

QUANTITATIVE RESEARCH

A clinical trial of the Examen and mindfulness within a secular substance use disorder treatment program

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Abstract

The Examen is a 500-year-old Jesuit introspective prayer and reflection. Recent research has indicated that it has utility in psychotherapy. This study implemented the Examen as a secular cognitive-behavioral tool in the first longitudinal clinical trial of the intervention with an addiction treatment population, comparing it directly to a treatment-as-usual mindfulness intervention. The study found that Examen and mindfulness are equivalent in outcomes on depression, anxiety, stress, and substance craving. Further research should continue to investigate the Examen as an alternative to mindfulness for religious and secular populations and the factors responsible for the success of these practices.

KEYWORDS

clinical trial, Examen, Jesuit, mindfulness, substance use

INTRODUCTION

Throughout modern history, traditional religious and spiritual practices have assisted individuals in overcoming long-term substance use problems (Grant et al., 2017; Marlatt, 1994). Recent decades have seen an explosion in the literature surrounding Eastern spiritual practice in psychotherapy (Marlatt, 2002). Addiction treatment patients have begun to preferentially rely on clinical techniques such as mindfulness-based stress reduction (MBSR), mindfulness-based cognitive therapy (MBCT), dialectical behavior therapy (DBT), or physio-spiritual practices such as yoga to achieve long-term recovery from addictive behaviors (Kabat-Zinn, 2003; Khalsa, 2013; Linehan, 1987; Segal et al., 2002). Mindfulness in a secularized form has become a gold-standard behavioral intervention for substance use

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populations, where practitioners have released it from its association with religion to increase the practice's accessibility to a general clinical audience (Grant et al., 2017; Kabat-Zinn, 2003, 2015). Increases in state mindfulness have, alongside dispositional mindfulness, been shown to be negatively associated with cravings and reactivity to cravings and positively correlated with posttreatment success for chemical dependency patients (Grant et al., 2017; Witkiewitz et al., 2013). The success of mindfulness and other traditional spiritual practices in treating addictive behavior raises a central question; what other spiritual and religious exercises could benefit individuals with these disorders? Prayer, confession, spiritual music, religious services, fasting, almsgiving, and inciting spiritual dialogue have been therapeutic for many; however, most of these practices have not undergone empirical scrutiny in an addiction treatment environment (Knabb, 2012; Plante, 2021).

Researchers have characterized substance use disorders (SUDs) as chronic and relapsing, with up to 30% of individuals relapsing within the first year of attempted sobriety and 40%–60% in general (Lauvsnes et al., 2022). The probability of relapse to SUDs is predicted by craving and mental distress, among other factors. Substance cravings are shown to predict relapse after residential addiction treatment (Lauvsnes et al., 2022; Stohs et al., 2019; Vafaie & Kober, 2022). Moreover, mental distress, such as depression, anxiety, and stress, often serves as an antecedent to addictive behavior (Amendola et al., 2022; Hunt et al., 2020; Pascoe et al., 2020).

Meaning in life can buffer against mental distress; simultaneously, high-stress situations can trigger crises of meaning (Schnell & Krampe, 2020). Moreover, higher meaning in life negatively correlates with death anxiety (Zhang et al., 2019). Two aspects of meaning in life, *Presence* and *Search*, are differentially associated with substance use outcomes (Csabonyi & Phillips, 2020; Steger et al., 2006). While higher *presence* of meaning in life was associated with lower alcohol/other drug use, mediated by boredom, no relationship was found between *search* for meaning and alcohol, drug, or cigarette use. Increases in patient's meaning in life may decrease the impetus toward reengaging in substance use behaviors (Csabonyi & Phillips, 2020).

Mindfulness-based relapse prevention (MBRP) interventions have been significantly associated with decreases in cravings; however, when discontinued posttreatment, the reductions in craving observed with MBRP approach treatment-as-usual conditions, evidencing that lack of continuous practice of these interventions represents a significant barrier to treatment efficacy (Witkiewitz et al., 2013). Moreover, not all individuals in addiction treatment connect with traditional Eastern spiritual practice and may prefer culturally sensitive interventions targeted at their religious and demographic heritage. Thus, it is necessary to develop simple, easily self-administered posttreatment interventions that are realistic to integrate into one's cultural environment and maintain in the long term.

The Ignatian Examen

The Ignatian Examen is a five-step devotional, end-of-day prayer and reflection that includes centering via breathing, practicing gratitude, asking for help and approaching the day with humility, reviewing and reliving one's day, facing challenges, and looking toward the future. Through this process of introspection, practitioners can develop an increased sense of awareness and practice cognitive-behavioral psychotherapeutic principles in a self-guided exercise (Kabat-Zinn, 2015; Kavanaugh et al., 2004; Plante, 2021). Each of the five individual steps of the Examen exercise has been shown to have cognitive-behavioral benefits, particularly in addiction treatment populations; the combination of the five steps of the Examen in a brief, low-cost, and readily self-administrable package makes the Examen a potentially effective tool for not only self-reflection and introspection but also for increased psychological well-being (Fuchs et al., 2023; Plante, 2021). No empirical studies have yet investigated the Ignatian Examen in a substance use treatment population, but the practice's observed ease, low administration cost and time commitment, and applicability to the Christian and Catholic SUD treatment populations support the Examen as an alternative to mindfulness or other reflective practices in a clinical environment.

The traditional Ignatian Examen (described in detail below) was created within a religious context and concerns one's relationship with God or the divine. However, this study aimed to employ a secularized version of the Examen in a nonreligious treatment program to test its generalizability to wider clinical populations and practices. We adapted the traditional Ignatian Examen to secular substance use treatment, omitting religious references. In particular, all mentions of "God" or "the Divine" were replaced with terms such as gratitude, joy, or love. Using the five-step secular framework developed by Plante (2021) and summarized by Fuchs et al. (2023), we describe each of the steps of the Examen practice, contextualizing it from an empirical perspective.

1. *Presence*: Quieting the mind, becoming aware of God. The first step of the Examen is to become aware of God's presence and center the mind with silence. The secular adaptation invites the practitioner to develop an awareness of their connection to themselves, their environment, and those around them while quieting their mind to distractions. Similar to mindfulness practice, the active quieting of the mind through sitting, listening, and developing awareness can be combined easily with breathing exercises such as pranayama or yogic breathing aimed at stress reduction via parasympathetic nervous system activation (Adhana et al., 2013; Jerath et al., 2006). Teaching patients to calm and center themselves at the onset of psychotherapy, at an influx of high-intensity emotions, or in a challenging environment is a valuable therapeutic tool (Fisher, 1999; Reddemann & Piedfort-Marin, 2017). In substance use treatment populations, relaxation training in combination with brief alcohol interventions has been shown to contribute significantly to reductions in alcohol misuse (Murphy et al., 2019). This first step of the Examen sets the stage for self-reflection, a foundational aspect of successful therapy that affects both the process and outcome of psychotherapeutic endeavors (Anders, 2019; Levy & Farber, 1986).
2. *Gratitude*: Review your day. The next step of the Examen practice is to review one's day with an emphasis on gratitude (Fuchs et al., 2023; Plante, 2021), asking oneself, for instance, "Where can I look for hidden blessings that I might otherwise take for granted?" Practitioners engage in purposeful interaction with their day, giving thanks for positive aspects of their lives. In the context of addiction treatment, patients regularly experience guilt and shame arising from their past actions, and teaching gratitude practices to patients could help them reverse these effects (Charzyńska, 2021; Emmons & Mishra, 2011; Kraiss et al., 2023).
3. *Review*: Attending to daily events and emotions. The third step is to pay attention to one's emotions, "reviewing the day attending to God's presence," or in a secular practice, taking a full account of one's day. Practitioners revisit their actions and interactions of the day, asking, "What do these thoughts and feelings tell me, and how does that affect the way I treat myself and others?" (Fuchs et al., 2023). A practitioner might look for moments where they felt or did not feel God's presence, or in the secular version, where they felt connected, at peace, or aligned with their goals. The practitioner then asks how that perceived connection or disconnection affected their emotions and interactions with others. The ability of the Examen exercise to promote self-reflection and emotion introspection in a brief, low-cost, low-training format may prove helpful in these clinical and everyday settings due to the necessity of ongoing introspection as the foundation for successful psychotherapy (Anders, 2019; Levy & Farber, 1986; Shamoon et al., 2017).
4. *Reflection*: Introspection and attending to shortcomings. The fourth step of the Examen exercise is to choose one particularly impactful feature of the just reviewed day and discern any shortcomings of their behavior. Practitioners can develop an understanding of their actions' impacts on others, as well as themselves, by asking questions like, "What wisdom can I draw from this experience, especially as it may be instructive for becoming the person I desire to be?" or attending to times they lashed out at loved ones in frustration, or handled an emotion or interaction poorly (Fuchs et al., 2023; Plante, 2021). By promoting direct internal confrontation with guilt or shame surrounding past actions, the Examen practice may help practitioners develop self-forgiveness.
5. *Response*: Setting goals for tomorrow. The final step of the Examen is to set goals for tomorrow, using one's relationship with God, their higher power, or conscience to increase their conviction.

One might ask God to give them strength in dealing with cravings or urges to drink alcohol, or in a secular context, one might commit to attending a recovery-oriented meeting the next day in light of their strong intentions to stay sober. In a secular and religious sense, the Examen concludes with measured goals created in light of the introspection performed during the practice, particularly anticipating the next day's challenges (Fuchs et al., 2023; Plante, 2021). Goalsetting in psychotherapy is strongly associated with psychotherapeutic outcomes and is recognized colloquially and in clinical interventions as a critical factor in a patient's prognosis (Kennedy, 2008; Tryon, 2018). Therefore, goal setting in the context of reflection in the Examen practice may also benefit patients and may help set a foundation for overall happiness and well-being posttreatment (Locke, 2002).

Study objectives

This study aimed to compare the Ignatian Examen to a current industry-standard MBRP intervention in an alcohol and drug rehabilitation context in hopes of establishing the Ignatian Examen as an alternative to the mindfulness practice for this population. The study questioned the utility of both practices in improving patient scores on measures of depression, anxiety, stress, meaning in life, and substance craving, among other measures, during a patient's treatment program. This study aimed to address three primary research questions:

1. Using combined data from both conditions, are the two practices (Examen and mindfulness) in the context of the treatment program associated with a general improvement in the study's measures?
2. Is the Jesuit Examen comparable to mindfulness in an addiction treatment environment, or are the two practices differentially associated with improvement in the study's measures?
3. Does self-reported religiosity or spirituality moderate the Jesuit Examen and mindfulness effect on study outcome variables?

METHOD

Participants

Participants in the study ($N = 78$) were recruited from an accredited drug and alcohol rehabilitation program in California that provided 30- and 60-day inpatient and outpatient care for alcohol and other drug use disorders. All participants were fluent in English and were enrolled in the 60-day program when they received informed consent, categorizing this cohort as a convenience sample. Participants ranged from 18 to 65 years of age ($M = 34.0$ years, $SD = 12.75$) and identified primarily as White (not Hispanic, 74.2%), Latino/a/x (16.0%), Asian/Asian American (4.8%), African American (3.2%), and Native American/Alaska Native (1.8%). The majority of participants were male (64.5%). Thirty-seven percent of participants reported Christian religious affiliation, 23% reported Atheist/Agnostic, and 21.0% reported Catholic affiliation. A total of 3.2% of participants identified as Buddhist, 1.6% Sikh, and the remaining participants reported some mixture of "higher power," "spiritual," or similar responses. This study was concerned with any potential differences on outcome measures dependent upon belief versus nonbelief in a higher power, and categorized atheism and agnosticism together for that reason. Additionally, the Jesuit Examen is a byproduct of Catholic teachings. We split Catholicism and Christianity into distinct demographics in this study as we determined the probability of Catholic practitioners having familiarity with the Examen was higher than protestants or non-Catholic Christians.

Procedure

Santa Clara University's Institutional Review Board (IRB) approved all study procedures. Researchers chose the inpatient program due to its secular nature and the entrenched mindfulness practice (5–6× weekly, 30 min per day) administered by facilitators, such that clinicians could replace mindfulness with the 15-min daily Examen intervention with minimal logistical program impact, treating the mindfulness condition as a comparison condition. The program incorporated tools from the *Mindfulness Workbook for Addiction* (Williams & Kraft, 2022), as well as other mindfulness-based resources such as the work of Zen Master Thich Nhat Hanh (1926–2022), including, for example, *Peace is Every Step* (Nhất Hạnh, 2013). The researchers obtained approval to replace the extant mindfulness intervention with the Examen on the basis that program clients maintained sufficient staff support throughout their program to dispel concerns of potentially differential intervention efficacy.

Participants were recruited at the onset of their planned 60-day inpatient treatment, after an approximately 3- to 7-day medically supervised detoxification period, where the participants ceased taking noncritical medications. The participants were provided written informed consent at program orientation (post-detoxification period) and informed that they would be “participating in the Examen, a 15-min end-of-day reflective practice,” throughout their program. The informed consent gave the researchers permission to collect and use their data.

Recruitment for the treatment as usual condition (MBRP) began on July 11, 2022, and ended on September 26, 2023. Recruitment for the intervention condition (Examen) began on November 28, 2022, and continued until April 26, 2023. On November 28, 2022, the program staff switched from the MBRP treatment-as-usual program to the Examen intervention for the remainder of the study. Participants were included in data collection only if they agreed to participate via informed consent, given at baseline before any surveys or demographic information was collected. Of those who met inclusion criteria (planned 60-day inpatient program participation), 72% (62 participants) were retained throughout the study. Participant dropout was due to a number of factors, including leaving treatment against medical advice (AMA), transferring to another facility, or stepping down to a lower level of care, such as Intensive Outpatient (IOP). The authors planned to recruit subjects until approximately 35 participants had joined each group to account for attrition, but exceeded that number in the second condition because there were less than 30 participants in the first condition.

Interventions were administered by clinicians (Registered Alcohol and Drug Technicians, and above) trained in mindfulness-based meditation practices by senior facility staff. The facilitators, as is common in substance use programs, had completed treatment previously in the same program before seeking certification in SUD counseling. Facilitators had at minimum 1 year of counseling experience prior to the onset of the study conditions. Facilitators were introduced to the Examen practice in-person several weeks prior to the first condition, where they were given a script and given an opportunity to express concerns and questions about the transition to Examen. One week before the Examen condition began, the facilitators received another 30-min training via Zoom where they participated in an Examen practice led by an outside facilitator.

Treatment as usual group (MBRP)

The treatment as usual group received a 30-min daily mindfulness discussion and guided meditation session consisting of a facilitator reading aloud a group topic, for instance, “Automaticity,” followed by a paragraph about its relation to the mindfulness practice. The group spent approximately 15 min addressing a list of discussion questions (i.e., “What are some examples of unhealthy automatic thoughts, emotions, or situations? Or healthy ones?”). The participants then participated in a 15-min facilitator-led guided meditation. See Appendix A for a complete example of the program's daily treatment-as-usual mindfulness practice. This intervention was administered by clinicians 5–6 days per week, once daily, for the duration of the patient's program.

Intervention group (Examen)

Plante (2021) described a framework for secularizing the Ignatian Examen so that it can be used more generally for anyone, religious or not. In consultation with the Santa Clara University Ignatian Center, we secularized the Examen practice for use in the nonreligious addiction treatment program environment. We attended to all mentions of God, divinity, or phrases with religious connotations, replacing them with secular alternatives. A complete framework for a daily Examen practice, offering section-dependent alternative phrases, is provided in Appendix B.

The secularized Examen practice was administered by a group facilitator at approximately 4:45 p.m. to all participants 5–6× weekly for their 60-day inpatient treatment program, lasting 15 min per day (half the duration of the MBRP intervention). The Examen intervention did not include a guided discussion before the practice. The structure of the Examen did not change by the day, maintaining its five key aspects (i.e., gratitude, asking for help, reviewing the day, facing the challenges of the day, and looking toward what's next) between sessions of the practice. The facilitator administered the intervention while reading the prepared script until they could facilitate the practice from memory.

Measures

Participants responded to measures assessing compassion, religiosity, mindfulness, hope, meaning in life, satisfaction, depression, stress, anxiety, and substance cravings. All self-report measures were administered via paper and pencil, with staff available in person to assist the participants. Demographics were assessed at baseline only. All other measures were administered at baseline (Time 1), once 2 weeks later (Time 2), and 2 weeks after that (Time 3). We conducted a reliability analysis for each primary measure (Depression Anxiety Stress Scale 21 [DASS-21], Meaning in Life Questionnaire [MLQ], and Craving Scale [CS]) and reported the results of this analysis in Table 1. All of the primary dependent measures evidenced adequate internal reliability in our sample.

Depression Anxiety Stress Scale 21

The DASS-21 is a short form of Lovibond and Lovibond's (1995) 42-item self-report scale used to measure an individual's emotional state of depression, anxiety, and stress, constructs positively associated with addiction vulnerability and relapse risk (Sinha, 2009). The 21-item, 4-point Likert scale (0 = *does not apply to me at all*; 3 = *applies to me very much*) utilizes a tripartite factor model consisting of low physiological arousal (DASS-Depression), physiological hyperarousal (DASS-Anxiety), and negative affectivity (DASS-Stress). An example question is, "I find it hard to wind down," and the measure has previously evidenced high internal consistency ($\alpha = 0.93$) for the total scale (Henry & Crawford, 2005). Additionally, a 2012 examination of the DASS-21 subscales indicates high internal reliability: DASS-21 Depression ($\alpha = 0.85$); DASS-21 Anxiety ($\alpha = 0.81$); and DASS-21 Stress ($\alpha = 0.88$) (Osman et al., 2012).

Meaning in Life Questionnaire

Developed to measure the presence of, and the search for, meaning in life, the MLQ is a 10-item self-report scale that has previously evidenced internal consistency ($\alpha = 0.81$ for Presence, and $\alpha = 0.79$ for Search), temporal and factor structure stability, sufficient validity, and distinction from distress measures (Rose et al., 2017; Steger et al., 2006). The MLQ uses a 7-point Likert scale ranging from 1 = *Absolutely true* to 7 = *Absolutely untrue*. Search items on the MLQ examine the extent to which an individual is searching for meaning in life, and Presence items examine how meaningful one considers

TABLE 1 Cronbach's alphas for DASS-21 subscales, MLQ subscales, and Craving Scale.

Subscale	N	Items	Cronbach's α
Anxiety 1	60	7	0.851
Anxiety 2	59	7	0.821
Anxiety 3	56	7	0.769
Depression 1	61	7	0.894
Depression 2	61	7	0.877
Depression 3	59	7	0.819
Stress 1	61	7	0.851
Stress 2	59	7	0.793
Stress 3	60	7	0.828
Presence 1	61	5	0.860
Presence 2	61	5	0.906
Presence 3	60	5	0.874
Search 1	61	5	0.894
Search 2	61	5	0.899
Search 3	60	5	0.889
Craving 1	62	3	0.777
Craving 2	60	3	0.795
Craving 3	61	3	0.891

Abbreviations: DASS-21, Depression Anxiety Stress Scale 21; MLQ, Meaning in Life Questionnaire.

their life to be. A sample item for Search is “I am always looking to find my life’s purpose,” and a sample for Presence is “I have discovered a satisfying life purpose.”

Craving Scale

Craving is a foundational aspect of SUDs, and greater cravings are associated with a higher risk for substance use (American Psychiatric Association, 2013; McHugh et al., 2014). Weiss and colleagues developed the three-item CS from the Cocaine Craving Scale, a five-item measure of cocaine craving (Weiss et al., 1995, 2003). The three-item CS evidenced a single-factor latent structure and has been adapted to other substances, including alcohol and opioids (the primary substances of use treated at this trial’s rehabilitation center), and has previously demonstrated acceptable internal consistency ($\alpha = 0.78$; McHugh et al., 2021). The scale evidenced predictive validity for next-week cocaine use (Cocaine Collaborative Treatment Study; $N = 487$), between $\alpha = 0.46$ and $\alpha = 0.70$ for alcohol and predicted next-week and heavy alcohol use, and predicted next-week opioid use (McHugh et al., 2014; Weiss et al., 2003). A sample item assessed via a 10-point Likert-type scale (0 = *Very weak*; 9 = *Very strong*) is, “Please rate how strong your desire was to use in the past 24 h.”

Additional measures

Beyond the above measures, we administered the Mindful Attention Awareness Scale (MAAS), the Santa Clara Brief Compassion Scale (SCBS), the Satisfaction with Life Scale (SWLS), and the State Hope Scale (SHS; Brown & Ryan, 2003; Diener et al., 1985; Hwang et al., 2008; Snyder et al., 1996).

Participant scores on these measures improved over time but did not significantly vary between conditions and were thus removed from further analysis and discussion in this study. Given the volume of measures administered, this study's risk for familywise error is fairly significant and is addressed in the discussion section.

Data collection

The initial demographic data were collected electronically at the time of informed consent, at the client's program orientation (between 3 and 7 days post-enrollment, after on-site detoxification services). Initial participant demographic data included their age, self-reported ethnicity, degrees of religiosity and/or spirituality (Likert-type scale), minutes per week engaged in spiritual practice (e.g., meditation, spiritual contemplation, attending religious services, etc.), asked if the participant had ever or currently practiced the Ignatian Examen, and lastly, religious identification. All data for the study except initial demographic data were collected via paper and pencil surveys, which did not change between conditions or participants throughout the study. Participants met with a program staff member once every 2 weeks throughout the duration of their program to complete the survey battery, starting the day of their orientation (Day 1 in the program). Participants were given as much time as needed to complete the paper and pencil surveys, though most completed the full battery in under 10 min.

Analysis plan

This intervention is the first exploration of the Jesuit Examen in a clinical population. Therefore, we opted for an inclusive methodology when choosing our dependent measures and crafting our data analysis plan, electing to test first for significance on a broad array of measures before targeting significant effects with more comprehensive analyses. Furthermore, human subjects research in clinical populations presents an array of recruitment and attrition-related challenges, and we hoped to recruit as many participants as was logistically feasible throughout the study's two recruitment periods. The resulting sample sizes were limited, which interfered with analysis power; however, we investigated statistical significance in light of the varying sample sizes. Given the extensive initial analyses, we exercised caution in interpreting significant findings. While results from measures not included in the following analysis that approached significance could be included to help direct further research, we elected to include only the significant results due to limited statistical power and to remain conservative in interpreting our findings.

Before addressing the three research questions outlined in our study objectives, we had to verify that our samples could be effectively compared. First, we confirmed that the demographics in both conditions were functionally similar, and second, we investigated between-group differences at Time 1 on the relevant measures that could account for significant results at Time 3.

Internal validity check: Are the demographics of the populations, both retained and dropout, in the Examen condition different from those of the mindfulness condition?

Due to the attrition experienced throughout the study period, stemming from factors such as inter-facility transfers, AMA departure from treatment, or early completion of the program, we aimed to establish that the demographic characteristics of the participants were similar across both conditions (i.e., Examen and mindfulness) and retention status (i.e., retained and dropout). As outlined below, the statistical tests did not yield significant results regarding differences between group participants. Thus, we concluded that the two groups were comparable regarding participant likelihood to stay in the program throughout the study.

TABLE 2 Means and standard deviations for examen and mindfulness groups on dependent measures.

Measure	Condition					
	Mindfulness			Examen		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Anxiety 1	21	10.43	3.79	39	12.87	5.14
Anxiety 2	19	9.05	3.29	40	10.78	3.70
Anxiety 3	19	7.90	1.45	37	9.65	3.16
Depression 1	21	11.05	4.54	40	12.18	5.33
Depression 2	21	10.14	4.45	40	11.28	3.94
Depression 3	20	8.45	1.99	39	10.00	3.09
Stress 1	21	12.43	4.30	40	14.70	4.64
Stress 2	19	11.21	3.72	40	13.25	3.80
Stress 3	20	9.85	4.17	40	12.08	3.63
Presence 1	20	25.05	7.21	41	23.73	6.04
Presence 2	20	26.65	6.56	41	24.07	6.19
Presence 3	20	28.40	3.83	40	25.15	5.39
Craving 1	21	3.63	2.04	41	4.46	2.53
Craving 2	20	3.42	2.31	41	3.88	2.12
Craving 3	20	2.92	2.07	41	3.75	2.22

A two-sample *t*-test was performed to compare the ages of participants in the retained group (*n* = 62) with those in the dropout group (*n* = 24). There was not a significant difference in age between the retained group (*M* = 33.98, *SD* = 12.86) and the dropout group (*M* = 33.46, *SD* = 9.73); *t*(84) = 0.181, *p* = 0.857 (two-sided). A Chi-square test of independence was performed with participant gender and program retention, which resulted in no significant association between the two variables ($\chi^2(1, n = 86) = 0.866, p = 0.352$). Another Chi-square test of independence was performed between participant ethnicity and program retention, resulting in no significant difference ($\chi^2(5, n = 86) = 5.268, p = 0.384$). See Table 2 for means and standard deviations for dependent measures by treatment group.

An independent sample *t*-test was performed to compare the ages of participants from the Examen group (*n* = 51) and the mindfulness group (*n* = 35) at baseline before attrition. The *t*-test resulted in no significant difference between the mindfulness (*M* = 34.77, *SD* = 13.08) and Examen groups (*M* = 33.2, *SD* = 11.30); *t*(84) = 0.595, *p* > 0.05 (two-sided). A Chi-square test of independence was performed between participant age and condition, which resulted in no significant association between the two variables ($\chi^2(1, n = 86) = 0.034, p > 0.05$). A final Chi-square test of independence was performed between participant ethnicity and condition, which resulted in no significant difference between the groups ($\chi^2(5, n = 86) = 8.280, p > 0.05$).

Once we had determined that we could reasonably compare the two populations, we investigated any significant correlations by creating a correlation matrix with all independent and dependent variables. We then ran independent and paired samples *t*-tests to investigate significant findings further. We aimed to check for internal validity, answer our first research question (whether the program was effective irrespective of condition), and establish group differences between conditions. An a priori power analysis was conducted using G*Power version 3.1.9.6 to determine the minimum sample size required to test the study hypotheses. Results indicated that the required sample size to achieve 80% power for detecting a medium effect at a significance criterion of $\alpha = 0.05$ was *N* = 144 (49, 95) for a *t*-test of difference between two independent means. Thus, the obtained sample size of *N* = 62 (21,

41) was insufficient to test the study hypothesis at a medium effect size. As no previous studies have empirically evaluated the Jesuit Examen within a substance use treatment population, a medium effect size was chosen arbitrarily in light of the lack of previous pilot studies in this context, and we exercise caution in the interpretation of these findings.

In preparation for the data analysis and in light of the few significant findings evidenced by the initial correlation matrix (discussed further in research question two), we elected to determine if we could reasonably compare the two condition's sample means by performing independent samples *t*-tests for each measure at Time 2. At Time 2, DASS anxiety in the Examen condition ($M = 12.87$, $SD = 5.14$) exceeded that of the mindfulness condition ($M = 10.43$, $SD = 3.79$), $t(58) = -2.094$, $p = 0.041$. All other independent samples *t*-tests did not evidence significant differences between conditions at Time 1.

Due to the observed significant difference between conditions in anxiety at Time 1 (baseline), we crafted a multivariate analysis of covariance (MANCOVA) to account for any baseline group differences, using only the significant findings from the previous exploratory analyses. As discussed with Research Question 2 in the results section, the MANCOVA suffered from limited power due to insufficient sample size. Therefore, we also employed analyses of covariance (ANCOVAs) to eliminate any confounding interactions between variables in the MANCOVA, which were sufficiently powered to detect an effect at our sample size. Though multiple regression or other strategies could have been used here, we believe this approach was the most straightforward way to analyze our data, resulting in a clear picture of our findings.

RESULTS

We aimed to answer three research questions with this study. The first was to establish that participation in Examen and mindfulness practices in the context of the host SUD treatment environment was associated with improved scores on depression, anxiety, stress, meaning in life, and craving measures. The second aim was to compare the two practices to ascertain whether Examen or mindfulness was more effective in improving practitioner scores. The third and final aim was to investigate any interaction between self-reported religiosity and spirituality at Time 1 and scores on the relevant measures.

Question 1: Are the Jesuit Examen and mindfulness in the context of the treatment program associated with improvement in

Depression, Anxiety, and Stress Survey (DASS-21): We first conducted paired sample *t*-tests between longitudinal pairs of means on each of the DASS-21 subscales. These evidenced positive changes on depression, anxiety, and stress over time in both the mindfulness and Examen conditions. Between Times 1 and 3, DASS-21 Depression decreased from $M = 11.97$, $SD = 5.12$ at Time 1 to $M = 9.47$, $SD = 2.86$ at Time 3, $t(57) = 4.104$, $p < 0.001$, Cohen's $d = 0.54$. Between Times 1 and 3, the DASS-21 Anxiety subscale decreased from $M = 12.02$, $SD = 4.83$ at Time 1 to $M = 9.02$, $SD = 2.83$ at Time 3, $t(53) = 5.950$, $p < 0.001$, Cohen's $d = 0.81$. Finally, DASS-21 Stress decreased from $M = 13.9$, $SD = 11.41$ at Time 1 to $M = 11.41$, $SD = 3.92$ at Time 3, $t(58) = 4.557$, $p < 0.001$, Cohen's $d = 0.593$ (all two sided).

MLQ Presence: How full respondents feel their lives are with meaning? MLQ Search: How engaged and motivated they are in efforts to find or deepen meaning? Concerning the MLQ Presence subscale, which operationalizes how "full" respondents feel their lives are with meaning, another paired sample *t*-test was used to investigate the longitudinal effects of program participation on MLQ Presence scores unrelated to the study condition. It found a significant increase in MLQ Presence scores from Time 1 ($M = 24.19$, $SD = 6.16$) to Time 3 ($M = 26.20$, $SD = 5.17$), $t(58) = -2.698$, $p = 0.009$, Cohen's

$d = -0.351$. A notable correlation is that higher DASS-21 scores were associated with lower meaning in life (MLQ Presence) and vice versa ($r = -0.512$, $p < 0.001$) at Time 3. On the other hand, MLQ Search scores, which concern one's subjective efforts at finding meaning in life, reflected an opposite pattern between Times 1 and 3, with scores at Time 1 ($M = 26.34$, $SD = 6.00$) decreasing significantly by Time 3 ($M = 24.34$, $SD = 5.42$), $t(58) = 3.380$, $p = 0.001$.

CS: Desire to use, the likelihood of use, and strength of urges: A paired samples t -test was used to determine the effect of general program participation on CS Scores between Times 1 and 3, which resulted in a significant decrease in desire, likelihood, and urges to use across the trial period regardless of condition, with mean substance cravings decreasing from $M = 4.24$, $SD = 2.37$ at Time 1 to $M = 3.48$, $SD = 2.19$ at Time 3, $t(60) = 2.504$, $p = 0.015$, Cohen's $d = 0.32$. CS scores were associated with DASS-21 at Time 3 for Depression ($r = 0.454$, $p < 0.001$), Anxiety ($r = 0.412$, $p < 0.001$), and Stress ($r = 0.544$, $p < 0.001$). The CS was also significantly negatively associated with Presence at Time 3 ($r = -0.407$, $p = 0.001$) and positively associated with Search at Time 3 ($r = 0.400$, $p = 0.002$). Scores on the CS were not associated with a participant's condition. All p -values reported are two sided.

Question 2: Is the Jesuit Examen comparable to mindfulness-based practices in an addiction treatment environment?

An initial correlation matrix investigating associations between study measures resulted in significant findings for the DASS-21 at Time 3 in relation to participant condition (Examen vs. mindfulness) and a significant finding on the MLQ Presence subscale. At Time 3, the Examen condition evidenced higher Depression ($r = 0.269$, $p = 0.038$), Anxiety ($r = 0.298$, $p = 0.026$), and Stress ($r = 0.269$, $p = 0.038$) and lower Presence ($r = -0.301$, $p = 0.019$). Additionally, the DASS-21 Anxiety subscale evidenced significant baseline differences between conditions ($t(52) = -2.094$, $p = 0.041$, $d = 0.54$). These initial findings were used to craft a MANCOVA controlling for initial differences between the Examen and mindfulness groups on the measures at Time 1 (baseline). We conducted an a priori power analysis to determine the required sample size for a MANCOVA, which resulted in $N = 179$ for power = 0.80 at a significance criterion of $\alpha = 0.05$. Our final sample size due to program confines and participant attrition was insufficient to detect an effect at this sample size. Therefore, the significant pairwise effects observed here should be interpreted with caution. The MANCOVA included only the significant findings from the correlation matrix (DASS-21 Depression, Anxiety, Stress, and MLQ Presence). The results of the overall MANCOVA were not significant; the differences observed at Time 3 were reasonably accounted for by observed differences between conditions at Time 1. The between-condition effect that most approached significance was depression at Time 3 ($p = 0.117$). Univariate tests based on the linearly independent pairwise comparisons among estimated marginal means resulted in significance for Depression at Time 2, Stress at Times 2 and 3, and MLQ Presence at Time 3. In light of the underpowered MANCOVA due to sample size, we elected to conduct univariate ANCOVAs for the significant pairwise comparisons in the MANCOVA.

We conducted an a priori power analysis for a univariate ANCOVA, which resulted in a required sample size of $N = 34$ to achieve power = 0.80 at a significance criterion of $\alpha = 0.05$. When we tested these variables individually in ANCOVAs, these significant differences from the univariate model provided through the initial MANCOVA disappeared, resulting again in no significant difference between the two study groups for all measures except for MLQ Presence at Time 3 ($F = 6.483$, $p = 0.014$, Cohen's $d = 0.68$). Of the measures included initially in the study, this was the only significant difference between Examen and mindfulness conditions evidenced by the analyses of covariance, such that the mindfulness group experienced higher scores on mindful presence than the Examen group. While the limitations of our sample size resulted in insufficient power for the MANCOVA, the ANCOVA tests were sufficiently powered to detect an effect at the given sample size.

Without exception, DASS-21, MLQ, and CS scores improved across the study period in both the Examen and mindfulness conditions. In the mindfulness condition, DASS-21 Anxiety decreased by $M = 2.74$ points, $SD = 3.36$, $t(18) = 5.950$, $p = 0.018$, Cohen's $d = 0.81$. Depression decreased by $M = 2.75$ points, $SD = 4.77$, $t(19) = 4.104$, $p < 0.001$, Cohen's $d = 0.58$. Stress decreased by $M = 2.55$ points, $SD = 4.38$, $t(19) = 4.557$, $p = 0.018$, Cohen's $d = 0.58$. MLQ Presence increased by $M = 3.89$ points, $SD = 7.82$, $t(18) = 2.172$, $p = 0.043$, Cohen's $d = 0.50$. Finally, raving (CS) decreased by $M = 0.85$ points, $SD = 3.01$, $t(19) = 2.504$, $p = 0.222$, Cohen's $d = 0.28$.

In the Examen condition, DASS-21 Anxiety decreased by $M = 3.43$ points, $SD = 4.24$, $t(34) = 4.787$, $p < 0.001$, Cohen's $d = 0.81$. Depression decreased by $M = 2.37$ points, $SD = 4.24$, $t(37) = 3.154$, $p = 0.003$, Cohen's $d = 0.51$. Stress decreased by $M = 2.45$ points, $SD = 4.16$, $t(38) = 3.695$, $p < 0.001$, Cohen's $d = 0.59$. MLQ Presence increased by $M = 1.13$ points, $SD = 4.28$, $t(39) = 2.172$, $p = 0.104$, Cohen's $d = 0.26$. Lastly, craving (CS) decreased by $M = 0.72$ points, $SD = 2.03$, $t(40) = 2.262$, $p = 0.029$, Cohen's $d = 0.35$. Ultimately, the two interventions evidenced nearly identical efficacy on all measures, except for mindfulness participants evidencing significant increases in MLQ Presence between Times 1 and 3, where the Examen participants did not, and the Examen participants showing significant improvement in craving between Times 1 and 3, where the mindfulness participants did not. The nonsignificant results observed in this study could have been due to an underpowered analysis resulting from the varied sample size, which is notable when interpreting these data. Furthermore, as the MANCOVA was both underpowered and not significant, we provide these findings to further contextualize the observed outcomes of this trial.

Question 3: Are religiosity and spirituality associated with differential effects of the Ignatian Examen on the outcome measures?

Religiosity taken at baseline was not significantly associated with scores on the relevant outcome measures. However, higher spirituality was associated with MLQ Search at Time 1 ($r = 0.302$, $p = 0.018$) and Time 3 ($r = 0.427$, $p < 0.001$). These results did not support the conclusion that reported religiosity or spirituality was associated with intervention effectiveness for either the mindfulness or Examen condition. Additionally, age was negatively associated with self-reported spirituality ($r = -0.263$, $p = 0.039$); older participants reported higher religiosity and lower spirituality. We also observed a significant positive correlation between spirituality and religiosity ($r = 0.338$, $p = 0.007$).

DISCUSSION

This study directly compared the Jesuit Examen to an established MBRP intervention in an inpatient addiction treatment context. Both interventions were facilitated in a group setting by an addiction treatment technician daily, with participant data gathered for the initial 6 weeks of a participant's inpatient program. This study aimed to compare the Jesuit Examen directly to an industry-standard treatment intervention to assess the Jesuit Examen's efficacy as an alternative to mindfulness-based interventions in an addiction treatment context. Additionally, we hoped to establish if both interventions were associated with positive changes in relation to participants' depression, anxiety, stress, meaning in life, and cravings. We found that the Examen and mindfulness were associated with positive changes in participants' outcomes on depression, anxiety, stress, craving, and meaning in life, regardless of study condition. However, the two interventions were differentially associated with improvement in MLQ Presence (mindfulness > Examen) and substance craving (Examen > mindfulness). Mindfulness was significantly associated with improved scores between Times 1 and 3 on Depression, Anxiety, Stress, and MLQ Presence. The Examen was significantly associated with improved scores over the same period on depression, anxiety, stress, and craving.

The sole significant difference between the Examen and mindfulness conditions after post hoc testing was that scores on the MLQ Presence subscale at Time 3 (approximately 1 month after the onset of treatment) were higher in the mindfulness condition than in the Examen condition, which reflects the contemporary understanding of mindfulness in that it differentially promotes present-moment awareness (Kabat-Zinn, 2015; Parker et al., 2015; Phelan, 2010). Ultimately, however, participants did not differ significantly on the vast majority of measures, and other post hoc tests did not reveal significant differences where observed directionality invited further scrutiny. There is a risk of type 1 error, given the volume of measures administered in this study. The lack of significant findings between the two conditions in all additional measures decreases our concern about false discoveries; however, the significant finding on MLQ Presence can be viewed more critically due to the volume of measures.

Apart from the differences by condition in the initial correlation matrix addressed above (DASS-21 and MLQ), the correlation matrix revealed several interesting findings in keeping with the extant literature. First, higher depression, anxiety, and stress scores are associated with lower meaning in life and vice versa; the higher a participant scored on measures of depression, anxiety, and stress, the lower those same participants scored on perceived meaning in life. A similar 2019 study found an association between all-cause mortality and meaning in life, establishing a correlation in the same direction (Alimujiang et al., 2019). Participants reported decreased urges, likelihood, and thoughts of using throughout the study. Notably, paired samples *t*-tests revealed a significant decrease in craving throughout the study period for the Examen condition, and a directional, but not significant, decrease for the mindfulness condition. Participants who reported higher cravings and urges to use also reported higher depression, anxiety, and stress, with cravings positively associated with scores on those subscales at Time 3. We also observed that participant age had significant correlations with responses on all measures, including a negative relationship between age and anxiety, stress, and depression subscales (older participants had lower scores on these measures), as well as a negative relationship between age and self-reported craving, likelihood to use, and urges to use. These findings are commensurate with other research on depression and age, showing a decrease in depression scores in middle age (Ellerman & Reed, 2001; Mirowsky & Ross, 1992) and with theorized interactions between mindfulness and craving (Kavanaugh et al., 2004). Finally, we investigated the effect of participant gender on all outcomes, resulting in no significant differences relative to gender.

The results of this study should be interpreted in the context of the study environment, the extensive research on mindfulness (MBRP) and similar interventions, and the extant literature (both empirical and religious/spiritual) on the utility of reflective practices. Notably, the two study conditions (MBRP and Examen) differed regarding facilitator training, experience with the practices, and daily intervention duration. All facilitators were Registered Alcohol and Drug Technicians (RADT-i) or greater and had at least 2 years of group facilitation experience via their employment at this study's chosen rehabilitation center. All facilitators had received the mindfulness intervention throughout their substance use treatment programs and achieved long-term sobriety (2+ years) through a combination of the MBRP practice, social support, and other recovery efforts. These facilitators were trained extensively in mindfulness practice facilitation. They performed the intervention daily in a treatment-as-usual context, increasing their familiarity with the practice and its beneficial effects.

As replicating the familiarity the facilitators had with the mindfulness practice was beyond the constraints of this study, the facilitators instead received an in-person orientation to the Examen on-site prior to beginning data collection and were trained once on the Examen intervention for approximately 30 min via teleconference, before beginning the administration of the intervention. The daily MBRP intervention was performed for approximately 30 min (15-min discussion, 15-min guided meditation), while the Examen was performed for 15 min, with no discussion. Despite these differences in the training of the facilitators, familiarity with the practices, and intervention duration, the Examen showed functionally equivalent positive impacts on participants' outcomes as the mindfulness practice. Both practices were significantly associated with positive changes in the relevant measures and thus evidenced utility in treating addictive disorders.

Implications for practice

The results of this study support the notion that the Jesuit daily Examen has the potential to benefit individuals undergoing substance use treatment. The Examen presents as a low-cost, easily administrable practice with similar efficacy to mindfulness, and notably, led to significant practitioner improvement on a measure of substance craving and likelihood of relapse—a key indicator of post-treatment success. The Examen may be particularly attractive to Catholic or Christian practitioners and those individuals who have not responded to mindfulness interventions in an SUD treatment environment. As it is of utmost importance to take a culturally sensitive approach to intervention development, the Jesuit Examen presents as a potentially valuable tool for SUD clinicians to connect with and leverage their patients' cultures of origin in their recovery process.

Limitations and implications for future research

The study discussed here was subject to several limitations, including varying sample size between conditions, the lack of a control group, asynchronous conditions, and differential facilitator training and familiarity with the practices. This study also utilized a convenience sample and suffered from significant attrition in the mindfulness condition, potentially skewing the results. However, as research has never investigated the Jesuit Examen within a clinical population, we increased the number of dependent measures in this pilot study. We suggest that future research more precisely targets the dependent measures that resulted in significance here, namely, craving, meaning in life, depression, anxiety, and stress. At present, no extant literature explains the Examen participant's significant decrease in craving during the study period, so further research should attempt to both replicate this finding and, if successful, determine its underlying cause.

In the interpretation of these findings, further questions arise. If Examen and mindfulness are interchangeable in a clinical environment, could there be an underlying factor responsible for the benefits experienced by practitioners as a function of these interventions? The benefits of reflective practice are not in question—mindfulness has been shown to be highly beneficial in treating SUDs and improving well-being (Davidson et al., 2003; Grant et al., 2017; Kabat-Zinn, 2003). Suppose a fundamental, curative factor associated with practitioner success via mindfulness is also present in the Jesuit Examen. Further research should aim to distill and isolate the operant factor at the heart of these practices.

Moreover, further research should compare the Jesuit Examen in a randomized controlled trial in an addiction treatment population and investigate the Jesuit Examen in its traditionally religious context as a culturally sensitive intervention for Catholic and Christian individuals with SUDs. Much as the Sufi poet Rumi suggested that there are many paths up a mountain such that discipline on any one path will lead the practitioner to the peak, and Eckhart Tolle regarded all religions as pieces of one puzzle, the Buddhist-derived mindfulness and the Jesuit-derived Examen may be folds of the same cloth—clues to how humans can transcend their addictions and ultimately free themselves from their suffering (Chittick, 2005; Tolle, 2006). The Examen, in its comparison with mindfulness, may contribute to reconciliation between the world's great spiritual and religious traditions.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

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APPENDIX A: MINDFULNESS GROUP TOPIC/PRACTICE EXAMPLE

Topic: Automaticity

Automaticity is the opposite of being mindful. It is an association between a situation (trigger) and a behavior (reaction), developed over time and repetition until it becomes habitual. Automaticity can reference thoughts, emotions, situations, and actions. Often, in our substance use, we would face a situation and turn to substances as a behavior to cope with it. Mindfulness teaches us how to experience situations without having to react to them; how to respond instead of reacting.

Discussion questions

What is the difference between a reaction and a response?

What are some examples of unhealthy automatic thoughts, emotions or situations? Of healthy ones?

What did your unhealthy, automatic emotions or thoughts typically lead to? What did healthy ones lead to?

How can you mindfully be more responsive as opposed to reactive to these thoughts and emotions?

What can you do the next time you have an urge to react? (What are some mindfulness activities that you can use to cope with these habitual reactions?)

Guided meditation instructions

Intro:

During today's practice, I want you to be aware of the different emotions and thoughts you are experiencing. Try to be mindful of how you are wanting to react to them (i.e., suppressing negative feelings or trying to latch onto positive feelings). Allow your anchor to remind you that these things are impermanent and will come and go. Try to allow yourself to simply experience this moment as opposed to trying to change your experience.

“Take a moment and notice your body in your chair and your feet on the ground”

“Allow yourself to find a place of stability and ease”

“Now begin to notice your breath”

“Be aware of each breath as it fills up your belly and lungs”

“Allow yourself to breathe in a sense of ease and peace as we invite the bell” (bell rings)

“Notice any thoughts or emotions that are coming up”

“Notice any desires or impulses to do something, like, get up, move, quiet the noise”

“Be aware if any of these thoughts or feelings bring about a desire to react”

“Acknowledge it, as it may be there and present, trying to get you to do something different than just experience this moment”

“Direct your attention back to your breath, back to your body, back to your anchor”

“Allow these thoughts to begin to pass, letting go of that emotion that you may be holding onto”

“Continue to allow yourself to just experience the present moment”

“In this moment you don’t need to do anything, you don’t need to change anything”

“Just be; just breathe; just experience”

“Listen to the invitation of the bell as it brings this moment to its end, as well as ushers in a new moment” (bell rings)

APPENDIX B: SECULAR IGNATIAN EXAMEN

Beginning (1 min)

I invite you to take three slow, deep breaths at your own pace—just slowly become aware of your connection to yourself, this room, this group of people, this moment, and the world around you. We move to Step 1 of our Examen.

Step 1: Gratitude (2 min)

Even if today has felt hard, take some time to consider what good things (possibly “what has been life-giving today”) you have experienced today. Consider the really big ones (your life, safety, love) to the really small ones (a good night’s sleep, an affirming conversation, a task completed, a compliment paid to you). For each gift that comes to mind, spend a moment giving thanks. We now move to Step 2 of our Examen.

Step 2: Asking for some help/approaching the day with humility (1 min)

You are invited now to ask for the clarity to see the truths of the day that you just experienced: the experiences that were life-giving, the moments that were life-draining; the joys and sorrows; the healthy and unhealthy. Just ask for some help for the rest of this Examen to see your day for what it truly is. And now we move to Step 3 of our Examen.

Step 3: Review and relive your day (4 min)

I invite you now to use your **imagination** to review and relive your day. I will walk you through the day, hour by hour. When significant moments arise, linger there for a while. If you notice yourself getting stuck on one aspect of your day, acknowledge its significance and gently let go as you continue to review your day. Start with the moment you woke up. What were those first things you did after waking up? What was that time like for you? And what came next? Try to stay grounded in your **five senses** as you relive the day. What about midday or lunchtime? What about the hours leading up to this Examen? What significant moments were there for you? Let's move to Step 4.

Step 4: Face the challenges of the day (3 min)

What were the difficult moments of the day? Moments when you had unhelpful thought patterns, when you said something hurtful, when you did something hurtful, or when you were hurt?

Were there any missed opportunities (could expand this: more mindful, etc.), such as when you could have acted with more compassion? With this moment or moments in your mind and heart, consider if there is an invitation for healing, forgiveness, or reconciliation. Allow peace and love to wash over you. And we move on now to the last step of our Examen.

Step 5: Look towards what's next (2 min)

With what you have learned during this Examen about yourself and your life, is there anything you feel invited to do tomorrow? Perhaps more importantly, consider what sort of person you feel called to be tomorrow. Take a moment to resolve to be that person. You might even make a commitment to that effect. Or would you like to set some goals for tomorrow? And ask for the help you need to fulfill this commitment.

And to conclude this Examen, I invite you to consider if there are any final things you want to express. Is there an intention you want to set? Take a few deep breaths.