

Entry

Integrating Positive Psychology into Substance Use Treatments

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Definition: Positive psychology is a rapidly expanding and recent empirical, interdisciplinary research topic (i.e., within the last 25 years). Early evidence supported that targeting positive variables (i.e., empathy or kindness) has numerous benefits, including improving health outcomes, vocational success, psychological well-being, and interpersonal connectedness. Positive Psychological Interventions (PPIs) are activities and behavioral interventions that target positive variables to promote adaptive functioning (e.g., reducing depression or promoting psychological well-being). PPIs may make excellent contributions to treating substance use, substance use disorders (SUDs), and substance use problems because the interventions can partially shift the notable negative treatment focus (e.g., avoiding the consequences of using) onto positive aspects (e.g., pursuing an ideal future). Current substance use treatment outcomes demonstrate a need for improvements (e.g., low abstinence rates and lifetime symptom remission of SUDs), and positive psychology may provide a framework for improving existing treatments. In the current paper, the author reviewed research supporting the use of PPIs in substance use treatments, provide suggestions for PPI applications, examine advantages and practical issues, outline the current limitations, and provide future directions for continuing this line of work. The author aimed to encourage researchers to advance substance use treatment improvements with positive psychology because the growing consequences from substance use (e.g., the growing frequency of accidental fatal overdose) and the variable, limited treatment outcomes, placing those who use substances in a uniquely vulnerable position.

Keywords: positive psychology; positive psychological interventions; substances; substance use; substance use disorders; substance use problems; treatments; treatment modification; substance use treatments; treatment integration



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1. Introduction

Substance use treatments have a history of negatively framing of behaviors (e.g., being flawed individuals), potentially limiting people from seeking treatments and promoting stigmatizing beliefs [1–4]. Researchers are in the early stages of applying positive psychological interventions (PPIs) to the treatment of substance use disorders (SUDs) and substance use problems (SUPs; e.g., savoring interventions) [5]. This early theoretical work and empirical research shows promising effects. However, guidance and consideration of this integration of PPIs into substance use treatments remains sparse in the literature. As such, the purpose of the current work is to review the literature and provide the necessary background information that led to this integration, delineate the theoretical and empirical rationale, outline guidelines for this integration, and discuss the advantages, limitations, and future directions for this essential emerging topic.

2. Positive Psychology

2.1. Emergence of Positive Psychology

Researchers can trace modern positive psychology to humanism, as Abraham Maslow introduced the term and early foundations in his 1954 book *Motivation and Personality* [6]. However, the rigorous empirical study of positive psychology originated roughly 25 years

ago when Martin E. P. Seligman, who won the largest presidential vote for the American Psychological Association at the time, suggested that psychology demonstrated a prominent over-focus on dysfunction and neglected to study the average healthy functioning and the above-average thriving that some individuals experience [7]. The problem with this near-exclusive negative focus was that there was little scientific evidence on (1) the limits of human psychological potential and (2) how to improve the lives of those who are not experiencing psychopathology. As such, Dr. Seligman led the effort to shift research in psychology away from the negative aspects of human experiences and onto positive ones. In the last 25 years, the empirical study of positive psychology has established roots in theory (e.g., the PERMA model) [8,9] and with applications across domains, including mental health treatments (e.g., positive psychotherapy) [10], physical health (e.g., flourishing) [11,12], and work environments (e.g., grit) [13,14]. Although these roots have much support, the potential to apply positive psychology to new avenues continues to expand as researchers learn more about its viability and effectiveness.

2.2. Positive Psychological Interventions

One of these newer applications is the development of Positive Psychological Interventions (PPIs) [15–17]. In the early 2000s, Dr. Seligman led work on empirically validating clinical interventions that promote happiness. In his seminal 2005 *American Psychologist* article, Dr. Seligman et al. conducted a large experiment to test the effects of five PPIs compared to one control group. The results suggested that three PPIs improved self-reported happiness and depression, even six months after the experiment ended [18]. This early work and publicization of “happiness interventions” led to a culmination of researchers creating new PPIs, testing the characteristics of PPIs, and replicating these effects over the next two decades. Over time, the empirical basis for defining PPIs changed with emerging evidence. Notably, the research found that pursuing happiness tends to have detrimental effects on happiness [19,20], and that these interventions can improve other facets of psychological functioning beyond happiness [21]. Thus, researchers rebranded these interventions as Positive Psychological Interventions to account for this developing research.

PPIs have three criteria that separate them from traditional interventions [22,23]. First, for an intervention to qualify as a PPI, it must demonstrate efficacy in at least one experiment and have a strong theoretical basis for its effects [18,24]. Second, PPIs must use a positive variable (e.g., savoring, empathy, or gratitude) [25] instead of targeting only negative variables (e.g., negative automatic thoughts) [26]. Third, the change in the positive variables must cause a positive change in a population of interest. For example, increasing gratitude in an undergraduate sample could strengthen their positive affect [27]. Additionally, PPIs may also be culturally dependent. For example, a study conducted by Boehm et al. that involved delivering a gratitude intervention to Anglo-Americans and Asian-Americans found that the effects of the intervention were significantly stronger for Anglo-Americans, likely due to the cultural implications of gratitude in Asian-American culture [28]. Finally, PPIs produce positive effects on a variety of populations, including college students [27,29], clinical populations [30,31], and community members [32,33]. Thus, PPIs have great potential to improve countless individuals’ psychological functioning and well-being.

Given the emerging empirical evidence, meta-analyses were able to demonstrate small to medium effect sizes [34]. Bolier et al. organized PPIs, which contain a broad range of interventions, into well-supported, major categories based on the PPIs’ positive variable. These domains are the following: (1) expressing gratitude by oneself or with others; (2) learning about character strengths and using them in a novel manner; (3) pursuing short- and long-term goals; (4) practicing and enhancing an optimistic worldview; (5) performing novel acts of kindness; and (6) savoring moments or memories. These PPIs produce small to medium effects and have efficacy, as demonstrated in clinical and non-clinical samples. However, despite early promising findings and support for the efficacy of PPIs, a recent meta-analysis by White et al. concluded that the effect sizes of PPIs are smaller than previ-

ously demonstrated in meta-analyses for well-being, and that their effects on depression are likely generally nonsignificant when accounting for sample size [35]. This recent evidence suggests that a limitation of PPIs is their applicability to emotion dysregulation and general well-being, but the applicability to other facets of psychopathology, including substance use, remains largely unexplored.

3. Substance Use Treatments

SUDs involve an enduring pattern of substance use that results in adaptive impairment (e.g., interpersonal conflict, job loss, or negative health effects), whereas SUPs involve the immediate consequences of using substances (e.g., getting pulled over after drinking, panic attacks, or dehydration [36,37]). SUDs and SUPs are a rapidly developing global public health emergency [38,39] affecting nearly two million people globally and resulting in thousands of fatal overdoses in the United States alone [40,41]. Despite the potential consequences of SUDs and SUPs, as little as 11–12% of people receive treatments annually [42,43]. The reason for this low treatment-seeking rate remains somewhat unclear. However, some potential explanations include that ~95% of people do not want treatment [44] and clinician-patient goal misalignment is common [45]. Further, for those who enter treatments, abstinence rates (i.e., those who completely stop their use) remain low (e.g., estimates range from 36 to 56% at treatment completion and 16 to 53% at three- to six-month follow-ups) [46–49]. Moreover, harm reduction is a newer alternative to abstinence-based treatments that allow for more flexibility. Individuals and clinicians practicing harm reduction do not push for abstinence exclusively; rather, they push for reducing the negative consequences of using substances (e.g., not using before work) [50]. Despite the growing promise of harm reduction, only about 35–58% of those with SUDs attain remission of their symptoms in their lifetime, irrespective of abstinence [51,52]. The health consequences of SUDs and the highly variable treatment outcomes put those with SUDs and SUPs in a uniquely vulnerable position. Thus, improving the available behavioral treatments for SUDs is a crucial endeavor.

4. Integration of PPIs into SUD Treatments

4.1. Animal Models

The rationale for the integration of PPIs into substance use treatments, as outlined by Stone [2], is that substance use may result from low accessibility to non-substance rewards, and PPIs may provide quick non-substance rewards that result in a reduction in the desire for substance-based rewards. The evidence for this rationale started in translational studies (i.e., animal model), where rats tended to initiate self-administered substances less frequently when operant social and environmental rewards were more easily accessible [53,54]. Essentially, it is possible that when rats had the opportunity to engage in non-substance-based social rewards and with other rats (e.g., running on a wheel or interacting with other rats), they tended to use substances less, regardless of availability (i.e., the rats had unlimited access to the heroin and methamphetamine hits). These studies suggested that the rats may use substances (i.e., substance-based rewards) to replace the unavailable non-substance-based social rewards, but not necessarily as a preference over non-substance-based social rewards.

4.2. Human Translation

This pattern of preferred non-substance-based rewards may emerge in humans, as SUDs and SUPs disproportionately affect those with a low socioeconomic status (SES). Individuals with low SES may have less time and availability for pleasurable social and environmental activities [43,55]. Specifically, individuals are more likely to use substances in environments with fewer non-substance-based rewards [56,57]. Behavioral economics has utility for treating substance use disorders by supporting the effects of these translational animal model studies. This recent application suggests that the substances' availability and perceived immediate benefits create a reward that reinforces substance use, despite potential

long-term consequences of using such rewards [57–61]. This interaction between biological drives and environmental features may initiate and maintain substance use because of (1) excessively high or easily accessible substance-based rewards and (2) relatively fewer or inaccessible non-substance-based rewards. These features create an imbalance between substance-based and non-substance-based rewards, which is common amongst those who have a lower socioeconomic status (i.e., not feeling satisfied with work, less time for social endeavors, or difficulty accessing certain recreational or social activities that cost money) [62]. Therefore, this imbalance may present an opportunity to target an emerging maintenance factor of SUDs and SUPs.

4.3. Rationale

PPIs may reduce the desire to use substances and SUD symptoms because they may be able to replace or supplement substance-based rewards with immediate and easily accessible non-substance-based rewards [56–58]. In fact, some evidence suggests that PPIs produce an immediate non-substance-based reward, as evidenced by studies that suggest that PPIs produce feelings of well-being, positive affect, reduce depression, diminish negative affect, and provide other positive effects within minutes, even when participants undergo stressors (e.g., Stone et al., 2021; [17]). These PPIs provide immediate, non-substance rewards that may improve functioning by (1) reducing the need and desire to use substances to meet reward needs and (2) directly improving a problem that may enhance the likelihood of using a substance (e.g., stress from interpersonal conflicts may lead to substance use, and empathy PPIs may reduce the interpersonal conflicts, thereby reducing the need to use substances) [16,17,63]. If PPIs have the potential to produce an immediate non-substance-based reward, then individuals may experience a weakening of the desire to use substances. Yet, empirical evidence for this hypothesis remains largely unexplored in the literature. However, the evidence for the effects of PPIs, the low treatment efficacy for SUDs, and the growing SUPs worldwide suggest that a more immediate integration of PPIs into substance use treatments may provide an early groundwork for their scientific study.

5. Application Guidelines

There are currently no guidelines in the literature for integrating PPIs into substance use treatments. However, there may be some important considerations to enhance effectiveness, strategically use resources, and protect participants and patients, such as:

1. **Simple Design:** PPIs may be more effective if they are simple and brief. Individuals in substance use treatments may not be interested in longer, more complex activities given that many of them may not want to be in treatment, may be experiencing negative medication side effects, or withdrawal symptoms [44]. As such, it may be easy to lose attention and motivation to engage with PPIs, the clinician, or other individuals in treatments. For example, having an individual complete the long-form VIA Character Strengths Assessment [64] may be too much for someone going through withdrawal or presenting strong cravings. Using clinical judgment to assess the benefits and drawbacks of PPI complexity for each patient may provide a better experience than using a template PPI for all patients.
2. **Problem-Solving:** The PPI may be more effective if the intervention addresses a common problem related to substance use or a problem experienced by the patient. Due to the limited information on integrating PPIs into substance use treatments, it may be imperative that the PPI has a theoretical application or addresses deficits and issues caused by substance use and SUDs. For example, if someone is experiencing much social conflict, it would not be as efficacious to conduct a savoring PPI as it would be to provide an empathy PPI to help with perspective-taking—thereby reducing social conflicts. The benefits of matching PPIs to SUPs are that the clinician may improve patient engagement and the treatment may be more relevant, thereby being more effective. The author provide examples in Table 1 using seven major PPI categories outlined by Bolier in 2013.

3. **Management of Resources:** Scientists and practitioners may have a responsibility to manage scarce resources, time, and effort to improve the scientific and clinical outcomes for patients and participants. As such, it is possible that selecting PPIs with better literature support for patients in clinical settings and less literature support for participants in experiments in research settings may optimize the progress. The reason for this management is twofold: (1) when working with patients in a clinical setting, it is important to prioritize their care and well-being by using evidence-based treatments; and (2) when working with participants in clinical settings, there is more flexibility with the intervention selection because the purpose of the study is to find empirical support and the participants have provided informed consent. Focusing on well-supported PPIs for patients and less-supported PPIs for participants may allow for the effective use of resources to propel the scientific and clinical progress of the field.
4. **Modification:** Finally, it may be beneficial to slightly modify the PPIs to better fit the patient population or presenting problems. Researchers validated many of these PPIs on undergraduate students, so the generalizability to clinical practice may not be direct, and participant characteristics may influence the PPIs' effectiveness. Accommodating strategies (e.g., shortening activities) and providing relevant examples may allow for a better, more efficient patient experience. Further, these small modifications can provide essential information on this integration through case studies while promoting better patient care.

The early integration suggests that professionals may consider exercising caution to protect patients and participants. These early suggested guidelines may accomplish this goal, but there remains no direct empirical support for these guidelines; future studies may improve and focus the efforts of researchers and clinicians. Ultimately, PPI integration has much potential, and there are many advantages to this integration, suggesting that the risks may be worth undertaking for the benefits.

Table 1. Domains of Positive Psychological Interventions and Benefits to Substance Use Disorder Treatment.

Domain	Definition	Intervention	Description	Substance Use Relevance	Benefit
Kindness	Taking extra steps to support and help others, making others feel loved, or promoting well-being in others	Novel Acts of Kindness	Completing five novel acts of kindness in one day	Some behave unkindly out of fear of withdrawal or intoxication (e.g., stealing money)	Compensating for or improving on former unkind behaviors
Gratitude	Writing, thinking about, or expressing appreciation towards people, places, or things in life	Gratitude Letter	Writing a letter outlining the way someone has helped oneself	Appreciation of life may become challenging when focused on substance use	Shifting focus on people and values that support oneself
Savoring	Focusing carefully on important and positive experiences to enhance sensations and memories	Reminiscing	Remembering a positive experience in detail	Substances may take the focus away from positive external experiences and onto physical sensations or internal experiences	Enhancing the experience, relevance, and desire for positive non-substance rewards
Character Strengths	Qualities that an individual finds valuable in oneself	Character Strengths Assessment	Completing an assessment that provides someone with their strongest positive traits	SUD-related stigma may result in lower self-esteem and confidence	Promoting self-esteem through positive qualities despite stigma and helping find self-worth
Meaning	Coherence and purpose in life	Life Story	Writing about one's life from birth until now—highlighting pivotal moments and finding running themes	It may be challenging to understand how substances are involved in one's life in a cohesive, logical manner	Helping patients build insight and understand substance use in their life
Optimism	Examining the positive outcomes in life	Best Possible Self	Writing about an ideal future where everything turns out well	SUDs may challenge a positive outlook given daily struggles and pessimism	Helping individuals build hope and goals to work toward
Empathy	Understanding and sharing the emotional experiences of others	Perspective-Taking	Delineating and attempting to experience a situation from another person's point of view	SUDs may lead to relationship difficulties with romantic partners, friends, and families	Easing conflict by understanding others' perspectives

Note. Table is not exhaustive of definitions, descriptions, and interventions.

6. Advantages

PPIs may offer several advantages over traditional interventions for SUDs (e.g., cognitive behavioral therapy) [65,66]. The most prominent advantage is the focus on improving well-being and quality of life without a focus on symptom relief or abstinence directly. Many of the treatments for SUDs have a strong focus on the negative aspects of life and the consequences of substance use. The most popular treatments, excluding motivational interviewing, focus almost entirely on the consequences of substance use with little mention of the benefits of using substances (i.e., open discussions about the purpose that substance use serves). Further, the most accessible treatments, such as twelve-step programs, may perpetuate negative narratives about those with SUDs (e.g., that people with SUDs have deficits in character instead of a legitimate medical condition [67]; see <https://www.aa.org/the-twelve-steps> (accessed on 24 August 2023) for examples). This negative focus may discourage people from attending treatments, whereas a more positive focus has the potential to encourage people to attend treatments without the fear of being overwhelmed with strong negative emotions and stigma, although this effect is not well characterized. However, systematic reviews of studies examining Solution-Focused Brief Therapy (SFBT) [68], which integrates aspects of positive psychology (e.g., strengths) into a brief therapy format that aims to address problems, have found promising evidence for improving those who use substances [69,70]. Thus, although it remains largely unknown whether PPIs can facilitate meaningful change for those with SUDs, evidence from SFBT supports the integration of PPIs into substance use treatments.

In addition to this positive focus, PPIs produce a positive affect rather quickly, which is atypical for many substance use interventions that work through different means than the positive affect (e.g., ambivalence reduction) [71], so patients may enjoy competing these interventions and leave the sessions feeling good. These feelings may encourage the patients to come back and lead to longer-lasting change. This potential benefit is essential because the current retention for patients in substance use treatments is low (e.g., 16–53% at three- to six-month follow-ups) [47], so additional strategies to retain individuals in treatments may be worth the investment of resources. Finally, the message to patients that there is more to them, and people, than being asymptomatic or abstinent, is important and humanizing. Yet, some current substance use treatments may lose this message. However, this message is quite clear with PPIs that take a Gestalt approach (i.e., one is larger than the sum of one's parts) [72]. A treatment that focuses on remedying symptoms while enhancing well-being and completeness may leave the patient with a more well-rounded, relevant, validating experience that produces a longer-lasting or more potent effect.

7. Limitations

There are still limitations that challenge the viability of integrating PPIs into substance use treatments. Regarding the empirical evidence, the biggest limitation is that the current direct empirical base for this integration is incredibly sparse [2]. Despite some researchers discussing this integration a decade ago [73], the current studies integrating a PPI into substance use treatments or focused on a substance use-related topic remain minimal. A search on Wednesday, 19 July 2023, using the following phrase: “substance use treatments” AND “positive psychological interventions” on PsychInfo results in three papers, two of which are dissertations, and this same search on Google Scholar results in three papers, one of which is a dissertation. None of these papers were empirical studies. Although it is reasonable not to have a foundation of evidence in the early stages, this lack of experimentation, given the amount of time that PPIs have existed, makes it hard for funding organizations to confidently fund studies to test these hypotheses. This lack of funding may perpetuate the lack of evidence, so testing this integration may require many pilot and laboratory studies before the support for randomized clinical trials becomes a viable possibility. Currently, the PPI domain with the most promise is savoring interventions, likely because of their relatively close theoretical basis with mindfulness and present-moment interventions [5,74]. Unfortunately, other PPI domains, such as gratitude and

kindness, fall outside of a strong adjacent evidence base, which limits funding. The result is a current stagnation of PPI integration into substance use treatment research. Finally, the White et al. meta-analysis showing that PPI studies on depression and well-being have significant issues suggests that much of the effectiveness of PPIs may be Type I errors, calling into question the legitimacy of such interventions [35]. It is possible that we must address these empirical challenges before the widespread testing of integration into SUDs occurs.

Beyond the empirical challenges, there are limitations to the logistics of implementation. Training clinicians to use PPIs in treatment has multiple barriers, including that most therapists find a treatment modality that works for them and adhere to it, meaning that learning other treatments may not result in strong treatment delivery adherence [75,76]. Onboarding mental health professionals to learn an alternative treatment or new interventions may pose challenges to the flexibility of mental health professionals, especially when these professionals have seen positive outcomes from other treatments. Integrating PPIs into substance use treatments may not be as simple as giving instructions to execute, as the entire mindset and perspective of SUDs and SUPs that some clinicians have may need to shift away from a negative focus and symptom reduction to a more positive focus with Gestalt principles. However, the degree of challenge that this limitation may cause is not well-characterized, currently making it no more than an important consideration. Notably, there are very few standardized protocols for PPIs (e.g., see [77] for a public copy of a PPI-based therapy protocol) [78], which means that many PPI resources and intervention instructions are dispersed across the internet, limiting the ability of mental health professionals to identify and use PPIs quickly and consistently. Ideally, PPIs would be as quick and accessible as traditional and third-wave CBT interventions before their widespread integration becomes acceptable. Ultimately, these challenges and limitations may reduce the speed of progress for this integration, but the potential benefits outweigh the challenges of overcoming these limitations, so pursuing future directions remains a worthwhile endeavor.

8. Future Directions

One of the benefits of researching a budding field is that there are plenty of opportunities for growth and new developments for researchers and clinicians at all stages of their careers. The potential to use PPIs in substance use treatments and with substance use populations is endless and open for exploration. Many PPI domains, such as kindness and character strengths, have little to no experiments or discussions on testing their efficacy for SUDs and SUPs. Moreover, the literature does not yet contain a well-characterized definition of the parameters and targets for substance use treatment outcomes using PPIs, given that the focus for SUDs is currently on reducing use and stopping functional impairment. However, as positive psychology grows and researchers conduct studies in new domains, the outcomes of abstinence and functional improvement may not be sufficient targets. Instead, it may be beneficial to test the viability of positive outcomes, including better social connectedness, well-being, empathy, and positive emotions such as gratitude, meaning in life, coherence, and life satisfaction. It may be possible to set the goals of improving positive outcomes regardless of abstinence or symptom reduction, which aligns with the newer harm reduction approaches [50,79]. Finally, PPI research may benefit from pushing the limits of the definitions of PPIs and their standard properties. PPI development is slow, but the demands required of clinicians to enhance lives and the positive psychology knowledge we have accumulated are rising. Then, it may be beneficial to create new, positive-focused interventions specifically for substance use and other specific conditions instead of trying to fit older PPIs into existing treatments. Some potential PPI properties remain largely untested, such as combining multiple domains or targeting specific cognitive, affective, or behavioral mechanisms of behavior change. Further, much of the work in these fields, especially within Positive Psychology, has taken place in English-speaking countries or is written in English, consequently limiting accessibility to non-English-speaking countries

or individuals. These untested properties and future directions may reveal a better solution to integrating PPIs into substance use treatments and help researchers and clinicians worldwide break past the small to medium effect sizes found in meta-analyses.

9. Conclusions

Integrating PPIs into substance use treatments is a budding research area with much potential and ample opportunity for future research. Despite these possibilities, the existing limitations and challenges to executing such an integration remain noteworthy. The rationale remains untested, and the guidelines and considerations presented in the current paper are the first to appear in the literature to my knowledge. Yet, in the last 25 years, researchers have demonstrated the ability to improve individuals' lives through these quick and simple activities—opening the potential for wide applicability. Therefore, moving these PPIs into substance use treatments presents the opportunity to improve treatments, reduce stigma, provide better patient experiences, and reduce the global health tragedies (e.g., fatal overdoses) from the growing rates and severity of SUDs and SUPs. There is a need for new substance use treatments and treatment modifications, especially those that shift the focus away from consequence avoidance and onto life enhancement. Thus, the integration of PPIs into substance use treatments is not just an interesting endeavor; it may be essential to the lives of the millions of people affected by substance use worldwide.

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