

Chapter 23

The Spirit at Work Scale: Developing and Validating a Measure of Individual Spirituality at Work

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Abstract A clear, empirically grounded, and theoretically defensible definition, and a short, psychometrically sound measure of spirituality at work is offered. This chapter presents four studies to document the development of an 18-item *Spirit at Work Scale* (SAWS) and to establish basic construct validity and reports on its recent application. Study 1 outlines the development of the 18-item SAWS and presents the four-factor structure: engaging work, sense of community, spiritual connection, and mystical experience. Analyses revealed high internal consistency for both the total scale ($\alpha=0.93$) and the four subscales (α s from 0.86 to 0.91). Study 2 confirms the factor structure and demonstrates convergent and divergent validity by correlating SAWS with a number of work-related and personal well-being measures expected to be related to SAWS in lesser and greater degrees. As predicted, SAWS total scores correlated the highest with the other work-related measures (i.e., organizational culture, organizational commitment, and job satisfaction) (r s from 0.52 to 0.65) and the lowest with the personality dimensions (r s from 0.10 to 0.31). The known group method illustrates that SAWS scores differ between two groups. Study 3 provides further evidence of convergent and discriminant validity with a different group. Study 4 demonstrates SAWS temporal stability (or test–retest reliability) and sensitivity to change over time. SAWS holds much promise for use in practice and research.

How does one develop an instrument to measure a construct that is intangible and elusive yet has the ability to change the work world as we know it? Spirit(uality) at work is something like love; we all know what it is but find it difficult to define and even harder to measure. Yet, measuring the most difficult things is often vital because of the potential impact.

Development of the Spirit at Work Scale (SAWS) began in 2000, when it became obvious that I was unable to describe or define what I had begun to call *spirit at*

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work (SAW). I could see it in the people who were passionate about their work. There seemed to be an energy or a life force that inspired them to help others, often in spite of challenges.

But I could neither define it nor find an agreed-upon definition. Is spirit at work an individual or organizational construct? Is it a trait, an experience, or attitude? Is spirit at work about spirituality, or religion in the workplace, or something else? Is it simply the opposite of burnout, or is it related to but distinct from burnout?

The terms *spirit at work*, *spirituality at work*, *organizational spirituality*, *workplace spirituality*, and *spirituality in the workplace* are used interchangeably to refer to related constructs. Numerous scholars have defined or identified components of workplace spirituality, and while there are differences in emphasis, there is considerable overlap. Although conceptual convergence occurs (Sheep 2004), the field did not have an agreed-upon definition that lent itself to the development of an instrument to measure the construct.

Yet measures of spirituality at work began to emerge, first by Ashmos and Duchon (2000) and then by others (Duchon and Plowman 2005; Kinjerski and Skrypnik 2006; McKee et al. 2011; Petchsawang and Duchon 2009; Rego et al. 2007; Milliman et al. 2003; Sheep 2004). Some have used existing spirituality scales to assess personal spirituality and adapted them to reflect organizational spirituality (Kolodinsky et al. 2008) or proposed a new theoretical conceptualization of spirituality (Liu and Robertson 2010). Unfortunately, similar language is used to describe different things and different units of measurement.

The Need for a Psychometrically Sound Measure

To date, most scales combine the assessment of attitudes toward spirit at work, aspects of personal experience, spirituality, and characteristics (or perceptions) of the workplace. The utility of such measures in assessing an individual's current experience of spirit at work, or changes in individual spirit at work over time, is less than ideal. Thus, the need for a scale to measure spirit at work as an individual experience became apparent.

However, establishing construct validity for a new measure is complex and challenging (Cronbach and Meehl 1955). Upon analyzing 29 empirical articles within the spirituality, religion, and work (SRW) domain, Fornaciari and colleagues (2005) found both laudable and wanting practices. They concluded that "scale development practices within the SRW domain are sometimes inconsistent" (p. 45), albeit expected.

Yet, research continues to be hampered by these inconsistencies and a lack of a clear, widely accepted definition, and standardized measures (Dent et al. 2005; Giacalone and Jurkiewicz 2003). The absence of valid measures has prevented researchers from empirically investigating whether spirit at work positively impacts well-being or productivity, as proclaimed by many (Milliman et al. 2003; Mitroff

and Denton 1999). In addition, there is no “gold standard” for assessing the effectiveness of interventions directed at creating spirit at work.

Measurement is at the core of research. The availability of standardized measures allows easier development and testing of theory and comparison of research findings. Thus, in my work, I have sought to develop a clear, empirically grounded, and theoretically defensible definition and to develop and validate a short, psychometrically sound measure. This chapter summarizes the process undertaken over a decade to develop an 18-item Spirit at Work Scale and to establish basic construct validity and reports on its recent application.

Seeking an Empirically Based Definition of Spirit at Work

Quality measures begin with a clear conceptual definition of the construct to be measured. Definitions in the literature have been based on conceptual and philosophical discussions and did not have an empirical basis. These definitions were vague and abstract and often confused experiences of individuals, attitudes of individuals, characteristics of organizations, and sometimes perceptions about one’s fit with the organization.

Hence, I sought out the “experts”—professionals whose work involves researching or promoting spirit at work—for assistance in developing a comprehensive, conceptual definition of spirit at work. Quite unexpectedly, it was impossible to develop a clear definition based on their responses to explain, describe, or define the construct (Kinjerski and Skrypnek 2004). However, they provided rich, strikingly similar descriptions of this experience of spirit at work. Based on qualitative analysis of these rich descriptions, the following six-dimensional definition emerged:

Spirit at work is a distinct state that is characterized by physical, affective, cognitive, interpersonal, spiritual, and mystical dimensions. Most individuals describe the experience as including: a *physical* sensation characterized by a positive state of arousal or energy; positive *affect* characterized by a profound feeling of well-being and joy; *cognitive* features involving a sense of being authentic, an awareness of alignment between one’s values and beliefs and one’s work, and a belief that one is engaged in meaningful work that has a higher purpose; an *interpersonal* dimension characterized by a sense of connection to others and common purpose; a *spiritual* presence characterized by a sense of connection to something larger than self; and a *mystical* dimension characterized by a sense of perfection, transcendence, living in the moment, and experiences that were awe-inspiring, mysterious, or sacred. (Kinjerski and Skrypnek 2004, p. 37)

Whereas this research-derived definition is consistent with the conceptual definitions of others (Ashforth and Pratt 2003; Ashmos and Duchon 2000; Milliman et al. 2003; Mitroff and Denton 1999; Sheep 2004), it more clearly describes the nature of the individual experience of SAW. This definition was also confirmed in a study with lay individuals who experienced SAW but were unfamiliar with the concept or with SAW literature (Kinjerski and Skrypnek 2008a).

Exploring the Nomological Net: Spirit at Work and Related Constructs

A definition or even a measure is only the first step. In demonstrating construct validity, Cronbach and Meehl (1955) argued for the importance of a nomological network, a series of connected theoretical and observed terms that represent a theory. The theoretical part allows for the making and testing of predictions about the relations of observed variables or constructs.

Evidence supporting the relationship between spirit at work, personality, and personal and work outcomes is increasing. Thus, the relationships between several measures of personal well-being (e.g., vitality, gratitude, burnout), personality characteristics (e.g., extraversion, openness), and work-related attitudes (e.g., job satisfaction, organizational commitment) were clarified. These relationships are of interest because they illustrate the strength of the relationship and facilitate discriminant validity by specifying what spirit at work is not. For more discussion and presentation of the nomological net, see Kinjerski (under review).

The work of the research community is extended by offering an empirically derived definition and measure of individual spirit at work, which is different from attitudes about spirit at work and organizational spirituality at work. Finally, the relationship between individual spirit at work and several personal and work-related outcomes is reported on, thus further validating SAWS and supporting a nomological net.

Overview of the Studies

The purpose of the following four studies was to develop and begin the process of validating the Spirit at Work Scale. In the initial study, I outline the development of the 18-item SAWS and present the four-factor structure. Initial validation is documented through the next three studies. Specifically, in Study 2, the factor structure is confirmed and convergent, and discriminant validity is demonstrated by correlating SAWS with measures expected to be related to it in various degrees. The known-groups method is used to illustrate that SAWS scores differ between two groups. Convergent and discriminant validity continues to be demonstrated in Study 3 by correlating SAWS with personal well-being scales. Finally, Study 4 demonstrates SAWS' temporal stability (or test-retest reliability) and sensitivity to change over time.

Study 1: Developing the Spirit at Work Scale and Establishing the Basic Foundation for Construct Validity

Development of a new measure involves generating an initial item pool, administering it to a large sample, and selecting the best items to capture the construct. Study 1 outlines the process of developing SAWS. Factor analysis was used to

confirm the dimensions identified in the conceptual definition. (For further details see Kinjerski and Skrypnek 2006.)

Method

Phase I: Generation of the Initial Item Pool

Step 1. Generating items grounded in lived experience. An initial pool of 65 items, based on participants' rich descriptions of their experiences of SAW (Kinjerski and Skrypnek 2004), was generated to reflect the six dimensions of SAW that emerged in the definition.

Step 2. Review of instruments of related constructs. Next, 25 instruments of related constructs (e.g., spirituality, religiosity, peak experiences, purpose in life) were reviewed. An additional 34 items that seemed to tap into dimensions similar to those that emerged in the definition but not reflected in the initial pool were used directly or adapted to fit with the intent of assessing SAW. This resulted in an item pool of 99 items.

Step 3. Checking content validity through member checking. To enhance content validity (Janesick 2000), the 99-item draft SAWS and the definition were sent back to the original 14 participants for member checking. Based on their feedback, 26 items were added.

Step 4. Review and selection of item pool by experts. This pool of 125 items was critiqued by a different group of six experts attending the Spirituality in Organization track at the International Academy of Business Disciplines' 15th Annual Meeting in 2003. To maximize the face and content validity of the scale (Clark and Watson 1995; DeVellis 1991), each participant rated each item (on a scale of 1–6) according to relevance to the dimension, importance to measuring spirit at work overall, and for clarity. Based on feedback, five items were eliminated.

Ninety-eight items with ratings that best met a set of decision rules (Kinjerski and Skrypnek 2006) were selected. Four new items were added to reflect experiences that did not emerge in the research but that the experts thought were essential, resulting in 102 items.

Phase II: Administration of the 102-Item Instrument

Procedure. Through e-mail, the instrument was distributed to a large sample of employees, across a wide range of occupations, at a large university in Western Canada. Participants rated how true each item was for them along a 6-point scale.

Participants. Responses were received from 335 individuals (248 female) ranging in age from 20 to 71 ($M=40$). The majority were married or cohabiting (62%), had postsecondary education or training (81%), and worked full-time (83%). Occupations represented included administrative or clerical (37%), professional (28%), management (12%), technical (12%), trades and service (4%), and other (7%).

Results

Factor Analysis

In most cases, where item intercorrelations are reasonably strong, a sample size of 150 is considered sufficient for exploratory factor analysis (Guadagnoli and Velicer 1988). To ensure a minimum item-to-respondent ratio of 1:5 for factor analyses (Gorsuch 1974; Tinsley and Tinsley 1987), item analyses was conducted to identify a subset of 65 of the original 102 items. The subset was chosen based on the contribution to the total scale score (high item-total correlations) and the ability to detect individual differences (greater variance). Where inter-item correlations indicated that two items were highly correlated, the item best meeting the criteria was chosen.

These 65 items were then subjected to factor analysis using unweighted least squares analysis with promax rotation. Oblique rotation was used (Tabachnick and Fidell 1989). Six factors with eigenvalues greater than 1 were obtained, but only the first four reflected the dimensions of spirit at work. These factors (accounting for 62% of the variance) confirming the key aspects of SAW identified in the conceptual definition were retained for the final scale.

These factors were labeled engaging work (EW), sense of community (SoC), spiritual connection (SpC), and mystical experience (ME) and captured the essence of the six dimensions in the earlier definition. The items loading on EW seemed to reflect primarily the cognitive dimension from the definition, characterized by a sense of being authentic, an awareness of alignment between one's values and beliefs and one's work, and a belief that one is engaged in meaningful work that has a higher purpose. EW also included two items intended to measure *positive affect*, which could be labeled enjoyment and fulfillment through work. The items loading on SoC reflected the definition's *interpersonal* dimension, characterized by a sense of connection to others and common purpose. The items loading on SpC reflected the characteristics of the *spiritual* presence dimension of a sense of connection to something larger than self. Finally, the items loading on ME reflected the *physical sensations*, the *positive affect*, and the *mystical* dimensions of the definition. (See Kinjerski and Skrypnek 2006).

Choosing the Final Scale Items

Since the goal was to develop a short, psychometrically sound measure, only items with factor loadings greater than 0.40 on a single factor were maintained. This resulted in 7 items on the engaging work subscale, 5 on the mystical experience subscale, and 3 on each of the sense of community and spiritual connection subscales, for a total of 18 items. The proportion of items selected for each dimension should be proportional to the content in the target construct (Loevinger 1957). The engaging work and mystical experience subscales had more items than did the other two subscales because these factors subsumed several aspects of spirit at work.

To confirm the reliability of these four factors, a second unweighted least squares factor analysis with promax rotation was conducted on the selected 18 items, and the same four factors emerged. The 18 items retained for the final SAWS and their factor loadings are presented in Table 23.1. Item means, standard deviations, and item-total correlations are shown in Table 23.2.

Descriptive Statistics for the 18-Item SAWS

Ranges, means, standard deviations, and internal consistency reliabilities for the total scale and for each subscale of the 18-item scale are presented in Table 23.3. Reliability is a necessary precondition for validity, an alpha of 0.70 considered the minimum acceptable standard for demonstrating internal consistency (Nunnally 1978). The Cronbach alphas indicate very acceptable internal consistency reliabilities for the total scale ($\alpha=0.93$) and the four subscales (ranging from 0.86 to 0.91). Measures of dispersion reveal a total scale and subscales sensitive to measuring wide ranges in variability in SAW and its four dimensions. Correlations among individual subscales and the total scale are presented in Table 23.4. As expected, all were significant at $p<0.01$. The magnitude of correlations (ranging from 0.21 to 0.72) indicates related but meaningfully distinct factors.

Seeking Construct Validity for the Spirit at Work Scale

Study 2: Seeking Construct Validity

Validation of a new measure is a process; each step provides incremental evidence of construct validity (DeVellis 1991). To begin to establish validity for SAWS, another sample was used to confirm the factor structure obtained in Study 1. To demonstrate convergent and discriminant validity, the relationship between SAWS and measures of related constructs was explored. The known-groups method was used to demonstrate that SAWS scores differed between two groups—one expected to have high SAW and another significantly lower SAW. Finally, the relationship among spirit at work and personality dimensions and work-related, personal well-being, spiritual, mystical, and coping measures were explored.

Method

Two groups were selected for this study. The first, thought to represent individuals with high SAW, included members of the main American and Canadian spirit at work associations. The second group, expected to have lower SAW, included members from social work associations in Canada.

Table 23.1 Factor loadings of Spirit at Work Scale (Study 1, Study 2)

Spirit at work item	Factor loading							
	Study 1				Study 2			
	Development sample <i>n</i> = 332		Validation sample <i>n</i> = 417		Development sample <i>n</i> = 332		Validation sample <i>n</i> = 417	
	EW	ME	SpC	SoC	EW	ME	SpC	SoC
<i>Engaging Work</i> : Profound feelings of well-being, a belief that one is engaged in meaningful work that has a higher purpose, and an awareness of alignment between one's values and beliefs.								
1. I experience a match between the requirements of my work and my values, beliefs, and behaviors.	0.61	-0.19	0.24	0.23	0.65	-0.05	-0.14	0.12
4. I am able to find meaning or purpose at work.	0.79	-0.04	-0.11	0.11	0.86	0.07	-0.07	-0.04
7. I am passionate about my work.	0.80	0.16	-0.09	-0.10	0.61	0.25	-0.05	0.01
9. I am fulfilling my calling through my work.	0.81	0.06	0.06	-0.09	0.74	0.04	0.13	-0.05
11. I have a sense of personal mission in life, which my work helps me to fulfill.	0.62	0.17	0.01	0.00	0.48	0.09	0.38	-0.04
14. I feel grateful to be involved in work like mine.	0.78	0.00	0.01	-0.00	0.74	-0.02	0.15	0.04
18. At the moment, I am right where I want to be at work.	0.68	0.04	-0.03	0.04	0.56	0.00	-0.01	0.31
<i>Mystical Experience</i> : A positive state of energy or vitality, a sense of perfection, transcendence, and experiences of joy and bliss.								
2. At times, I experience a "high" at my work.	0.19	0.59	0.02	0.00	0.34	0.57	-0.08	-0.15
5. At moments, I experience complete joy and ecstasy at work.	0.10	0.83	0.01	-0.04	-0.04	0.92	0.04	0.00
8. At times, I experience an energy or vitality at work that is difficult to describe.	0.09	0.67	0.06	0.09	0.24	0.49	0.19	-0.02
12. I have moments at work in which I have no sense of time or space.	-0.08	0.56	-0.02	-0.01	.02	0.70	-0.11	0.00
16. I experience moments at work where everything is blissful.	0.03	0.69	-0.02	0.09	-0.08	0.81	0.05	0.17
<i>Spiritual Connection</i> : A sense of connection to something larger than self.								
6. I experience a connection with a greater source that has a positive effect on my work.	-0.15	0.05	0.98	0.05	0.14	-0.06	0.81	-0.03
10. My spiritual beliefs play an important role in everyday decisions that I make at work.	0.11	-0.09	0.78	-0.08	-0.05	-0.04	0.84	0.04
15. I receive inspiration or guidance from a Higher Power about my work.	0.01	0.08	0.79	-0.04	-0.15	0.01	1.00	0.01

Sense of Community: Feelings of connectedness to others and common purpose.

3. I experience a real sense of trust and personal connection with my coworkers.	-0.14	0.08	-0.04	0.99	-0.17	0.03	0.06	0.92
13. I share a strong sense of purpose and meaning with my coworkers about our work.	0.19	0.01	0.00	0.66	0.26	0.02	-0.01	0.66
17. I feel like I am part of "a community" at work.	0.20	-0.02	-0.02	0.66	0.21	-0.04	-0.05	0.66

Note. EW =engaging work; SoC =sense of community; SpC =spiritual connection; ME =mystical experience. Factor loadings greater than 0.40 are given in bold

Table 23.2 Item means, standard deviation, and corrected item-totals of Spirit at Work Scale (Study 1) ($n=332$)

Spirit at work item	<i>M</i>	SD	Corrected item-total
1	4.01	1.33	0.70
2	3.44	1.56	0.69
3	3.90	1.33	0.62
4	4.36	1.24	0.69
5	3.07	1.52	0.75
6	2.96	1.64	0.47
7	4.26	1.41	0.71
8	3.30	1.49	0.74
9	3.34	1.52	0.74
10	3.45	1.72	0.40
11	3.99	1.47	0.71
12	3.51	1.52	0.38
13	3.93	1.29	0.66
14	4.47	1.30	0.70
15	2.49	1.66	0.49
16	3.42	1.52	0.66
17	4.43	1.30	0.63
18	3.57	1.67	0.65

Table 23.3 Psychometric properties of SAWS and subscales (Study 1) ($n=332$)

Subscale	Score				
	Min.	Max.	<i>M</i>	SD	Alpha
Total scale	18	105	65.91	17.86	0.93
Engaging work	7	42	28.03	8.01	0.91
Mystical experience	5	30	16.74	6.09	0.86
Spiritual connection	3	18	8.93	4.50	0.88
Sense of community	3	18	12.30	3.50	0.87

Table 23.4 Intercorrelations between total SAWS scores and subscale scores (Study 1) ($n=332$)

Scale/subscale	1	2	3	4	5
1. Total scale	–				
2. Engaging work	0.92	–			
3. Mystical experience	0.87	0.72	–		
4. Spiritual connection	0.58	0.36	0.36	–	
5. Sense of community	0.76	0.68	0.60	0.23	–

Participants

Valid online responses were received from 417 individuals (225 from members of the spirit at work associations and 192 from social workers). The majority were female (76%) and between 19 and 75 ($M=46$). They had postsecondary education or training (96%) and worked full-time (86%).

Measures

Several measures were used to assess convergent and discriminant validity of SAWS.

Job satisfaction. Job Satisfaction Scale (Koeske and Kirk 1994) is a 14-item measure of intrinsic, organizational, and extrinsic job satisfaction developed for use in the human services.

Organizational commitment. The Organizational Commitment Scale (Mowday et al. 1979) identifies 15 items that tap an employee's belief in and acceptance of the organization's goals, willingness to expend effort, and desire to maintain membership in the organization.

Organizational culture. The Organizational Culture Survey (Glaser et al. 1987) is a 31-item scale that assesses six areas: teamwork-conflict, climate-morale, information flow, involvement, supervision, and meetings.

Self-actualization. The 15-item Short Index of Self-Actualization (Jones and Crandall 1986) measures beliefs, attitudes, and behaviors indicative of a level of self-actualization.

Mysticism. The 32-item Mysticism Scale (Hood 1975) assesses an individual's intense experiences characterized by a sense of unity with the outside world.

Religiosity and Spiritual Transcendence. The Assessment of Spiritual and Religious Sentiments (ASPIRES) (Piedmont 1999) is a 13-item scale that taps religiosity and spiritual transcendence: prayer fulfillment, universality, and connectedness.

Gratitude. The Gratitude Questionnaire (McCullough et al. 2002) is a 6-item scale that assesses individual differences in gratitude.

Vitality. The Vitality Scale consists of seven items assessing feelings of aliveness, energy, and enthusiasm (Ryan and Frederick 1997).

Life satisfaction. The 5-item Satisfaction with Life Scale (Diener et al. 1985) assesses the cognitive component of subjective well-being.

"Big Five" personality dimensions. The Mini-Markers (Saucier 1994) is a 40-item subset of the larger robust set of 100 adjective Big Five markers developed by Goldberg (1992) and designed to measure five broad personality dimensions: agreeableness, conscientiousness, extraversion, emotional stability, and openness.

Results

Factor Analyses

To confirm the reliability of the factor structure that emerged in Study 1, participants' responses to the 18 items from SAWS were subjected to an unweighted least squares factor analyses with promax rotation. The same four factors emerged: engaging work (eigenvalue of 9.46), mystical experience (eigenvalue of 1.69), spiritual connection (eigenvalue of 1.18), and sense of community (eigenvalue of 0.93). Although the eigenvalue of the fourth factor did not reach the conventional level for consideration as a factor, the scree plot revealed four factors. The factor loadings

replicate those obtained in Study 1 and are presented in Table 23.1. Again, each item loads only on a single factor and has a factor loading of over 0.40.

Convergent and Discriminant Validity

To determine the convergent and discriminant validity of SAWS and to begin to demonstrate the nomological network of relationships with other variables, correlations between SAWS and the other measures were calculated. SAWS total scores correlated the strongest with the other work-related measures (organizational culture, organizational commitment, and job satisfaction) ($r_s=0.52, 0.61, 0.65$) and the weakest with the personality dimensions (conscientiousness, agreeableness, emotional stability, openness, and extraversion) (r_s from 0.10 to 0.31). Correlations with measures related to aspects of SAW (self-actualization, gratitude, mysticism, spiritual transcendence, and satisfaction with life) fell somewhere in the middle (r_s from 0.33 to 0.44). Finally, vitality had a moderate correlation with SAWS total score ($r=0.52$).

Known-Groups Validation

Two samples, comparable in education and income but believed to differ in level of spirit at work, were selected. Individuals in spirit at work associations in Canada and the USA were the *high spirit at work* group. Canadian social workers represented the *low spirit at work* group.

A t -test revealed significant differences between the mean SAWS scores of the spirit at work association members ($M=82.1$) and those of social workers ($M=76.7$), $t(398)=2.95, p<0.01$, as well as statistically significant differences. As expected, the spirit at work organization members also scored higher than the social workers on organizational commitment $t(401)=2.19, p<0.05$, organizational culture $t(378)=3.70, p<0.001$, and mysticism $t(408)=3.52, p<0.001$.

Study 3: Further Evidence of Convergent and Discriminant Validity

In seeking further evidence of convergent and discriminant validity, the relationship between spirit at work, depression, and the three core dimensions of burnout was explored.

Method and Sample

Seventy attendees at a human services workshop about spirit at work were invited to participate in a study investigating how spirit at work is related to

other measures. Participants completed a short questionnaire that included demographic questions, the 18-item SAWS, and measures of burnout and depression. The majority (90%) were female and ranged in age from 20 to 61 ($M=43$). Many had degrees (62%) and held professional or management positions (60%).

Measures

Burnout. The Maslach Burnout Inventory-Human Services Survey (Maslach and Jackson 1981) is a 22-item measure developed for use with workers in human services and health care to assess burnout, a prolonged response to stressors on the job.

Depression. The 13-item depression subscale of the Symptom Checklist (SCL-90-R) (Derogatis 1983), used to screen for a broad range of psychological problems and symptoms of psychopathology, was used in this study.

Results

To explore the convergent and discriminant validity of SAWS, correlations between SAWS and the three core dimensions of burnout were calculated. As expected, SAWS was negatively correlated with the emotional exhaustion subscale of the Maslach Burnout Inventory ($r=-0.39$), positively correlated with the personal accomplishment subscale ($r=0.25$) but not correlated with the depersonalization subscale ($r=-0.05$). The strength and pattern of these correlations indicate that spirit at work and burnout are related but are not bipolar opposites of the same construct. As expected, SAWS was negatively correlated with depression ($r=-0.48$).

Study 4: SAWS' Temporal Stability and Sensitivity to Change

Previous qualitative work suggests that although an individual's spirit at work can change over time as a result of transformative events or personal growth experiences, or because of changes in the work environment, it tends to be stable over time (Kinjerski and Skrypnek 2006). Thus, it was expected that SAWS scores would show moderately high test-retest reliability over several months. However, in addition to developing a measure that demonstrates appropriate test-retest reliability over time, a measure has to be sensitive enough to capture change. An evaluation of an intervention designed to foster spirit at work (Kinjerski and Skrypnek 2008b) provided an opportunity to investigate whether SAWS scores have temporal stability and whether the measure is sensitive to detecting expected changes over time.

Method

Staff working on two comparable units in long-term care facilities operated by the same organization in a Western Canadian city participated in a study to investigate the effectiveness of a spirit at work intervention in fostering spirit at work. Twenty-four staff participated in the *intervention group* and 34 in the *comparison group*. The intervention consisted of a one-day workshop and focused on things employees can do to increase spirit at work. The workshop was supplemented by eight weekly one-hour booster sessions. Prior to implementation of the program and again after the last booster session, participants of both groups completed surveys.

Participants

Fifty-eight participants included registered nurses, licensed practical nurses, nursing assistants, administrative support staff, and other professionals (e.g., occupational therapy, physiotherapy), and support staff (e.g., food services and housekeeping) who worked in or supported the units. The majority were female (84%) and ranged in age from 23 to 64 ($M=45$). 38% were Caucasian, 32% Asian, 15% African, 4% Aboriginal, and 11% other. Twenty-five percent had high school or less, 27% a technical training/certificate, 22% a postsecondary diploma, 8% an undergraduate degree, and 18% a graduate or professional degree. The majority (60%) worked part-time and earned less than \$50,000 (84%). No statistically significant differences were found between the two groups in demographic and work characteristics (all X^2 and t -tests ns).

Measures

Participants in both groups completed several of the same measures (spirit at work, job satisfaction, organizational commitment, organizational culture, vitality, and satisfaction with life) administered in Study 2. They also completed the sense of coherence scale (Antonovsky 1987), a measure that assesses a person's capacity to respond to stressful life situations. The briefer, 13-item version was used in this study.

Results

Convergent and Discriminant Validity

Statistically significant positive relationships between SAWS scores and the three work-related measures (organizational culture, job satisfaction, and organizational commitment) ($r_s=0.31, 0.48, \text{ and } 0.56$) were found, providing further evidence of convergent validity. SAWS scores were also significantly correlated with vitality

($r=0.58$) and satisfaction with life ($r=0.39$), replicating the findings in Study 2. The correlation between SAWS total score and sense of coherence was not significant. However, sense of coherence was significantly related with the engaging work subscale ($r=0.32$).

SAWS' Test–Retest Reliability

To determine the test–retest reliability of SAWS, pre-test and post-test scores were correlated. Pearson product–moment correlations revealed acceptable test–retest reliabilities over three months ($r_s=0.73$ and 0.61 for comparison and intervention groups).

SAWS' Sensitivity to Change

To investigate SAWS' sensitivity to change, pre-test and post-test scores for the intervention group and comparison group were compared. A 2×2 (Group by Time) repeated measures ANOVA revealed a significant interaction, $F(1, 49)=13.88$, $p<0.001$. Post hoc analyses indicated no change in spirit at work scores in the comparison group from pre ($M=85.6$) to post ($M=84.5$). However, there was a significant increase in scores in the intervention group from pre ($M=81.2$) to post ($M=90.5$), providing evidence of the effectiveness of the intervention and demonstrating SAWS' ability to detect change.

Further Validation of SAWS by Independent Researchers

As hypotheses using SAWS are confirmed, confidence in its construct validity will increase. Moreover, application of SAWS with independent samples enhances generalizability (Stone 1978). SAWS has been successfully implemented with university populations in the United Kingdom (Tevichapong 2009) and the United States (see Chap. 22 in this Handbook), health care professionals in the USA (see Chap. 20 in this Handbook) and Canada (Wagner 2010), and aerospace professionals across four US states (Stevison 2008). SAWS has also been translated into Thai and then validated in four Thai (non-Western, Eastern culture) universities and validated again and implemented with 52 public, for-profit, and not-for-profit organizations in Thailand (Tevichapong 2009; Tevichapong, Davis, and Guillaume 2010).

Reliability. SAWS' reliability was confirmed with eight samples across the UK, USA, Thailand, and Canada. Cronbach alphas ranged from 0.91 to 0.96 (Stevison 2008; Tevichapong 2009; Wagner 2010). SAWS (Thai version) was validated in four Thai universities ($\alpha=0.93$) and in a longitudinal study with Thai organizations ($\alpha=0.92, 0.91$).

Test-Retest Reliability. Utilizing a longitudinal research design over 11–12 months, Tevichapong and colleagues (2010) compared results from Time 1 ($n=715$) and Time 2 ($n=501$) and reported very consistent SAWS means and standard deviations ($M=80$, $SD=13$, 12).

Convergent and Discriminant Validity. Correlations between SAW and related variables support earlier findings of meaningful but distinct relationships. For example, Stevison (2008) reported correlations between SAW and job satisfaction ($r=0.62$), affective commitment ($r=0.69$), helping behaviors ($r=0.43$), and voice behaviors ($r=0.43$). Tevichapong (2009) established correlations between SAWS and job satisfaction ($r=0.62$), psychological well-being ($r=0.50$), organizational identification ($r=0.53$), organizational citizenship behaviors (OCB) ($r=0.51$), in-role performance ($r=0.43$), and turnover intentions ($r=-0.45$). Similarly, Bell (2012) found correlations among SAW and job satisfaction ($rs=0.43/0.61$), organizational culture ($rs=0.57/0.63$), and organizational commitment ($rs=0.54/0.61$).

Known-Groups Validation. Bell et al. (2012) demonstrated that SAWS scores differed significantly between two comparable groups ($n=843$) working in higher education. As expected, the mean scores of staff and faculty at a private, faith-based university ($M=92$) were higher than those of similar staff employed at a publicly supported, secular university ($M=79$). Similar differences were found for nursing staff (Bell 2012).

Exploratory and Confirmatory Factor Analysis. In each of the four studies, factor analysis produced a 3-factor solution versus the 4-factor solution expected. In both the UK and Thai studies, items of engaging work appeared in the mystical experience and sense of community factors (Tevichapong 2009). In the aerospace sample, sense of community and engaging work formed a single factor (Stevison 2008). Both researchers reported that the 3-factor model's overall fit was very satisfactory.

Structural Modeling. Three studies confirmed a viable structural model and provide opportunity for future model creation and comparative analysis within the SAW construct. Path coefficients revealed a strong, statistically significant positive association between SAW and organizational commitment and job satisfaction (Stevison 2008). A mediated relationship was also evident. Similarly, Tevichapong (2009) reported that path coefficients indicated strong and statistically significant relationships between individual SAW and attitudinal and outcome variables of job satisfaction, organizational identification, and psychological well-being. Self-report and supervisory ratings indicated several mediated outcomes. Finally, assessing the impact of each SAWS subscale on important attributes of the workplace, Wagner (2010) reported that SAW leads to job satisfaction of registered nurses. The subscales not only receive significant causal effects from each other and attributes such as meaning and resonant leadership but also exert significant effects on each other and these attributes.

Discussion

A series of studies was undertaken over the last decade to develop and validate an individual level measure of spirit at work. The result is an 18-item measure with

four subscales: engaging work, sense of community, spiritual connection, and mystical experience. The total scale and each subscale have reasonable internal consistency reliability, and the scale has good test–retest reliability. Evidence of validity emerged in the forms of convergent, discriminant, and known-groups validity. Moreover, the measure is sensitive enough to capture change in response to a workplace intervention to promote spirit at work. Thus, the Spirit at Work Scale is offered as a reliable instrument grounded in individual experiences of spirit at work and is compatible with existing literature on spirit at work.

In addition, empirical support for the conceptualization of spirit at work as a higher-order latent construct is emerging (Stevison 2008; Tevichapong et al. 2010). Further use of SAWS will clarify whether a 3- or 4-factor solution is best. Studies found the scale to demonstrate statistical reliability and validity, producing excellent fit for the overall SAW measurement model. These studies provided significant support with respect to correlation and theory-based direct antecedent relationships between SAW and attitudes and behaviors.

Although SAWS has similarities with existing measures, it is the only tool developed empirically to clearly assess the individual experience of spirit at work without confounding the experience with attitudes toward spirit at work, general spirituality, or workplace characteristics.

Spirit at Work is Distinct from other Work-Related Constructs

Moderate relationships were found among spirit at work and job satisfaction, organization commitment and, to a lesser degree, organizational culture, but not on the order expected if the measures captured the same constructs. Moreover, other scholars demonstrated that spirit at work is related to but distinct from other work-related constructs.

Spirit at Work and Personal Well-being

Like the work-related constructs, spirit at work is associated with but different from personal well-being. Moderate relationships were found among spirit at work and measures of personal well-being such as self-actualization, gratitude, mysticism, spiritual transcendence, satisfaction with life, and, to a greater extent, vitality. Spirit at work has a negative relationship with depression and with emotional exhaustion, a positive relationship with personal accomplishment, but no relationship with depersonalization. The strength and pattern of these correlations indicate that spirit at work and burnout are related but are not bipolar opposites of the same construct.

The moderate relationships between spirit at work and spirituality indicate that spirit at work is not simply another spirituality measure, nor can existing spirituality

measures capture fully the essence of spirit at work. Similarly, moderate correlations between spirit at work and mysticism demonstrate that the two are related but distinct constructs.

Conclusion

The comprehensiveness and consistency of these four studies, and results reported by other scholars, should leave the field confident about the Spirit at Work Scale. This research makes significant contributions to the spirit at work literature. First, the findings support an earlier conception of spirit at work but suggest a tighter definition. Second, it answers the previous calls to develop a psychometrically sound instrument to measure spirit at work. Third, this research provides evidence of spirit at work as a distinct construct with the strongest relationship with work-related measures such as job satisfaction, organizational commitment and organizational culture, and vitality, a moderate relationship with measures such as satisfaction with life, spiritual transcendence, mysticism, gratitude, and self-actualization, and the weakest correlation with the personality dimensions. Finally, SAWS has been shown to be sensitive to capturing change as a result of workplace interventions, making it a valuable assessment tool. The measure also provides a method to assess the effectiveness of programs and interventions aimed at increasing spirit at work and productivity.

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