Using the Daily Spiritual Experience Scale: in Research and Practice

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  *in Research and Practice*
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To use the Daily Spiritual Experience Scale questions you must register by emailing Lynn Underwood. lynn@lynnunderwood.com

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Check [www.dsescale.org](http://www.dsescale.org) for updates on final publication in ebook format later in 2019.
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Introduction

The Daily Spiritual Experience Scale is a 16-item questionnaire that focuses on aspects of “daily” or “ordinary” spiritual experience. It has been widely used in research and practice. Uses in practice include counseling, teaching, facilitation of communication, professional development, pastoral use, and the testing of the effects of interventions, such as assigned practices and therapeutic regimes, classes, or group treatments.

The Daily Spiritual Experience Scale (DSES) contains sixteen questions which help us identify and assess the role of the following kinds of spiritual experiences in people’s lives:

- a sense of awe
- feeling thankful for blessings
- feeling divine love directly or through others
- feeling compassionate love towards others
- a merciful attitude
- transcendent joy
- a sense of deep inner peace or harmony
- a sense of religious/spiritual strength
- guidance, or comfort
- longing for spiritual connection
- a sense of divine presence or closeness

This Introduction is followed by two separate resources, and a final concluding section.

You will come away from Part One of this book with an understanding of research findings that show the value of daily spiritual experiences (DSEs) in stress buffering, burnout, substance abuse, PTSD, sense of meaning, resilience, post traumatic growth, and relationship development, in addition to their intrinsic value as a part of life.

Part Two of the book provides a brief handbook for using the DSES:

- An introduction to the various versions or formats of the DSES,
- Guidance for scoring and translating the DSES,
- A discussion of psychometrics and factor structure as an aid to use and interpretation,

Part Three has examples of ongoing work and some suggestions for future uses.
The following is an overview of the book’s contents and an introduction to the scale itself.

**Part 1: The Value of Daily Spiritual Experiences for Life’s Challenges: Empirical Evidence**

Many people suffer and struggle. Burnout, addictions, and PTSD are symptoms of this. Even before tough times hit, we want to find resources that help cultivate resilience and meaning, strengthen relationships and enhance quality of life—resources that can help us weather the storms and even grow in the midst of adversity. Most people also want to flourish in their lives, with stronger relationships and greater sense of meaning.

Higher frequency of ordinary spiritual experiences, operationalized with the DSES, can prevent those negative features and enhance the positive ones. The DSES measures experiences of ordinary relationship with and awareness of the divine or transcendent, the “more than”: experiences rather than beliefs, and ordinary rather than extraordinary. These can be inspired by religious orientation, but can be present even when religion is problematic for the respondent. The connection of the DSES with the outcomes mentioned above has been supported by over 80 studies. The groupings and summaries of these studies provided here can be used by researchers, practitioners, and also by individuals dealing with the challenges of life.

The DSES fits in with one of my main research interests, the measurement of messy human constructs such as social support, stress, quality-of-life, and ordinary spiritual experiences (Cohen et al. 2000, 1997). I have not just been interested in measuring them per se, but also measuring those things that we have some capacity to change. The DSES is one of the few “measures” of spirituality/religiousness that show changes over time, therefore enabling us to track those changes.

Studies have shown that various activities increase DSES scores (the frequency with which a person experiences DSEs) and that more frequent DSEs predict many good things and can prevent a variety of negative outcomes. So we have a practical tool that can help in tough times and prevent or moderate negative outcomes. The resources uncovered by the DSES studies are accessible for many different kinds of people with many kinds of religious or spiritual beliefs, and can be modulated and stimulated in various ways demonstrated by different research projects described here and by ones in development. Therefore, this book can help practitioners, researchers, and even individuals, who want to find resources for preventing burnout, addictions, and PTSD, or enhancing resilience, meaning, relationships, and post-traumatic growth.

**Part 2: Usage guide: Versions, Scoring, Psychometrics and Translations**

The second part of this book is designed as a practical guide for researchers, practitioners and those in organizational settings. Therapists, psychologists, counselors, social workers, medical professionals, and religious leaders of various kinds use the Daily Spiritual Experience Scale (DSES) in their work. The scale has also been incorporated into general organizational settings, especially where stress and burnout are problems or where
the spiritual aspects of life are determined to be important either for the organization as a whole or for the lives of individuals in them.

The set of 16 questions can be used in an open-ended format, which is one of my favorite ways to use the questions. This use is addressed in my book, *Spiritual Connection in Daily Life*. But many use the set of questions in a way that requires people to respond on a scale, from “many times a day” (6) to “never” (1). The number scores are essential when comparing groups or following individuals over time. They are not designed to compare individuals. Without these number scores, none of the studies discussed in the first part of the book could have been done.

I get many questions on scoring. In Part 2, I give detailed guidelines for scoring and discuss how to interpret those scores. I also discuss the open-ended and check-list versions of the scale—how and when they might be most appropriately used and interpreted. Next, I include guidelines for translation.

Finally, I have some suggestions for fruitful future research projects and other practical ways to continue to use the DSES.

**General Introduction to the DSES**

Although there are many papers on the DSES, its development and its psychometrics, here is a quick overview. The scale is available free for non-profit use, although registration is required. See [www.dsescale.org](http://www.dsescale.org) for updated information. Over 400 published studies use the DSES, and there are hundreds of ongoing studies. The following are my core publications on the scale:

1. Underwood (2011) groups some of the major research results up until 2010. It has the entire scale in English, information about the how a six-item version was derived, and reasons why I don’t recommend using that version. This publication is the best overall summary paper on the scale.

2. Underwood & Teresi (2002) was the first published paper on the scale, although I wrote earlier chapters in booklets such as the NIA/Fetzer multidimensional measurement booklet. The scale was initially developed and tested in the mid 1990’s. The Underwood and Teresi paper contains the initial psychometrics and factor analyses. Jean Teresi was the statistician who helped with the psychometrics. This paper has been cited over 1000 times.

3. Underwood (2006) articulates the conceptual definitions of each of the 16 questions and the rationale behind them. It contains qualitative material from the structured interviews used to develop and refine the scale. It is essential reading for those doing translations, but also is very helpful in interpretations of results, and individual item scores interpretation.

4. *Spiritual Connection in Daily Life* (Underwood 2013) was written for a general readership and invites people to use the questions in an open-ended way for self-
exploration and for communicating better with others. For each question, it includes spaces to write about personal experiences after reading about some of the experiences of others. It expands on some of the underlying themes found in the items and offers specific ways to use the questions and enhance these experiences in daily life. By providing a better understanding of what the questions get at for many different kinds of people and a guide for using the questions for interpersonal communication, the book can also be helpful for researchers and clinicians.

To reiterate the scope of the DSES, it measures: a sense of awe in nature or feelings of spiritual inspiration from art or music; feeling thankful for blessings; feeling divine or God’s love directly or through others; feeling compassionate love towards others centered on their well-being; a merciful attitude; transcendent joy when together with others; a sense of deep inner peace or harmony; a sense of religious/spiritual strength, guidance, comfort; longing for spiritual connection; and a sense of closeness to God and/or divine presence.

Although the scale does not measure how spiritual you are, many researchers do use it as a proxy for a person’s spirituality. (Ultimately a measure of spirituality would have to include a transcendent perspective, which no self-report instrument can provide.) Because the DSES refers to specific feelings and internal events, it can get at a person’s experience of spirituality in an operational way. The questions were developed using in-depth interviews with many religious and ethnic groups, social groups, and ages; with agnostics and atheists; and with people from many countries. It complements other measures of religion such as affiliation, private and public practice, attendance, religious coping, religious social support, beliefs. The DSES works for people who are not comfortable with religion as well as for people from various religions. It can touch the depth of the religious traditions and help draw on those resources, but can also speak beyond the boundaries of faith, to those disappointed in, or uncomfortable with, faith traditions.

There are different ways to administer the scale for clinical, organizational and personal use. These will be discussed in depth in the section on versions in Part 2. Here is the scale as it is used in most of the studies described and summarized in this book:

**How often do you experience the following?**

Never (1)
Once in a while (2)
Some days (3)
Most days (4)
Every day (5)
Many times a day (6)

“The list that follows includes items you may or may not experience. Please consider how often you directly have this experience, and try to disregard whether you feel you should or should not have these experiences. A number of items use the word God. If this word is
not a comfortable one for you, please substitute another word that calls to mind the divine or holy for you.”

__1. I am spiritually touched by the beauty of creation.

__2. I feel God’s presence. (I sense the presence of the divine or holy.)

__3. I experience a connection to all of life.

__4. How close do you feel to God (or the divine in other words)?
   Not close (1), somewhat close (3), very close (5), as close as possible (6)

__5. I desire to be closer to God or in union with the divine.

__6. I feel God’s love (or divine love) for me directly.

__7. I feel God’s love (or compassionate love) for me through others.

__8. I feel a selfless caring for others.

__9. I accept others even when they do things I think are wrong.

__10. I find strength in my religion or spirituality.

__11. I find comfort in my religion or spirituality.

__12. I feel guided by God in the midst of daily activities.
   (I feel divine guidance in the midst of daily activities.)

__13. I ask for God’s help in the midst of daily activities.
   (I ask for help from a higher power as I go through the day.)

__14. During worship, or at other times when connecting with God (or when I feel connection with the ‘more than’), I feel joy that lifts me out of my daily concerns.

__15. I feel thankful for my blessings.

__16. I feel deep inner peace or harmony.

Rationale for Publishing this Guidebook and Interest in Feedback from Users

I have decided to publish this as a guidebook rather than a series of journal articles so that this can be available in one place. I want to provide tools that will be helpful for the variety of people using the scale, and I want it to be easily accessible. The studies included here have all undergone peer review.

I am interested in feedback from those using these questions. I welcome emails at lynn@lynnunderwood.com with any questions or feedback. I hope in the future to provide a way online on www.dsescale.org for those who are using the scale to share various current projects and other uses of the scale with the large community of people using the DSES.
Part 1:

The Value of Daily Spiritual Experiences for Life’s Challenges: Empirical Evidence

Introduction to Part 1:

In many studies the 16 daily spiritual experiences (DSEs) have been shown to predict:

- resiliency following difficult life circumstances
- post-traumatic growth
- greater sense of meaning in life
- diminished negative effects of stress and trauma
- less burnout, less depression
- greater sense of well-being
- healthier lifestyle
- less substance abuse and other addictions.

It is important to remember that these spiritual experiences are *ends in themselves*, experiences that contribute to making life worth living. They are not just something to manipulate in order to make mental or physical health better, but part of the whole, providing a way to improve life even when circumstances remain tough. This is especially important for people in the midst of disease and suffering. But for all of us, these experiences can contribute to life in all its fullness.

When you read reports of studies in the news and elsewhere, it is crucial to reflect on how they are measuring things. In lifestyle studies you need to think about what counts as exercise or a healthy diet. Likewise, in studies of religiousness or spirituality, you need to ask how they are being measured. Because so many different measures are used, it is hard to figure out what the implications for action are. If I see a study of exercise and cardiovascular health, I need to know if they are talking about daily walking or intense workouts, muscle toning or aerobic exercise, to figure out what I should do. It is the same with studies of spirituality. Religion and spirituality measures can vary a lot. Asking what religion people affiliate with gets a certain answer, frequency of attendance at services another, and just asking about whether people call themselves religious or spiritual is measuring something else. Asking whether people believe whether God exists or whether
prayer is answered gets at cognitive assessment of various assertions. How those might play out in feelings and actions is something else.

One of the reasons I have decided to gather together all the DSES studies that relate to resiliency, recovery, and various challenges of life is because, in using the same measure of spirituality, the DSES, they operationalize an aspect of spirituality in the same way. Not that this is the best way, or the only way, but because knowing how something is measured gives us an indication of what we might do to make a difference in our lives—increase our resiliency, improve wellbeing and health behaviors, diminish burnout and addictions, bounce back from troubles. Because all these studies measure one group of things, sixteen feelings or attitudes that group together, we can see how we might look at these and increase their frequency in our lives. I have included studies of various interventions that have been shown to increase the frequency of DSEs. There are over 400 published studies using the DSES in various ways. Here I am focusing on about 80 that are particularly relevant to the following topics. I will be highlighting the studies most relevant to these categories and discussing implications for action.

◆ Resilience and stress buffering
◆ Preventing burnout and compassion fatigue
◆ Prosocial behaviors and a model
◆ Preventing and treating addictions and substance abuse
◆ Increasing post-traumatic growth and meaning
◆ Interventions and additional evidence of time course/causation

My brief summaries of the studies focus on the highlights of results relating to the DSES. I encourage you to find the original papers online and read them if you want to see the applicability to your particular use of the DSES or the larger context of the studies. I have included the reference name and year inline and the full citations in the bibliography at the end of the book.

There are a variety of resources we can draw on in tough times, to build our resiliency, to buffer stress, and to encourage flourishing in the midst of it all. I am not saying that daily spiritual experiences are the best or primary way to do this. There are many other resources or attitudes. But the spiritual experiences the DSES captures do provide a way that is not that “costly” to us. And these experiences may also actually enrich our lives, and we may find them worthwhile in and of themselves.
Resilience and Stress Buffering

A basic reason that more frequent ordinary spiritual experiences can lead to various positive outcomes, even in the midst of tough times, is that they can enable a person to be more resilient. These experiences can buffer stress, enabling us to bounce back. Feeling stressed or showing evidence of stress in physical, mental or social ways results from a combination of a stressful event or events with how we respond to the event(s) (Cohen et al. 1997). Resiliency is our ability not to be swamped by stressful events or circumstances, but to “bounce back.” Resilience has some trait qualities, meaning that some of us tend to be more resilient than others, but it can also vary over time within individuals.

The next two sections discuss a group of about 35 studies that deal with stress-buffering, resiliency, diminished burnout and reduced compassion fatigue. This first set describes some of the studies that look at how DSEs buffer stress and promote resiliency, following difficult life circumstances and relating to chronic disease.

Cancer Survivors

Cancer survivors are understandably at risk for poor subjective well-being. Using data from the second and third wave of the Midlife in the United States (MIDUS) study, Rudaz looked at the extent to which daily spiritual experiences at baseline moderate the association between subjective well-being at baseline and well-being approximately 10 years later in 288 cancer survivors. Regression analyses, controlled for age, educational attainment, and religious/spiritual coping, showed that daily spiritual experiences moderated the association between life satisfaction at baseline and follow-up. Specifically, high spiritual experiences enhanced life satisfaction over time in cancer survivors with low life satisfaction at baseline. Also, daily spiritual experiences moderated the association between positive affect at baseline and follow-up, and this moderating effect was different for women and men (Rudaz 2019).

A study of health behaviors and religious attendance, daily spiritual experiences, and religious struggle in a sample of 167 younger adult survivors of a variety of cancers, also examined the extent to which positive affect (self-assurance) and negative affect (guilt/shame) mediated these links. Results revealed that religious attendance had little impact on health behaviors, but that daily spiritual experiences were related to greater performance of health behaviors, while religious struggle was related to less. Self-
assurance partially mediated the effects of daily spiritual experiences, while guilt/shame partially mediated the effects of religious struggle. The findings suggest that DSEs affect lifestyle choices of cancer survivors (Park, Edmondson et al. 2009).

In cancer survivors between 18 and 55 years old diagnosed from 1 to 3 years earlier, Park et al. examined predictors of emotional (worry) and cognitive (perceived risk) dimensions of Fear of Recurrence and their relationships with psychological well-being. Demographic, psychosocial variables, and spiritual experiences were assessed at baseline, and Fear of Recurrence and psychological well-being were assessed at follow-up. Hierarchical regression analyses showed that spirituality was the only predictor of perceived risk independent of the effect of race, even when worry about general health was controlled for. More spirituality, but none of the psychosocial variables, predicted a lower cognitive dimension of Fear of Recurrence (Park, Cho et al. 2013).

**Childhood exposure to violence and traumas**

More frequent DSEs predicted higher resilience during emerging adulthood following childhood exposure to violence. The potency of protective factors like DSEs outweighed that of adversity and psychopathology (Howell and Miller-Graff 2014).

Daily spiritual experiences reduce the effects of exposure to violence in the community on psychological well-being for urban African-American adolescents. And DSEs contributed significantly to satisfaction with life and positive affect over and above demographic factors and the perception of family support (Shannon 2013).

A study of 162 children aged 9-12 in Indonesia found that more frequent DSEs increased resilience after being exposed to flooding. Age, illness, gender, and emotion were not significantly correlated with resilience (Syukrowardi 2017).

In 223 Latino adolescents residing in poor, urban neighborhoods, personal victimization and witnessing violence were associated with higher depression and post-traumatic stress disorder (PTSD) symptoms at low and average levels of a number of religious variables, but not at high levels of spirituality measured using the DSES (Jocson 2018).

More frequent DSEs in young adults buffered the negative effects of having a depressed parent (Rounding 2011).

**Post-Traumatic Stress Disorder (PTSD)**

Daily spiritual experiences predicted less suicidal thoughts in a group of veterans diagnosed with PTSD (Kopacz 2015).

A study of 532 U.S. veterans in a residential treatment program for combat-related PTSD used a cross-lagged panel design to look at longitudinal associations between spirituality and PTSD symptom severity. Veterans who scored higher on adaptive dimensions of spirituality at the start of treatment (daily spiritual experiences, forgiveness, spiritual practices, positive religious coping, and organizational religiousness) at intake fared significantly better in this program. In contrast to these results, PTSD symptoms at
baseline did not predict any of the spirituality variables at post-treatment. The authors suggest that understanding the possible spiritual context of veterans’ trauma-related concerns might add prognostic value and equip clinicians to alleviate PTSD symptoms among those veterans who possess spiritual resources or are somehow struggling in this domain (Currier 2015).

**Chronic Health Conditions**

DSEs predicted stronger sense of being able to cope with their illness, a sense of self-efficacy, in older adults living with congestive heart failure (Park, Brooks 2009).

More DSEs predict greater psychological well-being in those with chronic disease (Ballew 2012).

High frequency of DSEs were associated with decreased psychological distress and served as a significant predictor of family cohesion in African-American mothers with HIV (Asby 2016).

Daily spiritual experiences were linked with higher existential well-being and predicted less subsequent spiritual strain in those with advanced congestive heart failure (Park 2013).

**Hospice and End of Life**

In 127 Italian hospice patients with a life expectancy of a few weeks, self-blame coping style, negative emotional and physical well-being, and depression predicted loss of dignity. Spirituality, measured using the Italian translation of the DSES, was positively involved in dignity enhancement (Bovero 2018).

**Grief and thoughts of death**

In 85 individuals grieving the death of a significant person in their lives, those evidencing high DSEs showed lower levels of problematic grief. Church attendance influenced this problematic grief only to the extent that it was positively correlated with DSEs (Easterling 2000).

More frequent spiritual experiences (DSES) were linked with less severe worrisome thoughts about death/dying and less ‘repression’ or denial/avoidance of the topic (Pashak 2018).

**Other Stress Buffering**

More frequent DSEs and more religiosity decreased the impact of stress on health in a study by Reutter. However, only DSES scores partially explained the relationship. In addition, religiosity did not have an effect on the way DSES scores explained the decreased impact of stress on health (Reutter & Bigatti 2014).

A mixed methods study in Australia used survey and focus groups methods to investigate spirituality in 143 baby boomers: staff, children of adults in care, and Uniting Church members (Congregationalists, Methodists and Presbyterians combined to form the Uniting Church). Focus groups revealed fears of future frailty, loss, and fears of dementia. Spirituality was important, even with those without religious affiliation. Higher levels of
spirituality (DSES) were related to better mental and physical health and lower anxiety about and fear of aging, and buffered the impact of negative life events where they occurred (Mackinlay & Burns 2017).

In the Jackson Heart Study (sample size of 5301), coping varies substantially within this African-American population and is driven mainly by psychosocial factors such as spirituality, measured using the DSES, and interpersonal support. The authors conclude that understanding this may inform strategies to intervene in the stress process to lessen the effects of stress on health and to identify vulnerable subgroups of African Americans that might need targeted interventions to reduce exposure to stressors and improve coping capacities (Brenner 2017).

In a town in northern Taiwan with multiple tragedies involving child abuse and homicide, more frequent DSEs predicted a higher level of happiness among parents living in that city (Ng 2014).

In 64 at-risk, community-dwelling older adults in a central Texas community hope is a strong and significant predictor of resilience among older adults. More frequent spiritual experiences (DSES) lead to more hope, which leads to more resilience (Polson 2018).

In a comparison study of different ethnic groups, spiritual experiences (DSES) were shown to be a positive resource, distinct from worship attendance, that enable older African-Americans to overcome decreasing life satisfaction. And lower spiritual experiences may be particularly harmful for older African-Americans’ life satisfaction. The data suggest that at higher levels of spiritual experiences, racial differences in life satisfaction are virtually non-existent. However, at lower levels of spiritual experiences, older African-Americans show lower levels of life satisfaction than do older whites. The authors suggest that spiritual experiences are a positive resource—distinct from worship attendance—that enable older African-Americans to overcome decrements in life satisfaction and in fact, that lower spiritual experiences may be especially harmful for older African-Americans’ life satisfaction (Skarupski 2013).

More frequent DSEs in teachers in England were correlated with having increased inner resources and finding deeper meaning in their work (Woods 2007).
Preventing Burnout and Compassion Fatigue; Increasing Compassion Satisfaction

Burnout is more and more a part of contemporary life. The World Health Organization has recently included a diagnostic category of burnout regarding the workplace. The characteristics of burnout include physical fatigue, cognitive weariness, and emotional exhaustion. It is especially common in the caring professions and those dealing with people in the midst of traumas or crises. People in these situations are often said to experience “compassion fatigue.” A July 2019 issue of *The Lancet* medical journal included a lead article entitled “Physician burnout: a global crisis.” Burnout is important both on individual and organizational levels.

Burnout, compassion fatigue, and compassion satisfaction are measured in various ways. Higher frequency of DSEs have been linked to less compassion fatigue. Since the situations that bring on burnout cannot be changed, techniques to increase various DSEs may be a way to diminish burnout and compassion fatigue.

It makes sense that the ordinary experiences of spiritual connection might be helpful in combatting and preventing burnout and compassion fatigue. This point builds on the previous discussion of stress buffering and resilience. The DSES contains items that can replenish us when stretched to our limits. *Spiritual Connection in Daily Life* has a chapter entitled “The Flow of Love.” Without ways to fill up the well, the well runs dry. The DSES contains items that describe ways of filling the well for people. Also, in writings on compassionate love—definitionally and in qualitative research—I have emphasized that receptivity is an important part of compassionate love (Underwood 2009). Just gritting one’s teeth and extending oneself towards others is not sustainable in the long run. Social support and various cognitive gymnastics can help, but the DSES set of experiences can help prevent burnout and compassion fatigue, making the experience of giving of self to others less draining.

**Burnout and compassion fatigue prevention**

Medical students who have more frequent daily spiritual experiences described themselves as more satisfied with their life in general, while medical students with low scores on daily spiritual experiences had higher levels of psychological distress and burnout (Wachholtz & Rogoff 2013).

For 245 professional and support staff in a rehabilitation services complex in Hong Kong, DSEs were negatively correlated with anxiety, depression and total burnout (Ng 2009).
More frequent DSEs were correlated with physical, cognitive, and emotional forms of burnout (physical fatigue, cognitive weariness and emotional exhaustion) in professionals working in palliative care or end-of-life settings (Holland & Neimeyer 2005).

A study of Protestant ministers in Germany showed more DSEs correlated with diminished burnout (Voltmer 2010).

More frequent DSEs were associated with lower levels of burnout, depression, and anxiety in 312 health care workers in Hong Kong (Ho et al. 2015).

Hospital workers in Hong Kong with more frequent DSEs experienced less burnout and greater well-being (Ng et al. 2009).

Care workers and professionals who work with the elderly in Hong Kong with more frequent DSEs had less burnout (S. Ng 2014).

In 113 Residential Aged Care Home staff from different locations with high exposure to death and dying, Frey found that more frequent DSEs and religious affiliation were associated with lower scores for burnout. They concluded that greater understanding of the role of religious/spiritual beliefs in helping staff to make sense of the end-of-life experience can provide the basis for the development of staff supports enabling both improved staff well-being and resident end-of-life care (Frey 2018).

In 8574 German pastoral professionals (48% priests, 22% parish expert workers, 18% pastoral assistants, 12% deacons), stress perception was associated with diminished health. DSEs buffered the negative effects of stress on health (Frick 2015).

In 142 female support staff from community disability centers in Oman, DSEs were predictors of less stress (Emam & Al-Lawati 2014).

More frequent DSEs predicted less compassion fatigue and more compassion satisfaction among 147 Israeli residential child-care workers in residential treatment facilities for children and youth at risk (Zerach 2012).

Counselors can experience compassion fatigue due to working with clients. Browning looked at gratitude, hope, and daily spiritual experiences as predictors of counselor burnout and compassion satisfaction in 98 counselors, controlling for demographic variables. Simultaneous regression analysis showed that gratitude and daily spiritual experiences were significant negative predictors for burnout, differentially related to aspects of professional quality of life and holding promise as potential protective factors (Browning 2019).

In a diverse sample of 137 mental healthcare providers, the majority reported experiencing average levels of compassion fatigue. There was no significant relationship between compassion fatigue and gender, age, race, number of years in the field, or employment setting. However, providers who reported more frequent DSEs experienced less compassion fatigue (Patel 2018).

Among mental health service providers, DSEs serve as a protective factor in moderating compassion fatigue and also increase compassion satisfaction (Newmeyer 2014).
Volunteers in non-profit organizations with more frequent DSEs had lower quitting intentions compared to those with less frequent DSEs (Scherer et al. 2016).

**DSEs and Prosocial Behavior**

In a number of studies, the DSES predicts prosocial behaviors. Two items on the scale explicitly address pro-sociality (*selfless caring* and *accept others*). Even when left in, however, they make only a small contribution to the whole and do not contribute significantly to confounding. They also are different from many measures of prosocial behaviors and measure something distinct.

I have not included studies that show the effect of DSEs on strengthening relationships. There are a number of these, for example, that study romantic and long term relationships of various kinds. By strengthening relationships, DSEs can indirectly buffer stress and prevent burnout and PTSD. Also, other-centeredness rather than self-centeredness tends to predict less substance abuse, and these studies will be included in the section on substance abuse studies.

In a large representative United States sample (using the General Social Survey data), spiritual experiences are a statistically and substantively significant predictor of volunteering, charitable giving, and helping individuals one knows personally. Daily spiritual experiences better predict helping to distant others than to friends and family, indicating that they may motivate helping by fostering an extensive definition of one’s moral community. The relationship between the DSES and helping is not affected by level of sympathy or most religiosity measures. It was especially effective in predicting helping behaviors among the non-affiliated (“nones”) compared with the religiously-affiliated (Einolf 2013).

In the “non-religious-based” population in China, spirituality was measured using the Chinese translation of the DSES. In 440 Chinese participants, spirituality measured using the DSES was positively connected with prosocial attitude, personal prosocial trait, and prosocial behavior. The prosocial trait of compassionate love (subset of the DSES items) partially mediated the association between spirituality and daily prosocial time and money expenses. Personal emphasis on moral principles such as ultimate justice beliefs partially mediated the association between spirituality (DSES) and interpersonal altruism in organizational settings (Dong 2017).

More frequent DSEs predicted more compassionate love (using Fehr and Sprecher’s measure) in a group of 400 psychiatrists and psychiatric social workers in Jaipur City, India (Choudhary & Madnawat 2017).

Using the General Social Survey (GSS) data, a researcher compared those employed in a public service occupation with those who were not. The combined DSES item, “I feel God’s love directly or through others,” was a predictor of working in public service compared with other occupations, even after controlling for religion, whereas a non-DSES
general spirituality item was not (Houston 2007).

Analysis in the GSS showed that those with more frequent DSEs, looking at a subset of five of the more specifically theistic items, were more empathetic no matter whether their political self-characterization was conservative or liberal. For those with less frequent DSEs, conservatives were less empathetic than liberals overall (Schieman 2019).

The DSES was included in a Smartphone study that showed that more frequent DSEs buffered stress, enabling greater feelings love and care for others in the midst of stress or following stressful events. The two compassionate love items on the DSES were removed in the analysis to eliminate any possible confounding with their love measures (Brelsford 2019).

In a study of how spouses help one another following trauma, partners who reported more emotional regulation and higher levels of daily spiritual experience provided more help to the spouse who was a victim of trauma. Although emotional regulation was initially a predictor, once other variables were controlled for, only DSES remained a significant predictor of helping following trauma (Maisel 2010).
Setting the context for the relationship of the DSES to prosocial behaviors and attitudes:

A framing model for the DSES and caring behaviors and attitudes:

In my research and writing I developed a model of compassionate love/other-centered love. It was articulated in my chapter, “Compassionate love: A framework for research” (Underwood 2009), and used in research studies by others. The diagram below and the explanation that follows are based on this model. Here it is elaborated and adapted to highlight how the various ordinary spiritual experiences might support our capacity to love and resist burnout. This model may also be relevant in relationship with, for example, stress buffering, resilience, PTSD and addictions.

In the center of the diagram is the Integral Core of the person, the Core Self. It is permeable and interacts with many elements—it is not a Descartes-like puppet master (see Underwood 1999). This core of the person is nested in the specific environment, which I’ve broken down into Context (family structure, social supports, social problems, cultural norms, and historical context) and Substrate (a person’s particular physical body, mental capacities, emotional tendencies, and beliefs). When the person encounters situations and people, they make decisions (Weighing) based on their motivations and their discernment of what they think is right in the situation. The right-hand side shows the person’s resulting action, words and attitudes.

In this book I will not focus on all the elements of the model, but instead emphasize the role of awareness of spiritual connection in various ways tapped by the DSES. Aspects of Context and Substrate can increase or decrease the possibility of certain
feelings, attitudes or behaviors. We do not all start with the same initial conditions. We start from different places. These differences at the individual level lead to unique responses to situations and relationships. One can become physiologically sensitive to daily stressors as a result of a stressful childhood or stressful adult events. Addictions can have genetic and biological components and can be affected by one’s upbringing and environment. Early or chronic stressful events and traumas can influence susceptibility to PTSD or stress responses later in life. For example, growing up in a nurturing environment makes it easier for a child to love and care for others and even to perceive divine love. Sensitivity to transcendent factors can be influenced in positive and negative ways by overall sensitivity and also by religious and cultural factors.

From a theological perspective the whole diagram might also include the divine, God or the transcendent, as part of the greater environment, within the person and within relationships. Some spiritual approaches envision a divine factor active in the midst of decisions and actions. Some describe this as “grace” or “inspiration.” Others may frame it up as divine energy of some kind. More on this can be found in the book *Spiritual Connection in Daily Life*. The left-hand side of the diagram is where DSEs can come into the equation.

The substrate can change over time. Social support is one factor that can change the substrate. Not only does the kind of nurturing a child has affects his or her ability to engage in compassionately loving actions as an adult, as I’ve indicated. But current support as an adult received from a spouse or a religious or other community can shape the substrate in the present moment of action. Various aspects of the substrate can change over time as well. The diagram illustrates both the impact of various DSEs on the person as well as the feedback effect on the Core, affecting subsequent actions, choices, and relationships. The model provides a useful reference as we envision how a particular factor might interact with DSEs and lead to various outcomes.
Addictions and substance abuse

The relationship of daily spiritual experiences to addiction is particularly relevant given the increasing incidence of addictive behaviors. Addiction can be found in relationship to activities as various as online gaming, social media, cellphone use, gambling, alcoholism and abuse of various substances such as alcohol, opioids and other drugs. Addiction is a result of biological processes, psychological substrate and attitudes, and environmental factors, but there is also a place in the addictive process for a cognitive override of the urges to enact various addictive behaviors. We have some degree of free choice in it all.

Theoretically, DSEs can act as a stress buffer (see the earlier section on that), and many seek out addictive substances as a response to stress, seeking to ease the discomfort. The comforting experience questions on the DSES, such as finding comfort in my spirituality or religion, get at this. People also engage in addictive behaviors to combat boredom, as stimulation. The DSES question on feeling spiritually touched by the beauty of creation gets at things that can enhance spiritual feelings that are not alcoholic “spirits,” for example. The “I accept others even when they do things I think are wrong” question gives an alternative to feelings of resentment and holding grudges, feelings that can fuel addictive behaviors. “I ask for help from God or a higher power” and “I feel strength in my spirituality or religion” identify a source of support that can be found in difficult times rather than turning to addictive behaviors.

There have been studies looking at how helping others can help with addictions. This can occur in 12-step groups like Alcoholics Anonymous or other ways that encourage people to move from focus on themselves to giving of self to others. Studies in the previous section have shown that more frequent DSEs can predict more prosocial behaviors.

The following are a few of the studies on the DSES and substance abuse and addictions.

One of the most compelling studies showing the relationship of more frequent DSEs and diminished addictive behaviors is an intervention study. Increasing frequencies of DSEs improve youth self-care and care for others in 195 youths who had been court-referred to a 2-month addiction treatment program. Increased DSEs over the course of treatment were associated with greater likelihood of abstinence from alcohol or drugs, and increased pro-social behaviors and reduced narcissistic behaviors (Lee 2014). And six-month changes in DSES in alcoholics also predict drinking outcomes at nine months.
Following 123 alcoholics for six months after entry into treatment, analysis showed that increases in DSEs (but not positive religious coping or forgiveness) were associated with increased likelihood of no heavy drinking at six months. In the first 6 months of recovery, DSEs increased. Values, beliefs, self-assessed religiousness, perceptions of God, and the use of negative religious coping did not change. Increases in day-to-day experiences of spirituality and sense of purpose/meaning in life were associated with absence of heavy drinking at 6 months, regardless of gender and AA involvement (Robinson et al. 2007).

The DSES has been very useful in studying adolescents. The wording is accessible, and its ability to stretch beyond particular religious frames is useful. More DSEs were uniquely protective against the degree of substance use in 3966 adolescents and 2014 older adults in the United States. Level of depression was found to be inversely associated with positive psychology traits which were correlated with more frequent DSEs (Barton & Miller 2015).

A study of 198 alcoholics in California used two subsets of DSES items. Both subsets were correlated with longer sobriety and helping behaviors. Longer sobriety was significantly associated with more Community Helping, less Recovery Helping, and higher DSES (theistic and non-theistic items). This finding reflects both a positive effect of spirituality on maintaining abstinence and a positive effect of abstinence and the recovery lifestyle on spirituality (Zemore & Kuskus 2004).

70 participants of Alcoholics Anonymous (AA) from Pozna, Poland and and 53 students from Eugeniusz Piasecki University School of Physical Education in Pozna were compared. In comparison to students, alcoholics anonymous members had stronger religious faith, stronger intrinsic and personal extrinsic motivation, prayed and went to church more frequently. AA members were also characterized by more frequently using positive religious coping and reported more frequent DSEs (Wnuk 2017).

Shorkey and Uebel reviewed 10 measures of religiousness/spirituality for use in addiction research, and concluded regarding the DSES that “the usefulness of this scale for assessing the spiritual experience of a person in treatment and recovery may be profound” (Shorkey & Uebel 2008).

The bottom line here is that finding ways to enhance DSEs in people’s lives can help not only to stave off addiction, but also help with addiction or substance abuse even once it is established. Given the limited number of interventions that work effectively in addictions, this is worth serious consideration.
Post Traumatic Growth and Enhanced Meaning

When we hit tough times, we can sink or swim. The previous sections have described how the DSEs can help prevent a person from sinking, or help them bounce back when faced with difficulties. Growth can also follow tough times such as chronic disease, acute disease, disability, disasters, or loss. Sometimes this growth is related to our sense of meaning or coherence in life.

Measuring post-traumatic growth is difficult. What is it that happens, internally, following difficulties? A self-report measure by Calhoun and Tedeschi, that asks people to reflect on the trauma and their current state, is the most-used measure. It is multidimensional and addresses things like interpersonal relationships, changing priorities, appreciation of life, and enhanced meaning. It entails a subjective, retrospective assessment of change. For this reason, more researchers are moving towards assessment of meaning of life and following that over time. But even that is not easy to assess, and others have found that coherence is a good measure. Just exactly what we mean by post-traumatic growth is an evolving conversation in the research literature. Measures of a person’s sense of meaning in life are becoming increasingly used in these contexts.

A number of the studies in this section examine DSEs and other variables as they change over time. These studies are particularly helpful in terms of implications for action. Here follow a number of studies that look at the relationship between DSEs and post-traumatic growth, meaning, or coherence.

Higher baseline frequency of DSEs predicted more positive change in meaning in life over time in two examples of times of adversity, Heart Failure Patients and Cancer Survivors. Cross-lagged paths showed that higher baseline spirituality (DSES) predicted more positive change in meaning over time in both groups. Survey data were collected at baseline and 6 months later (heart failure patients) or 12 months later (cancer survivors). These results support the notion that spirituality can provide increased meaning in life among individuals dealing with substantial adversity (George & Park 2017).

Another publication by George and Park (2013) used a longitudinal design collecting data from 167 cancer survivors at two time points one year apart. More frequent DSEs at time 1 predicted time 2 sense of meaning. And time 2 sense of meaning predicted post-traumatic growth.

More frequent DSEs predicted more post-traumatic growth in bereaved people (Currier 2013).

Seventy patients with leukemia in Zahedan, Iran, were studied using the DSES, the
Hope Scale, and the Post-traumatic Growth Inventory using correlation and stepwise regression analysis. Total score on the DSES (Persian translation) and scores on three subscales of the DSES were directly and significantly correlated with hope and posttraumatic growth. The total score on the DSES predicted hope. The total score on the DSES and a subscale of compassionate love from the DSES predicted post-traumatic growth (Karami & Kahrazei 2018).

Higher DSES predicted more sense of meaning in life and prosocial motivation in students in Poland. Spiritual experiences led to increased meaning of life and hope, which led to satisfaction with life and positive affect (Wnuk & Marcinkowski 2014). In another study of 53 students in Pozna, Poland, Wnuk found positive relationships between spiritual experiences and meaning of life (Wnuk 2018).

More frequent DSEs, as well as a strong sense of purpose in life and intrinsic goals helped people to grow from negative life events, and predicted greater volunteering behaviors (Meng & Dillon 2014).

In 8594 Catholic pastoral workers in Germany, transcendent perception, measured by the DSES, buffered the negative effects of neuroticism, resulting in a greater sense of coherence (Kerksieck et al. 2016).

In two samples of U.S. Muslims, an online sample of 280 and a community sample of 74, there was evidence that Islamic religiousness and perceived closeness with God (more frequent DSEs) predicted greater endorsement of a mindset that one grows from struggles, a prominent aspect of Islamic spirituality. The mindset that one grows from struggles buffered against the experience of religious/spiritual struggles and was positively associated with greater levels of positive religious coping, spiritual and post-traumatic growth (Saritoprak 2018).
Interventions and additional support for causative direction

One of the most useful aspects of the DSES is its ability to assess change over time. Although there can be trait-like consistencies over time, the DSES also has state-like characteristics, making it useful for examining change, as variability can be documented and analyzed statistically.

Previous sections have indicated that the DSES can buffer stress, encourage post-traumatic growth, decrease addictive behaviors, prevent burnout, and increase resilience. So how would we increase frequency of DSEs in our lives or those of others? The following studies demonstrated a variety of interventions that might do this. Others are being tested in ongoing research not yet published.

As elaborated in the section on different kinds of evidence, these studies are particularly useful in providing evidence on the causal effect of the DSES and time-course of changes. But it is also important to remember that in and of themselves, DSEs can add value to life in and of themselves.

Addiction interventions

In 195 youth who were court-referred to a 2-month treatment program, increasing Daily Spiritual Experiences over the course of treatment was associated with (1) greater likelihood of abstinence from alcohol or drugs, and (2) increased pro-social behaviors and reduced narcissistic behaviors. Increasing levels of DSEs improves youth self-care and care for others (Lee 2014).

The Robinson et al. (2007) alcoholism study, mentioned in the Substance Abuse section, is worth also including here. Following 123 alcoholics for six months after entry into treatment, analysis showed that increases in DSEs (but not positive religious coping or forgiveness) were associated with increased odds of no heavy drinking at six months. In the first 6 months of recovery, DSEs increased. Values, beliefs, self-assessed religiousness, perceptions of God, and the use of negative religious coping did not change. Increases in day-to-day experiences of spirituality and sense of purpose/meaning in life were associated with absence of heavy drinking at 6 months, regardless of gender and AA involvement (Robinson 2007).

A 30-month panel study recruited 364 individuals with alcohol dependence. Multilevel models examined drinking and Alcoholics Anonymous (AA) attendance at 6
months as predictors of both the levels and trajectories of 7 dimensions of spirituality assessed 5 times over 6-30 months. Controlling for drinking, greater AA involvement was associated with higher levels of daily spiritual experiences, forgiveness of others, positive religious coping, and spiritual/religious practices. AA was associated with aspects of spirituality embedded in the 12 steps which have been shown to be responsive to learning and modeling (Krentzman 2017).

In a quasi-experimental repeated-measure design utilizing the DSES, a total of 32 recovering adolescent addicts were involved in six sessions of group counseling at a government-linked drug treatment and rehabilitation facility in Malaysia. The result shows that there was a significant difference in the mean scores for pre- and post-tests on the DSES. They also tested the effectiveness of a sand tray intervention but found no difference from the normal counseling (Mahmud 2019).

In members of Sex and Love Addicts Anonymous (SLAA) from Poland, multiple regression analysis confirmed that spiritual experiences mediate between religious faith and prayer, and hope. It means that among SLAA participants relationship between religiosity and hope is indirect—higher level of religious faith and more frequent prayer has a positive impact on spiritual experiences, which in turn improve hope (Wnuk 2017).

**Mindfulness interventions**

Mindfulness-Based Stress Reduction increases daily spiritual experience frequency and reduces self-report measures of stress, in employees in an academic health care setting, and these effects are stable for at least one year (Geary & Rosenthal 2011).

Mindfulness-Based Stress Reduction led to increased frequency of DSEs, which partially explain improvement in reports of health-related quality of life in 279 people. Findings suggest that increased daily spiritual experiences following Mindfulness-Based Stress Reduction may partially explain improved mental health (Greeson 2011).

In 322 people, after adjustment for baseline symptom scores, age, sex, and religious affiliation, a significant proportion of variance in depressive symptoms following Mindfulness-Based Stress Reduction was uniquely explained by changes in both spirituality (measured using the DSES) and mindfulness (Greeson 2015).

**Other intervention studies**

Comparing the effects of spiritual meditation, secular meditation, and relaxation on spiritual, psychological, cardiac, and pain outcomes, the spiritual meditation group had greater decreases in anxiety and more positive mood, spiritual health and spiritual experiences (DSES) than the other two groups (Wachholtz & Pargament 2005).

For 30 days, 35 individuals with rheumatoid arthritis kept a structured daily diary which included tracking their DSEs. The participants in this study reported having spiritual
experiences, such as feeling touched by the beauty of creation or feeling a desire to be closer or in union with God, on a relatively frequent basis. Although most of the variance in these measures was due to differences between persons, each measure also displayed a significant variability in scores from day to day, just as much (or more) variability in the DSES over time as there was variability in pain. Individuals who reported frequent daily spiritual experiences had higher levels of positive mood, lower levels of daily negative mood, and higher levels of each of the social support domains. On days that participants rated their ability to control pain and decrease pain using spiritual/religious coping methods as high, they were much less likely to have joint pain and negative mood and much more likely to have positive mood and higher levels of general social support (Keefe 2001).

201 nursing students and RNs independently completed a mailed self-study program designed to teach spiritual care to nurses. Significant differences were seen between the before and after scores measuring attitude, ability, spiritual experiences (DSES), and knowledge. An interaction effect of time for both spiritual care attitude and personal spiritual experience was observed (Taylor 2009).

Seventy-three participants were randomly assigned to two groups: (a) a 3-week intervention group where members were instructed in cultivating sacred moments, or (b) a 3-week control group where members were instructed in writing about daily activities. There were significant effects over time across multiple assessments related to Daily Spiritual Experiences after the 3-week intervention and again 6 weeks later (Goldstein 2007).

A controlled trial of spiritual direction in a substance abuse population did not show an effect of the intervention on substance intake, as both groups improved over time. However, the DSEs increased over the course of the intervention and remained so six months later, whereas psychological variables showed less improvement over the course of the intervention compared with treatment as usual (Miller 2008).

A total of 199 critical care nurses were accepted into a study testing whether two 1-day retreats focused on spiritual self-care would positively change nurse participants' spirituality as measured by the DSES. Eighty-seven were randomized to receive the retreat intervention. All 199 nurses were tested pre-retreat, 1 month and 6 months post-retreat. Retreat participants demonstrated increased DSEs (Bay 2010).

A multi-faith spiritually-based intervention helped patients with Generalized Anxiety Disorder. DSES scores showed increased frequency over time (Koszycki 2014).

A Grace intervention, consisting of sermons and practice recommendations in a church community caused an increase in DSEs (Bufford 2017).

In 5339 adolescents (13-15) from 60 schools across 15 countries, a customized spiritual program was administered. Post-treatment DSEs of the experimental group were
higher at post-test than at pre-test. The author says that this helps to make a case for nominating spirituality as an important developmental variable for 13- to 15-year olds cross-culturally (Panda 2017).

A pilot project for homelessness in Houston used the DSES as an evaluation tool and showed change over 6 months, although the sample size was inadequate to demonstrate statistical significance (Parrish 2018).

A study looked at the effects of face-to-face prayer for patients with depression and anxiety. Participants receiving the prayer intervention showed significant improvement of depression and anxiety, as well as increases of daily spiritual experiences and optimism compared to controls. Subjects in the prayer group maintained these significant improvements (p < 0.01 in all cases) for a duration of at least 1 month after the final prayer session (Boelens 2009).

Staff who provide services for elderly people showed burnout reduction and increase of DSEs following a one-month Mind-Body-Spirit intervention in Hong Kong. Repeated measures of burnout, daily spiritual experience and engagement were taken at pre-intervention, post-intervention and one month after intervention (Ng 2014).

Psilocybin, a psychoactive substance, was administered randomized and double-blind to 3 groups of 25 healthy people who also undertook a program of spiritual practice. The drug was administered 1 and 2 months after spiritual practice initiation. The three groups were: (1) low dose psilocybin, moderate support for spiritual practice, (2) high dose psilocybin with moderate support for spiritual practice, (3) high dose psilocybin and high support for spiritual practice. Compared with low-dose, high-dose psilocybin produced greater acute and persisting effects. At 6 months, compared with low dose psilocybin, both high-dose groups showed large significant positive changes on longitudinal measures of interpersonal closeness, gratitude, life meaning/purpose, forgiveness, death transcendence, daily spiritual experiences (DSES), religious faith and coping, and community observer ratings. Determinants of these enduring effects were psilocybin-occasioned mystical-type experience and rates of meditation/spiritual practices (Griffiths 2017).

In a 2-week, two-armed randomized controlled trial, researchers investigated an online contemplative prayer program for Christians with daily stress. Drawing from the stress and coping, mindfulness, religious coping, and contemplative literatures, the brief program sought to help Christians with daily stress change their evaluation of environmental demands by surrendering to God's perceived care. With roots in the contemplative Christian tradition, the Jesus Prayer was practiced both formally and informally for a 2-week period of time. Findings revealed both within- and between-group differences, with the Jesus Prayer group (n=44) outperforming a wait-list group (n=42) on measures of stress and surrender as a form of coping. DSEs increased over time in the intervention group in a dose-response way (Knabb 2018).
In a sample of incarcerated adolescent males, a longitudinal design was employed to measure both spirituality and mental health during incarceration in a residential facility and post discharge from a boot camp. Results support the likely importance of adolescent spirituality as a protective factor for family functioning. (FYI: According to the most recent data from the Office of Juvenile Justice and Delinquency Prevention, over 50,000 youth were held in some type of residential facility during 2014). Over the course of the time measured there were significant increases for two measured spirituality dimensions: Daily Spiritual Experience and Private Religious Practices. The overall regression results showed that dimensions of both mental health and spirituality may contribute to overall family functioning. Forgiveness was not significant, but Daily Spiritual Experience was a significant predictor for family communication and behavioral control, even taking into account the significant mental health factors. DSES scores increase in frequency over the incarceration period and also demonstrated significance as a protective factor for family functioning. The authors conclude that the significance of Daily Spiritual Experience in both models demonstrates that spirituality, and particularly an everyday spiritual awareness and its application, may be an important consideration in improving family functioning (Stewart 2018).

The following study was mentioned in the resilience section but it is worth repeating here:

Using a cross-lagged panel design, Currier looked at longitudinal associations between spirituality and PTSD symptom severity among 532 U.S. veterans in a residential treatment program for combat-related PTSD. Results indicated that spirituality factors at the start of treatment were uniquely predictive of PTSD symptom severity at discharge, when accounting for combat exposure and both synchronous and autoregressive associations between the study variables. Specifically, veterans who scored higher on adaptive dimensions of spirituality (daily spiritual experiences, forgiveness, spiritual practices, positive religious coping, and organizational religiousness) at intake fared significantly better in this program. In contrast to these results, PTSD symptoms at baseline did not predict any of the spirituality variables at post-treatment. In keeping with a spiritually integrative approach to treating combat-related PTSD, these results suggest that understanding the possible spiritual context of veterans’ trauma-related concerns might add prognostic value and equip clinicians to alleviate PTSD symptoms among those veterans who possess spiritual resources or are somehow struggling in this domain (Currier 2015).

Two additional studies add support to direction of causation and time course of DSES in relationship with other variables.

The DSES was put on a smartphone study tracking people’s feelings and activities through the day over 2 weeks. Four spiritual practices—reading scripture, praying, seeking guidance, and solitude—have both significant within- and between-person effects on DSES scores. The between-person effects were greater in magnitude than the within-
person effects. This indicates that the type of people who practice these have more spiritual experiences than those who do not; in addition, when people practice these activities, regardless of how often they do so, they subsequently have more spiritual experiences. This contrasted with the finding that attending religious services and meetings did not increase spiritual experiences the following day (Wright 2017).

An event sampling study of 390 participants examined the relationships between individual differences in spirituality, as measured by the DSES, and the temporal dynamics of transcendental positive emotions. Using event-sampling, in which people rated their emotions repeatedly at 30-min intervals over 2 days, more frequent DSEs were associated with higher inertia in transcendental positive emotions and greater switch from negative emotions to transcendental positive emotions across the 2 days. Importantly, these relationships were independent of the Five-Factor Model personality constructs, were generally not replicated in other emotions, and were also independent of the temporal dynamics of other emotions (Tong 2017).
Appendix to Part 1: What kinds of empirical evidence best inform our actions?

The studies in the previous sections give evidence for the value of including the DSES in our research and evaluation, and evidence that enhancing DSEs can contribute to flourishing for many different kinds of people in many different kinds of situations. This section is an appendix regarding levels of evidence.

We often look at studies in order to see how we might change our behaviors or attitudes in order to shape different outcomes—diminishing negative outcomes and optimizing positive ones. This requires leaps about causation based on the best research available. Human beings are messy; we ignore this at our peril. Oversimplification can lead us astray, but by necessity we have to simplify to do research. So how can we get the most from the research on spirituality variables and resiliency/flourishing outcomes? Research can enable us to understand the world better, and also predict effects influenced by various causes.

The scientific studies on the DSES provide different kinds of evidence. Here is an outline of the kinds of evidence in different scientific studies that can give us support for action. These will be expanded on in this section.

Correlational evidence
  Cross-sectional variations in different groups
Evidence for causation
  Biological and theoretical plausibility of direction of causation
  Some empirical studies directly support direction of causation
Differential prediction
  Different effect than those from various factors such as mood and other religious/spiritual variables
  By controlling for confounding factors
Change over time in DSES in response to
  Interventions
  Situations
  Practices
Lessons learned from research into causes and prevention of disease

My original training was in medicine and epidemiology. My PhD research looked at histopathology and population patterns of melanoma. I wanted fewer people to die from this particularly deadly skin cancer. This could happen in three main ways: preventing it in the first place by eliminating causal factors, catching it early enough to remove and eliminate it before it spread, and treatment. Treatment for that cancer was pretty unlikely to cure at that time, so causes of death became very important to investigate, and my interest focused on identifying those contributing factors that could be eliminated most easily.

That work, and my medical training in taking histories and collecting information from physical exams, put me on a path to seeing the importance of measurement in studies. In melanoma research you had to determine if something really was a melanoma and exactly what kind. To do this you had to look at the slide of the biopsy or excision of the skin lesion and measure and categorize it exactly. When interviewing patients you had to categorize history of sun exposure, and how they perceived the evolution of the skin lesion over time. And even in follow-up regarding mortality, you needed to determine the cause of death and whether it was linked to the melanoma.

I gathered evidence in many ways, and built on findings of others in the field. Correlational studies were the mainstay, as they are in many fields. If skin type and melanoma occurrence are linked, it is likely that skin type may have led to susceptibility to melanoma. If correlational findings can be supported by the underlying biology and theoretical plausibility, they can provide evidence that is worth paying attention to. Many media reports of studies in a variety of fields, and even conclusions reached by the researchers themselves, conflate correlation with causation. For example, depression can increase the likelihood of chronic disease, and chronic disease can also increase the likelihood of being depressed. Here is where looking at many studies along with social-psychological and biological plausibility is crucial to correct interpretation.

Knowing that all things have a multifactorial etiology was key to the melanoma work, as it is to research of all kinds. Many things contribute to an outcome, including initial susceptibility and interaction of factors.

Subgrouping can also help tease out causation. My research found that Celtic women were more likely than men to get melanoma in Northern Ireland, but this was not the case for those of Celtic skin types in many other countries. So somehow hormonal or behavioral factors particular to women were interacting with other causative factors in a different way in this population, unless it was that women in Northern Ireland behaved differently than women throughout the world, which was not as plausible. Northern Ireland is far less sunny than most places, so it indicated that perhaps sun was more of a contributing cause for melanoma for men than women in the world population, allowing hormones to play a greater role in Ireland.
I was also able to do some longitudinal studies of melanoma in Northern Ireland. After determining diagnosis and the particular histological type of the melanoma in a person, I looked at the outcome 5 years later, to see whether they died or not. I could find out how that correlated with how early the melanoma was detected and the depth of the melanoma on histopathological examination of the excised lesion. This, together with data from patient interviews, enabled me to identify where an intervention might best be targeted. Targeting education for doctors was one cost-effective way to enable earlier diagnosis. This intervention, when followed on over 10 years, showed decreased deaths from melanoma in that population.

I also learned the value of qualitative work in this research. I interviewed all the patients in Northern Ireland newly diagnosed with melanoma during a five year period. These in-depth interviews gave insight into the sequence of various events in their lives, such as sun exposure, pregnancies, and doctor visits related to the skin lesion. It allowed assessment of various things such as the color and freckling of skin and psychological variables of various kinds and stress levels. This informed the quantitative work and the prevention and detection actions that might be most effective to pursue.

Avoiding overlapping constructs

In previous writings, besides elaborating on the qualitative interviews used in developing the DSES and the theory behind its development, I articulated why this scale is different from other measures, both other spiritual/religious measures and measures of psychological variables and quality of life. I discuss this more in Part 2. The fact that it has differential predictive value helps to show how the experiences measured in the DSES are distinctive.

I was very careful when developing the scale to have the questions address a construct distinct from happiness and general wellbeing and other psychosocial variables. I saw in other instruments the problems that conflation caused. This occurred in the design of instruments by others in the area of spirituality and religiousness and also in instruments in whose development I was participated in a group context, including multidimensional constructs in quality of life instruments like the WHO’s WHOQL SRPB and HIV-AIDS assessments. In the case of the DSES, the language helps to avoid this problem. For example, an anxious person can respond affirmatively to “I feel deep inner peace,” although of course an anxious person may feel this less often. I probed this experience during the qualitative interviews and found that to be the case for many people.

Subgrouping in analysis and work using individual differences can also help to emphasize the particular contribution of the DSES in individuals of various kinds, which can highlight the distinction of the DSES from other psychosocial variables, for example. Many of the studies in this book support this distinction, but some are especially effective. The following example of research cited in the previous section on interventions and time course makes a particularly strong case for the distinction of the DSES from positive emotions.
An event sampling study of 390 participants examined the relationships between individual differences in spirituality, as measured by the DSES, and the temporal dynamics of transcendental positive emotions. Using event-sampling, in which people rated their emotions repeatedly at 30-min intervals over 2 days, more frequent DSEs were associated with higher inertia in transcendental positive emotions and greater switch from negative emotions to transcendental positive emotions across the 2 days. Importantly, these relationships were independent of the Five-Factor Model personality constructs, were generally not replicated in other emotions, and were also independent of the temporal dynamics of other emotions (Tong 2017).

Another supportive example would be from Knabb 2018, where the DSEs increased over time in the intervention group in a dose-response way.

We also gain confidence in predictive nature of variables from the accumulation of evidence from various sources, and the collection of research projects included in this book give us additional confidence in that regard.

There will be some reciprocal effects, but overall the theoretical and empirical material indicate that increasing the frequency of DSEs will have a variety of desirable effects. General information on interpretation in the regard can also be found in Underwood 2011, 2006 and 2013 and on www.dsescale.org. And the fact that DSEs are amenable to change contributes to possibilities for practical applications of the results.
Part 2:

Usage Guide:

Versions, Scoring, Psychometrics and Translations

Introduction to Part 2:

Part 2 provides a guide to using and scoring the DSES. People contact me weekly via email for advice on scoring and interpreting the DSES. I refer them to the published articles and give some tips in my email reply. But I have realized that a more comprehension “scoring guide” is necessary. Part 2 also provides a description of versions and their suggested uses, a psychometric summary, a guide for translations, and some creative suggestions for ways to use individual items and subgroups of items. I start with a summary of the different ways the DSES can be used.

An overview of some effective usages of the DSES in research and practice:

The items/questions of the DSES are available in different versions or formats. Most are designed to provide numerical scores, while one of them is “open-ended.”

Versions with numerical scores are used to:

- Compare groups of people
- Look at correlations between the DSES and other variables
- Follow an individual over time
- Follow a group or multiple groups over time
- Provide a baseline and outcome variable in intervention studies
- Compare individual item correlations with average total correlations
- Compare individual item scores with the average, within individuals
- Map change over time in connection with other variables, using the checklist version in ecological momentary assessment studies (e.g. smartphone studies with prompts)
• Identify potential resources
• Draw attention to experiences which might be useful in therapeutic contexts.

The open-ended, qualitative version can be used to:

• Unpack the contents of experiences in qualitative research
• Enable communication and allow the experiences of different people to highlight where those experiences might be found for others and better enable their articulation and reporting in focus group settings
• Help individuals explore and discover resources to draw on
• Help in dialogue when people’s beliefs differ
• Open conversation and provide a bridge in therapeutic contexts.
Versions of the DSES

The following section presents the different versions of the DSES and identifies their appropriate uses:

- The standard 16-item version with frequency scores
- Shorter forms such as the 6-item version
- Checklist version
- Open-ended version
- Oral administration

1. The standard 16-item version with frequency scores

This is the most commonly used form for research and evaluation. With this form, subjects provide a numerical estimate of how often they experience each item, ranging from (1) for “Never” to (6) for “Many times a day.” The first version of the scale had these numbers reversed (e.g., (1) for “Many times a day”). This was done to agree with other measures to be put on the General Social Survey in 2002. This reversal has been shown to cause confusion, because it meant that higher scores indicated lower frequency. (For an easy conversion algorithm for the early version and for comparison with studies using reversed scoring, see the scoring section.) Most recent papers use the version with higher numbers representing greater frequency.

How often do you experience the following?
Never (1)
Once in a while (2)
Some days (3)
Most days (4)
Every day (5)
Many times a day (6)

“The list that follows includes items you may or may not experience. Please consider how often you directly have this experience, and try to disregard whether you feel you should or should not have these experiences.”
This sentence signals to the respondent that there are no “right” answers. The skew of the scale (see psychometric papers by Underwood and others) has been shown to be excellent. People are comfortable selecting “Never” with regard to one or more items.) These two instructional sentences help to combat social desirability bias. Were I to revise the scale further I might wish to make these sentences a bit simpler, but since this was the original version, I have let it stay. When I give workshops on the scale, I often summarize it as “There are no right answers. You may or may not experience each of these, and that is just fine. We are all different.” I think if this were substituted in the scale itself, the scale would still function well.

The word “God” and its substitutions

“A number of items use the word God. If this word is not a comfortable one for you, please substitute another word that calls to mind the divine or holy for you.”

It may help to insert an optional word list here. Some of the translations explicitly do this, and I think it is a good idea for many studies. Some of the words used have included: Ultimate Reality, Higher Power, Goddess, Supreme Consciousness, Tao, Wholly Other, Allah, G-d, Transcendent, Great Spirit, Higher power/the regulator/the truth of nature or the universe. This substitution should not change the validity of the scale. Spiritual Connection in Daily Life has a whole chapter on “Translating God.” Although the DSES was developed in the mid-1990’s and originally in an American context, it continues to work worldwide and over time, so I am not backpedalling here. I wanted a word that would point to a divine source in an unambiguous way for many people, and no other single word or phrase seemed to do that universally. But offering options within the questions themselves seems even more appropriate in more secular contexts that are becoming more dominant everywhere. You will see below that I currently give an alternative for some of the questions inline.

When using an electronic form, or even when administering via paper or orally, you can offer the option for the person to do a personalized substitution for the word ‘God.’

There are downsides to this, as often people do not realize what they would substitute until they actually reach a particular question. That is why my inline alternatives may be the best way to approach this, in addition to including options in the introductory sentences.

The questions themselves and ordering:

It is not important for the validity of the scale that you have the exact order of the original version, although some psychometricians might argue with this. The original order was developed somewhat ad hoc. Below is the order I currently suggest with inline alternatives added if so desired. The important thing is that the items tap the construct they were originally designed to address.
How often do you experience the following?
Never (1) Once in a while (2) Some days (3) Most days (4) Every day (5) Many times a day (6)

1. I am spiritually touched by the beauty of creation.
2. I feel God’s presence. (I sense the presence of the divine or holy.)
3. I experience a connection to all of life.
4. How close do you feel to God (or the divine in other words)?
   Not close (1), somewhat close (3), very close (5), as close as possible (6)
5. I desire to be closer to God or in union with the divine.
6. I feel God’s love (or divine love) for me directly.
7. I feel God’s love (or compassionate love) for me through others.
8. I feel a selfless caring for others.
9. I accept others even when they do things I think are wrong.
10. I find strength in my religion or spirituality.
11. I find comfort in my religion or spirituality.
12. I feel guided by God in the midst of daily activities.
   (I feel divine guidance in the midst of daily activities.)
13. I ask for God’s help in the midst of daily activities.
   (I ask for help from a higher power as I go through the day.)
14. During worship, or at other times when connecting with God (or when I feel connection with the “more than”), I feel joy that lifts me out of my daily concerns.
15. I feel thankful for my blessings.
16. I feel deep inner peace or harmony.

Since most published studies use the original order and wording, or a translation based on those, using them will serve you well in your work. But as our world changes, I think offering these alternatives will allow the scale to grow with our changing contexts and in the various professional usages.

2. Using shorter forms

The full 16-item scale is the recommended version. There is no psychometrically representative shorter version of the DSES. However, following the finalizing of the 16-item scale, a 6-item DSES was developed to be used in the Brief Multidimensional Measure for Religiousness and Spirituality (BMMRS) (Idler 2003). The six items are not ideal in many ways, as the wording is not identical and does not fully represent the breadth and depth of the construct. The double-barreled nature of two of the items in the 6-item version, and the alternative wording of the strength and comfort item (it originally used just “religion” rather than “religion or spirituality”), are not the best choice for use. See Table 1 to see how the items included in the 6-item version map onto the original.

The 6-item version was selected and adapted ad hoc by the working group developing the BMMRS (of which I was a part) just as the entire BMMRS was, to meet the need to get a
brief measure onto the General Social Survey at that time and in order that a multidimensional measure could be quickly utilized in a variety of studies instead of the more limited measures that existed at that time. The BMMRS includes items on religious history, affiliation, public and private practices, and religious coping. Given the ad hoc nature of all the subscales, I advise researchers to consult the primary authors of each subscale to get up-to-date recommendations for the appropriate items to use to tap the construct of interest as they design new studies. Some minor alterations to the 6-item DSES have included adding “spirituality” to the adapted strength and comfort item to produce more agreement with the original 16 items. Were I to select a representative set of 6 items, I would not choose these.

Despite the limitations of the 6-item scale, it has been found to be highly correlated with the longer version with similar effects on selected variables present in the GSS (Ellison & Fan 2008), and may be appropriate for studies where item number limitation is critical. Studies incorporating the 32- or 38-item BMMRS frequently find that the DSES subset of six items is one of its most predictive elements. This has encouraged various researchers to use the full 16-item DSES as their research moves forward. Sometimes when researchers have used the 6-item version they have not included the introductory sentences, and this does not adequately reflect the DSES and can negatively affect results.

As you can see below in the list of the 6 items, items 4 and 5 were combined (“I find strength and comfort…”) as were 9 and 10 (“I feel God’s love, or divine love, for me directly or through others”). The frequency response set is the same as for the 16-item DSES.

I feel God’s presence.
I find strength and comfort in my religions or spirituality.
I feel deep inner peace or harmony.
I feel God’s love for me directly or through others.
I am spiritually touched by the beauty of creation.
I desire to be closer to God or in union with the divine.

A few studies have used only 15 items, removing item 16 with the alternate response set. Given the variety of experiences represented in the 15 items, it seems likely that this limited set will give representative results in studies. Using an average scoring method will produce results very similar to the 16-item version, and the results can be adequately compared.

3. Using other subsets of items
Dropping individual items to produce a shorter form may be a possibility in the future, but considerations in various cultures indicate maintaining all 16 items at this stage. The strength and comfort items (merged on the 6-item BMMRS version) show very high inter-item correlation in some cultures. However, following interviews showing distinct qualities for each, and results in testing in translation that showed greater separation, it is
currently recommended that both be maintained. It was tempting to remove the last item ("How close do you feel to God?") that is scored differently even during development of the scale. It was originally included to allow calibration of the item "I desire to be closer to God or in union with the divine," but it has proven to independently contribute to the scale overall. These kinds of alterations might be considered if you are trying to minimize responder burden for a large correlational study or in evaluation contexts, but you need to understand what might be lost in the process.

Further work may enable appropriate ways to develop a shorter psychometrically valid form if needed, by dropping some items while continuing to maintain a balance of items. It would be prudent to be very clear about why you are doing this, since different items might be more significant for different populations and uses. Various researchers have used subsets of the 16-item scale for particular purposes. This can be appropriate, as long as the rationale is sound. Two of the items, for example, ("I feel a selfless caring for others" and the mercy item, "I accept others even when they do things I think are wrong") have been used as a compassionate love subscale in some studies (see Underwood 2002, 2009). Each individual item in the DSES taps one particular aspect of ordinary spiritual experience; various items have been used alone in studies. But if you are able to include the entire scale in your study, you can decide later to analyze particular items or subsets the fit your population and hypothesis.

4. “Checklist” version

There is a checklist version of the scale (below) that works well for those who want to incorporate the scale into daily diary or ecological momentary assessments, e.g. for smartphone studies. It also can be used as a reminder for people who want to call attention to these experiences in their days. Some people carry a list of the questions in their pocket or on their phone. In *Spiritual Connection in Daily Life*, I suggested picking individual items or groups to examine as reminders or stimulus, either items the individual experiences a lot or ones that they have trouble finding in their days. Although this version has not been used as often in research studies, it has promise. For scoring of this see scoring section.

These items do not ask “How often do you experience this?” but rather, “Recently, have you experienced this?” One could have a yes/no response set and the score would be (1) for no, and (2) for yes. This may be adequate in practical settings. Bradley Wright, who has used the DSES in a smartphone study, used a sliding scale from “not at all” on the left, to “very much” on the right. Dr Wright thinks that a Likert scale with 6 categories would be adequate and could be an ideal way to use this in research.

```
1  2  3  4  5  6
Not at All Very Much
```
Here follows the Checklist version:

Recently . . .

1. Have you been spiritually touched by the beauty of creation?
2. Have you felt God’s presence, or the presence of the divine or holy?
3. Have you experienced a connection to all of life?
4. Have you felt close to God, or to the divine or transcendent as expressed in other words?
5. Have you desired to be closer to God or in union with the divine?
6. Have you felt God’s love or divine love for you directly?
7. Have you felt God’s love or divine love for you through others?
8. Have you felt a selfless caring for others?
9. Have you accepted others even when they have done things you think are wrong?
10. Have you found strength in your religion or spirituality?
11. Have you found comfort in your religion or spirituality?
12. Have you felt guided by God in the midst of daily activities?
   Or: Have you felt divine guidance in the midst of daily activities?
13. Have you asked for God’s help in the midst of daily activities.
   Or: Have you asked for help from a higher power as you go through the day?
14. During worship, or at other times when connecting with God, have you felt joy that lifts you out of your daily concerns?
   Or: At times when connecting with the “more than” have you felt joy that lifts you out of your daily concerns?
15. Have you felt thankful for your blessings?
16. Have you felt deep inner peace or harmony?

5. Open-ended version
The open-ended version prompts people to reflect on their experiences in response to the questions. This format encourages the respondents to describe one or more of their experiences, elaborating when and where they have had them. It is a discovery process. *Spiritual Connection in Daily Life* gives additional prompts and examples of where and how others had these experiences, based on qualitative interviews made during development and use of the DSES. These reports have proven stimulating to participants in
workshops, opening up possibilities for people to access their own, previously undiscovered experiences. When someone hears a description of an event or moment where someone else has experienced strength from their religion or spirituality, they might be more easily able to identify similar moments in their own lives. This use of the scale is currently the most interesting to me. It enables communication between people of varying beliefs and gives opportunity to plumb the depths and breadth of experience for the individual, seeing places and situations that might be a resource for them in the future. Here is the open-ended version of the scale:

**Answer the following questions, and then, if you have had this experience, reflect on what it felt like for you, and where and when it occurred, and describe that. If you have not had the experience, do you desire to have it? If so, describe that feeling and if not, you may wish to describe why not.**

1. Have you been spiritually touched by the beauty of creation?
2. Have you felt God’s presence, or the presence of the divine or holy?
3. Have you experienced a connection to all of life?
4. Have you felt close to God, or to the divine or transcendent as expressed in other words?
5. Have you desired to be closer to God or in union with the divine?
6. Have you felt God’s love or divine love for you directly?
7. Have you felt God’s love or divine love for you through others?
8. Have you felt a selfless caring for others?
9. Have you accepted others even when they have done things you think are wrong?
10. Have you found strength in your religion or spirituality?
11. Have you found comfort in your religion or spirituality?
12. Have you felt guided by God in the midst of daily activities?
   Or: Have you felt divine guidance in the midst of daily activities?
13. Have you asked for God’s help in the midst of daily activities.
   Or: Have you asked for help from a higher power as you go through the day?
14. During worship, or at other times when connecting with God, have you felt joy that lifts you out of your daily concerns?
   Or: At times when connecting with the “more than” have you felt joy that lifts you out of your daily concerns?
15. Have you felt thankful for your blessings?
16. Have you felt deep inner peace or harmony?

**6. Oral Administration**
There are cases where oral administration is necessary or useful. The DSES has been used for children from age 8 and up, for those with limited literacy, for older people with
impairments and for others who find an oral set of questions more congenial. This use has allowed also for elaboration and explanation of the items for those with cognitive impairments. It is important in these cases to be clear about your own possible biases, and read a little more about the original intent of each item, for example see Underwood 2006 or Spiritual Connection in Daily Life.

7. Additional Items: Spiritual aspects of Self-acceptance and care

When developing the DSES it was important to have a breadth of items that not only tapped into the more cozy aspects of spiritual experience, but also touched on those aspects that measured the experience of stretching out to others as an important aspect of spirituality. This is one of the reasons the two items, selfless caring and accept others, were added. These were intended to measure experiences of other-centeredness and mercifulness. These are crucial to many religious and spiritual frameworks and traditions.

One of the reasons that the DSES has proven so useful is its simplicity of language. To get at other-centered love, love centered on the good of the other with one easily understood question was difficult. When doing the interviews, “selfless caring” seemed to capture the idea for many people without implying they didn’t care for themselves. They recognized caring that wasn’t selfish, wasn’t doing something for someone else just because of self-benefit (for example wanting praise, or expecting something in return).

When I do workshops that emphasize self-reflection using the scale, I suggest that participants explore answering the selfless caring item in two ways. First, the feeling of selfless caring oriented to others, but then, also, a kind of selfless caring directed to themselves. A sense of caring for oneself as a precious “other.” Although I realized this was important when developing the DSES, I could not come up with a single, simple item that got at this in a way that was a spiritual item, not just a psychological one. The same is the case for the accept others even when they do things I think are wrong item. In workshops and in the Spiritual Connection in Daily Life book, I suggest that in addition to exploring that experience when thinking of other people, the respondent also needs to think of how they accept themselves even when they do things they think are wrong.

Again, when developing the scale, I did not see a simple way to ask this that got at the construct in a spiritual way rather than merely a psychological way. But self-acceptance in order to be better able to accept others is something that emerged from interviews that I did on compassionate love, and is also found in spiritual and religious writings.

One thing that might be done to address this is to emphasize this in the open-ended administration of the scale. Another thing might be to add two additional items:

I accept myself even when I do things I think are wrong.
I feel kindness for myself as if I were a beloved friend.

These would be scored using the same response categories as the other DSES items (Many times a day to Never).
These two items have not yet been tested or psychometrically validated, but seeing how they work in addition to the DSES might be fruitful, and seeing how they perform could be very worthwhile in both research and practice settings.
Scoring the frequency versions and checklist versions of the DSES

The following sections are intended to help you to score and analyze your DSES data.

Once you have your raw data, a collection of filled in forms, there are a number of ways you can use statistics to interpret and understand the data. For example, you can find differences between groups or examine before- and after-scores, and then evaluate the results for statistical significance. You can follow individuals over time and use statistics to judge the significance of changing scores.

My training was in study design and epidemiology; I do not consider myself an expert in statistical methods. If you do not feel competent in the area of statistics, I suggest that you find a statistician as a consultant for your project or in your practice. The statistical sophistication of people who contact me for information on the DSES varies widely, so some of the information in this section will be useful for some but not be necessary for others. Statistical software programs of various kinds such as SPSS can enable powerful analyses of data, even for the statistically naïve, if you know the basics and maintain a clear head. (There is a free, open-source statistical analysis program called “R,” which is valuable but takes a while to learn). To help you avoid various pitfalls, I advise consulting someone with expertise in statistics at the beginning of your work, as methods continue to change and develop. Too small a sample size is a problem that can limit your power, for example, resulting in not detecting differences or changes that are truly significant. Given all that, the following should be helpful as you assign numerical scores to the DSES results.

1. Mean scores rather than total scores

Mean scores are the most useful for analysis, rather than total scores. Using mean scores also allows for examination of individual items or subgroups. It can compensate for missing responses, as you can divide the total by the number of answered questions to get a mean score.

One of the advantages of mean scores is that you can compare with projects that used a 6-item version or only 15 items. It also helps you take a single item score and compare it with a score on the whole scale.

The most common way to use scores is to examine correlations of the scores with
other variables in a dataset. You take the DSES mean scores, and look at correlations of the scores with different outcomes or other variables using statistical software. If higher scores have a statistically significant correlation with a variable (after taking into account things like sample size and variability), the DSES value and the other variable are linked or one predicts the other. Looking at change over time and at biological and psychological plausibility helps to determine likely causal direction (see specific discussion of this in the empirical evidence section). Multiple regression and multivariate analysis are commonly used by studies on the DSES. These allow you to hold certain variables steady and see distinctive contribution of the DSES to outcomes for example. You can see if the DSES makes a unique contribution above and beyond specific religious variables, or mood, for example, to demonstrate that your effects are not merely a product of or explained purely by these variables. Many of the studies in Part 1 use these methods.

2. Direction of scoring for items 1-15
The original version of the DSES developed in the mid-90s had the higher scores for items 1-15 corresponding to lower frequency (e.g., (1) for “Many times a day”). This was done because that version needed to agree with the way other scales were scored for an initial use in the General Social Survey. (If you are using the open source database from those surveys you will need to know this too.) Also, it was thought to counteract a tendency for the respondent to think of higher as somehow “better.”

Current usage has higher scores for more frequent experiences, which is more intuitive both for researcher and respondent. If you have used the previous reverse scoring method, you need to flip the scores before analysis so that 1=Never and 6=many times a day. (The item, “How close do you feel to God (or the divine in other words)?” which was item 16 on the original form of the survey) has always been scored in the more intuitive direction with closer relationship correlating with the higher score.)

If you want to compare two sets of data, one that uses the intuitive direction, and the other that uses the reverse scoring, here is an algorithm for transformation: Starting with the average score, with all items scored in the same direction, use the equation \( y = 7 - x \) where \( y \) is the score you're trying to compare your score \( x \) to. So, if someone used the intuitive scoring and wound up with an average score of \( x=5.2 \), they could compare this to the counterintuitive score of \( y=1.8 \) by using the algorithm \( y=7-x \). Or vice versa, if a research result showed an average score (counterintuitive) of \( x=3.6 \), then the intuitive score equivalent would be \( y=3.4 \).

3. Item 16 scoring
Item 16 is “How close do you feel to God, or the divine as expressed in other words?” This item is scored differently and has always been scored in the more intuitive direction, such that higher scores indicate closer relationship. It was originally included in the scale to calibrate the “I desire to be closer to God or in union with the divine” item. But that did not ultimately seem to be necessary, and the item was found to have a unique contribution of its own as the whole scale was used in studies over time and as it was used
in the open-ended version producing qualitative feedback showing distinctive importance for that item.

So that the item is not weighted differently, here are two ways to give number scores to these items. This is the recommended method of scoring for this item:

<table>
<thead>
<tr>
<th>Not at all close</th>
<th>Somewhat close</th>
<th>Very close</th>
<th>As close as possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Some people spread the scores evenly and use the following allocation. I prefer to recommend the whole numbers not just because it is easier, but also because I think it fits better conceptually. In the final analysis, they are not that different, and if you have used one rather than the other, it does not make that much difference.

<table>
<thead>
<tr>
<th>Not at all close</th>
<th>Somewhat close</th>
<th>Very close</th>
<th>As close as possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.67</td>
<td>4.34</td>
<td>6</td>
</tr>
</tbody>
</table>

Some people have used the 1-4 method (with ‘As close as possible’ given a 4) that was used for this item on the GSS and the first version. I have also seen it in a number of the translations. If so, it does not affect the end result that much for the whole scale, as this one item it is diluted in the process of combining them all. However, if you still have the option with your data, I recommend reallocating to the 1-6 method described above.

4. **There are no set points for 'high' or 'low' scores.**

Many scales categorize their scores into high, medium and low. For the DSES, there are no set high and low scores that can be applied universally. The grouping is not necessary for using the scores in studies, as we can use group averages, changes over time, and our ability to compare groups and examine correlations. In fact, for many other scales the grouping into high, medium and low is an ad hoc division that is not particularly linked with practical outcomes or correlations.

**Assessment in Individuals**

For individual assessment it is particularly important that there are no absolute high, medium, or low levels of ordinary spiritual experience. Each individual has specific personality and sensitivity variables and different life situations and religious language comfort levels. It doesn’t work to compare one person’s individual scores with those of another person. Or to compare individuals with one another in a treatment or organizational setting. It is much better to look at changes in a person’s own score over time. This is not something particular to this scale and its use. For example, scales of pain experience have similar issues in terms of comparing one person’s assessment of pain level with another’s.
Individual assessments are particularly valuable in therapeutic contexts. If you are trying to identify resources that could be drawn upon in an addiction treatment setting for example, individual assessments can be useful. Particular items may identify experiences that are salient for different people.

On an individual items level, it might be worth exploring where natural breakpoints may occur in response categories. This does not work for the average scores. If a person scores “many times a day” on a few of the items, but “never” on others, the average score is not going to give you a way to categorize the person. But it may be useful to look at individual items in this way. Are there logical ways of grouping response categories? For example, if we wanted to look at the scores on the “I feel deep inner peace or harmony” item, what are logical ways to group scores into 4 groups? Does the following grouping help you achieve your study or assessment goal:

below average - never (1)
average - some days, once in a while (2-3)
high - every day and most days (4-5)
very high - many times a day (6)

Another way of doing analysis is to dichotomize the responses, to use natural breakpoints into two groups. Where significant break points can best be drawn may differ from one population to another. It is possible that grouping “many times a day” and “every day” into one grouping, and comparing that with all the other scores grouped together could inform the identification of a significant break point that has implications. Is there something about the overall pattern reflected in these responses that describes something distinctively different that might have special predictive value?

And dividing “never” from all the other frequencies may also yield significant results, depending on the research or practical question of interest. There may be something distinctive about people who never experience any DSEs that might predict outcomes, or identify people who will just not benefit from the addition of spiritual resources when looking at intervention possibilities.

These kinds of analyses are not particularly useful in a research setting, but could be helpful in practical uses such as evaluating a client’s resources in a psychotherapeutic or social science or pastoral setting.

Dividing the average scores into high, medium and low is not useful as an initial strategy. These averages may predict outcomes in ways that have nature breakpoints that lead you to identify high, medium and low scores, in your particular population. But this will emerge from your data rather than something to be assigned at the start.
5. Change in scores over time in individuals or groups

A valuable use of the DSES is to examine how scores vary over time, whether following an intervention such as a treatment or educational regime, or a discrete set of events, or a long-term life experience. You can examine variability within subjects or examine within-group variability over time. That is, after some change or intervention, you can compare the score of a single person at time one with their score at time two. Likewise, you can use group averages to look at correlations with other factors and outcomes over time in order to answer questions about causation and interactions of variables over time.

In the smartphone study mentioned in Part 1, Wright calculated an overall mean for the person (trait level DSES) and then examined deviations from the person’s mean at each point that data was collected, comparing where the person was relative to their average. That is, he measured the variation in DSES above and below normal for that person. The variations around their mean were predictive of certain outcomes such as less feelings of stress, or more capacity to be feel caring for those around them or strangers (Wright 2017).

6. Group analysis and relative levels

Number scores work best for comparing groups. They are not appropriate for comparing specific individuals.

To look at one person’s score and compare it with another’s at one point in time can be counterproductive. Recalling the model diagram in Part 1, you can see how people start from different cultural backgrounds and substrates of emotional sensitivity and sets of beliefs. This evens out when looking at whole group averages but can obscure things when comparing one individual to another. When a person answers one of the DSES questions with a frequency number, they have to place experiences in a category. Some of us will be more critical, more scrupulous, in the assignment of the category. We are deciding whether to put experience A into category X, sorting beans into containers. And we may decide differently even when the experience may really be the same. I may be too scrupulous in what I consider “selfless caring for others,” and not put feelings as easily in that category, answering “occasionally” when another person might more easily call that same intention selfless, and assign it “every day.” The number scores can exaggerate the limitations of language and individual interpretation. Also, sometimes we have dry patches when we rarely have any of these experiences and if we answer just at that time and compare it with our next door neighbor, it will not be a representative comparison.

Group scores for those who score higher on scales of resiliency, or meaning, or burnout can be compared with those scoring lower to examine whether the difference is statistically significant after adjusting for other variables. Higher average scores correlate with many good outcomes, as seen in Part 1.

Another technique is to look at mean scores within your particular dataset and
examine their correlations with other variables and the distribution of those in your population. If you have access to norms for your population you can compare the scores of your group with those norms and this can yield useful information. For example, you may be looking at a sample of trauma survivors or caregivers. If you have population data on the general population in your city or the area, from your work or studies by others, you might be able to state conclusions about whether your group scores higher or lower than the average in the larger population. This can give useful information.

U.S. norms were determined in the 2004 General Social Survey, which is open-source. Underwood 2006 has a table showing the percentage distribution for the whole DSES and individual items. Even this dataset describes a population norm at one point in time and was administered in a particular way. Various studies cited in Part 1 often give the overall distribution in their population before diving into analysis. This can be helpful as it enables you to state that a certain percentage of your population averaged many times a day on the items, and this compares favorably with population norms. Always keep in mind your research question, or question useful to you in practice, as you do these comparisons.

7. Checklist version scoring

One could just have a no/yes response set for the checklist version, with scores of 2/1, and means ranging from 1 to 2, but this option is better:

______1_______2_______3_______4_______5_______6
Not at All       Very Much

The mean scores here would range from 1-6. It even works for the final “close to God or in union with the divine” question. You add up the totals from the 16 questions and average these scores to get a mean, and then can do similar analyses as you would with the standard version with frequency responses. The comments above that discuss use of the standard frequency version will apply to this version too.
Using individual items and subgroups

Since the DSES was designed within an overarching construct, it is not surprising that the whole set of items generally loads on one factor (for more details on this see section on factor analysis). An assortment of items was included so that the scale could address the variety of experiences that different people might have, making room for the experiences of people with different personalities and beliefs and from different cultures. The mean score gets at the overarching construct, which is why that is used most often in studies.

However, each of the DSES items measures a distinct kind of ordinary spiritual experience. Each individual item in the DSES taps one particular aspect of ordinary spiritual experience, and individual items have been used alone in studies. The “I feel deep inner peace or harmony” item, for example may be predictive or indicative of an outcome of particular interest, and has been used alone in end-of-life settings. With its response categories of frequency and its particular language, it taps a spiritual sense of deep peacefulness rather than an absence of anxiety, or merely reaching resolution of interpersonal conflict.

Practitioners have also found “I am spiritually touched by the beauty of creation” a particularly useful item because it can get at a spiritual sensibility in the “nones”—those who have no affiliation, but still identify as spiritual. “I feel thankful for my blessings” could be used alone if one was particularly seeking an individual item for the spiritual experience of the construct of feeling blessed, or an awareness that somehow daily life contains spiritual gifts. Recent studies have focused on the utility of daily acknowledging gratitude and this item bears a relationship to that construct but adds something distinct.

Individual items that bear theoretical connection to the outcome of interest might a priori be hypothesized to have value in a particular study and could be examined by comparison with the mean. Or one could look at correlation with other individual items. Analysis of individual items may prove helpful in indicating interventions that may be especially appropriate in various circumstances.

There are different opinions on how many items are necessary to include in a scale. Epidemiologists and other researchers are continually trying to slim down numbers to reduce burden on subjects. Some psychometricians believe that multiple items are needed to make up any single factor. However, others use single items frequently and find them
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quite predictive. Each item in the DSES was designed to tap a particular aspect of spiritual experience, and each may ultimately prove significant in its own right depending on the particular need in research or evaluation. At the analysis stage one can examine individual items even if the entire scale is administered, as long as statistical integrity is maintained, for example in hypothesis generation and theoretical rationale. It is important to continue to keep in mind that including the diverse set of 16 items is valuable, as the spectrum of experience is more fully covered.

The following themes might provide useful ways to subgroup the items in analysis. So much of this depends on your particular population and research interest. A number of these themes are explored in *Spiritual Connection in Daily Life*.

Locus of control is a topic of interest in social science and clinical research and might be relevant in practical settings too. The DSES has a number of items that are particularly relevant to that exploration. The *guided by God or a divine source* item taps into a sense of guidance as does the *strength from my religion or spirituality* item. They do not place the locus of control for the person as solely internal or external, but indicate a sense of agency that is the person reports as being aided by a transcendent “more than” or a divine other.

Divine support can be thought of as a form of social support. Social support is a buffer in times of stress, and positive in many other ways. The specific items that tap divine support might include *compassionate love from a divine source or from others, strength and comfort from my religion or spirituality, thankful for blessings, and divine help and guidance.*

*Selfless caring* and *acceptance of others* are two items that can help to examine a sense of other-centered love that might have particular utility. One might also want to look at the balance between these two “love out” items and the two “love in” items, *compassionate love from others* and *divine love directly*. These might have particular salience in the examination of burnout. Does love flow through us in our caring, or do we grit our teeth out of duty, and does this make a difference to burnout, for example? Some people give more than they get, and they could be encouraged to look for places of spiritual support. Others feel quite comforted, but have a harder time reaching out with love and acceptance to others. Both aspects are part of the DSES and seem important to many in a full spiritual life, especially for those in personal and professional caring contexts.

Spiritual connection is measured by the entire set of questions, but specifically can be tapped into by the items on *sense of divine presence, connection to all of life, and being spiritually touched by beauty*. It can be used significantly in studies of the effects of being in nature, or effects of music and art on our resilience, wellbeing, and ability to grow in the midst of trauma.
Certain questions can identify a more theistic sense of relationship if that is of particular interest. But attend to the fact that beliefs, unbeliefs, and affiliations do not always map on to experience. The “Translating God” chapter in *Spiritual Connection in Daily Life* can be helpful in this regard. Relationship with other religious variables can illuminate the specific role of DSEs. Many of the studies using the DSES highlight this complex relationship.

A willingness to stand in life fully rather than escape is reflected in some of the questions, and might have a correlation with other outcomes and variables. The thankful for my blessings and deep inner peace items tap into this to some extent. The ability to feel blessed even in tough times, and peaceful even with the situation is not externally peaceful might give insight into people’s lives and ways of being that can be helpful in tough times.
General Psychometrics and Factor Analyses

More details of the psychometrics of the DSES can be found in the various papers on the scale by Underwood and others who have used the scale in different populations. The original psychometrics were published in the 2002 DSES paper, with help from the statistician Jean Teresi (Underwood & Teresi 2002). Many of the papers on studies using the scale give specific psychometrics using their samples.

Keep in mind that individual psychometric results depend on the assumptions made and the populations and datasets on which they are based. Cronbach’s alphas for the scale in English and in translation, for both the 16-item version and the adapted 6-item version, have been consistently high, 0.89 and above. For example, they are 0.94 and 0.95 for the General Social Survey samples. Most studies show a Cronbach’s alpha higher than 0.90. Item distribution and skew were assessed as adequate, showing a wide range of variability in responses. This result shows low social-desirability bias for the scale. People seem to be very comfortable reporting “never” and “many times a day.” Test/retest results have been reliable in English and in a number of translations. The scale demonstrates both state and trait characteristics.

Each item in the scale was designed to tap a separate feature of spiritual experience, but it was hoped that there would be a cohesiveness of conceptual underpinning. The 2002 paper on the scale’s psychometrics demonstrated a single factor, with weaker loadings by certain items, especially the two compassionate love items (13 and 14: selfless caring and accepting others). Even though these two items have a weaker loading in a number of evaluations of the scale, they are conceptually important to the breadth of content addressed in the scale. Translations of the scale into Chinese, Spanish, French, Brazilian Portuguese, and German have shown loading on a single factor. The Chinese translation showed a Cronbach’s alpha of 0.97 using the single factor model that emerged through Principal Component Analysis (Ng 2009). The Spanish translation tested in the Mexican population had a Cronbach’s alpha of 0.91, with a single factor solution, with items 2, 13 and 14 loading less strongly (Mayoral 2011). The German translation of the 16-item scale shows a single factor structure, supports the unidimensional structure of the scale, and provides other psychometric support for its use in that population (Schmidt 2010). Confirmatory Factor Analysis shows a single factor in a European French population (Bailly & Roussiau 2010). Robinson et al. 2007 found a one factor solution in an alcoholic
population in treatment, with a 0.92 Cronbach’s alpha.

In the 2004 General Social Survey (GSS) results, Ellison and Fan examined both a one-dimensional and two-dimensional approach. They also divided the scale into items containing eight items specifically mentioning God and a separate group, they called “non-theistic” that included the remaining eight non-God items. They did the same for the 6-item scale in the 1998 GSS. Their analysis provides support for a global single-factor model, while also supporting a two-factor model using this division (Ellison & Fan 2008). A California sample of a substance abuse population showed a two-factor structure (Zemore & Kaskutus 2004). The division was different than Ellison and Fan, and they called their item subgroups “theistic” (1,3,4,5,7,8,9,10,15) and “self-transcendence” (2,6,11,13,14), after eliminating items 12 (thankful for blessings) and 16 (close to God).

While some will respond differently to the more explicitly theistic items, it does not necessarily make it a separate factor in the scale as applied more generically. It will be interesting to continue to see how studies that emphasize the introductory sentences, and give alternative wording inline, will factor in future work.

Labels assigned to subgroups can unduly influence interpretations of results. Some items which might fall into the theistic grouping on face value might be responded to positively by a non-theist. An example of this might be “I feel God's love for me through others.” Given the introductory sentences for the scale (“A number of items use the word God. If this word is not a comfortable one for you, please substitute another idea which calls to mind the divine or holy for you.”), this item has been reported with high frequency by non-theists, as discovered in the initial qualitative developmental research on the scale and results in various studies. Another example of an item that cannot be clearly given a theist or non-theist distinction is “I desire to be closer to God, or in union with the divine.” In the original developmental interviews, this item reflected spiritual experiences of an agnostic scientist, for example, who would not be classified as a theist yet felt this item captured their experience. “I feel a connection to all of life” is particularly salient for non-theists. However, as environmental awareness increases, this may become increasingly relevant for theists. For example, connection with the natural world is strongly emphasized in the Franciscan Christian spiritual tradition.

Although divisions of the scale along theistic/non-theistic lines may prove useful for some populations, the scale was designed based on research demonstrating that divisions between theists and non-theists are not as clear cut as we often assume. Beliefs and implicit attitudes are not necessarily linked. Reported belief or unbelief is often belied by attitudes and feelings, and cognitive adherence to a belief set may not map onto some factors of significance. And it is important not to create boundaries or categories that may not exist in the mind of the respondent. I expect that cultures will also differ as to if, or how, this kind of division might be useful. More work has been done looking at the factorial structure of the scale. Additional papers on this can be found on the “publications by others” page at www.dsescale.org. The research continues to find that it can be useful to separate out items that are referred to as explicitly theist and those that are not,
particularly in populations that contain significant numbers of non-theists, but also continues to support the possible combination of all items into one factor even in more secular populations.

An analysis of the entire set of long-form items included in the *NIA/Fetzer Multidimensional Measure of Religiousness and Spirituality* included the 16-item DSES and found that the DSES items form a useful and psychometrically valid single factor in that larger group of items. Idler et al. (2003) found that the six DSE items constituted a single dimension when the 36-item BMMRS was analyzed in the General Social Survey data.

The single factor interpretation is dominant at present. Continuing to consider the scale as uni-dimensional seems warranted, taking these various factor-analysis investigations into account. Since each item was designed to tap a dimension of spiritual experience, it is expected that items will perform differentially in various studies. I encourage analysis of individual items and subgroups when it fits your research hypothesis. However premature separation of items into subgroups can get in the way of appropriate interpretation of results. The inclusion of the introductory sentences or alternate wording inline, is important to enable effective factor analysis of the scale to take place, as it allows for substitution for the word God in a way that works for the individual responding and helps the scale to work as designed.
Foreign language translations

The psychometric properties of the DSES have been demonstrated in Spanish (Mayoral 2013), French (Bailly & Roussiau 2010), Mandarin Chinese (Ng 2009), Brazilian Portuguese (Oliviera 2010), German (Schmidt 2010), Czech (Maliňáková 2018), Hindi (947 Hindus and Muslims by Husain & Singh 2016), Italian (Yepes in press), and the Columbian cultural adaptation of the Spanish version (Matamoros 2013). Additional publications are emerging on the psychometrics in various languages, and various research papers using the translations include psychometric information. I suggest that you search the publications in your particular language databases to see which additional publications have come out or are coming out in your language.

Currently the following translations have been completed:
Arabic, Bangla, Croatian, Czech, Dutch, Filipino, Finnish, Flemish, French, Greek, Hebrew, Hindi, Hungarian, Indonesian, Italian, Korean, Latvian, Malay, Malayalam, Mandarin Chinese, Persian, Polish, Portuguese (Portugal), Portuguese (Brazil), Romanian, Russian, Serbian, Slovak, Slovenian, Thai, Turkish, Ukrainian, Urdu, Vietnamese, Zuni Pueblo. Others are in development or refinement such as Albanian, Assamese, Burmese, Finnish, Lithuanian, Mongolian, Nigerian, Norwegian, and Swahili.

I ask that people obtain permission from me for translations, and work with me, especially at the back-translation stage to refine the translation in order to assure the connection of the translation to the original intent of the items. I then can agree to the final draft translation so that we have a common translation in use. Here follow the guidelines I offer for those doing translations.

- Get some input from people who frequently have the experiences and speak the translation language you are translating into as you construct the items, or have the translator be someone who has such experiences. This also applies to the introductory sentences, and the substitution words for God.
- If you choose to use an alternate word for God in the items themselves, only do so if you are sure such a word works for your entire population. For example, a Zuni Pueblo translation is using the word Creator, which was the best word for their entire population. If your entire sample includes only Muslims, a substitution of
Allah may work well, but if your sample may even a small subset of those not comfortable in a Muslim faith, offer substitutionary possibilities.

- Get input from religious people but also “spiritual, but not religious” people, to enable the instrument to stretch. This is especially important for the non-God items such as “I feel a connection to all of life.”
- Consider word choice carefully, such as what word is chosen for “life” or for “connection,” in order to address a spiritual component. Particular words that need special attention regarding connotations include: spirituality, religiousness, joy, life, feel or sense, life, blessings.
- Think about groups of words that convey the underlying sense of connection to the “more than,” to avoid conflation with psychosocial variables. The DSES has some qualities in common with poetry in its use of language and relevant translations.
- Involve truly bilingual people as much as possible.
- Do not rely on Google-translate!
- Once preliminary items are constructed, give the instrument to a number of individuals in the new language and ask them what experiences these elicit for them to check validity.

My plan is to begin to put the recommended translations up on www.dsescale.org.
Part 3: Examples of ongoing work, and some suggestions for future uses

I hope that you have ideas for how you might use the DSES in your work and that this book has given you tools for moving forward. About 600 researchers and practitioners from many countries have registered to use the scale in their work. 40 translations have been done or are in process, initiated by people in the various countries and collaborating with me in the process. The DSES is being used extensively not only in research but in clinical, religious, social service and organizational settings.

Many people, unfortunately, use the DSES without registering. Please register. There is no cost to you, and it lets me track the scale’s use and connect people with one another when helpful. Contact me at lynn[at]lynnunderwood.com to get a simple registration form.

A few examples of ongoing work relevant to the topics in this book:

The DSES is being used increasingly in business cultures. There are a variety of published studies looking at the DSES and relationships, and in particular the effects on job satisfaction and performance. Registrations on this topic have come from India, Pakistan, Iran and the United States. A study in Croatia is studying the relationship of the DSES to job performance.

I am a consultant for a Harvard University study that is looking at the role of religious and spiritual factors in epigenetic expression as add-ons to longitudinal health studies in the United States. This study is especially exploring multicultural and ethnic variety, such as South Asian groups, Native Americans, Hispanics, and African Americans. The DSES has proven useful given that variety and its potential as a stress-buffer which might moderate epigenetic expression and, in that way, have an effect on the development of cancer or heart disease, for example.

I have consulted with social services agencies, in particular organizations for abused and neglected children. A number of them have incorporated the DSES into measures they use to follow clients over time, and also for anonymous assessment in staff,
to see how the DSES maps onto burnout and compassion satisfaction and retention. Some of these organizations have incorporated interventions to enhance DSEs, such as emailing the questions and suggestions for noticing aspects of spiritual connection in their lives. These organizations need to address people with deep religious faith as well as those not comfortable with religion. The DSES is being used in alcoholism treatment facilities in similar ways. It has been used by the Addiction Recovery Center of the Black Hills (working with Native Americans).

The DSES is frequently used in religious settings—for example, as a before and after quantitative measure in many DMin theses, to document outcomes of a variety of practices. Congregations in different denominations and religious groups of varying kinds have used the DSES to measure the effects of programs, such as a congregation-based weight-loss intervention designed for low-income members. One faith community is looking at the effects of contemplative practice on spiritual growth using the DSES.

The DSES has been incorporated as part of the assessment tools in a major Occupational Therapy Clinic at the University of Southern California.

In university settings it is being uses as a pre- and post-test for coursework dealing with various spiritual and existential issues.

A number of military organizations are using the DSES. Researchers and practitioners from the Marines and the Navy have registered to use it and the book in their work on PTSD.

It is used as a communication tool in a number of settings, in particular, hospital chaplains, nurses, and those working in conflict resolution in countries where religious differences cause problems.

Research studies using the DSES range widely.
- Palliative care setting with cystic fibrosis patients.
- Self-care, DSES, and job satisfaction in mental health workers.
- The DSES and well-being in sex workers.
- The effects on well-being, diminished stress, and spiritual growth of a Lectio Divina intervention in a group of transsexuals (Italian study).
- The DSES in relationship to depression, suicidal behaviors, and ideation.
- The relationship between the DSES and various measure of human virtue such as humility and altruism.
- The relationship of the DSES to quality of life in patients with multiple sclerosis.

Other studies have included:
- How the DSES interacts with personality variables to predict accuracy of eye-
witness testimony.

- The DSES used as an outcome measure for an adaptation of mindfulness in a Christian setting.
- The relationship of the DSES to gang affiliation.
- The role of DSEs in parents of special needs children (India).
- The effect of DSEs on post-traumatic growth in parents following the Sandy Hook school tragedy.
- The DSES as a variable in a study of the effects of an outdoor experiential program (Australia).
- Studies of various kinds in prison populations.
- How DSEs influence the attitude of Arab-Americans towards mental health providers.

Suggestions for future uses of the DSES in research and practice

After reading through the studies in Part 1 and the various ongoing studies, you probably have ideas that you want to research or uses that the DSES can be put to in your practical settings. The following are a few of my suggestion for future work.

**Mining existing datasets**

The DSES has been put into large datasets and used in studies of large groups, cross sectionally and over time. The opportunity exists there to look at scores on single items, or groups of items and see how they predict outcomes. Or look at a single item of interest as an outcome. The study that looked at the deep inner peace question at end of life is an example of this. These explorations can be performed and published without needing to collect new data.

**More analysis of individual items and subgroups**

Although there are many studies about gratitude, there is a difference between gratitude generally and thankful for my blessings. The thankful for my blessings item can enable reporting of the experience of seeing blessings in the rough and in the smooth. It is also directed to a transcendent source and has more transcendent qualities, so it may be a useful addition to other studies and a complement to already existing work on gratitude.

If you are working with a group with strong anti-religious feelings, you could select a subgroup of items that provoke less reaction, to enable them to more easily access their experiences of spiritual connection. Spiritually touched by beauty, deep inner peace, connection to all of life, selfless caring, accept others, thankful for blessings, divine love through others could be used as a group. Also, for such a group, you could make sure that alternate wording to the word God was explicitly included in the items presented. Care must be taken not to substitute a word that does not hit the spot for your population, and not to make unwarranted assumptions about people. Many who report that they do not
believe in God often reply with high frequency to items when allowed to substitute a word that indicates the divine or holy for them.

**Incorporating alternative wording inline**

One of the reasons the DSES continues to be widely used is its unique capacity to stretch beyond religious boundaries and tap into a spiritual dimension of people’s lives without losing depth. It is this that has continued to give it predictive power and utility in practical settings. I would like to see more use of the scale with the alternate wording emphasized, to continue to reach the spiritual experiences for a wide group of people in our changing times.

If people are interested in the relationship between spirituality and religiousness, with the current flurry of interest in “nones”—those who claim no affiliation—I think the DSES could be used together with or apart from other measures of religiousness to see where it is predictive of various outcomes, or prevalent to various degrees in the non-religious. This would give greater insight into this group, and into what resources might be provided to help them in tough times. And it might provide better definitional categories than beliefs or religious behaviors.

**Interventions directly targeting DSES items and overall attention to DSEs**

The DSES is frequently used as a pre- and post-test in intervention studies. One could design an intervention using ideas from *Spiritual Connection in Daily Life* or other sources to specifically target awareness of these experiences directly, or through practices aimed at enhancing specific items or the DSES items overall. In the process one could examine other outcomes of interest: recidivism, PTSD, post traumatic growth, addiction, sense of meaning in life, prosocial behaviors, quality of relationships. This intervention could be used effectively to increase a variety of positive outcomes and diminish negative ones, as suggested in all the studies to date on the DSES. As an outcome measure, the DSES has provided an opportunity to assess changes over time using a spiritually sensitive instrument. It can be examined both as a factor correlated with others and involved in a causal chain, and also as a measure of certain spiritual outcomes.

I would be particularly interested in seeing a study of the effects of calling one’s attention to the experiences in the DSES on a daily basis or even more frequently. This is a kind of direction of attention to particular things. The checklist version lends itself to this kind of intervention and assessment, via smart phone prompts perhaps. What effect does attention to Daily Spiritual Experiences have on the frequency of DSEs and on a variety of stress related outcomes?

Such an intervention may be preferable to generic mindfulness interventions. Mindfulness is being widely used in interventions in secular settings. I am concerned about the lack of clarity about what exactly mindfulness is in each study. How might
particular kinds of mindfulness be very different? Interventions like “mindfulness-based stress reduction” combines a variety of techniques and religious strands. Is that different from a “breathing awareness exercise” done in a grade school? They both seem to be lumped into the label of mindfulness.

What religious assumptions underlie mindfulness is a question. If divorced entirely from its Buddhist roots, is mindfulness going to function better or worse? Many describe a non-judgmental attitude as part of mindfulness, but whether that is essential to the process, and how, is not clearly stated. Furthermore, how people follow the “directions” of the mindfulness intervention is very hard to determine, especially if many different techniques are used. There seem to be very subtle requirements when you ask someone to “be fully present”, for example. How is that actually incorporated into the mental attitude and how does a person evaluate whether they are doing that or not.

Other work looking at changes over time in the DSES

Opportunities to study DSES scores over time can continue to yield information. Do practices that increase spiritual experience have positive effects on a variety of other outcomes? Which practices are most likely to increase spiritual experiences? Are some spiritual experiences particularly sensitive to certain kinds of interventions? Religious practices from faith traditions tested over time provide a rich resource here, as well as more non-traditional approaches.

Adding other measures

It can be is important to add other measures to studies using the DSES in research and practice. When especially examining religious trends and associations, measures of private and public religious practice, affiliation and belief can be helpful, for example.

Referring to the issues mentioned earlier regarding assessing compassionate love for oneself, one could supplement the DSES with Neff’s brief 12-item measure of Self-Compassion, or select items from it. (Raes 2011)

If tracking the DSES over time, it could also be useful to include brief measures of stress, or social support, for example, to examine how these factors interact with the DSES, or enable subgrouping of people with higher or lower stress or social support and how that effects outcomes.

Continued uses in practical settings

The DSES is increasingly used in hospitals, organizations, therapy, social service settings such as adolescent services, prisons, hospice, and also in religious groups of various kinds. It can be used with the number scores in evaluation and assessment of individuals over time and as a baseline to identify potential resources.

But one of the best ways to use the DSES questions is the open-ended format, to open communication on topics hard to articulate, in a way that bridges different beliefs. I have
found this works well in workshops. Follow-up from people who use the questions in this way has been positive.

## Conclusion

With respect for theistic traditions built in along with items that are often more widely accessible, the DSES has the capacity to bridge differences and find common ground. The experiences addressed have importance to many people and can provide a connection to other aspects of life. As religious connections become stronger for many, while many other people become alienated from organized religion, this instrument can address the religiousness/spirituality of a variety of kinds of people. The focus on experience rather than belief helps this, and its intercultural utility has been confirmed in a variety of cultures world-wide. Differences and similarities may influence various features of life.

Many people report these experiences frequently, both those who are explicitly religious and those who are not, showing that relationship with the transcendent is a reality of life for many people on a regular basis. And this relationship has a connection with other parts of life, as found in various studies. For some it is an intimate relationship with a divine person, for others with a divine being beyond personhood. For these many people, this is a genuine relationship. For others, the connection is with a transcendent in a more diffuse sense, but particularized in various moments. The DSES has a capacity to tap into a sense of the real beyond what is seen or touched, a sense that exists for many people across religions and cultures. Formulation in a numerical scale allows statistical analysis and comparative work.

The full DSES complements other scales and can be usefully combined with scales of attendance, affiliation, coping, and private and public practice to flesh out a larger construct of religiousness/spirituality. The DSES is more acceptable than many scales to non-religious researchers and respondents, partly due to the substantive section of non-explicitly religious questions. On the other hand, many religiously-oriented researchers and respondents are reassured to see that orientation also reflected. It does not require exclusive separation of the constructs. One of the strengths of using social science tools is that they can help us to better understand those who are not like ourselves.

The utility of this instrument is linked to its development. A strong theoretical framework, extensive qualitative testing, and a strong qualitative verification phase are main reasons why the scale reflects the constructs of interest. Many translations of the scale are proving useful in a variety of cultures worldwide, confirming its wider applicability. United States population data norms for the scale exist. It has a solid psychometric base. Links have been established between the DSES and a variety of other variables. The concreteness of the items facilitates recall and accurate self-report.

What are the implications for action and attitude, given the growing body of results from the use of the DSES? There is growing indication that if we can enhance spiritual
experiences, we can enhance the lives of the persons having them in various ways. The positive life-contributions of social support and negative contributions of loneliness, continue to be supported by research. The DSES measures “relationship with the transcendent” which is not dependent on social circumstances and may provide resiliency for many.

But also, and possibly more importantly, from a religious/spiritual perspective, Daily Spiritual Experiences in and of themselves are of value. They enrich the lives of those who value relationship with the transcendent as something of significance and importance in and of itself. They also seem to be linked to a variety of positive outcomes and psychological states and good workplace and relationship outcomes such as those highlighted in various research studies. This is worth attending to when we consider the additional value spiritual and religious experiences may bring to people’s lives, and to those around them.

I hope that this book, with its summary of some of the cutting-edge research and details on the practical usage of the scale, can help those who want to include a useful set of variables in their research and practice.
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