

# Relationship of Spirituality or Religion to Recovery From Substance Abuse

## A Systematic Review

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### Abstract

Spirituality and religion are frequently acknowledged as significant contributors to individuals' recovery from substance use disorders. This review focuses on the role that spirituality or religion plays in substance abuse treatment outcomes. Our search of three databases—PubMed, CINAHL, and Psych Info—turned up 29 eligible studies for review. We group our findings according to whether the study's focus was on alcohol only or alcohol and other drug use. The most common treatment outcome was abstinence followed by treatment retention, alcohol or drug use severity, and discharge status. For most studies, we found evidence suggesting at least some support for a beneficial relationship between spirituality or religion and recovery from substance use disorders. Our review addresses the strengths and limitations of these studies.

**Keywords:** recovery, religion, spirituality, substance use disorders

For over a decade, the Joint Commission on Accreditation of Healthcare Organizations has recognized the importance of addressing spirituality in the care of patients (Burkhardt, Solari-Twadell, & Hass, 2008). For those with substance use disorders, spirituality is a frequently acknowledged significant contributor to recovery. Twelve-step programs, most notably Alcoholics Anonymous (AA), are well-known treatment methods that assume spirituality's importance to recovery (Miller, 1998).

The 2010 National Survey on Drug Use and Health estimated that 22.1 million people in the United States (U.S.), aged 12 years or older, had a history of substance abuse or dependence in the past year. Included in that number were 4.2 million persons who abused or were dependent on illicit drugs but not alcohol and 15 million who were dependent on

or abused alcohol but not illicit drugs (Substance Abuse and Mental Health Services Administration [SAMHSA], 2011). In 2010, according to SAMHSA, 4.1 million persons received treatment for problems related to the use of alcohol or illicit drugs. That number is roughly the same as the number of those who abused or were dependent on illicit drugs

In a 2011 survey, 55% of U.S. citizens reported that religion was a very important part of their life (Gallup, 2012). In an earlier report, the Center for Research on Religion and Urban Civil Society/Gallup Spiritual Index found that 68% of Americans desire spiritual growth and rely on their faith for meaning (Gallup & Johnson, 2003). The Institute of Medicine classifies the use of spirituality or "spiritual healing" as complementary or alternative medicine (Committee on the Use of Complementary and Alternative Medicine, Institute of Medicine, 2005, p. 313). Burkhardt et al. (2008) report that, in 2004, 64% of U.S. citizens reported using some type of complementary and alternative medicine as part of their health care. According to these statistics, more than half of the U.S. population turns to spirituality or religion (S/R) as part of their health care.

Burkhardt and Solari-Twadell (2001) define spirituality as "the experience and integration of meaning and purpose in life through connectedness with self, others, art, music, literature, nature, or a power greater than oneself" (p. 49) and religiousness as "an understanding of a particular faith-based system or dogma, and participation in the rituals and services offered by a faith community" (p. 49). These definitions inform our use of the terms "spirituality" and "religion" in this article. The terms spirituality and religion are equally valuable in this review. Used interchangeably in the literature, these terms have overlapping features (Hill et al., 2000). Utilizing only one of these search terms would have narrowed the literature search making the review less comprehensive.

Addiction has been described as a chronic relapsing brain disease that is characterized by compulsive behavior (National Institute on Drug Abuse, 2010). This concept is similar to the Diagnostic and Statistical Manual of Mental Disorders definition for substance dependence: "a pattern of repeated self-administration that can result in tolerance, withdrawal, and compulsive drug-taking behavior" (p. 192, American Psychiatric Association, 2000). Treatment of individuals with a chronic illness, such as addiction, requires strategies that will enable

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them to reduce the impact of their illness and increase their quality of life (Adegbola, 2006). The inclusion of spirituality/religion in addiction treatment programs is one such strategy purported to improve outcomes and long-term success.

AA has long utilized a spiritual component in the treatment of alcoholism. One of the key components of AA's 12-step program is reliance on a power "greater than oneself" (AA, 2001). The overall success of AA generated additional 12-step programs for addictions other than alcohol. These programs also use spirituality as a means of promoting and maintaining recovery.

Miller (1998) describes four research areas for which S/R has been explored:

1. as risk or protective factors for substance use problems;
2. as part of the course of addiction disorders;
3. as a dependent variable influenced by alcohol or other drug use; and
4. as a component of the recovery process.

However, the measurement of S/R as a primary or adjunct treatment and its relationship to outcomes are not clear. This review focuses on S/R as contributors to recovery from substance use disorders. This information is important to nurses in that they are directly involved in the assessment, treatment, and discharge planning for patients with substance use disorders. For nurses who work in addictions, the data described here reflect the current state of the evidence.

## METHODS

We searched three databases—PubMed, CINAHL, and Psych Info—using the following search terms: religion OR spirituality AND substance abuse OR drug abuse OR alcohol abuse OR Alcoholics Anonymous OR Narcotics Anonymous AND recovery OR treatment OR abstinence. These three databases yielded a total of 1,887 citations. Titles from these citations were then reviewed to determine if they included some aspect of recovery as well as a focus on S/R. This yielded a total of 74 citations for review. Each abstract was read by all authors to determine eligibility for full review. An article was selected if (1) it was a quantitative research investigation that included statistical testing, (2) it included recovery as an outcome, and (3) S/R was examined either as an influence on recovery or as part of an intervention. Books, dissertations, and conference abstracts were excluded. Our search for eligible journal articles had no predetermined start date, but the end date was March 2012. Twelve abstracts were selected for full review. Examination of the reference lists for each of the 12 studies turned up an additional 17 citations that were reviewed by the above criteria, read, and accepted, resulting in a total of 29 eligible studies (see Figure 1 for search details). Because of the unique approach AA uses to integrate S/R, we reviewed all such 12-step programs separately. Then, we examined non-AA/12-step studies focusing solely on alcohol, followed by a section on alcohol and other drugs, that is, polysubstance use. All studies are reviewed in Table 1.

## RESULTS

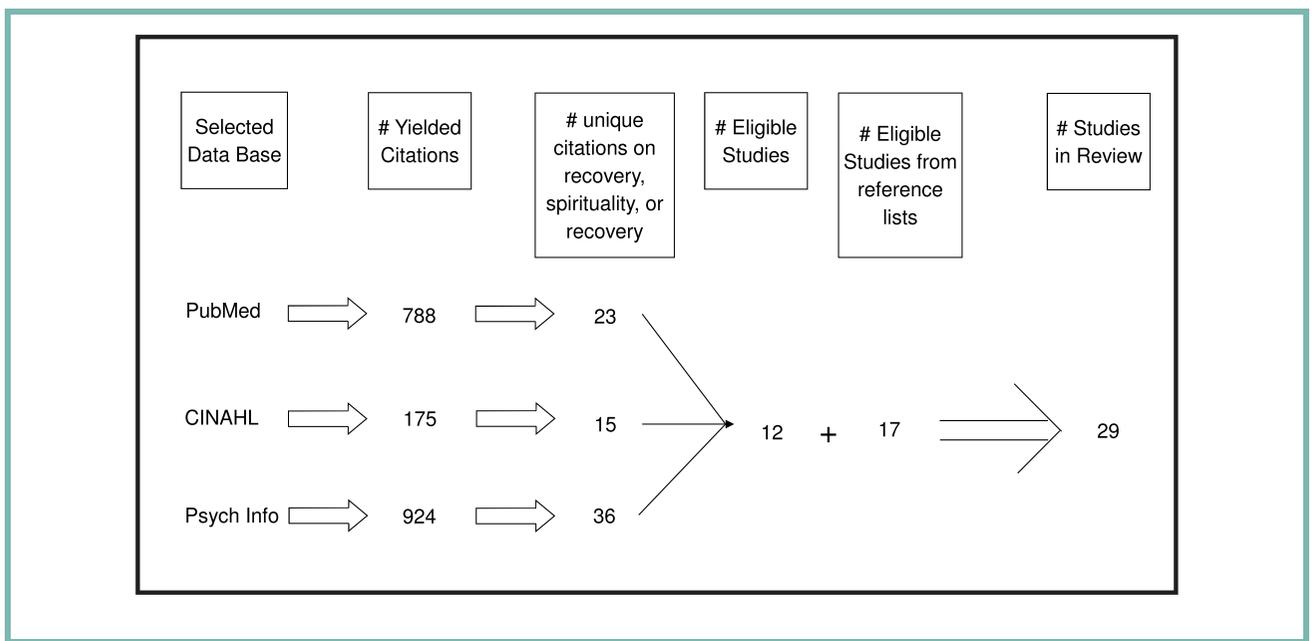
### AA and 12-Step Programs

Investigators in seven studies researched S/R in the context of either AA or 12-step programs (Carroll, 1993; Hendricks et al., 2003; Kaskutas et al., 2003; Murray et al., 2003; Oakes et al., 2000; Rush, 2000; Zemore, 2007). Substance use outcomes all included length of sobriety, specifically, abstinence for any length of time (Carroll, 1993; Hendricks et al., 2003; Murray et al., 2003; Oakes et al., 2000); 30 days (Zemore, 2007) or past 12 months (Kaskutas et al., 2003). Oakes et al. also examined the consequences of alcoholic drinking. Overall, the findings from these studies were mixed. Significant positive relationships were observed between spirituality (Carroll, 1993; Zemore, 2007) or religion (Zemore, 2007) and abstinence. Zemore et al. noted that, although baseline religiosity, as measured by the Religious Background and Behavior (RBB) scale, did not predict 30-day sobriety at 12 months, religious and spiritual change scores did. Specifically, spiritual change functioned as a partial mediator in the relationship between 12-step involvement and 30-day sobriety. Notably, to measure spiritual change, participants were asked, "Have you had a spiritual awakening or conversion experience through your involvement with AA, NA [Narcotics Anonymous], or CA [Cocaine Anonymous]?" Asking this question also constitutes the 12th and final step in AA and other 12-step programs, a limitation acknowledged by the investigators.

Spiritualawakening was also assessed by Kaskutas et al. (2003), who interviewed 587 participants at treatment entry, then 1 and 3 years later. They observed that only a recent (defined as within the past year) spiritual awakening was significantly related to abstinence in Year 3 compared with participants who had never reported a spiritual awakening. Participants who reported a spiritual awakening at Year 3 were most likely to also report continuous abstinence. Religious beliefs at baseline were not associated with abstinence in this group. However, religion was measured with a single item from the RBB scale that classified a participant as being an atheist, agnostic, spiritual or religious, or "unsure."

The investigators who found no or conflicting support for S/R and sobriety conceptualized S/R in different ways: as God/Higher Power, alcohol-specific locus of control (Murray et al., 2003); religious problem-solving and spiritual experience (Oakes et al., 2000); or general spirituality (Hendricks et al., 2003; Rush, 2000). The investigations that found no significant relationships between religion or spirituality and sobriety had similar study characteristics. All employed a cross-sectional design and included participants recruited directly from AA clubs (Hendricks et al., 2003; Murray et al., 2003; Oakes et al., 2000; Rush, 2000).

Three studies found gender differences (Hendricks et al., 2003; Murray et al., 2003; Oakes et al., 2000). In Hendricks and colleagues' study comparing the perceptions of 35 married couples (alcoholic husband and spouse), the husband's spirituality was not significantly associated with his length of sobriety, but the wife's general spirituality was significantly and



**Figure 1.** Search strategy for review articles.

positively related to her report of her husband’s sobriety. In the investigation by Murray et al., spiritual importance significantly correlated with locus of control for women but only approached statistical significance for men. Furthermore, frequency of spiritual practices was significantly related to locus of control only for men. For the total group, locus of control was not related to sobriety; however, multivariate analyses were not conducted, and so, gender effects could not be determined. Similarly, in bivariate analyses, spiritual openness and religious practice were significant only for men in the Oakes et al. study but were not related to sobriety in multivariate analyses. These investigators acknowledged that gender was a possible moderator for the relationship between spirituality and abstinence.

### Non-AA/12-Step Programs

There were 22 studies conducted outside the context of AA or 12-step programs. Of these, nine focused solely on persons with alcohol abuse (Krentzman et al., 2010; Piderman et al., 2007, 2008; Pringle et al., 2007; Robinson et al., 2007; Roland & Kaskutas, 2002; Sterling et al., 2006; Stewart et al., 2008; Walker et al., 1997), and 13 focused on polysubstance use (alcohol and other drugs; Avants et al., 2001; Carter, 1998; Christo & Franey, 1995; Chu & Sung, 2009; Connor et al., 2008; Heinz et al., 2007; Jarusiewicz, 2000; Johnsen, 1993; Richard et al., 2000; Shields et al., 2007; Stahler et al., 2007; Stewart, 2008; Wolf-Branigin & Duke, 2007). These studies looked at different treatment outcomes. The most common outcome was abstinence (Avants et al., 2001; Carter, 1998; Chu & Sung, 2009; Jarusiewicz, 2000; Johnsen, 1993; Krentzman et al., 2010; Piderman et al., 2008; Roland & Kaskutas, 2002; Stewart, 2008; Stewart et al., 2008; Sterling et al., 2006), followed in descending order by length of treatment or retention (Heinz et al., 2007; Pringle et al., 2007; Shields et al., 2007; Stahler et al., 2007; Sterling et al., 2006;

Wolf-Branigin & Duke, 2007), alcohol or drug use severity (Christo & Franey, 1995; Heinz et al., 2007; Richard et al., 2000; Robinson et al., 2007; Stahler et al., 2007; Stewart, 2008; Walker et al., 1997), treatment or discharge status (Connor et al., 2008; Pringle et al., 2007), and abstinence efficacy (Piderman et al., 2007). Findings were more mixed for the alcohol-only than the polysubstance group.

**Alcohol Only** In the alcohol-only groups, R/S was significantly related to sobriety; however, significant relationships depended on how these concepts were measured. In Stewart et al.’s (2008) study, participants who reported “regular practice of one’s religion or faith” were over five times as likely to achieve abstinence at 3 months. However, religiosity as measured by an adapted Intrinsic Religious Motivation Scale was not significantly related to sobriety. Religiousness as measured by the RBB questionnaire was associated with a relatively small (6.7%) but significant increase in continuous sobriety at 6 months in Krentzman et al.’s (2010) investigation. Similarly, public religious practices and existential well-being were significantly related to continuous abstinence for at least 1 year, whereas private spiritual practices, religious coping, religious well-being, and intrinsic religiosity were not (Piderman et al., 2008). In the study by Krentzman et al., spirituality was also associated with sobriety at 15 months, but it was not associated with this outcome in the Stewart et al. study. Spirituality was operationalized by Krentzman et al. with the Purpose in Life (PIL) Scale, whereas Stewart et al. used the 13-item Spiritual Support subscale of the Spiritual Experience Index. The PIL scale mentions neither God nor a Higher Power. Notably, Stewart et al. also included this measure (but did not operationalize it as spirituality) and found that it was not significantly related to abstinence at 3 months.

Stewart et al. (2008) and Krentzman et al. (2010) are among the few studies examining gender or racial differences. Stewart

**TABLE 1 Study Summary**

<b>AA/12-Step Focus</b>				
<b>Author/Year</b>	<b>Design</b>	<b>Sample</b>	<b>Method</b>	<b>Results</b>
Carroll (1993)	Cross-sectional	100 participants from AA meetings; majority White; gender not reported	Tools: Step Questionnaire and PIL; data collection: tools distributed at AA meetings and submitted via return mail; outcome: length of sobriety	Length of sobriety had a significant positive correlation with the PIL scores.
Hendricks, Caldwell, and Katz (2003)	Cross-sectional	35 married couples; men, AA/wives, Al-Anon; 90% White	At least 6 months married and abstinent; tools: B-PRI, SWBS; data collection: same day; outcome: length of sobriety	Sobriety was not correlated with SWB but was correlated with B-PRI.
Kaskutas, Bond, and Weisner (2003)	Prospective cohort	Baseline: 926; 1-year follow-up: 655; 2-year follow-up: 587; public and private treatment programs: 55% men, 60% White	Tool: RBB (one item), "Have you had a spiritual awakening"; data collection: intake, 1 year and 3 years; outcome: abstinence in past 12 months	Religious self-definition was not associated with significantly increased odds of sobriety; individuals reporting a spiritual awakening at year 3 had highest odds of continuous sobriety.
Murray, Malcarne, and Goggin (2003)	Cross-sectional	144 participants from AA meetings: 38% women, 62% men	Tool: AGLOC, frequency of spiritual practice, and perceived importance; data collection: same day; outcome: length of sobriety	Individuals with low God/Higher Power control beliefs and those who endorse internal drinking-related control beliefs were associated with significantly longer sobriety.
Oakes, Allen, and Ciarrocchi (2000)	Cross-sectional	78 participants from AA meetings: ~ 50% men and 50% women, mean age = 45 years, majority White and employed full-time	Tools: RPSS, RBB, and SEI; data collection: same day; outcome: length of sobriety	After multivariate analysis, AA involvement was the only significant predictor of abstinence and sobriety.
Rush (2000)	Cross-sectional	125 participants from AA meetings: 100% women, mean age = 47 years, majority White upper-middle class	At least 1 year Abstinent tools: Spiritual Orientation Inventory; data collection: tools distributed at AA meetings and submitted via return mail; outcome: length of sobriety	Spirituality was significantly related to sobriety.
Zemore (2007)	Secondary analysis using data from previous clinical trial	733 participants at baseline and 537 participants at 1-year follow-up (73%); sample not otherwise described	Tools: RBB (spiritual awakening); data collection: intake and 1 year; outcome: abstinence for past 30 days	Increased participation in 12-step program predicted increase in abstinence. This change was partially explained by increases in spirituality.
<b>Alcohol-only/Non-AA</b>				
Krentzman, Farkas, and Townsend (2010)	Secondary analysis using Project Match data	527 participants at baseline, 414 at follow-up (79%); 77% men, mean age = 41 years, 22% Black	At least 6 months married and abstinent; tools: PIL, RBB; data collection: baseline, months 10–15; outcome: 6 months continuous sobriety from alcohol	Baseline PIL was significantly associated with decreased sobriety but increased at month 15. RBB associated with a 1.067 times greater likelihood to get sober.

*Continues*

**TABLE 1 Study Summary, Continued**

AA/12-Step Focus				
Author/Year	Design	Sample	Method	Results
Piderman, Schneekloth, Pankratz, Maloney, and Altchuler (2007)	Longitudinal study, Part 1	74 participants with alcohol dependency, 51% women, mean age = 44 years, 93% White	Tool: SWB, Duke Religion Index, Brief RCOPES; data collection: intake, discharge; outcome: alcohol abstinence efficacy	Stronger correlation was found between SWB and abstinence efficacy. Private religious practices and religious coping were not significant.
Piderman, Schneekloth, Pankratz, Maloney, and Altchuler (2008)	Longitudinal study, Part 2	74 participants with alcohol dependency, 51% women, mean age = 44 years, 93% White	Tool: SWB, Duke Religion Index, Brief RCOPES; data collection: 3, 6, and 12 months; outcome: 1 year of continuous abstinence	Abstinence was significantly associated with private spiritual practices. Abstinence was not significantly associated with religious coping or intrinsic religiosity.
Pringle, Emptage, and Barbetti (2007)	Secondary analysis using AA alcohol outpatients	158 (61% follow-up), 63% AA members at some point, 100% Black	Tools: PIL, SEI, and 6 items from the Religious Motivation Scale; data collection: intake and 3 months; outcome: retention, length of stay, discharge status (reason for leaving treatment)	After adjusting for gender, religious practice, baseline alcohol use, and other variables, none of the spirituality measures were significantly associated with discharge status.
Robinson, Cranford, Webb, and Brower (2007)	Prospective cohort	157 patients with alcohol use disorder, 55% full-time employed, 55% women, 83% White	Tools: 10 measures from Project Match, BMMRS, Loving & Controlling God Scales, RBB, DSE, PIL, Brief RCOPES; data collection; 6 months; outcome: heavy alcohol use in past 90 days	DSE and PIL (after controlling for gender) were significant for absence of heavy alcohol use at 6 months. No other measures were significant.
Roland and Kaskutas (2002)	Prospective cohort	851 participants from public and private treatment programs; 63% White, 27% Black, 15% Hispanic	Tools; modified RBB (religious beliefs, practices, and church attendance); data collection: intake and 12 months (treatment end); outcome: length of sobriety and consequences of drinking	Blacks reporting higher AA and church attendance at year 1 had greater sobriety than Blacks attending church only. Whites and Hispanics reporting primarily AA attendance were more likely to report sobriety.
Sterling et al. (2006)	Longitudinal	405 participants, mean age = 42 years, 85% White	Tools: DSE, BMMRS, Spiritual Belief Scale, SEI, INSPIRIT; data collection: intake, 1 month, and 3 months; outcome: premature termination of treatment, abstinence, desire to drink	No matching effects for discharge efficacy or desire to drink. Persons with lower levels of spirituality participating in less spiritual programs had poorer outcomes.
Stewart, Koeske, and Pringle (2008)	Prospective cohort	158 participants at baseline; 96 participants at follow-up (61%), 61% men, mean age = 39 years, 100% Black	Tools: Spiritual Support subscale of SEI, PIL, six-item extrinsic religiosity, frequency of religion/faith; data collection: intake and 3 months; outcome: abstinence	Participants who regularly practiced their religion/faith at baseline were >5 times as likely to achieve abstinence 3 months later (statistically significant).

Continues

**TABLE 1 Study Summary, Continued**

AA/12-Step Focus				
Author/Year	Design	Sample	Method	Results
<b>Alcohol and Other Drugs</b>				
Author/Year	Design	Sample	Method	Results
Walker, Tonigan, Miller, Corner, and Kahlich (1997)	Double-blind RCT	40 participants with alcohol abuse or dependence, 70% men, 72.5% Hispanic, 15% White	Intervention: intercessory prayer; tools: not applicable; data collection: 3 and 6 months; outcome: alcohol consumption	No significant relationship. No difference was found between the prayer intervention and the nonintervention groups on alcohol consumption.
Avants, Warburton, and Margolin (2001)	Cross-sectional	43 participants with HIV (79%) at follow-up, 30% women, 49% Black	Tools: one-item measuring degree to which religion or spirituality provides source of support/comfort; data collection; same day; outcome: abstinence	Faith was a significant predictor of abstinence.
Carter (1998)	Case control	63 participants; no further description provided	Tools: BRRP; data collection: same day; outcome: length of sobriety	Higher scores for spiritual practices were associated with fewer relapses and longer recovery.
Christo and Franey (1995)	Prospective cohort	101 polysubstance users in London; 26% women; 80% White, 11% Black, 8% Mixed, 1% Asian	Tools: seven-item scale developed for study; data collection: 6 months; outcome: self-reported drug use	No significant relationship between spirituality beliefs and drug use was found.
Chu and Sung (2009)	Secondary analysis of DATOS	40% woman; 1,169 Whites, 1,391 Blacks	Tools: church attendance, 1 item on frequency; data collection; intake and 12 months; outcome: abstinence	Religious behavior at 1 year was positively associated with recovery. This finding was not significant for Whites.
Connor, Anglin, Annon, and Longshore (2008)	Longitudinal	315 participants, 29% women, 40% Black, 35% Hispanic	Tools: SWB; data collection: intake, 12 months and 6 months after discharge; outcome: treatment status in or not in maintenance treatment	Persons with consistently low spirituality had significantly more days of heroin use.
Heinz, Epstein, and Preston (2007)	Prospective cohort	201 participants at baseline; 169 participants at follow-up (84%), 72% men, 66% Black	Tools: INSPIRIT; data collection; intake and 12 weeks; outcome; treatment retention and urine specimens	Higher INSPIRIT results predicted more cocaine negative urines, but results did not correlate with urines positive for cocaine or opiates. Treatment retention was not significant.
Jarusiewicz (2000)	Cross-control	20 relapsing and 20 recovering participants from addiction treatment center connected with a hospital, 60% men	Tools: SBS; data collection: same day; outcome: abstinence	Recovering individuals had greater levels of faith and spirituality.
Johnsen (1993)	Case control	58 participants, 20% women, mean age = 37 years	Tools: "How often do you use prayer or meditation?" and "Have you maintained sobriety since your treatment?"; data collection: same day; outcome: abstinence	Participants achieving abstinence more often used prayer or meditation.

Continues

**TABLE 1 Study Summary, Continued**

AA/12-Step Focus				
Author/Year	Design	Sample	Method	Results
Richard, Bell, and Carlson (2000)	Prospective cohort	193 participants, 53% men, 66% Black	Tools; church attendance and "How often do you feel religion is really important in your life?"; data collection; intake and 6 months after charge; outcome; self-reported improvement in drug use	Individual religiosity at baseline had no effect on decreased overall drug use. Increased church attendance was associated with decreased crack use. Increased church attendance and 12-step attendance were associated with decreased alcohol use.
Stahler, Kirby, and Kerwin (2007)	RCT with attention control	18 participants, 100% women, 100% Black	Intervention: treatment, Bridges; data collection, baseline, 3 months, and 6 months; outcome, treatment retention	The treatment group was associated with increased retention.
Stewart (2008)	Prospective cohort	301 participants, 51% men, mean age = 35 years, 80% White	Tools: MMRS (short form); data collection: intake and 7 months after discharge; outcome: abstinence, drug use severity, treatment readmission	Many spiritual dimensions were important in treatment outcomes. Generally, the relationship was stronger for the spiritual than the religious dimensions.
Wolf-Branigin and Duke (2007)	Cross-sectional	46 participants, treatment program: faith-based residential substance abuse treatment, 26% women, 89% Black	Tools; brief questionnaire on involvement in spiritual practices (at least 1 hour/week in optional services); data collection: same day; outcome: treatment completion	Likelihood of involvement in spiritual activities and completing the program was 62.7%. Likelihood of not being involved in spirituality and completing the program was 4.7%.
Shields, Broome, Delany, Fletcher, and Flynn (2007)	Secondary analysis of DATOS	8,494 participants	Tools: seven-item composite scale for recovery/sobriety; data collection: intake (7–10 days after treatment entry); outcome: critical retention	For a typical program, individual religiosity and retention did not correlate.

*Note.* AGLOC = Alcohol-related God Locus of Control Scale; BMMRS = Brief Multidimensional Measure of Religiousness and Spirituality; Brief RCOPES = Brief Religious Coping Scale; B-PRPI = Brown Peterson Recovery Progress Inventory; DSE = Daily Spiritual Experiences (Loving & Controlling God Scales); INSPIRIT = Index of Core Spiritual Experience; MMRS = Multidimensional Measurement of Religiousness/Spirituality; PIL = Purpose in Life; RBB = Religious Background and Behavior Scale; RPSS = Religious Problem-Solving Scale; SEI = Spiritual Experience Index; SBS = Spirit Belief Scale; SWB = Spiritual Well-Being Scale.

et al., in their study with 96 African Americans, observed that the statistical significance of regular religious/faith practice applied to women but only approached significance for men. Krentzman et al., in their secondary analysis study of Project Match data, noted that race was a significant moderator for spirituality but not religion. For each unit of increase above mean PIL scores, Blacks were 4.4% more likely than Whites to be sober at 15 months.

Two studies that did not show supportive evidence examined discharge status or treatment retention (Pringle et al., 2007; Sterling et al., 2006). Sterling et al. examined whether individuals who were matched to treatment programs that were congruent with their spirituality would be less likely to be prematurely terminated from treatment. Overall, most (93%)

of study participants were favorably discharged. However, these investigators observed that individuals with lower spirituality matched with less spiritual programs were the ones most likely to be prematurely terminated from treatment. Regarding abstinence efficacy, individuals who were not very spiritual on admission and were offered spiritually oriented treatment did not have poorer treatment outcomes, but those who were less spiritual and appropriately matched did have significantly lower abstinence efficacy scores. Findings were similar for the participants' desire to drink. Both studies used standardized S/R measures only. In a sample composed entirely of African Americans, Pringle et al. found no significant results for spirituality after controlling for gender and religious practice, among other participant characteristics.

**Polysubstance Use** In the polysubstance group of 13 studies, there was more supporting evidence for the relationship between S/R and treatment outcomes. Only two of these found no significant relationships between S/R and either drug use severity (Christo & Franey, 1995) or critical retention in treatment (Shields et al., 2007). Shields et al. analyzed data from the Drug Abuse Treatment Outcome Studies (DATOS) study, specifically data from the second intake session from 8,494 persons that occurred 7–10 days after they entered treatment. The measure was a seven-item composite scale for S/R developed for DATOS. Analysis of the findings suggested that, for a typical drug treatment program, individual religiosity was not significantly correlated with critical retention, defined as 90 days.

In the only investigation conducted outside of the U.S., Christo and Franey (1995) found that spiritual beliefs among participants living in London did not predict less drug use after controlling for prior jail terms. Instead, the most significant predictor was whether participants were still in treatment. Those still in treatment had less drug use than participants in the community or prison.

In seven studies, investigators observed a supportive relationship between S/R and treatment outcomes (Avants et al., 2001; Carter, 1998; Connor et al., 2008; Jarusiewicz, 2000; Johnsen, 1993; Stahler et al., 2007; Wolf-Branigin & Duke, 2007). Stahler et al. conducted a randomized clinical trial exploring the effects of a faith-based treatment called Bridges among 18 African American women with a primary cocaine disorder, recently admitted to a residential treatment setting. The intervention involved pairing women with a mentor from the faith-based community. Women in the control group received usual care with special activities to minimize the differences between the two groups. Significant relationships were observed between women in Bridges and the control group for treatment retention at 6 months; the relationship approached significance for drug-free urine samples and treatment attendance. Given the small sample size, results suggested a large effect size for or strength of this intervention. Unfortunately, the small sample size prohibited multivariate analyses.

Most of the studies that supported a relationship between S/R and treatment outcomes were cross-sectional (Carter, 1998; Jarusiewicz, 2000; Johnsen, 1993; Wolf-Branigin & Duke, 2007); only one was a prospective, longitudinal investigation (Connor et al., 2008). S/R was measured as faith practices (Carter, 1998; Johnsen, 1993; Richard et al., 2000; Wolf-Branigin & Duke, 2007) or as a total score for a combined S/R measure including the Spiritual Belief Scale (Jarusiewicz, 2000) or the Spiritual Well-being Scale (Connor et al., 2008). None of the cross-sectional studies had a sample size larger than 63, and with exception of the Bayesian analysis (Wolf-Branigin & Duke, 2007), statistical analyses were limited to bivariate tests.

In the remaining studies in this group, there was partial support for R/S and treatment outcomes (Chu & Sung, 2009; Heinz et al., 2007; Richard et al., 2000; Stewart, 2008). With the exception of Chu and Sung, all had a prospective design. Chu and Sung examined a single item representing frequency

of church attendance in data from the DATOS study. These investigators compared the abstinence rates of African Americans and Whites, noting no significant association for church attendance between intake and 12-month follow-up. Avants et al. (2001) used a case-control design to evaluate the extent that S/R was a source of comfort upon entry to treatment and abstinence at 6 months. Measured as a single question, participants with higher scores were more likely to be abstinent, after controlling for gender and race. Furthermore, S/R was a stronger predictor than severity of addiction, medical or psychiatric problems, perceived social support, or sense of optimism.

Among the studies suggesting partial support, two included treatment outcomes targeting the severity of drug use rather than total abstinence (Richard et al., 2000; Stewart, 2008). Richard et al. used two items to measure religiosity including frequency of church attendance and the question, “How often do you feel religion is really important in your life?” Religiosity at intake was not related to drug use at 6 months after discharge for the sample as a whole. However, results varied depending on the individual’s primary substance problem. Among users of crack cocaine, increasing church attendance (from baseline to follow-up) was associated with less reported drug use. Among persons for whom alcohol was the primary problem, increasing church attendance and increases in 12-step program attendance were significant predictors of reduced alcohol use. There were no significant predictors for marijuana users.

Stewart (2008) used subscales from the short form of the Multidimensional Measurement of Religiousness/Spirituality and separately analyzed two questions from this scale. These questions asked individuals whether they considered themselves a (1) religious or (2) spiritual person. He found that different subscales were significantly related to different treatment outcomes. For drug use severity (i.e., amount of drug used), the “meaning” and “religious and spiritual coping” subscales were significant. Furthermore, treatment history was significant and significantly interacted with the “meaning” subscale, that is, participants without previous treatment history had significantly greater changes in spirituality scores. The “forgiveness” subscale was also significantly related to consequences of drug use. Finally, considering oneself to be a spiritual person was significantly related to treatment readmission. Because of its significance, treatment history was also included as a control variable for consequences of drug use and treatment readmission.

## Discussion

The purpose of this review of the literature was to explore the contribution of S/R to the recovery process related to substance abuse disorders. In the 29 studies reviewed, the most common treatment outcome was abstinence, particularly when alcohol was studied alone. Abstinence could be measured as length of sobriety or abstinence for a specific period. Overall, regardless of how abstinence was measured, there was a mix of supportive and nonsupportive findings. Nevertheless, the evidence suggests at least some support for a beneficial relationship between S/R and recovery from substance use disorders.

Because there are no universally accepted definitions of spirituality and religion, differentiating between these terms is an ongoing concern in this area of study. As stated previously, our review using the Burkhardt and Solari-Twadell (2001) definitions clearly separates spirituality as belonging to the realm of experience or belief, whereas religiousness incorporates a more formal approach to faith with an emphasis on faith practices. The current review was generally unable to compare religiousness and spirituality because of different approaches to operationalization and undifferentiated combination of both religion and spirituality in a single study.

Studies utilizing AA or 12-step programs as either a sampling method or a recovery program identified spirituality as a positive influence on recovery. Participants in such programs attend meetings anywhere from several times a day to once a week. In the current studies, accounting for the frequency of meeting attendance was not feasible because of the nature of individuals' participation in AA. In addition, in light of the universally understood spiritual basis of these programs, it is a concern that these types of programs are associated with self-selection bias. It is therefore difficult to determine if the observed relationships were because of the structure of the program or the participants' growth in spirituality.

Characteristics of the study participants are important in analyses, but often, gender or race was not described. When either of these variables was examined, S/R influences on treatment outcome sometimes varied as a result. In most of the studies, treatment participants were usually middle aged. Notably, adults aged 18–25 years have the highest rates of substance dependence and abuse among all adult age groups (SAMHSA, 2011). Unfortunately, this age group was poorly represented in these studies.

Measurement tools utilized in these studies were reliable and valid. It should be noted that some studies conducted secondary analyses, such as Zemore (2007), who used data from a previous trial, and Chu and Sung (2009), who used data from the DATOS study. Their use of previously collected data restricted the depth of their analysis. In addition, many of the 29 studies often incorporated only one measure, subscale, or item. Use of multiple S/R measures often showed at least a partial supportive relationship between S/R and treatment outcomes, illustrating the complexity of this relationship. Furthermore, in many of these studies, spirituality was examined only at baseline. In studies using a single measurement as the data point, it is impossible to assess the impact of S/R growth or change over the course of or after the recovery program. In some studies, these baseline measures were not significant, but change in S/R over time was significant.

One criterion for inclusion in this review was that the study examined substance abuse. AA studies focused exclusively on alcohol abuse, whereas other studies focused on many substances including but not limited to heroin, cocaine, ecstasy, methamphetamines, and pain medications. Notably, marijuana was seldom identified in any of the reviewed studies as a substance of abuse despite its being the most commonly abused illicit drug in the U.S. (SAMHSA, 2011). Consequently, no re-

sults gave insight into the impact of S/R on the most frequently abused illicit drug, marijuana.

The ubiquitous presence of substance abuse and addiction among adolescents and adults in the U.S. suggests that nurses in all aspects of healthcare must be aware of the characteristics of substance abuse/addiction and the link between those conditions and S/R as an adjunct to treatment. Burkhart, Schmidt, and Hogan (2011) report that spiritual well-being has been associated with better adherence to treatment regimens. Initial nursing assessments often include psychosocial questions about substance abuse and religious preference. The inclusion of the role of "spirituality" in a person's life may also be useful in creating an individual plan of care for the substance-abusing patient. As holistic healthcare providers, nurses have historically considered all aspects of a patient, including the presence or absence of spirituality in their life. However, the ability to define "spirituality" as it may relate to all people is difficult. Further research into agreement and standardization of definitions of spiritual assessment and inclusion of this research in nursing education programs are necessary.

Long-term sobriety from alcohol and drug abuse is a life-long process. There are many factors that contribute to success and failure. DATOS funded by the National Institute on Drug Abuse included religious and spiritual support as motivating factors in successful recovery (Simpson, 2003). Similarly, the success of AA also supports this idea. Nurses who work in all aspects of health care should recognize this connection and incorporate it into everyday practice.

## REFERENCES

- Adegbola, M. (2006). Spirituality and quality of life in chronic illness. *The Journal of Theory Construction and Testing*, 10, 42–46.
- Alcoholics Anonymous. (2001). *Alcoholics Anonymous: The Story of How Many Thousands of Men and Women Have Recovered*. Works Publishing: New York, N.Y.
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders. Fourth Edition. Text Revision*. Arlington, VA: American Psychiatric Association.
- Avants, S. K., Warburton, L. A., & Margolin, A. (2001). Spiritual and religious support in recovery from addiction among HIV-positive injection drug users. *Journal of Psychoactive Drugs*, 33(1), 39–45.
- Burkhart L., Schmidt, L., & Hogan, N. (2011). Development and psychometric testing of the Spiritual Care Inventory instrument. *Journal of Advanced Nursing*, 67, 2463–2472.
- Burkhardt, L., & Solari-Twadell, P. A. (2001). Spirituality and religiousness: Differentiating the diagnosis through a review of the nursing literature. *Nursing Diagnosis*, 12, 45–54.
- Burkhardt, L., Solari-Twadell, P. A., & Hass, S. (2008). Addressing spiritual leadership. An organizational model. *Journal of Nursing Administration*, 38, 33–39.
- Carroll, S. (1993). Spirituality and purpose in life in alcoholism recovery. *Journal of Studies on Alcohol*, 54, 297–301.
- Carter, T. M. (1998). The effects of spiritual practices on recovery from substance abuse. *Journal of Psychiatric Mental Health Nursing*, 5, 409–413.
- Christo, G., & Franey, C. (1995). Drug users' spiritual beliefs, locus of control and the disease concept in relation to Narcotics Anonymous attendance and six-month outcomes. *Drug and Alcohol Dependence*, 38, 51–56.
- Chu, D. C., & Sung, H. (2009). Racial differences in desistance from substance abuse. The impact of religious involvement on recovery.

- International Journal of Offender Therapy and Comparative Criminology*, 53, 696–716.
- Committee on the Use of Complementary and Alternative Medicine, Institute of Medicine. (2005). *Complementary and alternative medicine in the United States*. Retrieved from <http://iom.edu/Reports/2005/Complementary-and-Alternative-Medicine-in-the-United-States.aspx>
- Connor, B. T., Anglin, M. D., Annon, J., & Longshore, D. (2008). Effect of religiosity and spirituality on drug treatment outcomes. *Journal of Behavioral Health Services & Research*, 36(2), 189–198.
- Gallup. (2012). *Religion*. Retrieved from <http://www.gallup.com/poll/1690/religion.aspx>
- Gallup, B., & Johnson, B. (2003). *New index tracks "spiritual state of the union."* Retrieved from <http://www.gallup.com/poll/7657/New-Index-Tracks-Spiritual-State-Union.aspx>
- Heinz, A., Epstein, D. H., & Preston, K. L. (2007). Spiritual/religious experiences and in-treatment outcome in an inner-city program for heroin and cocaine dependence. *Journal of Psychoactive Drugs*, 39(1), 41–49.
- Hendricks, V. M., Caldwell, K. L., & Katz, B. M. (2003). The relationships among spiritual practices, marital satisfaction, and length of sobriety. *Alcoholism Treatment Quarterly*, 21(1), 33–47.
- Hill, P. C., Pargament, K. I., Wood, R. W., McCullough, M. E., Swyers, J. P., Larson, D. B., & Zinnbauer, B. J. (2000). Conceptualizing religion and spirituality: Points of commonality, points of departure. *Journal for the Theory of Social Behavior*, 30(1), 51–77.
- Jarusiewicz, B. (2000). Spirituality and addiction. *Alcoholism Treatment Quarterly*, 18(4), 99–109.
- Johnsen, E. (1993). The role of spirituality in recovery from chemical dependency. *Journal of Addictions & Offender Counseling*, 13(2), 58–61.
- Kaskutas, L. A., Bond, J., & Weisner, C. (2003). The role of religion, spirituality and Alcoholics Anonymous in sustained sobriety. *Alcoholism Treatment Quarterly*, 21(2), 1–16.
- Krentzman, A. R., Farkas, K. J., & Townsend, A. L. (2010). Spirituality, religiousness, and alcoholism treatment outcomes: A comparison between Black and White participants. *Alcoholism Treatment Quarterly*, 28(2), 128–150.
- Miller, W. R. (1998). Researching the spiritual dimensions of alcohol and other drug problems. *Addiction*, 93, 979–990.
- Murray, T. S., Malcarne, V. L., & Goggin, K. (2003). Alcohol-related God/higher power control Beliefs, locus of control, and recovery within the Alcoholics Anonymous paradigm. *Alcoholism Treatment Quarterly*, 21(3), 23–39.
- National Institute of Drug Abuse. (2010). *Drugs, brains, and behavior: The science of addiction*. Retrieved from <http://www.drugabuse.gov/sites/default/files/sciofaddiction.pdf>
- Oakes, K. E., Allen, J. P., & Ciarrocchi, J. W. (2000). Spirituality, religious problem-solving, and sobriety in Alcoholics Anonymous. *Alcoholism Treatment Quarterly*, 18(2), 37–50.
- Piderman, K. M., Schneekloth, T. D., Pankratz, V. S., Maloney, S. D., & Altchuler, S. I. (2007). Spirituality in alcoholics during treatment. *American Journal on Addictions*, 16, 232–237.
- Piderman, K. M., Schneekloth, T. D., Pankratz, V. S., Maloney, S. D., & Altchuler, S. I. (2008). Spirituality during alcoholism treatment and continuous abstinence for one year. *International Journal of Psychiatry in Medicine*, 38, 391–406.
- Pringle, J. L., Emptage, N. P., & Barbetti, V. (2007). The role of spirituality in alcohol treatment retention and outcomes among African American patients. *Alcoholism Treatment Quarterly*, 25(3), 67–86.
- Richard, A. J., Bell, D. C., & Carlson, J. W. (2000). Individual religiosity, moral community, and drug user treatment. *Journal for the Scientific Study of Religion*, 39, 240–246.
- Robinson, E. A., Cranford, J. A., Webb, J. R., & Brower, K. J. (2007). Six-month changes in spirituality, religiousness, and heavy drinking in a treatment-seeking sample. *Journal of Studies on Alcohol and Drugs*, 68, 282–290.
- Roland, E. J., & Kaskutas, L. A. (2002). Alcoholics Anonymous and church involvement as predictors of sobriety among three ethnic treatment populations. *Alcoholism Treatment Quarterly*, 20(1), 61–77.
- Rush, M. M. (2000). Power, spirituality, and time from a feminist perspective: Correlates of sobriety in a study of sober female participants in Alcoholics Anonymous. *Journal of American Psychiatric Nurses Association*, 6, 106–202.
- Shields, J. J., Broome, K. M., Delany, P. J., Fletcher, B. W., & Flynn, P. M. (2007). Religion and substance abuse treatment: Individual and program effects. *Journal for the Scientific Study of Religion*, 46, 355–371.
- Simpson, D. D. (2003). Introduction to 5-year follow-up treatment outcome studies. *Journal of Substance Abuse Treatment*, 25(3):123–124.
- Stahler, G. J., Kirby, K. C., & Kerwin, M. E. (2007). A faith-based intervention for cocaine-dependent Black women. *Journal of Psychoactive Drugs*, 39, 183–190.
- Sterling, R. C., Weinstein, S., Hill, P., Gottheil, E., Gordon, S. M., & Shorie, K. (2006). Levels of spirituality and treatment outcome: A preliminary examination. *Journal of Studies on Alcohol*, 67, 600–606.
- Stewart, C. (2008). Client spirituality and substance abuse treatment outcomes. *Journal of Religion & Spirituality in Social Work: Social Thought*, 27, 385–404.
- Stewart, C., Koeske, G., & Pringle, J. L. (2008). Religiosity as a predictor of successful post-treatment abstinence for African-American clients. *Journal of Social Work Practice in the Addictions*, 7(4), 75–92.
- Substance Abuse and Mental Health Services Administration. (2011). *2010 National survey on drug use and health*. Retrieved from <http://www.samhsa.gov/data/NSDUH/2K10NSDUH/2K10Results.htm#7.1>
- Walker, S. R., Tonigan, J. S., Miller, W. R., Corner, S., & Kahlich, L. (1997). Intercessory prayer in the treatment of alcohol abuse and dependence: A pilot investigation. *Alternative Therapies*, 3(6), 79–86.
- Wolf-Branigin, M., & Duke, J. (2007). Spiritual involvement as a predictor to completing a Salvation Army substance abuse treatment program. *Research on Social Work Practice*, 17, 239–245.
- Zemore, S. (2007). A role for spiritual change in the benefits of 12-step involvement. *Alcoholism, Clinical Experimental Research*, 31(10 Suppl), 76S–79S.