2024-08-01

Thieves Like Us: The Effectiveness Of A Positive Psychology Intervention On Compassion Fatigue, Burnout, And The Loss Of Compassion Satisfaction Among Peer Support Specialists

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By

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THESIS

Presented to the Faculty of the Graduate School of

The University of Texas, El Paso

in Partial Fulfillment

of the Requirements

for the Degree of

MASTER OF ARTS

Department of Psychology

THE UNIVERSITY OF TEXAS AT EL PASO

August 2024

Acknowledgements

I am eternally grateful to my mentor, Dr. Field, and to my committee for their expert feedback and recommendations throughout the thesis process. Without their assistance and support, patience, and unyielding faith in me, this thesis would not have been possible.

I would also like to thank Peer Support Specialists for their strength and commitment in battling substance use disorder, and their dedication in helping others achieve long-term recovery.

Lastly, I would like to thank my family for their sacrifice and unwavering belief in my ability to help others. Their continued love and support have been instrumental in my success. I dedicate this thesis to my mother who has bravely battled cancer throughout my graduate journey. She has been a true inspiration to me, and a beacon of strength amidst overwhelming adversity.

Abstract

Two common phenomena of helping professions are compassion fatigue (CF), and decreased compassion satisfaction (CS). Literature on CF and decreased CS focuses on professionals with extensive education, training, and higher compensation. Peer Support Specialists (PSS) are helping professionals providing comparable support to clients while in recovery, and may be more susceptible to CF, decreased CS, and a return to substance use. Methods to impact these outcomes, including positive psychology interventions (PPIs), are worth investigating as they are generally inexpensive, can be tailored, and may reduce turnover and absences. The current study used the PPI, *Using Signature Strengths in a New Way*, to mitigate CF—which is composed of Burnout (BO) and Secondary Traumatic Stress (STS)—and increase CS among PSS while also increasing their self-reported ability to cope in high-risk substance use situations. I hypothesized (H1) that PSS who participated in the PPI, *Using Signature Strengths in a New Way*, would decrease BO and STS, and increase CS from baseline to one-week follow-up as compared to PSS who were given a work-focused writing exercise. I also hypothesized (H2) that PSS would increase situation-specific coping self-efficacy (SE) in high-risk substance use situations when compared to the control. Results indicated no statistically significant interaction effect between time and treatment assignment for BO [$F(1,130) = 0.30$, $p = .67$, partial $\eta^2 = .00$]; CS [$F(1,130) = 0.12$, $p = .78$, partial $\eta^2 = .00$]; STS [$F(1,130) = 0.52$, $p = .50$, partial $\eta^2 = .00$]; and SE [$F(1, 130) = 0.97$, $p = .49$, partial $\eta^2 = .010$]. Future studies should strive to create PPIs and self-report measures tailored to the PSS population. Ideally, a mixture of both PPIs (strengths use) and SUD constructs (relapse prevention strategies) would be delivered with greater frequency and extensive follow-up periods (1-year). Despite null findings, the study expands visibility of PSS, PPIs, and SUD in the wider scientific literature.

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Chapter 1: Introduction

Of the 21.2 million individuals suffering from substance use disorder (SUD), a paltry 11% receive treatment at a hospital or rehabilitation facility (Stanojlović & Davidson, 2021). Of this percentage, retention remains low among those who initiate treatment, and are connected to services (Stanojlović & Davidson, 2021). The most troubling issues when utilizing standard practices for substance use disorder treatment are attrition and disengagement, which can compromise the process of recovery and may lead to fatal outcomes (Stanojlović & Davidson, 2021). Additionally, 85% or more of individuals relapse before the end of the first year of treatment (Sinha, 2011).

In response to this substance use crisis, Peer Support Specialists (PSS) have come to prominence as the behavioral health field has shifted toward recovery-oriented services (Jenkins et al., 2020). In fact, by 1999, Georgia had incorporated Peer Support Specialists for mental health as a service billable to Medicaid, and now, 42 states offer both training and certifications for Peer Support Specialists with 11 states offering Peer Support Specialist substance use disorder services (Chapman et al., 2018). In addition, Peer Support Specialists are found globally through inpatient or outpatient services, within community centers, and via social networks (Fortuna et al., 2022). Peer Support Specialist services include direct (crisis intervention, care management, resource allocation, group facilitation, and client advocacy) and indirect (administrative tasks, policy work, and education awareness) support (Mowbray et al., 2021).

Peer Support Specialists are individuals who offer social or emotional support through shared lived experience, and who self-identify as having similar challenges to their clients such as mental health, social, psychological, and medical difficulties (Fortuna et al., 2022). As helping professionals, Peer Support Specialists play a critical role in addressing low levels of treatment

engagement and retention among individuals in recovery, and help reduce rates of relapse (Stanojlović & Davidson, 2021). Peer Support Specialists offer beneficial aid to those suffering from substance use disorder, and enhance treatment (Tracy & Wallace, 2016). The aid Peer Support Specialists provide to clients is primarily based on the tenets of respect, support, empowerment, hope, and advocacy (Jenkins et al., 2020). As a result of this client engagement, Peer Support Specialists can improve their clients' alliance with treatment providers, facilitate utilization of available supports, and reduce relapse rates (Tracy & Wallace, 2016). In addition, Peer Support Specialists strengthen clients' treatment adherence, program engagement, motivation, self-efficacy, retention, and long-term recovery (SAMSHA, 2023).

In a literature review on Peer Support Specialists within the substance abuse sphere, Peer Support Specialists provided an integral piece to a client's long-term sobriety (Shalaby & Agyapong, 2020). Research showed that two critical predictors of recovery were immersion in peer-support groups and activities, and engagement in the community (Shalaby & Agyapong, 2020). In fact, results from a randomized controlled trial showed that using a Peer Support Specialist model and a socially focused treatment—the addition of a single non-drinking friend to the user's social network—increased abstinence by 27% with continued gains at 15 months (Shalaby & Agyapong, 2020).

Although Peer Support Specialists facilitate a quantifiable change in their client's journey towards recovery, Peer Support Specialists face numerous challenges. Peer Support Specialists continue to face adversity in the field, and may suffer from workplace stigma, limited professional mobility, lack of workplace accommodations, lower pay, and client-staff boundary issues (Chapman et al., 2018). In addition, Peer Support Specialists found full-time employment

challenging, citing dilemmas with their own recovery, and a scarcity of 40-hour positions (Chapman et al., 2018).

While the problems of workplace stigma and lower rates of pay are formidable, Peer Support Specialists face even more pressing issues. Peer Support Specialists working in overdose settings are repeatedly exposed to trauma and may put themselves at risk of overdose (Mamdani et al., 2022). Research found that Peer Support Specialists often felt "ragged", experienced burnout, and were unable to disconnect from their work as their personal life intertwined with the community that they served (Mamdani et al., 2022). In fact, shared life experiences with their clients may leave Peer Support Specialists more susceptible to mental health problems and physical harm (Mamdani et al., 2022). In addition, helping professionals who care for others may inevitably take on the traumas of those they help (Circenis & Millere, 2011).

Thus, when speaking of the roles of Peer Support Specialists in the context of substance use disorder treatment, and the larger sphere of the helping professions, it is important to discuss relapse. Relapse is the disintegration of efforts or strategies made by clients in addressing identified or unwanted behaviors (Marlatt & George, 1984), and prevention is critical. The Relapse Prevention (RP) model was formulated by Marlatt and Gordon and envisions relapse as a longitudinal phenomenon (1985). It was designed as a client-specific program to combat addictive behaviors through abstinence or behavior modification (Marlatt & George, 1984). The Relapse Prevention model is based on social cognitive psychology, and states that individuals who enact a behavioral change, such as substance use abstinence, should exhibit greater self-efficacy the longer they maintain sobriety (Larimer et al., 1999).

The Relapse Prevention Model

A central tenet of the Relapse Prevention model is the strength of an individual's coping response to outside influences, or relapse factors, such as covert antecedents and immediate determinants (Larimer et al., 1999). Covert antecedents include lifestyle imbalances, urges, and cravings, and immediate determinants include the abstinence violation effect (lapsing into an identifiable unwanted behavior), outcome expectancies (the user's tendency to focus on the positive versus the negative consequences of a substance use behavior), coping skills, and high-risk situations (Larimer et al., 1999). Emotional states both positive (celebrations, and familiar substance use cues) and negative (boredom, anger, anxiety, and depression) all contribute to relapse (Larimer et al., 1999). In high-risk situations, those with greater self-efficacy were less likely to relapse, while those with less effective coping responses were more likely to engage in patterns of risky behavior (Larimer et al., 1999).

The Relapse Prevention model focuses on an individual's situational confidence in the presence of various drugs, the influences of both covert antecedents and immediate determinants, and the role they play in relapse (Larimer et al., 1999). Similarly, the eight-item, Drug Taking Confidence Questionnaire (DTCQ-8) gauged a client's confidence when faced with high-risk scenarios involving various drugs (Sklar & Turner, 1999). The DTCQ-8 incorporated eight high-risk situations: Unpleasant Emotions, Physical Discomfort, Pleasant Emotions, Testing Personal Control, Urges and Temptations to Use, Conflict with Others, Social Pressure to Use, and Pleasant Times with Others (Sklar & Turner, 1999). Treatment providers have used this measure to gather a more global assessment of their client's confidence in their ability to abstain from drug use in high-stress relapse situations (Sklar & Turner, 1999). Given the overlapping nature of the DTCQ-8 with its identification of eight high-risk / relapse situations (Sklar & Turner, 1999),

and the Relapse Prevention model with its situational, interpersonal, and individual coping responses (Larimer et al., 1999), the Relapse Prevention model and the DTCQ-8 are appropriate measures to assess a population of individuals in ongoing recovery.

Compassion Fatigue, Compassion Satisfaction, and Burnout

Compassion satisfaction (CS) is the experience of pleasure when providing effective assistance or help (Stamm, 2010). Compassion satisfaction correlates positively with resilience, and the ability to grow and learn (Dehlin & Lundh, 2018). Research shows that facilitating the growth of compassion satisfaction relies heavily on individuals to engage in their own self-care, such as regular exercise, a healthy diet, sufficient rest, communing with nature, and pursuing interests beyond the domain of work (Dehlin & Lundh, 2018). The cultivation of a work-life balance is key (Dehlin & Lundh, 2018).

However, helping professionals may have difficulty obtaining compassion satisfaction, and may end up suffering from compassion fatigue instead. Studies have shown that 66.9% (Koutra et al., 2021) to 93% (Erbe, 2022) of mental health professionals have experienced compassion fatigue. Compassion fatigue was first described by Joinson in 1992 as work-related depression accompanied by feelings of disillusionment, fatigue, and worthlessness (Circenis & Millere, 2011). A more contemporary definition of compassion fatigue is a reduction in an individual's ability to provide empathic care due to the unforgiving nature of their work, and exposure to client trauma (Mamdani et al., 2022).

Compassion fatigue affects several domains: cognitive (apathy, disorientation), emotional (anxiety, numbness), behavioral (withdrawal, irritability), spiritual (loss of purpose, lack of self-satisfaction), somatic (dizziness, rapid heartbeat), personal relations (isolation from others, interpersonal conflicts), and work performance (Ondrejková & Halamová, 2022). Some factors

that are typically associated with compassion fatigue include low job satisfaction, lack of recognition, poor managerial support, highly repetitive tasks, inadequate periods of rest, and heavy workloads (Mamdani et al., 2022). Those experiencing compassion fatigue may also endure persistent tension, ruminative preoccupation, hypervigilance, irritability, and outbursts of anger (Rossi et al., 2012).

In 2009, B.H. Stamm conceptualized compassion fatigue to include burnout and secondary traumatic stress. Burnout is the diminished capacity of the helping professional to perform effectively due to feelings of hopelessness, general fatigue, frustration, depression, and anger while secondary traumatic stress encompasses fear-based, work-related trauma (Stamm, 2009). Although secondary traumatic stress and burnout may share some overlap, they remain distinct constructs (Stamm, 2009).

Secondary traumatic stress, a component of compassion fatigue, often has a sudden onset, leading to symptoms that mirror post-traumatic stress disorder (Sodeke-Gregson et al., 2013). Professionals suffering from secondary traumatic stress may become preoccupied with their clients' past traumas, and feel both exhausted and trapped (Stamm, 2010). This trauma may manifest simply through the act of assistance to their local communities, individual clients, or crisis interventions on a larger scale (Stamm, 2010). The nature and severity of the trauma experienced by these helping professionals will vary based on the diverse experiences of their clientele, and may result in fear, problematic sleep issues, moments of intrusive imagery, and an avoidance of traumatic material (Stamm, 2010). A study among mental health providers showed that 70.2% experienced secondary traumatic stress symptoms (Kanno, 2010). This led helping professionals to consider alternatives outside of their field which increased job vacancies, and left organizations struggling to adequately meet the needs of their clientele (Kanno, 2010).

Burnout is another component of compassion fatigue. Burnout is a result of prolonged stress, and manifests as mental, physical and emotional exhaustion (Circenis & Millere, 2011). Burnout diminishes physical as well as emotional well-being, creating problematic issues for sleep, instances of neck and back pain, bouts of depression, anxiety, substance use, and alcohol consumption (Morse et al., 2012). During burnout, individuals may encounter physical issues as well as negative feelings, including despair, hopelessness, detachment, cynicism, and apathy (Circenis & Millere, 2011). Ultimately, burnout negatively alters the helping professional's interpersonal relationships with clients and facilitates a deleterious change to the helper's self-image (Circenis & Millere, 2011). These characteristics of burnout can be quantified using the Maslach Burnout Inventory (Circenis & Millere, 2011). This measure quantifies burnout through markers of emotional exhaustion, depersonalization, and a reduction in personal accomplishment (Circenis & Millere, 2011). Researchers found that 21% to 67% of mental health professionals are afflicted with high levels of burnout (Morse et al., 2012), and significant increases in burnout were found for every year spent working in mental health (Rossi et al., 2012).

The debilitating effects of burnout on the helping professional encompasses ailments both physical and psychological (Circenis & Millere, 2011) with a considerable percentage of helping professionals suffering from the onset of burnout (Morse et al., 2012). Studies examining the elements most responsible for burnout can be seen across contemporary literature. Burnout among social workers stated that the largest contributors to burnout include large caseloads, lack of clarity in job roles, and high levels of bureaucracy (Vîrgă et al., 2020). In a study of 7,500 full-time employees, the five most prevalent causes of burnout were: unmanageable workload, unreasonable time pressure, lack of role clarity, unfair treatment at work, and lack of communication and support from their manager (Moss, 2020).

Furthermore, various models offer insight into the conditions that contribute to burnout. In the Job Demands-Control Model, burnout is caused by high job demands and low autonomy (Rupert et al., 2015). In contrast, the Job Demands-Resources Model cites a lack of professional development, supervision, and feedback (Rupert et al., 2015). Finally, the Conservation of Resources Model posits that individuals seek to acquire and maintain resources, and when these are lost, or threatened, burnout may result (Rupert et al., 2015). The characteristics associated with stressful jobs and burnout are consistent with the work experiences of Peer Support Specialists. As helping professionals, Peer Support Specialists may be prone to unmanageable workloads through diverse and ever-changing roles (Shalaby & Agyapong, 2020).

Interventions

Burnout Interventions

To reiterate, burnout is a prevalent condition among helping professionals, leading to negative outcomes: depression, anxiety, back pain, problems with sleep, alcohol consumption, impaired memory, diminished well-being, and negative feelings about clients (Morse et al., 2012). Despite the prevalence of burnout, a review of the literature has produced mostly narrative reviews about burnout interventions (Dreison et al., 2018). To expand the contemporary scientific literature, a meta-analysis of burnout interventions among 1,894 helping professionals from 1980 to 2015 was conducted (Dreison et al., 2018).

The meta-analysis by Dreison et al. (2018) indicated that the types of burnout interventions fell into three categories: organization-directed, person-directed, or a combined approach. Research showed that organization-directed interventions (co-worker support groups, job training, and education) improve elements of the work environment that contribute to burnout—poor communication, work overload, or insufficient resources (Dreison et al., 2018). In

addition, researchers utilized person-directed interventions (cognitive behavioral principles, cognitive restructuring, rational emotive training, meditation, and mindfulness by) to expand employees' coping skills, relaxation techniques, and to increase social support (Dreison et al., 2018). Lastly, combined approaches are multi-faceted, targeting both the individual and the organization which is best exemplified by stress workshops bolstered by an ongoing consultation (Dreison et al., 2018).

The meta-analysis measured burnout at both the outset and conclusion (Dreison et al., 2018). Research showed that effect sizes with respect to composite scores for burnout were small, significantly different from zero, and positive (Hedges $g = 0.13$ and $p = 0.006$) across all intervention types (Dreison et al., 2018). However, the results of these studies were inconsistent, as the effect size for some interventions grew over time, while others remained constant (Dreison et al., 2018). Research concluded that the benefits conferred on participants of the burnout interventions endured (Dreison et al., 2018). In addition, one intervention type may be more applicable than others in combating certain elements of burnout (Dreison et al., 2018). For example, person-directed interventions were found to be better for emotional exhaustion while organization-directed interventions were better for personal accomplishment (Dreison et al., 2018). Future research should implement more and varied intervention approaches with a focus on addressing unique staff and organizational needs (Dreison et al., 2018).

Positive Psychology Interventions

Positive psychology may offer a wealth of novel approaches to the wider scientific literature on compassion fatigue and compassion satisfaction interventions, and may help alleviate the challenges faced by Peer Support Specialists. In their landmark article published in the *American Psychologist*, Seligman and Csikszentmihalyi (2000) suggested that the field of

psychology should undergo a paradigm shift and adopt fundamental positive psychology principles—focus on a person's positive, inherent qualities rather than on the repair and magnification of the negative aspects of an individual. Positive psychology is rooted in feelings of contentment, well-being, satisfaction in past events, happiness and flow in the present, and hope with optimism for future events (Seligman & Csikszentmihalyi, 2000). At the individual level, positive psychology translates into a capacity for love, mindfulness, courage, forgiveness, originality, wisdom, perseverance, and future-mindedness (Seligman & Csikszentmihalyi, 2000). The general principles of positive psychology may offer innovative approaches to curtailing work-related stressors among Peer Support Specialists.

Looking at positive psychology interventions and their effectiveness more generally, we see promise. A meta-analysis investigating the effectiveness of positive psychology interventions included a broad definition of positive psychology interventions (Carr et al., 2020). This meta-analysis utilized Martin Seligman's *Positive Emotion Engagement Relationships Meaning and Accomplishment* (PERMA) which includes the savoring of pleasurable experiences, enhancing relationships, supporting accomplishments, engaging in skillful activity, and promoting meaning and purpose (Carr et al., 2020). Results indicated that the positive psychology interventions (average duration six weeks over ten sessions) had small to large effects across a range of factors. Positive psychology interventions that had a significant effect on well-being included *Savoring* ($g = 0.77$), *Optimism and Hope* ($g = 0.51$), and *Using Signature Strengths* ($g = 0.25$). Positive psychology interventions were also found to increase strengths: *Meaning Making* ($g = 0.59$) and *Using Signature Strengths* ($g = 0.48$). In addition, positive psychology interventions were helpful when addressing depression: *Savoring* ($g = -0.70$), *Forgiveness* ($g = -0.70$), *Goal Setting* ($g = -0.37$), and *Meaning Making* ($g = -0.22$). Results from the meta-analysis showed that

the gains made by participants were maintained at three-month follow-ups, and concluded that positive psychology interventions are both effective and have extensive evidence-based outcomes (Carr et al., 2020).

Interventions utilizing character strengths, such as *Using Signature Strengths in a New Way*, may be used to address the challenges faced by Peer Support Specialists. The research on character strengths is fundamental to positive psychology, and was developed to investigate optimal human functioning and increased well-being (Littman-Ovadia et al., 2021). A list of 24-character strengths that defined six virtues was created (Peterson & Seligman, 2004). The identification of character strengths, the classification of virtues, and the quantifying of these constructs all attempt to capture universally valued positive traits (Littman-Ovadia et al., 2021). The estimation of character strengths is most popularly gauged using the Values in Action: Inventory of Strengths, or the VIA-IS (Littman-Ovadia et al., 2021).

Table 1

VIA-IS Character Strengths and Virtues Classification

VIRTUES	CHARACTER STRENGTHS (CS)
Wisdom and Knowledge	Creativity
	Curiosity
	Judgment
	Love of Learning
	Perspective
Courage	Bravery
	Perseverance
	Honesty
	Zest
Humanity	Love
	Kindness
	Social Intelligence
Justice	Teamwork
	Fairness
	Leadership
Temperance	Forgiveness
	Humility
	Prudence
	Self-Regulation
Transcendence	Appreciation of beauty and excellence
	Gratitude
	Hope
	Humor
	Spirituality

The VIA-IS (Table 1) is a measurement scale that assesses 24-character strengths and was created by Martin Seligman et al. (2005). Individuals generally display three to seven of the 24 attributes (Littman-Ovadia et al., 2021). When a signature strength is performed, it should include feelings of excitement and invigoration, and contribute to the feeling of individual fulfillment (Littman-Ovadia et al., 2021). Signature strengths are positive traits that reflect an individual's personality (Niemiec & Pearce, 2021). When an individual engages in the performance of these signature strengths, they contribute to the collective good, and the good of themselves (Niemiec & Pearce, 2021).

Additionally, signature strengths identification helps individuals develop a strengths-based identity, cultivating a sense of self separate from the negativity experienced in everyday life (Senf & Liau, 2012). This process of externalization presents these unfavorable experiences as problems separate from the individual, and therefore, are not considered inherent flaws (Senf & Liau, 2012). Furthermore, when people have knowledge of their strengths and strengths-based goals, their awareness provides a sense of hope and accomplishment (Senf & Liau, 2012).

Signature Strengths Interventions

Seligman et al. (2005) confirmed the effectiveness of character strengths interventions in a study that consisted of a control group, and two experimental groups that used different positive psychology interventions—*Three Good Things in Life* and *Using Signature Strengths in a New Wa*y. The control group was asked to write about early memories daily for a week (Seligman et al., 2005). The *Three Good Things in Life* group wrote about three good things that happened to them daily, and why they thought they had occurred (Seligman et al., 2005). The *Using Signature Strengths in a New Way* group took an online questionnaire that provided feedback on their top five signature strengths (Seligman et al., 2005). Participants were then asked to use those identified strengths in new and different ways for one week (Seligman et al., 2005). Research found that both positive psychology interventions facilitated a decrease in depressive symptoms, and increased happiness at each time point: pretest, post-test, one week, one month, three months, and six months when compared to the control group (Seligman et al., 2005).

Mongrain and Anselmo-Matthews (2012) replicated the Seligman et al. (2005) study to determine if *Three Good Things in Life* and *Using Signature Strengths* exercises would be effective in increasing levels of happiness across a six-month period at five different time points.

All participants were assessed both for baseline levels of happiness and depressive symptoms, and were randomly assigned to four different conditions: *Expectancy Control* (writing about early memories); *Positive Placebo* (writing about positive early memories); *Three Good Things* (writing about three good things); or *Using Signature Strengths in a New Way* (identifying personal strengths). The research showed a significant main effect—the participants' self-reported levels of happiness increased over time (Mongrain & Anselmo-Matthews, 2012). The results also indicated a significant time-by-condition interaction that produced changes in happiness over time (Mongrain & Anselmo-Matthews, 2012). In addition, the positive psychology intervention, *Using Signature Strengths*, increased happiness significantly, and decreased depressive symptoms when compared with baseline levels at three time points: one week, one month, and at six months (Mongrain & Anselmo-Matthews, 2012). Positive psychology interventions were found to lead to lasting increases in happiness (Mongrain & Anselmo-Matthews, 2012).

The longitudinal effectiveness of strengths-based interventions–specifically, *Using Signature Strengths in a New Way*–was investigated utilizing a randomized control trial examining the mediating role of strengths knowledge and strengths use (Duan et al., 2018). Participants were assessed for baseline measurements exactly one week before the start of the study (Duan et al., 2018). This pre-test had participants complete a psychological inventory (based off the Cognitive Behavioral Therapy model), and character strengths use was assessed using the Chinese Virtues Questionnaire, and an abbreviated Three-Dimensional Inventory of Character Strengths (Duan et al., 2018). Treatment group participants took part in a 90-minute seminar split across four sections: (1) *Identifying Character Strengths*, (2) *Character Strengths 360*, (3) *Signature Character Strengths*, and (4) *Nominate Goals* (Duan et al., 2018). Control

group participants were assigned to a waiting list (Duan et al., 2018). Following the intervention, participants were asked to use their signature strengths for one week (Duan et al., 2018). Results showed an increase in thriving and decreased emotional symptomology for the intervention group for 12 months, and there were no significant effects found for the control group (Duan et al., 2018).

A meta-analysis consolidated the findings of 14 studies examining the effects of character strength interventions (Schutte & Malouff, 2019). It was hypothesized that strengths-based interventions would increase positive affect, happiness, flourishing, and strengths use, and would decrease negative affect (Schutte & Malouff, 2019). Results showed that character strength interventions had a significant positive impact on positive affect, happiness, life satisfaction, well-being, and flourishing, and decreased depression (Schutte & Malouff, 2019). Lastly, it was found that increased use of signature strengths has positive correlates for academic, professional life, and goal attainment (Schutte & Malouff, 2019).

Character strengths interventions have been shown to have a positive effect on multiple life domains, and may provide additional pathways to alleviating workplace difficulties. Contemporary research examining strengths use in the workplace shows extensive promise. A literature review examined the results of 27 studies on strengths use in the workplace (Miglianico et al., 2019). Results showed that the development and use of strengths are positively associated with both job satisfaction and work performance (Miglianico et al., 2019). In addition, when employees have identified their strengths, and developed them to the point of use in their work environment, performance improved, and they became more proactive (Miglianico et al., 2019). Employees began to adopt more helping behaviors rather than counter-productive ones, and were more creative and adaptable to change when problem-solving (Miglianico et al., 2019). The

review also found that employees experienced more satisfaction, pleasure, pride, joy, enthusiasm, and commitment to work (Miglianico et al., 2019). Strength use encouraged occupational engagement and increased life satisfaction (Miglianico et al., 2019). The identification of strengths, and their application among Peer Support Specialists in their workplace, may mitigate the onset of compassion fatigue and increase compassion satisfaction.

Positive Psychology Interventions in Substance Use Disorder Treatment

To date, scant research has been conducted using positive psychology as a means of intervention or treatment for substance use disorder. The available literature has typically used character strength identification to determine a predisposition to alcoholism (Krentzman, 2013). In a review of the application of positive psychology to substance use, addiction, and recovery, only a single, eight-session pilot study / intervention was identified for a group of UK adolescents that utilized the following positive psychology interventions: gratitude, strength, optimism, relaxation, meditation, resilience, and growth. Results showed that compared to the control group, the experimental group had increased happiness, optimism, positive affect, and improvements in life domains (Krentzman, 2013).

Hypothesis Aims and Objectives

The current research had two primary aims. The first was to focus on alleviating burnout and compassion fatigue, and increasing compassion satisfaction among Peer Support Specialists through the administration of a positive psychology intervention known as *Using Your Signature Strengths in a New Way*. The second aim of this research was to investigate if the positive psychology intervention, *Using Your Signature Strengths in a New Way,* could increase self-reported, situation-specific, coping self-efficacy in high-risk, substance use situations based on the Relapse Prevention Model. I anticipated (H1) that Peer Support Specialists who participated

in the positive psychology intervention, *Using Signature Strengths in a New Way,* would decrease their level of burnout and secondary traumatic stress, and report an increase in compassion satisfaction and situation-specific coping self-efficacy from the baseline measurement to the one-week follow-up. This hypothesis was tested in a randomized controlled pilot study that engaged Peer Support Specialists in an intervention to apply their signature strengths to their job in new and different ways over the course of one week. This was in comparison to Peer Support Specialists who were asked to think, and briefly write about their experiences as Peer Support Specialists. Positive psychology interventions, such as *Using Signature Strengths in a New Way*, may provide a low-cost, effective way to reduce relapse among Peer Support Specialists. It may also facilitate a wider discourse on the use of positive psychology interventions in both burnout and substance use literature, and expand the use of strengths-based positive psychology interventions as a standard, additional enhancement to existing programs combating both burnout and substance use disorder relapse among Peer Support Specialists.

Chapter 2: Method

Participants

The principal researcher, Eugene Lopez, emailed researchers working with Peer Support Specialists via the Consortium on Addiction Recovery Science, PRSS special interest groups, and several Texas Recovery Oriented Services of Care (ROSCs). These ROSCs included Recovery Alliance of El Paso, Texas; Recovery ATX in Austin, Texas; Thrive United in Midland, Texas; Center for Recovery and Resources in Houston, Texas; and Association of Persons Affected by Addiction (APAA) in Dallas, Texas. This email included contact information and a full overview of the present study.

In addition to this circulated email, private social media groups for Peer Support Specialists were utilized for recruitment. A digital recruitment flier was posted within these private groups. This digital flier included a brief outline of the study, inclusion criteria, and a direct link to the study page. Participant involvement was self-selected through materials provided by on-site administrators, or through engagement with social media groups for Peer Support Specialists. Inclusion and exclusion criteria included the following: 1. Participants can be of any ethnicity or gender. 2. Participants must work either part-time or full-time as Peer Support Specialists. 3. Participants must speak English.

Recruitment and data collection began in May 2024, and continued through June 2024. Participants who provided digital informed consent and completed the first portion of the study received a $10 Reward Genius gift voucher. Upon completion of the second and final follow-up, participants received an additional $15 Reward Genius gift voucher as compensation. To specifically address attrition, three follow-up / reminder emails were sent to participants at two-, four-, and six-days post-assessment.

An Internal Review Board protocol ID # 2100607-3 was approved by the IRB board at the University of Texas at El Paso (UTEP) on September 13th, 2023, and was found to meet ethical standards. The protocol was found exempt. Only the principal researcher had access to the study data which was located on a single, password-protected hard drive within the UTEP Latino Alcohol and Health Disparities Research Center.

Measures

Demographics

Demographic information was collected from all participants at the start of the study. This information included: age, gender, annual income, education, ethnicity, employment status (full-time or part-time), length of employment, and the length of substance use abstinence.

Burnout, Secondary Traumatic Stress, and Compassion Satisfaction

To assess burnout, secondary traumatic stress, and compassion satisfaction, all participants in the study engaged with the Professional Quality of Life Scale, version 5 (ProQOL-5) immediately following completion of the demographics questionnaire. The ProQOL-5 is the overall measure of quality that helping professionals experience in relation to their empathic work (Stamm, 2010). It is a complex interplay of helping professionals' exposure to various trauma, their singular personal characteristics, and their overarching work environment (Stamm, 2010). The ProQOL-5 and its subscales can be used to measure compassion fatigue and compassion satisfaction among helping professionals (Stamm, 2010).

The ProQOL-5 is a self-report measure that is comprised of three subscales—compassion satisfaction, burnout, and secondary traumatic stress (Stamm, 2010). The ProQOL-5 contains 30 questions (10 questions per subscale) that incorporate elements of compassion fatigue (burnout and secondary traumatic stress) and compassion satisfaction (Stamm, 2010). Higher scores on

the compassion satisfaction subscale indicate an individual's satisfaction with their ability to provide effective care (Stamm, 2010). Burnout is accompanied by feelings of difficulty in work performance and hopelessness, while work-related secondary traumatic stress results in intrusive imagery, fear, avoidance of traumatic experiences (reminders), and trouble sleeping (Stamm, 2010). The ProQOL-5 and its subscales address factors unique to each constituent (Stamm, 2010). For example, the ProQOL-5 secondary traumatic stress subscale attempts to address fear, while the ProQOL burnout subscale is not concerned with fear (Stamm, 2010). As it pertains to reliability, the ProQOL-5 was found to be a reliable measure—the Cronbach alpha for the burnout subscale was .75, and the alphas for the secondary traumatic stress and compassion satisfaction subscales were .81 and .75, respectively (Ondrejková & Halamová, 2022). For the present study, the values for burnout (pre $\alpha = .75$, post $\alpha = .83$), compassion satisfaction (pre $\alpha = .88$, post $\alpha = .87$), and secondary traumatic stress (pre $\alpha = .83$, post $\alpha = .71$) indicated consistency with previous findings.

Each item on the ProQOL-5 is rated on a 5-point Likert scale that indicates the frequency in the past 30 days that participants have engaged in both positive and negative aspects of helping (Stamm, 2010). The Likert scale ranges from 1 = *Never*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Often*, and 5 = *Very Often* (Stamm, 2010). A sample compassion satisfaction subscale item asks participants to endorse the following statement: *My work makes me feel satisfied* (Stamm, 2010). A sample burnout subscale item includes the statement: *I feel bogged down by my work* (Stamm, 2010). Finally, a sample secondary traumatic stress subscale item includes the statement: *Because of helping, I have felt "on edge" about various things* (Stamm, 2010).

Scoring of the ProQOL-5's three subscales (burnout, secondary traumatic stress, and compassion satisfaction) was as follows. To begin, five of the 10 questions on the burnout

subscale were scored normally while numbers 1, 4, 15, 17, and 29 were reverse scored (Stamm, 2010). For example, if a participant scored a "1" after completing the burnout subscale, they would then change that number to a "5" when tabulating a final score (Stamm, 2010). Likewise, if participants scored a "5", their final score would be "1" (Stamm, 2010). This process of reverse scoring only applied to the burnout subscale (Stamm, 2010).

For both the compassion satisfaction and secondary traumatic stress subscales, participants scored all questions normally. For example, a score of "1" remained "1" (Stamm, 2010). For all three subscales, the total raw score was then converted into three separate t-scores (Stamm, 2010). Overall, scores at or above 57 on any of the subscales would indicate a participant's sense of inadequacy about their current position (burnout), the participant's experience of fear in relation to their workplace (secondary traumatic stress), or an elevated degree of occupational satisfaction (compassion satisfaction; Stamm, 2009). For the burnout subscale, some participants scored in the upper teens, which would indicate confidence in effectively performing duties within their workplace (Stamm, 2009). Conversely, lower numbers on the compassion satisfaction subscale may signal work-related frustration (Stamm, 2009).

Participants engaging with the ProQOL-5 were given the following instructions:

> When you [help] people you have direct contact with their lives. As you may have found your compassion for those you [help] can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a [helper]. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the last 30 days (Stamm, 2010).

Following these instructions, all participants answered the ProQOL-5's 30 items.

Situation-Specific Coping Self-Efficacy / Relapse Potential

All study participants were assessed for situation-specific coping self-efficacy with the Drug Taking Confidence Questionnaire, Eight-Item Version (DTCQ-8) immediately following administration of the ProQOL-5. Researchers Sklar and Turner (1999) formulated an adapted eight-item measure from its original 50-question incarnation (DTCQ-50). The DTCQ-8 is a measurement of an individual's coping self-efficacy and confidence in abstaining from drug and alcohol use in high-risk and relapse situations (Sklar & Turner, 1999). The DCTQ-8 comprises eight categories (high-risk/relapse situations): Unpleasant Emotions (UE), Physical Discomfort (PD), Pleasant Emotions (PE), Testing Personal Control (TPC), Urges and Temptations to Use (UT), Conflict with Others (CO), Social Pressure to Use (SP), and Pleasant Times with Others (PT). Furthermore, the eight categories are divided into two types of situations: personal states and situations involving other people (Sklar & Turner, 1999). Personal states include both emotional and physical feelings and thoughts: UE, PD, PE, TPC and UT. Situations involving other people include CO, SP, and PT (Sklar & Turner, 1999).

The DTCQ-8 has substantial overall internal consistency ($\alpha = .98$; for this study, pre $\alpha = .93$, post $\alpha = .93$), and accounts for 95% of the variance in total DTCQ-50 scores (Sklar & Turner, 1999). According to Sklar and Turner (1999), the eight subscales demonstrate high reliability with alphas ranging from .80 to .93 as follows: UE (.95), PD (.80), PE (.89), TPC (.90), UT (.87), CO (.94), SP (.93), and PT (.88). In the initial analysis of the DTCQ-8 and its subscales, the research showed good convergent and discriminant validity when compared to similar measures such as the Hopelessness Scale, Stages of Change and Readiness and Treatment Eagerness Scale, Beck Depression Inventory, Symptom Checklist Revised, Drinking-Related Locus of Control Scale, and the Outcome Expectancy Scale (Sklar & Turner, 1999).

Participants engaging with the DTCQ-8 were given the following instructions:

> Listed below are several situations or events in which people use. Imagine yourself as you are right now in each of these situations. Indicate on the scale provided how confident you are that you would be able to resist the urge to use in that situation. Circle the number 100 if you are 100% percent confident right now that you could resist the urge to use those drugs. 80 if you are 80% confident. 60 if you're 60% confident. If you are less confident than confident circle 40 to indicate that you are only 40% confident that you could resist the urge to use these drugs. 20 for 20% confident; 0 if you have no confidence at all about that situation (Sklar & Turner, 1999).

Following these instructions, participants were given a total of eight high-risk situations. A sample scenario from the DTCQ-8 read, "I would be able to resist the urge to use if: I were out with friends and they kept suggesting we go somewhere and drink/use" (Sklar & Turner, 1999). Once participants completed answering the eight hypothetical questions, they would then find their global self-efficacy score by calculating the mean of all eight responses (Sklar & Turner, 1999). Higher scores on the DTCQ-8 would indicate greater self-efficacy while lower scores would denote diminished self-efficacy (Sklar & Turner, 1999).

Character Strengths

The VIA-IS is a systematic approach utilized to study character strengths and virtues that classify and balance pathology and flourishing, and was developed by Peterson and Seligman (2004; Shryack et al., 2010). This systematic approach is a constellation of individual difference constructs that can be separated into virtues and strengths, and witnessed across various cultures (Shryack et al., 2010). To identify and differentiate participants' signature strengths for the purposes of providing the positive psychology intervention, *Using Signature Strengths in a New*

Way, a short-form of the VIA-IS, the *Signature Strengths Survey*, was administered. Only participants randomized to the intervention condition were asked to complete the *Signature Strengths Survey*.

The VIA-IS encompasses six virtues—justice, transcendence, temperance, humanity, wisdom / knowledge and courage (Seligman et al., 2005). These six virtues are differentiated into 24-character strengths (Seligman et al., 2005). For example, according to Shryack et al. (2010), a respondent who embodies the virtue, courage, displays the character strengths of perseverance (ability to complete initiated tasks), bravery (inability to shrink away from threats or difficulty), honesty (ability to present themselves authentically), and zest (ability to feel excited and alive).

Two forms of the VIA-IS include the VIA-120, which has 120 questions, and the VIA-240, which has 240 questions (VIA Institute on Character, n.d.). The VIA-240 demonstrates satisfactory reliability with internal consistency measured by Cronbach's alpha coefficient ($\alpha s > 0.70$) with test-retest correlations ($rs \sim 0.70$) over a four-month period (Peterson et al., 2009). Additionally, validity was assessed using the Wellsprings and Gallup Organization's Strengths Finder measure from which the VIA-IS originated (LaFollette, 2010). In this instance, the self-nomination of strengths correlated with matching scale scores for each of the VIA's 24 strengths ($r = .05$). The *Signature Strengths Survey* is a shortened version of the VIA-240, and is a measurement scale that assesses 24-character strengths (VIA Institute on Character, n.d.).

Similarly to the VIA-240, the VIA-120 uses a 5-point Likert scale with a "0" score indicating "very much unlike me" and a "5" score indicating "very much like me" (Peterson & Seligman, 2004). The psychometric properties of the VIA-120 (reliability, validity, and internal consistency) are equal to the more robust VIA-240 (Littman-Ovadia et al., 2021). Furthermore, factor analysis correlations between the VIA-120 and the VIA-240 were consistently high,

suggesting that the VIA-120 is suitable for researchers looking for an alternative to the more labor-intensive VIA-240 (Littman-Ovadia et al., 2021).

In the current study, participants identified character strengths using the *Signature Strengths Survey*, a short form of the VIA-IS. According to the VIA Institute on Character (n.d.), the *Signature Strengths Survey* was created as part of a larger initiative to further synthesize and improve the existing VIA scales. Although the *Signature Strengths Survey* is the "gold standard" for assessing signature strengths, statistical analyses are limited. However, the *Signature Strengths Survey* provides participants with a more direct measurement of their strengths. Participants were given a list of the original 24 strengths with corresponding statements, and were asked to endorse only their most essential strengths. Participants were then instructed to go back to the top of the list, and further narrow down their selected strengths on a second pass. For example, for the character strength, creativity, the respondent would endorse the following statement: "You are viewed as a creative person; you see, do, and/or create things that are of use; you think of unique ways to solve problems and be productive" (VIA Institute on Character, n.d.).

Control Group

Participants randomized into the control group were prompted with the following: "Think of the experiences you have had while working in your current position. Write expressively on the provided single page (300 words) about these work experiences." In total, control group participants responded to five self-report measures over two sessions. The first and second sessions ranged from 15 minutes to 30 minutes based on initial pilot testing.

Treatment Group

Participants randomized into the treatment group completed the *Signature Strengths Survey*. Once participants had completed the survey, they were shown the following instructions. These instructions were adapted from a previous study conducted by Proyer et al. (2015) in which respondents were given a similar prompt:

> You have just become familiar with your signature strengths.
>
> Please select one or more of your identified strengths and use them in the course of your work as a peer support specialist for the next seven days.
>
> Please use the provided single page, a minimum of 300 words, to write expressively about the following prompt: Write about the new and different ways that you may use any of your identified strengths in your role as a Peer Support Specialist.

In total, treatment group participants responded to six self-report measures over two sessions. The first session ranged from 10-30 minutes. This time frame was based on initial pilot testing. The second session ranged from 5-10 minutes which was based on initial pilot testing.

Procedure

Baseline and follow-up were collected using Qualtrics. At the beginning of the study, participants clicked "yes" or "no" to authorize consent. Participants who clicked "yes" continued to proceed, and those who clicked "no" exited to the study's main page. Participants who clicked "yes" were asked for general demographic information. This information included age, gender, annual income, education, ethnicity, employment in a full-time or part-time position, length of employment, and the length of substance use abstinence. All participants completed baseline measurements of the dependent variables: burnout, secondary traumatic stress, compassion satisfaction (utilizing the ProQOL-5), and situation-specific coping self-efficacy (using the

DTCQ-8). After completing baseline measurements, all participants were randomized to treatment or control conditions. One week after completing the baseline measures, participants repeated both surveys (ProQOL-5 and the DTCQ-8) as a second measurement of burnout, secondary traumatic stress, compassion satisfaction, and situation-specific coping self-efficacy.

Participant deception, or the act of providing false information to collect research study compensation was accounted for by following evidence-based practices (Lobenburg et al., 2023). Manual examination of each participant's response was conducted to ensure anomalies were removed Lobenburg et al., 2023). Additionally, participant contact information was verified through phone calls and emails (Lobenburg et al., 2023). If the participant contact information was invalid, participant data was deleted. In addition, participant samples were discarded if multiple submissions originated from a single IP address (Lobenburg et al., 2023), or if they did not include a written sample. In addition, a security protocol within Qualtrics was immediately activated to prevent deception. Security checks included prevention of multiple submissions, participant browser analysis (RelevantID), and indexing prevention from search engines.

Research Design

This study utilized an experimental between-subjects pretest / posttest control group methodology. The dependent variables—burnout, secondary traumatic stress, and compassion satisfaction—were assessed using the ProQOL-5. Situation-specific coping self-efficacy was evaluated using the DTCQ-8. The control group (work-focused writing prompt) was compared against a treatment group (*Signature Strengths Survey* with a strengths-focused writing prompt). After seven days, posttests assessed burnout, secondary traumatic stress, and compassion satisfaction (ProQOL-5) as well as situation-specific coping self-efficacy (DTCQ-8).

Data Analysis

All analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 29.0. Univariate analysis was conducted to describe the overall sample in terms of sociodemographic characteristics and baseline measures of the dependent variables. Bivariate analysis was conducted to compare participants in the intervention and control condition on baseline scores of burnout, secondary traumatic stress, compassion satisfaction, and situation-specific coping self-efficacy. Bivariate analysis was also conducted to compare participants who completed the assessment, and those who were lost to follow-up. Additional analyses addressed differences between those who completed the study and those who did not.

Repeated measures analysis of variance (ANOVA) was used to compare burnout, secondary traumatic stress, compassion satisfaction, and situation-specific coping self-efficacy (ability to abstain from substance use in high-risk situations) at one-week posttest between the treatment and control condition. Due to the longitudinal nature of the intervention, attrition and missing data were anticipated. Multiple imputation filled in missing values prior to analysis, and consisted of three phases: imputation, analysis, and a pooling phase (Enders, 2017). First, the imputation phase generated several copies of the data set (20 or more), each containing a set of plausible replacement scores (Enders, 2017). Next, a desired analysis was performed on each complete data set (Enders, 2017). Finally, in the pooling phase, the parameter estimates, and standard errors were aggregated into a single set of results (Enders, 2017). Multiple imputation used a regression model to create a distribution of possible replacement values, and then utilized a computer simulation to draw values randomly from the distribution (Enders, 2017). Multiple imputation is widely recognized as the preferred technique for dealing with missing data as it has numerous advantages over mean imputation and listwise deletion (Graham, 2009).

Sample Size, Power, and Precision

A priori power analysis was conducted using G* power version 3.1 (Faul et al., 2009). The sample size estimation for this study was based on data from a meta-analysis conducted by Sin and Lyubomirsky (2009). In the study, the effect size was 0.29 for well-being (Sin & Lyubomirsky, 2009). As described by Cohen (1988), 0.29 is a small effect size.

To compute the sample size study estimates in G power (Faul et al., 2009), the analysis of variance (ANOVA) repeated measures, within-between interaction was used. This was done for intervention and control groups with assessment of outcomes at two time points. To determine the sample size, a conservative estimated effect size of .20 was applied. Given that four outcomes were examined during analysis, the alpha value was set at .0125 to include a Bonferroni correction. Power was set at .80. The sample size to obtain 80% power at 0.0125 alpha and .20 effect size was equal to 74 participants. To address the issue of attrition, 134 participants were recruited. Additional analyses examined power in terms of sensitivity for the achieved sample size.

Chapter 3: Results

Demographics

Initial data collection brought in 1000 cases, but it became clear that most responses were from automated bots. These cases were deleted, and security checks were implemented through Qualtrics to avoid further issues. The study recruited 134 participants through a mixture of snowball sampling and convenience sampling. The 134 participants completed the first time point while a total of 75 individuals finished both the initial study portion, and its one-week follow-up. After cleaning the data, a total of 134 participants were included in the demographic and supplementary analyses, and 75 were included in the initial hypothesis tests using listwise deletion. A large portion of participants were male (57.6%) while (41.7%) were female. The largest percentage of participants were between the ages of 30-35 (28.5%) followed by individuals 25-30 (23.1%) years of age. The next largest group of participants were between the ages of 35-40 (17.7%) while the smallest groups were 55-60 (3.1%) and 18-25 (1.5%) years of age. Most of the participants were White (61.4%) followed by African American (7.6%). The smallest group was Native Hawaiian or Pacific-Islander (0.8%). Of the sample, 75.2% were employed full-time while 20.3% worked part time. The average length of abstinence was 6.15 years. Characteristics of the sample can be found in Table 2.

Table 2

Characteristics of Participants Broken Down by Condition

	Total		Treat		Control				
	N	%	*n*	%	*n*	%	χ^2	*p*	*V*
Age							5.47	.24	.21
18-25	2	1.5	0	0.0	2	2.8			
25-30	30	23.1	14	24.1	16	22.2			
30-35	37	28.5	13	22.4	24	33.3			
35-40	23	17.7	15	25.9	8	11.1			
40-45	8	6.2	3	5.2	5	6.9			
45-50	14	10.8	6	10.3	8	11.1			
50-55	8	6.2	3	5.2	5	6.9			
55-60	4	3.1	2	3.4	2	2.8			
Prefer not to say	4	3.1	2	3.4	2	2.8			
Ethnicity/Race							0.39	.53	.06
White	81	61.4	37	62.7	44	60.3			
African American	16	12.1	7	11.9	9	15.3			
Latino or Hispanic	10	7.6	3	5.1	7	11.9			
Asian	5	3.8	4	6.8	1	1.7			
Native American	8	6.1	2	3.4	6	10.2			
Native Hawaiian or Pacific Islander	1	0.8	1	1.7	0	0.0			
Two or more	9	6.8	4	6.8	5	8.5			
Other/unknown	1	0.8	1	1.7	0	0.0			
Prefer not to say	1	0.8	0	0.0	1	1.7			
Gender Identity									
Male	76	57.6	34	57.6	42	57.5	0.01	.94	.01
Female	55	41.7	25	42.4	30	41.1			
Nonbinary	1	0.8	0		1	1.4			
Income							6.33	.04	.22
Less than 25,000	5	3.8	2	3.4	3	4.1			
25,000 to 49,999	43	32.8	21	36.2	22	30.1			
50,000 to 99,999	61	46.6	22	37.9	39	53.4			
100,000 to 200,000	19	14.5	13	22.4	6	8.2			
More than 200,000	1	0.7	0	0.0	1	1.4			
Prefer not to say	2	1.5	0	0.0	2	2.7			
Employment Status							2.89	.09	.15
Part time	27	21.3	16	28.1	11	15.7			
Full time	100	78.7	41	71.9	59	84.3			

Table 2 (cont.)

	Total		Treat		Control				
	N	%	*n*	%	*n*	%	χ^2	*p*	*V*
Education							2.09	.55	.13
Less than HS	1	0.8	0	0.0	1	1.4			
HS or GED	11	8.3	5	8.3	6	8.3			
Some College	39	29.5	20	33.3	19	26.4			
Associates	29	22.0	15	25.0	14	19.4			
Bachelors	43	32.6	18	30.0	25	34.7			
Graduate degree	9	6.8	2	3.3	7	9.7			
	M	*SD*	*M*	*SD*	*M*	*SD*	*t*	*p*	*d*
Years as Peer Support Specialist	4.53	3.64	4.33	3.27	4.74	3.92	0.63	.53	0.11
Abstinence Years	6.15	7.41	4.97	6.84	7.10	7.81	1.59	.11	0.29
Burnout Pre	2.43	0.65	2.40	0.66	2.47	0.62	0.64	.52	0.11
Compassion Satisfaction Pre	4.06	0.63	4.10	0.61	3.98	0.65	1.09	.28	0.19
Secondary Traumatic Stress Pre	2.70	0.70	2.71	0.71	2.70	0.69	0.04	.97	0.01
Self-Efficacy Pre	4.93	1.10	5.06	1.11	4.76	1.08	1.58	.12	0.28

Note. Sample sizes differ due to missing data on some demographic measures. For age, to meet assumptions of the Chi Squared tests, several variables needed to be recoded. Age was collapsed into five categories: 18-30, 30-35, 35-40, 40-50, 50-60. Ethnicity was collapsed into White and Non-White. Gender compared only those identifying as men vs. women. Income collapsed the first two and last two categories, and the "prefer not to say" category was ignored. Education collapsed the first two and last two categories. *V* is Cramer's V, often referred to as φ for 2x2 designs, value is equivalent to a correlation coefficient. *p* is two-tailed probability

Bivariate Analysis

Table 1 compared the control and treatment groups on demographic characteristics and pretest scores between burnout, secondary traumatic stress, compassion satisfaction, and situation-specific coping self-efficacy. Analyses utilized independent samples t-tests, and the chi-square test of independence. Among the demographic characteristics, only income was statistically significant, indicating the treatment group was more likely to represent higher income categories. As there were only significant differences on one of the eight variables, this suggests that randomization was reasonably successful. Table 3 presents correlations and reliabilities (Cronbach's alpha) for the dependent measures.

Table 3

Means, Standard Deviations, Correlations, and Reliabilities

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. Compassion Sat. Pre	3.95	.66	.88							
2. Burnout Pre	2.54	.62	-.43**	.75						
3. Secondary Pre	2.80	.69	-.19	.78**	.83					
4. Compassion Sat. Post	3.95	.59	.70**	-.40**	-.27*	.87				
5. Burnout Post	2.44	.53	-.54**	.73**	.62**	-.56**	.83			
6. Secondary Post	2.70	.66	-.42**	.67**	.78**	-.36**	.74**	.71		
7. Self-Efficacy pre	4.81	1.12	.54**	-.06	-.02	.55**	-.17	-.26*	.93	
8. Self-Efficacy post	4.71	1.07	.39**	-.05	-.13	.57**	-.14	-.17	.78**	.93

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. * indicates $p < .05$. ** indicates $p < .01$. Reliabilities (Cronbach's alpha) are on the upper diagonal. For CS, BO, and STS, scores can range from 1 (*never*) to 5 (*very often*). For DTCQ-8, scores can range from 1 (*not at all confident*) to 6 (*very confident*).

Comparison of Completers vs Non-completers

To address issues related to non-completion, several analyses compared individuals who completed both assessments, and those who only completed the first. Due to sample size constraints, tests involving ethnicity compared White and non-White participants, and employment compared full time versus not full time. As shown in Table 4, there were no differences in any of the categorical variables.

Table 4

Chi Square Test of Independence for Completers vs. Non-completers

Variable	χ^2	*df*	*p*	*V*
Ethnicity	0.82	1	.36	.08
Employment	0.01	1	.94	.01
Gender	0.13	1	.72	.03
Income	3.29	5	.65	.16
Education	7.82	5	.17	.24

Note. *V* is Cramer's *V*, a common effect size metric used for Chi Square and provided by SPSS.

Table 5 shows that non-completers were older, but the years as a Peer Support Specialist showed no difference between completers and non-completers. There were also no differences in years of abstinence among completers and non-completers. Those lower in compassion satisfaction, higher in burnout, and higher in secondary traumatic stress were all more likely to complete.

As there were no substantial differences between data analyses using listwise deletion and multiple imputations, this suggests that it is likely that any differences between completers and non-completers were not relevant to study conclusions.

Table 5

Independent Samples t-test for Completers vs. Non-completers

	Non-completer	Completer				
Variable	*M(SD)*	*M(SD)*	*t*	*df*	*p*	*d*
Age category	4.43(2.14)	3.67(1.97)	2.12	128	.04	0.37
Years as specialist	3.95(3.82)	5.20(3.82)	1.96	126	.05	0.35
Abstinent years	6.77(7.71)	5.32(6.71)	1.12	122	.27	0.20
Compassion Satisfaction Pre	4.20(0.56)	3.95(0.66)	2.33	131	.02	0.41
Burnout Pre	2.31(0.63)	2.53(0.65)	2.04	131	.04	0.36
Secondary Traumatic Stress Pre	2.56(0.67)	2.80(0.70)	2.01	131	.04	0.35
Situation-Specific Coping Self-Efficacy Pre	5.09(1.05)	4.80(1.12)	1.53	131	.06	0.27

Note. df for Situation Specific Coping Self-Efficacy adjusted for heterogeneity of variance. *df* differ due to missing data. *d* is Cohen's *d*.

Mixed Model ANOVA

The treatment and control groups differed in terms of income—the treatment group reported higher incomes than the control group. The analyses that follow add income as a covariate.

Mixed Model ANOVA and Normality Assumptions

First, analyses screened dependent variables for normality. Skew and kurtosis values were within an acceptable range using the three-to-one ratio rule for each statistic over its standard error (Tabachnick et al., 2019). Inspection of histograms also showed no substantial deviations from normality. Inspection of variances for treatment and control groups across each dependent measure found roughly equal variances. There were no cases where the largest variance was twice the size of the corresponding smallest variance. As each test used measures at only two time points, the sphericity assumption was not relevant. The assumption is not relevant as the sphericity assumption tests for roughly equal correlations between all pairs of timepoints (Tabachnick et al., 2019). For example, with three time points, the assumption is that the correlation between time 1 and time 2 is roughly equal to the correlation between time 2 and time 3 which is roughly equal to the correlation between time 1 and time 3 (Tabachnick et al., 2019). With only two time points, there are no pairs of correlations to compare, making the assumption irrelevant for such designs.

ANCOVA Assumptions

The use of covariates or control variables in analyses relies on the assumption of homogeneity of covariance (also known as homogeneity of regression). To test this assumption, preliminary analyses examined the interaction between the covariate and predictors. The assumption is violated if any interaction involving the covariate and predictors are statistically

significant. For burnout, compassion satisfaction, secondary traumatic stress, and self-efficacy, none of the relevant interactions achieved statistical significance. This indicates that these data met all ANCOVA assumptions.

Burnout

The current analysis indicated that the intervention produced no statistically significant effects on burnout. Table 6 presents means and standard deviations for each cell. Significance tests for all relationships appear below. This result was found for the main effects of time and group. For time, no differences were found between pre- and post-assessment scores: $F(1,72) = 3.48$, $p = .07$, partial $\eta^2 = .05$. For group, placement into the treatment or control group did not affect participant scores: $F(1,72) = 0.00$, $p = .98$, partial $\eta^2 = .00$. The two groups did not differ from one another. It was also found that there was no statistically significant interaction effect between time and treatment assignment: $F(1,72) = 0.23$, $p = .88$, partial $\eta^2 = .00$.

Table 6

Burnout Broken Down by Time and Group

	Burnout Pre		Burnout Post	
	M	*SD*	*M*	*SD*
Control	2.52	0.62	2.44	0.45
Treatment	2.54	0.63	2.44	0.58

Note. *M* and *SD* are used to represent mean and standard deviation, respectively.

Compassion Satisfaction

The selected analysis indicated the intervention produced no statistically significant effects on compassion satisfaction. Table 7 presents means and standard deviations for each cell. This result was found for the main effects of time and group. Significance tests for all relationships appear below. For time, no differences were found between pre- and post-assessment scores: $F(1,72) = 0.02$, $p = .89$, partial $\eta^2 = .00$. For group, placement into the

treatment or control group did not affect participant scores: $F(1,72) = 0.03$, $p = .87$, partial $\eta^2 = .00$. It was also found that there was no statistically significant interaction effect: $F(1,72) = 0.92$, $p = .34$, partial $\eta^2 = .01$. Placement into the treatment or control group at the first time point did not affect the post-assessment score. This suggests that change was not statistically significant when examined over time and by group.

Table 7

Compassion Satisfaction Broken Down by Time and Group

	Compassion Satisfaction Pre		Compassion Satisfaction Post	
	M	*SD*	*M*	*SD*
Control	3.91	0.71	3.97	0.61
Treatment	3.98	0.63	3.94	0.59

Note. *M* and *SD* are used to represent mean and standard deviation, respectively.

Secondary Traumatic Stress

The selected analysis showed that the intervention produced no statistically significant effects on secondary traumatic stress. Table 8 presents means and standard deviations for each cell. Significance tests for all relationships appear below. This result was found for the main effects of time and group. For time, no differences were found between pre- and post-assessment scores: $F(1,72) = 3.47$, $p = .07$, partial $\eta^2 = .05$. For group, placement into the treatment or control group did not affect participant scores: $F(1,72) = 0.04$, $p = .84$, partial $\eta^2 = .00$. It was also found that there was no statistically significant interaction effect: $F(1,72) = 0.26$, $p = .81$, partial $\eta^2 = .00$. Placement into the treatment or control group at the first time point did not affect the post-assessment scores. This suggests that change was not statistically significant when examined over time and by group.

Table 8

Secondary Traumatic Stress Broken Down by Time and Group

	Secondary Traumatic Stress Pre		*Secondary Traumatic Stress* Post	
	M	*SD*	*M*	*SD*
Control	2.81	0.66	2.73	0.63
Treatment	2.80	0.72	2.67	0.66

Note. *M* and *SD* are used to represent mean and standard deviation, respectively.

Situation-Specific Coping Self-Efficacy

The selected analysis showed that the intervention produced no statistically significant effects on situation-specific coping self-efficacy. As a reminder, all tests used $\alpha = .0125$ as the criterion for statistical significance to control for inflation of Type I error rates over the four dependent variables. Table 9 presents means and standard deviations for each cell. Significance tests for all relationships appear below. This result was found for the main effects of time and group. For time, no differences were found between pre- and post-assessment scores: $F(1,72) = 2.19$, $p = .14$, partial $\eta^2 = .03$. For group, placement into the treatment or control group did not affect participant scores: $F(1,72) = 1.64$, $p = .20$, partial $\eta^2 = .02$. There was also no statistically significant interaction effect: $F(1,72) = 0.00$, $p = .95$, partial $\eta^2 = .00$. Placement into the treatment or control group at the first time point did not affect post-assessment scores.

Table 9

Situation-Specific Coping Self-Efficacy Broken Down by Time and Group

	Situation-Specific Coping Self-Efficacy Pre		*Situation-Specific Coping Self-Efficacy* Post	
	M	*SD*	*M*	*SD*
Control	4.87	1.19	4.63	1.21
Treatment	4.78	1.09	4.76	0.97

Note. *M* and *SD* are used to represent mean and standard deviation, respectively.

Imputation Procedure

Missing data estimation used scores from all pretest measures (DTCQ-8 and ProQOL-5). No demographics were used. This procedure added 58 incomplete cases to the data set. Among these cases, 41 did not complete any posttest measures. The additional 17 answered some, but not all questions in the posttest.

A prerequisite to the application of multiple imputation includes an important assumption—data is missing completely at random (MCAR) or missing at random (MAR) such that the probability of missingness is related to data observations, but not to the missing data (Enders, 2017). If data are missing not at random (MNAR), the results of multiple imputation may be biased (Enders, 2017). To ascertain if multiple imputation would be appropriate, the final data set was analyzed utilizing Little's Missing Completely at Random (MCAR) test. Results yielded the following: a $\chi^2(df = 638) = 682.1$, $p = .11$. These results indicate that the data is completely missing at random—therefore, multiple imputation can be performed.

Multiple imputation created 20 imputed datasets as 20 or greater is a rule of thumb for multiple imputation (Enders, 2017). The analysis carried out imputation on the individual scale items (rather than overall scale scores). Summed scores were then computed for each scale. Analyses produced 20 different estimates for each test. Following the initial analyses, results were pooled to create an average for all statistical results. This study only reported on pooled analyses, as is standard with multiple imputation approaches (Enders, 2017). This is often termed the pooling phase.

Burnout

The intervention produced no statistically significant effects on burnout. For time, no differences were found between pre- and post-assessment scores: $F(1,130) = 0.29$, $p = .63$,

partial η^2 =.002. For group, placement into the treatment or control group did not affect participant scores: $F(1,130) = 0.45$, $p = .54$, partial $\eta^2 = .00$. The two groups did not differ from one another. It was also found that there was no statistically significant interaction effect between time and treatment assignment: $F(1,130) = 0.30$, $p = .67$, partial η^2 =.00.

Compassion Satisfaction

Like the burnout analysis, multiple imputation made no difference in findings. For time, no differences were found between pre- and post-assessment scores: $F(1,130) = 0.52$, $p = .54$, partial $\eta^2 = .00$. For group, placement into the treatment or control group did not affect participant scores: $F(1,130) = 2.30$, $p = .55$, partial $\eta^2 = .02$. It was also found that there was no statistically significant interaction effect: $F(1,130) = 0.12$, $p = .78$, partial $\eta^2 = .00$. Placement into the treatment or control group at the first time point did not affect the post-assessment score. This suggests that change was not statistically significant when examined over time and by group.

Secondary Traumatic Stress

For secondary traumatic stress, there were no differences between pre- and post-assessment scores: $F(1,130) = 0.37$, $p = .60$, partial $\eta^2 = .00$. For group, placement into the treatment or control group did not affect participant scores: $F(1,130) = 0.10$, $p = .78$, partial η^2 = .00. Also, it was found that there was no statistically significant interaction effect: $F(1,130)$ = 0.52, $p = .50$, partial $\eta^2 = .00$. Placement into the treatment or control group at the first time point did not affect post-assessment scores. This suggests that change was not statistically significant when examined over time and by group.

Situation-Specific Coping Self-Efficacy

The selected analysis showed that the intervention produced no statistically significant effects on situation-specific coping self-efficacy. As a reminder, all tests used $\alpha = .0125$ as the criterion for statistical significance to control inflation of Type I error rates over the four dependent variables. For time, no differences were found between pre- and post-assessment scores: $F(1,130) = 6.66$, $p = .01$, partial $\eta^2 = .05$. For group, placement into the treatment or control group did not affect participant scores: $F(1, 130) = 5.26$, $p = .02$, partial $\eta^2 = .04$. There was also no statistically significant interaction effect: $F(1, 130) = 0.97$, $p = .49$, partial $\eta^2 = .010$. Placement into the treatment or control group at the first time point did not affect post-assessment scores.

Summary for Imputed Analyses

There were no substantial differences between analyses conducted using listwise deletion and multiple imputation.

Sensitivity Analysis

Given the criticisms of post hoc power analyses, several sources argue that sensitivity analysis is a more appropriate approach (e.g., Giner-Sorolla et al., 2024; Nalagawa & Foster, 2004). Post hoc power uses both the actual sample size and sample effect size to determine the power of any single analysis. Problematically, post hoc power results are not informative as post hoc power is always high when the null hypothesis is rejected, and always low when it is not. Sensitivity analyses, on the other hand, provide information regarding the smallest effect that can be detected based on the achieved sample size across various levels of statistical power. The present analyses, summarized in Table 10, examined power of .80, with an achieved sample size of 75, $\alpha = .0125$, and a minimum pre-post correlation of .70. With a sample of $n = 75$, a small to

medium effect could be detected. This suggests the study did have adequate power to detect small to medium effects.

Table 10

Sensitivity Analysis (Power = .80)

	Time x Condition
N = 75	*d*
.80	0.31
N = 134	*d*
.80	0.23

Note. Sensitivity addresses power to detect effects given an achieved sample size.

Chapter 4: Discussion

The current study leveraged a positive psychology intervention, *Using Signature Strengths in a New Way,* as a mechanism to ameliorate self-reported levels of burnout, secondary traumatic stress, and to increase compassion satisfaction and situation-specific coping self-efficacy among Peer Support Specialists. This randomized control trial contrasted the treatment group (writing about how they would use their signature strengths) with a control group (writing about their work experiences as a Peer Support Specialist). I hypothesized that Peer Support Specialists would see reductions in burnout and secondary traumatic stress, and increases in compassion satisfaction and situation-specific coping self-efficacy after engaging with self-selected strengths in new and different ways at work, from baseline to one-week follow-up.

After conducting data analysis, results showed that my hypothesis was not supported. More specifically, the strengths-based intervention produced no significant effects for participants in either group across the study's variables: burnout, compassion satisfaction, secondary traumatic stress, nor situation-specific coping self-efficacy. This result differs from previous literature which reported that the positive psychology intervention, *Using Signature Strengths in a New Way*, facilitated decreases in depressive symptoms while also increasing subjective well-being and happiness for 3-12 months (Carr et al., 2020; Duan et al., 2018; Mongrain & Anselmo-Matthews, 2012; Seligman et al., 2005).

Results obtained from the current study are consistent with the null hypothesis. It is possible that the positive psychology intervention, *Using Signature Strengths in a New Way,* simply did not work for the target population of Peer Support Specialists who may be experiencing increased levels of burnout and secondary traumatic stress, and decreased levels of compassion satisfaction. Positive psychology interventions may ultimately resonate most with

individuals who actively seek happiness, and less so with those who do not (Seligman et al., 2005). It may be that alleviating burnout and secondary traumatic stress requires a more rigorous approach. This might be achieved through repeated exposure to the intervention, additions to the intervention (different writing prompts, a second positive psychology intervention such as *Three Good Things*), or widening the scope of the assessment to include depression, anxiety and well-being. It is also possible that a completely different approach outside of positive psychology may be warranted.

Another possibility to consider is that positive psychology interventions should be paired with additional evidence-based approaches for substance use disorder relapse, such as cognitive behavior therapy, motivational interviewing, and relapse prevention strategies (Jhanjee, 2014). Additionally, which signature strengths an individual utilizes may also affect the outcome as some may be more beneficial than others. For example, the character strength, grit, has been shown to aid in persistence and focus in the long-term pursuit of goals (Crede & Tynan, 2017; Duckworth et al., 2007). While we remain optimistic at the promise of utilizing a light-touch, positive psychology intervention for work-related compassion fatigue and substance use, it may simply not work in isolation within the population of Peer Support Specialists.

Differences from Previous Work with Using Signature Strengths

The design and methodology of the present study borrowed heavily from previous work in terms of delivery method (online), length of time between pre- and post-assessment (seven days), participant prompts (writing), and positive psychology intervention (*Using Signature Strengths in a New Way*) selection (Mongrain & Anselmo-Matthews, 2012; Proyer et al., 2015; Seligman et al., 2005). Although conducting this experiment under a comparable structure was

evidence-based, the existing differences between the present work and the aforementioned studies may account for the variation in results.

There are many differences between the current study and previous work. For example, the current study only utilized one positive psychology intervention—*Using Signature Strengths in a New Way*—in the treatment group. However, previous studies had multiple treatment groups, each with a different positive psychology intervention (e.g., *Three Good Things in Life*, *Using Signature Strengths in a New Way*, *Gratitude Visit*, and *Identifying Signature Strengths*; Mongrain & Anselmo-Matthews, 2012; Seligman et al., 2005), which may have contributed to different outcomes than were observed in the current study. It is also important to consider that previous studies examined variables such as depression and happiness (Seligman et al., 2005) while the current work examined burnout, secondary traumatic stress, compassion satisfaction, and situation-specific coping self-efficacy. Although there were no significant effects found for the dependent variables in the current study, there is the possibility that depression was positively affected as found in previous literature utilizing signature strengths (Mongrain & Anselmo-Matthews, 2012; Seligman et al., 2005; Duan et al., 2018). As this parameter was not the focus of the current study, it was not calculated. Had this element been included, there may have been a significant change observed.

There were also differences in post-assessment follow-up periods. Previous work used extensive follow-up periods—one week (Seligman et al., 2005; Duan et al., 2018), one, three, and six months (Mongrain & Anselmo-Matthews; Seligman et al., 2005), and one year (Duan et al., 2018)—which showed that benefits grew over time (Mongrain & Anselmo-Matthews; Seligman et al., 2005). The current study's follow-up was at one-week post-intervention. Research has shown that strengths-based interventions of modest length (one week) can

demonstrate positive effects lasting up to six months (Seligman et al., 2005). The current study was primarily designed as a pilot study, with an emphasis on shorter duration to increase retention and attrition. Peer Support Specialists have high levels of responsibility to clients, often requiring additional work beyond the traditional workday or week (Mamdani et al., 2022). Research indicates that the brief, strengths-based positive psychology intervention, *Using Signature Strengths in a New Way,* has been effective at decreasing depressive symptoms and increasing happiness (Duan et al., 2018; Mongrain & Anselmo-Matthews, 2012; Seligman et al., 2005). Given the constraints of the study population (long-hours, demanding schedules), and the aims of the pilot study (evidence-based treatment, accessibility, short-duration, and retention), a one-week, strengths-based positive psychology intervention was selected. However, as the current study's results were not significant, it is possible that the follow-up period was not long enough to detect changes.

Subtle changes within the current study may have led to weaker intervention effects. For example, previous studies had participants provide daily reports of strengths use (Mongrain & Anselmo-Matthews, 2012). However, the continued use of strengths was not reinforced in the present work as research has shown that strengths-based exercises are effective even without daily reminders (Seligman et al., 2005). Another difference between the current study and previous studies included participant elaboration on daily strengths use (Mongrain & Anselmo-Matthews, 2012). In earlier studies, participants received writing prompts that focused on early, or very early, memories for control conditions (Mongrain & Anselmo-Matthews, 2012). The current study focused participant writing prompts on work-related insights which included personal experiences as Peer Support Specialists, and creative use of their identified signature

strengths within an occupational context. These small changes may have affected the overall strength of the intervention.

The present study measured signature strengths in an abbreviated form via the S*ignature Strengths Survey*—a short form checklist version of the VIA-IS. The VIA-IS can include up to 240 items (VIA Institute on Character, n.d.) while the *Signature Strengths Survey* contained 24 items. Both Seligman et al. (2005) and Mongrain and Anselmo-Matthews (2012) used a more comprehensive form of the VIA-IS that included individualized feedback about participant's strengths and descriptions of those strengths. This feedback, and the work required to complete the more in-depth VIA-IS measurement, may have bolstered participant commitment more than the brief, checklist version used in the present study. Differences in the assessment of signature strengths in the present intervention may have limited the effectiveness of the current study.

Participant demographics are also of note as the current study lacked diversity. The sample in the current study was primarily composed of White (61.4%), English-speaking males (57.6%) between the ages of 30-35 (28.5%) who are in ongoing recovery from substance use disorder. This differs from previous studies where participant samples were comprised of mostly female undergraduate students, with no reported history of substance use (Duan et al., 2018; Mongrain & Anselmo-Matthews, 2012; Proyer et al., 2015; Seligman et al., 2005). Additionally, previous occupation-based studies employed participant samples from all over the globe including representation from South African, Indian, Canadian, German, American, Israeli, and Dutch employees without reported substance abuse (Miglianico et al., 2019). There may be important differences between the two population subsets in the current study and that of contemporary literature which may have affected results.

It is important to note that the current study utilized an evidence-based positive psychology intervention, *Using Signature Strengths in a New Way*, that research has found to be effective at decreasing depressive symptoms and increasing happiness from three to six months (Duan et al., 2018; Mongrain & Anselmo-Matthews, 2012; Seligman et al., 2005). However, the absence of a more robust set of measures may have also played a role in the lack of statistically significant findings. For example, the Satisfaction with Life Scale (SWLS), the Positive and Negative Affect Schedule (PANAS), the Center of Epidemiologic Studies Depression Scale (CES-D), the Beck Depression Inventory-II (BDI-II), and the Steen Happiness Inventory (SHI) measures all assess life satisfaction, affect, depression, and happiness, respectively, in addition to measuring signature strengths utilizing the VIA-IS (Mongrain & Anselmo-Matthews, 2012; Proyer et al., 2015). Implementing a number of these scales into the current study may have provided insights over and above those examined for burnout, secondary traumatic stress, and compassion satisfaction as this would address a broader range of outcomes.

In regard to situation-specific, coping self-efficacy, the scant literature that joins positive psychology and addictions research makes drawing a suitable conclusion challenging. Previous work that focuses on positive psychology, and its usefulness in substance use disorder is sparse. The effectiveness of positive psychology interventions in combating addictions is best exemplified in a study of adolescent drinking (Krentzman, 2013). This study found that positive psychology interventions increased happiness, positive affect, and facilitated improvements in various life domains (Krentzman, 2013). The current study, however, found no significant effects across any of the measured variables. Future work examining a broader range of outcomes, and employing a more robust and extensive intervention is needed.

This work endeavored to measure the effects of a strengths-based positive psychology intervention across selected life domains. However, the small number of domains measured limits the generalizability and overall interpretation of the study's results. The present study lacked measurement of potentially useful ancillary variables (depression, happiness, and well-being) that may have influenced the effects of the intervention. It may be the case that changes in these variables occur more quickly than changes in burnout, compassion satisfaction, and other outcomes. Additionally, burnout interventions in the workplace, (person-directed, organization-directed, or a combined approach), utilized elements of social support, workshops, and meditation (Dreison et al., 2018). This suggests that a more robust intervention than in the present study would be more effective. Although the present work accounts for a similar measurement of burnout across time, and gauged work-related satisfaction appropriately, (which are its primary aims), the current study did not explore potential moderators or mediators like that of the actual work environment, and individual affect.

Limitations

The current study has several pertinent limitations. While the required number of participants were recruited for satisfactory power, there were inherent difficulties when attempting to access and enroll a minority population into the present work. While the outlined methods for recruitment were mostly successful, there were several instances where gatekeeping by a single Peer Support Specialist was enough to deter enrollment of the larger group despite being given a full accounting of the study and its aims. When contacting facilities that employed Peer Support Specialists, there was pushback or disinterest on the part of the administration. Because of this, the present study relied primarily on convenience and snowball sampling that resulted in a lack of diversity in race, sex, and age. The sample was primarily composed of White

(61.4%), English-speaking males (58.6%) between the ages of 30-35 (28.5%). Had our study produced significant results for any of the dependent variables (burnout, compassion satisfaction, secondary traumatic stress, and situation-specific coping self-efficacy), generalizing would be challenging given the sample's demographics and characteristics.

Another limitation of the study is participant deception. Participant deception includes the act of providing false information for reasons of collecting compensation and benefits in research studies (Lobenburg et al., 2023). Automated "bots" can imitate human users, have the ability to engage with automated tasks in internet settings, and may deceptively participate in research studies through multiple submissions to a research sample (Lobenburg et al., 2023). This misleading information provided by bots compromises the validity of study data, and can bias, skew, and compromise the integrity of the results (Lobenburg et al., 2023).

The current study had difficulties with autonomous bots at its outset, prior to installing a Qualtrics authentication check. All efforts made to correct this issue followed evidence-based practices as outlined previously. No further issues were encountered, but the current study's validity may have been compromised. The presence of bots may have created an opening for misrepresentation of the sample, noise into the data, and inaccuracies into the conclusion (Lobenburg et al., 2023). A more rigorous security CAPTCHA would have likely prevented the initial wave of participant deception.

In addition, the current study did not implement attention checks, and it is likely that the length of the surveys may have generated a loss of participant interest, a phenomenon known as *careless responding* (Meade & Craig, 2012). In the current study, *careless responding* may have introduced additional error, making significant effects (if any) more difficult to detect within the

data set (Meade & Craig, 2012). Future studies should endeavor to include both attention checks and CAPTCHA as standard practice.

Another limitation of the study concerns treatment fidelity and treatment enactment. Treatment fidelity involves assessment: was the intervention carried out as intended (Bellg et al., 2004)? Treatment enactment asks if the participant applied the suggestions or skills of the intervention to their daily lives (Bellg et al., 2004). In the present work, the control group and treatment group participants were given a writing prompt following the administration of the ProQOL-5 and the DTCQ-8 for their baseline measurements. The control group prompt asked participants to write about their experiences as Peer Support Specialists. The treatment group prompt instructed them to write about using their signature strengths, in the course of their work, in new and different ways over seven days. It is plausible that participants in the treatment group adhered to the intervention as intended, but there was no statistically significant change observed in the study's metrics, nor additional assessments or prompts that were used to gauge treatment enactment. Treatment enactment and treatment delivery have been conflated in past literature, and it is important to understand the difference (Bellg et al., 2004) As an example: a physician writes a prescription (treatment delivery), the patient fills that prescription (treatment receipt), and takes the medication as directed (treatment enactment) by that physician (Bellg et al., 2004). While the current work can be certain of treatment delivery and treatment receipt, it is less so for overall treatment enactment.

The current study, while not statistically significant, has a number of interesting findings. For one, the sample is predominantly comprised of younger adults aged 25-35. This might suggest that positive psychology interventions appeal to this age group, and they may be actively searching for strategies to help them combat burnout and secondary traumatic stress, and

increase compassion satisfaction in their daily work lives. It has been noted throughout this study that the majority of our participants were White. This does not mean, however, that our study did not include participants of different ethnicities. Representation within our sample included African Americans (12.1%), Latino or Hispanic (7.6%), Asian (3.8%), Native Americans, and some participants had two or more ethnicities (6.8%). These smaller numbers might demonstrate that positive psychology resonates differently across cultures and individual backgrounds. It may also highlight a need for positive psychology to continue the creation of culturally relevant materials and interventions.

The current study was developed to accommodate the hectic schedules of the Peer Support Specialist population. Efficacy of the treatment, efficiency for time, and accessibility were all variables considered when designing the current intervention. What's more, despite a majority of the participant sample working full-time, the promising follow-up rate demonstrated that the current study could be suitably integrated into the Peer Support Specialist's demanding schedule. The mean burnout (2.43) and secondary traumatic stress (2.70) scores at baseline were moderate, which suggests that while the participants may be in varying modes of high stress, they were not experiencing severe symptoms at the time of completion. The current work's brief, strengths-based intervention may be well-positioned to mitigate these ongoing issues before symptoms become severe. In addition, the mean compassion satisfaction (4.06) and situation-specific coping self-efficacy (4.93) scores were relatively high, which would indicate that the participants were fulfilled in their roles at work, and possessed high confidence in their abilities to abstain from substance use. This could suggest that Peer Support Specialists are already engaged in the daily mitigation of burnout, and secondary traumatic stress, and have been

successful in increasing their levels of compassion satisfaction and situation specific coping self-efficacy.

The current study integrates positive psychology interventions into the realm of substance use disorder treatment and recovery. This study highlights the importance and the impact of the work being done by Peer Support Specialists while simultaneously establishing a larger presence for these helping professionals into the wider scientific literature. This research expands the breadth of inquiry within positive psychology while also revealing shortfalls in the discipline's approach. Assessment of Peer Support Specialists, and complex constructs, such as substance use disorder, may require the field to move beyond online delivery protocols.

Recommendations for Future Studies

Measures should be developed specifically for Peer Support Specialists as current positive psychology instruments (Steen Happiness Index, the Authentic Happiness Inventory, the Gratitude Visit, and Three Good Things in Life) may not adequately assess this population. Similarly, a larger assortment of questionnaires and surveys that assess depression, happiness, anxiety, secondary traumatic stress, and burnout would be preferable to capture elements missed in the current work. Ideally, evidence-based positive psychology interventions would be combined with elements from the substance use disorder / relapse sphere— cognitive behavior therapy, motivational interviewing, and relapse prevention strategies (Jhanjee, 2014)—to enhance treatment. In addition, a longitudinal design would be desirable as interventions, such as *Using Signature Strengths in a New Way*, may require more than a week to produce effects. Additionally, repeated intervention efforts may potentially strengthen outcomes (Seligman et al., 2005), and all interventions and follow-up periods should be conducted in person. Going beyond

the first trial, replication studies should be attempted to build an evidence base for the population in question.

Future Directions

Peer Support Specialists deserve greater representation within the scientific literature than currently exists. The application of positive psychology has not been fully explored in this population, nor in the realm of substance use disorder, and compassion fatigue. While this work did not find the intervention, *Using Signature Strengths in a New Way*, to affect burnout, secondary traumatic stress, situation specific coping self-efficacy, and compassion satisfaction, it may be the case that this same intervention might affect happiness, wellbeing, gratitude, and a range of other outcomes yet to be explored. Visibility within the wider literature would also highlight, for those unfamiliar, the stigma and devaluation of Peer Support Specialists despite their instrumental roles in the lives of the people they help. This is a crucial step in enriching mental health across the field of helping professionals, and in the occupational sphere more generally. The field of positive psychology holds tremendous promise in alleviating all manner of life stressors and hassles. More research is necessary to understand its effect in areas plagued by compassion fatigue and substance use disorder.

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Appendix A

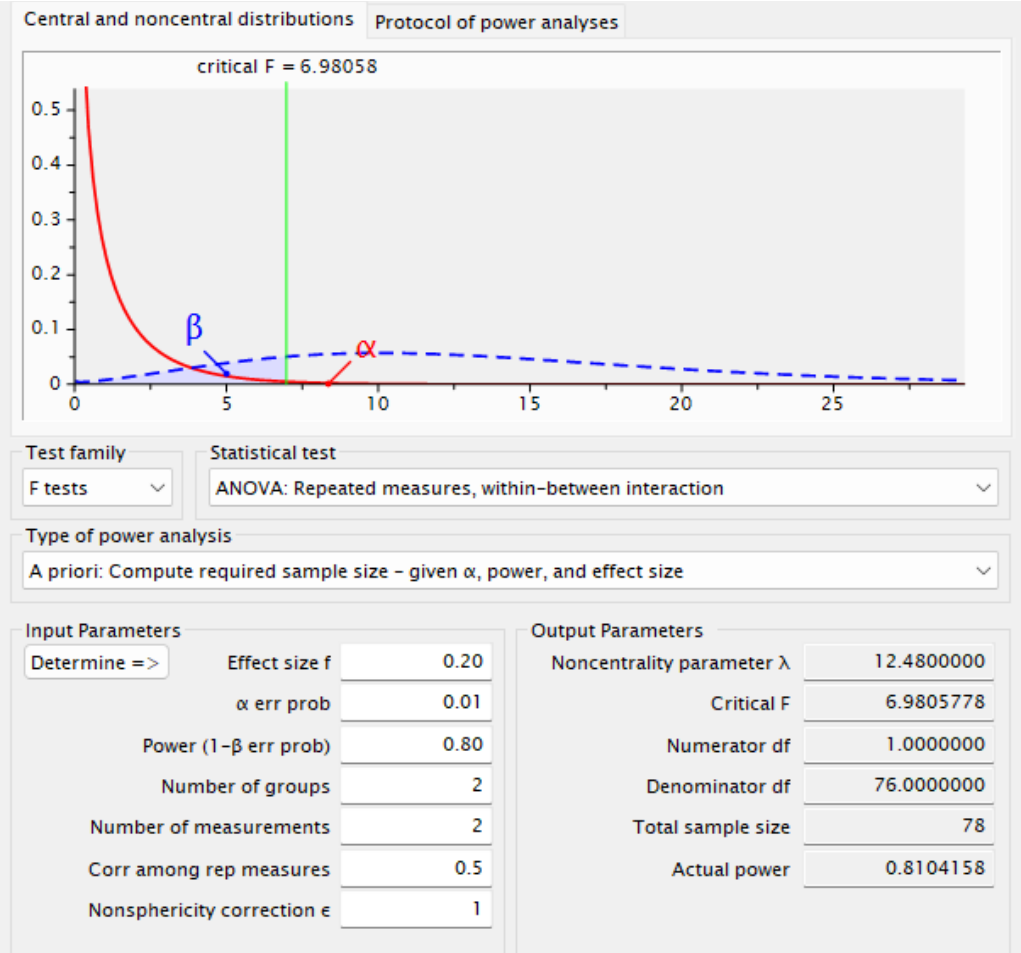
Table 1

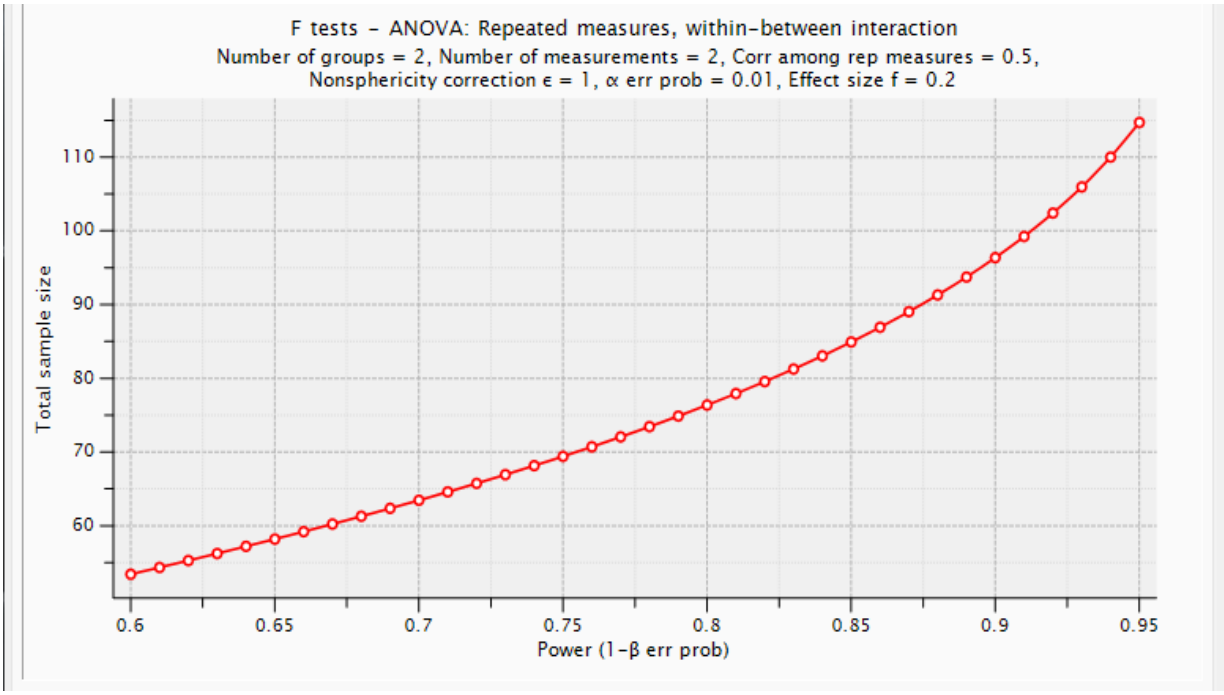
TABLE 1: VIA-IS Character Strengths and Virtues Classification

VIRTUES	CHARACTER STRENGTHS (CS)
Wisdom and Knowledge	Creativity
	Curiosity
	Judgment
	Love of Learning
	Perspective
Courage	Bravery
	Perseverance
	Honesty
	Zest
Humanity	Love
	Kindness
	Social Intelligence
Justice	Teamwork
	Fairness
	Leadership
Temperance	Forgiveness
	Humility
	Prudence
	Self-Regulation
Transcendence	Appreciation of beauty and excellence
	Gratitude
	Hope
	Humor
	Spirituality

Appendix B

Power Analysis




F tests – ANOVA: Repeated measures, within-between interaction
Number of groups = 2, Number of measurements = 2, Corr among rep measures = 0.5,
Nonsphericity correction ε = 1, α err prob = 0.01, Effect size f = 0.2
Total sample size
110
100
90
80
70
60
0.6
0.65
0.7
0.75
0.8
0.85
0.9
0.95
Power (1–β err prob)

Appendix C

Demographics

Demographic Questions

1.) What is your age?

A. 18 - 25 years old
B. 25 - 30 years old
C. 30 - 35 years old
D. 35 – 40 years old
E. Prefer not to say

2.) Please specify your ethnicity.

A. Caucasian
B. African American
C. Latino or Hispanic
D. Asian
E. Native American
F. Native Hawaiian or Pacific Islander
G. Two or More
H. Other/Unknown
I. Prefer not to say

3.) What is your Gender?

_____

4.) What is your annual household income?

A. Less than $25,000
B. $25,000 - $50,000
C. $50,000 - $100,000
D. $100,000 - $200,000
E. More than $200,000
F. Prefer not to say

5.) How many years have you been employed as a Peer Support Specialists

_____

6.) Are you employed full or part time?

_____

7.) How long have you been abstinent?

_____

8.) What is the highest level of school you have completed or the highest degree you have received?

Less than high school degree

High school degree or equivalent (e.g., GED)

Some college but no degree

Associate's degree

Bachelor's degree

Graduate degree

End of document

Appendix D

Professional Quality of Life Scale (ProQOL-5)

PROFESSIONAL QUALITY OF LIFE SCALE (PROQOL)

Compassion Satisfaction and Fatigue
(ProQOL) Version 5 (2009)

When you *[help]* people you have direct contact with their lives. As you may have found, your compassion for those you *[help]* can affect you in positive and negative ways. Below are some-questions about your experiences, both positive and negative, as a *[helper]*. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the *last 30 days*.

1=Never 2=Rarely 3=Sometimes 4=Often 5=Very Often

1. I am happy.
2. I am preoccupied with more than one person I *[help]*.
3. I get satisfaction from being able to *[help]* people.
4. I feel connected to others.
5. I jump or am startled by unexpected sounds.
6. I feel invigorated after working with those I *[help]*.
7. I find it difficult to separate my personal life from my life as a *[helper]*.
8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I *[help]*.
9. I think that I might have been affected by the traumatic stress of those I *[help]*.
10. I feel trapped by my job as a *[helper]*.
11. Because of my *[helping]*, I have felt "on edge" about various things.
12. I like my work as a *[helper]*.
13. I feel depressed because of the traumatic experiences of the people I *[help]*.
14. I feel as though I am experiencing the trauma of someone I have *[helped]*.
15. I have beliefs that sustain me.
16. I am pleased with how I am able to keep up with *[helping]* techniques and protocols.
17. I am the person I always wanted to be.
18. My work makes me feel satisfied.
19. I feel worn out because of my work as a *[helper]*.
20. I have happy thoughts and feelings about those I *[help]* and how I could help them.
21. I feel overwhelmed because my case [work] load seems endless.
22. I believe I can make a difference through my work.
23. I avoid certain activities or situations because they remind me of frightening experiences of the people I *[help]*.
24. I am proud of what I can do to *[help]*.
25. As a result of my *[helping]*, I have intrusive, frightening thoughts.
26. I feel "bogged down" by the system.
27. I have thoughts that I am a "success" as a *[helper]*.
28. I can't recall important parts of my work with trauma victims.
29. I am a very caring person.
30. I am happy that I chose to do this work.

Appendix E

The Drug Taking Confidence Questionnaire-8 (DTCQ-8)

Imagine yourself as you are right now in each of these situations.

Indicate on the scale provided how confident you are that you would be able to resist the urge to use your drug of choice.

Circle 100 if you are 100% confident right now that you could resist the urge to use drugs; 80 if you are 80% confident; 60 if you are 60% confident. If you are more unconfident than confident, circle 40 to indicate that you are only 40% confident that you could resist the urge to use drugs; 20 for 20% confident; 0 if you have no confidence at all about the situation.

I would be able to resist the urge to use_____ (fill in drug of choice):

	Not at all confident 0%	20%	40%	60%	80%	Very Confident 100%
If I were angry at the way things had turned out.	○	○	○	○	○	○
If I had trouble sleeping.	○	○	○	○	○	○
If I remembered something good that had happened.	○	○	○	○	○	○
If I wanted to find out whether I could use my drug of choice occasionally without getting hooked.	○	○	○	○	○	○
If I unexpectedly found some of my drug of choice or happened to see something that reminded me of it.	○	○	○	○	○	○
If other people treated me unfairly or interfered with my plans.	○	○	○	○	○	○
If I were out with friends and they kept suggesting we go somewhere and use my drug of choice.	○	○	○	○	○	○
If I wanted to celebrate with a friend.	○	○	○	○	○	○

Appendix F

The Signature Strengths Survey

The Signature Strengths Survey

Instructions

Read the following descriptions of 24 character strengths. Everyone uses these strengths at times. What we would like you to do is to put a check in the box next those strengths that are *absolutely essential* to you, that define *who you are as a person*, that are *part of who you are*. For example, someone who has devoted their life to helping others might choose Kindness as one of his essential strengths, someone who prides herself on being able to figure out other people might consider Social Intelligence key to who she is, and someone who is constantly seeking out new information might consider Love of Learning to be essential. Most people check just a few essential strengths.

There are some people who believe none of these characteristics is more essential to who they are than any of the others. If so, don't check any of the strengths. In the last row, check *None of these characteristics is more essential to who I am than any of the others*.

Please describe *the person you are*, NOT the person you wish you could be. Also, think about your life *in general*, not how you behaved in 1-2 situations.

Essential Strength?	Character Strengths
	1. Creativity: You are viewed as a creative person; you see, do, and/or create things that are of use; you think of unique ways to solve problems and be productive.
	2. Curiosity: You are an explorer; you seek novelty; you are interested in new activities, ideas, and people; you are open to new experiences.
	3. Judgment/Critical Thinking: You are analytical; you examine things from all sides; you do not jump to conclusions, but instead attempt to weigh all the evidence when making decisions.
	4. Love of Learning: You often find ways to deepen your knowledge and experiences; you regularly look for new opportunities to learn; you are passionate about building knowledge.
	5. Perspective/Wisdom: You take the "big picture" view of things; others turn to you for wise advice; you help others make sense of the world; you learn from your mistakes.
	6. Bravery/Courage: You face your fears and overcome challenges and adversity; you stand up for what is right; you do not shrink in the face of pain or inner tension or turmoil.
	7. Perseverance: You keep going and going when you have a goal in mind; you attempt to overcome all obstacles; you finish what you start.
	8. Honesty: You are a person of high integrity and authenticity; you tell the truth, even when it hurts; you present yourself to others in a sincere way; you take responsibility for your actions.
	9. Zest: You are enthusiastic toward life; you are highly energetic and activated; you use your energy to the fullest degree.

Appendix F

The Signature Strengths Survey

Essential Strength?	Character Strengths
	10. Love: You are warm and genuine to others; you not only share but are open to receiving love from others; you value growing close and intimate with others.
	11. Kindness: You do good things for people; you help and care for others; you are generous and giving; you are compassionate.
	12. Social Intelligence: You pay close attention to social nuances and the emotions of others; you have good insight into what makes people "tick"; you seem to know what to say and do in any social situation.
	13. Teamwork: You are a collaborative and participative member on groups and teams; you are loyal to your group; you feel a strong sense of duty to your group; you always do your share.
	14. Fairness: You believe strongly in an equal and just opportunity for all; you don't let personal feelings bias your decisions about others; you treat people the way you want to be treated.
	15. Leadership: You positively influence those you lead; you prefer to lead than to follow; you are very good at organizing and taking charge for the collective benefit of the group.
	16. Forgiveness/Mercy: You readily let go of hurt after you are wronged; you give people a second chance; you are not vengeful or resentful; you accept people's shortcomings.
	17. Humility/Modesty: You let your accomplishments speak for themselves; you see your own goodness but prefer to focus the attention on others; you do not see yourself as more special than others; you admit your imperfections.
	18. Prudence: You are wisely cautious; you are planful and conscientious; you are careful to not take undue risks or do things you might later regret.
	19. Self-Regulation: You are a very disciplined person; you manage your vices and bad habits; you stay calm and cool under pressure; you manage your impulses and emotions.
	20. Appreciation of Beauty & Excellence: You notice the beauty and excellence around you; you are often awe-struck by beauty, greatness, and/or the moral goodness you witness; you are often filled with wonder.
	21. Gratitude: You regularly experience and express thankfulness; you don't take the good things that happen in your life for granted; you tend to feel blessed in many circumstances.
	22. Hope: You are optimistic, expecting the best to happen; you believe in and work toward a positive future; you can think of many pathways to reach your goals.
	23. Humor: You are playful; you love to make people smile and laugh; your sense of humor helps you connect closely to others; you brighten gloomy situations with fun and/or jokes.

Essential Strength?	Character Strengths
	24. Spirituality/Sense of Meaning: You hold a set of beliefs, whether religious or not, about how your life is part of something bigger and more meaningful; those beliefs shape your behavior and provide a sense of comfort, understanding, and purpose.
	None of these characteristics is more essential to who I am than any of the others. Remember, you should choose this option if the strengths are all equally essential to you, NOT because you think they should be equally essential.

Final Step: Review the strengths you checked. Do any of these strengths stand out as more important to who you are than the others? If so, put a second check in the box next to those strengths.

Curriculum Vita

Eugene Lopez received an A.A. from El Paso Community College in 2014 and a B.A. in Psychology and Anthropology from the University of Texas at El Paso in 2018. At UTEP, he served as a teaching assistant from 2017 to 2024 working in classes such as Abnormal Psychology, Introduction to Psychology, Psychological Testing Methods, and History and Systems. In these roles, he assisted students with developing and writing term papers, creating PowerPoint presentations, and comprehension of assigned weekly textbook and research article readings. Regarding research experience, Mr. Lopez worked in research labs from 2016-2024 with responsibilities including the use of SPSS to enter and tabulate data, manual transcription of interview protocols and coded transcriptions. He has been a member of the Latino Alcohol and Drug Disparities Research Center (LAHDR) since fall of 2019 with duties include maintaining the Reference Works of LAHDR. In recognition for his excellence, he received the Outstanding Academic Achievement in the Department of Psychology award in December 2018. Outside of academia, he worked as the Music Department Manager at Barnes and Noble from 2005-2020 as part of a team overseeing more than 25 employees.