workplace spirituality aspects and work attitudes but not for the hypothesized relationships between individual spirituality and work attitudes. The results provided only marginal support for the interactive effect model, which hypothesized that individual spirituality will moderate the effect of workplace spirituality aspects on work attitudes.

Research limitations/implications – Research implications of the findings outlined in this paper will encourage research to link various organizational topics such as leadership with workplace spirituality. They also highlight the need to examine more complex models to examine joint effects of workplace spirituality and individual spirituality on work attitudes.

Practical implications – The findings can provide some relevant inputs for leadership actions and organization development efforts aimed at implementing workplace spirituality in organizations.

Originality/value – The paper’s value partly comes from the outlined research and practice implications.

Keywords Attitudes, Job satisfaction, Leadership, Research, Beliefs, India

Paper type Research paper

Workplace spirituality: introduction and existing research
Recent research (e.g. Duchon and Plowman, 2005; Fry, 2003; Fry et al., 2005; Giacalone and Jurkiewicz, 2003; Milliman et al., 2003) suggests that workplace spirituality reflects employee experiences such as a sense of meaning, purpose, community, and transcendence at workplace. Workplace spirituality research is in its early stage (Dent et al., 2005; Duchon and Plowman, 2005; Sheep, 2006). Some research has focused on defining and operationalizing workplace spirituality (e.g. Ashmos and Duchon, 2000;...
Moore and Casper, 2006), mapping the area of workplace spirituality research and suggesting guidelines for the research in workplace spirituality and outlining methodologies for studying workplace spirituality (e.g. Benefiel, 2003; Giacalone and Jurkiewicz, 2003; Lund Dean et al., 2003; Tischler et al., 2007). Research has also focused on describing workplace spirituality manifestations in organizations (e.g. Milliman et al., 1999). Some research has studied leadership as a mechanism for facilitating workplace spirituality (e.g. Fry, 2003, 2005; Fry et al., 2005). Research has also examined outcomes of workplace spirituality such as employee work attitudes, (e.g. Kolodinsky et al., 2008; Milliman et al., 2003; Rego and Pina e Cunha, 2008), organizational productivity (Fry et al., 2005), and work unit performance (Duchon and Plowman, 2005).

Workplace spirituality’s linkages with leadership and organization development
The relevance of workplace spirituality topic to the Leadership & Organization Development Journal can be noted from the following. In some of the recent research (e.g. Fry, 2003, 2005; Fry et al., 2005), a specific form of leadership – spiritual leadership – has been linked to the outcomes such as calling and membership, which are similar to the meaning and community aspects of workplace spirituality. This line of inquiry suggests workplace spirituality as an outcome of leadership or spiritual leadership. Further, French and Bell (2001) suggest that spirituality or the aspect of community will have an important place in organization development (OD) efforts. Referring to such works, a recent paper (Pawar, 2008) has outlined extensive linkages of workplace spirituality with the topics of leadership and organization development. Thus, the topic of workplace spirituality is of relevance to Leadership & Organization Development Journal.

Required research in workplace spirituality and this study
Researchers have noted that empirical research on the effects of workplace spirituality on organizational outcomes is both important (Giacalone and Jurkiewicz, 2003) and inadequately examined (e.g. Duchon and Plowman, 2005; Milliman et al., 2003). The present study addresses this inadequacy. It examines the effect of workplace spirituality on one category of organizational outcomes – employee work attitudes. It focuses on three employee work attitudes namely, job satisfaction, job involvement, and organizational commitment. The employee work attitudes examined in this study are extensively studied work attitudes in organizational studies (Mathieu and Farr, 1991) and have been found to be distinct from each other (e.g. Brooke et al., 1988).

Further, in light of the fragmentary and non-cumulating nature of the existing workplace spirituality research (Tischler et al., 2007), this study builds on and extends the existing research on the effect of workplace spirituality on employee work attitudes. In particular, it builds on and extends the existing research of Milliman et al. (2003) which found considerable support for the hypothesized relationships between three workplace spirituality dimensions -meaningful work, sense of community, and alignment of values- and five work attitudes – intrinsic job satisfaction, job involvement, organizational commitment, intention to quit, and organization-based self-esteem. It builds on Milliman et al. (2003) study by including workplace spirituality as an antecedent of work attitudes and extends Milliman et al. (2003) study by adding
individual spirituality and examining two theoretically plausible alternative models – one model specifying simultaneous direct effects of workplace spirituality and individual spirituality on work attitudes and an alternative model specifying interactive effects of workplace spirituality and individual spirituality on work attitudes. Its research direction is also consistent with Kolodinsky et al. (2008) who recently examined the direct and interactive effects of personal spirituality and organizational spirituality on work attitudes of satisfaction with rewards, organizational frustration, job involvement, and organizational identification. Kolodinsky et al. (2008) study found considerable support for the relationship between organizational spirituality and these outcomes but only marginal support for the relationship between personal spirituality and these outcomes. They also found only marginal support for interactive effects of personal spirituality and organizational spirituality on these outcomes. Their discussion of study findings suggested the need for further research on organizational spirituality and personal spirituality. The present study’s focus is consistent with the direction adopted and the need for further research suggested in Kolodinsky et al. (2008). However, in comparison to Kolodinsky et al’s (2008) study, the present study includes more comprehensive theorization for explicit specification of hypotheses, focuses on three separate aspects of workplace spirituality rather than on just overall organizational spirituality, adopts a multi-dimensional conceptualization and measure of workplace spirituality, and focuses on a sample from India.

Theory development: workplace spirituality definition and hypotheses

Workplace spirituality definition in this study

While there are several definitions of workplace spirituality (Gotsis and Kortezi, 2008), quite a few of them (e.g. Ashmos and Duchon, 2000; Giacalone and Jurkiewicz, 2003; Milliman et al., 2003) include the dimensions of meaning in work and community at work though the terms used may take various forms such as calling, purpose, belonging, membership, and connectedness. This study adopts the definition of workplace spirituality by Ashmos and Duchon (2000, p. 137) “as the recognition that employees have an inner life that nourishes and is nourished by meaningful work that takes place in the context of community” is adopted in this paper. It includes the previously indicated common dimensions – meaning and community – of workplace spirituality.

Some revisions are made in this study in the dimensions of workplace spirituality of Ashmos and Duchon (2000) in light of the relevant literature as outlined below. From the definition of Ashmos and Duchon (2000), Milliman et al. (2003) adopted only meaning in work and sense of community and excluded the transcendent or the inner life aspect. Moreover, drawing on Ashmos and Duchon (2000) and other literature, Milliman et al. (2003) specified workplace spirituality at three levels: individual level in terms of meaning in work, group level in terms of sense of community, and organizational level in terms of alignment with organizational values.

This study, consistent with Milliman et al. (2003), focuses on three levels of workplace spirituality namely, individual level in terms of an employees’ interaction with his/her work, work group or department level, and organizational level. Meaning in work, community at work, and positive organizational purpose are the three aspects included in the assessment of workplace spirituality in the present study and they correspond to the three levels – individual, work group, and organizational – of
workplace spirituality. The aspects of meaning in work and community at work included in this study are consistent with the meaningful work and community aspects of workplace spirituality definition of Ashmos and Duchon (2000) though Milliman et al. (2003) adopted an operationalization of the community aspect that is different from that in Ashmos and Duchon (2000). The organizational level aspect of workplace spirituality in this study is conceptualized in terms of the presence of positive organizational purpose, which is a little different from Milliman et al. (2003) who conceptualized alignment with organizational values as the organizational level aspect of workplace spirituality. This paper’s view of the organizational level aspect of workplace spirituality in terms of positive organizational purpose is consistent with Milliman et al. (1999) who identified an organization’s adoption of a “cause” as one aspect of organizational spirituality. It is also consistent with Mitroff et al. (1994, p. 17) who, in outlining the features of future organizations, noted, “by discussing the spiritual sides of organizations . . . we are talking about the greater moral obligation of every organization to contribute to the solutions of world problems”.

Thus, in this paper the three aspects of workplace spirituality are as follows. Consistent with Ashmos and Duchon (2000, p. 141), the aspect of meaning in work reflects “a sense of what is important, energizing, and joyful about work”. Consistent with Ashmos and Duchon (2000, pp. 139-41), the aspect of community at work reflects the extent to which employees feel being a part of their work community where they “can experience personal growth, be valued for themselves as individuals, and have a sense of working together”. The aspect of positive organizational purpose reflects the extent to which employees perceive their organization as having a positive purpose in relation to employees, society, etc. Consistent with Duchon and Plowman (2005), the aspects of workplace spirituality are conceptualized as employee perceptions of various aspects of an organization.

Hypotheses

Direct effects model

Research on job involvement (Brown, 1996), and organizational commitment (Mathieu and Zajac, 1990) indicates that both situational and individual variables are antecedents of these two work attitudes. Similarly, Arvey et al. (1989, p. 187) note that both situational variables and individual variables are associated with job satisfaction. Consistent with this, spirituality-related situational variables (three workplace spirituality dimensions) and spirituality-related individual variable (individual spirituality level) are included as two categories of antecedents of work attitudes in the direct effects model depicted in Figure 1.

Direct effects model: effects of workplace spirituality on work attitudes (Figure 1)

Workplace spirituality and job satisfaction. Job satisfaction “is an affective (that is, emotional) reaction to a job that results from the incumbent’s comparison of actual outcomes with those that are desired . . .” (Cranny et al., 1992, p. 1). As workplace spirituality dimensions fulfill employees’ higher order and spiritual needs (Ashmos and Duchon, 2000; Duchon and Plowman, 2005; Fry, 2003, 2005; Fry et al., 2005), they should induce a more favorable employee affective response. Thus, there should be a positive relationship between workplace spirituality dimensions and job satisfaction.
The meaningful work dimension of workplace spirituality implies work that provides employees a sense of joy and connects employees to the larger good (Duchon and Plowman, 2005). Thus, there should be a positive relationship between meaning in work and job satisfaction. Community at work aspect of workplace spirituality reflects the fulfillment of employee needs for being accepted and appreciated (Ashmos and Duchon, 2000; Duchon and Plowman, 2005; Fry, 2003, 2005; Fry et al., 2005). Thus, there should be a positive relationship between community at work and job satisfaction. Consistent with the above posited relationships, Duchon and Plowman (2005) note findings from previous research on the positive relationship between employee experience of meaning in work and job satisfaction and Milliman et al. (2003) found support for a positive relationship of both meaningful work and community with job satisfaction. Positive organizational purpose can provide employees a sense of serving a noble purpose or making a positive difference to others which constitutes an aspect of “calling” specified in Fry (2003). As calling, or making a difference to others, fulfills higher order spiritual needs (e.g. Fry, 2003), positive organizational purpose, by fulfilling employees’ higher level needs, should be positively associated with job satisfaction. Thus, it is hypothesized that:

**H1.** Workplace spirituality dimensions will be positively associated with employees’ job satisfaction and in particular.
H1a. Meaning in work will be positively associated with job satisfaction.

H1b. Community at work will be positively associated with job satisfaction.

H1c. Positive organizational purpose will be positively associated with job satisfaction.

Workplace spirituality and job involvement. Job involvement is a cognitive or belief state of psychological identification with job (Kanungo, 1982). Potential of a job to fulfill employee needs has been specified as an antecedent of job involvement (Kanungo, 1982). Consistent with this, job involvement research (e.g. Brown, 1996) suggests that need fulfillment results in job involvement. Meaning in work, community at work, and positive organizational purpose aspects of workplace spirituality in this paper can be subsumed under two broader categories of spiritual dimensions – calling and membership – that constitute “two essential dimensions of spiritual survival” (Fry, 2003, p. 703). These workplace spirituality aspects focus on fulfilling employees’ spiritual needs (Ashmos and Duchon, 2000, Duchon and Plowman, 2005; Fry, 2003, 2005; Fry et al., 2005). Thus, workplace spirituality dimensions, through their effect on employee need fulfillment, should be positively associated with job involvement. Further, workplace spirituality dimensions also provide intrinsic motivation to employees and the work activities become intrinsically motivating resulting in greater engagement in work (e.g. Fry, 2003). Thus, workplace spirituality dimensions should be positively related to job involvement.

Consistent with the above discussion, Fry (2003) suggests a positive relationship between spiritual survival, which reflects sense of meaning and community, and task involvement. The findings from Milliman et al. (2003) also indicated a positive relationship of meaningful work and community with job involvement. Further, a positive organizational purpose can provide greater emotional engagement to employees (Milliman et al., 1999) and thus should have a positive relationship with employees’ job involvement. Thus, it is hypothesized that:

H2. Workplace spirituality dimensions will be positively associated with employees’ job involvement and in particular,

H2a. Meaning in work will be positively associated with job involvement.

H2b. Community at work will be positively associated with job involvement.

H2c. Positive organizational purpose will be positively associated with job involvement.

Workplace spirituality and organizational commitment. Organizational commitment reflects employees’ psychological identification with and involvement in an organization and manifests in aspects such as employees’ acceptance of organizational goals and values (e.g. Mayer and Schoorman, 1992; Steers, 1977). Literature (e.g. Fry, 2003) suggests that fulfillment of employees’ spiritual needs of meaning and community is positively associated with employees’ organizational commitment. Consistent with this, the existing research has found support for the positive relationship between membership (community) and organizational commitment (Fry et al., 2005) and between community and affective and normative commitment (Rego and Pina e Cunha, 2008). Further, as positive organizational purpose can make organizational goals and hence organizational identification more
valuable to employees, there is likely to be a positive relationship between positive organizational purpose and employees’ organizational commitment. Consistent with this, Milliman et al. (1999) suggest that organizational spiritual values, which include an organization’s having a “cause” to serve, are likely to be positively associated with employee work attitudes. Thus, it is hypothesized that:

H3. Workplace spirituality dimensions will be positively associated with employees’ organizational commitment and in particular.

H3a. Meaning in work will be positively associated with organizational commitment.

H3b. Community at work will be positively associated with organizational commitment.

H3c. Positive organizational purpose will be positively associated with organizational commitment.

Direct effects model: effects of individual spirituality on work attitudes (Figure 1)

 Individual spirituality and job satisfaction. Individual spirituality has been empirically found to be positively associated with life satisfaction (Wolf, 1998) and more specifically with job satisfaction (Komala and Ganesh, 2007). Consistent with these findings, it is hypothesized that:

H4a. There will be a positive relationship between employees’ individual spirituality and job satisfaction.

 Individual spirituality and job involvement. de Klerk (2005) conceptualized individual spirituality through one of its dimensions – meaning in life – and posited a positive relationship between it and job involvement. Further, Elankumaran (2004) found that employees with sattva guna (referred to as “goodness” by Harvey et al. (2006)) have higher job involvement than those with tamas guna (referred to as “ignorance”). Further, Harvey et al. found that goodness (a name used for sattva guna in Harvey et al., 2006) is positively related to individual scores on daily spiritual experiences scale (DSES) and ignorance (a name used for tamas guna) is negatively related to DSES. These findings from Harvey et al. (2006) can be taken as suggesting that sattva guna (goodness) reflects higher level of individual spirituality than tamas guna (ignorance). This suggestion emerging from the findings of Harvey et al. (2006) coupled with the above indicated findings from Elankumaran (2004) suggest a positive relationship between individual spirituality and job involvement. Thus, it is hypothesized that:

H4b. There will be a positive relationship between employees’ individual spirituality and job involvement.

 Individual spirituality and organizational commitment. As search for connectedness is an aspect of individual spirituality (e.g. Benson et al., 2003), it is likely that individual spirituality will facilitate development of an attachment or commitment to an organization. Thus, it is hypothesized that:

H4c. There will be a positive relationship between employees’ individual spirituality and organizational commitment.
Benson et al. (2003, pp. 205-6) note, “spiritual development is the process of growing the intrinsic human capacity for self-transcendence, in which the self is embedded in something greater than the self, including the sacred. It is the developmental ‘engine’ that propels the search for connectedness, meaning, purpose, and contribution”. This definition suggests that high individual spirituality level will result in a stronger urge for meaning and connectedness. Further, Duchon and Plowman (2005) suggest that workplace spirituality implies an employee’s experience of meaning and community at work. Such aspects of workplace spirituality are likely to be more valued by employees with high levels of individual spiritual development who, as noted previously, have a greater urge for them. As a result, the relationship between workplace spirituality aspects and employees’ positive work attitudes is likely to be stronger for employees with high individual spiritual development than for employees with low individual spiritual development. This suggests that the relationship between workplace spirituality and work attitudes will be positively moderated by individual spirituality. Thus, it is hypothesized that:

**H5.** The relationship between employee perceptions of workplace spirituality and employees’ work attitudes will be positively moderated by employee spirituality level.

**Methods**

*Sample and procedures*

Data were collected for the present analysis in year 2007 from 171 working employees from various organizations of which 151 were attending management development programs and 20 were a part of an executive MBA program at an educational institute in India[1]. These study respondents were employed full-time in their work organizations. The study questionnaire was in English. Only those respondents who

![Figure 2. Interactive effects of workplace spirituality and individual spirituality on positive work attitudes](image-url)
indicated that they had no difficulty in understanding the English language in the study questionnaire were included in the sample for analysis. Thus, 156 of the 171 respondents were included in the sample for analysis.

The average age for the sample of these 156 respondents was 36.63 years, average total work experience was 13.78 years, average years with the organization was 9.03 years, and average years in the present position was 2.63 years. In the sample, 4.5 per cent of the respondents had the lowest education level of a diploma (typically three years of education beyond high school or matriculation) and 89.7 per cent of the respondents had education levels of a bachelor’s degree or above. Of the 144 respondents providing gender information, 140 were male. Respondents held mostly managerial positions in various departments in private and public sector organizations of size ranging from less than 100 to over 10,000 employees.

**Measures**

**Individual spirituality.** Individual spirituality is measured with daily spiritual experiences scale (DSES). Underwood (2006, p. 2) notes that DSES is designed “to measure ordinary or ‘mundane’ spiritual experiences . . . It measures experiences of relationship with and awareness of the divine or the transcendent . . . The 16-item scale includes constructs such as awe, gratitude, mercy, sense of connectedness with the transcendent, compassionate love, and desire for closeness to God. It also includes measures of awareness of discernment/inspiration and transcendent sense of self (Underwood, 2006, p. 2). Evidence on the reliability and validity of the scale has also been provided, and its suitability for use in other cultures has been indicated by Underwood and Teresi (2002). DSES contains 16 items. The scale uses a six-point format for 15 items and response options range from “never or almost never” to “many times a day”. In this study the scale was scored in a manner that higher scores reflect higher frequency of spiritual experiences. Item 16 (“In general, how close do you feel to God?”) uses a four-point format with response options ranging from “not at all” to “as close as possible”. Score on this four-point response format item was transformed to a six point score as suggested by Underwood (2006).

**Workplace spirituality.** The meaning and community aspects were measured using the “meaningful work” and “community” scales from Ashmos and Duchon (2000). The third aspect – positive organizational purpose – was measured through four items adapted from the “Work unit community” and “Work unit and meaningful work” subscales from Duchon and Plowman (2005). The four items used for assessing positive organizational purpose were: “My organization cares about all its employees”, “My organization is concerned about the society”, “My organization has a noble purpose” and “My organization renders important service to the society”. The first item was taken as is and the other three items were derived from two of the items of the Ashmos and Duchon (2000) subscales. A five-point Likert format with responses ranging from 1(strongly disagree) to 5 (strongly agree) was used.

**Work attitudes.** Job involvement was measured using Kanungo (1982) scale. Five point Likert format with anchor points ranging from strongly disagree (1) to strongly agree (5) was used. Job satisfaction was measured using a single-item scale of McNeely and Meglino (1994). This item, which read, “considering all aspects of my job, I would say that I am very satisfied with my job”, was rated on a seven-point scale from 1 (strongly disagree) to 7 (strongly agree). McNeely and Meglino (1994, p. 843) describe
the suitability of this single item measure by noting that “in the case of job satisfaction, there is evidence that single item measures are not unreliable and may be more inclusive than multiple item measures of different job facets”. Organizational commitment was measured using Mayer and Schoorman’s (1992) subscale of value commitment dimension of organizational commitment which contains a subset of items, in original or modified form, from organizational commitment questionnaire (OCQ). Five-point Likert format with anchor points ranging from strongly disagree (1) to strongly agree (5) was used.

Results
The descriptive statistics, inter-scale correlations, and reliability levels for scales are reported in Table I. For all multiple item scales used in the study, the reliability levels were good or very good ranging from 0.79 to 0.94.

Results of direct effects model (Figure 1)
$H1$, $H2$, and $H3$ and the associated nine sub-hypotheses ($H1a$-$H3c$) were tested using three separate multiple regressions – one each for job satisfaction, job involvement, and organizational commitment as the dependent variable that included three workplace spirituality dimensions and individual spirituality as independent variables. The findings are presented in Table II.

Direct effect of workplace spirituality on job satisfaction ($H1$). The results in Table II indicate that meaning in work and community at work are significantly associated with job satisfaction, thus supporting $H1a$ and $H1b$. Meaning in work and positive organizational purpose are significantly associated with job involvement, thus supporting $H2a$ and $H2c$. All three dimensions of workplace spirituality are significantly associated with organizational commitment indicating support for hypotheses $H3a$, $H3b$, and $H3c$. Thus, $H1$ and $H2$ were partially supported while $H3$ was completely supported (see Table II).

Direct effect of individual spirituality on job satisfaction, job involvement, and organizational commitment ($H4a$, $H4b$, and $H4c$).

The results in Table II indicate that none of the three relationships between individual spirituality and job satisfaction, job involvement, and organizational commitment is significant. Thus, $H4a$, $H4b$, and $H4c$ were not supported.

Results of interactive/moderating effects model (Figure 2)
$H5$ which specified that the relationship between workplace spirituality and work attitudes will be positively moderated by employees’ individual spirituality was tested using moderated hierarchical multiple regression analysis as used in practice (e.g. McFarlin and Sweeney, 1992; Witt, 1991). For each of the three work attitudes, moderation was tested separately for each dimension of workplace spirituality. Thus, for each of the three work attitudes, three separate moderated hierarchical regression analyses were done to test moderation of three workplace spirituality dimensions. In all, nine moderated hierarchical regression analyses were done, three for each of the three work attitudes as the dependent variable.

In each of the nine moderated hierarchical multiple regression analyses, the following procedure was adopted. In the first step, two main effect terms (one dimension of workplace spirituality and individual spirituality) were entered. In the second step, the
**Table I.** Correlations, reliabilities, and descriptive statistics for all variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
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<tbody>
<tr>
<td>Meaning in work</td>
<td>3.79</td>
<td>0.54</td>
<td>(0.79)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Community at work</td>
<td>3.77</td>
<td>0.52</td>
<td>0.53**</td>
<td>(0.79)</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Positive organizational purpose</td>
<td>3.85</td>
<td>0.72</td>
<td>0.42**</td>
<td>0.32**</td>
<td>(0.85)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual spirituality</td>
<td>3.98</td>
<td>1.04</td>
<td>0.28**</td>
<td>0.06</td>
<td>0.13</td>
<td>(0.94)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>5.31</td>
<td>1.25</td>
<td>0.35**</td>
<td>0.40**</td>
<td>0.23**</td>
<td>0.20*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational commitment</td>
<td>3.96</td>
<td>0.61</td>
<td>0.59**</td>
<td>0.53**</td>
<td>0.54**</td>
<td>0.21*</td>
<td>0.39**</td>
<td>(0.88)</td>
<td></td>
</tr>
<tr>
<td>Job Involvement</td>
<td>3.34</td>
<td>0.64</td>
<td>0.51**</td>
<td>0.37**</td>
<td>0.44**</td>
<td>0.08</td>
<td>0.24**</td>
<td>0.48**</td>
<td>(0.82)</td>
</tr>
</tbody>
</table>

**Notes:** Reliability coefficients (alpha) for multi-item measures are in the main diagonal of the table. Effective sample size (n) varies for different computations due to deletion of observations with missing values in different computations. *p < 0.05; **p < 0.01
interaction term (formed by a multiplicative product of the main effect terms) involving individual spirituality and a dimension of workplace spirituality was added after the main effect terms of the corresponding workplace spirituality dimension and individual spirituality. Consistent with the practice (e.g. McFarlin and Sweeney, 1992; Witt, 1991) and guidelines on testing moderation through hierarchical regression analysis (e.g. Hair et al., 1998, pp. 170-1), significant incremental variance ($\Delta R^2$) accounted for by the interaction term entered in the second block was taken as the support for the hypothesized moderation of the effect of the corresponding workplace spirituality dimension by individual spirituality. In only two of these nine regression equations, significant incremental variance ($\Delta R^2$) was accounted for by the interaction term beyond the main effect terms. The results of these two regression analyses are presented in Table III.

As indicated in Table III, the effect of positive organizational purpose on job satisfaction is moderated by individual spirituality ($p < 0.05$) and the effect of community on organizational commitment was moderated by individual spirituality at a slightly lower level of significance ($p < 0.07$). Thus, $H5$ received support only to a marginal extent.

Consistent with the practice of plotting interactions (e.g. Witt, 1991), the nature of these interactions was plotted in Figure 3 by evaluating the equation from the second step of the hierarchical moderated regression analyses at high (1 SD above the mean) and low (1 SD below the mean) values of the moderator variable (individual spirituality).

The interaction plots in Figure 3 indicate that with an increase in positive organizational purpose aspect of workplace spirituality, job satisfaction increases more responsively for employees with high individual spirituality level than for employees with low individual spirituality level. The interaction plots in Figure 3 indicate that with an increase in community at work aspect of workplace spirituality, organizational commitment increases more responsively for employees with high individual spirituality level than for employees with low individual spirituality level.

Discussion
The findings of this study indicate that workplace spirituality is positively associated, to a considerable extent, with work attitudes of employees. In particular, results from
the test of nine hypotheses ($H1a-H3c$) indicate that two of the three workplace spirituality aspects have significant positive association with job satisfaction and job involvement while all three aspects of workplace spirituality have significant positive association with organizational commitment. At an aggregate level, these findings are consistent with Milliman et al. (2003) but go beyond it in that they point out significant effects of workplace spirituality, beyond the effect of individual spirituality, on work attitudes. Further, individual spirituality, in the presence of workplace spirituality aspects, is not significantly associated with any of the three positive work attitudes included in this study. These findings are consistent with the conclusions derived by Kolodinsky et al. (2008) from their study of the effects of personal spirituality and organizational spirituality on work attitudes.

In order to further understand the independent effects of workplace spirituality and individual spirituality on each of the three work attitudes, some post-facto analysis,
using hierarchical regression analysis of blocks of variables, was performed. When individual spirituality is alone entered in regression equations as the independent variable for work attitudes, it accounted for significant variance in two of the three work attitudes – job satisfaction (3.6 per cent variance, \( p < 0.05 \)) and organizational commitment (4.1 per cent variance, \( p < 0.05 \)). However, when individual spirituality was added in the regression equations after the block of three workplace spirituality aspects, it did not make a significant incremental contribution to the variance accounted for in any of the three work attitude dependent variables. On the other hand, workplace spirituality, when entered as a block after individual spirituality, accounted for significant variance beyond that accounted for by individual spirituality in all three work attitudes (20.9 per cent variance in job satisfaction, 32.7 per cent variance in job involvement, and 44.6 per cent variance in organizational commitment, all significant

**Figure 3.**
The nature of interactive effects of workplace spirituality and individual spirituality. Interactive effects of positive organizational purpose and individual spirituality on job satisfaction

**(a) Interactive Effects of Positive Organizational Purpose and Individual Spirituality on Job Satisfaction**

**(b) Interactive Effects of Community and Individual Spirituality on Organizational Commitment**
at $p < 0.001$). Thus, while individual spirituality has some significant effect on two of the three work attitudes, it does not have a significant effect on these work attitudes beyond the effect of workplace spirituality. In contrast, workplace spirituality has a significant effect on all three work attitudes even beyond the effect of individual spirituality. This pattern provides a more detailed insight into the direct effects of individual spirituality and workplace spirituality and this insight is beyond the conclusions specified by Kolodinsky et al. (2008) who also found considerable support for the relationship between organizational spirituality and work attitudes but only a marginal support for the relationship between personal spirituality and work attitudes. These findings are associated with the test of the direct effects model (see Figure 1).

However, the results of the examination of the interactive effects model (see Figure 2) indicated that individual spirituality, to a minor extent, seems to positively moderate (i.e. strengthen) the relationship between workplace spirituality and work attitudes. While the present study findings are consistent with those from Kolodinsky et al. (2008) in terms of only marginal extent of the support for interactive effects, the present study’s findings on interactive effects are finer than those of Kolodinsky et al. (2008). In particular, the findings of the present study focus on interactions of individual spirituality with specific dimensions of workplace spirituality whereas Kolodinsky et al. (2008) examined the interaction of personal spirituality with organizational spirituality rather than with the specific dimensions of workplace spirituality.

Conclusions
The following conclusions can be drawn from the study results and above discussion. First, workplace spirituality has considerable association with the work attitudes. Second, the association of workplace spirituality with work attitudes remains even after accounting for the effect of individual spirituality on work attitudes. The results of post-facto analysis described in the preceding part of the discussion indicated that the variance accounted for by workplace spirituality in job satisfaction, job involvement, and organizational commitment was 23.5, 33.4, and 48.3 per cent respectively without accounting for the effect of individual spirituality on these work attitudes and 20.9, 32.7, and 44.6 per cent respectively after accounting for the effect of individual spirituality on these work attitudes. Third, individual spirituality has marginal association with work attitudes. Fourth, even the marginal association of individual spirituality with work attitudes does not remain significant after accounting for the effect of workplace spirituality on work attitudes. Fifth, individual spirituality only marginally moderates the association between workplace spirituality with work attitudes.

Limitations
One limitation comes from the potential for common method variance as the measures of both dependent and independent variables in this study were collected from self-report measures from the same source. To address this concern, Harman’s single-factor test, which “is one of the most widely used techniques that has been used by researchers to address the issue of common method variance (Podsakoff et al., 2003, p. 889)”, was used. The procedure is to “include all items from all of the constructs in the study into a factor analysis to determine whether the majority of the variance can be accounted for by one general factor” (Podsakoff et al., 2003, p. 890). Thus, items from
all study scales were entered into a principal component factor analysis and the unrotated factor structure was examined. The factor structure revealed no single factor as there were 14 factors with eigenvalues greater than 1. There was not even a general factor accounting for the majority of data variance. Thus, substantial amount of common method variance is unlikely to be accounting for the study results. Use of mostly managerial and male sample may constitute another limitation of the study.

Implications for future research
The study findings suggest some directions for future research. First, the findings of this study indicating the association of workplace spirituality with employee work attitudes can provide an added justification for the future research to examine organizational outcomes that are associated with workplace spirituality. Second, researchers have noted linkages of workplace spirituality with several organizational studies topics such as leadership theory (e.g. Dent et al., 2005), leadership practice (e.g. Duchon and Plowman, 2005; Fry et al., 2005), organization development (French and Bell, 2001), and prosocial behaviors and work group cohesion (Giacalone and Jurkiewicz, 2003). Thus, the added justification for workplace spirituality research, emerging from the present study findings, can contribute to research activity that links workplace spirituality with various topics of organizational studies. For example, the effect of various leadership styles on workplace spirituality experiences by subordinates could be one research question linking workplace spirituality with the topic of leadership.

Third, the findings from the present study indicate that while individual spirituality has some relationship with work attitudes, which is consistent with the existing research (e.g. Elankumaran, 2004; Komala and Ganesh, 2007), it has no significant effect on work attitudes after accounting for the effect of workplace spirituality on work attitudes. This finding from the present study suggests that the future research for examining the effects of individual spirituality on work attitudes may need to specify models that also include workplace spirituality in order to assess whether individual spirituality has an effect on work attitudes beyond the effect of workplace spirituality.

Fourth, though present study findings from the interactive effects model are marginal, they indicate that the future research needs to specify and test more complex models assessing the joint (e.g. interactive) effects of individual spirituality and workplace spirituality on employee work attitudes.

Implications for practice
The study findings suggest a few implications for practice also. First, the findings indicate that workplace spirituality variables accounted for a large amount of variance (23.5 per cent of variance in job satisfaction, 33.4 per cent of variance in job involvement, and 48.3 per cent of variance in organizational commitment) in employee work attitudes. This may suggest the likely positive benefits of enhancing workplace spirituality in organizations. This can provide a relevant input for the leadership actions and OD efforts aimed at implementing workplace spirituality in organizations.

Second, the findings indicate that workplace spirituality has an effect on employee work attitudes even after accounting for the effect of individual spirituality but that individual spirituality does not have a significant effect on work attitudes after
accounting for the effect of workplace spirituality. This may suggest that for improving employee work attitudes, it may be more appropriate to focus on designing suitable organizational processes that provide to employees workplace spirituality experiences of a sense of meaning, community, and positive organizational purpose than to focus on selecting employees with high level of individual spirituality or on enhancing individual spirituality levels through employee development efforts. The strength of this implication is limited by the non-causal nature of the assessment of the relationship between workplace spirituality and work attitudes done in this study. This also can serve as a relevant input for leadership actions and OD efforts aimed at workplace spirituality implementation in organizations.

Notes
1. For this study, the author had earlier collected data from a government training organization and used it for analysis in year 2006. However, as the English proficiency of the participants could not be assessed adequately and as the data collection permission had been granted informally by the unit head, that data and analysis was kept aside and it was decided to collect fresh data again for this study.

2. In press version, the page numbers mentioned in the in-text citations of this paper are from the copy of the manuscript received from the author and not from the journal articles.

References


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