

New Hope for Offender Rehabilitation: *Assessing the Correctional Trauma Healing Program*

FULL REPORT

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Executive Summary

This executive summary describes an empirical assessment of American Bible Society's Correctional Trauma Healing Program, a volunteer-led, small group program for inmates housed at the Riverside Regional Jail in North Prince George, VA. This program is administered by American Bible Society and Good News Jail & Prison Ministry, two faith-based, not-for-profit organizations that partnered together to equip chaplains and volunteers to facilitate the program.

Background

Many scholars, correctional experts, and policy makers agree that our current correctional system is failing, and that the field of corrections is in a state of crisis. Correctional leaders continue to struggle with how to implement rehabilitation programs in the context of overcrowding, recruitment and retention of correctional staff, inmate violence, suicide, threats of litigation, and perhaps most significantly, limited funding for offender treatment programs. The pursuit of rehabilitation is further impeded by rising mental health, substance abuse, chronic illness, and infectious disease problems in jails and prisons. Perhaps more than ever, there is a crucial need for effective and scalable interventions that help reform prisoners, reduce recidivism, improve the safety of correctional environments, and to do so in a cost-effective and replicable way.

In 2017, American Bible Society partnered with Good News Jail & Prison Ministry to train chaplains and volunteers around the country interested in implementing correctional trauma healing programs. As of the publication of this study, over 250 individuals have received training and are certified to lead Correctional Trauma Healing in jails, prisons, and re-entry centers. These trained chaplains and volunteers have delivered the program to over 2,600 inmates and previously incarcerated people in 29 states. The program is positioned to significantly expand in the U.S. as more correctional ministry organizations adopt the program model.

Methodology

For the current longitudinal study, 349 inmates participated in the study (210 in treatment group and 139 in control group) and completed a survey at multiple time points from September 2018 to March 2020. The survey included measures of: (a) the negative consequences of trauma exposure (i.e., PTSD, complicated grief, depressed mood, depressed malaise, anger, suicidal ideation, and interpersonal aggression); and (b) primary outcomes that the Correctional Trauma Healing Program is designed to promote (i.e., forgiveness, compassion, resilience, reasons for living, and religiosity) or reduce (i.e., vengefulness and blaming God for trauma), as well as secondary ones that it may influence (i.e., perceived support from family and friends, meaning in life, gratitude to God, spiritual transformation, and Bible reading). The main goal was to examine whether inmates who completed the Correctional Trauma Healing Program were the beneficiaries of better outcomes compared with a control group of prisoners that did not participate.

Key Takeaways and Findings:

1. Many correctional leaders, government officials, and citizens support the goal of rehabilitation for prisoners, but treatment efforts to date have achieved limited success.
2. The pursuit of rehabilitation is further impeded by widespread exposure to trauma (e.g., sexual abuse, physical abuse and neglect, nonsexual assault, emotional abuse, witnessing violent death or injury, etc.) among incarcerated individuals.
3. Tightening budgets and associated funding problems make it difficult for correctional decision-makers to expand rehabilitation programs, and thus significantly elevates the need to rely heavily on volunteer-led programs.
4. A random sample of inmates at the Riverside Regional Jail in Virginia reported they had experienced, on average, three out of 10 types of traumatic events, and 86% (87.6% in the treatment group and 83.5% in the control group) said they experienced at least one.
5. The Correctional Trauma Healing Program reduced post-traumatic stress disorder (PTSD) among inmates who completed the program.
6. Completing the Correctional Trauma Healing Program enhanced emotional well-being among inmates.
7. The salutary effects of the Correctional Trauma Healing Program may well extend to a number of behaviors as well as emotional states.
8. Completing the Correctional Trauma Healing Program decreased the negative consequences associated with trauma by promoting virtues (e.g., forgiveness, compassion, and resilience), positive perceptions about God (e.g., God's engagement and purpose in life), and other desirable characteristics (e.g., moral objections to suicide), while also reducing undesirable attributes (e.g., vengefulness).
9. The Correctional Trauma Healing Program reduced the effects of trauma by enhancing positive beliefs about the Bible (e.g., a guide for life) and by drawing benefits from using the Scripture (e.g., a sense of connection to God), as well as perceived social support, presence of meaning in life, and gratitude to God.
10. The Correctional Trauma Healing Program significantly reduced PTSD, trauma-related grief, and negative emotions, and these effects were still significant three months after program completion.
11. The impact of the Correctional Trauma Healing Program was also observed one and three months after completion for additional effects including forgiveness, vengefulness, compassion, resilience, God's engagement, blaming God for trauma, support from family and friends, and meaning in life.
12. Over the study period, PTSD and other negative consequences of trauma were reduced, in part, by positive changes in desirable characteristics (e.g., forgiveness, resilience, and meaning in life, among others), as well as declines in negatives ones like vengefulness.
13. In an age of evidenced-based governance, this longitudinal study of the Correctional Trauma Healing Program—a program consisting of five, two-hour sessions facilitated by volunteers in a one-week period—generated statistically significant healing outcomes and provides preliminary evidence that this Bible-based intervention should inform more holistic

approaches to offender reform, as well as serve as a model for scalable and cost-effective interventions for incarcerated individuals.

I. Introduction and Roadmap

This report examines the effectiveness of a trauma healing program that was recently implemented at the Riverside Regional Jail in North Prince George, VA. It begins with a discussion of the current state of offender rehabilitation in U.S. jails and prisons. Several impediments to rehabilitation are noted, including budgetary constraints and a rise in mental health and substance abuse problems among inmates. Possible solutions to these problems, including the mobilization of trained and dedicated volunteers, are then summarized. A relatively new faith-based program—American Bible Society’s Correctional Trauma Healing Program, which was administered with the help of Good News Jail & Prison Ministry chaplains and volunteers—is then outlined. This is followed by a rigorous scientific assessment of the program’s effectiveness for reducing the negative emotional and behavioral consequences of trauma among inmates at the regional jail. After the results are summarized, the report ends with a discussion of policy implications.

II. Why Does Offender Rehabilitation Remain So Elusive and What Can Be Done?

In general, there are four major goals associated with correctional policies and the supervision of prisoners: retribution, deterrence, incapacitation, and rehabilitation.¹ Retribution refers to just deserts—a philosophy grounded in the belief that people who break the law deserve to be punished. The other three emphasize different approaches and methods for achieving public safety. Deterrence focuses on the oppressive nature of punishment, where offenders are deterred from committing crimes because of a rational calculation that the cost of punishment is too great. The punishment is so harsh that neither the punished offender (specific deterrence) nor others (general deterrence) will commit crimes in the future. Incapacitation denies people the ability to commit crimes because they are physically detained in prison. Rehabilitation attempts to change the thinking and behavior of offenders so that they do not commit additional crimes.

Although each goal is important, a number of studies confirm that the public is particularly supportive of rehabilitation,² especially when people are asked to rank the importance of rehabilitation versus punishment.³ Not only do a majority of Americans support the pursuit of rehabilitation for offenders,⁴ there is empirical evidence that effective rehabilitation programs can indeed reduce recidivism.⁵ At the same time, there is widespread consensus that recidivism rates remain too high. For example, a 2018 Bureau of Justice Statistics study found that 83% of state prisoners released in 2005 across 30 states were rearrested at least once during a nine year follow-up period.⁶ These recidivism statistics are a constant reminder to policymakers that widespread effective rehabilitation of prisoners continues to elude correctional leaders.

There are many reasons why rehabilitation is difficult to achieve, but shrinking correctional budgets are at or near the top of the list. The failure to widely implement effective correctional treatment programs has often been met with the perception that correctional leaders oppose treatment in favor of more punitive approaches. The reality, of course, is that wardens and correctional administrators overwhelmingly value the pursuit of rehabilitation. They simply struggle with how to fund these approaches in the context of many budget and safety constraints,

including overcrowding, security, recruitment and retention of correctional staff, inmate violence, suicide, threats of litigation, and perhaps most significantly, limited funding for offender treatment programs.⁷ If these weighty issues were not enough, the pursuit of rehabilitation is further exacerbated by the alarming rise of mental health and substance abuse problems in jails and prisons, the deleterious effects of unaddressed trauma experienced by most offenders in correctional facilities, the scarcity of rehabilitative programs, and the shortage of volunteer-led programs and trained volunteers to staff existing rehabilitation programs. Each of these issues is discussed in detail below.

A. The Rise in Mental Health Problems in Jails and Prisons

In the early 1960s, states embarked on an initiative to reduce and close publicly operated mental health hospitals, a process that became known as deinstitutionalization. Advocates of deinstitutionalization argued that it would result in the mentally ill living more independently, with treatment provided by community mental health programs. The federal government, however, did not provide sufficient ongoing funding for community programs to meet the growing demand. Concomitantly, states reduced their budgets for mental hospitals but provided no proportionate ongoing increases in funding for community-based mental health programs. As a result, many thousands of mentally ill persons were released into communities that were not prepared to meet their treatment needs. A report from the Surgeon General's Office indicated that: "Even more than other areas of health and medicine, the mental health field is plagued by disparities in the availability of and access to its services."⁸ Consequently, many of the individuals released into the community without support ended up incarcerated in jails and prisons.

According to the Bureau of Justice Statistics, about 20% of prison inmates suffer from a serious mental illness,^{9 10} while another 30-60% have substance abuse problems.^{11 12} Serious mental illness is often defined as a cognitive, behavioral, or emotional disorder resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities.¹³ If one includes broad-based mental illnesses, the percentages increase significantly. For example, 50% of male and 75% of female inmates in state prisons experience mental health problems requiring treatment in any given year. The numbers are 63% of male and 75% of female inmates in jails.¹⁴ Inmates are also more likely to suffer from chronic health conditions and infectious diseases.¹⁵ Moreover, many people experience serious medical and mental health crises after they are booked into jail, including withdrawal, psychological distress, and the "pains of imprisonment."¹⁶

Serious mental illness has become so prevalent in U.S. correctional facilities that jails and prisons have been referred to as "the new asylums."¹⁷ In fact, the Los Angeles County Jail, Chicago's Cook County Jail, and New York's Riker's Island Jail, each hold more mentally ill inmates than any remaining psychiatric hospital in the U.S.¹⁸ Approximately one in five inmates in jails and state prisons are now estimated to have a serious mental illness. Based on the total inmate population, this means that approximately 383,000 individuals with severe psychiatric diseases were behind bars in the U.S. in 2014.¹⁹

Because of their impaired thinking, many inmates with serious mental illnesses present behavioral problems, and this is a contributing factor to their over-representation in solitary confinement. Relatedly, suicide continues to be a tragic problem within the correctional system. In fact, suicide is the leading cause of death in jails, and multiple studies indicate that as many as half of all inmate suicides are committed by those with serious mental illnesses.²⁰

B. Unaddressed Trauma and Post-Traumatic Stress Disorder Among Prisoners

Adding to the problem of mental illness is the realization that trauma exposure and trauma-related symptoms are prevalent among prisoners. In fact, trauma has been described as a near universal experience among incarcerated men.²¹ Rates of current post-traumatic stress disorder (PTSD) symptoms and lifetime PTSD are significantly higher (30-60%) among male inmates compared with rates found in the general male population (3-6%). Moreover, lifetime rates of trauma and PTSD are known to be associated with psychiatric disorders.²²

Various types of potentially traumatic events (PTEs) occur throughout the life course, including child or adult sexual abuse, physical abuse or neglect in childhood, nonsexual assault, emotional abuse, witnessing violent death or injury (including criminal victimization), disaster or fire, and accidents. While no one is immune from PTEs, prior research shows that offenders in jail and prison tend to report significantly higher rates of PTEs than those in the general population. For example, one study found that jail inmates were 7.5 to 11.3 times more likely to have a history of homelessness than those in the general U.S. adult population,²³ whereas the prevalence of childhood victimization by physical or sexual abuse and neglect was as high as 68.4% according to a study of male inmates in a New York State prison.²⁴ In a study of five prisons in California, the prevalence of childhood trauma (emotional abuse and neglect, physical neglect, physical abuse, and sexual abuse) among female inmates was significantly higher than that in a comparison sample from a health maintenance organization in a metropolitan area.²⁵

Not surprisingly, experiencing PTEs has been linked with poor physical health, substance abuse, and psychiatric disorders including PTSD, depressed mood, and suicidality among offenders.²⁶ These are all significant social and public health problems that reduce the likelihood of rehabilitation of offenders, as well as their successful reintegration back into society. Unless there is authentic healing from the trauma suffered by so many offenders, they will unnecessarily remain at risk of going back to their previous lives of crime, drug use, and mental illness.

In sum, prisoners are much more likely than the general population to have serious mental illnesses, and a substantial portion of the prison population is not receiving treatment for mental health conditions. This treatment discontinuity has the potential to affect not only inmate safety and security within the prison, but recidivism and health care costs upon release from prison. Moreover, the presence of trauma is widely acknowledged to be pervasive among inmates in jails and prisons. Developing trauma testing, and then implementing various interventions for those incarcerated, is essential to improve behavioral health outcomes as well as reduce recidivism. Because trauma is a near ubiquitous condition among correctional populations, it would be a logical first step in the pursuit of offender rehabilitation to recommend implementing

effective intervention programs to address the issue of past and present trauma. The next section discusses this issue in detail.

III. Next Steps in Pursuit of Offender Rehabilitation

Any far-reaching decision to implement offender rehabilitation programs in jails and prisons across the country would require increasing correctional budgets. A simple look at state by state correctional budgets over the last decade provides evidence that, in fact, this has clearly not been the case. Rehabilitative programs represent a very small percentage of correctional budgets.

According to a 2019 report by the Bureau of Justice Statistics, criminal justice system expenditures were \$295.6 billion in 2016, which included \$88.5 billion for the cost of operating the nation's jails, prisons, and parole and probation systems.²⁷ The total cost for corrections has only slightly increased since 2011, when total correctional expenditures were \$83 billion.²⁸ Controlling for inflation, therefore, correctional budgets have been in slight decline over the last decade.

The U.S. prison population experienced dramatic growth from the early 1970s to the mid-2000s, with the number of people confined to state prisons increasing by more than 600% by the end of 2009. Between 2010 and 2015, nearly half of all states cut their spending on prisons.²⁹

With correctional budgets now flat or shrinking, it is important to know if the percentage of correctional budgets dedicated to supporting offender treatment programs is increasing or decreasing. A recent national survey on prison spending indicates that personnel costs make up 68% of total spending for state prisons, followed by 11% for prison health care, and 17% for a residual category that includes facility maintenance, debt service, legal judgments, and offender programming costs.³⁰ Unfortunately, we do not know the breakdown specifically for offender programs. In fact, the cost for offender treatment programs also includes educational and vocational programs. There can be little debate that offender treatment programs such as therapeutic communities for drug treatment, as well as other treatment modalities, represent a very small percentage of existing correctional budgets. Coupled with this reality is the fact that since the mid-2000s, correctional leaders have had to struggle with ever-tightening budgets while simultaneously addressing other difficult correctional problems like overcrowding, aging prison populations, and increasing medical costs, as well as new concerns arising from the pandemic, to mention just a few.

In light of these developments, how might rehabilitation actually become a viable and achievable correctional goal in these challenging times? We believe that such a prospect will require two related developments: (1) the intentional recruitment and retention of many newly trained volunteers, as well as the implementation of scalable effective treatment interventions that are volunteer-led; and (2) understanding and embracing the role of religion in achieving prosocial behavior. In order to understand the critical role volunteers may play in pursuit of offender rehabilitation, we begin with an historical account of volunteerism in the U.S., and follow with a discussion of how faith-motivated communities provide active social networks that foster not only social capital, but also what social scientists call prosocial behavior. The intent of prosocial behavior is to help other people, and is characterized by a concern for the rights, feelings, and

welfare of others. Therefore, offender rehabilitation can be viewed as a byproduct of the prosocial behavior exhibited by volunteer-led treatment programs and interventions. Moreover, there is evidence that prisoners who participate in programs that promote prosocial orientations are more likely to experience an identity transformation that makes them less likely to commit additional crimes, as well as exhibit prosocial behaviors not only while incarcerated, but also following release from jail or prison.³¹ The next section discusses the important role of voluntary activities in America, especially those that are motivated by religious practices and beliefs.

C. Capitalizing on The Role of Volunteers in Pursuit of Offender Rehabilitation

1. The Historical Roots of Faith and Volunteerism in America

Alexis de Tocqueville, a French political scientist, visited the United States in 1831 to study the American penal system. Over the course of his visit, he was inspired by a number of intriguing factors that appeared to distinguish American society from other countries, including the uniquely American tendency toward volunteerism. He wrote extensively about the American phenomenon of forming voluntary associations of all types, including professional, religious, social, civil, and political organizations. In his ground-breaking book, *Democracy in America*, he stated:³²

In the United States, as soon as several inhabitants have taken an opinion or an idea they wish to promote in society, they seek each other out and unite together once they have made contact. From that moment, they are no longer isolated but have become a power seen from afar whose activities serve as an example and whose words are heeded (Tocqueville, 1840, p. 599).

Tocqueville's observations of the role of volunteerism continue to play out in the civic life and culture of America. Tocqueville also observed the critical role that religion plays in American society. He drew a connection between the formation and effectiveness of associations in solving social problems. Often bolstered by the influence of religion and religious awakenings, the rise of social reform movements around issues like poverty, temperance, and the abolition of slavery would be mobilized by a new generation that had not previously been involved in civic life, including women and young people. He witnessed that associating with other like-minded people to improve the common welfare requires personal sacrifice. What contemporary social scientists now refer to as the virtue of other-mindedness, Tocqueville observed and wrote about in the 1830s:

The love and respect of your neighbors must be gained by a long series of small services, hidden deeds of goodness, a persistent habit of kindness, and an established reputation of selflessness... I have seen Americans making great and sincere sacrifices for the key common good and a hundred times I have noticed that, when needs be, they almost always gave each other faithful support (Tocqueville 1840, 593-595).

Tocqueville also noted that associating for the common good is not done without concern for one's own self-interest. He argued that Americans do not claim to sacrifice oneself for another solely because it is a good thing to do, but also because such sacrifices are as necessary to the person who makes them as to those who gain from them. Moreover, Tocqueville claimed that

Americans were unique in going beyond the call of duty to prove that it is in each person's interest to be virtuous:

Enlightened self-love continually leads them to help one another and inclines them to devote freely a part of their time and wealth to the welfare of the state (Tocqueville 1840, 611).

Since America's founding, a host of important organizations—driven largely by volunteers—have sought to address difficult-to-solve problems that have plagued society. Moreover, the majority of these organizations were founded by individuals motivated by faith to pursue acts of service to others. In their book, *The Churching of America, 1776-2005*, Roger Finke and Rodney Stark examined how religious freedom allowed religious congregations to compete for adherents and to subsequently grow and thrive in the great American experiment.³³ Using historical and sociological data, they were able to document the dramatic growth experienced by many religious denominations in early America. They provided evidence that tracks with Tocqueville's observation some 175 years earlier—the growth of American religion was very much connected to the important and positive contribution of faith-motivated volunteers in providing acts of service that lifted their neighbors and subsequently advanced the common good.³⁴

The influence of America's houses of worship for more than 200 years has been unprecedented and profoundly consequential, ultimately leading to the founding of organizations like the YMCA, Salvation Army, American Red Cross, and American Bible Society.³⁵ But the impact of religion and religious freedom in America has been felt far beyond the realm of social service delivery. Indeed, the history of medicine and hospitals in America has also been inextricably tied to religious freedom and the rise of religious pluralism.

When Benjamin Franklin promoted the founding of the Pennsylvania Hospital in the 1750s, he made an explicitly Christian argument for why it was needed. Citing Matthew 25:36, Franklin reminded readers that Jesus commended those who visited the sick, as if they were visiting Jesus himself. Even though Franklin never claimed to be a devout Christian, he certainly endorsed the Christian ethic of serving those who were suffering.³⁶ Many American hospitals and health systems today remain visibly connected with the Catholic, Jewish, or Protestant traditions out of which they were born.³⁷

In many ways, the growth of religion in America resembles the rise of Christianity two millennia earlier. As documented in the book, *The Rise of Christianity: How the Obscure, Marginal Jesus Movement Became the Dominant Religious Force in the Western World in a Few Centuries*, Rodney Stark brought to light the historical accounts associated with the early Christian church and the rapid rise of Christianity in the decades following Jesus' resurrection by documenting how Christianity taught adherents to be concerned for the welfare of others.³⁸ He showed that the dramatic growth of early Christianity was fueled by pagan leaders who did not have adequate answers or responses to why a devastating epidemic (probably smallpox) swept through the Roman Empire in the year 165, taking the lives of roughly one-fourth of the population. Fewer than 100 years later, another equally lethal epidemic (probably measles) again ravaged the empire. Christianity offered a more satisfactory account of why these epidemics happened. It also projected a more hopeful and optimistic picture of the future. Christian values of love and charity were translated into norms of social service and community solidarity. Care for widows

and orphans became an essential part of the rise of Christianity. As Stark documented, Christians were able to better cope with the epidemics than other religious groups, which resulted in higher rates of survival. Thus, caring for one's neighbor was a feature linked to religious freedom as well as the churching of America. As discussed below, this continues today.

2. Volunteerism in Contemporary American Society

Social scientists have noted that volunteerism continues to play a significantly larger role in enhancing American life than it does in other countries.³⁹ The contribution volunteers make to civil society, civic engagement, and volunteerism in the U.S. is profound.⁴⁰ According to the Bureau of Labor Statistics, volunteerism peaked between 2003 and 2005, when 28.8% of Americans reported having volunteered in the previous year.⁴¹ The nonprofit sector, which relies heavily on volunteers as a strategic resource, has become increasingly important in the engagement of local communities. This is particularly true in the human services sector, which relies heavily on the support of volunteers to fill the gaps in federal, state, and local funding. They provide a host of community services that the formal sector is either unwilling or unable to effectively provide, such as remedial education, sporting and recreational programs, medical and health services, mentoring of at-risk youth, shelters for the homeless, substance abuse counseling, offender treatment programs, educational programs for prisoners, and prisoner reentry initiatives.

The 2018 *Volunteering in America* study found that more than 77 million adults volunteered their time through an organization in the previous year. In total, Americans volunteered nearly 6.9 billion hours, worth an estimated \$167 billion in economic value.⁴² These extraordinary figures do not even account for the millions of Americans—some 43%—who voluntarily serve and support friends and family, or more than half of American adults (51%) who do favors for their neighbors and other acts of “informal volunteering.” In sum, volunteers provide a staggering economic benefit to American society.

In addition, the contribution of volunteering goes beyond the value of services provided. Volunteering has been linked with the formation of social capital—social connections that help to build trust and collective action within the community.⁴³ Robert Putnam argues that a community that is more connected is likely to have a greater level of trust and reciprocity among its citizens, leading to a more cohesive and stable society with economic as well as social benefits.⁴⁴ Barbara Stewart, CEO of the Corporation for National and Community Service, nicely summarized the role of volunteers in making a difference:

Each and every day, ordinary Americans are stepping up to support their fellow citizens to help with needs both great and small because they understand the power service has to change communities and lives for the better...The fabric of our nation is strengthened by the service of its volunteers. When we stand side-by-side to help others, our differences fade away and we learn that Americans have more in common than we realize.⁴⁵

Research also shows that Americans are generous with more than just their time. Volunteers donate to charity at twice the rate as non-volunteers. In one study, nearly 80% of volunteers donated to charity, compared with 40% of non-volunteers.⁴⁶ Overall, half of all citizens (52.2%)

donated to charity last year. Across all categories in the study, volunteers engaged in their communities at higher rates than non-volunteers. They more frequently talked to neighbors, participated in civic organizations, fixed things in the community, attended public meetings, discussed local issues with family and friends, did favors for neighbors, and voted in local elections. Here are some of the key findings of the *Volunteering in America* study:

- Parents volunteer at rates nearly 48% higher than non-parents and working mothers give more time than any other demographic, with a volunteer rate of 46.7%.
- Generation X has the highest rate (36.4%) of volunteering, while Baby Boomers are giving more hours of service (2.2 billion).
- Veterans are among the most neighborly Americans. They do something positive for the neighborhood, spend time with and do favors for their neighbors, and donate to charity at higher rates than their civilian counterparts.
- Americans most frequently gave their time to religious groups (32%), while a quarter volunteered most often with sports or arts groups (25.7%), and another nearly 20% supported education or youth service groups.

Building on the foundational writings of Alexis de Tocqueville discussed above, scholars have attempted to identify factors that shape voluntary activities. As it turns out, the more religious people are, the more likely they are to volunteer.⁴⁷ The next section reviews our knowledge in this area.

3. Understanding the Link Between Religion and Volunteering

Numerous studies have documented a positive relationship between multiple aspects of religious life (e.g., service attendance, a religious social identity, various beliefs) and a variety of social and civic outcomes including: philanthropic giving, community group membership, and volunteering.⁴⁸

For example, in the Americans' Changing Lives Study, Joseph Johnston found that religious participation was associated with increased voluntary service to others throughout adulthood using four waves of longitudinal data that examined trends over time.⁴⁹ Further, religious practices and beliefs not only made it more likely that one would volunteer in religious institutions, they also increased the likelihood that one would participate in other forms of volunteering as well.⁵⁰

In a separate study of more than 37,000 individuals conducted in 2008-2009—the U.S. Congregational Life Survey—Jennifer McClure examined whether participation in a congregation was associated with the provision of social support to non-family members.⁵¹ She found that having close friends in one's congregation made a difference, but that the most consistent predictor of social support was private devotional activities. Adherents who spent more time praying, meditating, or reading the Bible were more likely to give loans, care for the sick, and help people find job.⁵²

Additional research suggests that Americans who volunteer for religious groups are two to three times more likely to volunteer for secular groups as well compared with Americans who do not

volunteer for religious groups. These findings were published as part of the Faith Matters Surveys, which were led by Robert Putnam of Harvard University and David Campbell of the University of Notre Dame. In their book, *American Grace: How Religion Divides and Unites Us*, they noted that:

Religiously observant Americans are more generous with time and treasure than demographically similar secular Americans...This is true for secular causes (especially help to the needy, the elderly and young people) as well as for purely religious causes. It is true even for most random acts of kindness (p. 453).

In our recent work, we interviewed a group of faith-motivated volunteers who regularly traveled to a correctional facility in a rural area where they worked with prisoners in a faith-based trauma and healing program operated through Good News Jail & Prison Ministry,⁵³ which was supported by American Bible Society.⁵⁴ The volunteers were all senior citizens, and some of them drove several hours to reach the correctional facility. They stayed in a local hotel for several days a week, where they worked with prisoners each day before returning home. The expenses of this weekly routine were covered by the volunteers themselves. Without exception, the volunteers claimed that they were the real beneficiaries of working with prisoners.⁵⁵

Given these findings, it is important to ask: Why does religion promote volunteer work and the helping of others? A major reason cited by Putnam, Campbell, and others is that religious social networks are key. Churches, synagogues, and mosques are places that encourage volunteerism and other-mindedness and expose individuals to religious as well as secular opportunities for service that create social bonds, making it more likely that individuals will respond to requests to volunteer. Indeed, these ties can extend well beyond houses of worship. There is even empirical evidence that non-religious people with strong ties to people who are highly active within a congregation are likely to be encouraged to volunteer.⁵⁶

Out of a concern for the welfare of others, religion can be seen as a catalyst that stimulates and generates volunteers through a variety of social networks. Whether through classes, retreats, small groups, mission trips, church-sponsored volunteer work, or any number of related group functions, religious activities connect people to networks of social support that have the potential to be meaningful. Research documents that social support in congregations has been linked to better coping skills,⁵⁷ increased life expectancy,⁵⁸ stress reduction,⁵⁹ and better self-reported health.⁶⁰ In fact, according to Putnam, churches are enormous repositories of good will and social capital.⁶¹ In his words:

Houses of worship build and sustain more social capital—and social capital of more varied forms—than any other type of institution in America. Churches, synagogues, mosques and other houses of worship provide a vibrant institutional base for civic good works and a training ground for civic entrepreneurs. Nearly half of America's stock of social capital is religious or religiously affiliated, whether measured by association memberships, philanthropy, or volunteering.⁶²

If this estimation is accurate, houses of worship are training grounds for good works and civic engagement. In his more recent work, Putnam goes further in his assessment, arguing that people

with religious affiliations are more satisfied with their lives mainly because they attend religious services more frequently and build social networks with people who share their faith and religious experience, thus building a strong sense of belonging to a community of religious faith.⁶³ Faith-based networks are so significant, he argues, because they generate unique effects that cannot be explained in any other way. Simply put, faith-infused networks of support—in and of themselves—are powerful independent predictors of beneficial outcomes.⁶⁴

Putnam is not the only influential scholar making such arguments. In an important study using multiple national surveys, Stephen Monsma found that religiously committed individuals who give to philanthropic causes and volunteer are also more active and civically engaged citizens.⁶⁵ Moreover, the highly religious were much more likely to support secularly-based causes than secular respondents were to support religiously-based community ones. In addition, the religiously involved were much more likely to exhibit behavior that Monsma referred to as responsible citizenship. He goes on to point out the irony of these findings:

Since deeply religious people believe that they know the truth, it is often argued, their minds will be closed to discussion and accommodation. It is thus presumed that rational secularists are the natural and best carriers of the democratic tradition. Being unfettered by a faith-based religious tradition and otherworldly values and aspirations, they presumably are inclined toward making this world a better place—and toward doing so in a moderate, rational, open manner. Thus they ought to be the backbone of a free, democratic society. This study seriously challenges such conventional wisdom. In fact, it is the religious among us, not the irreligious, who are more likely to give to and volunteer for community causes. And people who give and volunteer tend to vote and in other ways to be politically informed and active. Even evangelical Protestants—whose growing influence some social critics characterize as a threat to normal democratic processes—are more likely to give and volunteer than are the irreligious.⁶⁶

In sum, religious individuals and congregations are important repositories of social capital, good will, and voluntary activities. This key aspect of American life, which is supported by mounting empirical evidence, has considerable implications for the field of corrections. These are discussed below.

A. Understanding the Role of Religion in Prosocial Behavior

Religion promotes “prosocial behavior” well beyond volunteering. In *The Handbook of Social Psychology*, C. Daniel Batson explained that prosocial behavior refers to “a broad range of actions intended to benefit one or more people other than oneself—behaviors such as helping, comforting, sharing and cooperation.”⁶⁷ Behavior that can be described as prosocial includes not simply feeling empathy and concern for others, but actually behaving in ways that help or benefit other people.

The term prosocial behavior originated during the 1970s and was introduced by social scientists as an antonym for antisocial behavior. However, in recent years it has come to mean far more than merely the opposite of antisocial behavior. As criminologists, we have argued that scholars have been preoccupied with only “half” of a field.⁶⁸ Criminology’s general focus has been

limited to understanding antisocial behavior, with almost no attention given to prosocial activities. Scientists tend to ask why people commit crimes, and they rarely ask why people do good deeds. Rather than neglecting half of human behavior, criminologists should be interested in studying a number of important questions that focus on positive and prosocial factors. For example, the subfield of positive criminology is interested in understanding the following questions: (1) Why do the vast majority of people choose to obey rather than break laws? (2) Why do most people reared in disadvantaged neighborhoods turn out to be good, law-abiding citizens? (3) How is it that offenders who previously exhibited antisocial patterns of behavior can undergo transformations that result in consistent patterns of positive behavior, accountability, and other-mindedness? (4) What is the role of religion in guiding behavior in positive ways and fostering prosocial activities?

The motivation for organized prosocial helping behaviors is often shaped by religious practices and beliefs. For example, the world's three primary monotheistic traditions—Judaism, Christianity, and Islam—generally teach that helping others, particularly the less fortunate, is a religious obligation. There are also numerous examples of God commanding Jews to aid the poor throughout the Old Testament. In the parable of the “Good Samaritan,” Jesus provides the example of the good neighbor who aided a poor beaten man previously ignored by other passers-by, including a priest. According to some scholars, the emphasis on giving and helping within the Judeo-Christian religions is a primary reason prosocial behavior is considered a social norm in Western culture.⁶⁹ In addition, the compulsory alms tax, or zakat, is one of the five pillars of Islam. Unfortunately, it has received relatively little attention from scholars compared with teachings and practices from the other two Abrahamic religions. At this point, it is important to ask: Exactly how does religion foster prosocial behavior? The next section addresses this issue.

1. Faith-Based Community Networks Foster Prosocial Behavior

Involvement in religious practices and related activities can foster the development of and integration into personal networks that promote prosocial behaviors and provide both social and emotional support.⁷⁰ When such personal networks overlap with other networks, it is reasonable to expect that these networks will not only constrain illegal behavior, but may also protect one from the negative effects of social and economic disadvantage.⁷¹ In other words, an individual's integration into a community-based religious network may actually weaken the effects of other factors that might otherwise promote deviant or other undesirable behaviors. In this way, religious networks can buffer against, or shield individuals from, the harmful effects of negative influences.⁷²

For example, church-attending youth from disadvantaged communities are less likely to use illicit drugs compared with youth from suburban communities who attend church less frequently or not at all.⁷³ In a similar vein, growing up in a religious family appears to function as a protective factor against criminal activities among children.⁷⁴ Through networks of social and emotional support, the learning of self-control through the teaching of religious moral beliefs, and the condemning of inappropriate behavior, regular church attendance appears to discourage antisocial behavior and promote prosocial outcomes.

This is a likely result of religious networks that emphasize concern for others' welfare and encourage appropriate behavior. Attending church and participating in religious activities help individuals internalize values, and involvement in such networks likely contributes to the acquisition of positive attributes that give those involved a greater sense of empathy toward others, which in turn makes them not only less likely to commit acts that harm others, but also more likely to engage in behaviors that help them. This is one reason why religion helps promote resilience in the face of poverty, unemployment, or other social ills.⁷⁵

Building on these ideas, scholars have produced an impressive and mounting body of evidence showing that religious participation is linked to important outcomes such as: overall flourishing and well-being,⁷⁶ social integration and support,⁷⁷ delivery of social services to disadvantaged populations,⁷⁸ mental and physical health,⁷⁹ forgiveness,⁸⁰ voluntary activities,⁸¹ crime reduction,⁸² prisoner rehabilitation,⁸³ family relations,⁸⁴ substance use/abuse,⁸⁵ sobriety,⁸⁶ health care utilization,⁸⁷ coping strategies for stressful conditions,⁸⁸ and even longevity/mortality.⁸⁹ According to a 2016 study that quantifies the economic value of religious individuals, organizations, and businesses, religion adds 1.2 trillion dollars to the U.S. economy each year.⁹⁰ All of this suggests that religion is a powerful force for positive outcomes in the world. In reference to social justice issues such as poverty and crime, Oswald Chambers provided some critical insight long ago. He argued that people who *look* for justice can easily become sidetracked by any number of distractions. He went on to invoke the teachings of Jesus from the Sermon on the Mount, suggesting that a better way of correcting injustice is to simply give or do justice at every opportunity. In his words: "Never look for justice in this world, but never cease to give it."⁹¹ One can make a compelling argument that this is the very essence of what countless volunteers—often motivated by faith—do every day without fanfare.

2. Faith-Based Approaches and Positive Criminology

How does all of this information tie into the current study? Recent research in an emerging sub-field referred to as "positive criminology"⁹² suggests that more positive and restorative approaches—including those that foster social connectedness and support, service to others, spiritual experience, personal integrity, and identity change—may be more effective than prevailing punitive tactics.⁹³ Consistent with traditional and contemporary restorative justice practices, these approaches seek to develop active responsibility on the part of individuals who have been living a lifestyle of irresponsibility.⁹⁴ From this perspective, correctional practices should be explicitly designed to promote virtue.⁹⁵ The goal is not to inflict pain or exact revenge, but rather to reconstruct and make better.⁹⁶

Although this is rare in our current system, a concrete example has been provided by a program at the Louisiana State Penitentiary (a.k.a., Angola), the largest maximum-security prison in the United States. Once known as one of the most violent and corrupt prisons in America, Angola is now known for its many inmate-led churches and a fully operational seminary that was launched in 1995. In recent years, adjudicated juveniles from New Orleans have been given the option to serve their sentence at Angola and to participate in a unique mentoring project. The former head of the Angola seminary noted that this restorative, faith-based program effectively:

...de-institutionalizes the dehumanization of punitive justice [because it gives a person] the responsibility of making the right choices for the right reasons. Whereas dehumanization within a punitive system demands simply making choices for the wrong reasons—because they fear punishment [emphasis in the original].⁹⁷

Other research shows that visitations from family or friends can help reduce recidivism of former prisoners.⁹⁸ One study examined whether visits from community volunteers—specifically clergy and mentors—had an impact on recidivism by examining 836 offenders released from different prisons in Minnesota. The results showed that community visits significantly reduced three measures of reoffending: rearrest, reconviction, and reincarceration. The salutary effect on recidivism grew as the proportion of community visits to all visits increased. The findings suggest community volunteer visits should be conceptualized as a programming resource to be used with offenders who lack social support.⁹⁹

This highlights Braithewaite's¹⁰⁰ crucial distinction between the concepts of *passive* and *active responsibility*. The passive responsibility inherent in the phrase “serving time” implies the state holding an offender accountable for his or her past actions, whereas the active responsibility, which is at the heart of restorative justice processes, focuses on “taking responsibility for putting things right into the future.” This active responsibility is brought about by a “redemption script”¹⁰¹ that allows an offender to claim a “coherent and convincing” narrative supporting a significant identity transformation from a selfish delinquent and/or addict to a responsible and helpful “new person.” Rather than being viewed as a set of risks to be managed or a bundle of needs to be met (which is well illustrated by the “risk and needs assessment” of offenders in the criminal justice system), the offender is understood to have strengths that can be deployed for the benefit of self and others.¹⁰² The paradigm case is the “wounded healer,” a former addict who is uniquely effective in helping other addicts precisely because of prior experience in active addiction and addiction recovery.

3. Bringing a Faith-Based Trauma Healing Program to Jail Inmates

The current study builds on this positive criminology model by examining the effectiveness of American Bible Society's (ABS) Correctional Trauma Healing Program (CTHP), a volunteer-led program for inmates housed at the Riverside Regional Jail in North Prince George, VA, which is supported by Good News Jail & Prison Ministry (Good News). Founded in 1816, ABS is a United States-based non-denominational Bible society that publishes, translates, and distributes the Bible. Good News exists to place Christian chaplains in jails and prisons to minister to the spiritual needs of inmates and staff. It believes that the most effective tool for ministering to the needs of inmates and staff is the daily presence of a chaplain. The chaplain serves as evangelist, pastor, counselor, mentor, and friend to those who are incarcerated and the staff who guard and protect them. Although correctional chaplaincy has existed for many decades in federal and state prisons, on-site chaplains were virtually non-existent in jails in the 1960s, and Good News was, in part, launched to remedy this oversight.

The ABS and Good News partnership relies upon the book, *Healing the Wounded Heart: An Inmate Journal*, and adjoining program model. Chaplains and volunteers in 29 states are now

delivering the program. The Bible is a central component of the program, which is grounded in Scripture-based stories and examples. Here is a description of the program:

This unique method of trauma healing unites proven mental health practices and engagement with God through the Bible. Trained facilitators empower participants to identify their pain, share their suffering, forgive their oppressors and bring their pain to the cross of Christ for healing. As they release their pain, they are often able to forgive and sometimes can be reconciled with those who have inflicted the pain. They are freed to care for themselves and serve others. *Healing the Wounded Heart*, ABS's contextualization of the program for those in correctional ministry, contains a set of practical lessons that lead incarcerated people and those transitioning back to their communities, on a journey of healing.

In the current study, the CTHP was offered throughout the jail facility in Virginia on a rotating basis ensuring that inmates of every security classification level (i.e., minimum, medium, and maximum) and all housing units (each of which consisted of five “Pods” with a capacity of 60 to 90 inmates each) had access to the program. Two healing groups were offered (monthly on average), one for females and another for males. About a week before the start of each group, a flyer about a recruitment day was posted and a verbal announcement was made inviting interested inmates to attend a presentation explaining the program and how they could benefit from it. After the presentation, questions were answered and inmates expressing interest were given an application/commitment form. About three days before a group started, chosen inmates and alternates confirmed their acceptance into the program, and were also offered the opportunity to participate in survey research related to the program.

The CTHP was implemented primarily by Good News volunteers at the jail who sought out training to meet the mental and spiritual needs of inmates. Volunteers interested in helping others in this Bible-based trauma healing program attended an equipping session. This session invited them to: (a) experience the program themselves, explore trauma they may be carrying, and bring it to Christ for healing; (b) experience and practice participatory learning; and (c) learn basic biblical and mental health best practices. Then, they developed their own plans for using the material in their facility. At the end of the training, they were given feedback on whether they could continue in the process. Those who were certified to continue returned to their communities to apply what they had learned through a practicum. During the practicum period, they facilitated the five lessons of *Healing the Wounded Heart* at least two times and to a minimum of three people. After the practicum, they attended an advanced equipping session, which enabled them to hone skills, receive more feedback, and care well for traumatized individuals.

4. Research Questions

This report addresses four interrelated questions:

1. Does the Correctional Trauma Healing Program work? In other words, is the CTHP an effective treatment intervention that helps incarcerated individuals who have previously experienced traumatic events cope with the negative consequences of their trauma? For

example, do inmates diagnosed with post-traumatic stress disorder (PTSD) report a reduction in PTSD symptoms after completing the CTHP? Additional outcomes, including depressed mood, depressed malaise, suicide, and interpersonal aggression, will be examined as well.

2. How does the program work? In other words, if the CTHP works, why is it effective and what are the mechanisms that promote healing from trauma? Phrased in a different way, what are the anticipated outcomes of the CTHP that are likely to help victims cope with trauma consequences in prosocial or positive ways? For example, after completing the CTHP, are participants more forgiving and less vengeful toward a person who caused a traumatic event than before? Does the CTHP help the participants become resilient or regain a sense of meaning in life that they may have lost as a result of trauma? A variety of mechanisms will be examined.
3. Does the impact of the Correctional Trauma Healing Program last? In other words, if the CTHP is effective, how long does the effect of this intervention last? This is an important question since the effect of certain programs—especially interventions of short duration—may be short-lived, disappearing relatively soon after a program has ended. Relatedly, correctional decision-makers need to know not only if the negative consequences of trauma are reduced after the program, but also whether they remain at a reduced level for a given period or soon return to the previous level. For example, if PTSD decreases after the program, does that reduction hold for a month or even longer after completing the CTHP?
4. Is the observed pattern of reduction in trauma consequences attributable to the pattern of the program's outcomes? In other words, regardless of how long the impact lasts, are changes in trauma consequences over time after the program attributable to changes in the program's outcomes? This is a longitudinal version of the second question. For example, if the level of PTSD symptomology decreases after participation in the CTHP, is the effect due to increased forgiveness or resilience among CTHP participants? Alternatively, did it decrease as participants became less vengeful toward a person who caused a traumatic event?

5. Methodology

To address these questions, American Bible Society awarded a research grant to Baylor University's Program on Prosocial Behavior at the Institute for Studies of Religion. Our subsequent research relied upon a longitudinal survey that was conducted from September 2018 to March 2020 at the Riverside Regional Jail in Prince George County, Virginia (see Appendix A for details). The following summary provides a brief description of the research design, methodology, and demographic profile of the sample (see Tables A1 and A2 for additional information):

- The survey was conducted with a sample of 349 inmates (178 males and 171 females) housed at the Riverside Regional Jail, North Prince George, VA.

- The total sample consists of a treatment group of 210 inmates (106 males and 104 females) who participated in the CTHP, and a control group of 139 inmates (72 males and 67 females) who did not participate.
- The program was run in small groups, each of which began with 12 inmates on average.
- The treatment group was comprised of 22 healing groups (10 male and 12 female groups), each of which completed four surveys: a pretest (before the program started), a posttest (soon after the program ended), and two follow-ups (one and three months after completing the CTHP).
- The control group was created based on random sampling of inmates who did not sign up for the CTHP and participated in two surveys: a “pretest” and a “posttest,” with a two-week interval.
- The study participants were, on average, about 38 years old, with the youngest and oldest being 18 and 65, respectively. The sample was split almost equally between two race groups: 48% white and 52% black.
- About eight out of 10 study participants were single, and 85% reported a religious affiliation: 71.8% Christian (61.2% Protestant, 10.6% Catholic), 9.1% Muslim, 1.2% Jewish, 2.7% other religion, and about 15% no religion.
- One third of the participating inmates were pre-trial detainees. The most common charge was a technical violation of probation or parole (65% of the sample), but some were charged with violent (28%), property (36%), and drug offenses (26%) as well.
- More than eight out of 10 (86%) inmates had experienced at least one traumatic event, and, importantly, the treatment and control groups did not significantly differ in terms of the average number of traumatic events experienced (i.e., roughly three events).
- About 70% of the sample was screened as PTSD positive, with treatment group inmates being more likely to be positive for PTSD than their control group peers.

The survey included items measuring a variety of concepts (e.g., PTSD symptoms, depressed mood, depressed malaise, suicide, interpersonal aggression, etc.), mostly using multi-item scales (see Appendix B for the actual survey). Information on sociodemographic and criminal justice-related backgrounds came from official data provided by the Riverside Regional Jail. The following three groups of concepts/variables were included in analysis (see Figure 1 for relationships among the three groups of variables):

- Sociodemographic, criminal justice-related, and trauma exposure (exogenous variables): age, sex, race, marital status, religious affiliation, number of admissions to jail, security classification, types of offenses committed, etc.
- Outcomes of the CTHP (mediating endogenous variables): forgiveness, resilience, religiosity, perceived social support, a sense of meaning in life, Bible impact, etc.
- Negative consequences of trauma (ultimate endogenous variables): PTSD, complicated grief, negative emotional states (depressed mood, depressed malaise, and anger), suicidal ideation, and intended aggression (the self-reported probability of engaging in interpersonal aggression).

For scale construction, the validity and reliability of survey items were examined based on factor analyses and inter-item reliability scores before combining items into composite measures by averaging or summing them. All scales had good to excellent measurement quality across surveys (see Table A3).

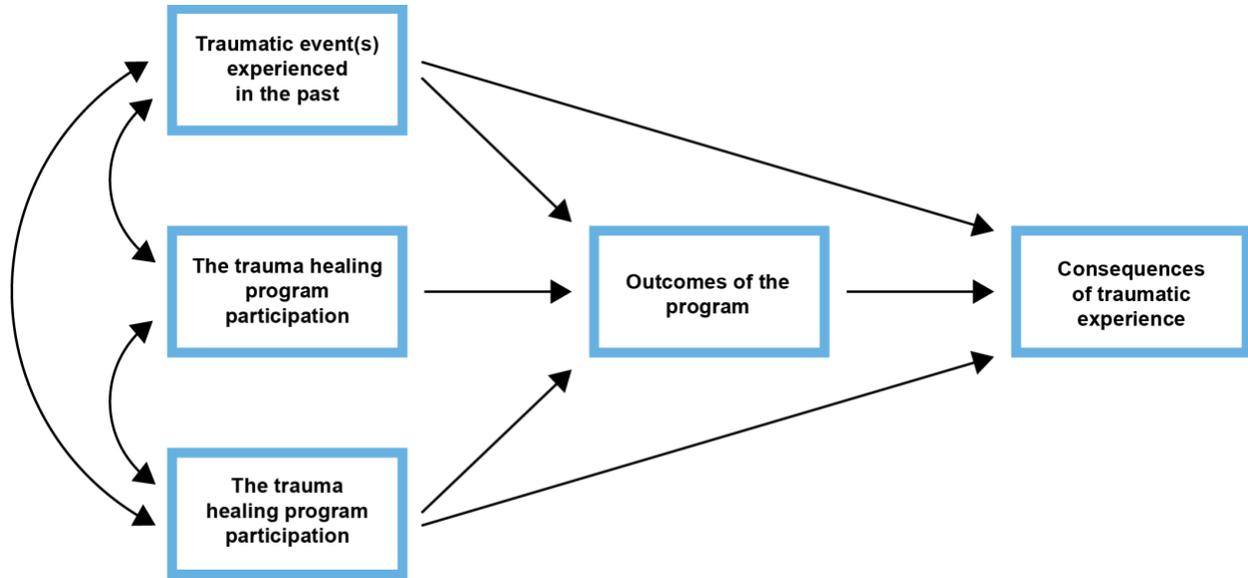


Figure 1. Relationships among the Exogenous and Endogenous Variables

The data were analyzed using various statistical methods to answer the research questions: one-way and two-way repeated measures analysis of variance (ANOVA), structural equation modeling, and random-effects models (see Appendix A for details). All of the results summarized in the next section are statistically significant at the level of .05 or less unless noted otherwise. Results from all of the analyses that were conducted are available in the appendices.

6. Findings

B. Research Question #1: Does the Correctional Trauma Healing Program Work?

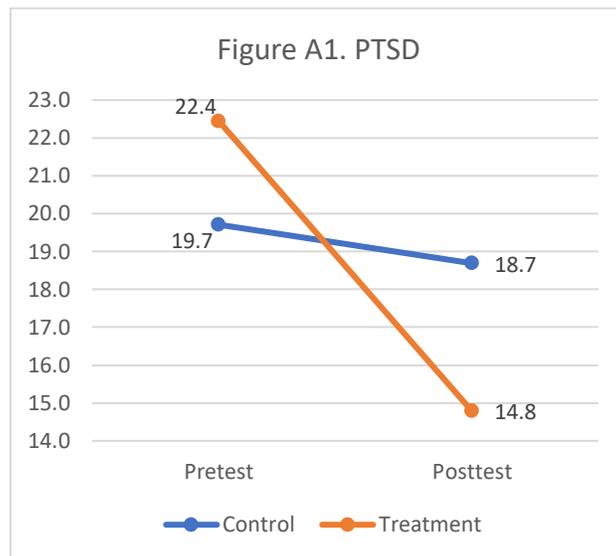
7. Negative Consequences of Trauma

According to the National Center for PTSD: "About 6 of every 10 men (or 60%) and 5 of every 10 women (or 50%) experience at least one trauma in their lives."¹⁰³ While a direct comparison between these estimates and the current data is problematic due to potential measurement differences, the inmates analyzed here reported that they had experienced, on average, three out of 10 types of traumatic events, and 86% (87.6% in the treatment group and 83.5% in the control group) said that they experienced at least one. This suggests that the inmates in the current study may have suffered from more trauma than members of the general population.

The National Center for PTSD also provides the following statistics about PTSD in the U.S. population: "About 7 or 8 out of every 100 people (or 7-8% of the population) will have PTSD at some point in their lives."¹⁰⁴ A similar lifetime prevalence rate of PTSD was found in the National Comorbidity Survey, 6.8%.¹⁰⁵ PTSD positive cases in the current sample was 70.0% (ranged from 60.9-65.1% in the control group and 72.3-76.2% in the treatment group; see Table C1) depending upon how PTSD positive was determined (see the Measurement section of Appendix A). Once again, direct comparisons are problematic, but PTSD appears to be much more common among jail inmates in comparison to individuals in the general population.

If the CTHP is effective, the negative consequences of trauma exposure (i.e., PTSD, complicated grief, depressed mood, depressed malaise, anger, suicidal ideation, and interpersonal aggression) are expected to diminish among the treatment group inmates after completing the CTHP compared with their control group counterparts who did not complete the CTHP (see Appendix C for a description of the statistical analyses). This expectation was largely supported by the data.

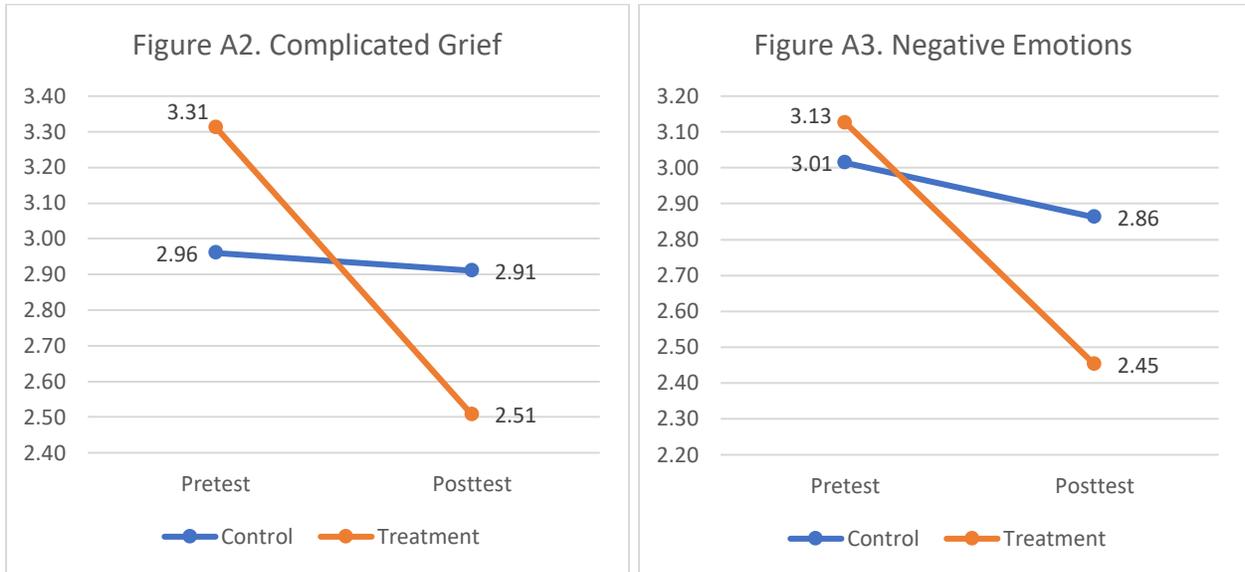
Specifically, we found that the treatment group's average post-traumatic stress disorder (PTSD) scores were significantly *higher* before the CTHP, but substantially reduced after the CTHP, becoming significantly *lower* than the control group's average after the program (see Figure A1). The effect size was "medium" (see Table C1 for details). In contrast, PTSD did not significantly change between the pretest and posttest among those who did not participate in the CTHP. Even though only one figure is shown here, the same basic pattern was observed regardless of whether PTSD was measured using modified or original versions of an instrument called the "Short PTSD Rating Interview (SPRINT)." A total of four different measures of PTSD were examined, and the results were similar for all of them.



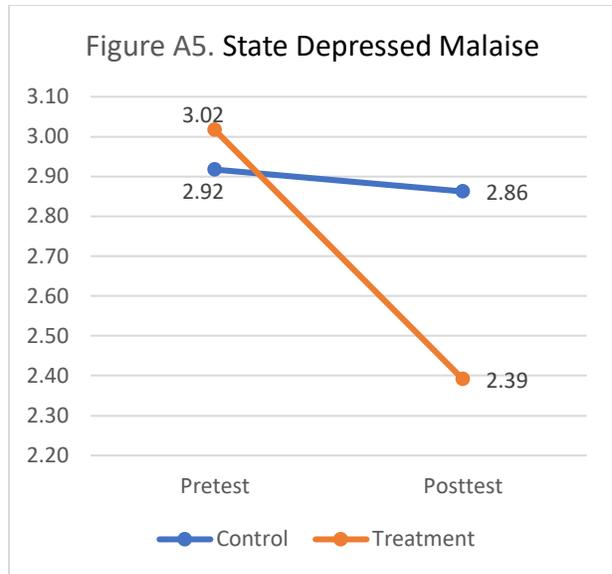
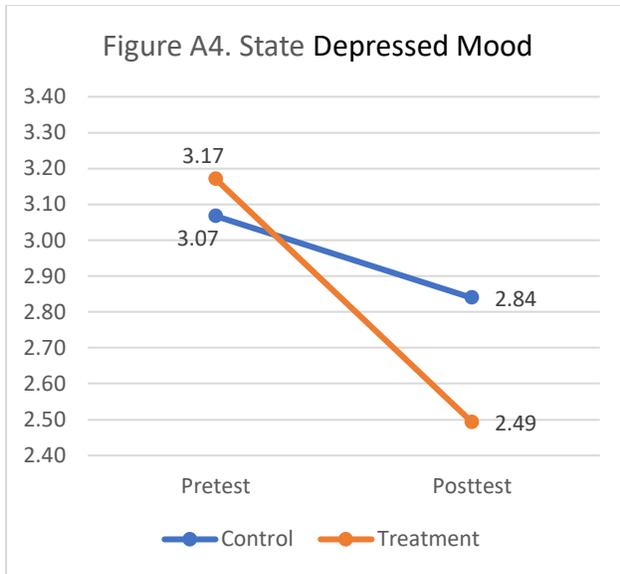
In addition to PTSD, the negative consequences of trauma were also measured in terms of "complicated grief," which refers to a denial of what happened, negative affect interfering with one's life, and functional impairment (e.g., avoiding things one used to do before trauma and

feeling distant from other people). Complicated grief showed a similar pattern (see Figure A2). That is, the treatment group inmates reported, on average, a *higher* score on complicated grief than their control group peers at the pretest but scored significantly *lower* at the posttest.

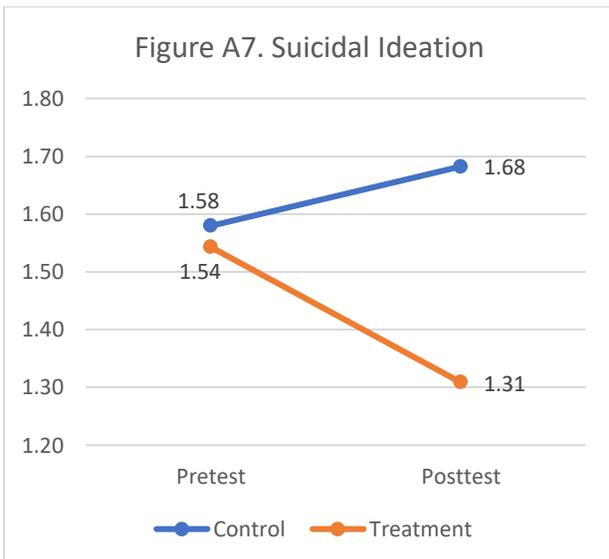
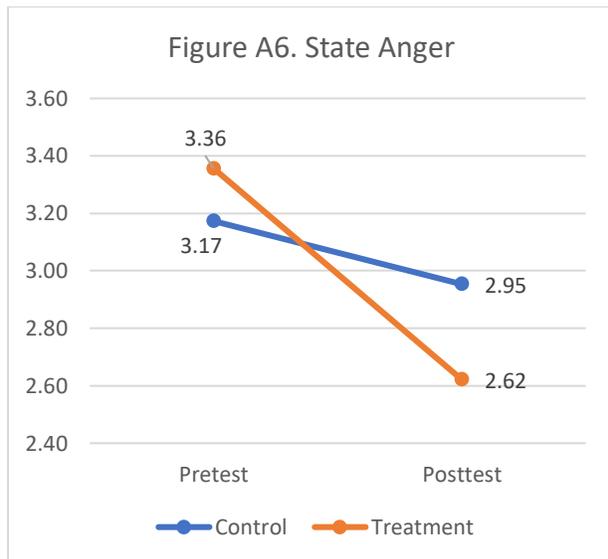
Similarly, while the treatment and control group inmates were no different in negative emotions (i.e., how often they felt depressed, anxious, and angry/frustrated during the last week prior to the survey) before the CTHP, program participants reported a significantly lower average of negative emotions than the non-participants after completing the CTHP (see Figure A3). The effect size was “medium.”

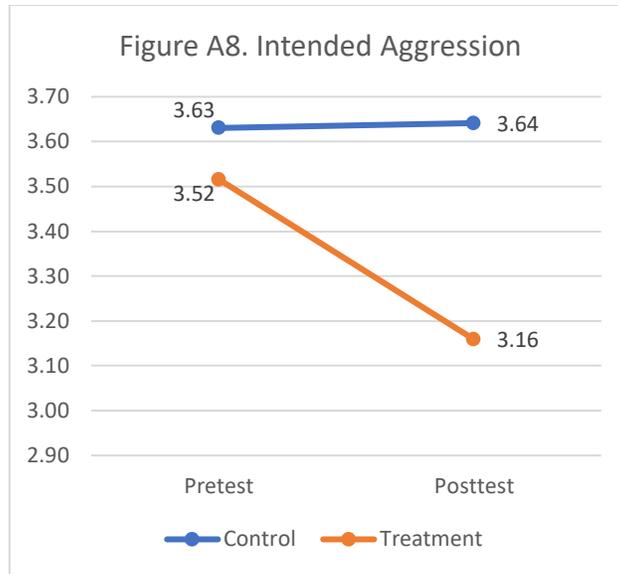


When state depressed mood, state depressed malaise, and state anger (feeling frustrated as well as angry) were examined separately, their observed patterns were consistent across the different types of negative emotions (see Figures A4 to A6). Another measure of inmate’s mental health is suicidal ideation: that is, thinking about committing suicide. The treatment and control groups did not differ in the average of suicidal ideation at the pretest, but the treatment group’s average significantly decreased between the pretest and posttest, whereas the control group’s average did not significantly change (see Figure A7).



While the above measures of the negative consequences of trauma were all affective, one additional question tapped inmate behavior, or to be precise, behavioral intention. Specifically, inmates were asked to indicate how likely or unlikely it would be that they engage in interpersonal aggression (i.e., arguing with a fellow inmate over a seat) as a character did in a scenario included in the survey (see survey item #11 for details). Although the CTHP participants and non-participants did not differ at the pretest, the former reported a significantly reduced chance of reporting that they would engage in interpersonal aggression at the posttest, whereas the latter's reported likelihood did not change between the pretest and posttest (see Figure A8).





1. Outcomes of the Correctional Trauma Healing Program

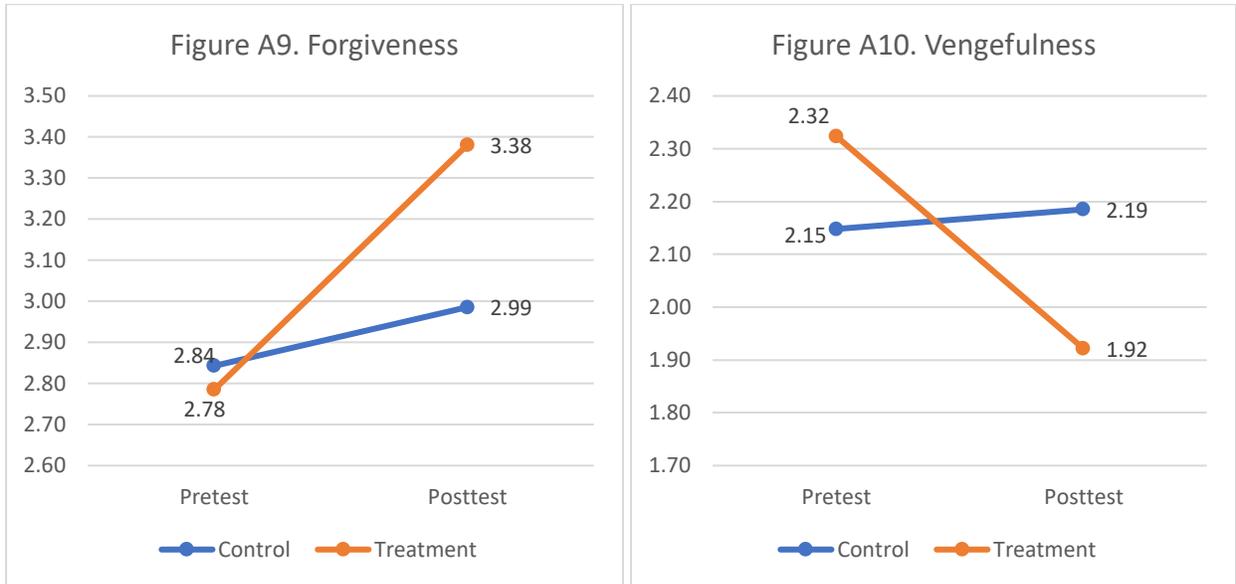
Anticipated outcomes of the CTHP were also examined to see whether the group average of program outcomes changed in a way that was anticipated. That is, the treatment group’s average of prosocial outcomes were expected to increase between the pretest and posttest, whereas the control group’s average was not expected to significantly change over time. If the program’s impact was measured in terms of an antisocial factor, the treatment group’s average was expected to decrease after the CTHP, while the control group’s average was expected to statistically remain the same over time.

CTHP outcomes were examined in two groups: *primary* and *secondary* outcomes. Primary outcomes are what the CTHP is designed to generate, and what is specifically addressed in the material/curriculum. These included: forgiveness, a reduction in vengefulness, compassion, resilience, reasons for living, religiosity, images of God (a decrease in perceived God’s judgment and an increase in perceived God’s engagement), a reduction in blaming God for trauma experienced, God’s forgiveness, God’s purpose in life, and lament in prayer. Secondary outcomes are what might reasonably result from the primary outcomes or the CTHP’s long-term impact, including: perceived social support from family and friends (e.g., as a result of reconciliation that may take place after completion of the CTHP), a sense of meaning in life (due to an enhanced sense of God’s purpose in life), gratitude to God (in response to trauma healing in God), spiritual transformation (as a result of enhanced religiosity), positive beliefs about the Bible, Bible usage, and Bible impact.

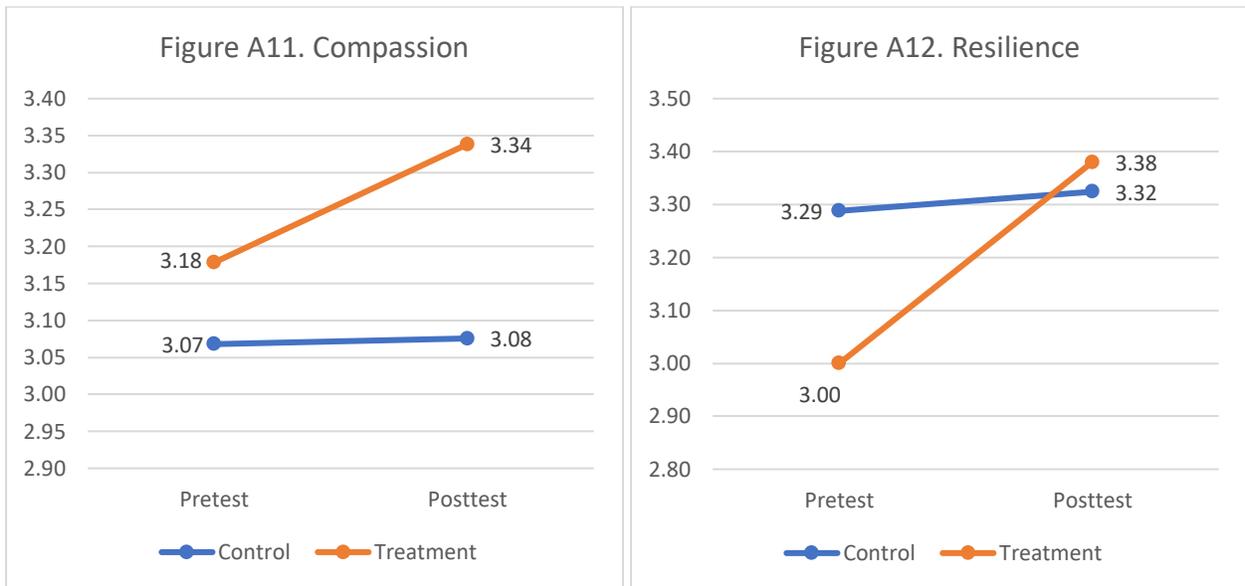
C. Primary Outcomes

Although the treatment and control groups did not differ in the average of forgiveness of a person who caused a traumatic event at the pretest, the treatment group exhibited a higher level of forgiveness at the posttest than the control group, whose average did not significantly change over time (see Figure A9). Conversely, while the two groups were not significantly different in

vengefulness toward that person at the pretest, the treatment group’s average vengefulness was significantly lower after completion of the CTHP, whereas the control group’s average did not change over time (see Figure A10). The effect size was “medium” for both forgiveness and vengefulness.

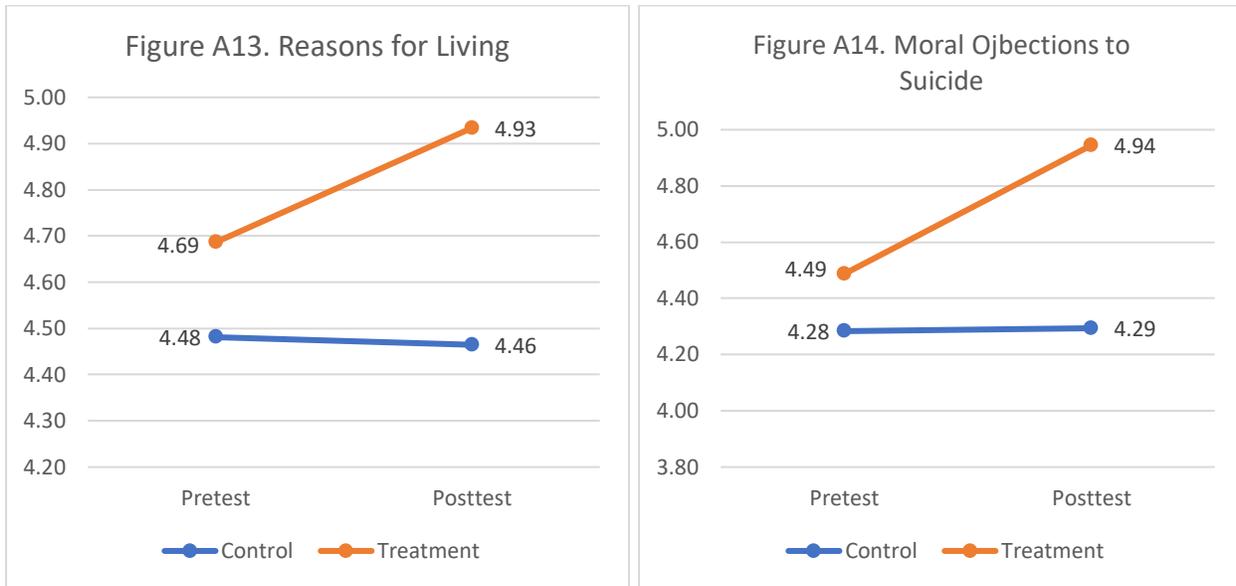


Like forgiveness, the treatment and control group did not differ in compassion at the pretest, but after completion of the CTHP, the posttest confirms that the treatment group reported, on average, higher levels of compassion than the control group, whose average remained practically the same over time (see Figure A11).¹⁰⁶

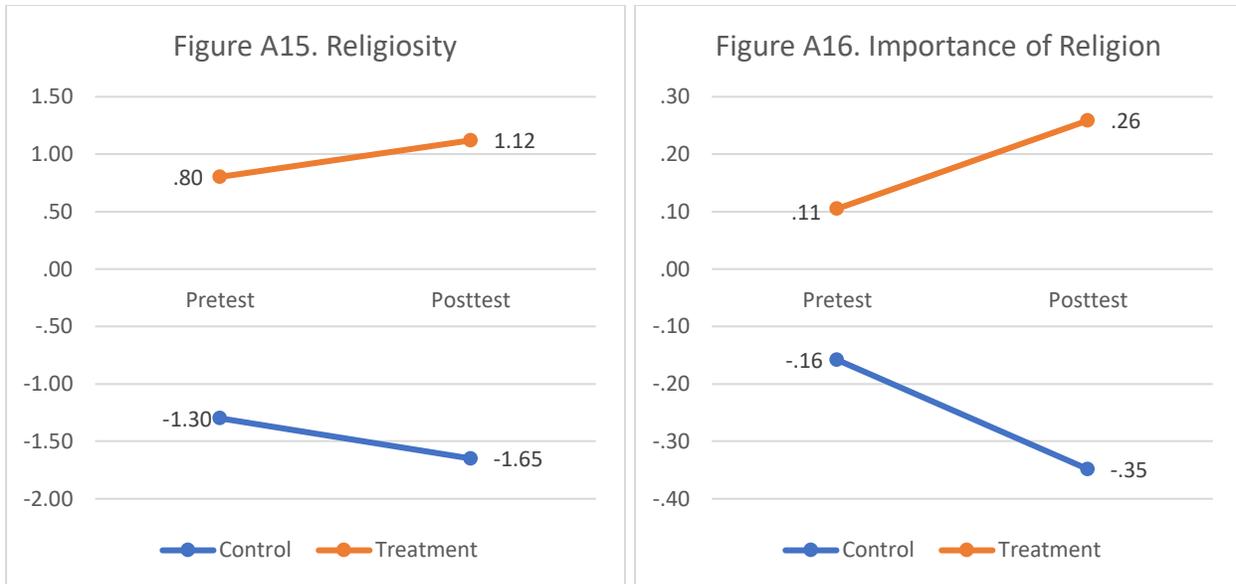


Before participating in the CTHP, inmates in the treatment group reported, on average, significantly lower levels of resilience than those in the control group. However, after

completing the CTHP, the treatment group’s average resilience increased significantly, becoming no different from the control group’s average, which remained essentially unchanged over time (see Figure A12). The effect size was “medium.”

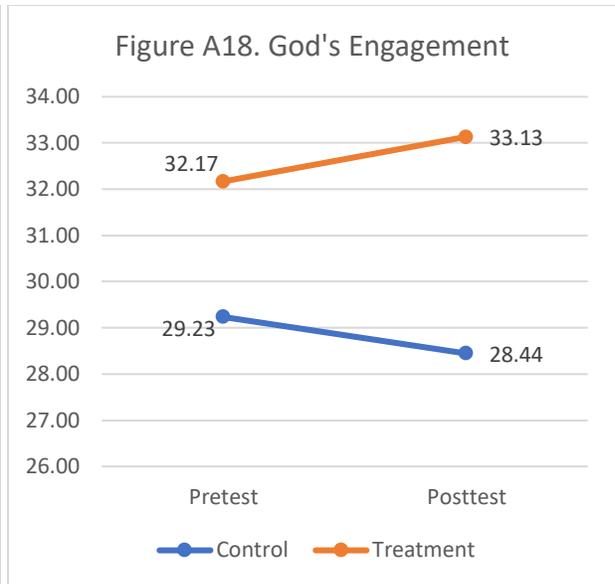
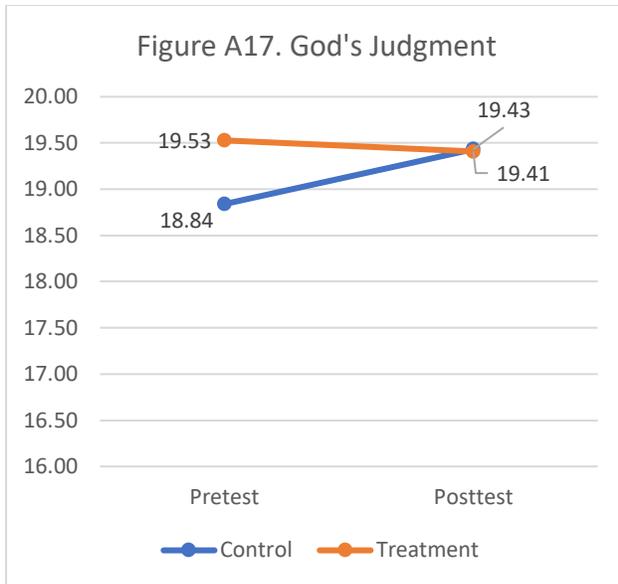


Since the CTHP intends to address suicidal tendency among individuals who have experienced trauma, a 12-item scale was used to measure six types of reasons for living (2 items per type) to see whether participation in the CTHP influences these various reasons for living: (1) survival and coping beliefs; (2) responsibility to family; (3) child-related concerns; (4) fear of suicide; (5) fear of social disapproval; and (6) moral objections. The treatment and control groups did not differ in the average of the 12 items at the pretest, but the posttest revealed a significant group difference, where the treatment group’s average was higher than the control group’s average, as anticipated (see Figure A13). When the six types were examined separately, two of them were found to contribute to the observed pattern: (1) survival and coping beliefs; and (2) moral objections (see Table C1). The items of the former were found to have poor inter-item reliability across surveys (see Table A3), so the subsequent analysis focused on the dimension of moral objections, which showed the same pattern of group differences found above for the average of 12 items (see Figure A14).

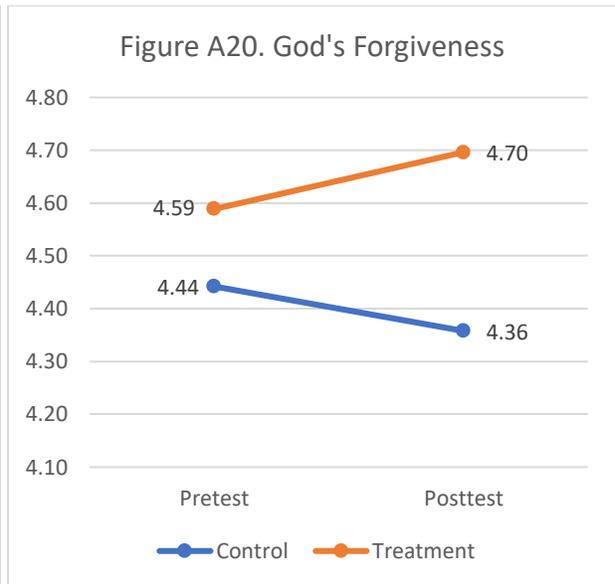
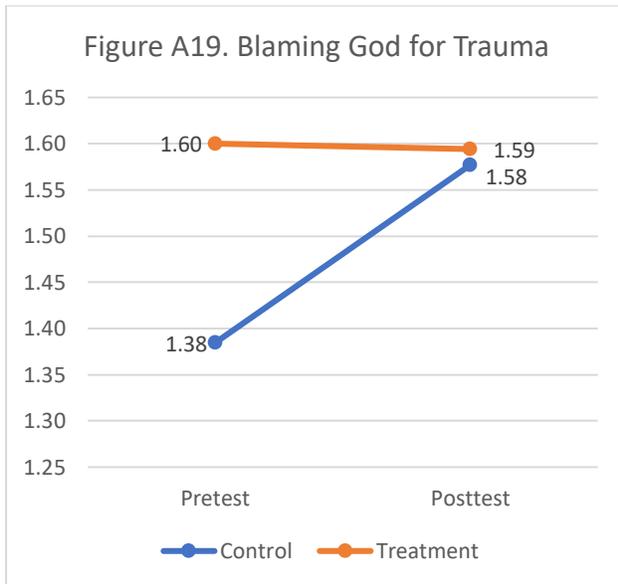


When five different religiosity items were jointly examined—two measures of subjective religiosity (perceived closeness to God and importance of religion or relationship with God) and three indicators of objective religiosity (frequency of service attendance, prayer, and reading a sacred text)—the treatment group was found to be more religious than the control group before the CTHP started.¹⁰⁷ Between the pretest and posttest, the average religiosity significantly increased among the treatment group inmates but did not significantly change among their control group peers (see Figure A15). When each religiosity item was examined separately, importance of religion or relationship with God was the only item where a significant group difference in the change of average over time was observed (see Figure A16 and Table C1).¹⁰⁸

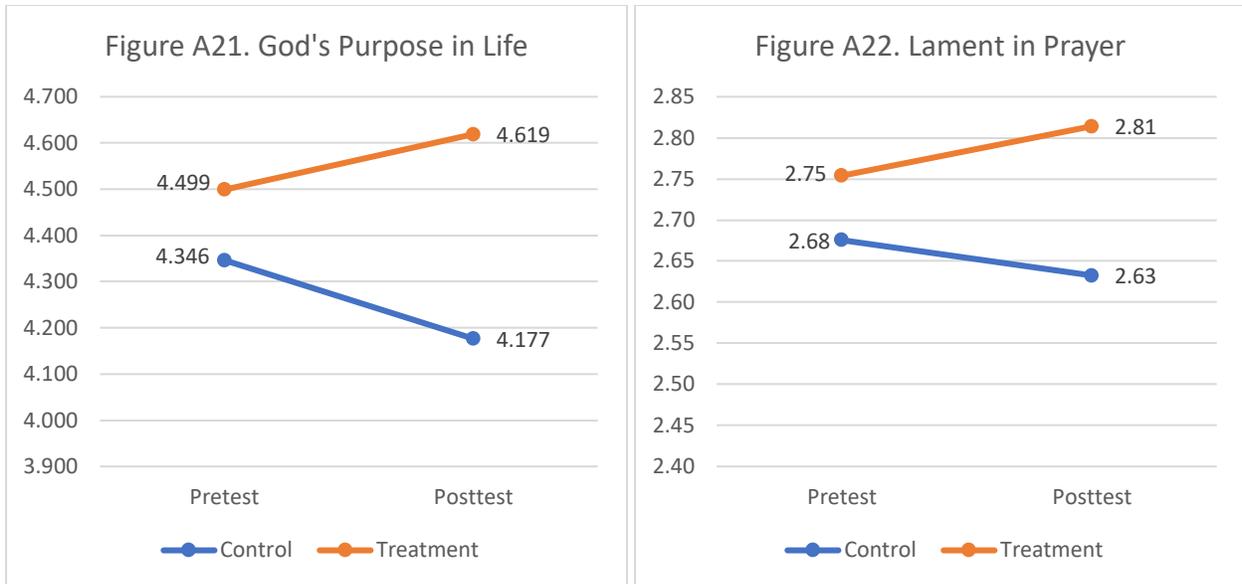
A key theme in the curriculum was to help CTHP participants understand that God is loving, which was expected to decrease the perceived threat of God’s judgment and increase a sense of God’s engagement. The CTHP did not seem to make a difference in the perception of God’s judgment among inmates, as the treatment and control groups were no different at both the pretest and posttest, with their averages not significantly changing over time (see Figure A17). On the other hand, while the treatment group already reported, on average, higher levels of perceived God’s engagement than the control group at the pretest, the treatment group’s average significantly increased between the pretest and posttest, whereas the control group’s average did not change over time (see Figure A18). In sum, participating in CTHP helped inmates to have an enhanced perception of God being concerned about them and directly involved in their lives, although it did not reduce their perception of God’s judgment.



Inmates in the treatment group were also found to blame God for the trauma they experienced more than those in the control group at the pretest, but they became no different at the posttest, as the treatment group’s blaming of God did not increase, while the control group’s blaming increased between the tests (see Figure A19).



The CTHP material—*Healing the Wounded Heart*—also addresses God’s forgiveness, but the participant’s perception of being forgiven by God did not significantly increase after the program completion (see Figure A20). Although they were not different from each other at the pretest, the treatment group inmates reported, on average, higher levels of perceived God’s forgiveness than their control group counterparts at the posttest. However, the program’s impact on participants’ perception of God’s forgiveness was not found to be significant (see Table C1).



However, participation in the CTHP program did make a difference in terms of a sense of God’s purpose in life, which is also specifically addressed by the CTHP material. That is, the treatment and control groups were not different at the pretest in the perception of God’s purpose (or a specific plan) in an inmate’s life, but they were found to be significantly different at the posttest, with the treatment group reporting, on average, higher levels of perceived God’s purpose than the control group (see Figure A21). The treatment group’s average increased significantly after the CTHP, while the control group’s did not significantly change.

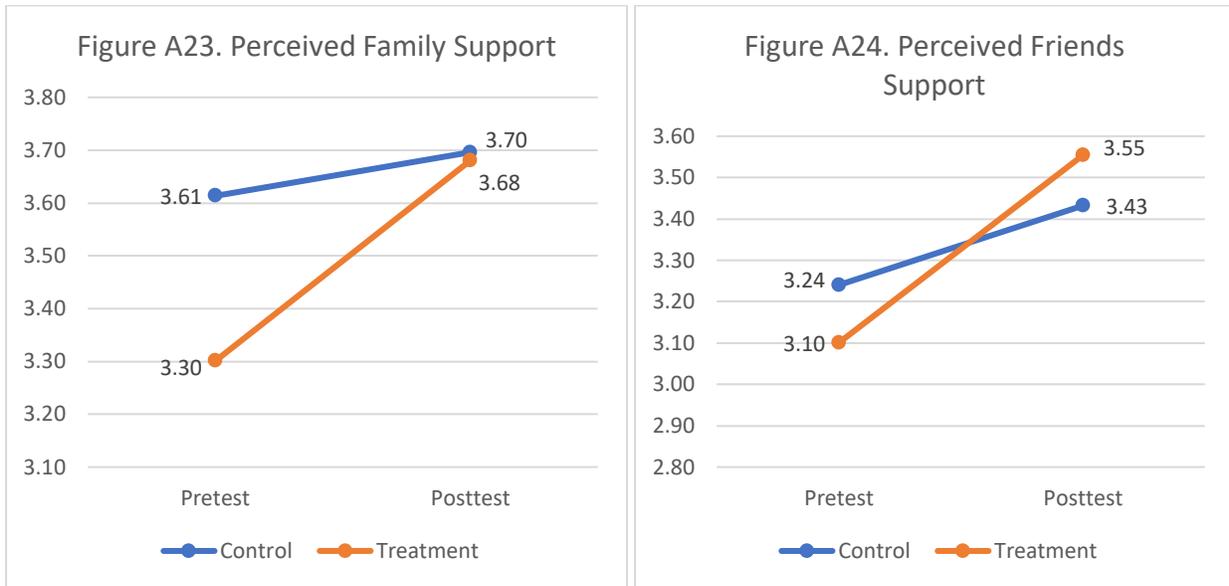
Trauma often involves a loss of someone or something (e.g., a family member or a friend, a body part or its function, property, etc.). Since grief and mourning a loss can eventually lead to healing, the CTHP intends to not only help participants understand that it is normal to grieve, but to also encourage them to talk about how they feel and even express their anger and sadness. For example, the curriculum includes a lesson on laments (using a lament psalm from the Bible), which would allow trauma victims to fully express their grief. The frequency of lamenting to God in prayer (i.e., expressing anger, sorrow, bitterness, etc.) did not significantly change after the CTHP in either group (see Figure A22).

D. Secondary Outcomes

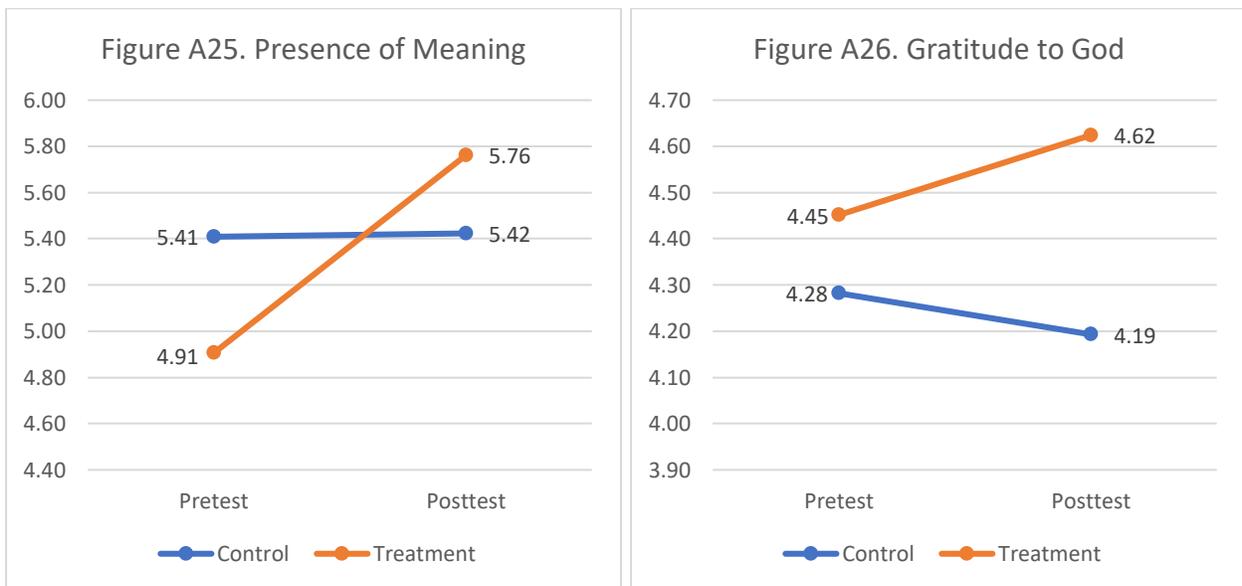
People are likely to react more severely to trauma if they have little or no support from family or friends during and after the traumatic event. Although the CTHP is not designed to directly affect the participant’s perception of social support from family and friends, the program-generated healing may enhance that perception. For example, if healing led to family reconciliation, the perception of family support is likely to be increased.

Before participation in the CTHP, the treatment group inmates reported, on average, lower levels of perceived family support than their control group peers. However, the treatment group’s perceived support significantly increased after the program, becoming no different from the control group’s, which did not change significantly over time (see Figure A23). On the other

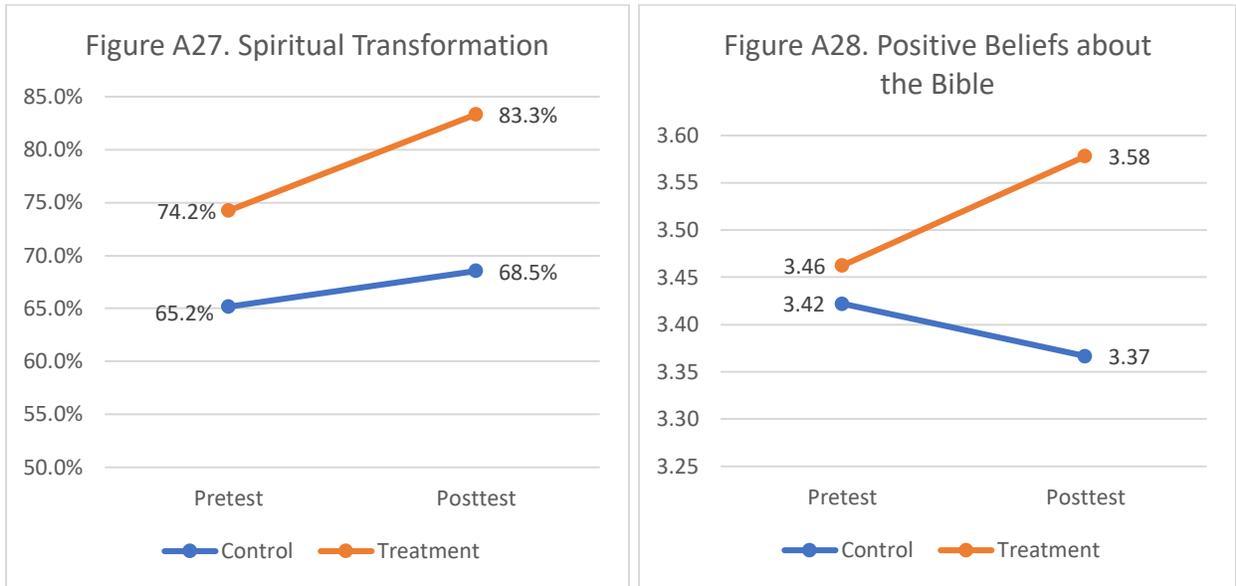
hand, the treatment and control groups did not differ in perceived support from friends at the pretest and posttest, as the average perception of both groups increased between the tests (see Figure A24).



The CTHP may also increase a sense of meaning and purpose in life among the participants as a result of enhancing their beliefs about God’s purpose and specific plan for their lives. The treatment group inmates reported, on average, significantly *lower* levels of perceived presence of meaning in life than their control group counterparts before they participated in the program, but significantly *higher* levels after they completed it (see Figure A25). The effect size was “large” (see Table C1), and this magnitude of effect size was found only for this outcome.



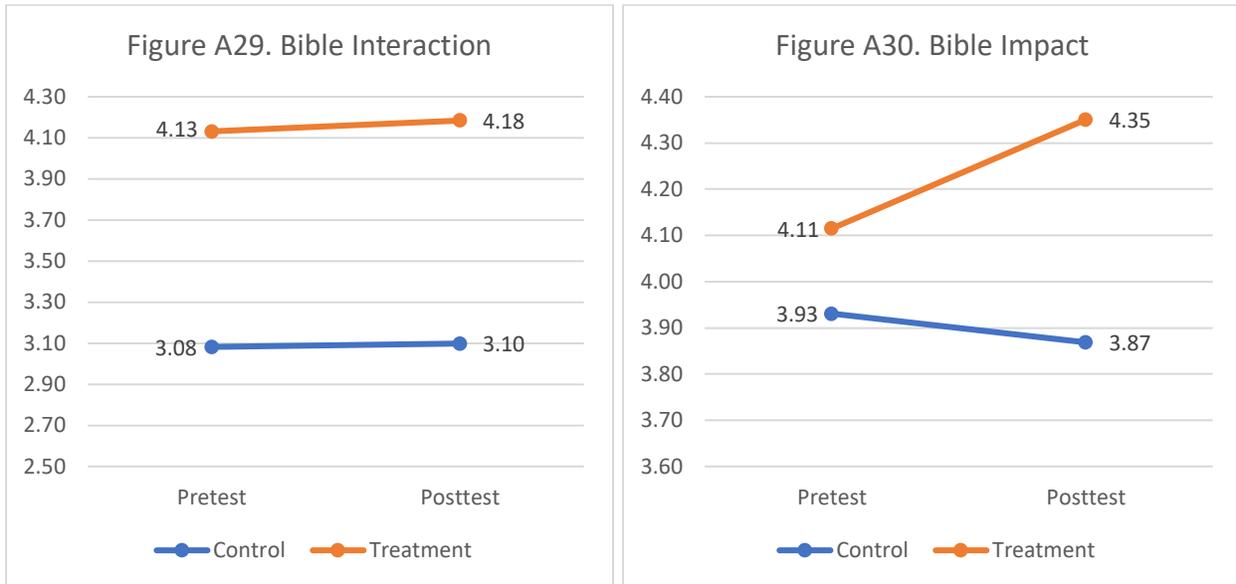
God is the main source of healing in the CTHP. Thus, to the extent that a participant attributes their healing to God, the participant’s grateful attitude towards God is expected to increase. Findings were consistent with this expectation. Even though the treatment and control groups did not significantly differ in the average of gratitude to God at the pretest, they became different after the CTHP. Specifically, the average gratitude to God among the treatment group inmates significantly increased, while it did not significantly change among their control group peers (see Figure A26).



Three additional variables were also explored as potential secondary outcomes of the program: the percentage of inmates reporting spiritual transformation (or religious conversion), positive beliefs about the Bible (e.g., the Bible being a guide for life and a way of knowing God’s will), and the frequency of Bible interaction outside of religious services. The average of the first two potential outcomes significantly increased among inmates in the treatment group between the pretest and posttest, whereas no significant change was observed among those in the control group over time (see Figures A27 and A28). As a result, the two groups became different at the posttest even though they were not different at the pretest. However, the CTHP’s overall effect on these variables was found to be not significant (see Table C1). On the other hand, the treatment group inmates tended to report that they used the Bible outside of religious services more often than the control group counterparts before, as well as after, the CTHP. But, neither group’s average changed between the pretest and posttest (see Figure A29). In other words, the CTHP’s impact on Bible interaction was not significant, indicated by the effect size being zero (see Table C1).

Another potential outcome involved experiences that inmates were likely to have when they used the Bible, which ABS calls “Bible impact” (e.g., feeling a sense of connection to God, becoming more willing to engage in faith, and showing more loving behavior towards others; see Appendix B for details). The treatment and control groups did not differ in the average of Bible impact at the pretest, but they became different at the posttest as the treatment group’s average increased significantly between the tests, whereas the control group’s average did not show any significant

change over time (see Figure A30). In other words, the CTHP enhanced Bible impact among inmates.



E. Research Question #2: How Does the Program Work?

The above results provide empirical evidence that the CTHP is effective for many different outcomes. That is, the negative consequences of trauma exposure were significantly reduced among inmates who completed the CTHP, whereas non-participating inmates tended to report no significant changes over time, regardless of which trauma consequence was examined (e.g., PTSD, complicated grief, negative emotional states, suicidal ideation, or the likelihood of interpersonal aggression).

The CTHP also worked in that it generated many anticipated outcomes, including increases in prosocial factors and decreases in antisocial ones. Primary outcomes were expected because the CTHP specifically targets them, whether being promoted (e.g., forgiveness toward a person who caused a traumatic event) or discouraged (e.g., vengefulness toward the person). Secondary outcomes were likely byproducts of primary outcomes, though not necessarily intended by the program.

An important question to ask is whether the observed reduction in negative consequences of trauma can be attributed to the program-generated changes in the primary and secondary outcomes. In other words, did the CTHP work because it increased prosocial outcomes and decreased antisocial outcomes, which in turn reduced PTSD, complicated grief, negative emotional states, suicidal ideation, and the likelihood of interpersonal aggression? To answer this second research question, we examined whether the primary and secondary outcomes mediated or explained the CTHP's effect on the trauma consequences.

Overall, findings provided an affirmative answer to this question (see Appendix D and Table D1 for details). That is, the CTHP enhanced prosocial outcomes and reduced antisocial outcomes,

thereby decreasing the negative consequences of trauma and facilitating healing among trauma victims. Specifically, for PTSD and complicated grief, six primary outcomes (forgiveness, resilience, moral objections to suicide, God's engagement, God's forgiveness, and God's purpose in life) and four secondary outcomes (family support, friends support, presence of meaning, and Bible impact) were enhanced, whereas vengefulness, an antisocial outcome, was reduced.

For example, the CTHP enhanced forgiving and resilient attitudes among participating inmates and helped them reduce vengeful attitudes toward a person who caused them harm through a traumatic event. Similarly, there was an increase in inmate perceptions of God's care and plan for their lives. In addition, though not covered in the CTHP, the participating inmates reported an increase in perceived support from their family and friends, a sense of meaning in life, and positive experiences from Bible interaction (e.g., a sense of connection to God, an increased desire to know God, and more loving behavior towards other people). These changes, in turn, were associated with decreased levels of PTSD and complicated grief.

Most of these outcomes, both primary and secondary, also helped to explain how the CTHP aided the healing of participating inmates—by reducing their negative emotions as well as the likelihood of engaging in interpersonal aggression. The healing was found to be attributable to a decrease in vengefulness and increases in God's engagement, God's forgiveness, family support, friends support, Bible impact, and, to a lesser extent, God's purpose in life, presence of meaning, gratitude to God, and positive beliefs about the Bible.

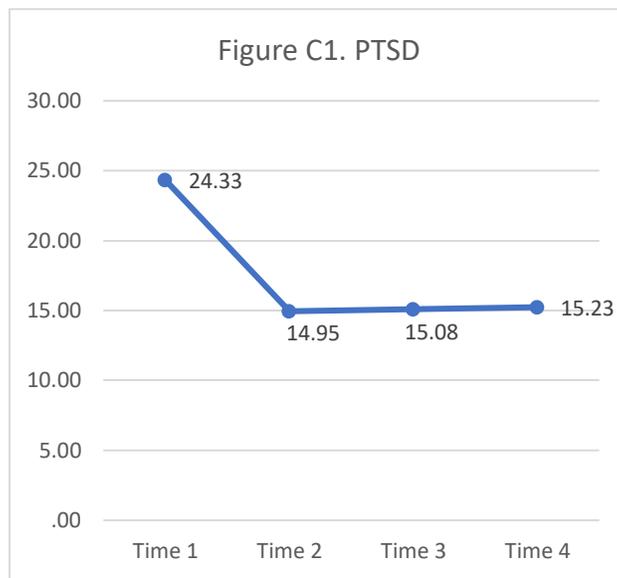
On the other hand, none of the primary outcomes explained a decrease in suicidal ideation before or after the CTHP, while four secondary outcomes did: presence of meaning, gratitude to God, positive beliefs about the Bible, and Bible impact. A somewhat peculiar finding was that the measure of moral objections to suicide (which explained the CTHP's reduction of PTSD and complicated grief) was not significantly related to suicidal ideation. This finding and the relatively limited explanation of the CTHP's outcomes in this area might be related to the use of a single item to measure suicidal ideation, for which multiple items could have been employed. Stated positively, it made sense to see that an inmate's existential belief in life's meaning increased as a result of participating in the CTHP, which significantly reduced his or her thoughts about committing suicide. The other three significant explanatory factors were related to God or the Bible. That is, the CTHP increased gratitude to God, positive beliefs about the Bible, and Bible impact, which in turn reduced suicidal ideation.¹⁰⁹

F. Research Question #3: Does the Impact of the Program Last?

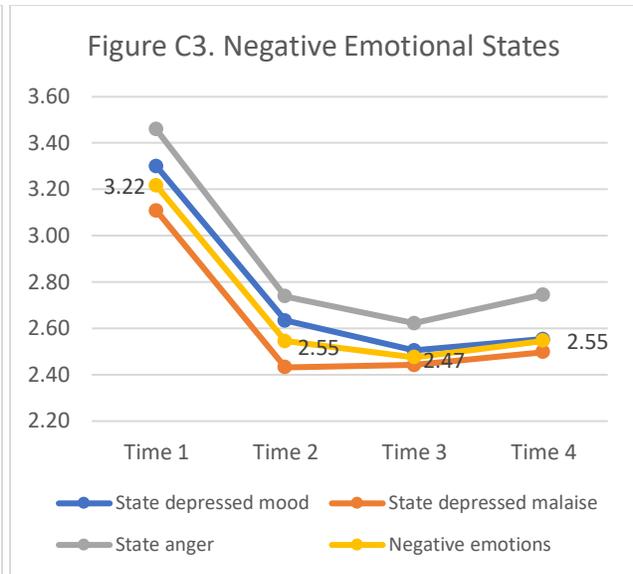
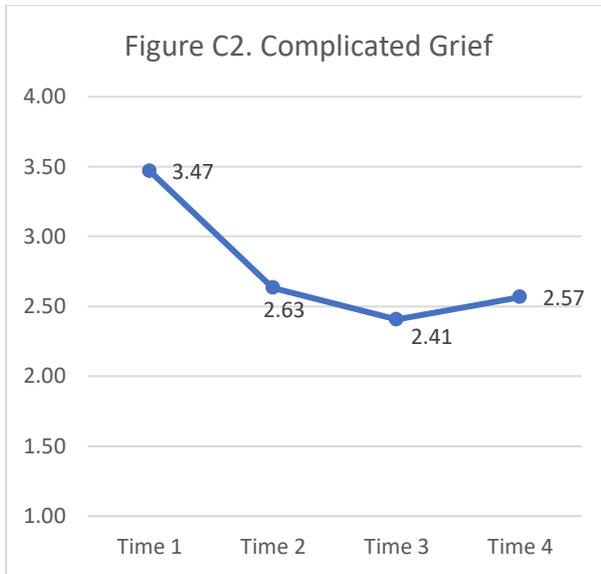
While we found a significant reduction in the negative consequences of trauma two to three days after the CTHP, we were also interested in determining what happened to the initially observed changes one month following completion of the program. Did the levels of trauma consequences return to where they were before the CTHP, remain the same, or continue to decrease? What about the primary and secondary outcomes of the CTHP? Furthermore, what happened to these outcomes three months after completion of the CTHP? These are important questions given that a treatment found effective often turns out to have a short-lived effect, with positive changes disappearing soon after the treatment intervention.

To answer these questions, data from the two follow-up surveys administered to the treatment groups, as well as the pretest and posttest data, were analyzed to see what happened to those changes observed between the first two survey administrations at one and three month intervals after the CTHP ended. Results presented below are based solely on data from inmates who completed the CTHP.

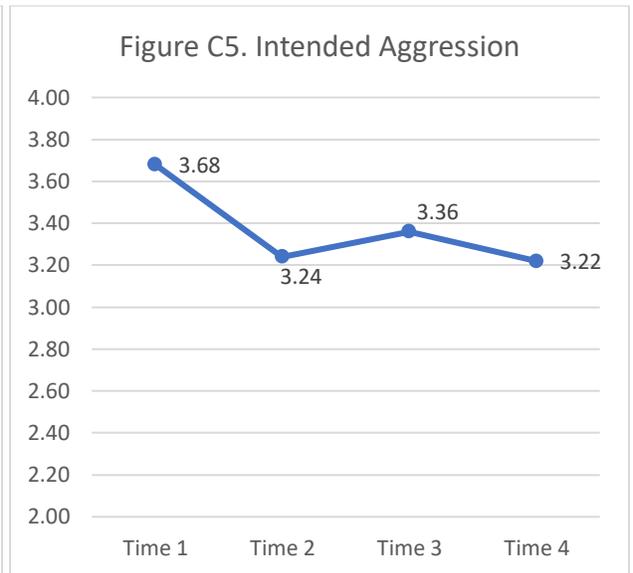
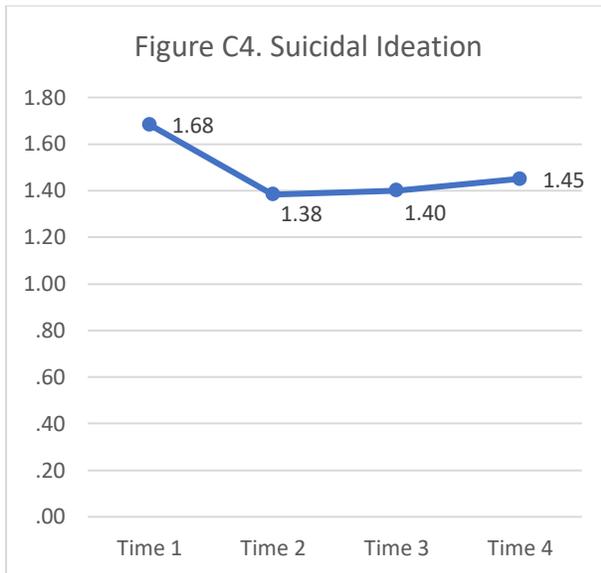
PTSD, which was significantly reduced between the pretest and posttest (Times 1 and 2), remained at the lower level one and three months after completion of the CTHP (Times 3 and 4) (see Figure C1). The observed changes in the average across Times 1 to 4 were found to be statistically significant, and the CTHP’s effect size was “large” for all four measures of PTSD (see Table E1). Even though only one figure is shown here, the results were similar for the four measures of PTSD.



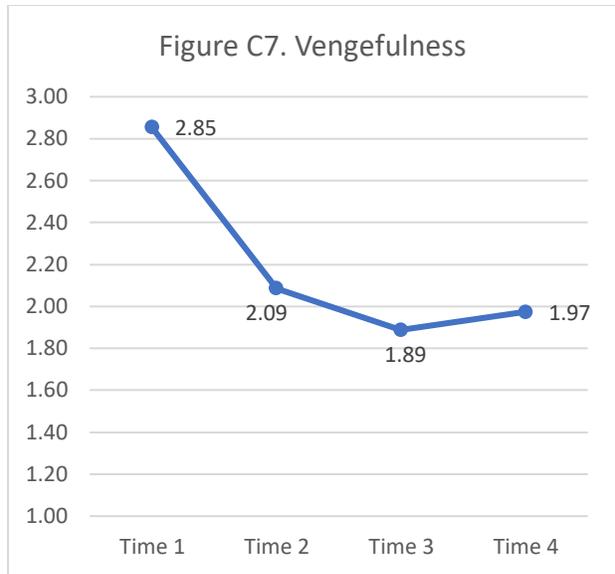
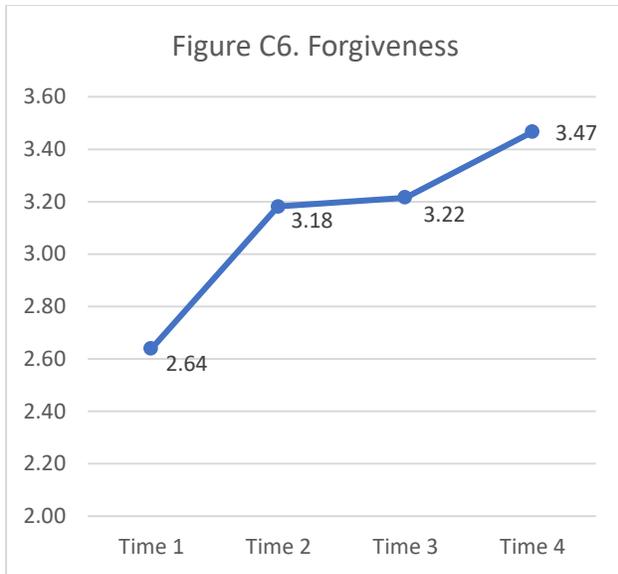
Complicated grief and negative emotional states showed a similar pattern (see Figures C2 and C3). That is, on average, they both significantly decreased between the pretest (Time 1) and posttest (Time 2), and then showed no significant change afterwards (Times 3 and 4), with Time 2 to 4 averages not being significantly different from each other. A consistent pattern was observed when negative emotional states were examined separately for depressed mood, depressed malaise, and anger (see Figure C3).



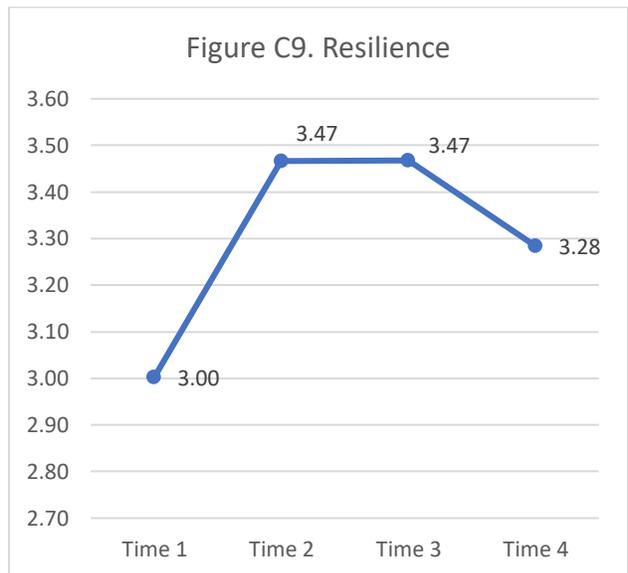
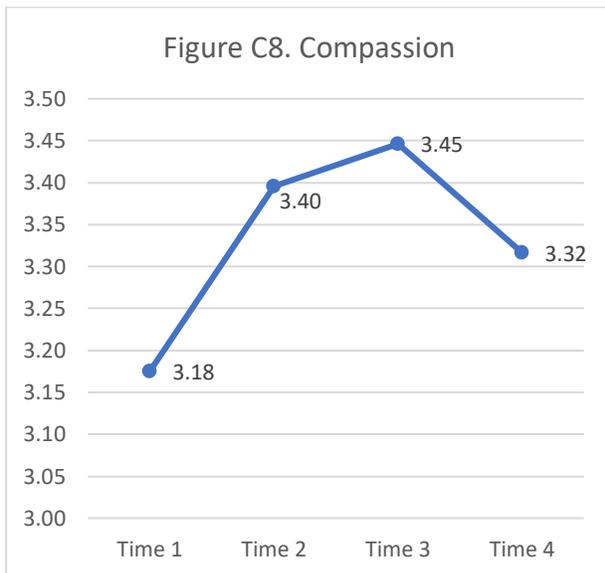
On the other hand, inmate’s suicidal ideation and likelihood of engaging in interpersonal aggression did not show significant patterns of change over time (see Figures C4 and C5). Specifically, none of the differences in the average were statistically significant (see Table E1).¹¹⁰



In contrast, the average of forgiveness increased between the pretest and posttest, and did not change significantly afterwards (see Figure C6),¹¹¹ whereas that of vengefulness decreased after the CTHP and remained statistically the same over the next three months (see Figure C7). The CTHP’s effect size was “large” for both outcomes (see Table E1).

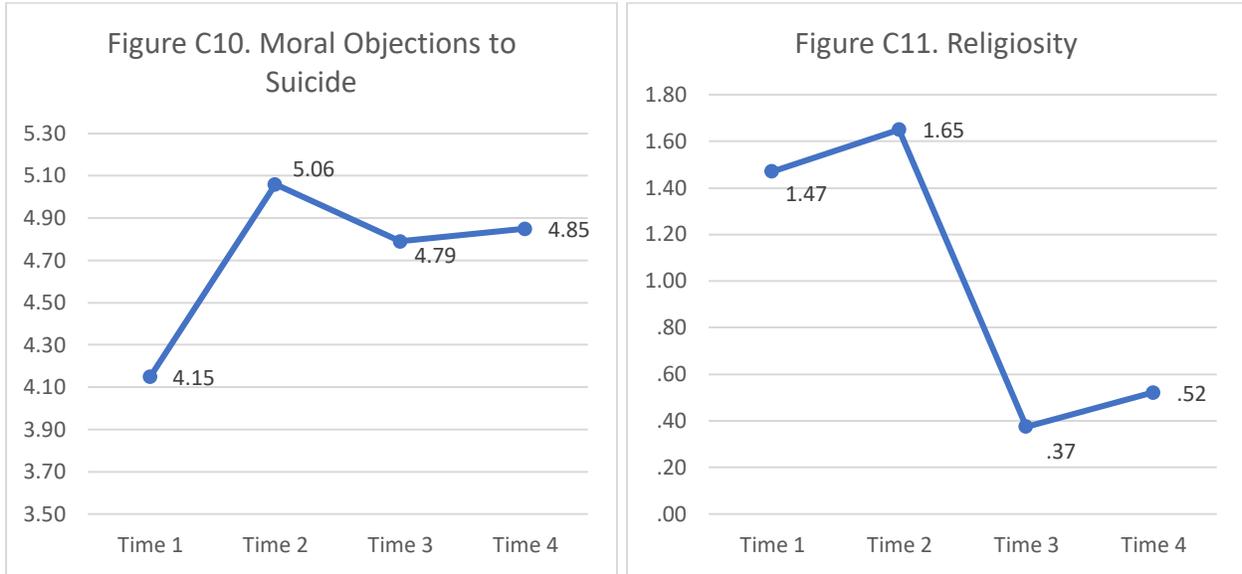


Significant overall changes across the four surveys were also observed for compassion, resilience, moral objections to suicide, and religiosity, but the observed patterns of change were different among the four primary outcomes. Specifically, compassion and resilience both, on average, significantly increased between Times 1 and 3. However, between Times 3 and 4, they decreased to a level that was not significantly different from what was observed at Time 1 (see Figures C8 and C9). In other words, the CTHP’s positive effects on compassion and resilience were observed only up to a month after the program ended, but tended to disappear afterwards. This finding indicates a need to sustain the CTHP’s impact beyond the one-month period.

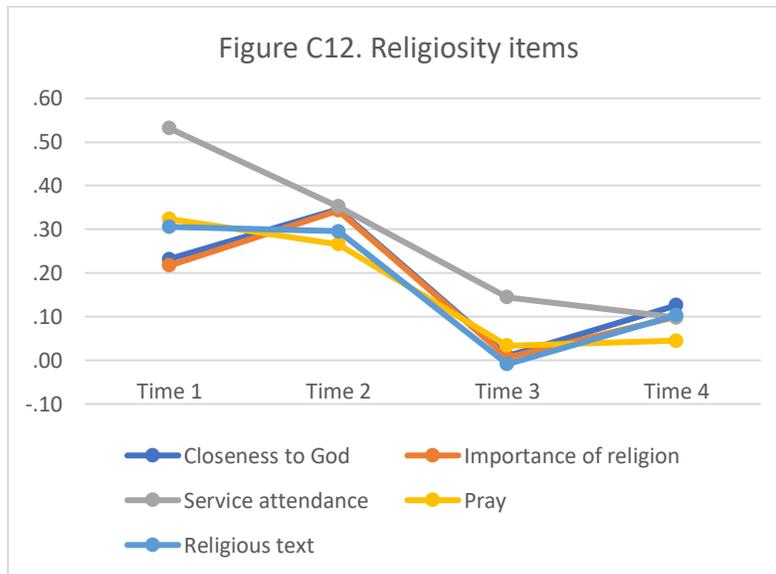


On the other hand, inmate’s moral objections to suicide significantly increased after completion of the CTHP, and the impact tended to last for three months after the program ended (see Figure C10). However, the pattern of change in religiosity was different. That is, participating inmates’

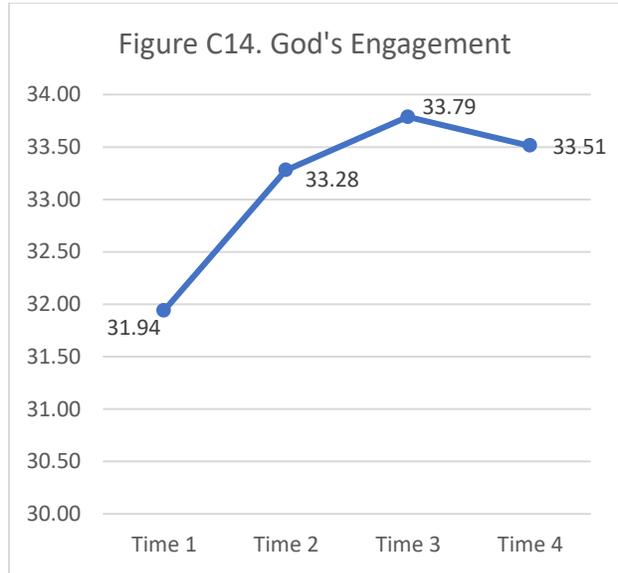
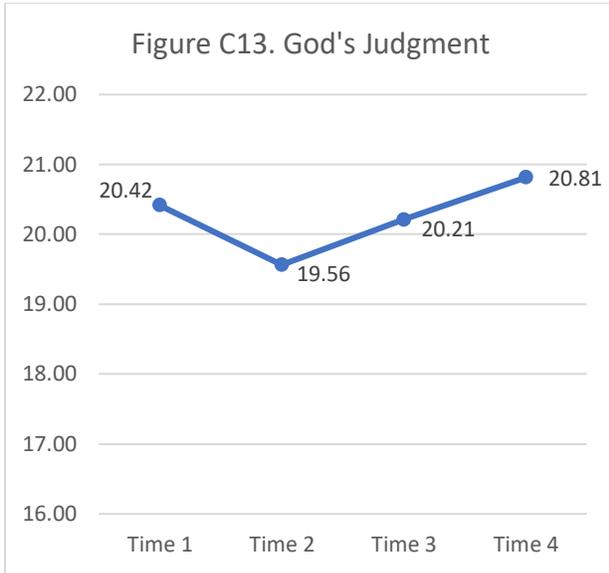
religious involvement did not significantly change after they completed the CTHP, then significantly decreased about a month later and stayed at that level afterwards (see Figure C11). The non-significant change in religiosity before and after the CTHP seems inconsistent with the earlier finding of significant increase between the pretest and posttest observed among the treatment group inmates (see Figure 18 in the Section VI-A-2-a). However, this inconsistency is likely due to the difference in sample size and its associated statistical power. Regardless, the significant drop in religiosity following the end of the CTHP deserves further investigation.



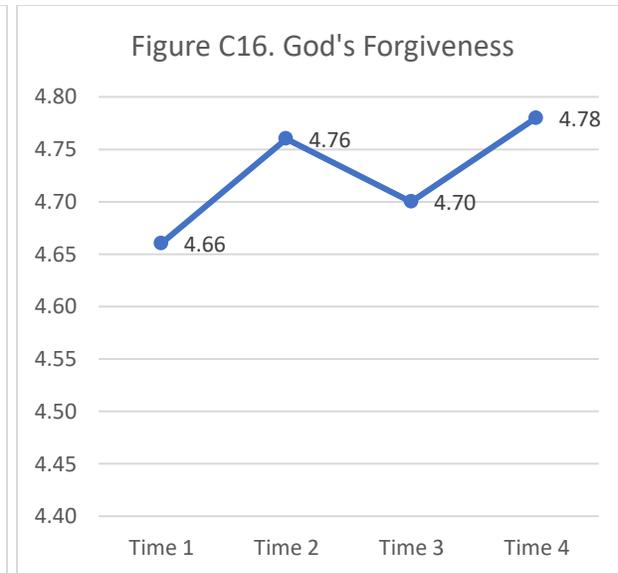
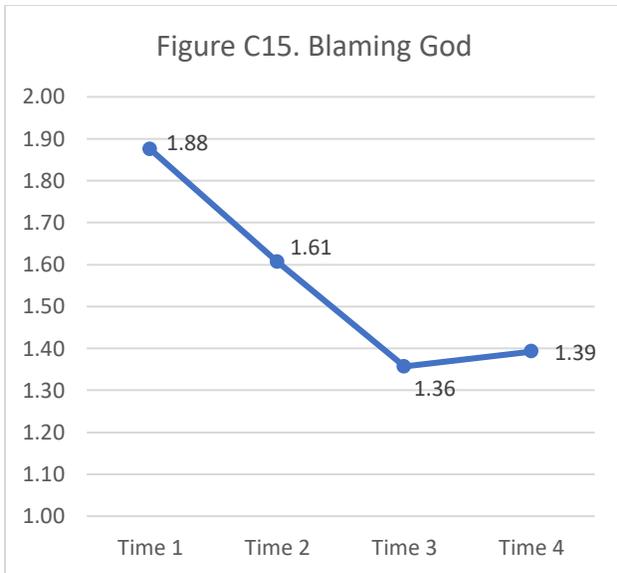
Similar patterns of change were observed when the religiosity items were examined separately, except for the frequency of religious service attendance, which decreased between the pretest and posttest as well as between the posttest and first follow-up, remaining low afterwards (see Figure C12).

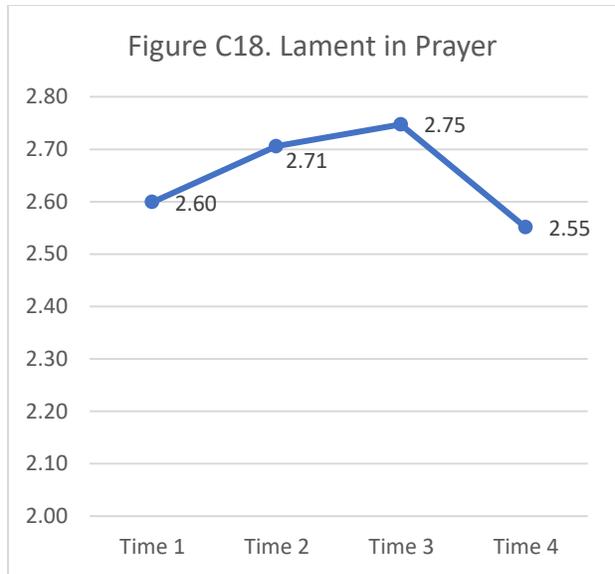
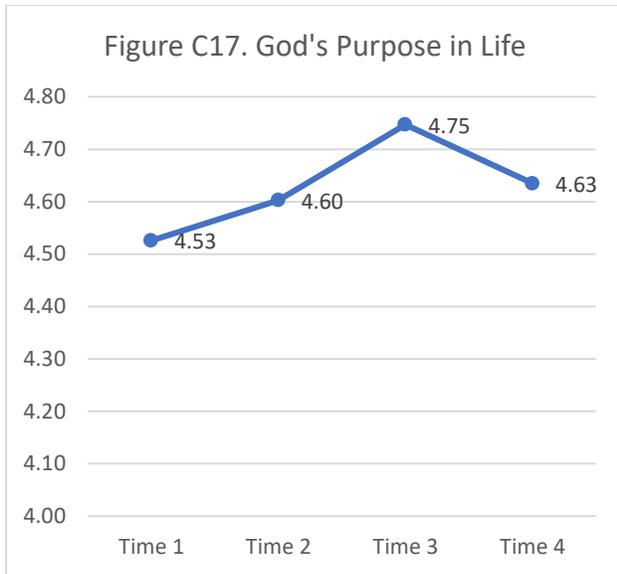


The perception of God’s judgment, which declined somewhat after the CTHP ended, began to increase afterwards and did not show a statistically significant pattern of change across the four waves (see Figure C13). In contrast, the overall change in perceived level of God’s engagement was found to be statistically significant, showing a generally linear pattern of increase over time until Time 3, and then leveling off by Time 4 (see Figure C14).

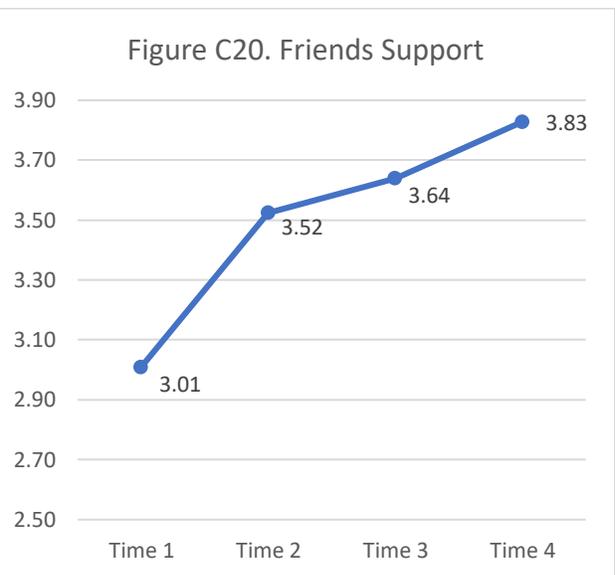
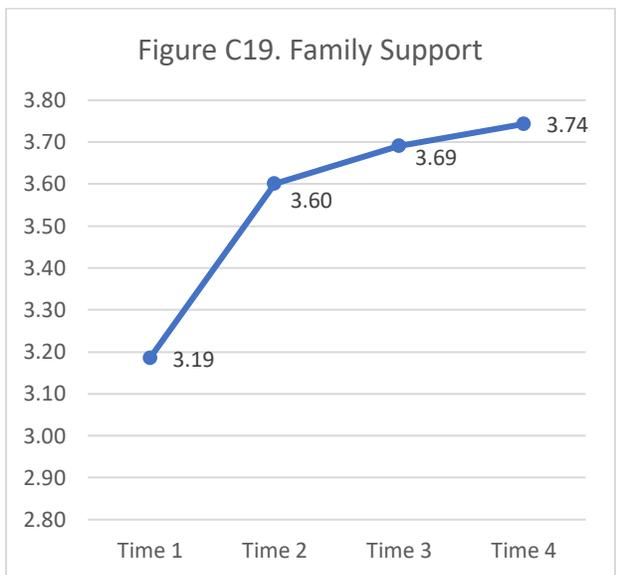


Among the four remaining primary outcomes related to God, only blaming God (for a traumatic event he or she had) had a significant pattern of change. Specifically, it continued to decline after the CTHP ended, and then stayed at the lower level (see Figure C15). On the other hand, perceived God’s forgiveness, God’s purpose in life, and lament in prayer all had no significant pattern of change (see Figures C16 to C18).

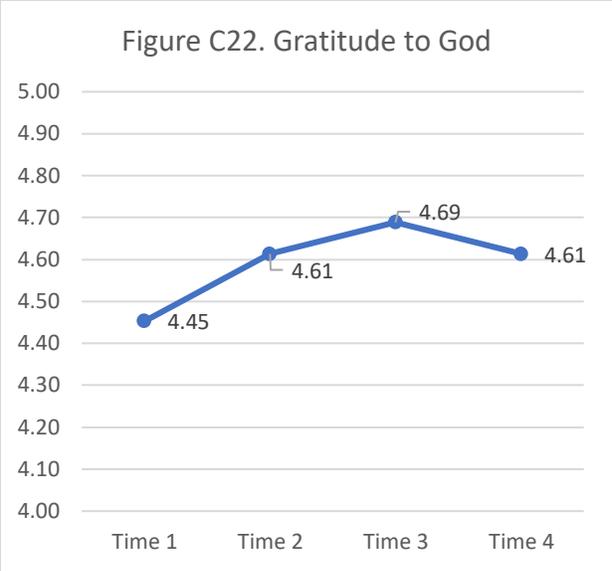
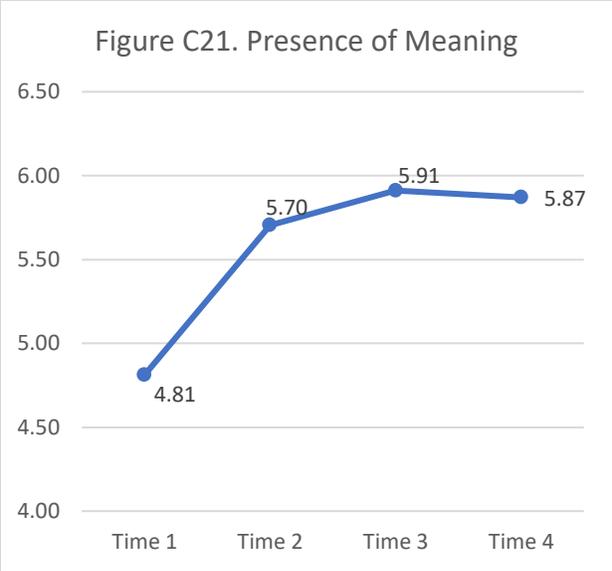




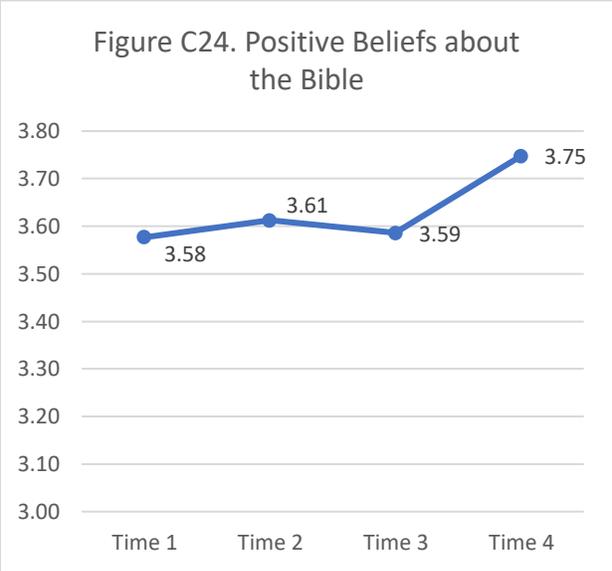
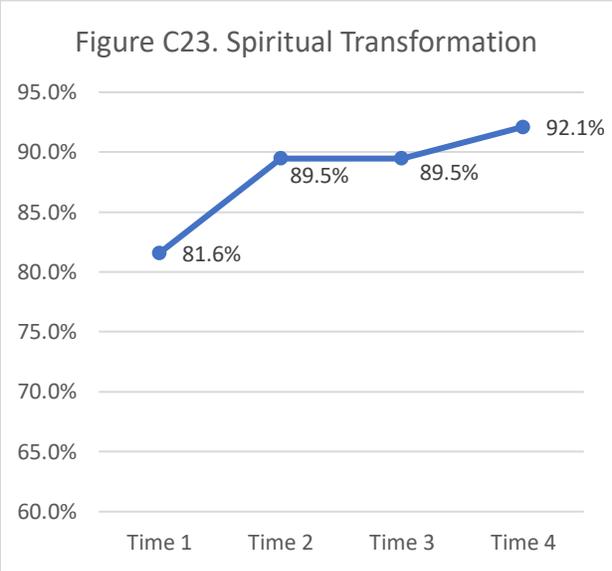
Turning to the secondary outcomes of the CTHP, both measures of perceived social support were found to significantly increase over time, following a generally linear pattern (see Figures C19 and C20). That is, the CTHP’s salutary effect on the perception of family support and friends support lasted for at least three months after the CTHP ended. This pattern of change in perceived support from family and friends is likely to indicate that the CTHP helped participating inmates gradually overcome their perceived alienation from their family members and peers.

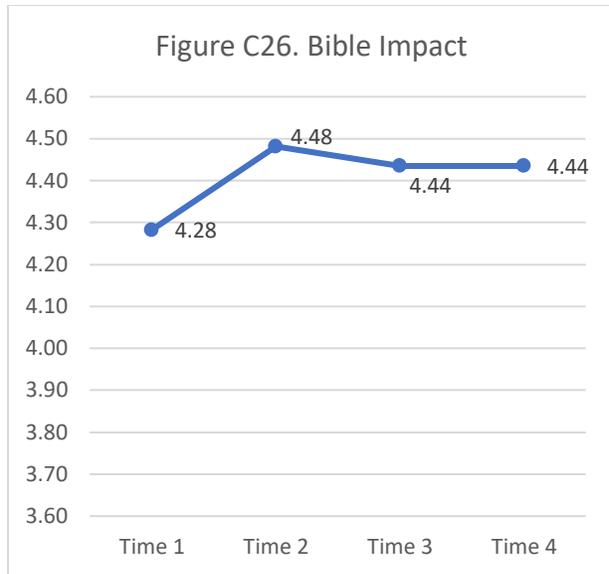
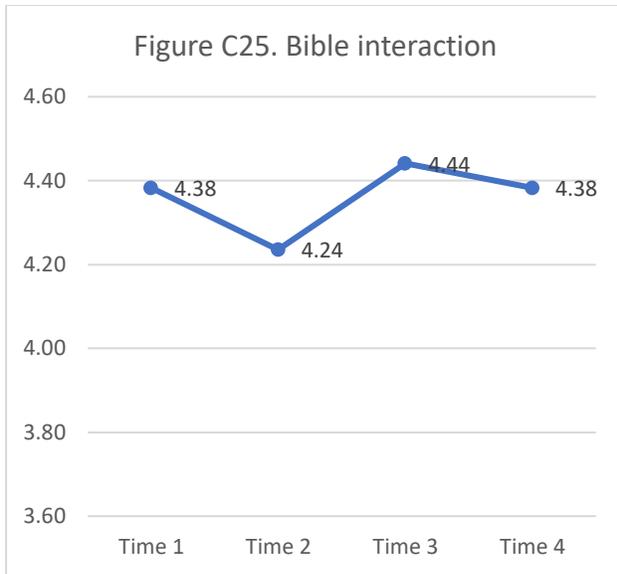


Similarly, the CTHP’s impact on the inmate’s sense of meaning in life also lasted for several months after the program ended, showing an increasing pattern over time (see Figure C21). On the other hand, the inmate’s gratitude to God showed no significant pattern of change across the four waves (see Figure C22).



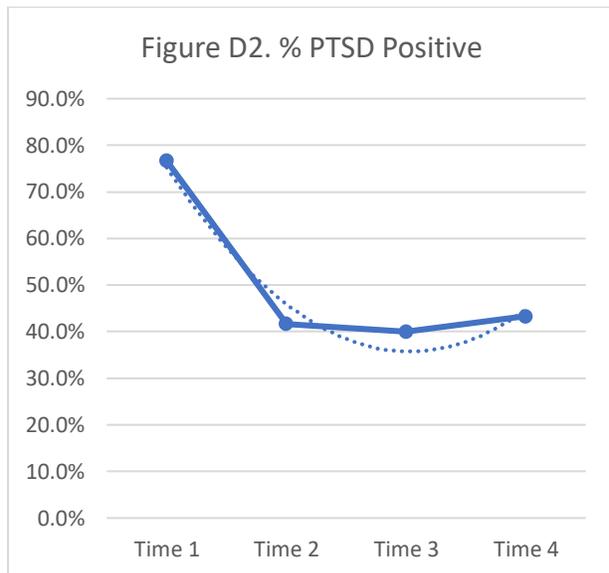
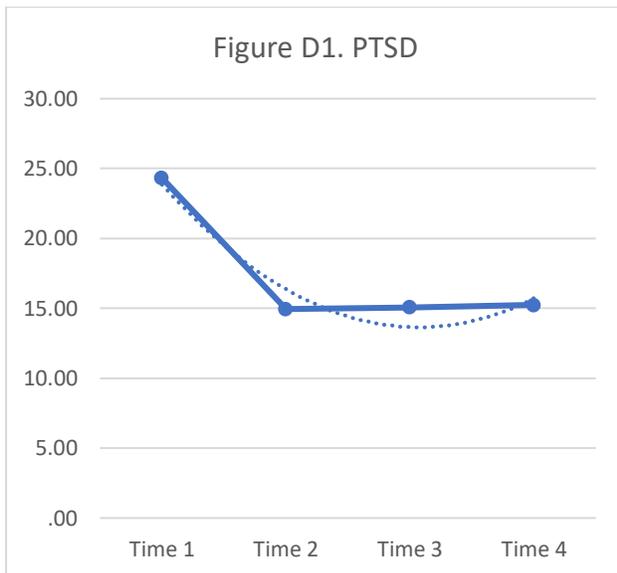
The remaining four secondary outcomes did not show a significant pattern of change across the four surveys: spiritual transformation, positive beliefs about the Bible, frequency of Bible interaction, and Bible impact (see Figures C23 to C26). However, this finding needs to be interpreted with caution given that fewer than 40 inmates answered survey questions (with the exception of the question about experiencing spiritual transformation) about these attributes since they were not asked of those who indicated they were not Christians or were not currently interested in exploring what it means to be a Christian.





G. Research Question #4: Is the Observed Pattern of Reduction in Trauma Consequences Attributable to the Pattern of the Program’s Outcomes?

Just as the third research question was a longitudinal version of the first question, this last question is a longitudinal extension of the second question. That is, the question is whether *changes* in the primary and secondary outcomes of the program across the four waves were significantly associated with *changes* in the negative consequences of trauma exposure during the research period.

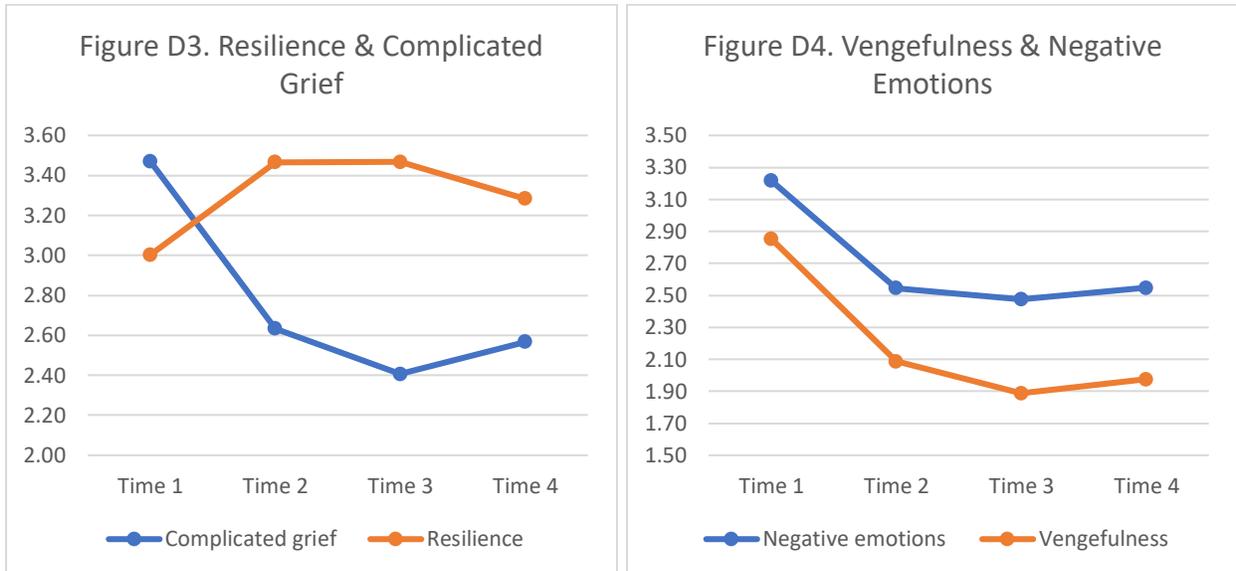


A dynamic analysis of four-wave panel data (see Appendix F for details) confirmed that PTSD, complicated grief, negative emotional states, suicidal ideation, and intended aggression all significantly declined during the study period (see Table F1), following a non-linear functional

form with upward curvature (e.g., see the trend line of concave up in Figures D1 and D2). The pattern remained significant when sociodemographic and criminal justice-related variables were controlled (see Table F2).

Most of the CTHP outcomes that explained a significant reduction in trauma consequences between the first two waves among participating inmates compared to their non-participating peers were also found to predict changes in those consequences across the four waves (see Table F3). In fact, they tended to have more explanatory power for the prediction than explaining the group differences (cf. Table D1). While their number varied across the measures of trauma consequence, significant predictors included 10 (out of 12) primary outcomes and seven (out of eight) secondary outcomes, with 11 of them—forgiveness, vengefulness, resilience, religiosity, blaming God (for trauma), God’s forgiveness, lament in prayer, family support, friends support, presence of meaning, and positive beliefs about the Bible—predicting at least three out of five trauma consequences (see Table F4).

For example, changes in resilience over the period of study were inversely associated with all five measures of trauma exposure. Specifically, an increase in resilience during the study period was significantly related to decreases in PTSD, complicated grief, negative emotions, suicidal ideation, and intended aggression. To illustrate, Figure D3 shows that the trajectory of resilience (concave down) is close to a mirror image of the trajectory of complicated grief (concave up), visualizing the inverse relationship between the two variables across the four time points. That is, complicated grief decreased as resilience increased after the CTHP ended. This finding implies that CTHP-generated resilience was likely to reduce complicated grief over time.



Conversely, Figure D4 shows a positive relationship between changes in vengefulness and negative emotional states across the four waves, with both trajectories (concave up) showing a similar pattern of change over time. That is, as vengefulness decreased among CTHP participants following completion of the CTHP, their negative emotional states simultaneously declined. This

finding suggests that the program-reduced vengefulness was likely to be associated with a reduction in depressed mood, depressed malaise, and anger over the study period.¹¹²

H. Summary of Results

Overall, findings provide empirical evidence that American Bible Society's Correctional Trauma Healing Program (CTHP) had a significant impact on offenders housed at the Riverside Regional Jail in Virginia by reducing the negative affective consequences of trauma exposure among jail inmates who completed the CTHP. Moreover, completing the CTHP was also linked to a decreased likelihood of engaging in aggression towards other inmates. When inmates signed up for the CTHP, participants were higher on post-traumatic stress disorder (PTSD) and complicated grief, and no different in negative emotional states, suicidal ideation, and intended aggression compared to non-participants. CTHP participants reported significantly lower levels of those attributes than non-participants after completing the CTHP.

The observed reduction in trauma consequences were attributable to the CTHP's intended outcomes (primary outcomes) and byproducts (secondary outcomes). That is, the CTHP enhanced prosocial attributes and decreased antisocial ones, which in turn reduced the negative consequences of trauma. While they had different roles and power in explaining the CTHP's impact on negative consequences of trauma, outcomes that significantly explained the impact were: forgiveness, vengefulness, resilience, moral objections to suicide, religiosity, perceived God's engagement, God's forgiveness, God's purpose in life, family support, friends support, a sense of meaning in life, gratitude to God, positive beliefs about the Bible, and Bible impact. These variables indicate the various ways in which the CTHP helped in the healing of trauma victims.¹¹³

The healing effect was not short-lived. That is, this salutary impact did not disappear soon after the CTHP ended but was observed for three months following the intervention for several outcomes. In addition, the CTHP's effects on some primary and secondary outcomes were also observed for three months following the end of the program. The trajectory of prosocial outcomes generally looked like a mirror image of that of trauma consequences, whereas the pattern of changes in antisocial outcomes, particularly vengefulness, were found to be similar to the pattern of changes in the negative consequences of trauma. This finding implies that changes resulting from exposure to the CTHP outcomes are likely to explain those in trauma consequences.

A dynamic analysis of four waves of panel data revealed that changes in the CTHP outcomes over time were significantly associated with changes in the negative consequences of trauma. This significant association implies the causal influence of the CTHP outcomes on the trauma consequences across the four waves. That is, for example, PTSD decreased between the first two waves partly because a prosocial outcome, like resilience, was increasing during that same period. Then, PTSD remained at the same decreased level at the third and fourth waves because resilience did not significantly change during the remainder of the study period. The changes in PTSD can also be explained partly by changes in an antisocial factor, like vengefulness, which

decreased between the first and second waves and remained at that level at the third and fourth waves.¹¹⁴

8. Conclusion

To conclude, even though correctional leaders and the public support the rehabilitation of inmates, programs in jails and prison are underfunded, relatively rare, and achieve limited success. This report has examined the effectiveness of American Bible Society's Correctional Trauma Healing Program—*Healing the Wounded Heart*—which was implemented at the Riverside Regional Jail in Virginia. The results suggest that the program reduces the negative affective consequences of trauma exposure, as well as the likelihood of engaging in aggression toward other inmates. When inmates signed up for the program, participants were higher on post-traumatic stress disorder (PTSD) and complicated grief compared with non-participants, but there were no differences in negative emotional states, suicidal ideation, and intended aggression. At the completion of the program, however, participants reported significantly lower levels of these outcomes than non-participants. Additional analyses suggest that the program works, in part, by shaping important characteristics such as forgiveness, vengefulness, resilience, moral objections to suicide, religiosity, and a sense of meaning and purpose in life, among others. The healing effect of the program was not short-lived. In fact, it was observed for three months following the completion of the program for some study outcomes.

9. Implications for Justice System Reform

In an age of evidenced-based government, empirical research can provide policy makers and practitioners in government and the private sector with findings and data that can be used to produce better interventions and outcomes. The current push for criminal justice reform has brought together leaders from both sides of the political aisle. However, solutions to criminal justice reform often remain difficult to find because of budgetary constraints. Research in the sub-field of positive criminology suggests that positive and restorative approaches—including those that cultivate social connectedness and support, service to others, spiritual experience, personal integrity, and identity change—may well be more effective than traditional approaches to punishment.¹¹⁵

Consistent with restorative justice practices, these approaches seek to develop active responsibility on the part of individuals who have grown accustomed to a lifestyle of irresponsibility.¹¹⁶ From this perspective, correctional practices should be devised to promote virtue. Consequently, the goal of justice or punishment should not be to inflict pain or exact revenge, but rather to reconstruct and reform individuals.¹¹⁷

Should trauma-healing programs like the current one continue to be found to foster rehabilitation and identity transformation, as well as reduce recidivism, there may be significant potential for faith-based approaches to create safer prisons and communities, and to do so in a cost-effective

manner. Thus, it would seem to make sense to pay more attention to faith-based approaches like the one examined here, and to promote them as potential aids for the common good.

The sheer pervasiveness of religious programs within correctional institutions provides an opportunity to better utilize positive criminology approaches. In addition, trauma healing programs provide a platform and ready-made environment to make treatment more accessible to offenders in various kinds of correctional facilities. Religious activities could easily be expanded to allow inmates time and instruction for completing trauma-healing programs.

Faith-based activities in prisons and other correctional facilities are very popular. For example, beyond work, education, or vocational training, religious activities attract more participants than any other personal enhancement programs offered inside prisons.¹¹⁸ These programs foster increased spirituality that is linked to greater personal change when combined with service.

For those people who do end up incarcerated, there is hope. Community volunteers, like those involved with Good News Jail & Prison Ministry, are value added for correctional entities because they provide a host of services (e.g., mentoring, literacy, life-skills, etc.), and research has shown that these volunteers are helpful in reducing recidivism.¹¹⁹ For example, groups like Prison Fellowship, Kairos, Alpha, Salvation Army, Alcoholics Anonymous, Delancey Street, and many others, provide a low-cost, low-intensity pathway to such service (and other spiritual virtues) and could provide the institutional infrastructure that is needed to support a theoretically coherent set of evidence-based policies consistent with a positive criminology approach. Additionally, it is important to note that faith-based communities already provide the bulk of community volunteers working with offenders within correctional facilities.¹²⁰

Appendix A: Methodology

I. Research Design

To address the research questions, a longitudinal panel survey was conducted with inmates housed at the Riverside Regional Jail, North Prince George, VA, where American Bible Society's Correctional Trauma Healing Program was run. The program was offered throughout the facility on a rotating basis ensuring that inmates of every security classification level (i.e., minimum, medium, and maximum) and all housing units (each of which consists of five "Pods" with a capacity of 60 to 90 inmates each) had access to the program. Two healing groups were offered (monthly on average), one for females and another for males. These were held in the second and fourth week of each month, respectively.

About a week before the start of a group, a Pod was chosen for that month's healing group. A flyer was posted at the Pod prior to a recruitment day when a verbal announcement was made inviting interested inmates to attend a presentation explaining the program and how they could benefit from it. After the presentation, questions were answered, and inmates expressing interest were given an application/commitment form. Applicants were screened, and, on average, 12 inmates were chosen to participate with two to four alternates.

About three days before a group started, the chosen inmates and alternates were asked to not only confirm their acceptance into the program, but were also given an opportunity to participate in survey research. Those who agreed to participate were asked to sign a consent form and complete a pretest survey at that time. The healing group began on Sunday or Monday and ran for five consecutive days, two-hour sessions each day. A posttest survey was administered to the participants two to three days after the end of the program, and two follow-up surveys were conducted approximately one and three months after the program ended.

The recruitment for the treatment group survey began in September 2018 and ended in February 2020. During the 18-month period, a total of 22 healing groups of 210 inmates (10 male and 12 female groups of 106 and 104 inmates, respectively) participated in the pretest, and 178 (84.8%) of them (95 males and 83 females) completed the posttest. The total number of inmates who participated in the first and second follow-up surveys were 118 (64 males and 54 females) and 70 (40 males and 30 females), respectively.

A control group was created based on random sampling of 240 inmates (120 males and 120 females) who had not participated in the trauma healing program. Initially, four of 12 male Pods were randomly selected, and then a random sample of 120 individuals from a list of 345 male inmates housed at the four Pods (i.e., 30 inmates per Pod) were selected. For females, 120 inmates were randomly selected from a list of 199 housed at all three female Pods. Control group surveys were conducted twice: a "pretest" on February 19 and 20, 2020 and a "posttest" about two weeks later on March 19. More than half of each sample (72 males and 67 females, 60.0% and 55.8% of 120, respectively) participated in the pretest, resulting in a control group of 139 inmates; 110 participants (79.1%, 59 males and 51 females) returned to complete the posttest.

In sum, the total sample consisted of 349 inmates (178 males and 171 females).

J. Sample Profile

Table A1 presents descriptive statistics for sociodemographic, criminal justice-related, and trauma exposure background variables for the total sample ($n = 349$) at the pretest: that is, frequency and percentage distributions for categorical (i.e., nominal level) variables and number of observations, mean, standard deviation, minimum, and maximum for non-categorical (i.e., ordinal or higher level) variables.

The average age of study participants was about 38 (37.57), ranging from 18 to 65, and the sample was 52.0% male and 48.0% white, with everyone else being black. Almost eight out of 10 participants (79.2%) were single (15.0% married, 4.6% divorced, and 1.3% widowed), and seven out of 10 (71.8%) identified as Christian (61.2% Protestant and 10.6% Catholic), with 13% being adherents of non-Christian religions (9.1% Islam, 1.2% Judaism, and 2.7% other religion). About 15% of the sample said they had no religion.

The study participants had been admitted to jail, on average, almost six (5.60) times (including the current commitment), and two thirds (66.0%) of them were adjudicated, with one third being pre-trial detainees. About two thirds (65.0%) of the sample were charged for technical violation of probation or parole conditions, and the percentage of inmates who had charges for violent, property, drug, and other offenses were 28, 36, 26, and 35%, respectively. A majority (62.9%) of the sample had a classification of “minimum” security with misdemeanor charges, whereas about one third (31.3%) had a security level of “medium” and about six percent (5.7%) were violent felony offenders with a “maximum” security level.

Among various instruments of trauma exposure, the Brief Trauma Questionnaire (BTQ), a 10-item self-report questionnaire derived from the Brief Trauma Interview, was employed. Each item concerns a different type of traumatic event, and exposure to an event is scored positive (i.e., 1) if a respondent says “yes” to life threat or serious injury for the event or whether it has ever happened to the respondent. Thus, a total sum of the items varies from 0 (no trauma exposure) to 10 (exposure to all 10 events). A total of 300 participants (86.0% of the sample; not shown in the table) reported exposure to at least one traumatic event and, on average, three (3.41) events with their trauma exposure ranging from zero to nine. Among the 10 types of traumatic events, relatively high percentages of exposure were found for criminal victimization, whether direct (50.0%) or vicarious (60.0%), a close one’s violent death (57.0%), and a serious accident (48.0%).

Table A2 presents not only the descriptive statistics separately for the treatment and control group but also t -test results from comparing means between the groups. Although the two groups were not created using random assignment or propensity score matching, they were found to be similar in many background variables. For example, the treatment and control groups were not significantly different in terms of age (37.79 vs 36.71), sex (52.0% male in both groups), number of admissions to jail (5.81 vs. 5.27), types of offense (except violent offense), and security classification ($\chi^2 = 5.26$, $d.f. = 2$, $p > .05$; not presented in the table). Interestingly, inmates who did not apply for the Correctional Trauma Healing Program were not significantly different in trauma exposure compared to those who did apply (3.36 vs. 3.45).

On the other hand, the treatment group inmates were more likely to be white (53.0% vs. 41.0%) and violent offenders (32.0% vs. 21.0%), and less likely to be pre-trial detainees (72.0% vs. 56.0%) than their control group counterparts. The treatment and control groups were also different in marital status and religious affiliation ($\chi^2 = 8.31$, $d.f. = 3$, $p < .05$ and $\chi^2 = 16.74$, $d.f. = 6$, $p < .05$; not presented in the table): specifically, inmates who applied for the program were more likely to be married (19.1% vs. 6.0%) as opposed to single (72.8% vs. 86.7%) and to have religion, particularly, Christian religion (79.0% vs. 61.4%) as opposed to no religion (9.7% vs. 23.0%).

K. Measurement

The survey included items to measure various concepts (mostly using multi-item scales), whereas information about sociodemographic and criminal justice-related backgrounds came from official data provided by the Riverside Regional Jail. The following three groups of concepts/variables were included in the analysis:

1. Exogenous variables (sociodemographic, criminal justice-related, and trauma exposure backgrounds): age, sex, race, marital status, religious affiliation, number of admissions to jail (including the current incarceration), whether inmate was a pretrial detainee or sentenced, security classification (minimum, medium, maximum), types of offenses charged (violent, property, drug, and other offenses), and technical violation of probation or parole conditions.
2. Mediating or explanatory endogenous variables (anticipated outcomes of the Correctional Trauma Healing Program): forgiveness, vengefulness, compassion, resilience, reasons for living, religiosity, images of God (perceived God's judgment and engagement), blaming God for trauma exposure, God's forgiveness, God's purpose in life, lament in prayer, perceived social support from family and friends, a sense of meaning in life, gratitude to God, experience of spiritual transformation, positive beliefs about the Bible, frequency of Bible interaction, and Bible impact.
3. Ultimate endogenous variables (negative consequences of trauma exposure): post-traumatic stress disorder (PTSD), complicated grief, negative emotional states (depressed mood, depressed malaise, and anger), suicidal ideation, and intended aggression.

To construct scales, validity and reliability of items were examined based on exploratory factor analyses (EFA) and inter-item reliability scores before combining items into composite measures by averaging or summing them. Table A3 summarizes results from EFA and reliability analyses of items used for scale construction, which show that factor loadings and Cronbach's alphas (α) of most scale items were higher than .500 and .700, respectively, in at least one of four surveys. In sum, created scales generally have good to excellent measurement quality.

The measurement of a key concept, post-traumatic stress disorder (PTSD), requires an explanation because it was measured in several ways using the Short PTSD Rating Interview

(SPRINT). The SPRINT is an 8-item self-report assessment of the core symptoms of PTSD, rated on a 5-point scale (0 = not at all, 1 = a little bit, 2 = moderately, 3 = quite a lot, 4 = very much). The sum of the eight items, called “SPRINT,” ranges from 0 to 32. Since a cutoff score of 14 was suggested to determine whether an individual was screened positive (i.e., 14 or higher), a dummy variable (1 = PTSD positive, 0 = PTSD negative) was also created as an alternative measure of post-traumatic stress disorder.

In addition, because one of the eight items (“To what extent have you *lost enjoyment for things, kept your distance from people, or found it difficult to experience feelings?*”; *emphasis added*) asked about three specific symptoms of PTSD (i.e., was a triple-barreled question), it was split into three items for a 10-item version of SPRINT. The 10 items were summed for an alternative total score, called “PTSD,” which ranges from 0 to 40. Using the cutoff of 17.5 (= 14 x 40/32), an alternative measure of PTSD positive was also created (i.e., PTSD positive if 18 or higher).

Based on scores on the original SPRINT, 72.0% of the sample (77% of the treatment group and 65% of the control group) were screened PTSD positive at the pretest, whereas, using its modified version, the percentage was a bit smaller (69%; 73% in the treatment group and 63% in the control group). Regardless of which version was used, the treatment group inmates were more likely to be screened PTSD positive than the control group inmates, although they were not significantly different in the number of traumatic events they experienced.

L. Data Analysis

Different statistical methods were employed to address the four research questions.

First, a series of two-way repeated measures analysis of variance (ANOVA) were conducted to examine whether the Correctional Trauma Healing Program worked by comparing the pretest and posttest averages of endogenous variables (i.e., the program outcomes and negative consequences of trauma exposure) between the treatment and control groups. For this analysis, SPSS (Version 25) was used.

Second, to answer the question of how the program healed trauma victims, path analysis was conducted to test whether the mediating endogenous variables (i.e., the program’s anticipated outcomes) explained observed differences in the average of ultimate endogenous variables (i.e., negative consequences of trauma exposure) between the treatment and control groups. The mediation of the program’s effect on negative consequences of trauma exposure was estimated separately for each program outcome, controlling for sociodemographic and criminal justice-related background variables. For this analysis, Mplus (Version 8) was used.

Third, a series of one-way repeated measures ANOVA were conducted to see whether the program’s impact lasted across the four surveys. Specifically, whether the longitudinal pattern of changes in the endogenous variables were significant. SPSS was used for this analysis.

Finally, to test whether changes in negative consequences of trauma across the four surveys were attributable to those in the program’s outcomes, random-effects models were estimated for the

within-individual effects of the explanatory endogenous variables on the ultimate endogenous variables. For this analysis, Stata (Version 15) was employed.

10. Table A1. Descriptive Statistics of Sociodemographic, Criminal Justice-Related, and Trauma Exposure Background Variables for the Total Sample ($n = 349$): Pretest

Variable	<i>N</i>	Mean/ <i>f</i>	S.D./%	Minimum	Maximum
Age	349	37.57	10.54	18.00	65.00
Sex (1 = male, 0 = female)	349	.52	.50	.00	1.00
White	348	.48	.50	.00	1.00
Black	348	.52	.50	.00	1.00
Admissions to jail	349	5.60	4.69	1.00	29.00
Sentenced (1 = yes, 0 = no)	349	.66	.48	.00	1.00
Violent offense (1 = yes, 0 = no)	349	.28	.45	.00	1.00
Property offense (1 = yes, 0 = no)	349	.36	.48	.00	1.00
Drug offense (1 = yes, 0 = no)	349	.26	.44	.00	1.00
Other offense (1 = yes, 0 = no)	349	.35	.48	.00	1.00
Technical violation (1 = yes, 0 = no)	349	.65	.48	.00	1.00
Brief Trauma Questionnaire (BTQ)	349	3.41	2.33	.00	9.00
BTQ: a war zone	349	.06	.24	.00	1.00
BTQ: a serious accident	349	.48	.50	.00	1.00
BTQ: a major natural/tech disaster	349	.20	.40	.00	1.00
BTQ: a life-threatening illness	349	.14	.34	.00	1.00
BTQ: childhood physical abuse	349	.33	.47	.00	1.00
BTQ: direct victimization	349	.50	.50	.00	1.00
BTQ: unwanted sexual contact	349	.29	.45	.00	1.00
BTQ: any other dangerous situation	349	.24	.43	.00	1.00

BTQ: a close one's violent death	349	.57	.50	.00	1.00
BTQ: vicarious victimization	349	.60	.49	.00	1.00
Marital Status					
Single		190	79.2%		
Married		36	15.0%		
Divorced		11	4.6%		
Widowed		3	1.3%		
Total		240	100.0%		
Religious affiliation					
Protestant		202	61.2%		
Catholic		35	10.6%		
Islam		30	9.1%		
Judaism		4	1.2%		
Other religion		9	2.7%		
No religion		50	15.2%		
Total		330	100.0%		
Security classification					
Minimum		219	62.9%		
Medium		109	31.3%		
Maximum		20	5.7%		
Total		348	100.0%		

Note. N = number of observations, f = frequency, S.D. = Standard Deviation.

11. Table A2. Descriptive Statistics of Sociodemographic, Criminal Justice-Related, and Trauma Exposure Background Variables for Treatment and Control Groups ($n = 349$): Pretest

Variable	Treatment group ($n = 210$)					Control Group ($n = 139$)				
	<i>N</i>	Mean/ <i>f</i>	S.D./%	Min.	Max.	<i>N</i>	Mean/ <i>f</i>	S.D./%	Min.	Max.
Age	210	37.79	10.52	19.00	65.00	139	36.71	10.66	19.00	66.00
Admissions to jail	210	5.81	4.80	1.00	29.00	139	5.27	4.51	1.00	23.00
Sentenced (1 = yes, 0 = no)	210	.72*	.45	.00	1.00	139	.56*	.50	.00	1.00
Violent offense (1 = yes, 0 = no)	210	.32*	.47	.00	1.00	139	.21*	.41	.00	1.00
Property offense (1 = yes, 0 = no)	210	.35	.48	.00	1.00	139	.38	.49	.00	1.00
Drug offense (1 = yes, 0 = no)	210	.26	.44	.00	1.00	139	.26	.44	.00	1.00
Other offense (1 = yes, 0 = no)	210	.33	.47	.00	1.00	139	.38	.49	.00	1.00
Technical violation (1 = yes, 0 = no)	210	.67	.47	.00	1.00	139	.61	.49	.00	1.00
Brief Trauma Questionnaire (BTQ)	210	3.45	2.26	.00	9.00	139	3.36	2.44	.00	9.00
BTQ: a war zone	210	.06	.24	.00	1.00	139	.06	.23	.00	1.00
BTQ: a serious accident	210	.50	.50	.00	1.00	139	.45	.50	.00	1.00
BTQ: a major natural/tech disaster	210	.23	.42	.00	1.00	139	.17	.37	.00	1.00
BTQ: a life-threatening illness	210	.13	.34	.00	1.00	139	.15	.36	.00	1.00
BTQ: childhood physical abuse	210	.33	.47	.00	1.00	139	.33	.47	.00	1.00
BTQ: direct victimization	210	.53	.50	.00	1.00	139	.47	.50	.00	1.00
BTQ: unwanted sexual contact	210	.29	.46	.00	1.00	139	.28	.45	.00	1.00
BTQ: any other dangerous situation	210	.22	.42	.00	1.00	139	.27	.45	.00	1.00
BTQ: a close one's violent death	210	.54	.50	.00	1.00	139	.61	.49	.00	1.00
BTQ: vicarious victimization	210	.62	.49	.00	1.00	139	.58	.50	.00	1.00
Sex										
Male		106	49.5%				72	51.8%		
Female		104	50.5%				67	48.2%		
Total		210	100.0%				139	100.0%		
Race										
White		112	53.3%				56	40.6%		
Black		98	46.7%				82	59.4%		
Total		210	100.0%				138	100.0%		
Marital Status										
Single		118	72.8%				72	86.7%		

Married		31	19.1%			5	6.0%		
Divorced		11	6.8%			5	6.0%		
Widowed		2	1.2%			1	1.2%		
Total		162	100.0%			83	100.0%		
Religious affiliation									
Protestant		137	70.3%			65	48.1%		
Catholic		17	8.7%			18	13.3%		
Islam		13	6.7%			17	12.6%		
Judaism		4	2.1%			0	0.0%		
Other religion		5	2.6%			4	3.0%		
No religion		19	9.7%			31	23.0%		
Total		195	100.0%			135	100.0%		
Security classification									
Minimum		126	60.3%			93	66.9%		
Medium		74	35.4%			35	25.2%		
Maximum		9	4.3%			11	7.9%		
Total		209	100.0%			139	100.0%		

Note. *N* = number of observations, *f* = frequency, S.D. = Standard Deviation.

12. Table A3. Factor Loadings and Cronbach's α (in parentheses) of Survey Items

Item	W1	W2	W3	W4
SPRINT (Short Post-Traumatic Disorder Rating Interview)				
1. How much have you been bothered by unwanted memories, nightmares, or reminders of the event?	.704	.737	.662	.643
2. How much effort have you made to avoid thinking or talking about the event, or doing things which remind you of what happened?	.661	.555	.586	.923
3. To what extent have you lost enjoyment for things, kept your distance from people, or found it difficult to	.829	.871	.895	.661

experience feelings?				
4. How much have you been bothered by poor sleep, poor concentration, jumpiness, irritability or feeling watchful around you?	.759	.787	.714	.798
5. How much have you been bothered by pain, aches, or tiredness?	.691	.678	.609	.728
6. How much would you get upset when stressful events or setbacks happen to you?	.718	.758	.713	.761
7. How much have the above symptoms interfered with your ability to work or carry out daily activities?	.750	.805	.875	.856
8. How much have the above symptoms interfered with your relationships with family or friends?	.759	.796	.873	.802
(α)	(.901)	(.908)	(.906)	(.919)
Post-Traumatic Stress Disorder (modified SPRINT)				
1. How much have you been bothered by unwanted memories, nightmares, or reminders of the event?	.716	.744	.661	.637
2. How much effort have you made to avoid thinking or talking about	.660	.573	.561	.692

	the event, or doing things which remind you of what happened?				
3.	To what extent have you lost enjoyment for things?	.733	.782	.805	.821
4.	How much have you been bothered by poor sleep, poor concentration, jumpiness, irritability or feeling watchful around you?	.758	.794	.715	.854
5.	How much have you been bothered by pain, aches, or tiredness?	.691	.677	.603	.706
6.	To what extent have you kept your distance from people?	.685	.717	.765	.699
7.	How much would you get upset when stressful events or setbacks happen to you?	.716	.762	.739	.741
8.	How much have the above symptoms interfered with your ability to work or carry out daily activities?	.750	.804	.861	.844
9.	To what extent have you found it difficult to experience feelings?	.638	.695	.790	.786
10.	How much have the above symptoms interfered with your relationships with family or friends?	.765	.805	.863	.803
	(α)	(.910)	(.921)	(.922)	(.930)

Brief Grief Questionnaire (BGQ)				
1. How much are you having trouble accepting what happened?	.785	.843	.737	.825
2. How much does your grief (sadness and longing) interfere with your life?	.881	.808	.820	.803
3. How much are you having images or thoughts of what happened or other images or thoughts about what happened that really bother you?	.857	.873	.859	.843
4. How much are you avoiding things you used to do before it happened that you don't feel comfortable doing anymore?	.727	.628	.667	.649
5. How much are you feeling cut off or distant from other people since it happened, even people you used to be close to like family or friends?	.705	.708	.763	.914
(α)	(.894)	(.800)	(.876)	(.902)
Item	W1	W2	W3	W4
Negative emotional state				
1. I felt I could not shake off the blues, even with the help of others.	.693	.709	.803	.815
2. I felt depressed.	.825	.825	.829	.936
3. I felt angry.	.720	.732	.619	.797

4. I did not feel like eating, and my appetite was poor.	.636	.647	.727	.648
5. I felt that everything I did was an effort.	.460	.377	.478	.405
6. My sleep was restless.	.558	.641	.621	.790
7. I could not get going.	.693	.741	.741	.803
8. I felt frustrated.	.843	.801	.785	.850
9. I felt sad.	.845	.807	.814	.847
(α)	(.893)	(.893)	(.898)	(.925)
Moral objections to suicide				
1. My religious beliefs forbid it.				
2. I consider it morally wrong.				
(α)	(.732)	(.688)	(.795)	(.822)
Family support				
1. My family really tries to help me.	.820	.813	.793	.938
2. I get the emotional help and support I need from my family.	.931	.915	.926	.988
3. I can talk about my problems with my family.	.830	.874	.930	.932
4. My family is willing to help me make decisions.	.831	.891	.887	.932
(α)	(.914)	(.927)	(.934)	(.972)
Peer support				
1. I can talk about my problems with my friends.	.691	.783	.583	.828
2. My friends really try to help me.	.751	.839	.822	.953
3. I have friends with whom I can share my joys and sorrows.	.869	.849	.896	.863

4. I can count on my friends when things go wrong.	.888	.844	.892	.828
(α)	(.876)	(.890)	(.875)	(.923)
Presence of meaning				
1. I understand my life's meaning.	.868	.912	.894	.929
2. My life has a clear sense of purpose.	.897	.930	.874	.937
3. I have a good sense of what makes my life meaningful.	.831	.907	.814	.884
4. I have discovered a satisfying life purpose.	.768	.856	.877	.877
(α)	(.905)	(.944)	(.921)	(.948)
Forgiveness				
1. I have forgiven myself for letting him/her do that to me.				
2. I have forgiven him/her.				
(α)	(.659)	(.763)	(.593)	(.753)
Vengefulness				
1. I want to see him/her hurt and miserable.				
2. I'm going to get even with him/her.				
(α)	(.748)	(.780)	(.766)	(.882)
Compassion				
1. I feel compelled to help someone even when doing so requires me to go out of my way.	.708	.793	.691	.848
2. When I see someone in a difficult situation, I try to imagine how they feel.	.698	.778	.710	.780
3. It's not enough to feel sorry for someone who is	.737	.671	.838	.789

in trouble. Whenever it is possible, I must also do something to help them.				
(α)	(.755)	(.791)	(.788)	(.845)
Item	W1	W2	W3	W4
Brief Resilience Scale (BRS)				
1. I tend to bounce back quickly after hard times.	.627	.568	.733	.492
2. I have a hard time making it through a stressful event.*	.701	.673	.753	.861
3. It does not take me long to recover from a stressful event.	.653	.625	.758	.323
4. It is hard for me to snap back when something bad happens.*	.755	.769	.822	.921
5. I usually come through difficult times with little trouble.	.469	.491	.607	.113
6. I tend to take a long time to get over set-backs in my life.*	.743	.725	.810	.885
(α)	(.824)	(.813)	(.885)	(.819)
Religiosity				
1. How close do you feel to God most of the time?	.589	.600	.465	.602
2. How often do you <u>currently</u> attend religious services?	.611	.741	.538	.410
3. About how often do you <u>currently</u> pray outside of religious services?	.801	.750	.716	.780
4. In general, how important is religion (or	.763	.671	.636	.689

relationship with God) to you?				
5. Outside of attending religious services, about how often do you <u>currently</u> spend private time reading the Bible, Koran, Torah, or other sacred book?	.729	.797	.619	.820
(α)	(.826)	(.839)	(.731)	(.793)
Gratitude to God				
1. I am grateful to God for all He has done for me.				
2. I am grateful to God for all He has done for my family members and friends.				
(α)	(.856)	(.889)	(.864)	(.733)
Religious meaning				
1. God put me in this life for a purpose.	.902	.931	.993	.987
2. God has a specific plan for my life.	.985	.960	.946	.973
3. God has a reason for everything that happens to me.	.854	.782	.869	.927
(α)	(.936)	(.919)	(.950)	(.973)
Negative affect expressed in prayer				
1. Angry	.815	.841	.759	.870
2. Sorrowful	.681	.733	.600	.748
3. Abandoned or forgotten	.867	.911	.934	.937
4. Bitter	.900	.887	.877	.939
5. Despised or rejected	.885	.884	.952	.940
(α)	(.918)	(.930)	(.919)	(.949)
Beliefs about the Bible				
1. The Bible is a rulebook or guide on how to	.759	.749	.832	.978

live my best life.				
2. The Bible is a letter from God expressing his love and salvation for me.	.814	.884	.918	.978
3. The Bible is a way of knowing what God expects from me.	.809	.864	.720	.758
(α)	(.836)	(.867)	(.859)	(.926)
Spiritual Impact of Bible interaction				
1. Feeling a sense of connection to God	.749	.871	.825	.869
2. Getting curious to know God better	.857	.884	.850	.900
3. Becoming aware of how much I need God	.921	.926	.912	.865
4. Becoming more willing to engage in my faith	.915	.923	.872	.879
5. Becoming more generous with my time, energy or financial resources	.780	.804	.716	.787
6. Showing more loving behavior towards others	.814	.840	.661	.733
(α)	(.934)	(.951)	(.916)	(.933)

Appendix B: The Survey

Please answer the following questions by checking (✓) the response that is closest to your thoughts and feelings as honestly as you can since there is no right or wrong answer. Thank you.

1. How would you rate your overall health at the present time?

Poor	Fair	Good	Excellent

2. We would like you to take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can.

	Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	Absolutely True
a. I understand my life's meaning.							
b. My life has a clear sense of purpose.							
c. I have a good sense of what makes my life meaningful.							
d. I have discovered a satisfying life purpose.							
e. My life has no clear purpose.							

3. During the past week, how often have you felt or experienced the following?

	Never	Rarely	Sometimes	Often	Very often
a. I felt I could not shake off the blues, even with the help of others.					
b. I felt depressed.					
c. I felt angry.					
d. I did not feel like eating, and my appetite was poor.					
e. I felt that everything I did was an effort.					
f. My sleep was restless.					
g. I could not get going.					
h. I felt frustrated.					
i. I felt sad.					
j. I felt suicidal.					

4. How strongly do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. My family really tries to help me.					
b. I can talk about my problems with my friends.					
c. I get the emotional help and support I need from my family.					
d. My friends really try to help me.					
e. I can talk about my problems with my family.					

f. I have friends with whom I can share my joys and sorrows.					
g. My family is willing to help me make decisions.					
h. I can count on my friends when things go wrong.					

5. The following questions ask about events that may be extraordinarily stressful or disturbing for almost everyone. Please check (√) “Yes” or “No” to report what has happened to you.

If you answer “Yes” for an event, please answer any additional questions that are listed on the right side of the page.

If you answer “No” for an event, go on to the next event.

Event	Has this ever happened to you?	Did you think your life was in danger or you might be seriously injured?	Were you seriously injured?
a. Have you ever served in a war zone, or have you ever served in a noncombat job that exposed you to war-related casualties (for example, as a medic or on graves registration duty?)	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
b. Have you ever been in a serious car accident, or a serious accident at work or somewhere else?	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
c. Have you ever been in a major natural or technological disaster, such as a fire, tornado, hurricane, flood, earthquake, or chemical spill?	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
d. Have you ever had a life-threatening illness such as cancer, a heart attack, leukemia, AIDS, multiple sclerosis, etc.?	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes

e. Before age 18, were you ever physically punished or beaten by a parent, caretaker, or teacher so that: you were very frightened; or you thought you would be injured; or you received bruises, cuts, welts, lumps or other injuries?	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
f. Not including any punishments or beatings you already reported above in Item e, have you ever been attacked, beaten, or mugged by anyone, including friends, family members or strangers?	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
g. Has anyone ever made or pressured you into having some type of unwanted sexual contact? (<i>Note: By sexual contact we mean any contact between someone else and your private parts or between you and some else's private parts</i>)	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
h. Have you ever been in any other situation in which you were seriously injured, or have you ever been in any other situation in which you feared you might be seriously injured or killed?	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
i. Has a close family member or friend died violently, for example, in a	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes

serious car crash, mugging, or attack?			
j. Have you ever witnessed a situation in which someone was seriously injured or killed, or have you ever witnessed a situation in which you feared someone would be seriously injured or killed? <i>(Note: Do not answer “yes” for any event you already reported in Items a-i)</i>	<input type="checkbox"/> No		
	<input type="checkbox"/> Yes →	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes

6. Among the event(s) that you said had happened to you, think about what was particularly stressful or disturbing for you and answer the following questions.

In the past week ...	Not at all	A little bit	Moderately	Quite a lot	Very much
a. How much have you been bothered by unwanted memories, nightmares, or reminders of the event?					
b. How much effort have you made to avoid thinking or talking about the event, or doing things which remind you of what happened?					
c. To what extent have you lost enjoyment for things?					
d. How much have you been bothered by poor sleep, poor concentration, jumpiness, irritability or feeling watchful					

	around you?				
e.	How much have you been bothered by pain, aches, or tiredness?				
f.	To what extent have you kept your distance from people?				
g.	How much would you get upset when stressful events or setbacks happen to you?				
h.	How much have the above symptoms interfered with your ability to work or carry out daily activities?				
i.	To what extent have you found it difficult to experience feelings?				
j.	How much have the above symptoms interfered with your relationships with				

family or friends?					
k. How much are you having trouble accepting what happened?					
l. How much does your grief (sadness and longing) interfere with your life?					
m. How much are you having images or thoughts of what happened or other images or thoughts about what happened that really bother you?					
n. How much are you avoiding things you used to do before it happened that you don't feel comfortable doing anymore?					
o. How much are you feeling cut off or distant from other people					

since it happened, even people you used to be close to like family or friends?					
--	--	--	--	--	--

7. When you think about a person who caused an event that was particularly stressful or disturbing for you, how often do you have each of the following thoughts and feelings about the person?

	Never	Rarely	Sometimes	Often	Always
a. I want to see him/her hurt and miserable.					
b. I blame God for what he/she did to me.					
c. I have forgiven myself for letting him/her do that to me.					
d. I'm going to get even with him/her.					
e. I have forgiven him/her.					
f. I want to forgive him/her but am not there yet.					

8. Many people have thought of suicide at least once. Others have never considered it. Whether you have considered it or not, put a number to indicate the reasons you would have for why killing yourself is not or would never be an alternative for you (leave blank, if not applicable to you).

1	2	3	4	5	6
Not at all important	Quite unimportant	Somewhat unimportant	Somewhat important	Quite important	Extremely important
					Importance to You
a. I believe I can find a purpose in life, a reason to live.					
b. My family depends upon me and needs me.					
c. The effect on my children could be harmful.					
d. I am afraid of the actual “act” of killing myself (the pain, blood, violence).					
e. I would not want people to think I did not have control over my life.					
f. My religious beliefs forbid it.					
g. I do not want to die.					
h. I love and enjoy my family too much and could not leave them.					
i. I want to watch my children as they grow.					
j. I am afraid of death.					
k. I consider it morally wrong.					
l. I am concerned about what others would think of me.					

9. How strongly do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Agree	Strongly agree
a. I feel compelled to help someone even when doing so requires me to go out of my way.				
b. When I see someone in a difficult situation, I try to imagine how they feel.				
c. It’s not enough to feel sorry for someone who is in trouble. Whenever it is possible, I must also do something to help them.				

10. Please indicate the extent to which you agree with each of the following statements?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
a. I tend to bounce back quickly after hard times.					
b. I have a hard time making it through a stressful event.					
c. It does not take me long to recover from a stressful event.					
d. It is hard for me to snap back when something bad happens.					
e. I usually come through difficult times with little trouble.					
f. I tend to take a long time to get over setbacks in my life.					

11. The following scenario describes in detail a hypothetical situation. After reading it, please indicate how likely it is that you would do the same that Mike did in the scenario.

It's Sunday afternoon. Mike is watching a football game in the jail dayroom with other inmates. During a halftime break, Mike goes to the restroom. To reserve his seat, he asks a friend to "hold it down" for him. When Mike comes back, Joe is in his seat. Mike asks Joe to leave because it is his seat. Joe says he can sit anywhere he wants. Mike asks Joe to leave one more time. This time Joe ignores Mike. Everyone is watching what's going on. Feeling not only dissed but also that he is right, Mike gets into an argument with Joe.

Not likely at all (0%)	Very unlikely	Unlikely	Likely	Very likely	Certainly (100%)

12. Even if you might not believe in God, based on your personal understanding, what do you think God is like?

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
a. Angered by human sin					
b. Removed from my personal affairs					
c. Concerned with the well-being of the world					
d. Directly involved in my affairs					
e. Angered by my sin					
f. Removed from worldly affairs					
g. Concerned with my personal well-being					
h. Directly involved in worldly affairs					

13. How well do you feel that each of the following words describes God?

	Not at all	Not very well	Undecided	Somewhat well	Very well
a. Loving					
b. Critical					
c. Punishing					
d. Severe					
e. Wrathful					
f. Distant					
g. Ever-present					

14. What is your current religion?

- Christianity, Protestant
- Christianity, Catholic
- Islam
- Judaism
- Eastern religion (e.g., Hinduism, Buddhism, Taoism, etc.)
- Other religion (please specify: _____)
- No religion

15. Which statement comes closest to your personal beliefs about God?

- I have no doubt that God exists.
 - I believe in God, but with some doubts.
 - I sometimes believe in God.
 - I believe in a higher power or cosmic force.
 - I don't know and there is no way to find out.
 - I do not believe in God.
 - I have no opinion.
 - None of these
- } ***If your answer is one of the first four, continue to answer the next question.***
- } ***If your answer is one of the last four, stop. This is the end of survey for you.***

16. How close do you feel to God most of the time?

Not close at all	Not very close	Somewhat close	Pretty close	Extremely close

17. Please indicate how much you agree with each of the statements, using the scale below.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. I am grateful to God for all He has					

done for me.					
b. As I look back on my life, I don't feel I have been richly blessed by God.					
c. I am grateful to God for all He has done for my family members and close friends.					
d. If I were to make a list of all the things God has done for me, it wouldn't be a very long list.					

18. How strongly do you agree or disagree that God can forgive you?

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

19. How strongly do you agree or disagree with the following statements?

Despite all that has happened to me ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. God put me in this life for a purpose.					
b. God has a specific plan for my life.					
c. God has a reason for everything					

that happens to me.					
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20. How often do you currently attend religious services?

Never	Only on certain occasions	Once a month or less	A few times a month	Once a week	Several times a week

21. About how often do you currently pray outside of religious services?

Never	Only on certain occasions	Once a week or less	A few times a week	Once a day	Several times a day

22. When you pray, how often do you tell God you are feeling each of the following?

	Never	Rarely	Sometimes	Often	Always
a. Angry					
b. Sorrowful					
c. Abandoned or forgotten					
d. Bitter					
e. Despised or rejected					

23. In general, how important is religion (or relationship with God) to you?

Not at all	Somewhat	Fairly	Very	Extremely

24. Outside of attending religious services, about how often do you currently spend private time reading the Bible, Koran, Torah, or other sacred book?

Never	Only on certain occasions	Once a week or less	A few times a week	Once a day	Several times a day

25. Have you ever experienced religious conversion or spiritual transformation (e.g., being born again)?

- Yes
- No

26. Which of the following best describes where you are in your spiritual life? (Select one)?

- I am not a Christian and currently not interested in exploring what it means to be a Christian.
 ↘ If this is your answer, stop. This is the end of survey. Thank you.
- I am not a Christian but starting to explore what it means to be a Christian.
- I consider myself a Christian, though my faith is not a significant part of my life.
- I believe in God but haven't yet decided to commit to having a relationship with Jesus Christ.
- I've definitely made a decision to commit to having a relationship with Jesus Christ.
- I have a solid relationship with Christ that makes a difference in my life.
- I have an intimate relationship with Christ that influences my daily life.
- My relationship with Jesus Christ is the most important in my life.

27. Please indicate how strongly you agree with each other following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. The Bible is a rulebook or guide on how to live my best life.				
b. The Bible is a letter from God expressing his love and salvation for me.				
c. The Bible is a way of knowing what God expects from me.				

28. How often do you use the Bible on your own, not including times when you are at a church service or Mass?

- Never → **If this is your answer, stop. This is the end of survey. Thank you.**
 - Only on certain occasions
 - Once a week or less
 - A few times a week
 - Once a day
 - Several times a day
- } **If your answer is one of these, continue to answer the next question.**

29. How often do you experience each of the following when you use the Bible?

	Never	Rarely	Sometimes	Often	Always
a. Feeling a sense of connection to God					
b. Getting curious to know God better					
c. Becoming aware of how much I need God					
d. Becoming more willing to engage in my faith					
e. Becoming more generous with my time, energy, or financial resources					
f. Showing more loving behavior towards others					

This is the end of survey. Thank you very much for your participation.

Appendix C: Two-Way Repeated Measures Analysis of Variance (ANOVA)

Table C1 summarizes results from two-way repeated measures ANOVA conducted for each endogenous variable. It was “two-way” because there were two “factors” or sources of difference in the average of each variable: one was time (i.e., between the pretest and posttest), and the other was group membership (i.e., treatment versus control group). The analysis tested (1) whether there was a significant change in the average between the pretest and posttest and (2) whether the change over time differed between the treatment and control groups.

Table C1 shows the control and treatment group’s average of each variable at the pretest and posttest along with the number of observations (i.e., inmates) included in the calculation of group means (see the “*n*” column). The decimals in parenthesis below the group averages are *p*-values associated with independent-samples *t*-tests conducted to see whether the averages were significantly different between the control and treatment groups at the pretest and posttest. On the other hand, the decimals in the “Paired T-test” column are *p*-values associated with paired-samples *t*-tests conducted to examine whether each group’s pretest and posttest averages were significantly different, that is, whether the group average significantly changed between the pretest and posttest. In both *t*-tests, *p*-values smaller than the significance level (α) of .05 indicates a significant difference in the average.

The last two columns of “Tests of Within-Subjects Effects” show whether there was an overall significant difference between the averages at the pretest and posttest (see the “Time” column) and whether there was a significant group difference in the overall change in the average (see the “Time x Group” column).¹²¹ Each column presents an *F* value (its degrees of freedom in parentheses) associated with each test of within-individual effects. Below the *F* value is a partial eta-squared (η^2) that indicates effect size (R^2 in multiple regression). A general rule of thumb on magnitudes of effect sizes is: .01 (small), .06 (medium), and .14 (large).¹²² More importantly, *p*-values show whether there was a significant change over time and whether the change significantly differed between the control and treatment groups.

For example, the average PTSD of the control group ($n = 110$) was 19.709 at the pretest and 18.691 at the posttest, whereas for the treatment group ($n = 177$) they were 22.446 and 14.791. Independent-samples *t*-tests showed that the groups were significantly different in the average PTSD at both the pretest ($p = .016 < .05$) and posttest ($p = .000 < .05$), whereas paired-samples *t*-tests indicated the treatment group’s average significantly changed, decreasing from 22.446 to 14.791 between the pretest and posttest, though the observed change in the control group’s average (i.e., $1.018 = 19.709 - 18.691$) was not statistically significant. Finally, according to the last two columns, there was an overall significant change in the group average between the pretest and posttest ($F[1,285] = 60.520, p = .000 < .05$), and the change over time significantly differed between the control and treatment groups ($F[1,285] = 35.438, p = .000 < .05$). This finding provides evidence that the observed group difference in the change of average PTSD between the pretest and posttest was significant: that is, the average PTSD significantly decreased between the pretest and posttest in the treatment group, but the average did not significantly change in the control group (see Figure 1).

13. Table C1. Results from Two-Way Repeated Measures Analysis of Variance (ANOVA)

Variable	Group	n	Pretest	Posttest	Paired T-test	Tests of Within-Subjects Effects	
						Time	Time x Group
PTSD	Control	110	19.709	18.691	.252	$F(1,285) = 60.520, p = .000$	$F(1,285) = 35.438, p = .000$
	Treatment	177	22.446	14.791	.000	Partial $\eta^2 = .175$	Partial $\eta^2 = .111$
				(.016)	.000 ^a		
% PTSD positive	Control	110	60.9%	53.6%	.131	$F(1,285) = 37.615, p = .000$	$F(1,285) = 15.494, p = .000$
	Treatment	177	72.3%	39.0%	.000	Partial $\eta^2 = .117$	Partial $\eta^2 = .052$
				(.044)	.015)		
SPRINT	Control	110	15.983	15.259	.315	$F(1,285) = 56.472, p = .000$	$F(1,285) = 35.079, p = .000$
	Treatment	177	18.229	12.181	.000	Partial $\eta^2 = .165$	Partial $\eta^2 = .110$
				(.013)	.000)		
% SPRINT positive	Control	106	65.1%	57.6%	.131	$F(1,268) = 40.385, p = .000$	$F(1,268) = 16.437, p = .000$
	Treatment	164	76.2%	42.1%	.000	Partial $\eta^2 = .131$	Partial $\eta^2 = .058$
				(.047)	.013)		
Complicated grief	Control	110	2.960	2.911	.614	$F(1,282) = 50.234, p = .000$	$F(1,282) = 39.232, p = .000$
	Treatment	174	3.312	2.507	.000	Partial $\eta^2 = .151$	Partial $\eta^2 = .122$
				(.000)	.000)		
Negative emotional states	Control	109	3.014	2.862	.065	$F(1,284) = 70.125, p = .000$	$F(1,284) = 28.028, p = .000$
	Treatment	177	3.126	2.453	.000	Partial $\eta^2 = .198$	Partial $\eta^2 = .090$
				(.449)	.000)		
State depressed mood	Control	109	3.067	2.839	.018	$F(1,284) = 27.616, p = .000$	$F(1,284) = 13.671, p = .000$
	Treatment	177	3.170	2.493	.000	Partial $\eta^2 = .163$	Partial $\eta^2 = .046$
				(.383)	.002)		
State depressed malaise	Control	109	2.917	2.862	.535	$F(1,284) = 38.376, p = .000$	$F(1,284) = 26.960, p = .000$
	Treatment	177	3.017	2.392	.000	Partial $\eta^2 = .119$	Partial $\eta^2 = .087$
				(.352)	.000)		
State anger	Control	107	3.173	2.953	.036	$F(1,282) = 57.714, p = .000$	$F(1,282) = 16.805, p = .000$
	Treatment	177	3.356	2.622	.000	Partial $\eta^2 = .170$	Partial $\eta^2 = .056$
				(.136)	.005)		
Suicidal ideation	Control	107	1.579	1.682	.346	$F(1,280) = 1.067, p = .303$	$F(1,280) = 7.013, p = .033$
	Treatment	175	1.543	1.309	.002	Partial $\eta^2 = .004$	Partial $\eta^2 = .024$

			(.780	.001)			
Intended aggression	Control	92	3.630	3.641	.934	$F(1,247) = 4.051, p = .045$	$F(1,247) = 4.576, p = .033$
	Treatment	157	3.516	3.159	.001	Partial $\eta^2 = .016$	Partial $\eta^2 = .018$
			(.570	.016)			
					Paired T-test	Tests of Within-Subjects Effects	
Variable	Group	n	Time 1	Time 2		Time	Time x Group
Forgiveness	Control	105	2.843	2.986	.306	$F(1,275) = 18.657, p = .000$	$F(1,275) = 7.017, p = .009$
	Treatment	172	2.785	3.381	.000	Partial $\eta^2 = .064$	Partial $\eta^2 = .025$
			(.705	.010)			
Vengefulness	Control	108	2.148	2.185	.712	$F(1,279) = 8.430, p = .004$	$F(1,279) = 12.203, p = .001$
	Treatment	173	2.324	1.922	.000	Partial $\eta^2 = .029$	Partial $\eta^2 = .042$
			(.237	.052)			
Compassion	Control	108	3.068	3.076	.912	$F(1,276) = 4.512, p = .035$	$F(1,276) = 3.719, p = .055$
	Treatment	170	3.178	3.338	.000	Partial $\eta^2 = .016$	Partial $\eta^2 = .013$
			(.144	.000)			
Resilience	Control	109	3.288	3.324	.583	$F(1,279) = 22.429, p = .000$	$F(1,279) = 15.326, p = .000$
	Treatment	172	3.000	3.380	.001	Partial $\eta^2 = .074$	Partial $\eta^2 = .052$
			(.005	.548)			
Brief Reasons for Living (BRFL)	Control	102	4.481	4.465	.856	$F(1,260) = 3.931, p = .048$	$F(1,260) = 2.166, p = .024$
	Treatment	160	4.686	4.934	.001	Partial $\eta^2 = .015$	Partial $\eta^2 = .019$
			(.126	.000)			
BRFL: Survival and coping beliefs	Control	101	5.149	4.921	.079	$F(1,258) = .261, p = .610$	$F(1,260) = 8.765, p = .001$
	Treatment	159	5.123	5.428	.001	Partial $\eta^2 = .001$	Partial $\eta^2 = .046$
			(.863	.000)			
BRFL: Responsibility to family	Control	100	5.135	5.160	.819	$F(1,257) = 2.689, p = .102$	$F(1,257) = 1.657, p = .199$
	Treatment	159	5.186	5.393	.020	Partial $\eta^2 = .010$	Partial $\eta^2 = .006$
			(.749	.112)			
BRFL: Child-related concerns	Control	91	5.407	5.374	.766	$F(1,230) = .397, p = .529$	$F(1,230) = 1.143, p = .286$
	Treatment	141	5.408	5.536	.192	Partial $\eta^2 = .002$	Partial $\eta^2 = .005$
			(.994	.262)			
BRFL: Fear of suicide	Control	97	3.552	3.459	.600	$F(1,239) = .281, p = .597$	$F(1,239) = 1.718, p = .191$
	Treatment	144	3.646	3.865	.160	Partial $\eta^2 = .001$	Partial $\eta^2 = .007$
			(.696	.093)			

BRFL: Fear of social disapproval	Control	100	3.470	3.635	.345	$F(1,244) = 3.498, p = .063$	$F(1,244) = .385, p = .536$
	Treatment	146	3.774	4.103	.075	Partial $\eta^2 = .014$	Partial $\eta^2 = .002$
			(.225)	.051)			
BRFL: Moral objections	Control	97	4.284	4.294	.948	$F(1,248) = 5.123, p = .024$	$F(1,248) = 4.681, p = .031$
	Treatment	153	4.487	4.944	.000	Partial $\eta^2 = .020$	Partial $\eta^2 = .019$
			(.382)	.002)			
					Paired T-test	Tests of Within-Subjects Effects	
Variable	Group	n	Time 1	Time 2		Time	Time x Group
Religiosity	Control	102	-1.299	-1.649	.142	$F(1,266) = .013, p = .911$	$F(1,266) = 5.348, p = .022$
	Treatment	166	.803	1.120	.069	Partial $\eta^2 = .000$	Partial $\eta^2 = .020$
			(.000)	.000)			
Closeness to God	Control	91	-.128	-.146	.834	$F(1,241) = .093, p = .761$	$F(1,241) = .410, p = .523$
	Treatment	152	.073	.122	.438	Partial $\eta^2 = .000$	Partial $\eta^2 = .002$
			(.074)	.077)			
Importance of religion	Control	97	-.158	-.348	.082	$F(1,252) = .094, p = .760$	$F(1,252) = 8.221, p = .004$
	Treatment	157	.105	.258	.022	Partial $\eta^2 = .000$	Partial $\eta^2 = .032$
			(.001)	.000)			
Service attendance	Control	95	-.353	-.371	.802	$F(1,243) = .981, p = .323$	$F(1,243) = .364, p = .547$
	Treatment	150	.298	.225	.207	Partial $\eta^2 = .004$	Partial $\eta^2 = .001$
			(.000)	.000)			
Prayer	Control	97	-.383	-.472	.318	$F(1,250) = .016, p = .900$	$F(1,250) = 2.423, p = .121$
	Treatment	155	.206	.282	.229	Partial $\eta^2 = .000$	Partial $\eta^2 = .010$
			(.000)	.000)			
Religious text	Control	97	-.398	-.370	.709	$F(1,253) = .478, p = .490$	$F(1,253) = .006, p = .938$
	Treatment	158	.190	.225	.523	Partial $\eta^2 = .002$	Partial $\eta^2 = .000$
			(.000)	.000)			
God's judgment	Control	81	18.839	19.432	.234	$F(1,221) = .405, p = .525$	$F(1,221) = .918, p = .339$
	Treatment	142	19.528	19.409	.805	Partial $\eta^2 = .002$	Partial $\eta^2 = .004$
			(.415)	.978)			
God's engagement	Control	81	29.235	28.444	.159	$F(1,222) = .060, p = .806$	$F(1,222) = 6.074, p = .014$
	Treatment	143	32.168	33.133	.028	Partial $\eta^2 = .000$	Partial $\eta^2 = .027$
			(.001)	.000)			
Blaming God	Control	104	1.385	1.577	.079	$F(1,272) = 2.354, p = .126$	$F(1,272) = 2.660, p = .104$

	Treatment	170	1.600 (.049)	1.594 (.882)	.931	Partial $\eta^2 = .009$	Partial $\eta^2 = .010$
God's forgiveness	Control	95	4.442	4.358	.368	$F(1,251) = .040, p = .842$	$F(1,251) = 2.679, p = .103$
	Treatment	158	4.589 (.184)	4.696 (.001)	.135	Partial $\eta^2 = .000$	Partial $\eta^2 = .011$
God's purpose in life	Control	102	4.346	4.177	.089	$F(1,261) = .224, p = .637$	$F(1,261) = 7.575, p = .006$
	Treatment	161	4.499 (.135)	4.619 (.000)	.033	Partial $\eta^2 = .001$	Partial $\eta^2 = .028$
					Paired T-test	Tests of Within-Subjects Effects	
Variable	Group	n	Time 1	Time 2		Time	Time x Group
Lament in prayer	Control	98	2.676	2.633	.731	$F(1,259) = .224, p = .917$	$F(1,259) = .392, p = .532$
	Treatment	163	2.754 (.596)	2.814 (.214)	.561	Partial $\eta^2 = .000$	Partial $\eta^2 = .002$
Family support	Control	108	3.613	3.696	.185	$F(1,283) = 24.347, p = .000$	$F(1,283) = 10.054, p = .002$
	Treatment	177	3.301 (.026)	3.680 (.903)	.000	Partial $\eta^2 = .079$	Partial $\eta^2 = .034$
Friends support	Control	109	3.240	3.432	.008	$F(1,284) = 36.237, p = .000$	$F(1,284) = 5.951, p = .015$
	Treatment	177	3.100 (.262)	3.554 (.292)	.000	Partial $\eta^2 = .113$	Partial $\eta^2 = .021$
Presence of meaning	Control	109	5.409	5.424	.913	$F(1,284) = 26.061, p = .000$	$F(1,284) = 24.349, p = .000$
	Treatment	177	4.906 (.003)	5.761 (.036)	.000	Partial $\eta^2 = .084$	Partial $\eta^2 = .079$
Gratitude to God	Control	101	4.282	4.193	.312	$F(1,264) = .530, p = .467$	$F(1,264) = 5.201, p = .023$
	Treatment	165	4.452 (.116)	4.624 (.000)	.018	Partial $\eta^2 = .002$	Partial $\eta^2 = .019$
Spiritual transformation	Control	89	.652	.685	.494	$F(1,219) = 4.324, p = .039$	$F(1,219) = .911, p = .341$
	Treatment	132	.742 (.148)	.833 (.010)	.014	Partial $\eta^2 = .019$	Partial $\eta^2 = .004$
Positive beliefs about the Bible	Control	75	3.422	3.367	.504	$F(1,197) = .404, p = .526$	$F(1,197) = 3.283, p = .072$
	Treatment	124	3.462 (.622)	3.578 (.023)	.034	Partial $\eta^2 = .002$	Partial $\eta^2 = .016$
Frequency of Bible interaction	Control	61	3.082	3.098	.896	$F(1,173) = .153, p = .697$	$F(1,173) = .042, p = .838$
	Treatment	114	4.132	4.184	.635	Partial $\eta^2 = .001$	Partial $\eta^2 = .000$

			(.000	.000)			
Bible impact	Control	71	3.931	3.869	.628	$F(1,191) = 1.860, p = .174$	$F(1,191) = 5.481, p = .020$
	Treatment	122	4.115	4.351	.000	Partial $\eta^2 = .010$	Partial $\eta^2 = .028$
			(.156	.000)			

^a Two numbers in each parenthesis refer to p -values associated with t-tests comparing the means of control and treatment groups at Times 1 and 2, respectively.

Appendix D: Path Analysis

The second research question concerns whether a reduction in the negative consequences of trauma after program participation (i.e., between the pretest and posttest) is attributable to the program's primary and secondary outcomes. To answer this question, a path model shown in Figure D1 was estimated separately for 20 program outcomes (12 primary and 8 secondary outcomes) and five trauma consequences (i.e., a total of 100 SEMs) to test whether the outcome mediates the effect of program participation on the negative consequence. If the mediated effect of the program via primary or secondary outcome is significant, it can be concluded that the outcome contributed to the reduction in the negative consequences of trauma.

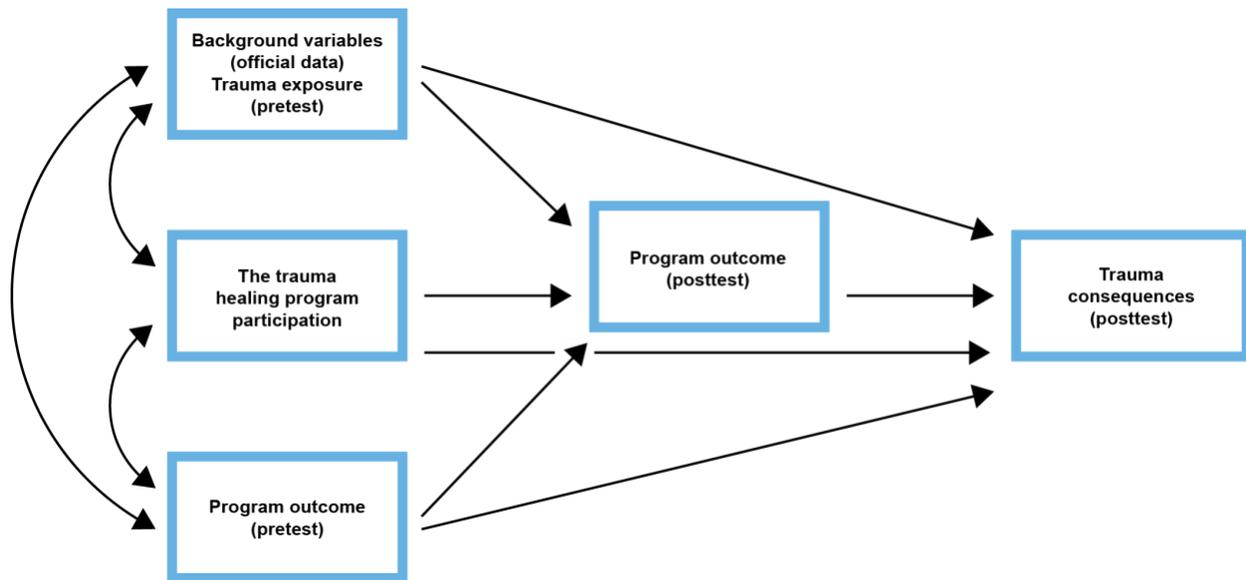


Figure D1. Mediation model of Program Outcome and Negative Consequence of Trauma

Specifically, program outcome and trauma consequence measured at the pretest, as well as sociodemographic and criminal justice-related background variables and trauma exposure, were controlled in the model so the effect of Correctional Trauma Healing Program participation on a program outcome and trauma consequences (measured at the posttest) can be interpreted as *causal* influences. Since the mediational model included ordered categorical (e.g., security classification and most outcomes of the program) and continuous variables (e.g., age, religiosity, and PTSD), maximum likelihood estimation with robust standard errors (MLR) was used for model estimation. Full information maximum likelihood (FIML) was employed to treat missing data, which tends to produce unbiased estimates, like multiple imputations. Since the direction of relationships among the program participation, mediator, and negative consequence of trauma were predicted, one-tailed as well as two-tailed tests ($\alpha = .05$) were conducted to determine the statistical significance of estimates.

Results from estimating the 100 models are summarized in Table D1 (which presents standardized coefficients). Although the background variables were controlled in each model, the table shows only the key findings (complete results are available upon request): That is: (1) the direct effects of the Correctional Trauma Healing Program on a mediator and a negative consequence of trauma (coefficients a and b); (2) the direct effect of the mediator on the negative consequence of trauma (coefficient c); and (3) the indirect effect of the program on the trauma consequence via the mediator ($a \times b$).

To illustrate how to interpret coefficients presented in the table, let us focus on the first two sets of results for post-traumatic stress disorder (in the upper-left corner of table). They show that program participation significantly *increased* forgiveness among participating inmates (.139), which in turn *decreased* their PTSD (-.174). The program also helped reduce vengefulness (-.141), which is likely to increase PTSD (.268). The indirect effects of the program on PTSD via forgiveness and vengefulness were both statistically significant (-.024 and -.038, respectively). In sum, the program reduced PTSD in part by enhancing the inmates' forgiving attitudes toward a person who caused a traumatic event they experienced in the past and by decreasing their vengefulness toward the person. The remaining direct effects of the Correctional Trauma Healing Program (-.254 and -.240) indicated that there are other factors that contributed to the program's reduction in PTSD as well.

14. Table D1. Direct and Indirect Effects of Correctional Trauma Healing Program on Negative Consequences of Trauma (Estimated Separately for Each Mediator)

	Mediator (a)	PTSD (b & c)	Mediator (a)	Comp. Grief (b & c)	Mediator (a)	Neg. emo. (b & c)	Mediator (a)	S. ideation (b & c)	Mediator (a)	I. aggress. (b & c)
CTHP	.139*	-.254*	.142*	-.261*	.137*	-.295*	.133*	-.215*	.125*	-.076
- Forgiveness		-.174*		-.205*		-.077		-.047		-.095+
- Indirect effect of CTHP		-.024+		-.029+		-.011		-.006		-.012
CTHP	-.141*	-.240*	-.137*	-.250*	-.140*	-.286*	-.144*	-.197*	-.131*	-.044
- Vengefulness		.268*		.273*		.150*		.137+		.304*
- Indirect effect of CTHP		-.038*		-.037*		-.021+		-.020		-.040*
CTHP	.124*	-.266*	.121*	-.280*	.122*	-.298*	.124*	-.199*	.121*	-.079
- Compassion		-.076		-.092		-.069		-.118+		-.105+
- Indirect effect of CTHP		-.009		-.011		-.008		-.015		-.013
CTHP	.098*	-.237*	.105*	-.258*	.128*	-.291*	.097*	-.188*	.090*	-.063
- Resilience		-.362*		-.329*		-.107		-.157*		-.148*
- Indirect effect of CTHP		-.036*		-.035*		-.014		-.015		-.013
CTHP	.135*	-.254*	.132*	-.267*	.128*	-.291*	.134*	-.200*	.127*	-.082+
- Moral objections to suicide		-.166*		-.161*		-.107		-.104		-.055
- Indirect effect of CTHP		-.022+		-.021+		-.014		-.014		-.007
CTHP	.117*	-.260*	.115*	-.281*	.121*	-.302*	.123*	-.221*	.126*	-.047

- Religiosity		-.110		-.134		-.083		-.020		-.336*
- Indirect effect of CTHP		-.013		-.015		-.010		-.003		-.042*
CTHP	.001	-.272*	.000	-.288*	.002	-.299*	.006	-.217*	.016	-.093+
- God's judgment		.229*		.152+		.120		-.016		.190*
- Indirect effect of CTHP		.000		.000		.000		.000		.003
CTHP	.148*	-.220*	.149*	-.224*	.152*	-.261*	.147*	-.180*	.135*	-.051
- God's engagement		-.303*		-.262*		-.184*		-.138+		-.212*
- Indirect effect of CTHP		-.045*		-.039*		-.028+		-.020		-.029*
CTHP	.004	-.279*	-.004	-.290*	.001	-.308+	.006	-.222*	.024	-.082+
- Blaming God		.229*		.226*		.182*		.187*		.203*
- Indirect effect of CTHP		.001		-.001		.000		.001		.005
CTHP	.206*	-.237*	.204*	-.247*	.207*	-.281*	.207*	-.185*	.195*	-.055
- God's forgiveness		-.150*		-.142*		-.117+		-.136+		-.167*
- Indirect effect of CTHP		-.031*		-.029*		-.024		-.028		-.033*
	Mediator (a)	PTSD (b & c)	Mediator (a)	Comp. Grief (b & c)	Mediator (a)	Neg. emo. (b & c)	Mediator (a)	S. ideation (b & c)	Mediator (a)	I. aggress. (b & c)
CTHP	.207*	-.230*	.202*	-.230*	.213*	-.307*	.218*	-.169*	.208*	-.049
- God's purpose in life		-.151*		-.222*		.012		-.132		-.216*
- Indirect effect of CTHP		-.031+		-.045*		.003		-.029		-.045*
CTHP	.084	-.294*	.084	-.304*	.088	-.321*	.096	-.222*	.089	-.099*

- Lament in prayer		.225*		.209*		.156*		.041		.160*
- Indirect effect of CTHP		.019		.017		.014		.004		.014
CTHP	.114*	-.236*	.113*	-.256*	.111*	-.288*	.109*	-.208*	.109*	-.051
- Family support		-.377*		-.311*		-.214*		-.137		-.276*
- Indirect effect of CTHP		-.043*		-.035*		-.024*		-.015		-.030*
CTHP	.150*	-.225*	.154*	-.249*	.143*	-.285*	.139*	-.220*	.144*	-.048
- Friends support		-.349*		-.263*		-.181*		-.013		-.173*
- Indirect effect of CTHP		-.052*		-.041*		-.026+		-.002		-.025+
CTHP	.224*	-.224*	.227*	-.239*	.218*	-.269*	.219*	-.212*	.217*	-.067
Presence of meaning		-.279*		-.259*		-.199*		-.106+		-.022
- Indirect effect of CTHP		-.063*		-.059*		-.043*		-.023+		-.005
CTHP	.230*	-.248*	.231*	-.259*	.234*	-.305*	.241*	-.162*	.225*	-.048
- Gratitude to God		-.057		-.059		-.012		-.189*		-.192*
- Indirect effect of CTHP		-.013		-.014		-.003		-.045*		-.043*
CTHP	.129*	-.261*	.130*	-.282*	.129*	-.299*	.128*	-.224*	.127*	-.082
- Spiritual transformation		-.114+		-.060		-.065		.051		-.044
- Indirect effect of CTHP		-.015		-.008		-.008		.006		-.006
CTHP	.138*	-.259*	.133*	-.270*	.137*	-.286*	.154*	-.174*	.136*	-.062
- Positive beliefs		-.128*		-.113*		-.111		-.284*		-.192*

about the Bible										
- Indirect effect of CTHP		-.018		-.015		-.015		-.044+		-.026+
CTHP	.071+	-.267*	.065	-.308+	.066	-.321*	.066	-.240*	.060	-.063
- Frequency of Bible interaction		-.227+		-.260*		-.235*		-.090		-.197+
- Indirect effect of CTHP		-.016		-.017		-.016		-.006		-.012
CTHP	.227*	-.207*	.222*	-.230*	.216*	-.289*	.236*	-.177*	.214*	-.020
- Bible impact		-.223*		-.174*		-.165*		-.201*		-.324*
- Indirect effect of CTHP		-.051*		-.039+		-.036*		-.047*		-.069*

Appendix E: One-Way Repeated Measures Analysis of Variance (ANOVA)

Table E1 summarizes results from one-way repeated measures ANOVA conducted for each endogenous variables (i.e., trauma consequences and program outcomes). It was “one-way” because there was one “factor” or source of difference in the average of variable: time. That is, the analysis tested whether there was a significant change in the average across the four surveys administered to the treatment group: the pretest (Time 1), posttest (Time 2), first follow-up (Time 3), and second follow-up (Time 4).

The table first shows the average of each variable at each survey along with the number of observations (i.e., inmates) included in the calculation of group means (see the “*n*” column). The decimals in parenthesis below the group averages are *p*-values associated with paired-samples *t*-tests conducted to see whether the averages were significantly different between two of the four time points: Time 1 vs. 2, Time 1 vs. 3, Time 1 vs. 4, Time 2 vs. 3, Time 2 vs. 4, and Time 3 vs. 4.

For example, a total of 60 inmates participated in all four surveys, and their average PTSD was found to be 24.333, 14.950, 15.083, and 15.233 at Times 1, 2, 3, and 4. Among the six comparisons of two repeated measures, three were significant ($p < .05$): Time 1 vs. 2, Time 1 vs. 3, and Time 1 vs. 4 (all $p = .000$). That is, the averages at the posttest and two follow-ups (14.950, 15.083, and 15.233) were significantly different, that is, smaller from their pretest counterpart (24.333) although they were not different among themselves. In other words, average PTSD significantly reduced between the pretest and posttest and remained low at the two follow-ups, indicating the reduced PTSD did not go back to where it was at the pretest.

The next two columns present results from testing the “sphericity” assumption that the variances of the differences between all combinations of repeated measures are equal (sphericity is the necessary and sufficient condition for valid inference pertaining to the standard repeated measures ANOVA). The assumption can be evaluated using the Greenhouse-Geiser epsilon (ϵ) and/or Mauchly’s test. The epsilon being 1 means that sphericity is met, whereas values smaller than 1 indicate departure from sphericity. If Mauchly’s test is significant ($p < .05$), sphericity is not assumed to be met. A general rule of thumb is: if the Greenhouse-Geiser ϵ is smaller than .75, then use the Greenhouse-Geiser test of within-subjects effects; otherwise (i.e., $.75 \leq \epsilon \leq 1$), use the Huynh-Feldt test for a conservative test of within-subjects effects. Thus, depending on the size of ϵ , the last column, “Tests of Within-Subjects Effects,” shows either Greenhouse-Geiser test or Huynh-Feldt test. Effect size and partial eta-squared (η^2) are also shown in that column. A general rule of thumb on magnitudes of effect sizes is: .01 (small), .06 (medium), and .14 (large).

For example, for PTSD the Mauchly’s test showed the sphericity assumption was met ($p = .120 > .05$), and, using the Huynh-Feldt test given Greenhouse-Geiser ϵ (.911), that it fell between .75 and 1, the differences in the average PTSD across four time points were determined to be significant. That is, the observed pattern of average PTSD decreasing after the program and

remaining low afterwards was statistically significant, and the program's effect size was "large," being larger than the cutoff of .14.

15. Table E1. Results from One-Way Repeated Measures Analysis of Variance (ANOVA): Pretest (Time 1), Posttest (Time 2), and First and Second Follow-ups (Times 3 and 4)

Variable	<i>n</i>	Time 1	Time 2	Time 3	Time 4	Time	Mauchly's test (<i>p</i> -value)	Greenhouse-Geisser ϵ	Tests of Within-Subjects Effects	
PTSD	60	24.333	14.950	15.083	15.233		.120	.911	$F(2.878, 169.825) = 26.905, p = .000$ Partial $\eta^2 = .313$	
						(.000) ^a				Time 1
						(1.000)				Time 2
						(1.000)				Time 3
% PTSD positive	60	76.7%	41.7%	40.0%	43.3%		.807	.976	$F(3, 177) = 11.811, p = .000$ Partial $\eta^2 = .167$	
						(.000)				Time 1
						(1.000)				Time 2
						(1.000)				Time 3
SPRINT	60	19.817	12.083	12.519	12.394		.357	.937	$F(2.968, 175.091) = 26.300, p = .000$ Partial $\eta^2 = .308$	
						(.000)				Time 1
						(1.000)				Time 2
						(1.000)				Time 3
% SPRINT positive	53	81.1%	45.3%	50.9%	45.3%		.556	.948	$F(3, 156) = 10.714, p = .000$ Partial $\eta^2 = .171$	
						(.000)				Time 1
						(1.000)				Time 2
						(1.000)				Time 3
Complicated grief	59	3.470	2.634	2.407	2.567		.133	.912	$F(2.886, 167.387) = 22.994, p = .000$	
										Time 1
						(1.000)				Time 2
						(1.000)				Time 3

			(.000)	.000	.000)	Time 1			Partial $\eta^2 =$.284
				(.293	1.000)	Time 2			
					(1.000)	Time 3			
Negative emotional states	62	3.217	2.546	2.475	2.547		.289	.943	$F(2.830,172.654) = 18.040,$ $p = .000$
			(.000	.000	.000)	Time 1			Partial $\eta^2 =$.226
				(.953	.750)	Time 2			
					(.364)	Time 3			
State depressed mood	62	3.301	2.634	2.505	2.554		.837	.978	$F(3,183) = 13.726, p = .000$
			(.000	.000	.000)	Time 1			Partial $\eta^2 =$.184
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
State depressed malaise	61	3.109	2.432	2.443	2.497		.108	.913	$F(2.883,172.989) = 12.602,$ $p = .000$
			(.000	.000	.000)	Time 1			Partial $\eta^2 =$.174
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
Variable	<i>n</i>	Time 1	Time 2	Time 3	Time 4	Time	Mauchly's Test (<i>p</i> -value)	Greenhouse-Geisser ϵ	Tests of Within-Subjects Effects
State anger	61	3.459	2.738	2.623	2.746		.104	.915	$F(2.889,173.320) = 12.865,$ $p = .000$
			(.000	.000	.000)	Time 1			Partial $\eta^2 =$.177
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
Suicidal ideation	60	1.683	1.383	1.400	1.450		.054	.901	$F(2.847,167.958) = 2.143, p = .100$

			(.326	.293	.625)	Time 1			Partial $\eta^2 =$.035
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
Intended aggression	50	3.680	3.240	3.360	3.220		.627	.955	$F(3,147) =$ 2.282, $p =$.082
			(.097	.574	.165)	Time 1			Partial $\eta^2 =$.044
				(.211	.215)	Time 2			
					(1.000)	Time 3			
Forgiveness	58	2.638	3.181	3.216	3.466		.074	.888	$F(2.807,159.9$ 82) = 9.148, $p =$.000
			(.016	.029	.000)	Time 1			Partial $\eta^2 =$.138
				(1.000	.344)	Time 2			
					(.569)	Time 3			
Vengefulness	58	2.853	2.086	1.888	1.974		.000	.749	$F(2.247,128.0$ 66) = 20.274, $p = .000$
			(.000	.000	.000)	Time 1			Partial $\eta^2 =$.262
				(.291	1.000)	Time 2			
					(1.000)	Time 3			
Compassion	59	3.175	3.396	3.446	3.316		.037	.873	$F(2.754,159.7$ 40) = 4.009, $p =$.011
			(.045	.009	1.000)	Time 1			Partial $\eta^2 =$.065
				(1.000	1.000)	Time 2			
					(.471)	Time 3			
Resilience	61	3.002	3.466	3.468	3.284		.000	.741	$F(2.224,133.4$ 62) = 10.480, $p = .000$
			(.000	.001	.134)	Time 1			Partial $\eta^2 =$.149
				(1.000	.146)	Time 2			
					(.110)	Time 3			

Moral objections to suicide	50	4.150	5.060	4.790	4.850		.022	.878	$F(2.799,137.145) = 6.243, p = .001$
			(.001)	.068	.033)	Time 1			Partial $\eta^2 = .113$
				(.578	1.000)	Time 2			
					(1.000)	Time 3			
Variable	<i>n</i>	Time 1	Time 2	Time 3	Time 4	Time	Mauchly's Test (<i>p</i> -value)	Greenhouse-Geisser ϵ	Tests of Within-Subjects Effects
Religiosity	54	1.471	1.650	.374	.522		.004	.830	$F(2.623,138.996) = 7.381, p = .000$
			(1.000	.036	.123)	Time 1			Partial $\eta^2 = .122$
				(.001	.006)	Time 2			
					(1.000)	Time 3			
Closeness to God	45	.231	.346	.010	.126		.106	.873	$F(2.620,115.291) = 2.614, p = .062$
			(.631	.144	.125)	Time 1			Partial $\eta^2 = .056$
				(.070	.062)	Time 2			
					(.241)	Time 3			
Importance of religion	49	.218	.343	.006	.100		.005	.793	$F(2.380,114.247) = 2.961, p = .047$
			(.707	.079	.208)	Time 1			Partial $\eta^2 = .058$
				(.001	.009)	Time 2			
					(.237)	Time 3			
Service attendance	47	.532	.353	.144	.098		.002	.788	$F(2.365,108.775) = 4.311, p = .011$
			(.248	.000	.012)	Time 1			Partial $\eta^2 = .086$

				(.002	.027)	Time 2			
					(.703)	Time 3			
Prayer	49	.324	.266	.033	.045		.390	.933	$F(2.800,134.395) = 3.392, p = .022$
			(.812	.006	.027)	Time 1			Partial $\eta^2 = .066$
				(.002	.042)	Time 2			
					(.779)	Time 3			
Religious text	49	.306	.295	-.009	.104		.019	.851	$F(2.552,122.472) = 2.936, p = .044$
			(.464	.001	.202)	Time 1			Partial $\eta^2 = .058$
				(.001	.030)	Time 2			
					(.457)	Time 3			
God's judgment	48	20.417	19.563	20.208	20.813		.493	.939	$F(3,141) = .853, p = .467$
			(1.000	1.000	1.000)	Time 1			Partial $\eta^2 = .018$
				(1.000	.738)	Time 2			
					(1.000)	Time 3			
God's engagement	47	31.936	33.277	33.787	33.511		.256	.909	$F(2.917,134.169) = 2.732, p = .048$
			(.374	.108	.346)	Time 1			Partial $\eta^2 = .056$
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
Variable	<i>n</i>	Time 1	Time 2	Time 3	Time 4	Time	Mauchly's Test (<i>p</i> -value)	Greenhouse-Geisser ϵ	Tests of Within-Subjects Effects
Blaming God	56	1.875	1.607	1.357	1.393		.521	.951	$F(3,165) = 5.989, p = .001$

			(.324	.004	.010)	Time 1			Partial $\eta^2 =$.098
				(.422	.847)	Time 2			
					(1.000)	Time 3			
God's forgiveness	50	4.660	4.760	4.700	4.780		.161	.903	$F(2.883,141.263) = .426, p = .727$
			(1.000	1.000	1.000)	Time 1			Partial $\eta^2 =$.009
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
God's purpose in life	52	4.526	4.603	4.747	4.635		.000	.722	$F(2.167,110.540) = 1.541, p = .217$
			(1.000	.140	1.000)	Time 1			Partial $\eta^2 =$.029
				(.817	1.000)	Time 2			
					(1.000)	Time 3			
Lament in prayer	53	2.599	2.706	2.747	2.551		.063	.882	$F(2.800,145.592) = .698, p = .545$
			(1.000	1.000	1.000)	Time 1			Partial $\eta^2 =$.013
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
Family support	62	3.186	3.601	3.691	3.743		.022	.892	$F(2.810,171.400) = 9.283, p = .000$
			(.005	.002	.000)	Time 1			Partial $\eta^2 =$.132
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
Friends support	61	3.010	3.525	3.639	3.828		.087	.898	$F(2.834,170.047) = 14.675, p = .000$
			(.004	.000	.000)	Time 1			Partial $\eta^2 =$.197
				(1.000	.085)	Time 2			
					(.481)	Time 3			

Presence of meaning	62	4.812	5.704	5.911	5.871		.001	.800	$F(2.507,152.906) = 28.411, p = .000$
			(.000)	.000	.000)	Time 1			Partial $\eta^2 = .318$
				(.404	.952)	Time 2			
					(1.000)	Time 3			
Gratitude to God	53	4.453	4.613	4.689	4.613		.000	.675	$F(2.025,105.315) = 1.612, p = .204$
			(1.000	.123	.624)	Time 1			Partial $\eta^2 = .030$
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
Variable	<i>n</i>	Time 1	Time 2	Time 3	Time 4	Time	Mauchly's Test (<i>p</i> -value)	Greenhouse-Geisser ϵ	Tests of Within-Subjects Effects
Spiritual transformation	38	81.6%	89.5%	89.5%	92.1%		.004	.816	$F(2.636,97.523) = 1.399, p = .250$
			(1.000	.499	.619)	Time 1			Partial $\eta^2 = .036$
				(1.000	1.000)	Time 2			
					(1.000)	Time 3			
Positive beliefs about the Bible	37	3.577	3.613	3.586	3.748		.044	.840	$F(2.725,98.096) = 1.378, p = .255$
			(1.000	1.000	.120)	Time 1			Partial $\eta^2 = .037$
				(1.000	1.000)	Time 2			
					(.763)	Time 3			
Frequency of Bible interaction	34	4.382	4.235	4.441	4.382		.009	.796	$F(2.588,85.396) = .268, p = .820$
			(1.000	1.000	1.000)	Time 1			Partial $\eta^2 = .008$

				(1.000)	1.000)	Time 2			
					(1.000)	Time 3			
Bible impact	36	4.282	4.482	4.435	4.435		.396	.916	$F(3,105) = 1.195, p = .315$
			(.600)	1.000	1.000)	Time 1			Partial $\eta^2 = .033$
				(1.000)	1.000)	Time 2			
					(1.000)	Time 3			

^a Numbers in parenthesis refer to *p*-values associated with pairwise comparisons among the means of Times 1, 2, and 3.

Appendix F: Random-Effects Models

The last research question concerns whether *changes* in the program's primary and secondary outcomes across the four waves are significantly related to *changes* in the consequences of trauma across the four points in time. For example, did PTSD increase or decrease when forgiveness increased or decreased? Or did it increase or decrease when vengefulness changed?

These changes in the trauma consequences and program outcomes across the four waves are “within-individual” changes as they represent changes in those attributes for individuals across the waves (i.e., how each individual's attributes vary over time), whereas differences between the treatment and control groups are “between-individual” differentials as they refer to differences between the two groups of individuals.

To examine the effects of within-individual changes in program outcomes on within-individual changes in trauma consequences, a modified version of random-effects models was employed. This approach is more appropriate than conventional OLS regression models when the variables are measured repeatedly from the same individuals over time, and the primary goal is to estimate unbiased parameters of the relationships between time-varying predictors and an outcome variable.

This study's four-wave panel data enable us to decompose the sources of variation in the time-varying predictors into between- and within-individual levels. The between-individual components are generated by taking the average of predictor scores across the waves for each individual, whereas the within-individual components are the deviations of predictor scores from the individual-specific averages at each wave. The sources of error terms can also be decomposed into between- and within-individual levels, and the systematic variation in time-stable sources of unobserved heterogeneity can be explicitly controlled in the estimation of within-individual effects of time-varying predictors. This decomposition makes one of the implicit but unverifiable assumptions of regression-based models unnecessary.

In addition, unlike conventional fixed-effects models, this alternative modeling strategy allows for the estimation of between-individual effects of both time-varying and time-stable predictors as well as cross-level interactions between within-individual and between-individual effects of predictors (e.g., testing whether the within-individual effect of forgiveness on PTSD differs between males and females).

Table F1 presents baseline models, which included only time-trend variables (wave and wave-squared) capturing the curve, which was a concave upward pattern of change in the trauma consequences and one time-varying control (time) between surveys (time interval). The results show that PTSD, complicated grief, negative emotional states, and, to a lesser extent, suicidal ideation and intended aggression, significantly declined during the study period, following a non-linear functional form with upward curvature (2.198, .253, .198, .056, and .084).

When sociodemographic and criminal justice-related background controls were added to the baseline model, the time-trend variables, particularly wave-squared, remained significant in all

models (see Table F2). This finding indicates that the control variables had limited impact on those models. In fact, only background variables had significant effects on negative consequences of trauma exposure. One was being charged for a drug offense, which was inversely related to suicidal ideation: that is, drug offenders tended to report lower levels of suicidality than violent offenders. The other was trauma exposure positively associated with PTSD and complicated grief: that is, the more traumatic events experienced, the higher the score on PTSD and complicated grief.

Next, Table F3 summarizes results from estimating the within- and between-individual effects of the program outcomes on trauma consequences, analyzing one outcome at a time while controlling for sociodemographic and criminal justice-related background variables (not shown in the table).

For example, the within-individual effect of forgiveness on PTSD was significant in the negative direction (-1.609), which means that a change in forgiveness between waves was inversely related to a change in PTSD. Specifically, one unit increase in forgiveness was related to 1.609 decrease in PTSD. Putting this result together with the earlier finding that the program enhanced forgiving attitudes toward a person who caused a traumatic event among participating inmates, it was found that forgiveness had a negative causal effect on PTSD over time. Within-individual effects of outcomes on trauma consequences are directly relevant to answering the last research question. On the other hand, the between-individual effect of forgiveness on PTSD was also significant in the negative direction (-2.709), showing that the average of forgiveness across the four waves was inversely associated with that of PTSD: that is, the higher the level of forgiveness, the lower the score on PTSD.

16. Table F1. Baseline Models of Negative Consequences of Trauma Exposure (Without Sociodemographic and Criminal Justice-Related Controls)

	PTSD		Complicated grief		Negative emotions		Suicidal ideation		Intended aggression	
	B	(S.E.)	B	(S.E.)	B	(S.E.)	B	(S.E.)	B	(S.E.)
Between-individual effects										
Time interval	.094	(.055)	.011	(.006)	.006	(.005)	.008	(.005)	.014	(.010)
Within-individual effects										
Wave	-3.130*	(.622)	-.300*	(.069)	-.253*	(.060)	-.107	(.069)	-.065	(.101)
Wave-squared	2.198*	(.303)	.253*	(.034)	.198*	(.029)	.056+	(.034)	.084+	(.050)
Time interval	.031	(.029)	.001	(.003)	.003	(.003)	.004	(.003)	-.003	(.005)
Constant	11.862	(1.203)	2.129*	(.134)	2.261*	(.109)	1.142*	(.120)	2.982*	(.209)
Observations	552		548		554		549		514	
(Individuals)	(208)		(208)		(208)		(208)		(202)	

* $p < .05$ (two-tailed test), + $p < .05$ (one-tailed test).

17. Table F2. Intermediate Models of Negative Consequences of Trauma Exposure (With Sociodemographic and Criminal Justice-Related Controls)

	PTSD		Complicated grief		Negative emotions		Suicidal ideation		Intended aggression	
	<i>B</i>	(S.E.)	<i>B</i>	(S.E.)	<i>B</i>	(S.E.)	<i>B</i>	(S.E.)	<i>B</i>	(S.E.)
Within-individual effects										
Wave	-3.071*	(.625)	-.293*	(.070)	-.244*	(.060)	-.105	(.070)	-.060	(.101)
Wave-squared	2.150*	(.304)	.249*	(.034)	.196*	(.029)	.056+	(.034)	.083+	(.050)
Time interval	.028	(.029)	.001	(.003)	.003	(.003)	.004	(.003)	-.003	(.005)
Between-individual effects										
Time interval	.098	(.055)	.011	(.006)	.006	(.005)	.007	(.005)	.010	(.010)
Age	-.049	(.052)	-.001	(.006)	-.004	(.005)	.001	(.005)	-.016	(.010)
Male	-1.670	(1.101)	-.166	(.124)	-.178	(.097)	.013	(.099)	.216	(.202)
White	1.657	(1.115)	.066	(.125)	.078	(.098)	.164	(.100)	-.222	(.205)
Admissions to jail	.080	(.113)	.004	(.013)	-.002	(.010)	-.009	(.010)	.035	(.021)
Sentenced	-.824	(1.180)	-.112	(.133)	-.121	(.104)	.066	(.106)	-.181	(.222)
Security classification	1.297	(.953)	.196	(.107)	.049	(.084)	.147	(.085)	-.183	(.175)
Property offense	-.119	(1.085)	.053	(.122)	.019	(.096)	.009	(.097)	-.204	(.202)
Drug offense	-1.707	(1.234)	-.249	(.139)	-.041	(.109)	-.222*	(.111)	-.165	(.229)
Other offense	1.321	(1.140)	.099	(.128)	.040	(.101)	.067	(.102)	.080	(.209)
Technical violation	-1.345	(1.153)	-.011	(.130)	-.131	(.102)	-.117	(.104)	.291	(.212)
Trauma exposure	.563*	(.238)	.059*	(.027)	.031	(.021)	-.018	(.021)	-.007	(.044)
Constant	11.034*	(3.380)	1.841*	(.380)	2.454*	(.300)	1.011*	(.309)	3.745*	(.620)
Observations	550		546		552		547		514	
(Individuals)	(207)		(207)		(207)		(207)		(202)	

* $p < .05$ (two-tailed test), + $p < .05$ (one-tailed test).

18. Table F3. Within- and Between-Individual Effects of the Primary and Secondary Outcomes on Negative Consequences of Trauma Exposure

	PTSD		Complicated grief		Negative emotions		Suicidal ideation		Intended aggression	
	B	(S.E.)	B	(S.E.)	B	(S.E.)	B	(S.E.)	B	(S.E.)
Within-individual effects										
Forgiveness	-1.609*	(.356)	-.151*	(.040)	-.078*	(.035)	-.051	(.041)	-.168*	(.060)
Vengefulness	3.090*	(.455)	.353*	(.051)	.191*	(.045)	.186*	(.054)	.283*	(.079)
Compassion	-.795	(.814)	-.155+	(.091)	-.048	(.079)	.039	(.091)	-.302*	(.135)
Resilience	-3.608*	(.629)	-.371*	(.071)	-.338*	(.061)	-.228*	(.073)	-.401*	(.107)
Moral objections to suicide	-.156	(.325)	.007	(.037)	.027	(.032)	.031	(.037)	-.077	(.055)
Religiosity	-.835*	(.185)	-.059*	(.021)	-.081*	(.018)	-.035	(.022)	-.132*	(.031)
God's judgment	.069	(.092)	.001	(.010)	.000	(.009)	-.014	(.010)	-.011	(.016)
God's engagement	-.136	(.102)	-.013	(.012)	-.019+	(.010)	-.011	(.012)	-.027	(.017)
Blaming God	1.749*	(.510)	.233*	(.058)	.085+	(.051)	.217*	(.058)	.197*	(.086)
God's forgiveness	-1.307*	(.574)	-.169*	(.065)	-.101+	(.059)	-.078	(.069)	-.056	(.096)
God's purpose in life	-1.493*	(.611)	-.110	(.070)	-.128*	(.062)	-.106	(.073)	-.259*	(.108)

Lament in prayer	1.216*	(.397)	.162*	(.044)	.095*	(.039)	.057	(.046)	.171*	(.066)
Family support	-2.608*	(.539)	-.232*	(.061)	-.219*	(.052)	-.084	(.063)	-.261*	(.092)
Friends support	-2.515*	(.485)	-.251*	(.056)	-.212*	(.048)	-.085	(.058)	-.219*	(.087)
Presence of meaning	-1.727*	(.385)	-.175*	(.043)	-.199*	(.037)	-.143*	(.044)	-.183*	(.065)
Gratitude to God	-.538	(.654)	-.008	(.074)	-.196*	(.067)	-.208*	(.078)	-.281*	(.107)
Spiritual transformation	-1.112	(1.315)	-.140	(.146)	-.054	(.133)	.011	(.155)	-.058	(.228)
Positive beliefs about the Bible	-1.642+	(.908)	-.149	(.096)	-.157+	(.093)	-.300*	(.098)	-.376*	(.151)
Frequency of Bible interaction	-.477	(.437)	-.050	(.046)	-.039	(.044)	-.023	(.045)	-.143*	(.070)
Bible impact	-2.754	(.812)	-.254*	(.087)	-.242*	(.080)	-.120	(.086)	-.434*	(.133)
Between-individual effects										
Forgiveness	-2.709*	(.517)	-.343*	(.057)	-.238*	(.047)	-.102*	(.051)	-.315*	(.099)
Vengefulness	3.328*	(.497)	.367*	(.056)	.232*	(.046)	.062	(.051)	.299*	(.101)
Compassion	-.759	(1.106)	-.065	(.124)	-.093	(.097)	.091	(.103)	-.474*	(.200)
Resilience	-4.109*	(.655)	-.530*	(.071)	-.378*	(.056)	-.103	(.066)	-.405*	(.129)
Moral objection	-.472	(.392)	-.069	(.044)	-.076*	(.034)	-.129*	(.034)	.036	(.073)

s to suicide										
Religiosity	-.241	(.178)	-.028	(.020)	-.035*	(.015)	-.040*	(.016)	-.099*	(.031)
God's judgment	.133	(.102)	.014	(.012)	.018+	(.009)	-.003	(.009)	.054*	(.018)
	PTSD		Complicated grief		Negative emotions		Suicidal ideation		Intended aggression	
	B	(S.E.)	B	(S.E.)	B	(S.E.)	B	(S.E.)	B	(S.E.)
God's engagement	-.326*	(.098)	-.029*	(.011)	-.036*	(.008)	-.030*	(.009)	-.068*	(.017)
Blaming God	2.851*	(.691)	.317*	(.077)	.248*	(.061)	.108	(.067)	.340*	(.127)
God's forgiveness	-1.693*	(.854)	-.254*	(.095)	-.214*	(.073)	-.237*	(.077)	-.386*	(.148)
God's purpose in life	-1.821*	(.796)	-.247*	(.089)	-.244*	(.069)	-.368*	(.070)	-.338*	(.144)
Lament in prayer	1.920*	(.565)	.260*	(.063)	.222*	(.049)	.113*	(.053)	.200+	(.103)
Family support	-1.672*	(.521)	-.159*	(.058)	-.147*	(.046)	-.132*	(.047)	-.097	(.098)
Friends support	-3.680*	(.589)	-.375*	(.066)	-.278*	(.053)	-.068	(.057)	-.260*	(.116)
Presence of meaning	-1.694*	(.473)	-.201*	(.053)	-.172*	(.041)	-.143*	(.044)	-.059	(.090)
Gratitude to God	-1.142	(.861)	-.190*	(.096)	-.201*	(.075)	-.309*	(.077)	-.314*	(.157)
Spiritual transformation	.864	(1.579)	.056	(.177)	-.168	(.131)	-.085	(.147)	-.765*	(.279)
Positive beliefs	-.718	(1.158)	-.107	(.132)	-.221*	(.097)	-.274*	(.105)	-.500*	(.208)

about the Bible										
Frequency of Bible interaction	.083	(.400)	.042	(.046)	-.004	(.033)	-.015	(.037)	-.120	(.074)
Bible impact	-1.984*	(.861)	-.231*	(.098)	-.176*	(.073)	-.217*	(.078)	-.471*	(.156)

Note. Primary and secondary outcomes of the program were included in the model one at a time, while controlling for sociodemographic and criminal justice-related background variables, which are not presented here.

* $p < .05$ (two-tailed test), + $p < .05$ (one-tailed test).

19. Table F4. Within-Individual Effects of the Primary and Secondary Outcomes on Post-Traumatic Stress Disorder, Complicated Grief, Negative Emotional States, Suicidal Ideation, and Intended Aggression

	PTSD	Complicated grief	Negative emotions	Suicidal ideation	Intended aggression
Primary Outcomes					
Forgiveness	*	*	*		*
Vengefulness	*	*	*	*	*
Compassion		+			*
Resilience	*	*	*	*	*
Moral objections to suicide					
Religiosity	*	*	*		*
God's judgment					
God's engagement			+		
Blaming God	*	*	+	*	*
God's forgiveness	*	*	+		
God's purpose in life	*		*		*
Lament in prayer	*	*	*		*
Secondary Outcomes					
Family support	*	*	*		*
Friends support	*	*	*		*
Presence of meaning	*	*	*	*	*
Gratitude to God			*	*	*
Spiritual transformation					
Positive beliefs about the Bible	+		+	*	*
Frequency of Bible interaction					*
Bible impact		*	*		*

* $p < .05$ (two-tailed test), + $p < .05$ (one-tailed test).

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Dr. Sung Joon Jang is Research Professor of Criminology and co-director of the Program on Prosocial Behavior at ISR. Jang is quantitative criminologist and one of the leading researchers of general strain theory. His research focuses on the effects of religion and spirituality as well as family, school, and peers on crime and delinquency. Jang has published in a diverse group of social scientific journals including sociology (e.g., *American Sociological Review* and *The Sociological Quarterly*), criminology (e.g., *Criminology*, *Journal of Quantitative Criminology*, and *Justice Quarterly*), psychology (e.g., *Journal of Consulting and Clinical Psychology*), and social work. He is a coauthor of two books, *The Angola Prison Seminary* (2016) and *Restorative Prisons* (2021). Jang is the founding President of the Korean Society of Criminology in America and has been active in many capacities in the American Society of Criminology. Jang is currently conducting a series of studies on the rehabilitative effects of faith-based programs on prisoners in Colombia and South Africa as well as in the United States.

Dr. Matt Bradshaw is Research Professor of Sociology at ISR. Dr. Bradshaw's research examines health and well-being from two different perspectives. The first focuses on the association between religion and health. His published research in this area shows that religious practices and beliefs (e.g., service attendance, prayer, a perceived attachment to God) provide social and psychological resources that promote health and well-being, in part by helping individuals cope with stressful conditions. This work has been published in leading journals including: *Social Science & Medicine*, *Research on Aging*, *Journal of Aging and Health*, *The Gerontologist*, *Sociology of Religion*, and the *Journal for the Scientific Study of Religion*, to name just a few. Dr. Bradshaw's second research agenda examines the role of early-life social conditions (e.g., religion, childhood SES, parent-child relations, peer influences) in shaping trajectories of health that span adolescence and adulthood. This work has appeared in *Health Psychology*, *Youth & Society*, and the *International Journal of Mental Health and Addiction*,

among others. Overall, his research is interdisciplinary in nature, and is helping to identify social and behavioral factors that can be targeted by healthcare professionals and policymakers to improve individual lives and promote population health.

About the Institute for Studies of Religion

Launched in August 2004, the Baylor Institute for Studies of Religion (ISR) exists to initiate, support, and conduct research on religion, involving scholars and projects spanning the intellectual spectrum: history, psychology, sociology, economics, anthropology, political science, philosophy, epidemiology, theology, and religious studies. Our mandate extends to all religions, everywhere, and throughout history. It also embraces the study of religious effects on such things as prosocial behavior, family life, population health, economic development, and social conflict. While always striving for appropriate scientific objectivity, our scholars treat religion with the respect that sacred matters require and deserve.

About American Bible Society

The mission of American Bible Society is to make the Bible available to every person in a language and format each can understand and afford, so all people may experience its life-changing message. ABS took on the role of stewarding the Trauma Healing Institute in 2011 as the trauma healing program and use of *Healing the Wounds of Trauma: How the Church Can Help* gained traction among churches and organizations. THI's unique method of trauma healing unites proven mental health practices and engagement with God through the Bible. THI equips churches and partner organizations, like Good News Jail & Prison Ministry, to use this method in their own ministries and supports the spread of the method around the world, wherever hearts are wounded. *Healing the Wounded Heart*, ABS's contextualization for those in correctional ministry, contains a set of practical lessons that lead incarcerated people and those transitioning back to their communities, on a journey of healing.

To learn more about American Bible Society and Bible-based trauma healing, please visit www.abs.us/trauma.

Endnotes

- ¹ Kifer, M., Hemmens, C., and Stohr, M.K. (2003). "The Goals of Corrections: Perspectives from the Line," *Criminal Justice Review* 28(1): 47-69.
- ² Applegate, B.K. (2000). Specifying Public Support for Rehabilitation: A Factorial Survey Approach, National Institute of Justice, Grant Number 96-IJ-CS-0007, Department of Justice, Washington, DC; Cullen, F.T., Pealer, J.A., Fisher, B.S., Applegate, B.K., and Santana, S.A. (2002). Public Support for Correctional Rehabilitation in America: Change or Consistency? P. 128-147, in Roberts, J.V and Hough, M. eds., *From Changing Attitudes to Punishment: Public Opinion, Crime and Justice* (NCJ-199891). Portland, OR: Willan Publishing.
- ³ Johnson, B.R. and Larson, D.B. (1994). "Linking Religion to the Mental and Physical Health of Inmates: A Literature Review and Research Note," *American Jails*, 11(4): 28-36.
- ⁴ Baker, T., Metcalfe, C.F., Berenblum, F., et al., Aviv, G. and Gertz, M. (2015). "Examining Public Preferences for the Allocation of Resources to Rehabilitative Versus Punitive Crime Policies," *Criminal Justice Policy Review* 26(5): 448-462
- ⁵ Gannon, T.A., Olver, M.E., Mallion, J.S., and James, M. (2019). "Does Specialized Psychological Treatment for Offending Reduce Recidivism? A Meta-Analysis Examining Staff and Program Variables as Predictors of Treatment Effectiveness," *Clinical Psychology Review* <https://doi.org/10.1016/j.cpr.2019.101752>; Mitchell, O., Wilson, D.B., and MacKenzie, D.L. (2007). "Does Incarceration-Based Drug Treatment Reduce Recidivism? A Meta-Analytic Synthesis of the Research," *Journal of Experimental Criminology* 3: 353-375; Lipsey, M. & Cullen, F.T. (2007). "The Effectiveness of Correctional Rehabilitation: A Review of Systematic Reviews," *Annual Review of Law and Social Science* 3: 297-320.
- ⁶ Alper, M., Durose, M.R., and Markman, J. (2018). "2018 Update on Prisoner Recidivism: A 9-Year Follow-up Period (2005-2014)," *Special Report*, Bureau of Justice Statistics, U.S. Department of Justice, Office of Justice Programs, Washington, DC.
- ⁷ Cullen, F.T., Latessa, E.J., Burton, V.S., and Lombardo, L.X. (1993). "The Correctional Orientation of Prison Wardens: Is the Rehabilitative Idea Supported?" *Criminology* 31(1): 69-92.
- ⁸ "Mental Health: A Report of the Surgeon General." Center for Mental Health Services, National Institute for Mental Health, U.S. Public Health Service. Office of the Surgeon General.
- ⁹ James, D.J. and Glaze, L.E. (2006). "Mental Health Problems of Prison and Jail Inmates." Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice, Washington, DC.
- ¹⁰ Steadman, H.J., Osher, F.C., Robbins, P.C., Case, B., and Samuels, S. (2009). "Prevalence of Serious Mental Illness Among Jail Inmates," *Psychiatric Services* 60(6): 761-765.
- ¹¹ Karberg, J.C. and James, D.J. (2005). "Substance Dependence, Abuse, and Treatment of Jail Inmates, 2002," *Special Report*, Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice, Washington, DC.
- ¹² Karberg, J.C. and James, D.J. (2005). "Substance Dependence, Abuse, and Treatment of Jail Inmates, 2000." *Special Report*, Office of Justice Programs, U.S. Department of Justice, Washington, DC.
- ¹³ *2017 Methodological Summary and Definitions. Substance Abuse and Mental Health Services Administration* (2018), U.S. Department of Health & Human Services, Washington, DC.
- ¹⁴ James, D.J. and Glaze, L.E. (2006). "Mental Health Problems of Prison and Jail Inmates." Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice, Washington, DC.
- ¹⁵ Maruschak, L.M., Berzofsky, M., and Unangst, J. (2016). "Medical Problems of State and Federal Prisoners and Jail Inmates, 2011-12." *Special Report*, Bureau of Justice Statistics, Office of Justice Programs, Department of Justice, Washington, DC.
- ¹⁶ Sykes, G.M. (1958). *The Society of Captives: A Study of Maximum Security Prison*. Princeton, NJ: Princeton University Press.
- ¹⁷ The New Asylums, Frontline: Episode 8, Season 23, May 10, 2005. Public Broadcasting System.
- ¹⁸ Gonzalez, J.M.R. and Connell, N. (2014). "Mental Health of Prisoners: Identifying Barriers to Mental Health Treatment and Medication Continuity," *American Journal of Public Health* 104(12): 2328-2333.
- ¹⁹ Ibid.
- ²⁰ Carson, E.A. and Cowhig, M.P. (2020). "Mortality in Local Jails, 2000-2016 – Statistical Tables." Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice, Washington, DC.

-
- ²¹ Wolff, N., Huening, J., Shi, J., and Frueh, B.C. (2014). "Trauma Exposure and Posttraumatic Stress Disorder Among Incarcerated Men," *Journal of Urban Health* 91(4): 707-719.
- ²² Gobin, R.L., Reddy, M.K., Zlotnick, C. and Johnson, J.E. (2015). "Lifetime Trauma Victimization and PTST in Relation to Psychopathy and Antisocial Personality Disorder in a Sample of Incarcerated Women and Men," *International Journal of Prison Health* 11(2): 64-74.
- ²³ Greenberg, G. A., & Rosenheck, R. A. (2008). "Jail Incarceration, Homelessness, and Mental Health: A National Study." *Psychiatric Services*, 59(2), 170-177.
- ²⁴ Weeks, R., & Widom, C. S. (1998). Self-reports of Early Childhood Victimization among Incarcerated Adult Male Felons. *Journal of Interpersonal Violence*, 13(3), 346-361.
- ²⁵ Messina, N., & Grella, C. (2006). Childhood Trauma and Women's Health Outcomes in a California Prison Population. *American Journal of Public Health*, 96(10), 1842-1848. doi:96/10/1842 [pii]. (see also Browne, A., Miller, B., & Maguin, E. (1999). "Prevalence and Severity of Lifetime Physical and Sexual Victimization among Incarcerated Women." *International Journal of Law and Psychiatry*, 22(3-4), 301-322.
- ²⁶ Gibson, L. E., Holt, J. C., Fondacaro, K. M., Tang, T. S., Powell, T. A., & Turbitt, E. L. (1999). "An Examination of Antecedent Traumas and Psychiatric Comorbidity among Male Inmates with PTSD." *Journal of Traumatic Stress*, 12(3), 473-484; Green, B. L., Miranda, J., Daroowalla, A., & Siddique, J. (2005). "Trauma Exposure, Mental Health Functioning, and Program Needs of Women in Jail." *Crime & Delinquency*, 51(1), 133-151; Messina, N., Grella, C., Burdon, W., & Prendergast, M. (2007). "Childhood Adverse Events and Current Traumatic Distress: A Comparison of Men and Women Drug-Dependent Prisoners." *Criminal Justice and Behavior*, 34(11), 1385-1401; Timmerman, I. G., & Emmelkamp, P. M. (2001). "The Relationship Between Traumatic Experiences, Dissociation, and Borderline Personality Pathology among Male Forensic Patients and Prisoners." *Journal of Personality Disorders*, 15(2), 136-149.
- ²⁷ Hyland, S.S.(2019). "Justice Expenditure and Employment Extracts, 2016 – Preliminary," *Bureau of Justice Statistics*, Office of Justice Programs, Department of Justice, Washington, DC.
- ²⁸ Kyckelhahn, T. (2014). "Justice Expenditure and Employment Extracts, 2011 – Preliminary," *Bureau of Justice Statistics*, Office of Justice Programs, Department of Justice, Washington, DC.
- ²⁹ Ibid.
- ³⁰ Ibid.
- ³¹ Johnson, B. R. (2011). *More God, Less Crime: Why Religion Matters and How it Could Matter More*. Conshohocken, PA: Templeton Press; Hallett, M., Hays, J., Johnson, B., Jang, S., & Duwe, G. (2016). *The Angola Prison Seminary: Effects of Faith-Based Ministry on Identity Transformation, Desistance, and Rehabilitation*. Routledge. <https://doi.org/10.4324/9781315648309>.
- ³² Tocqueville, A.D. (2003). *Democracy in America and Two Essays on America*. London: Penguin Books.
- ³³ Finke, R., & Stark, R. (2005). *The Churching of America, 1776-2005*. New Brunswick, NJ: Rutgers University Press.
- ³⁴ Stark, R. (2005). *The Victory of Reason: How Christianity Led to Freedom, Capitalism, and Western Success*. New York, NY: Random House.
- ³⁵ See Susan J. Ellis and Katherine H. Campbell (2006). *By the People: A History of Americans as Volunteers*, Energize, Inc; Timothy Lawrence Smith (1965). *Revivalism and Social Reform: American Protestantism on the Eve of the Civil War*. NY: Harper & Row.
- ³⁶ Kidd, T.S. (2017). *Benjamin Franklin: The Religious Life of a Founding Father*. New Haven, CT: Yale University Press.
- ³⁷ Levin, J. (2020). *Religion and Medicine: A History of the Encounter Between Humanity's Two Greatest Institutions*. New York, NY: Oxford University Press.
- ³⁸ Stark, R. (1997). *The Rise of Christianity: How the Obscure, Marginal Jesus Movement Became the Dominant Religious Force in the Western World in a Few Centuries*. Princeton, NJ: Princeton Press.
- ³⁹ Peter H. Schuck and James Q. Wilson (2008). *Understanding America: The Anatomy of an Exceptional Nation*. Public Affairs.
- ⁴⁰ Putnam, R.D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. NY, New York: Simon & Schuster; Putnam, R.D. and Feldstein, L.M. (2003). *Better Together: Restoring the American Community*. NY, New York: Simon & Schuster.
-

⁴¹ Dreyfus, Susan N. (August 29, 2018). "Volunteerism and US Civil Society." Stanford Social Innovation Review (https://ssir.org/articles/entry/volunteerism_and_us_civil_society).

⁴² This figure is based on the Independent Sector's estimate of the average value of a volunteer hour for 2017.

⁴³ Putnam, R.D. (1995). "Bowling Alone: America's Declining Social Capital." *The Journal of Democracy* 6(1):65-78.

⁴⁴ Putnam R.D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.

⁴⁵ *2018 Volunteering in America*. Corporation for National and Community Service. Washington, DC.

⁴⁶ The Volunteering in America research is produced by CNCS as part of its efforts to expand the reach and impact of America's volunteers. Collected for the past 15 years, the research is the most comprehensive data on American volunteering ever assembled, and it includes a volunteer data profile for all states and major metropolitan areas. The complete report can be accessed at *VolunteeringInAmerica.gov*. The data for the report were collected through a supplement to the Current Population Survey (CPS): the Civic Engagement and Volunteering Supplement. The CPS is a monthly survey of about 60,000 households (approximately 100,000 adults), conducted by the U.S. Census Bureau on behalf of the Bureau of Labor Statistics. The selected supplements collect data on the volunteering, voting, and civic activities of adults age 16 and older. Volunteers are considered individuals who performed unpaid volunteer activities through or for an organization at any point during the 12-month period (from September 1st of the prior year through the survey week in September of the survey year).

⁴⁷ Hustinx, L., von Essen, J., Haers, J., and Mels, S. (2014). *Religion and Volunteering: Complex, Contested, and Ambiguous Relationships*. Springer.

⁴⁸ Lam, P. (2002). "As the Flocks Gather: How Religion Affects Voluntary Association Participation." *Journal for the Scientific Study of Religion* 41: 405-422; Lam, P. (2006). "Religion and Civic Culture: A Cross-National Study of Voluntary Association Membership." *Journal for the Scientific Study of Religion* 45: 177-193; Wuthnow, R. (1991). *Acts of Compassion: Caring for Others and Helping Ourselves*. Princeton, NJ: Princeton University Press; Putnam, R.D. and Campbell, D.E. (2010). *American Grace: How Religion Divides and Unites Us*. New York, NY: Simon & Schuster.

⁴⁹ Johnston, J.B. (2013). "Religion and Volunteering Over the Adult Life Course." *Journal for the Scientific Study of Religion* 52(4): 733-752.

⁵⁰ Ibid.

⁵¹ McClure, J.M. (2013). "Sources of Social Support: Examining Congregational Involvement, Private Devotional Activities, and Congregational Context." *Journal for the Scientific Study of Religion* 52(4): 698-712.

⁵² Ibid.

⁵³ The mission of Good News Jail & Prison Ministry is to "place Christian chaplains in jails and prisons to minister to the spiritual needs of inmates and staff. Good News has developed several practical, life-giving programs that introduce inmates and staff to Christ and help them grow in their knowledge of Him and His Word. Good News considers it a privilege to minister to serve 300,000 incarcerated men, women and youth daily in 22 states and 25 countries worldwide and more countries being added yearly. Our chaplains share the love of Christ to these inmates and staff, while facilitating the ministry of thousands of volunteers, too."

⁵⁴ American Bible Society is a United States-based Bible society which for more than 200 years has been publishing and distributing translations of the Protestant Christian version of the Bible and provides study aids and other tools to help people engage with it. American Bible Society pioneered the Bible-based trauma healing program, a ministry equipping churches to help hurting people reconnect with God through Scripture. Communities around the world live crushed by emotional shock and pain. Refugees, abandoned children, victims of domestic violence, and so many others feel separated from God.

⁵⁵ Interview with volunteers took place at the Riverside Regional Jail, in Prince George County, Virginia, on January 14, 2020.

⁵⁶ Merino, S. (2013). "Religious Social Networks and Volunteering: Examining Recruitment via Close Ties." *Review of Religious Research* 55: 509-527; Lim, C. and MacGregor, C.A. (2012). "Religion and Volunteering in Context: Disentangling the Contextual Effects of Religion on Voluntary Behavior." *American Sociological Review* 77(5): 747-779.

⁵⁷ Krause, N. (2010). "Church-Based Volunteering, Providing Informal Support at Church, and Self-Rated Health in Late Life." *Journal of Aging and Health* 21(1):63-84.

-
- ⁵⁸ Brown, S.L., Neese, R.M., Vinokur, A.D., & Smith, D.M. (2003). "Providing social support may be more beneficial than receiving it: results from a prospective study of mortality." *Psychological Science* 14(4): 320-327;
- Krause, N. (2006a). "Church-based Social Support and Mortality." *Journal of Gerontology: Social Sciences* 61(3): S140-S146.
- ⁵⁹ Krause, N. (2006b). "Exploring the stress-buffering effects of church-based social support and secular social support on health in late life." *Journal of Gerontology: Social Sciences* 61(1):S35-S43.
- ⁶⁰ Krause, N. (2009). "Church-based volunteering, providing informal support at church, and self-rated health in late life." *Journal of Aging and Health* 21(1):63-84.
- ⁶¹ Social capital is the effective functioning of social groups through interpersonal relationships, a shared sense of identity, a shared understanding, shared norms, shared values, trust, cooperation, and reciprocity. Social capital is a measure of the value of resources, both tangible (e.g., public spaces, private property) and intangible (e.g., actors, human capital, people), and the impact that these relationships have on the resources involved in each relationship, and on larger groups. It is generally seen as a form of capital that produces public goods for a common purpose. Social capital has been used to explain the improved performance of diverse groups, the growth of entrepreneurial firms, superior managerial performance, enhanced supply chain relations, the value derived from strategic alliances, and the evolution of communities.
- ⁶² Putnam, R. D., & Feldstein, L. (2004). *Better Together: Restoring the American Community*. New York, NY: Simon & Schuster.
- ⁶³ Putnam, R. D., & Campbell, D. (2010). *American Grace: How Religion Divides and Unites Us*. New York, NY: Simon & Schuster.
- ⁶⁴ Lim, C., & Putnam, R. D. (2009). "Religion, Social Networks, and Life Satisfaction," *American Sociological Review* 75 (6): 914-933.
- ⁶⁵ Monsma, S.V. (2007). "Religion and Philanthropy: Giving and Volunteering: Building Blocks for Civic Responsibility." *Interdisciplinary Journal for Research on Religion*, http://www.religjournal.com/articles/article_view.php?id=19
- ⁶⁶ Ibid.
- ⁶⁷ C. D. Batson (2012). "A History of Prosocial Behavior Research: C. Daniel Batson," Chapter 12, *Handbook of the History of Social Psychology*. A. W. Kruglanski & Wolfgang Stoebe (Eds).
- ⁶⁸ See the mission of the Baylor ISR's Program on Prosocial Behavior: Criminology has always been only "half" of a field. Its focus is limited to antisocial behavior, with almost no attention ever given to prosocial activities. That is, criminologists ask why people do, or do not, commit crimes; they rarely ask why people do, or do not do, good deeds. The Program on Prosocial Behavior emphasizes the neglected "half" of human behavior. For example, why do so many people generously give money to help those in need? Or, why do most of the people reared in 'bad' neighborhoods turn out not only to be law-abiding but to be good citizens? Indeed, how are people transformed from antisocial patterns of behavior to positive patterns? In keeping with the overall mission of ISR, the role of religion in promoting prosocial behavior will be the central concern. Not only the role of religiousness in guiding individual behavior but the role of faith-based groups and organizations in fostering prosocial activities. <https://www.baylorisr.org/programs-research/program-on-prosocial-behavior/>
- ⁶⁹ Stark, R. (2014). *How the West Won: The Neglected Story of the Triumph of Modernity*. Wilmington, DE: ISI Books; Stark, R. (1997). *The Rise of Christianity: How the Obscure, Marginal Jesus Movement Became the Dominant Religious Force in the Western World in a Few Centuries*. Princeton, NJ: Princeton Press; Wilken, R.L. (2019). *Liberty in the Things of God: The Christian Origins of Religious Freedom*. New Haven, CT: Yale University Press.
- ⁷⁰ Jang, S.J., & Johnson, B.R (2004). "Explaining Religious Effects on Distress Among African Americans. *Journal for the Scientific Study of Religion*, 43(2), 239-260; Johnson, B.R., Larson, D.B., Jang, S.J., & Li, S. (2000); "Who Escapes the Crime of Inner-Cities: Church Attendance and Religious Salience Among Disadvantaged Youth," *Justice Quarterly*, 17: 701-715; Johnson, B.R., Jang, S.J., Larson, D.B., & Li, S. (2000). "The 'Invisible Institution' and Black Youth Crime: The Church as an Agency of Local Social Control," *Journal of Youth and Adolescence*, 29:479-498; Putnam, R.D. and Campbell, D.E. (2010). *American Grace: How Religion Divides and Unites Us*. New York, NY: Simon & Schuster.
- ⁷¹ Krohn, M. D., & Thornberry, T. P. (1993). Network theory: A model for understanding drug abuse among African-American and Hispanic youth. In *Drug Abuse Among Minority Youth: Advances in Research and*
-

Methodology, eds. De La Rosa, M. R. and Adrados, J. R. NIDA Research Monograph 130. U.S. Department of Health and Human services.

⁷² Johnson, B.R. *Objective Hope - Assessing the Effectiveness of Religion and Faith-Based Organizations: A Systematic Review of the Literature*, Institute for Studies of Religion (ISR Research Report), Baylor University (2006) <http://www.BAYLORISR.org/publications/reports/>; *The Great Escape: How Religion Alters the Delinquent Behavior of High-Risk Adolescents*. Institute for Studies of Religion (ISR Research Report), Baylor University (2006) <http://www.BAYLORISR.org/publications/reports/>.

⁷³ Johnson, B.R. & Siegel, M. (2006). *The Role African American Churches in Reducing Crime Among Black Youth*. Institute for Studies of Religion (ISR Research Report), Baylor University, www.isreligion.org/publications/reports.

⁷⁴ Regnerus, M. D. (2003). "Linked Lives, Faith, and Behavior: An Intergenerational Model of Religious Influence on Adolescent Delinquency." *Journal for the Scientific Study of Religion* 42: 189-203; Petts, R. (2009). "Trajectories of Religious Participation from Adolescence to Young Adulthood," *Journal for the Scientific Study of Religion* 48: 552-571.

⁷⁵ Johnson, B. R. (2011). *More God, Less Crime: Why Religion Matters and How it Could Matter More*. Conshohocken, PA: Templeton Press.

⁷⁶ VanderWeele, T. J. (2017). On the Promotion of Human Flourishing. *Proceedings of the National Academy of Sciences*, 114(3): 8148-8156, DOI.org/10.1073/pnas.01702996114; Makridis, C. (2019). "Human Flourishing and Religious Liberty: Evidence from Over 150 Countries, 2006-2018," SSRN, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3472793

⁷⁷ Lim, C., & Putnam, R. D. (2010). Religion, Social Networks, and Life Satisfaction. *American Sociological Review*, 75(6), 914–933. <https://doi.org/10.1177/0003122410386686>; McClure, J. M. (2013). Sources of Social Support: Examining Congregational Involvement, Private Devotional Activities, and Congregational Context. *Journal for the Scientific Study of Religion*, 52(4), 698–712.

⁷⁸ Cnaan, R.A. (2008). *The Invisible Caring Hand: American Congregations and the Provision of Welfare*. New York: NYU Press; Johnson, B.R. & Wubbenhorst, W. (2017). "Assessing the Faith-Based Response to Homelessness in America: Findings from Eleven Cities." Program on Prosocial Behavior, Baylor University.

⁷⁹ Koenig, H.G. (2015). Religion, spirituality, and health: A Review and Update. *Advances in Mind-Body Medicine*, 29(3): 19–26; Rosmarin, D.H. & Koenig, H.G. (2020). *Handbook of Spirituality, Religion, and Mental Health*. 2nd Edition, Academic Press.

⁸⁰ McCullough, M.E., Bono, G. & Root, L.M. (2005). Religion and Forgiveness (p. 394-411). In R.F. Paloutzian & C.L. Park (Eds.), *Handbook of the Psychology of Religion and Spirituality*, The Guilford Press; McCullough, M.E. (2008). *Beyond Revenge: The Evolution of the Forgiveness Instinct*. Jossey-Bass.

⁸¹ Lam, P.-Y. (2002). As the Flocks Gather: How Religion Affects Voluntary Association Participation. *Journal for the Scientific Study of Religion*, 41(3), 405–422; Wilson, J., & Musick, M. (1997). Who Cares? Toward an Integrated Theory of Volunteer Work. *American Sociological Review*, 694–713.

⁸² Johnson, B. R. (2011). *More God, Less Crime: Why Religion Matters and How it Could Matter More*.

Conshohocken, PA: Templeton Press; Kelly, P.E., Polanin, J. Johnson, B.R., & Jang, S.J. (2015). Religion, Delinquency, and Drug Use: A Meta-Analysis, *Criminal Justice Review*, 40: 505-523.

⁸³ Hallett, M., Hays, J., Johnson, B., Jang, S., & Duwe, G. (2016). *The Angola Prison Seminary: Effects of Faith-Based Ministry on Identity Transformation, Desistance, and Rehabilitation*. Routledge. <https://doi.org/10.4324/9781315648309>

⁸⁴ Edgell, P. (2013). *Religion and Family in a Changing Society*. Princeton University Press; Mahoney, A., Pargament, K. I., Murray-Swank, A., & Murray-Swank, N. (2003). Religion and the Sanctification of Family Relationships. *Review of Religious Research*, 220–236.

⁸⁵ Bahr, S. J., & Hoffmann, J. P. (2008). Religiosity, Peers, and Adolescent Drug Use. *Journal of Drug Issues*, 38(3), 743–769; Bahr, S. J., & Hoffmann, J. P. (2010). Parenting style, religiosity, peers, and adolescent heavy drinking. *Journal of Studies on Alcohol and Drugs*, 71(4), 539–543.

⁸⁶ Lee, M.T., Johnson, B.R., Pagano, M.E., Post, S.G., & Leibowitz, G.S. (2017). From Defiance to Reliance: Spiritual Virtue as a Pathway towards Desistance, Humility, and Recovery among Juvenile Offenders, *Spirituality in Clinical Practice*, 4 (3): 161–175.

⁸⁷ Benjamins, M. R., & Brown, C. (2004). Religion and preventative health care utilization among the elderly. *Social Science & Medicine*, 58(1), 109–118.

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- ⁸⁸ Ellison, C.G., & Henderson, A.K. (2011). Religion and Mental Health: Through the Lens of The Stress Process. In A. Blasi (Ed.), *Toward a Sociological Theory of Religion and Health* (pp. 11–44). Brill; Makridis, C., Johnson, B.R., & Koenig, H.G. (2020). Does Religious Affiliation Protect People’s Well-Being? Evidence from the Great Recession After Correcting for Selection Effects. *SSRN* <http://booksandjournals.brillonline.com/content/books/10.1163/ej.9789004205970.i-277.7>; Park, C. L. (2005). Religion as a meaning-making framework in coping with life stress. *Journal of Social Issues*, 61(4), 707–729.
- ⁸⁹ Hummer, R. A., Rogers, R. G., Nam, C. B., & Ellison, C. G. (1999). Religious Involvement and US Adult Mortality. *Demography*, 36(2), 273–285; VanderWeele, T. J., Yu, J., Cozier, Y. C., Wise, L., Argentieri, M. A., Rosenberg, L., Palmer, J. R., & Shields, A. E. (2017). Attendance at Religious Services, Prayer, Religious Coping, and Religious/Spiritual Identity as Predictors of All-Cause Mortality in the Black Women’s Health Study. *American Journal of Epidemiology*, 185: 515–522.
- ⁹⁰ Grim, B. & Grim, M. (2016). “The Socio-Economic Contributions of Religion to American Society: An Empirical Analysis.” *Interdisciplinary Journal of Research on Religion*. http://www.religjournal.com/articles/article_view.php?id=108
- ⁹¹ Chambers, Oswald (2017). *My Utmost for His Highest*. Classic Edition. (see June 27th entry). Grand Rapids, MI: Our Daily Bread Publishing.
- ⁹² Ronel, N. and Elisha, E. (2011). “A Different Perspective: Introducing Positive Criminology.” *International Journal of Offender Therapy and Comparative Criminology* 55(2):305-325. <http://dx.doi.org/10.1177/0306624X09357772>
- ⁹³ Ronel, N. and Segev, D. (eds). 2015. *Positive Criminology*. New York: Routledge.
- ⁹⁴ Braithwaite, J. (2005). “Between Proportionality & Impunity: Confrontation, Truth, Prevention.” *Criminology* 43:283-305. <http://dx.doi.org/10.1111/j.0011-1348.2005.00009.x>; Best, D. and Aston, E. (2015). “Long-term Recovery from Addiction: Criminal Justice Involvement and Positive Criminology.” Pp. 177-193 in *Positive Criminology*, edited by Natti Ronel and Dana Segev. New York: Routledge.
- ⁹⁵ For a creative example, see Cullen, F. T., J. Sundt, and J. Wozniak, J. 2001. “The Virtuous Prison: Toward a Restorative Rehabilitation.” Pp. 265-286 in H. N. Pontell and D. Shichor (eds.), *Contemporary Issues in Crime and Criminal Justice: Essays in Honor of Gilbert Geis*. Upper Saddle River, NJ: Prentice Hall.
- ⁹⁶ Thompson, G. J. and J. B. Jenkins, J.B. (1993). *Verbal Judo: The Gentle Art of Persuasion*. William Morrow and Company, Inc, New York.
- ⁹⁷ Hallett, M., Hays, J., Johnson, B.R., Jang, S.J., and Duwe, G. (2015). “First Stop Dying”: Angola’s Christian Seminary as Positive Criminology.” *International Journal of Offender Therapy and Comparative Criminology*. <http://dx.doi.org/10.1177/0306624X15598179>
- ⁹⁸ Bales, W.D. & Mears, D.P. (2008). “Inmate Social Ties and the Transition to Society: Does Visitation Reduce Recidivism,” *Journal of Research in Crime and Delinquency* 45: 287-321; Minnesota Department of Corrections (2011). *The Effects of Prison Visitation on Offender Recidivism* St. Paul, MN: MDOC.
- ⁹⁹ Duwe, G. & Johnson, B.R. (2016). “The Effect of Prison Visits from Community Volunteers on Offender Recidivism.” *The Prison Journal* 96(2): 279-303.
- ¹⁰⁰ Braithwaite, J. 2005. “Between Proportionality & Impunity: Confrontation, Truth, Prevention.” *Criminology* 43:283-305. <http://dx.doi.org/10.1111/j.0011-1348.2005.00009.x>
- ¹⁰¹ Maruna, S. 2001. *Making Good: How Ex-Convicts Reform and Rebuild Their Lives*. Washington, DC: American Psychological Association. <http://dx.doi.org/10.1037/10430-000>
- ¹⁰² Maruna, S. and T. P. LeBel. 2003. “Welcome Home? Examining the ‘Reentry Court’ Concept from a Strengths-based Perspective.” *Western Criminology Review* 4:91-107.
- ¹⁰³ https://www.ptsd.va.gov/understand/common/common_adults.asp
- ¹⁰⁴ https://www.ptsd.va.gov/understand/common/common_adults.asp
- ¹⁰⁵ Kessler, R.C. and Wang, P.S. (2008). “The Descriptive Epidemiology of Commonly Occurring Mental Disorders in the United States.” *Annual Review of Public Health* 29:115-129.
- ¹⁰⁶ Specifically, the *p*-value associated with the (time x group) interaction effect was slightly larger than the significance level ($p = .055 > .05$; see Table C1)
- ¹⁰⁷ Since the five items of religiosity were standardized (i.e., converted into z score) before summing them, religiosity ranged from -10.29 to 5.53 in the treatment group and from -10.86 to 5.53 in the control group. The control group’s average was negative as it was below the overall average, zero.
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¹⁰⁸ The treatment and control groups did not differ in the perceived closeness to God at the pretest (3.74 and 3.52), but the average significantly increased in both groups (3.97 and 3.70) with the treatment group's average being significantly higher than the control group's at the posttest. The treatment group was more religious in terms of all three measures of objective religiosity at the pretest and remained so at the posttest (see Table C1).

¹⁰⁹ It is important to note that these findings cannot firmly establish causal ordering among these variables. The interpretation of the results described above is feasible, but alternative interpretations are possible as well. For example, one potential causal order (the one implied here) flows from the CTHP to the primary and secondary outcomes (e.g., forgiveness, resilience, etc.), and then eventually to PTSD, complicated grief, negative emotional states, suicidal ideation, and intended aggression. This causal ordering is what was assumed here. However, it is also possible that the CTHP shapes the negative consequences of trauma, which are subsequently linked with the primary and secondary outcomes. The findings summarized under Research Question #4 below provide additional information, but further research will be required to fully address this issue.

¹¹⁰ Although this finding may come across as inconsistent with the earlier finding of a significant difference between the pretest and posttest average of suicidal ideation and intended aggression among the treatment group inmates (see Section VI-A), it is not necessarily so since the difference is attributable to different sample size. That is, the comparisons between the pretest and posttest averages of suicidal ideation and intended aggression were based on a larger number of participating inmates ($n = 175$ and 157 , respectively), thereby increasing its statistical power, compared to the present analysis ($n = 60$ and 50).

¹¹¹ The average difference between Times 3 and 4 (3.22 vs. 3.47) was found statistically not significant ($p = .569$).

¹¹² As noted above for Research Question #2, we could not fully establish causal ordering among these variables. However, reversed causation and even reciprocal relationships are possible between the primary/secondary outcomes and the negative consequences of trauma. Thus, additional research should attempt to replicate and extend these findings.

¹¹³ While we assumed that the CTHP generated first the anticipated program outcomes, which in turn reduced the negative consequences of trauma, it could have been the other way around: that is, the program could have first reduced the trauma consequences, which then increased or decreased the program outcomes. We could not determine which occurred first because the program outcomes and the negative consequences were measured at the same time (i.e., posttest). It would have enabled us to establish causal relationship between the program outcomes and the consequences of trauma if one or more surveys were conducted after the posttest.

¹¹⁴ Even though these results cannot firmly establish causal relationships among these variables, they do strongly suggest that such relationships may exist.

¹¹⁵ Ronel N. & Elisha, E. (2011). "A Different Perspective: Introducing Positive Criminology." *International Journal of Offender Therapy and Comparative Criminology* 55(2): 305-325.

¹¹⁶ Braithwaite, J. (2009). Restorative Justice, pp. 497-506, in Schneider, H.J. (ed.) *International Handbook of Criminology*. Berlin: Walter de Gruyter.

¹¹⁷ Johnson, B.R., Lee, M, Pagano, M. & Post, S.G. (2016). "Positive Criminology and Rethinking the Response to Adolescent Addiction: Evidence on the Role of Social Support, Religiosity, and Service to Others." *International Journal of Criminology and Sociology* 5: 75-85.

¹¹⁸ Beck, A. et. al., (1993). *Survey of State Prison Inmates, 1991*. U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, NCJ-136949.

¹¹⁹ Bales, W.D. & Mears, D.P. (2008). "Inmate Social Ties and the Transition to Society: Does Visitation Reduce Recidivism?" *Journal of Research in Crime and Delinquency* 45(3): 287-321.

¹²⁰ Duwe, G., & Johnson, B.R. (2016). "The Effect of Prison Visits from Community Volunteers on Offender Recidivism." *The Prison Journal* 96(2): 279-303.

¹²¹ Statistically speaking, the former was to test whether there was a significant overall change in the average of a variable of interest between the pretest and posttest, whereas the latter had to do with whether there was a significant interaction between the overall change in the average and group membership, which is meant by the column label, "Time x Group".

¹²² This rule of thumb was given by Cohen (see Cohen, J. 1988. *Statistical Power Analysis for the Behavioral Sciences*. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Associates).