Effects of Two Online Positive Psychology and Meditation Programs on Persistent Self-Transcendence

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Abstract

The first comprehensive studies into the effects of transitioning to persistent forms of self-transcendence are reported. Two online protocols that combined positive psychology exercises and meditation methods were studied. Instruction was pre-recorded and delivered online. Program 1 (n=379) lasted 4-months, required 1.5-3 hours each day and contained a larger range of methods. Program 2 (n=246) lasted 6-weeks, required 1.5-2 hours per day, and was a subset of Program 1. Participants were assessed using the Authentic Happiness Inventory, Satisfaction with Life Scale, PERMA, Fordyce Emotions Questionnaire, Center for Epidemiology Studies Depression questionnaire, State/Trait Anxiety Inventory, Perceived Stress Scale, Gratitude Questionnaire, Mysticism Scale, Modified Nondual Embodiment Thematic Inventory, and Meaning in Life Questionnaire. After the program, participants were sorted into six categories of self-transcendence: none, temporary, and four increasing degrees of persistent self-transcendence. Results from each measure were broken out by category and compared within and across programs. 68% of participants transitioned to persistent self-transcendence for Program 1, and 65% for Program 2. Measures revealed consistent positive trends from the no self-transcendence category though the third or fourth category of persistent self-transcendence, with strong statistical significance and moderate to strong effect sizes. Generally, post-program scores, percentage changes and effect sizes were stronger for the longer program. Conclusion: Both long and shorter mixed positive psychology and meditation programs can transition participants to persistent forms of self-transcendence and result in highly beneficial results across a broad range of psychological indicators.

Keywords: positive psychology, meditation, mindfulness, self-transcendence, non-symbolic experience

Effects of Two Online Positive Psychology and Meditation Programs on Persistent Self-Transcendence

A category of human experience has been reported in the writings of philosophers and mystics since antiquity (Hanson, 1991; Stace, 1960). It goes by many names, including nondual awareness, enlightenment, mystical experience, peak experience, transcendental experience, the peace that passeth understanding, unity consciousness, union with God, and many others (Levin & Steele, 2005; MacDonald, 2000; Thomas & Cooper, 1980). Transient and persistent forms of self-transcendence occur in individuals across ages, ethnicities, and backgrounds (Martin, 2020). They are reported in spiritual and religious individuals, as well as atheists and agnostics alike (Newberg et al., 2001; Newberg & Waldman, 2006, 2018).

Self-transcendent states and experiences have been explored and defined under various nomenclatures such as flow (Csikszentmihalyi, 1990), hypo-egoism (Leary & Guadagno, 2011), mindfulness (Davidson et al., 2003; Kabat-Zinn, 1994), peak experiences (Maslow, 1964), mystical experiences (Hood et al., 2001; James, 1902; Newberg et al., 2001; Wulff, 2000), and other terms (Yaden et al., 2017). The majority of research has been on temporary forms of the experience. Very little empirical study of self-transcendent states that are persistent has been conducted (e.g.: Butlein, 2005; Costeines, 2009; Kilrea, 2013; Martin, 2020; McCormick, 2010; Taylor, 2013), including a small number of neuroscience investigations (e.g.: Davis & Vago, 2013; Josipovic, 2014; Newberg & Waldman, 2018).

Abraham Maslow's (1971) model of self-actualization included a distinction between two kinds of self-actualizing individuals: 1) "merely healthy" self-actualizers and 2) "transcendent" self-actualizers. Those he referred to as transcendent self-actualizers were somewhere beyond self-actualization, in a category, or categories, of their own. Transcendent in this part of his model meant transient or temporary forms of self-transcendence. Maslow later extended this work to include a more persistent, form of self-transcendence that he referred to as the plateau experience:

The fact is that these plateau experiences are described quite well in many literatures. This is not the standard description of the acute [peak] mystical experience, but the way in which the world looks if the mystic experience really takes. If your mystical experience changes your life, you go about your business as the great mystics did. For example, the great saints could have mystical revelations, but also could run a monastery. You can run a grocery store and pay the bills, but still carry on this sense of witnessing the world in the way you did in the great moments of mystic perception. Again, this implies a cognitive experience, and it feels like a witnessing of something that's there rather than something that you produce yourself. Therefore, you have a feeling of reality and can make a claim about the nature of reality (Maslow, as cited in Krippner, 1972, pp. 115-116)

Although transient forms of self-transcendence have been reported as highly impactful both in the moment and over time (i.e.: Maslow, 1971; Pahnke, 1966), persistent forms are likely to be as much or even more significant in individuals' lives due to far-reaching effects on daily life and psychological traits. For example, a central component of persistent self-transcendence involves the reported reduction or even complete absence of an individual's narrative self—a narrative or autobiographical schema that represents the ongoing storyteller that houses and perpetuates the conditioned past collected throughout a person's collective memories (Martin, 2019, 2020). The underlying assumption of these remembered collections of stories is that the narrative schema is a universal, human form of integrating and navigating reality, both at the individual and cultural level (Bruner, 1991; Howard, 1991; Sarbin, 1986). There is likely to be a significant difference between the experience of life that is filtered through a narrative self that has been altered by a self-transient experience and the experience of life where reduced experience of the narrative self, or even no narrative self, is reported as part of the interpretation of experience.

Attempts at Measuring Self-Transcendence

The majority of research on self-transcendence has been based on introspection and subjective reporting. This is as true of thousand-year-old texts in religions such as Buddhism as it is in the more recent work within the academy. Attempts to identify the core components of religious and spiritual states through surveys and questionnaires have often suffered from methodological issues (e.g., Hardy, 1979; Laski, 1961). Studies have reported a surprisingly high percentage of individuals who report self-transcendence, ranging from 21-72% (Back & Bourque, 1970; Bourque & Back, 1971; Gallup, 1978; Glock & Stark, 1965; Greeley, 1974; Hay & Heald, 1987; Hay & Morisy, 1978; McClenon, 1984; Pafford, 1973; Tamminen, 1991; Thomas & Cooper, 1978, 1980; Vernon, 1968; Yamane & Polzer, 1994). These studies often attempted to rely upon surveys or sorting questions to determine self-transcendence, and they demonstrate the difficulty of this approach. When initial surveys were followed up on with in-person interviews, the number of individuals believed to have experienced or be experiencing self-transcendence typically fell to single or low double-digit percentages.

Open-ended responses can be equally difficult to analyze properly (Spilka et al., 2003). Often multiple techniques are needed to identify the actual portion of participants reporting self-transcendent experiences (Martin, 2010, 2019, 2020). Rather than seeking to directly identify self-transcendence, in more recent years, a variety of measures have sought to quantify the degree to which research participants experience various aspects of the experience. This has been complicated by the lack of a uniform definition for self-transcendence, or agreement about what might constitute it (Yaden et al., 2017).

The Mysticism Scale (M-Scale; Hood, 1975) represented the first major advancement in survey measurement for this area, and it remains the most widely used academic measure for self-transcendent experiences (Macdonald & Friedman, 2002). Originally published in 1975 as an operationalization of Stace's (1960) phenomenological categories of mystical experience, the M-Scale led the way into the current survey measurement-based approaches regarding self-transcendence. It

provided the opportunity to shift from self-transcendent/not-self transcendent measurement to an approach that looked at a constellation of subjective qualities and varying degrees of experience in larger populations. It enriched the debate by opening up a more nuanced empirical investigation into self-transcendence.

Persistent Non-Symbolic Experience

More recently, similar attempts at advancing the field have been made regarding categorization of the phenomenological aspects of the self-transcendent experience. In large part, this has been the result of a renewed interest in psychedelic experience, and the need to adequately describe and categorize the self-transcendence it can produce (Garcia-Romeu et al., 2014; Smigielski et al., 2019). Here we focus on advancements relating to phenomenological categorization for persistent forms of self-transcendence. While most of the recent efforts have been from studies with single or low double-digit participant counts (Costeines, 2009; Kilrea, 2013), Martin (2010, 2019, 2020) produced a more comprehensive effort that involved a mix of in-depth phenomenological data and standardized surveys from 319 participants.

In his research, Martin (2010, 2020) uses the term *Persistent Non-Symbolic Experience* (PNSE) as a catchall phrase for the wide variety of persistent self-transcendent and related experiences his participants reported. He adopted the phrase because difficulties in using colloquial terms, such as awakening, nonduality and enlightenment, with research participants led him to seek a scientific sounding but neutral terminology. The term non-symbolic was derived from Cook-Greuter's (2000) research involving ego development and transcendence. While she generally favored the word postsymbolic, in a 2000 paper she used a term related to non-symbolic, in the following context:

Eastern psychologies have often pointed to the nonsymbolically mediated, or immediate ways

of knowing as the only kind of knowing that can lead to enlightenment or true insight into

human nature. In fact, they consider our addiction to language-mediated, discursive thought as

a major hurdle in realizing the true or divine Self, or union with the Ground (Cook-Greuter, p.

230).

To be designated as experiencing PNSE, Martin (2010) requires an individual to have experienced

persistent self-transcendence or a related experience for more than a year (Martin, 2010).

Persistent Non-Symbolic Experience (PNSE) Continuum

Martin's (2020) prior research using qualitative semi-structured interviews evaluated using

grounded theory and thematic analysis uncovered patterns that revealed distinct clusters of related

experiences involving varying degrees of persistent self-transcendence. Because the semi-structured

interviews aimed to sort individuals for later neuroscience research, and questions focused around

changes in: sense of self, cognition, affect, perception, and memory. Each cluster represented a specific

way of experiencing one's sense of self, perceptual experiences, and relationship to the external world.

These clusters were conceptually labeled and referred to as locations in a conscious effort to

avoid more loaded and value-laden terms like stages or levels, and the locations appeared to be ordered

along a continuum of related and often progressive changes. Locations 1-4 reflect the four most

common clusters along this continuum. Approximately 95% of participants fell within Locations 1-4 from

the initial qualitative study. The general characteristics of each of these 4 categories are described

below (see Martin, 2019, 2020 for a more comprehensive description of this study and its results).

Location 1

Location 1 individuals are on the earliest portion of the PNSE Continuum. As with every location,

individuals can come from a wide range of demographic, religious or spiritual, and socio-cultural

backgrounds. They might have experienced a dramatic, instantaneous shift into PNSE, or have

transitioned more gradually. The transition to Location 1 carries a pronounced reduction in the influence

of the narrative self—the self-referential, story-based form of self that housed the collective past and

forms the basis for identity creation and maintenance (Bruner, 1991; Howard, 1991; Sarbin, 1986).

Although Location 1 results in a reduction in the narrative self, it is still present. This location brings only a minor form of self-transcendence, the experience of not being limited by the boundaries of the physical body. Individuals in Location 1 often have difficulty putting this experience into words. Some speak of feeling as though somehow they are not limited by the physical body, or that who they are somehow extends beyond it. Others phrase it as feeling like there is less of a boundary between them and the rest of the world, or as if they are more connected to what is outside of their body. This is distinct for them, and a clear difference from how their self-boundary was experienced prior to Location 1.

A hallmark feature of Location 1 is a newfound sense that everything is fundamentally fine. This sense most typically operates in the background of experience at Location 1 and brings with it what Martin (2019) calls a sense of *Fundamental Wellbeing*. Though Location 1 PNSE does not prevent negative emotions from arising, it does change an individual's relationship with these emotions, such that regardless of external circumstances—including events experienced as significantly negative – an individual is still able to achieve a meta-awareness that provides access to a sense of fundamental wellbeing. Although this sense of fundamental wellbeing usually remains in the background in Location 1, there are moments when it moves into the foreground and seems to infuse all experience of the world. The possibility of it remaining in the foreground becomes enticing, and individuals often begin to experiment to see if they can bring it forward more often. This can result in more deeply settling into Location 1 or produce movement along the continuum and a transition to Location 2.

Location 2

In Location 2, individuals experience a further reduction in their narrative self, self-referential thoughts, and in the emotional content of most of these types of thoughts that remain. This results in these thoughts having less capability to draw their attention, and further deepens and increases their immersion in the present moment. It also makes them even less psychologically reactive. The deep

sense that everything is fundamentally fine regardless of current circumstances moves more into the foreground the deeper someone moves into Location 2. Towards the furthest reaches of this location, it infuses experience most of the time. This is viewed as one of the best elements of the Location 2 experience.

In Location 2, the pervasive sense of everything being fundamentally fine deepens and individuals experience and report fewer and less powerful conditioned psychological responses. Conditioning around needing the approval of others is dissolving, and may result in less social, and less socially desirable, behavior. The range of emotions these individuals experience becomes increasingly positive, and negative emotions become less frequent. In Location 2, the boundaries between what feels like you and what feels like outside of you increasingly soften, or they disappear entirely. One popular term for this change in perception is nonduality (Josipovic, 2019; Potter, 1981; Stephens, 2018), in reference to the Sanskrit term *advaita or* "not two" (Torwestern, 1985). This self-transcendence is a hallmark feature of Location 2, whereas non-duality is not yet present in Location 1.

Location 3

Individuals who experience Location 3 report having been freed from a considerable amount of their previous psychological conditioning and negative emotions, and that the experience of present moment awareness, inner peace, and well-being has continued and is greater than at Locations 1 and 2. One dominant emotion is experienced that feels like a mixture of various highly positive emotions and feelings such as compassion, joy, and love. These feel like facets of a single meta-emotion. Though some facets are more active at times than others, this single meta-emotion itself is a near constant experience and companion. The emotion is not personal. Facets such as love are felt as divine or universal or, at a minimum, impersonal. When the experience of Location 3 has fully matured for someone, parts of negative emotions are still occasionally felt but rarely fully form, and generally only as a result of the triggering of very deep and powerful psychological conditioning, such as the death of a child or parent.

Individuals in Location 3 have less narrative self-related thought than those at Locations 1 or 2, though they might notice what remains of it more. Location 3 is typically experienced in one of two different ways. For many, there is a strong sense of divinity associated with the experience. However, others do not report feeling any divinity at all. For these individuals, there exists a sense of an all-pervasive consciousness. The sense of nonduality or oneness that is felt in Location 2 shifts. As one deepens into Location 3, a sense of deep connectedness and union enter the picture. Union is not possible if there is just one thing, so a subtle sense of self and other returns at this location. In Location 3, although a need for approval has lessened even further than Location 2, these individuals often value helping others and work to maintain social graces.

Location 4

Location 4 reflects a departure from previous locations, and this location is considerably different than what comes before it on the continuum in a number of ways. The remaining vestiges of narrative self-related thought are typically reported as gone at this point, along with reports of any experience of emotion. The feelings of union with divinity or an all-pervasive consciousness are also not present, but that is not to say that individuals at Location 4 do not feel a sense of unity.

A more comprehensive form of nonduality occurs at this stage. These individuals typically report having no sense of agency, nor the ability to make decisions. Most report a complete and nearly unwavering immersion in the present moment and that life feels as if it is simply unfolding and they are watching the process happen.

Memory deficits are experienced at Location 4, related mostly to time-based prospective memory (e.g. remembering non-routine scheduled events). Location 4 individuals report an even deeper sense of peace and well-being that seem to be an order of magnitude greater than previous locations on the continuum. Location 4 individuals often use the word freedom to refer to their dominant ongoing

experience. While it is safe to say that all locations bring a feeling of expanded freedom, the amount of it experienced at Location 4 appears to be far more significant.

Mindfulness Meditation and Positive Psychology Programs and Interventions

For decades, mindfulness meditation courses, programs, interventions, and techniques have sought to meaningfully impact individuals' overall well-being, including their psychological, spiritual, emotional, and physical health (Creswell et al., 2019). Mind-body approaches encompass a variety of modalities—and often involve the goal of cultivating positive qualities, such as resilience, presence, insight, compassion, awareness, and equanimity, amongst many others (Baer et al. 2012).

Mindfulness-based interventions (MBIs) reflect many practices, processes, and characteristics related to the modulation of attention, awareness, and acceptance (Van Dam et al. 2018), and have garnered substantial scientific support (Gu et al., 2015; Keng et al., 2011). An effective treatment for a range of psychological disorders, MBIs incorporate a wide variety of methods (Godfrin & van Heeringen 2010; Gu et al., 2015; Keng et al., 2011; Ma & Teasdale, 2004; Miller et al., 1995). MBI research has largely focused on clinical populations, and relatively few studies have sought to investigate the potential benefits in healthy individuals (Chambers et al., 2009; Gu et al., 2015). Moreover, a relative dearth exists related to studies of MBIs that explicitly focus on improving well-being, as compared to reducing negative affect, thoughts, and behaviors (Lindsay & Creswell 2015).

Seligman and Csikszentmihaly (2000) ushered in the contemporary positive psychology movement by highlighting the degree to which a psychopathological bias prevailed within Western psychology research. Numerous studies have now demonstrated the long-term benefits of positive psychology interventions (PPIs). PPIs represent treatment methods and intentional activities that focus on fostering positive feelings, behaviors, and cognitions.

Subjective well-being is an important component of mental health, and PPIs often seek to meaningfully impact it, or the cognitive or affective appraisal of one's own life as a whole (Diener et al.

1999). PPIs include a wide range of programs, daily exercises, and techniques, such as counting your

blessings (Emmons & McCullough, 2003; Seligman et al. 2005), practicing kindness (Otake et al., 2006),

setting personal goals (Sheldon et al., 2002), expressing gratitude (Sheldon & Lyubomirsky, 2004, 2006;

Seligman et al., 2006), Three Good Things (Seligman et al. 2005), Best Possible Selves (King, 2001), and a

variety of more specific exercises, such as the crafting one's ideal eulogy and forgiveness-related

exercises (Wisemen, 2010). PPIs have been effective in helping individuals cultivate skills for improving

mood, psychological resilience, positive affect, cognitive functioning, positive reappraisal of thoughts,

and improved interpersonal interactions (Geschwind et al. 2011; Hanley and Garland 2014).

The two studies described here — an intensive, multimodal 4-month mindfulness meditation and

positive psychology program and a shortened, similar, 6-week protocol —were designed to produce and

study persistent forms of self-transcendence. The aims were three-fold: 1) to examine a wide range of

well-being, negative emotional and psychological, meaning, lifestyle factors, and self-transcendence

related outcomes in healthy adults who had completed an intensive, multimodal 4-month MBI and PPI

program; 2) assess the same indices for participants who completed a shorter, similar 6-week version of

the protocol; and 3) to examine these indices in relation to the Persistent Non-Symbolic Experience

Continuum (Martin, 2019, 2020) for those participants who had reported having not experienced an

ongoing or persistent form of non-symbolic experience prior to the program.

Methods

Participants

Data from two different studies are presented here. Study 1 is referred to as Program 1, and

study 2 is referred to as Program 2. Institutional and Ethical Review Board approval and oversight for

Program 1 was from the Center for the Study of Non-Symbolic Consciousness and Sofia University (Palo

Alto, CA), and from the Center for the Study of Non-Symbolic Consciousness for Program 2. All standard

protocols regarding informed consent from participants were followed, according to human subject research standards.

Participants for both programs were recruited from an online and offline call for interested individuals, which included email and social media messages sent from organizations with an interest in persistent self-transcendence, podcast and radio interviews, speaking at events, and Facebook advertising. Participants from each program self-reported that they had not experienced an ongoing or persistent form of self-transcendence prior to the start of the program. Program 1 reflects 371 adults (Male=204, Female=155; Mean age=51; SD=14), and Program 2 represents 245 adults (Male=146, Female=99; Mean age= 49; SD=13). Table S1 presents the demographic breakdown for both programs. Participants were not required to provide all demographic information to participate.

Participants were screened for serious psychopathologies with a single question as part of the application process: "I certify that I don't have any serious psychological or psychiatric issues or diagnoses, such as Bipolar disorder, suicidal ideation/depression, Schizophrenia, severe PTSD, or similar." A licensed clinical psychologist was part of the research staff for each program and evaluated participants through their interactions with the study team. When the clinical psychologist felt it was warranted, she (Program 1) or he (Program 2) contacted participants for assessment and, if necessary, intervention. No adverse reactions requiring significant psychological intervention were noted by the team's clinicians.

Design

Program 1: A 4-Month Protocol

Program 1 represents a 4-month protocol that was broken into two parts that contained instruction, with a two-week meditation break in between. Participants worked independently during the first two weeks and were assigned to a small group at the beginning of Week 3. Typically, this group ranged in size from 5-7 participants; however, occasionally they were as small as 3 because of

participant scheduling difficulties. These small groups were used to enhance mutual, peer-level support, as well as to provide practice partners for methods that needed more than one person. Small groups met for approximately 1 hour each Saturday during the program.

Participants were required to initially dedicate a minimum of 1.5 hours per day to the program, and this often rose to approximately 2.5-3 hours per day by week four. A minimum of one continuous hour per day was dedicated to practice of an assigned method. Method instruction was given each Saturday via pre-recorded video content and written instruction on the program website, except for the first two weeks. On those weeks there was an additional method instruction session on Wednesday. The program contained approximately 50 hours of instruction.

The remaining half hour was divided between techniques that were performed upon waking and just prior to sleeping, which were termed the *morning and evening exercises*. These were primarily positive psychology-based exercises involving forgiveness, gratitude, goal reemphasizing (goals related to a positive course outcome), positive intent for all course participants to have success with the program, and creative visualization that involved participants projecting that they would have a great day. These exercises were introduced gradually during the first 4 sessions but were cumulative. So, for example, by week 3 each morning and evening participants completed the goal-related, forgiveness, positive intent, and gratitude exercises back-to-back. In the mornings they added the creative visualization exercise to the compilation.

Each of the first four sessions also contained one additional positive psychology exercise. While these could be completed anytime during the session, they had to be completed during the session in which they were introduced. The exercises included performing five acts of kindness on a single day that would not lead to self-benefit, writing an ideal self eulogy in the voice of a person of the participant's choosing, completing a goal-setting exercise that focused on positive program outcomes, and writing a

letter expressing gratitude to the most important person in the participant's life (whether living or deceased).

The MBI-related methods for part 1 were focused on a phased-in body awareness meditation that was a modified form of Vipassana meditation, a small-group exercise focused on experiencing and describing awareness, and an exercise where participants created a list of people in their life and brought them to mind one at a time while generating and experiencing love.

During the two-week break at week 7, participants were required to continue with the minimum hour of method practice each day. During the first week they could practice any MBI-related method from part 1 of the program. Participants were encouraged to experiment with different combinations of methods, such as doing one method for 30 minutes, followed by a different one for another 30 minutes. Another option was to take pieces and parts of various methods and experiment to see if they could create a new method that was more effective than anything they had previously used in the program. During the second week, participants continued this experimentation and were allowed to incorporate methods, or parts of methods, that they were aware of from outside the program.

Participants continued their morning and evening positive psychology exercises during the meditation break. They also read a manuscript that educated them on the research into ongoing and persistent forms of non-symbolic experience. The goal of this manuscript was to help them to self-identify where they were located on the PNSE Continuum. That manuscript was eventually published as a public book (Martin, 2019).

Part 2 consisted of five additional meditation practices, with a new one presented each week. These included the following: the Headless Way, parts from a modified form of Actualism, Ascension-style mantra meditation, individual and paired experience noting, subtle noting, and aspects of Unified Mindfulness. Part 2 also included two weeks with no new instruction during which participants continued one-hour per day of practice. One of these occurred at week 11 of the program and focused

on either continued practice of Headless Way or the modified Actualism technique. If participants were not finding either of these effective, they could choose any other MBI-related practice that they had learned in the program up to that time.

The final practice week occurred at the end of the program. During this week, participants were encouraged to use whatever MBI-related practice or practices had resonated with them most during the program. They were also allowed to experiment again with combinations of methods, including creating customized methods out of pieces of MBI practices they had learned in the program. Participants continued their morning and evening exercises throughout the program, and were encouraged to continue practicing both them, and the most effective MBI method that they found, after the program.

Program 2: A 6-Week Protocol

During experimentation with the 4-month protocol, it was noted that a majority of participants reported transitioning to ongoing and persistent forms of non-symbolic experience using a subset of the protocol. After the conclusion and analysis of the Program 1 experiments, a separate, shortened version of the longer protocol was tested as a 6-week program (Program 2).

Participants were required to dedicate a minimum of 1.5 hours per day to the program. A minimum of one continuous hour per day was dedicated to practice of an assigned method. Weeks 1, 2, 3, and 6, involved two method instructional sessions per week that began on Saturday and Wednesday. Content was delivered via pre-recorded video content and written instruction on the program website. Weeks 4 and 5, contained one session each. Method instruction was given in the same format, but only once per week beginning on Saturday. The program contained approximately 13 hours of instruction.

The remaining half hour of daily practices was divided between techniques that were performed upon waking and just prior to sleeping, which were termed the *morning and evening exercises*. These were primarily positive psychology-based exercises involving forgiveness, gratitude, goal reemphasizing (goals related to a positive course outcome), positive intent for all course participants to have success

with the program, and creative visualization that involved participants projecting that they would have a great day. These exercises were introduced gradually during the first 4 sessions but were cumulative. So, for example, by session 4 each morning and evening participants completed the goal-related, forgiveness, positive intent, and gratitude exercises back-to-back. In the mornings they added the creative visualization exercise to the compilation.

Each of the first four sessions also contained one additional positive psychology exercise. While these could be completed anytime during the session, they had to be completed during the session in which they were introduced. The exercises included performing five acts of kindness on a single day that would not lead to self-benefit, writing an ideal self eulogy in the voice of a person of the participant's choosing, completing a goal-setting exercise that focused on positive program outcomes, and writing a letter expressing gratitude to the most important person in the participant's life (whether living or deceased).

The MBI-related methods were focused on a phased-in body awareness meditation that was a modified form of Vipassana meditation, a small-group exercise focused on experiencing and describing awareness, Headless Way, and a modified version of Actualism. An exercise where participants created a list of people in their life and brought them to mind one at a time while generating and experiencing love was optional. Participants were also given the option of joining a private online group for peer support.

Rating Non-Symbolic Experience

An iterative process was used during Program 1 to determine whether or not participants experienced non-symbolic experience and, if they had, what type. Materials were provided to participants that had been refined in prior research (Martin, 2019, 2020), and participants were asked to self-rate their degree and type of non-symbolic experience. Participants who reported experiencing a location that matched a description on the PNSE Continuum received an in-depth semi-structured

research interview from the lead author that sought to independently assess their degree and type of

non-symbolic experience. As of the publication of this article, the lead author has conducted over a

thousand of these interviews over a 14-year span as part of a wider research project. His earlier work in

this area is published separately (Martin, 2019, 2020).

The conclusion of that interview-based assessment was then compared to their self-assessment.

When there was a difference, the lead author worked with the participant to update the descriptive

document to enhance its clarity, and the document was recirculated. This iterative process continued

until participant self-assessments matched interview-based assessments. After this period for Program

1, and through all of Program 2, participants' self-reports regarding degree and type of non-symbolic

experience, which were contained in their end-of-session surveys and Exit General Information Form,

were reviewed and, when needed, appropriate adjustments made. When the participants' written self-

reports were unclear, participants were contacted for additional clarifications or to conduct an in-depth

semi-structured interview.

Instruments

All instruments were administered online. Pre-measurement was completed during the week

before the protocol began, and post-measurement was completed during the week following the end of

the protocol. Participants were asked to register for an account at the Authentic Happiness website

(https://www.authentichappiness.sas.upenn.edu/testcenter), which is made publicly available by the

Positive Psychology Center at the University of Pennsylvania, and to take the following measures on that

website: Authentic Happiness Inventory (AHI; Seligman et al., 2005), Center for Epidemiology Studies-

Depression Scale (CES-D; Radloff, 1997), PERMA Scale (Seligman, 2005), Satisfaction with Life Scale

(SWLS; Diener et al., 1985), Gratitude Questionnaire (GQ-6; McCullough et al., 2002), Fordyce Emotions

Questionnaire (FEQ; Fordyce, 1988), and Meaning in Life Questionnaire (MLQ; Steger et al. 2006). All

other measures were administered on the private research website of the Center for the Study of Non-Symbolic Consciousness using LimeSurvey or a Premiere plan account in SurveyMonkey.com.

In addition to baseline/post-program surveys, participants completed end-of-session surveys, which are not comprehensively reported on here. These varied by session to be responsive to protocol content, but generally included: first and last name, a narrative description of how the session went for the participant, a narrative description of any difficulties the participant was experiencing (if any), degree of happiness, change in happiness, well-being level, compliance with session practices, and why compliance was lacking (if relevant). For participants in Program 1, from the end of the practice intensive until the end of the program, participants also began to report their degree and type of non-symbolic experience, if any. Participants in Program 2 were asked to report this during each end-of-session survey. Participants in both programs who reported non-symbolic experience were asked to describe it as part of the session survey process.

Because participants participated in either a 4-month or 6-week protocol, it was impossible for them reach one year of non-symbolic persistence. The term PNSE was defined during prior research as specifically referring to one or more years of persistence (Martin, 2010). So, the studies reported here introduced the new term *Ongoing Non-Symbolic Experience* (ONE) to refer to persistence of less than one year, including persistence that began to occur during the program. When used here, it includes Locations 1-4. Accordingly, the PNSE Continuum could also be thought of as a ONE Continuum, however we continue to use the term PNSE Continuum for consistency.

Two additional terms were also introduced for participant reporting. *Temporary Non-Symbolic Experience* (tNSE) refers to transient forms of non-symbolic experience that occurred within a measurement period, and *No Non-Symbolic Experience* (nNSE) refers to no experience of non-symbolic experience at all during a measurement period. For post-program measures, the measurement period

was the entire protocol. For example, if a participant reported nNSE on their post-program measure it meant that they did not experience any non-symbolic experience during the study.

General Information Form (Program 1)

Prior to the program, Program 1 participants completed a general information form that included the informed consent document for the program, and which collected the following information (note, not all fields were required): first name, middle name, last name, email address, date of birth, sex, place of birth, current residence, current relationship status, highest education level, occupation, race/ethnicity, prior non-symbolic experience, childhood religious and spiritual traditions, current religious or spiritual traditions, meditation experience, contemplative or centering prayer experience, and prior use of hallucinogenic drugs.

General Information Form (Program 2)

Prior to the program, Program 2 participants completed a general information form that collected the following information (note, not all fields were required): first name, middle name, last name, email address, date of birth, sex, place of birth, current residence, current relationship status, highest education level, occupation, race/ethnicity, happiness level, well-being level, prior program experience (i.e. participating in Program 1 – for screening), prior non-symbolic experience, childhood religious and spiritual traditions, current religious or spiritual traditions, importance of spirituality or religion, frequency of attendance for spiritual or religious services, meditation experience, contemplative or centering prayer experience, and prior use of hallucinogenic drugs. Program 2 participants completed a separate informed consent document, online as part of their measures.

Exit General Information Form (Program 1 and 2)

At the conclusion of the program, Program 1 and 2 participants completed another general information form that asked for updates involving any changes in their relationship status, current address, occupation, hallucinogenic drug use, or religious or spiritual orientation that took place during

the study. It asked them to rate their changes on a range of items such as: inner peace, reactivity, sleep

quality, happiness, well-being, and tolerance of others, habits, memory, sensory perception, and

medical conditions (these are not reported on here). This survey also asked them to list any methods

and practices they had done during the program that were not part of the protocol, to rank the

protocol's methods by preference, and included a general satisfaction survey (these are also not

reported on here).

Finally, the exit survey asked participants to rate their degree and type of ONE, if any. Those

who reported ONE were asked to respond in detail to the following question: "If you selected a location

in the previous question, what is it within your experience that you feel matches ongoing/persistent

non-symbolic experience?" Those who reported tNSE were asked to respond in detail to the following

question: "If not ongoing or persistent, do you feel that you experienced non-symbolic experience? If so

please tell us about it (how long, how often, what it felt like, if it matched the description of a location,

etc.)." The form also inquired into the range and degree of temporary state experiences they might have

had, with questions such as: "Do you feel that you have had something which might be referred to as a

non-symbolic experience, mystical experience, unitive experience, kundalini experience, a period where

your mind has fallen completely silent, a period of profound stillness and deep inner peace, a period of

profoundly overwhelming energy or love or bliss, or any other similar event or moment while taking the

course? If so please tell us about it/them."

Measures

   Authentic Happiness Inventory

   The Authentic Happiness Inventory (AHI; Seligman et al., 2005) is a subjective measure for the

assessment of happiness. Based on Seligman's authentic happiness theory, the AHI assesses "[…]

experiencing and savoring pleasures, losing the self in engaging activities, and participating in

meaningful activities" (Seligman et al., 2005, p. 414). The AHI consists of 24 sets of five statements from

which the person has to choose the statement that best describes his or her feelings in the past week. A

sample set of statements ranges from "I am usually in a bad mood" to "I am usually in an unbelievably

great mood." In normative samples, internal consistency for the AHI ranges from .91 to .94 (Proyer et

al., 2018).

Center for Epidemiology Studies-Depression (CES-D) Questionnaire

The CES-D (Radloff, 1997) is a 20-item self-report screening tool for depressive symptoms. Each

item is scored on a Likert rating scale from 0 to 3 and the total score ranges from 0 (no depressive

complaints at all) to 60 (many depressive complaints). Scoring for this measure specifies that

increasingly high levels of depression are indicated by scores of 16 or more. For this study, the CES-D

total score is reported. In normative samples, internal consistency for the CES-D ranges from .80 to .90

(Carroll et al., 1973)

PERMA Scales

The PERMA scale (Seligman, 2005) examines a person's level of well-being according to nine

dimensions. The five core domains are: Positive Emotion, Engagement, Relationships, Meaning, and

Accomplishment. Four additional domains are: Happiness, Negative Affect, Loneliness, and Health. The

measurement scale consists of 23 items with a scoring interval from 0 to 10. All nine subscales are

reported for this study. In normative samples, internal consistency for the PERMA scales range from .80

to .93, with the exception of Engagement, which ranges from .66 to .75 (Butler & Kern, 2016).

Satisfaction with Life Scale

The Satisfaction with Life Scale (SWLS; Diener et al., 1985) is a 5-item measure for the

assessment of global, cognitive satisfaction with one's own life. The SWLS uses a 7-point Likert-style

scale (from 1 = "strongly disagree" to 7 = "strongly agree"). The SWLS is widely used in research and

shows good psychometric properties (Pavot & Diener, 1993). In normative samples, the SWLS has shown

good to strong internal reliability and moderate temporal stability, with a range of .74-.87 for the

coefficient alpha. Test-retest reliabilities have ranged from .54 for longer periods (four years) to .89 for

shorter periods (two weeks) (Diener et al., 1985; Lopez-Ortega, Torres-Castro & Rosas-Carrasco, 2016;

Magnus, Diener, Fujita, & Pavot, 1993)

Gratitude Questionnaire

The Gratitude Questionnaire (GQ-6; McCullough et al., 2002) is a six-item self-report

questionnaire designed to assess individual differences in the proneness to experience gratitude in daily

life. Respondents endorse each item on a 7-point Likert-type scale (1 = "strongly disagree" and 7 =

"strongly agree"). Research has demonstrated that the GQ-6 relates to optimism, hope, spirituality, life

satisfaction, empathy, religiousness, and forgiveness. In normative samples, internal consistency for the

GQ-6 ranges from .70 to .80 (McCullough et al., 2004; McCullough, Emmons, & Tsang, 2002).

Fordyce Emotions Questionnaire

The Fordyce Emotions Questionnaire (FEQ; Fordyce, 1988) assesses the intensity and frequency

of happiness, measuring emotional well-being as an indicator of one's perceived happiness. For this

measure, four items are calculated and reported: 1) happiness/unhappiness with 11 descriptive phrases

on a 0-10 scale (FEQ-Happy), as well as estimates of the percentage of time that the respondent felt: 2)

Happy (FEQ-%Time-Happy), 3) Unhappy (FEQ-%Time-Unhappy), and 4) Neutral (FEQ-%Time-Neutral).

Based on normative data taken from a sample of 3050 American adults, for overall happiness the

average score (out of 10) is 6.92. The average score on time is happy, 54.13 percent; unhappy, 20.44

percent; and neutral, 25.43 percent. Taken together, several studies report the internal consistency

ranging from .90 to .92, with an 8-week test-retest reliability ranging from .70 to .81 (Jafari et al., 2004).

Meaning in Life Questionnaire

The Meaning in Life questionnaire (MLQ; Steger et al. 2006) is a 10-item self-report survey

designed to measure two dimensions of meaning in life: 1) how much respondents feel their lives have

meaning, termed Presence of Meaning (MLQ-Presence), and 2) how much respondents strive to find

meaning and understanding in their lives, termed Search for Meaning (MLQ-Search). Respondents

answer each item on a 7-point Likert-type scale ranging from 1 (Absolutely Untrue) to 7 (Absolutely

True). In normative samples, internal consistency for the MLQ ranges from .81 to .86 for the MLQ-

Presence subscale and .84 to .92 for the MLQ-Search subscale. One-month test-retest reliability

coefficients were .70 for Presence and .73 for Search (Steger, Frazier, & Kaler, 2006; Pezirkianidis,

Galanakis, & Stalikas, 2016).

State-Trait Anxiety Inventory

The State-Trait Anxiety Inventory (STAI-State and STAI-Trait) is a commonly used measure of

trait and state anxiety in clinical settings to diagnose anxiety, as well as to distinguish it from depressive

syndromes (Spielberger et al., 1983). The scale contains 20 items for assessing trait anxiety and 20 for

state anxiety. Higher scores indicate greater anxiety. Two scores are reported: STAI-State and STAI-Trait.

For Program 1, internal consistency for STAI-State was .90 at baseline and .91 at post-program.   For

Program 1, internal consistency for STAI-Trait was .88 at baseline and .92 at post-program. For Program

2, internal consistency for STAI-State was .95 at baseline and .94 at post-program. For Program 2,

internal consistency for STAI-Trait was .92 at baseline and .94 at post-program.

Perceived Stress Scale

The Perceived Stress Scale (Cohen et al., 1983) is the most widely used psychological instrument

for measuring the degree to which situations in one's life are appraised as stressful. Items were

designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The

scale also includes a number of direct queries about current levels of experienced stress. The questions

in the PSS ask about feelings and thoughts during the last month. In each case, respondents are asked

how often they felt a certain way. For this study the PSS total score is reported. Internal consistency was

.87 at baseline and .88 at post-program for Program 1, and .90 at baseline and .92 at post-program for

Program 2.

Mysticism Scale

The Mysticism Scale (M-Scale) was developed and validated by Ralph Hood (1975). It has become the most widely used measure of mysticism. Factor analysis (Hood, Morris, & Watson, 1993) has revealed three dimensions:

1. Extrovertive mysticism, which consists of items including inner subjectivity ("I have had an experience in which all things seemed to be conscious."), and unity ("I have had an experience in which I realized the oneness of myself with all things.");

2. Introvertive mysticism, which includes timelessness and spacelessness ("I have had an experience which was both timeless and spaceless"), ego loss ("I have had an experience in which something greater than myself seemed to absorb me"), and ineffability ("I have had an experience which cannot be expressed in words");

3. Interpretation, which consists of items associated with the three aspects of positive affect ("I have experienced profound joy"), sacredness ("I have had an experience which I knew to be sacred"), and noetic quality ("I have had an experience in which a new view of reality was revealed to me").

Total scores range from 32 to 160. For this study, for univariate analyses, the total score and three subscale scores are reported; for multivariate analyses only the total score was used. Internal consistency for the M-Scale total score has been reported ranging from .82 to .91 (Hood, et al., 2001).

Modified Nondual Embodiment Thematic Inventory

The Modified Nondual Embodiment Thematic Inventory (MNETI) is a 24-item (scoring range 24-100) measure built on the original 20-item Nondual Embodiment Thematic Inventory that was designed to evaluate qualities of the nondual experience and spiritual awakening (Butlein, 2005). The original NETI attempted to differentiate between individuals with transpersonal ideas from individuals who live the transpersonal at the deepest level. It assessed the following qualities: compassion, resilience,

propensity to surrender, interest in truth, defensiveness, capacity to tolerate cognitive dissonance and/or emotional discomfort, gratitude, frequency of nondual experience, anxiety level, motivational paradigm, authenticity, level of de-identification from the mind, and humility. The NETI was negatively correlated with the Center for Epidemiology Studies-Depression (CES-D) mood ($p < .01$) and STAI Trait and State anxiety ($p < .01$) scales, demonstrating discriminant validity. While the original instrument focuses on Locations 1-3, this research project added four additional questions designed to add sensitivity for Location 4, these included: "A knowing that whatever manifests, manifests; and that it is always beyond and different from what could have been predicted or expected," "Great wonderment that is so humbling that what results is only surrender," "A knowing that the appearance of the world is simply unfolding with no decisions or actions being taken by me," "A knowing that what can't be expressed is reality while appearances are just a dream." The total MNETI score is reported for this study. Internal consistency was .88 and .89 for Programs 1 and 2, respectively.

Statistical Procedures

Raw baseline and post-program scores were analyzed for a wide range of psychological, emotion-based, and self-transcendence assessments. For all preliminary analyses, data from 11 independent measures (as described above)—representing 27 unique assessments—are reported. For univariate analyses, raw descriptive statistics, percentage change from baseline, paired sample t-tests, confidence intervals (CI), p-value, and effect sizes were calculated using SPSS V.23 (SPSS, 2015). In reporting of effect sizes, Cohen's conventions for modest, moderate, and strong standardized differences (respectively, d=.2, d=.5, and d=.8+) were employed (Cohen, 1988; Rosnow & Rosenthal, 2008).

This study was designed as a very comprehensive battery. One consequence of this is that the widely used statistical tests for multiple comparison correction become increasingly less believable as more measures and groups are used. One could argue that this is one aspect of what has kept

comprehensive studies like this one from being desirable to run, as it effectively punishes researchers for comprehensiveness.

Additionally, this is a novel area of research and correcting for multiple comparisons would necessarily result in Type-2 errors, potentially resulting in missing statistically significant results while trying to avoid excessive Type-1 errors. Because inferential statistics are bounded by the unavoidable Type-1:Type-2 trade-off, and because we believe that Type-2 errors are just as important as Type-1 errors in this case, we chose to base our analysis in the body of this paper on the uncorrected data.

Common corrections such as Bonferroni and Tukey only change the threshold for determining statistical significance. The overwhelming majority of the pre-post changes reported here are statistically significant at p<.001. As a result, correction does not impact whether these results remain significant. However, for comprehensiveness, Tukey's (1949) method was applied by dividing the critical value (alpha) by the number of tests within each family. Families reflect the categories of measures, as outlined below. The p-values that would not reach significance under a Tukey test have been noted with an asterisk in Tables S2-S7.

To examine overall programmatic effects, results are first presented for all participants (see Tables S2 and S3), then separated into ONE, tNSE, and nNSE (see Tables S4 and S5), and finally by ONE Location (see Tables S6 and S7). Next, the underlying patterns and relationships among the inter-correlated measures were examined and the following categories were created: Well-being, Negative Emotional and Psychological Factors, Meaning, Lifestyle Factors, and Self-Transcendence. Two measures didn't cluster with others and were analyzed separately: Meaning in Life-Search (MLQ-Search) and Fordyce Emotions Questionnaire (FEQ-%Time-Neutral).

The Well-being category taps into a wide range of positive outcomes related to overall well-being, life satisfaction, gratitude, and happiness. It includes seven measures: Authentic Happiness Inventory (AHI), Fordyce Emotions Questionnaire (FEQ-Happiness, FEQ-%Time-Happy), Gratitude

Questionnaire (GQ-6), Satisfaction with Life Scale (SWLS), PERMA-Positive Emotions, and PERMA-Happiness. Tables S8 and S9 display the inter-correlations for baseline and post-program measures for the well-being measures for Programs 1 and 2, respectively. For these seven measures, the Cronbach's alpha was .80 at baseline and .78 at post-program for Program 1, and .90 at baseline and .94 at post-program for Program 2.

The Negative Emotion and Psychological Factors category indexed negative affect, state and trait anxiety, perceived stress, depressive symptoms, and loneliness. It includes seven measures: CES-D, FEQ-%Time-Unhappy, PERMA-Negative Affect, STAI-Trait Anxiety, STAI-State Anxiety, Perceived Stress Scale (PSS), and PERMA-Loneliness. Tables S10 and S11 present the inter-correlations for baseline and post-program measures for Programs 1 and 2 for the Negative Emotion and Psychological factors measures. For these seven measures, the Cronbach's alpha was .83 at baseline and .86 at post-program for Program 1, and .84 at baseline and .87 at post-program for Program 2.

The Meaning category includes measures that assessed the degree to which participants experienced their lives as having meaning. It includes two measures: PERMA-Meaning and MLQ-Presence. Tables S12 and S13 present the inter-correlations for baseline and post-program measures of meaning for Programs 1 and 2, respectively. For these two measures, the Cronbach's alpha was .75 at baseline and .78 at post-program for Program 1, and .78 at baseline and .78 at post-program for Program 2.

The Lifestyle Factors category assesses the quality of relationships, health, engagement, and accomplishment. It includes four measures: PERMA-Relationships, PERMA-Engagement, PERMA-Accomplishment, and PERMA-Health. Table S14 and S15 present the inter-correlations for baseline and post-program lifestyle measures for Programs 1 and 2, respectively. For these four measures, the Cronbach's alpha was .83 at baseline and .82 at post-program for Program 1, and .86 at baseline and .85 at post-program for Program 2.

Lastly, the Self-Transcendence category was comprised of the Mysticism Scale total and Modified Nondual Embodiment Thematic Inventory (MNETI). Tables S16 and S17 present the inter-correlations for baseline and post-program measures for Programs 1 and 2 for the self-transcendence measures. For these four measures, the Cronbach's alphas were .87 at baseline and .85 at post-program for Program 1, and .88 at baseline and .88 at post-program for Program 2.

For subsequent multivariate analyses, all assumptions regarding normality, multicollinearity, and equality of variances-covariances were tested. For each measurement category (Well-being, Meaning, Lifestyle Factors, Negative Emotion and Psychological Factors, and Self-Transcendence), a repeated measures MANOVA were conducted to examine the potential effect of group membership (six groups within the independent variable—Location 1, Location 2, Location 3, Location 4, tNSE, nNSE) on each category over time (baseline and post-program).

Results

This study sought to examine the psychological, emotional, meaning, and self-transcendent effects of two intensive mindfulness meditation and positive psychology programs, with specific focus on the changes that occur for those who subjectively report having experienced a systemic and fundamental shift in the ways in which they experience the world, referred to here as Ongoing Non-Symbolic Experience (ONE).

Results are presented for two independent programs—a four-month protocol (Program 1) and a six-week protocol (Program 2) – representing No Non-Symbolic Experience (nNSE), Temporary Non-Symbolic Experience (tNSE), and ONE. ONE is further categorized into four locations: Location 1 (L1), Location 2 (L2), Location 3 (L3), and Location 4 (L4).

For Program 1, 67% (N=249) of participants self-reported to have transitioned into ONE, representing Locations 1-4. In addition, 21% (N=78) reported tNSE, and 12% (N=44) indicated nNSE. For Program 2, 65% (N=160) reported a transition to ONE, 25% (N=61) reported tNSE, and 10% (N=24)

described having no non-symbolic experiences as a result of the program. Table 1 displays the total

sample for each program, along with the percentage representation for each location.

Table 1

Total sample for each Program and percent breakdown by degree and type of non-symbolic experience

Program outcomes		Program 1 (4-month protocol)		Program 2 (6-week protocol)	
		N	%	N	%
tNSE		78	21.02	61	24.90
nNSE		44	11.86	24	9.80
ONE		249	67.12	160	65.31
Total		371		245	
	L1	122	32.88	106	43.26
	L2	71	19.14	35	14.28
Location Outcomes within ONE	L3	38	10.24	11	4.49
	L4	18	4.85	8	3.27
	Total	249		160	

To examine overall programmatic effects, results are first presented for group comparisons. Following

this, results are presented for all participants, and then separated into ONE, tNSE, and nNSE. Finally, the

results are presented for the ONE group separated into L1, L2, L3, and L4.

Multivariate Group Comparisons

For each measurement category, a repeated-measures MANOVA was conducted with six groups

within the independent variable (L1, L2, L3, L4, tNSE, nNSE) for baseline and post-program measures for

each category simultaneously. For all Program 1 and 2 measures, assumptions for multivariate analyses,

including normality, equality of variance/covariances, and multicollinearity, were evaluated. While all

variables met assumptions for multivariate analyses, including normality and multicollinearity, several

did not specifically meet the requirement of equality of variances-covariances. As such, a more

conservative critical level ($p < .01$, as suggested by Tabachnick & Fidell, 1983, 1989) for determining

significance was employed. Pillai's Trace is also included for all analyses, as it is more robust to

departures from assumptions as well as sensitive to unequal group size (Pillai, 1995; Tabachnick & Fidell,

1996). Results are presented separately by measurement category for Programs 1 and 2, below. Figures

1-5 present marginal means as a composite of all measures for each category, separated by nNSE, tNSE,

L1, L2, L3, L4 for each program.

Well-being Measures

      A repeated-measures MANOVA was employed to examine the potential association between

group (L1, L2, L3, L4, tNSE, nNSE), time (baseline to post-program), and seven measures of well-being

that included Authentic Happiness Inventory (AHI), Fordyce Emotions Questionnaire (FEQ-Happiness,

FEQ-%Time-Happy), Gratitude Questionnaire (GQ-6), PERMA-Positive Emotions, Satisfaction with Life

Scale (SWLS), and PERMA-Happiness. Figures 1a and 1b present the marginal means, which reflect an

estimated composite mean of well-being measures for Programs 1 and 2, respectively, separated by

nNSE, tNSE, L1, L2, L3, and L4.

Figure 1a. Well-being Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 1

Figure 1b. Well-being Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 2

For program 1, an overall statistically significant effect for group was found, F (5,363) = 21.418, p < .001. In addition, both statistically significant main effects of time, F (1,363) = 202.932, p < .001; Wilks' Λ = .641, Pillai's Trace = .359, and an interaction of time and location, F (5,363) = 4.374, p < .001; Wilks' Λ = .943, Pillai's Trace = .057, were found. For Program 2, an overall group effect was found, F (5,223) = 14.429, p < .001. Statistically significant effects for time (i.e. baseline- post-program), F (1,223) = 58.09, p < .001; Wilks' Λ = .793, Pillai's Trace = .207, and an interaction of time and group, F (5,223) = 3.12, p=.01; Wilks' Λ = .935, Pillai's Trace = .065 were also reported.

Negative Emotional and Psychological Factors Measures

A repeated-measures MANOVA was employed to examine the potential association between group (L1, L2, L3, L4, tNSE, nNSE) and time (baseline to post-program) and seven measures of negative emotional and psychological factors, which included CES-D, FEQ-%Time-Unhappy, Perceived Stress, PERMA-Loneliness, PERMA-Negative Affect, STAI-State Anxiety, and STAI-Trait Anxiety. Figures 2a and 2b present the marginal means, which reflect an estimated composite mean of Negative Emotional and Psychological Factors measures for Programs 1 and 2, respectively, separated by nNSE, tNSE, L1, L2, L3, and L4.
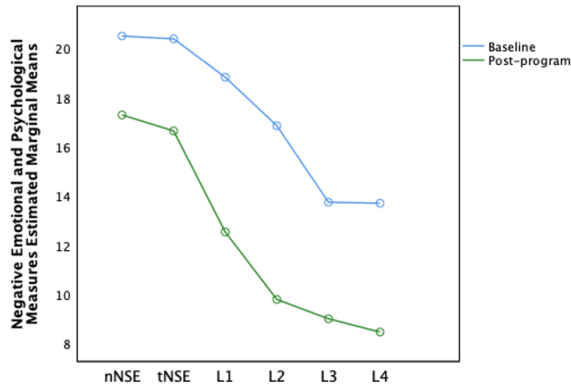
Figure 2a. Negative Emotional and Psychological Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 1
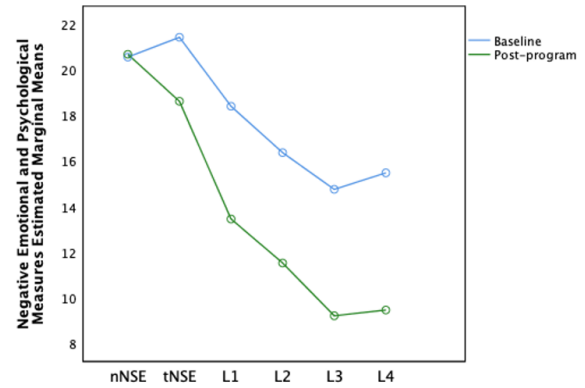
Figure 2b. Negative Emotional and Psychological Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 2

For Program 1, an overall statistically significant effect for group was found, F (5,348) = 22.807, p < .001. In addition, a statistically significant main effect for time was also found, F (1,348) =239.77, p < .001; Wilks' Λ = .592, Pillai's Trace = .408, as well as a significant interaction of time and group, F (5,348) = 5.410, p < .001; Wilks' Λ = .928, Pillai's Trace = .072. For Program 2, an overall group effect, F (5,205) = 11.532, p < .001. In addition, statistically significant effects were found for time (i.e. baseline to post-program), F (1,205) = 91.522, p < .001; Wilks' Λ = .691, Pillai's Trace = .287, as well as an interaction of time and group, F (5,205) = 7.949, p < .001; Wilks' Λ = .838, Pillai's Trace = .126.

Meaning Measures

A repeated-measures MANOVA was employed to examine the potential association between group (L1, L2, L3, L4, tNSE, nNSE) and time (i.e. baseline to post-program) and two measures of meaning, including PERMA-Meaning and MLQ-Presence. Figures 3a and 3b present the marginal means, which reflect an estimated composite mean of Meaning measures for Programs 1 and 2, respectively, separated by nNSE, tNSE, L1, L2, L3, and L4.
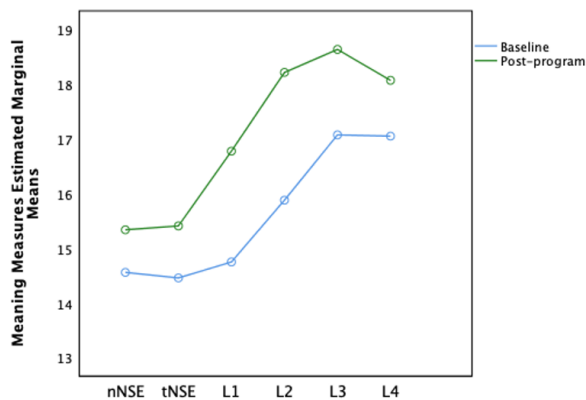
Figure 3a. Meaning Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 1
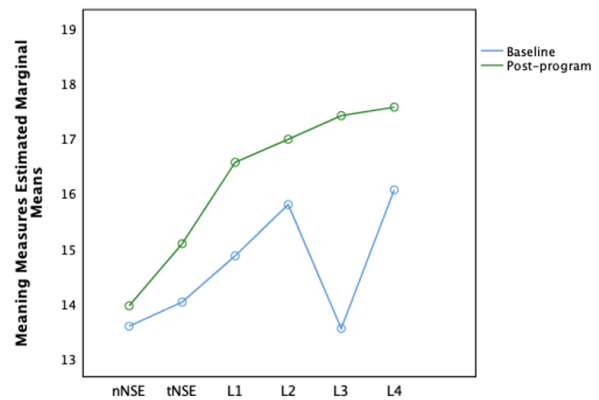
Figure 3b. Meaning Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 2

For Program 1, a significant overall group effect was found, F (5,362) = 13.607, p < .001, as well as a statistically significant main effect for time, F (1,362) = 64.1, p < .001; Wilks' Λ = .850, Pillai's Trace = .150 and an interaction of time and location, F (5,362) = 3.099, p < .001; Wilks' Λ = .959, Pillai's Trace = .041.

For Program 2, an overall statistically significant effect for group was found, F (5, 223) = 14.429, p < .001, as well as a significant main effect for time, F (1,223) = 58.09, p < .001; Wilks' Λ = .793, Pillai's Trace = .140, and an interaction for time and group, F (5, 223) = 3.123, p=.010; Wilks' Λ = .94, Pillai's Trace = .056.

Lifestyle Factors Measures

A repeated-measures MANOVA was employed to examine the potential association between group (L1, L2, L3, L4, tNSE, nNSE) and time (i.e. baseline to post-program) and four measures tapping into lifestyle factors, including PERMA-Engagement, PERMA-Health, PERMA-Accomplishment, PERMA-Relationships. Figures 4a and 4b present the marginal means, which reflect an estimated composite mean of Lifestyle Factors measures for Programs 1 and 2, respectively, separated by nNSE, tNSE, L1, L2, L3, and L4.
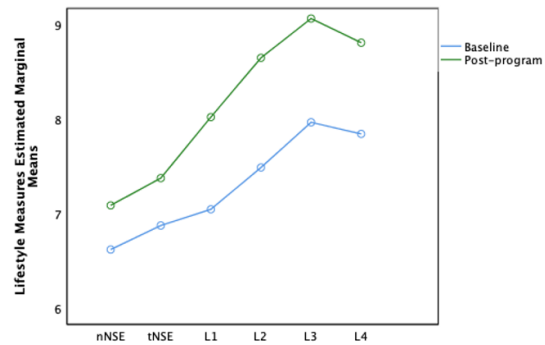
Figure 4a. Lifestyle Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 1
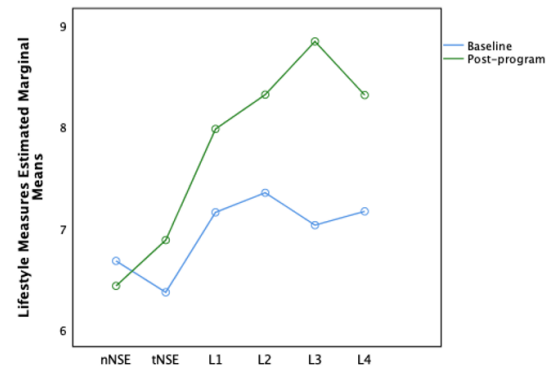
Figure 4b. Lifestyle Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 2

For Program 1, an overall statistically significant effect for group was found, F (5,363) = 13.874, $p < .001$. In addition, a statistically significant main effect for time was found, F (1, 363) = 141.64, $p < .001$; Wilks' Λ = .719, Pillai's Trace = .281, along with a group by time interaction, F (5,363) = 4.059, $p < .001$; Wilks' Λ = .947, Pillai's Trace = .053. For Program 2, an overall statistically significant group effect was found, F (5,234) = 8.339, $p < .001$, as well as statistically significant effects for time, F (1,234) = 50.209, $p < .001$; Wilks' Λ = .823, Pillai's Trace = .177, and an interaction of time and group, F (5,234) = 5.157, $p < .001$; Wilks' Λ = .901, Pillai's Trace = .099.

Self-Transcendence Measures

A repeated-measures MANOVA was employed to examine the potential association between group (L1, L2, L3, L4, tNSE, nNSE) and time (baseline to post-program) and two measures of self-transcendence, including the MNETI and M-Scale-Total Score. Figures 5a and 5b present the marginal means, which reflect an estimated composite mean of Self-Transcendence measures for Programs 1 and 2, respectively, separated by nNSE, tNSE, L1, L2, L3, and L4.
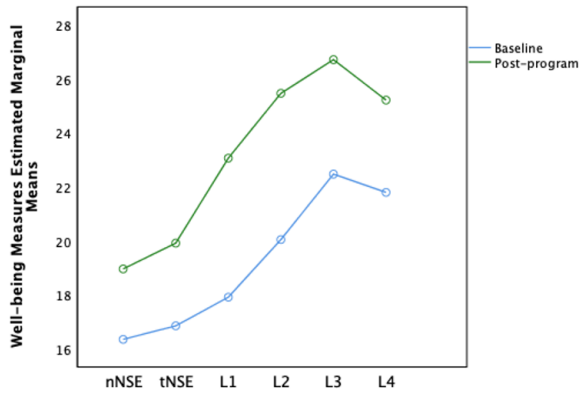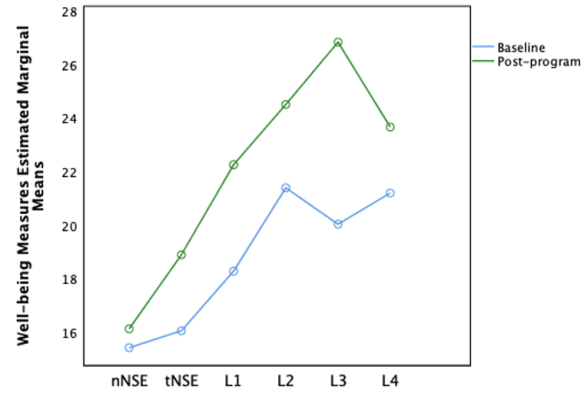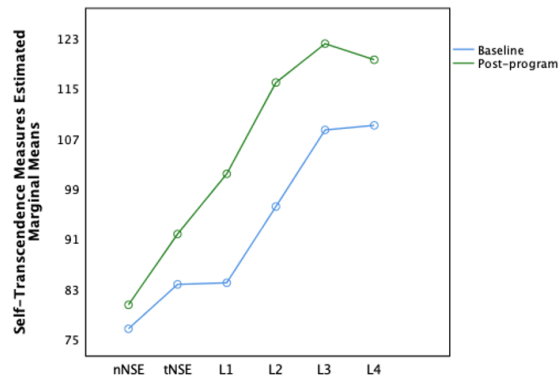
Figure 5a. Self-Transcendence Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 1
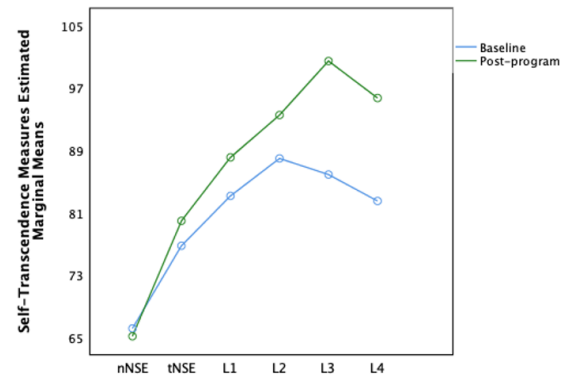
Figure 5b. Self-Transcendence Measures Estimated Marginal Means separated by nNSE, tNSE, and L1-L4 for Program 2

For Program 1, an overall statistically significant effect for group was found, F (5,353) = 35.926, p < .001, as well as a significant main effect for time, F (1,353) = 174.92, p < .001; Wilks' Λ = .669, Pillai's Trace = .181, and an interaction of time and location, F (5,353) =100.101, p < .001; Wilks' Λ = .876, Pillai's Trace = .102. For Program 2, an overall group effect was found, F (5,192) = 12.814, p < .001, as well as statistically significant effects for time, F (1,192) = 42.512, p < .001; Wilks' Λ = .819, Pillai's Trace = .181, and an interaction of time and group, F (5,192) = 4.369, p < .001; Wilks' Λ = .898, Pillai's Trace = .102.

Overall Program Effects

Tables S2 and S3 present results for all participants baseline and post-program survey data for all measures, along with descriptive statistics, percent change from baseline, paired sample t-tests, confidence intervals (CI), p-value, and effect sizes.

All participants

Program 1. All participants in Program 1 (N=371) demonstrated significant improvements on measures of wellbeing, meaning, lifestyle factors, and self-transcendence, as well as significant reductions in negative emotions and psychological factors. Overall, the largest improvement from baseline was found for the percentage of the time a participant reported feeling happy (FEQ-%Time-Happy), and the largest reduction was found for self-reported symptoms associated with depression (as

measured by the CES-D). Of all measures, the strongest effect size was reported for the MNETI. For the well-being category, effect sizes ranged from modest to strong (.49 to .90). Effect sizes for measures of meaning ranged from modest to moderate (.46 to .55), modest to moderate (.32 to .53) for lifestyle factors, modest to strong (.32 to 1.06) for measures of self-transcendence. In addition, significant reductions in negative emotions and psychological factors were found for all participants, with Perceived Stress demonstrating the strongest effect. For this category, effect sizes ranged from modest to strong (-.53 to -.81). Lastly, effect sizes were moderate (-.50 to -.53) for the two uncategorized surveys (MLQ-Search and FEQ-%Time-Neutral).

Program 2. For all Program 2 participants (N=245), significant improvements on measures representing well-being, meaning, lifestyle factors, and self-transcendence were reported, with Authentic Happiness, FEQ-%Time-Happy, and the M-Scale-Interpretive subscale demonstrating the strongest effects. Significant reductions in negative emotions and psychological factors were found for all participants, with effect sizes ranging from modest to moderate (-.29 to -.68). Similar to Program 1, Perceived Stress demonstrated the strongest effect for this category of measures. Taken together, effect sizes range from modest to moderate both for measures of well-being (.36 to .63). Effect sizes were modest for both lifestyle factors (.27 to .45) and meaning measures (.39 to .47). For measures of self-transcendence, effect sizes were all in moderate range (.48 to .63). Lastly, effect sizes were modest (-.24 to -.39) for the two uncategorized surveys (MLQ-Search and FEQ-%Time-Neutral).

ONE, tNSE, and nNSE Effects

Tables S4 and S5 present results for baseline and post-program survey data for all measures, along with descriptive statistics, percent change from baseline, paired sample t-tests, confidence intervals (CI), p-value, and effect sizes, separated by ONE (i.e. Locations 1-4), tNSE, nNSE.

Ongoing Non-Symbolic Experience (ONE)

Program 1. For participants who completed the four-month protocol, 67.12% (N=249) of

participants reported a transition to Ongoing Non-Symbolic Experience (ONE). For the well-being

category of measures, effect sizes ranged from moderate to strong (.58 to 1.08), with the strongest

effect for Authentic Happiness. Effect sizes were moderate (.61 to .68) for measures of meaning and

ranged from modest to moderate (.41 to .64) for lifestyle factors. Significant reductions were found for

all measures of negative emotional and psychological factors, with the strongest effects demonstrated

for Trait Anxiety, Perceived Stress, and depressive symptom. Overall, effect sizes ranged from moderate

to strong (-.59 to -.93). For measures of self-transcendence, the MNETI demonstrated the strongest

effect, and effect sizes ranged from modest to strong (.45 to 1.24). Lastly, moderate effect sizes (-.59 to -

.62) were found for both Meaning in Life Questionnaire-Search and FEQ-%Time-Neutral.

Program 2. For those who completed the six-week protocol 65.31% (N=160) reported a

transition to ONE. The strongest effect overall was found for STAI-Trait Anxiety. Participants reported

significant increases in all measures of well-being, with effect sizes ranging from moderate to strong (.46

to .82). Similar to Program 1, for this category, the strongest effect size was found for Authentic

Happiness. Significant improvements in measures of meaning were also demonstrated, with the

strongest effect for PERMA-Meaning. Effect sizes ranged from modest to moderate (.41 to .60) for

lifestyle factors, and, similar to Program 1, the strongest effect for this category was reported for

PERMA-Accomplishment. In addition, significant reductions were reported for measures of negative

emotional and psychological factors, with effect sizes ranging from moderate to strong (-.41 to -.94).

Lastly, for self-transcendence measures, effect sizes were all in the modest to strong range (.17 to .81).

Temporary Non-symbolic Experience (tNSE)

Program 1. During the four-month protocol, 78 participants (21%) reported Temporary Non-

Symbolic Experience (tNSE). These participants demonstrated a significant increase in the majority of

measures, with modest to moderate effect sizes for measures of well-being (.35 to .59), modest effect

sizes for measures of meaning (.27 to .35), modest effect sizes for measures of lifestyle factors (.16 to .38), and modest to strong effect sizes for measures of self-transcendence (.07 to .85). In addition, significant reductions were reported for measures of negative emotional and psychological factors, with moderate to strong effect sizes (-.34 to -.66).

Program 2. During the six-week protocol, 25% (N=61) reported tNSE. For this group, a significant increase was found for all measures of well-being, with the most significant increase and effect size for FEQ-%Time-Happy. For this category, effect sizes ranged from modest to moderate (.28 to .56). Modest effect sizes were found for measures of meaning (.26 to .34) and lifestyle factors (.12 to .40). For measures of self-transcendence, although participants made improvements from baseline scores, effect sizes were modest (-.01 to .38). Moreover, significant reductions were reported for measures of negative emotional and psychological factors, with the strongest reduction found for CES-D. For this category, modest to moderate effect sizes were reported (-.22 to -.50).

No Non-symbolic Experience (nNSE)

Program 1. During the four-month protocol, 44 participants (12%) experienced neither a temporary nor ongoing transition to non-symbolic experience. However, over the course of this four-month multi-modal positive psychology and meditation program, these individuals reported significant increases in well-being, happiness, gratitude, life satisfaction, positive emotions, meaning, and lifestyle factors. Moreover, participants demonstrated reductions in measures of negative emotional and psychological factors. Of the measures that reached significance for this group, the strongest effect sizes were found for Authentic Happiness, FEQ-Happiness, and CES-D.

Program 2. During the six-week protocol, 24 participants (9.8%) experienced neither a temporary nor ongoing transition to non-symbolic experience. While there were mean increases from baseline to post-program for the majority of measures, only one measure reached significance: FEQ-%Time-Unhappy.

ONE Location Analysis

Tables S6 and S7 present results for each ONE Location's (1-4) baseline and post-program survey data for all measures, along with descriptive statistics, percent change from baseline, paired sample t-tests, confidence intervals (CI), p-value, and effect sizes.

Location 1

Program 1. For those who reported having transitioned to Location 1 (N=122; 32.88%), effect sizes range from moderate to strong (.63 to 1.09) for measures of wellbeing, with the strongest effect found for Authentic Happiness. Moderate effects were found for measures of meaning (.60 to .65), with the strongest effect for PERMA-Meaning. For lifestyle factors, effect sizes ranged from modest to moderate (.38 to .58), and the strongest effect was found for PERMA-Accomplishment. Significant increases in all self-transcendence measures were found, and overall modest to strong effects were reported (.46 to 1.56). For measures of negative emotion and psychological symptoms, most notably, participants reported significant reductions in trait anxiety (STAI-Trait Anxiety) and stress (Perceived Stress Scale). Effect sizes ranged from moderate to strong (-.69 to -.93). Taken together, of all measures, the most significant effect was found for self-transcendence, as assessed by the MNETI, with effect sizes that ranged from modest to strong (.46 to 1.56).

Program 2. Similar to Program 1, participants in Program 2 (N=106; 43.26%) demonstrated significant increases for all measures related to well-being, meaning, lifestyle factors, and self-transcendence, with the strongest effect sizes found for Authentic Happiness, FEQ-%Time-Happy, MNETI, and M-Scale. Participants also reported significant decreases in all measures tapping into negative emotional and psychological factors, with the strongest effects found for STAI-Trait Anxiety, STAI-State Anxiety, and Perceived Stress Scale. Overall, effect sizes range from modest to strong (.44 to .87) for measures of well-being. Effect sizes were modest to moderate for meaning (.47 to .61) and lifestyle factors (.41 to .58). Similar to Program 1, the strongest effects and reductions for measures of

negative emotional and psychological factors were for Perceived Stress and the CES-D. For this category, effect sizes ranged from modest to strong (-.33 to -.93). Lastly, for self-transcendence measures effect sizes ranged from modest to strong (.12 to .79).

Location 2

Program 1. For those who reported having transitioned to Location 2, (N=71; 19.14%), significant increases were reported for all measures of well-being, meaning, lifestyle factors, and self-transcendence, with the strongest effect sizes found for PERMA-Positive Emotions, Authentic Happiness, Satisfaction with Life, PERMA-Happiness, and FEQ-%Time-Happy. For measures of well-being, effect sizes ranged from moderate to strong (.55 to 1.43). Effect sizes were moderate to strong for measures of meaning (.79 to .91) and ranged from modest to strong for lifestyle factors (.48 to .81). For measures of negative emotion and psychological symptoms, effect sizes ranged from moderate to strong (.59 to 1.14). Lastly, moderate to strong effects (.56 to 1.67) were found for measures of self-transcendence, with the strongest effect reported for MNETI.

Program 2. Participants who reported having transitioned to Location 2 (N=35; 14.28%) significantly increased from baseline to post-program scores on the majority of measures related to well-being (with the exception of GQ-6), with Authentic Happiness as the strongest effect size for this category. Overall, effect sizes ranged from modest to strong (.33 to .84) for measures of wellbeing. For measures of meaning and lifestyle factors, modest to moderate effect sizes were reported (.33 to .72), with PERMA-Positive Emotions as the strongest effect. Modest to strong effect sizes (-.41 to -.96) were found for measures of negative emotion and psychological symptoms. The strongest effect sizes for this category were PERMA-Negative Affect and Perceived Stress. Lastly, moderate to strong effects (.55 to 1.03) were found for measures of self-transcendence.

Location 3

Program 1. For those who reported having transitioned to Location 3 (N=38; 10.24%), effect sizes range from moderate to strong (.62 to .94) for measures of wellbeing, with the strongest effects for FEQ-Happiness and FEQ-%Time-Happy. Moderate to strong effects (.50 to .80) were found for measures of meaning, and modest to moderate effects (.47 to .75) were reported for measures of lifestyle factors. The strongest effect for meaning measures was PERMA-Meaning, and the strongest effects for lifestyle factors were PERMA-Accomplishment and PERMA-Engagement. For measures of negative emotion and psychological symptoms, most notably, participants reported significant reductions in depressive symptoms (CES-D), stress (Perceived Stress Scale), and negative affect (PERMA-Negative Affect). Significant effect sizes ranged from modest to strong (-.47 to -.86). Lastly, moderate to strong effect sizes were found for measures of self-transcendence (.51 to 1.23). Of all measures at Location 3, the strongest effect size was reported for the MNETI.

Program 2. Similar to Program 1, participants in Program 2 who reported having experienced Location 3 (N=35; 14.28%) demonstrated significant increases for all measures related to well-being, meaning, lifestyle factors, negative emotional and psychological factors, and self-transcendence. Effect sizes ranged from moderate to strong (.64 to 1.34) for measures of wellbeing, with the strongest effects found for Satisfaction with Life and PERMA-Positive Emotions. For the measures of meaning, strong effects were found (.87 to 1.00). Effect sizes range from modest to strong (.47 to 1.03) for lifestyle factors, with the strongest effect found for PERMA-Engagement. Moderate to strong effect sizes (-.69 to -1.31) were found for measures of negative emotion and psychological symptoms. The strongest effect sizes for this category were PERMA-Negative Affect and Perceived Stress. Amongst all measures, the strongest effect size for Program 2, Location 3 was reported for self-transcendence, as measured by the MNETI.

Location 4

Program 1. For those who completed the four-month protocol and reported having transitioned to Location 4 (N=18; 4.85%), most notably, participants reported a significant increase in self-transcendence (MNETI) and Authentic Happiness, as well as a reduction in Perceived Stress. Effect sizes ranged from modest to strong (.42 to 1.14) for measures of well-being, with the strongest effect found for Authentic Happiness. Modest to moderate effects (.28 to .54) were found for measures of meaning, as well as lifestyle factors (.27 to .75). For measures of negative emotional and psychological factors, moderate to strong effect sizes were reported (-.54 to -1.00), with the strongest effect found for Perceived Stress. Lastly, modest to strong effect sizes (.04 to 1.40) were demonstrated for measures of self-transcendence. Amongst all measures for participants at Location 4, the strongest effect size was reported for the MNETI.

Program 2. Due to a low sample size for this sub-group (n=8; 3.27%), while the majority of measures demonstrated substantial change from baseline to post-program scores, many measures either did not reach significance or were trending. Of those measures that did return with significant changes from baseline, the STAI-Trait Anxiety, MNETI, Perceived Stress, and STAI-State Anxiety had the largest effect sizes.

Discussion

Although a moderate amount of research has focused on peak experiences and transient forms of self-transcendence (Csikszentmihalyi, 1991; Hood et al., 2001; Maslow, 1964; Newberg et al., 2001; Wulff, 2000; Yaden et al., 2017), the scientific literature has yet to report a complex, multimodal psychological study of individuals who have experienced a transition to persistent forms of self-transcendence. To the authors' knowledge, the studies reported here are the first to do so, as well as to have studied a complex mixed methodological approach that included a variety of meditation modalities and positive psychology interventions in two intensive protocols.

Overall Programmatic Effects

Taken together, results from both the 4-month protocol and the shortened 6-week protocol provide support that a combination of mindfulness-based interventions (MBIs) and positive psychology interventions (PPIs) can be effective mechanisms through which individuals can cultivate meaningful change related to their psychological and emotional well-being, possibly even including self-transcendence. In comparison to other MBIs and PPIs that have demonstrated low to moderate positive psychological effects (Bolier et al., 2013; Chiesa et al., 2011; Sedlmeier, 2012; Sin & Lyubomirsky, 2009), the results reported here demonstrate moderate to strong effect sizes and significant improvements for indices spanning five areas: Well-being, Negative Emotional and Psychological Factors, Meaning, Lifestyle Factors, and Self-Transcendence. Both programs demonstrated effective improvement on a comprehensive battery of positive and negative emotional and psychological assessments.

Differences Between ONE, tNSE, and nNSE

A majority of participants reported transitioning to Ongoing Non-Symbolic Experience (ONE). The percentages were relatively similar for Program 1 (67.12%) and Program 2 (65.31%). As demonstrated by Tables S4 and S5, as well as Figure S1, the ONE sub-groups demonstrated significant shifts from baseline to post-program for all five categories of measures, ending with the most desirable means across all measures.

A considerable number of participants reported only experiencing Temporary Non-Symbolic Experience (tNSE). These percentages were relatively similar for Program 1 (11.86%) and Program 2 (9.8%). Although the tNSE sub-groups did not reach Ongoing Non-Symbolic Experience, the members of this group clearly derived substantial benefit from both protocols, including more benefit than the No Non-Symbolic Experience (nNSE) group.

More participants in the study reported having no non-symbolic experience than reported having transitioned to Location 3 or higher, which provides an opportunity to examine the outcome of the program on an acceptably sized population that did not transition to ONE, or even experience a

temporary non-symbolic state during the study. Across all measures, there was a notable gap between the nNSE and ONE sub-groups. For example, the Program 1 nNSE group reported being happy 50 percent of the time (FEQ-%Time-Happy) at post-program and unhappy 15% percent of time (FEQ-%Time-Unhappy), both with moderate effect sizes. By contrast, the Program 1 ONE group reported being happy 73% of the time, and unhappy just 7% of the time, both with strong effect sizes. In addition, for Program 1, the tNSE sub-group was closer to the nNSE than ONE sub-groups reporting happiness 54% of the time (FEQ-%Time-Happy) and unhappiness 15% of the time. Program 2 demonstrated a somewhat similar pattern for nNSE, tNSE, and ONE groups. Despite differences in magnitude and effect size that were typically lower than the other groups, it is clear that the nNSE sub-group comprehensively benefitted from the program across most of the same psychological areas as the other participants. Overall, the data suggests that either program was likely to have been highly beneficial for them, no matter which group a participant ended up in.

Overall Baseline and Post-Program Mean Trends

Martin's (2019, 2020) previous qualitative research found that more individuals seemed to be in Location 1 than Location 2, and so on, with relatively few individuals in Location 4. Interestingly, a similar trend was present for both programs. Martin also stated that his previous participants did not all report transitioning to Location 1 as a starting point within ONE. Rather, they seemed to be able to initially transition to any Location from 1-4. This also appears supported by both of the studies reported here.

Looking at all measures across all categories, Location 3 demonstrated the highest post-program means on measures tapping into the study's comprehensive battery of positive emotional and psychological assessments. Similarly, taken together, Location 3 individuals reported the largest reductions in negative emotional and psychological measures. According to Martin's (2019, 2020) qualitative research, individuals self-reported that well-being increased when they transitioned to ONE.

These individuals also reported increases in well-being from lower to higher locations, and Martin reported that his participants consistently referred to Location 3 as the pinnacle of positive human experience, which the data here seems to support. However, there is a discrepancy between Martin's qualitative reports related specially to Location 4, which is discussed further in a later section.

Similar trends also occurred in baseline means, raising the possibility that each measure had a correspondingly higher baseline starting point. However, unlike with post-program means, there are several exceptions. Nonetheless, the degree to which this occurs is worth noting. Broadly speaking, higher initial scores were often paired with higher post-program scores. This might suggest that people who enter a program of this nature with higher baseline scores are more likely to shift into ONE. This will be further discussed both as a limitation and future direction for potential research.

Potential Effects of Program Length

The two programs presented here provide an opportunity to explore the differences between longer and shorter mixed MBI and PPI interventions. The 4-month protocol during Program 1 presented the same methods and procedures as the shorter 6-week Program 2 protocol, as well as several additional elements. Briefly, these included additional meditation protocols, pre-assigned small groups with required meetings for peer-support, additional practice days, and further time to experiment with individually optimizing methods.

Generally speaking, effect sizes, percentage of change, and post-program means were often more optimal across sub-groups and measures for Program 1 as compared to Program 2. It is possible that more time spent incorporating or practicing the methods and/or the additional elements in Program 1's protocol led to better outcomes. The data reported here do not take into account participants' degree of engagement with the program, or the degree to which they felt matched to their protocol's methods or the program in general, though there may be differences related to these elements that are relevant.

It is also possible that additional time in ONE, or additional moments of non-symbolic experience are impactful for participants. Participants in Program 1 who transitioned early on could potentially have longer during the program to spend in ONE. Likewise, participants experiencing tNSE could have had more time to have more temporary non-symbolic experiences. Overall, while the data suggest that tNSE leads to better psychological outcomes than nNSE, additional information is needed to determine the type, quantity, length, and quality of tNSE experiences for those participants.

Martin (2020) previously reported that some individuals experiencing PNSE reported initially transitioning to one location before progressing further along the continuum. Although space does not permit comprehensive reporting of this, the session-based tracking surveys from Program 1 indicated that this was more likely to happen over the duration of Program 1 versus Program 2. This could have an impact on the differences reflected between the two groups on their measures.

The results for the nNSE sub-group allow us to examine the effects of the program itself and its length, separate from whether a person experienced non-symbolic experience. Overall, results for the Program 1 nNSE sub-group were more optimum, more likely to be statistically significant, and had higher effect sizes than results for the Program 2 nNSE sub-group. Because these sub-groups did not experience any non-symbolic experience, these results may have been from the longer practice time of Program 1, its additional methods, or a combination thereof.

Discrepancies with Location 4

According to Martin (2019, 2020), individuals who transitioned from Location 3 to Location 4 often stated that profound improvements in well-being were experienced as a result of the transition itself; however, our findings do not appear to support these verbal accounts (see Martin 2019, 2020 for additional descriptions). In fact, it was relatively rare for both programs to have desirable trends continue from nNSE through to Location 4.

There are several possibilities. First, the Location 4 sub-group in each program was among the smallest (Program 1, N=18; Program 2, N=8). There were several measures for which one of the Location 4 sub-groups did not reach statistical significance. In addition, PERMA-Loneliness and FEQ-%Time-Unhappy exhibited baseline to post-program differences that, though in a less desirable direction, were nonetheless small compared to Location 3 and could be indicative of possible ceiling effects. Thus, one important possibility is that much of the time, the sample size and statistical power were insufficient to paint an accurate picture of what was happening beyond Location 3.

Another potential confound is that participants in Location 2 and Location 4 often report difficulties in taking these types of measures. In prior research, Martin (2010) analyzed participant feedback at both an item and measure level for several of the surveys used here. A common theme emerged: individuals at Location 2 and Location 4 reported that the questions often did not make sense to them. Participants in these sub-groups were substantially more likely to report that the surveys often asked questions about aspects of a sense of self that they were not able to fully perceive, or perhaps even perceive at all. This was more pronounced at Location 4 than Location 2. As a result, another possibility for the difference between Martin's (2019, 2020) previous in-depth interview-based qualitative research and our findings here regarding Location 4 may be an inherent difficulty regarding question interpretation for these participants.

Another discrepancy between Martin's prior research (2019, 2020) and the data reported here concerns emotion. Previous findings revealed that Location 4 individuals often report no experience of emotion; however, in this study, Location 4 individuals report positive (PERMA-Positive Emotion factor) and negative emotion (PERMA-Negative Affect factor), in addition to overall neutrality (FEQ-%Time-Neutral). Again, this may be due to question interpretation.

The FEQ question is asked in the context of the percent of time an individual is happy and unhappy, which could affect how participants interpret neutrality in context, and Location 4 individuals

reported very low scores of negative emotions. What they do report could be related to question interpretation. A similar pattern emerged for PERMA-Positive Emotion factor, which is comprised of three questions that could be interpreted by Location 4 individuals as having relatively little, or perhaps nothing, to do with emotion ("In general, how often do you feel joyful?"; "In general, how often do you feel positive?"; and "In general, to what extent do you feel contented?"). A high score on those questions would be in line with Martin's (2019, 2020) previous data, in which reports such as joyousness, positivity, and contentedness were not viewed as emotions by Location 4 participants.

Limitations and Future Directions

There were several important limitations to the study. First, the study did not use control groups, therefore we cannot fully know if the changes observed in the study participants are a result of the protocols being studied. The population is also likely skewed towards individuals with a prior knowledge of, and interest in, self-transcendence. The number of participants reporting Christian versus Eastern faiths is not representative of general population norms. As such, participants' prior knowledge and beliefs might have impacted the study in an undetermined way. Other potential demographic limitations include language (the study was conducted entirely in English), race/ethnicity, gender, and education bias (see Table S1).

Additionally, the study data reported here did not consider participant's individual investment in the program. End-of-session survey data was collected from participants that included whether or not they did that session's practices, along with why they did not if they failed to complete a program component. For space reasons, it was impractical to compute and report on that for this article. It is also important to note that these surveys were completed unsupervised by participants and might not be accurate. An improvement for future studies would be to find methods to accurately track program engagement and time investment.

The analyses reported here only included participants who completed the baseline and post-program measures. Because of how data was collected relating to dropouts, precise numbers are difficult for Program 1. However, approximately 30% of participants dropped out and just over 50% of them reported that they were experiencing ONE in their session tracking surveys at that point. Some of those individuals reported that because they transitioned, they didn't see a reason to continue with such an intensive program that seemed designed to produce what they had already reached. Others reported that changes in their life circumstances necessitated them dropping out. For Program 2, 48 (16%) participants dropped out. Fourteen (29% of dropouts) were reporting ONE at the time of dropping out, 18 (38%) were reporting tNSE, and 16 (33%) were reporting nNSE.

The ranges of scores were inconsistent across programs at an individual measure level. Thresholds for individual measures that related to ONE were not found, and therefore it is not possible to utilize a participant's baseline score to predict what the program outcome would be for that individual regarding nNSE, tNSE, or ONE. It's likely that any investigative or predictive analysis would need to include more than one measure. Extensive data mining has sought to uncover composites of measures, and even questions from within and across measures from Program 1 (because there are more participants in each sub-group), in an effort to uncover a baseline data set that can accurately predict outcomes at an individual level. Although attempts have failed thus far, future research will continue to adopt a multivariate modeling approach to identify predictive relationships among baseline measures and the likelihood that an individual will transition to ONE, as well as each particular location.

This study, though quite comprehensive, is just a starting point. Future longitudinal research on the effects of both programs would add to the ongoing knowledgebase related to the long-term effectiveness of these programs. Additional research is warranted to determine whether the results reported here would remain consistent over time, to what degree, and what aspects of the protocol led to the difference in outcome. The present data only allow us to identify that a majority of participants

who completed each protocol transitioned to ONE, but not what caused this transition or the specific

impact that it might have had on the psychological measures used in the study.

Conclusion

Overall, these results add to the growing literature regarding the use of mindfulness and

positive psychology interventions to meaningfully impact well-being, negative emotional and

psychological factors, meaning, lifestyle factors, and self-transcendence. This study utilized a distinctly

multi-faceted range of instruments that created a more comprehensive picture than any one measure

alone, or any previous study. Both a longer-term protocol (4-months) and a shorter subset protocol (6-

weeks) were examined, each of which sought to catalyze and measure the results of a shift to Ongoing

Non-Symbolic Experience in participants. The results reported here lend support for the use of intensive

mindfulness-based and positive psychology interventions as effective vehicles through which to enhance

subjective well-being, happiness, gratitude, positive and negative emotions, meaning, life satisfaction,

and both temporary and persistent self-transcendence in adult, non-clinical populations in as short as

six-weeks using an intensive, multimodal program.

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Contributions

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JAM conceived of and managed both studies and their research teams and contributed to all

data analysis and writing. ME was the primary data analyst, wrote the initial draft, and contributed to all

subsequent drafts. AB was a data analyst for the Program 1 data. EDS contributed to the writing and

provided study support for Program 2. LB provided study support for Program 1.

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Table S1

Demographic information for Programs 1 and 2

		Program 1				Program 2	
		N	%			N	%
Gender				Gender			
	Male	204	57		Male	146	60
	Female	155	43		Female	99	40
Religious affiliation				Religious affiliation			
	All Christian Groups	24	7		All Christian Groups	20	8
	Atheist	33	9		Atheist	10	4
	Eastern traditions	117	32		Eastern traditions	84	33
	Other Religions	121	34		Other Religions	80	35
	Agnostics	64	17		Agnostics	51	20
Ethnicity or race				Ethnicity or race			
	Caucasian (other than Hispanic)	292	81		Caucasian (other than Hispanic)	212	87
	Hispanic or Latino	16	4		Hispanic or Latino	5	2
	Black or African American	6	2		Black or African American	5	2
	Asian/Pacific Islander	19	5		Asian/Pacific Islander	10	4
	Other	26	7		Other	13	5
Highest education level completed				Highest education level completed			
	High school diploma or G.E.D.	10	3		High school diploma or G.E.D.	5	2
	Attended college but did not complete degree / Associate's degree	36	10		Attended college but did not complete degree / Associate's degree	22	9
	Bachelor's degree	136	38		Bachelor's degree	109	45
	Graduate/ Professional degree	177	49		Graduate/ Professional degree	109	44
Geographic distribution				Geographic distribution			
	North America	287	78		North America	171	68
	Europe	46	13		Europe	57	23
	South America	1	<1		South America	1	1
	Asia	16	5		Asia	6	2
	Oceania	14	4		Oceania	10	4

Table S2

All Measures for All Participants in Program 1

		Baseline		Post-program							
	N	Mean	SD	Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Wellbeing											
Authentic Happiness Inventory	369	3.13	0.63	3.70	0.84	0.57	0.50, 0.66	14.43	p<.001	18.21	0.90
Fordyce Emotions Questionnaire Happiness	369	6.77	1.68	7.86	1.34	1.09	0.94, 1.25	13.93	p<.001	16.10	0.65
FEQ-%Time-Happy	369	48.10	25.05	66.25	25.37	18.15	15.61, 20.68	14.10	p<.001	37.73	0.72
The Gratitude Questionnaire	369	36.40	5.48	39.09	4.14	2.69	2.24, 3.15	11.66	p<.001	7.39	0.49
Satisfaction with Life Scale	369	22.05	7.18	26.84	7.17	4.79	4.17, 5.42	15.15	p<.001	21.72	0.67
PERMA-Happiness	368	6.84	1.89	8.19	1.63	1.35	1.17, 1.52	14.96	p<.001	19.74	0.71
PERMA-Positive Emotion	369	6.58	1.93	7.91	1.7	1.33	1.17, 1.50	15.67	p<.001	20.21	0.69
Meaning											
Meaning in Life Questionnaire- Presence	368	23.3	4.56	25.41	4.47	2.11	1.61, 2.60	8.42	p<.001	9.06	0.46
PERMA-Meaning	369	7.13	2.03	8.25	1.83	1.12	0.94, 1.30	12.01	p<.001	15.71	0.55
Lifestyle Factors											
PERMA-Health	369	7.29	2.24	8.00	1.98	0.71	0.55, 0.87	8.55	p<.001	9.74	0.32
PERMA-Relationships	369	6.79	2.17	7.89	1.93	1.11	0.93, 1.29	12.19	p<.001	16.2	0.51
PERMA-Accomplishment	369	7.34	1.61	8.19	1.58	0.85	0.69, 1.0	10.96	p<.001	11.58	0.53
PERMA-Engagement	369	7.28	1.63	8.05	1.52	0.77	0.63, 0.93	10.23	p<.001	10.58	0.47

Table S2

All Measures for All Participants in Program 1

		Baseline		Post-program							
	N	Mean	SD	Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Negative Emotional and Psychological Factors											
CES-D	366	11.16	8.62	5.93	6.61	-5.23	-6.02, -4.45	-13.14	p<.001	-46.86	-0.61
Perceived Stress Scale	365	20.11	8.31	13.39	7.99	-6.72	-7.50, -5.94	-17.01	p<.001	-33.42	-0.81
PERMA-Loneliness	369	3.18	2.75	1.71	2.27	-1.47	-1.73, -1.21	-11.22	p<.001	-46.23	-0.53
PERMA-Negative Affect	369	3.39	2.05	1.98	1.62	-1.41	-1.60, -1.24	-15.57	p<.001	-41.59	-0.69
STAI –State Anxiety	365	34.21	10.27	27.62	8.75	-6.59	-7.60, -5.57	-12.78	p<.001	-19.26	-0.64
STAI –Trait Anxiety	365	38.55	10.39	30.27	9.18	-8.28	-9.16, -7.39	-18.39	p<.001	-21.48	-0.80
FEQ-%Time-Unhappy	368	17.08	13.99	9.29	10.36	-7.79	-9.09, -6.50	-11.83	p<.001	-45.61	-0.56
Self-transcendence											
MNETI	359	60.45	14.13	75.37	15.75	14.92	13.73, 16.12	24.54	p<.001	24.68	1.06
Mysticism Scale-Total	359	117.97	32.71	130.52	29.24	12.55	10.07, 15.01	9.97	p<.001	10.64	0.38
Mysticism Scale-Extrovertive	359	26.55	10.46	30.68	9.54	4.11	3.30, 4.97	9.74	p<.001	15.56	0.39
Introvertive	359	44.79	13.16	49.50	11.25	4.71	3.61, 5.82	8.37	p<.001	10.52	0.36
Interpretive	359	46.64	11.54	50.34	10.51	3.70	2.80, 4.59	8.13	p<.001	7.93	0.32
Miscellaneous/Uncategorized											
FEQ-%Time-Neutral	366	34.86	21.25	24.22	20.86	-10.64	-12.96, -8.32	-9.01	p<.001	-30.35	-0.50
Meaning in Life Questionnaire- Search	369	21.62	8.4	17.17	9.81	-4.45	-5.32, -3.57	-9.97	p<.001	-20.58	-0.53

Table S3

All Measures for All Participants in Program 2

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
Wellbeing											
Authentic Happiness Inventory	243	3.09	0.63	3.48	0.7	0.39	0.31, 0.47	9.88	p<.001	12.62	0.62
Fordyce Emotions Questionnaire Happiness	244	6.69	1.83	7.65	1.85	0.96	0.80, 1.15	9.39	p<.001	14.35	0.52
FEQ-%Time-Happy	234	44.66	23.42	59.42	25.76	14.76	11.1, 17.47	8.8	p<.001	33.05	0.63
The Gratitude Questionnaire	244	36.73	4.88	38.5	4.31	1.77	1.20, 2.29	6.29	p<.001	4.82	0.36
Satisfaction with Life Scale	245	22.26	6.88	25.71	6.77	3.45	2.70, 4.15	9.32	p<.001	15.50	0.50
PERMA-Happiness	244	6.69	1.83	7.65	1.85	0.96	0.77, 1.19	9.39	p<.001	14.35	0.52
PERMA-Positive Emotion	244	6.34	1.85	7.38	1.93	1.04	0.81, 1.25	9.18	p<.001	16.40	0.56
Meaning											
Meaning in Life Questionnaire- Presence	245	22.54	4.69	24.38	4.09	1.84	1.22, 2.40	6.06	p<.001	8.16	0.39
PERMA-Meaning	244	6.75	2.11	7.75	2.05	1	0.75, 1.23	8.18	p<.001	14.81	0.47
Lifestyle Factors											
PERMA-Health	243	7.36	1.93	7.88	1.77	0.52	0.35, 0.71	5.83	p<.001	7.07	0.27
PERMA-Relationships	245	6.57	2.08	7.39	1.96	0.82	0.56, 1.05	6.54	p<.001	12.48	0.39
PERMA-Accomplishment	242	6.98	1.76	7.77	1.75	0.79	0.61, 1.02	11.59	p<.001	11.32	0.45
PERMA-Engagement	243	6.79	1.84	7.55	1.81	0.76	0.52, 0.97	6.65	p<.001	11.19	0.41

Table S3

All Measures for All Participants in Program 2

		Baseline		Post-program							
	N	Mean	SD	Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Negative Emotional and Psychological Factors											
CES-D	244	12.14	8.43	7.45	6.92	-4.69	-5.64, -3.68	-9.11	p<.001	-38.63	-0.56
Perceived Stress Scale	217	21.09	7.94	15.72	8.19	-5.37	-6.41, -4.39	-10.55	p<.001	-25.46	-0.68
PERMA-Loneliness	242	3.01	2.62	2.25	2.55	-0.76	-1.11, -0.52	-5.48	p<.001	-25.25	-0.29
PERMA-Negative Affect	241	3.5	1.88	2.45	1.74	-1.05	-1.22, -0.79	-8.46	p<.001	-30.00	-0.56
STAI –State Anxiety	226	34.78	9.9	29.74	10.31	-5.04	-6.39, -3.75	7.73	p<.001	-14.49	-0.51
STAI –Trait Anxiety	226	39.47	9.77	32.97	10.26	-6.5	-7.86, -5.32	-10.26	p<.001	-16.47	-0.67
FEQ-%Time-Unhappy	233	16.37	12.12	11.24	10.16	-5.13	-6.43, -3.8	-7.77	p<.001	-31.34	-0.42
Self-transcendence											
MNETI	212	67.52	9.40	72.75	12.13	5.23	4.27, 6.56	9.35	p<.001	7.75	0.56
Mysticism Scale-Total	199	94.46	23.31	98.56	22.55	4.1	11.09, 16.19	10.5	p<.001	12.40	0.18
Mysticism Scale-Extrovertive	199	21.15	7.47	22.91	7.08	1.76	2.79, 4.46	8.58	p<.001	14.52	0.24
Introvertive	199	35.74	9.26	36.87	9.41	1.13	3.28, 5.63	7.47	p<.001	10.71	0.12
Interpretive	199	37.56	8.64	38.78	7.94	1.22	4.55, 6.53	11.06	p<.001	12.81	0.14
Miscellaneous/Uncategorized											
FEQ-%Time-Neutral	234	38.61	20.59	29.41	21.97	-9.20	-11.87, -6.27	-6.38	p<.001	-23.83	-0.24
Meaning in Life Questionnaire-Search	245	22.75	8.17	19.54	9.51	-3.21	4.22, -2.15	-6.06	p<.001	-14.11	-0.39

Table S4

Program 1 Measures for ONE, tNSE, nNSE

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
WELLBEING											
Authentic Happiness Inventory											
ONE	247	3.23	0.60	3.88	0.58	0.65	0.59, 0.72	19.95	p<.001	20.12	1.08
tNSE	78	2.94	0.61	3.29	0.76	0.35	0.20, 0.49	4.78	p<.001	11.90	0.57
nNSE	44	2.89	0.7	3.44	1.57	0.55	0.06, 1.05	2.25	p=.029*	19.03	0.79
FEQ Happiness											
ONE	247	7.03	1.54	8.22	1.06	1.18	1.00, 1.37	12.55	p<.001	16.78	0.77
tNSE	78	6.31	1.94	7.21	1.61	0.9	0.58, 1.22	5.55	p<.001	14.26	0.46
nNSE	44	6.11	1.67	7.02	1.45	0.91	0.39, 1.43	3.50	p<.001	14.89	0.54
FEQ-%Time-Happy											
ONE	247	51.94	24.59	73.10	21.95	21.16	18.04, 24.27	13.37	p<.001	40.73	0.86
tNSE	78	41.21	24.17	53.87	25.72	12.67	7.73, 17.60	5.11	p<.001	30.72	0.52
nNSE	44	38.80	24.59	49.75	27.22	10.95	3.06, 18.85	2.8	p=.008*	28.22	0.45
The Gratitude Questionnaire											
ONE	247	37.09	5.06	40.00	3.26	2.91	2.42, 3.41	11.8	p<.001	7.84	0.58
tNSE	78	35.29	5.4	37.19	5.19	1.9	0.63, 3.16	2.98	p=.004*	5.38	0.35
nNSE	44	34.5	7.03	37.36	4.84	2.86	1.46, 4.27	4.10	p<.001	8.29	0.41

Table S4

Program 1 Measures for ONE, tNSE, nNSE

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Satisfaction with Life Scale											
ONE	247	22.98	7.13	28.76	6.01	5.79	5.04, 6.53	15.27	p<.001	25.19	0.89
tNSE	78	20.29	6.87	23.68	7.86	3.38	2.14, 4.63	5.40	p<.001	16.71	0.49
nNSE	44	19.93	7.13	21.68	7.50	1.75	-0.17, 3.67	1.84	p=.07	8.78	0.25
PERMA-Happiness											
ONE	246	7.17	1.79	8.70	1.17	1.53	1.33, 1.73	14.77	p<.001	21.33	0.89
tNSE	78	6.15	1.9	7.28	1.95	1.13	0.72, 1.54	5.44	p<.001	18.37	0.59
nNSE	44	6.23	1.94	6.91	1.83	0.68	0.12, 1.24	2.46	p=.02*	10.91	0.35
PERMA-Positive Emotion											
ONE	247	6.92	1.84	8.45	1.29	1.53	1.33, 1.72	15.41	p<.001	22.11	0.83
tNSE	78	5.83	1.98	6.94	1.93	1.11	0.72, 1.50	5.69	p<.001	19.04	0.56
nNSE	44	6	1.85	6.61	1.88	0.61	0.10, 1.10	2.45	p=.019*	10.17	0.33

Table S4

Program 1 Measures for ONE, tNSE, nNSE

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
`	N	Mean	SD	Mean	SD						
<u>MEANING</u>											
PERMA-Meaning											
ONE	247	7.44	1.90	8.73	1.47	1.29	1.10, 1.48	13.10	p<.001	17.33	0.68
tNSE	78	6.62	2.08	7.34	2.22	0.72	0.26, 1.18	3.11	p=.003	10.88	0.35
nNSE	44	6.3	2.23	7.17	1.83	0.87	0.14, 1.6	2.42	p=.02*	13.81	0.39
MLQ-Presence											
ONE	246	23.71	4.37	26.37	3.70	2.65	2.11,3.19	3.57	p<.001	11.17	0.61
tNSE	78	22.29	4.33	23.47	4.98	1.18	0.01, 2.35	2.01	p=.05*	5.29	0.27
nNSE	44	22.82	5.65	23.5	5.67	0.68	-1.18, 2.54	0.74	p=.46	2.98	0.12
<u>LIFESTYLE FACTORS</u>											
PERMA-Health											
ONE	247	7.41	2.22	8.32	1.80	0.90	0.71, 1.09	9.39	p<.001	12.14	0.41
tNSE	78	7.31	2.05	7.63	1.88	0.32	0.02, 0.64	1.99	p=.05*	4.38	0.16
nNSE	44	6.56	2.53	6.86	2.56	0.3	-0.33, 0.93	0.97	p=.34	4.57	0.12

Table S4

Program 1 Measures for ONE, tNSE, nNSE

`		Baseline		Post-program							
	N	Mean	SD	Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
PERMA-Relationships											
ONE	247	7.02	2.17	8.33	1.66	1.31	1.09, 1.53	11.71	p<.001	18.66	0.60
tNSE	78	6.24	2.03	7.01	2.19	0.77	0.39, 1.16	3.97	p<.001	12.34	0.38
nNSE	44	6.47	2.29	7.03	2.1	0.56	0.10, 1.03	2.44	p=.02*	8.66	0.24
PERMA-Accomplishment											
ONE	247	7.55	1.60	8.57	1.31	1.03	0.86, 1.19	12.34	p<.001	13.64	0.64
tNSE	78	7.06	1.48	7.50	1.83	0.44	0.02, 0.86	2.10	p=.04*	6.23	0.30
nNSE	44	6.70	1.70	7.23	1.70	0.54	0.085, 0.99	2.40	p=.02*	7.91	0.32
PERMA-Engagement											
ONE	247	7.49	1.52	8.42	1.26	0.93	0.76, 1.11	10.64	p<.001	12.41	0.61
tNSE	78	6.90	1.74	7.36	1.84	0.46	0.08, 0.85	2.38	p=.02*	6.67	0.26
nNSE	44	6.76	1.82	7.23	1.51	0.46	0.07, 0.86	2.35	p=.02*	6.95	0.25

Table S4

Program 1 Measures for ONE, tNSE, nNSE

		Baseline		Post-program							
`	N	Mean	SD	Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
<u>NEGATIVE EMOTIONAL AND PSYCHOLOGICAL FACTORS</u>											
CES-D											
ONE	244	10.32	8.74	4.07	4.58	-6.26	-7.22, -5.29	12.79	p<.001	-60.65	-0.72
tNSE	78	12.47	8.43	9.62	8.70	-2.85	-4.52, -1.18	-3.40	p=.001	-22.85	-0.34
nNSE	44	13.50	7.72	9.73	7.62	-3.77	-5.83, -1.72	-3.70	p<.001	-27.93	-0.49
FEQ-%Time-Unhappy											
ONE	247	15.23	12.92	6.62	7.68	-8.61	-10.08, -7.13	11.54	p<.001	56.53	-0.67
tNSE	78	20.58	15.44	14.53	13.04	-6.05	-9.33, -2.78	-3.68	p<.001	-29.40	-0.39
nNSE	44	21	15.29	14.82	12.35	-6.18	-10.37, -2.00	-2.98	p=.005*	-29.43	-0.40
Perceived Stress Scale											
ONE	239	18.77	8.39	11.01	6.78	-7.76	-8.73, -6.79	-15.62	p<.001	-41.34	-0.92
tNSE	76	22.53	7.62	17.79	7.86	-4.74	-6.40, -3.08	-5.69	p<.001	-21.04	-0.62
nNSE	42	22.64	7.76	19.05	8.94	-3.60	-5.62, -1.57	-3.58	p<.001	-15.86	-0.46

Table S4

Program 1 Measures for ONE, tNSE, nNSE

`		Baseline		Post-program							
	N	Mean	SD	Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
PERMA-Loneliness											
ONE	247	2.94	2.76	1.24	1.86	-1.71	-2.02, -1.39	-10.59	p<.001	-58.16	-0.62
tNSE	78	3.62	2.63	2.62	2.53	-1.00	-1.51, -0.48	-3.84	p<.001	-27.62	-0.38
nNSE	44	3.75	2.74	2.77	2.96	-0.98	-1.78, -0.17	-2.44	p=.019*	-26.13	-0.36
STAI –State Anxiety (Y-1)											
ONE	239	32.58	10.26	24.90	6.08	-7.69	-8.85, -6.53	13.06	p<.001	-23.60	-0.75
tNSE	76	37.04	8.75	32.47	9.78	-4.57	-7.03, -2.10	-3.69	p<.001	-12.34	-0.52
nNSE	42	38.07	11.04	35	11.91	-3.07	-6.52, 0.38	-1.80	p=.08	-8.06	-0.28
STAI –Trait Anxiety (Y-2)											
ONE	239	36.69	10.07	27.35	6.86	-9.34	-10.36, -8.31	-17.97	p<.001	-25.45	-0.93
tNSE	76	42.36	9.28	36.26	9.64	-6.09	-8.04, -4.15	-6.24	p<.001	-14.40	-0.66
nNSE	42	42.48	11.39	36.95	11.72	-5.52	-8.76 -2.29	-3.45	p=.001	-13.02	-0.48
PERMA-Negative Affect											
ONE	247	3.17	2.10	1.52	1.30	-1.65	-1.87, -1.44	15.01	p<.001	-52.05	-0.79
tNSE	78	3.91	1.95	2.92	1.73	-0.99	-1.37, -0.61	-5.20	p<.001	-25.32	-0.51
nNSE	44	3.71	1.82	2.87	1.96	-0.84	-1.35, -0.32	-3.26	p=.002	-22.64	-0.46

Table S4

Program 1 Measures for ONE, tNSE, nNSE

`		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
SELF-TRANSCENDENCE											
MNETI											
ONE	246	63.15	14.27	80.92	13.06	17.76	16.35, 19.17	24.76	p<.001	28.12	1.24
tNSE	74	55.62	10.92	64.95	13.52	9.32	7.05, 11.60	8.18	p<.001	16.77	0.85
nNSE	39	52.54	13.42	60.15	15.37	7.62	4.68, 10.55	5.26	p<.001	14.48	0.57
Mysticism Scale-Total											
ONE	246	122.59	31.59	138.85	21.96	16.26	13.42, 19.09	11.31	p<.001	13.26	0.51
tNSE	74	111.76	31.08	118.53	32.52	6.77	0.92, 12.62	2.31	p=.02	6.06	0.22
nNSE	39	100.67	35.64	100.69	35.63	0.03	-7.40, 7.45	0.01	p=.99	0.02	0.00
Mysticism Scale- Extrovertive											
ONE	246	28.00	10.29	32.96	7.92	4.96	13.42, 1909	10.11	p<.001	11.31	0.48
tNSE	74	24.14	9.92	27.49	10.24	3.35	1.33, 5.37	3.31	p=.001	13.88	0.34
nNSE	39	21.97	10.57	22.36	11.25	0.38	-2.14, 2.91	0.31	p=.76	1.78	0.04

Table S4

Program 1 Measures for ONE, tNSE, nNSE

`		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
Mysticism Scale- Introvertive											
ONE	246	46.45	12.815	52.72	8.402	6.27	5.01, 7.53	9.79	p<.001	13.49	0.49
tNSE	74	42.47	12.8	45.08	12.56	2.61	0.032, 5.25	1.97	p=.05*	6.15	0.20
nNSE	39	38.69	13.83	37.56	13.48	-1.13	-4.58, 2.33	-0.66	p=.51	-2.92	-0.08
Mysticism Scale- Interpretive											
ONE	246	48.14	11.06	53.17	7.75	5.02	3.97, 8.08	9.38	p<.001	10.42	0.45
tNSE	74	45.15	10.92	45.96	12.32	0.81	-1.27, 2.89	0.78	p=.44	1.79	0.07
nNSE	39	40	13.14	40.77	13.33	0.77	-1.57, 3.10	0.67	p=.51	1.93	0.06
UNCATEGORIZED											
FEQ-%Time-Neutral											
ONE	247	32.53	20.74	19.71	18.84	-12.81	-15.5, -10.3	-9.05	p<.001	39.37	-0.62
tNSE	78	38.35	21.95	31.67	19.85	-6.68	-11.45, -1.91	-2.79	p=.007*	-17.42	-0.30
nNSE	44	39.64	22.38	35.43	25.02	-4.20	-11.80, 3.39	-1.12	p=.27	-10.62	-0.19
MLQ- Search											
ONE	247	20.68	8.61	15.64	9.82	-5.04	-6.17, -3.91	-8.80	p<.001	-24.37	-0.59
tNSE	78	23.63	7.31	19.47	8.98	-4.16	-5.91, -2.40	-4.71	p<.001	-17.6	-0.57
nNSE	44	23.27	8.34	21.66	9.19	-1.61	-3.64, 0.42	-1.60	p=0.12	-6.92	-0.19

*non-significant with Tukey's .05 correction

Table S5

Program 2 Measures for ONE, tNSE, nNSE

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
WELLBEING											
Authentic Happiness Inventory											
ONE	160	3.22	0.57	3.69	0.61	0.47	0.37, 0.57	9.59	p<.001	14.73	0.82
tNSE	60	2.87	0.72	3.14	0.68	0.27	0.11, 0.42	3.48	p<.001	9.41	0.38
nNSE	23	2.84	0.61	2.96	0.71	0.12	-0.70, 0.42	1.44	p=.16	4.23	0.20
FEQ Happiness											
ONE	160	6.98	1.35	8.00	1.11	1.01	0.80, 1.23	9.25	p<.001	14.59	0.75
tNSE	61	5.85	1.92	6.85	1.72	1.00	0.63, 1.36	5.47	p<.001	17.09	0.52
nNSE	24	5.67	1.88	6.38	1.61	0.71	0.17, 1.24	2.73	p=.12	12.52	0.38
FEQ-%Time-Happy											
ONE	153	49.56	23.01	66.90	22.86	17.35	13.22, 14.27	8.30	p<.001	35.00	0.75
tNSE	60	36.2	21.3	48.25	25.7	11.97	6.64, 7.28	4.50	p<.001	32.29	0.56
nNSE	21	32.9	22.1	36.05	23.1	3.10	-3.15, 9.34	1.03	p=.31	9.57	0.14
The Gratitude Questionnaire											
ONE	160	37.41	4.59	39.51	3.31	2.11	1.4, 2.82	5.86	p<.001	6.00	0.46
tNSE	60	35.22	5.23	36.67	5.70	1.45	0.39, 2.46	2.77	p=.007*	4.12	0.28
nNSE	24	35.95	5.11	36.20	4.09	0.25	-1.31, 1.81	0.33	p=.74	0.70	0.05

Table S5

Program 2 Measures for ONE, tNSE,
nNSE

		Baseline		Post-program							
	N	Mean	SD	Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Satisfaction with Life Scale											
ONE	160	37.41	4.59	39.51	3.31	2.11	3.15, 4.94	8.93	p<.001	17.00	0.46
tNSE	61	19.91	6.55	22.62	7.54	2.71	1.21, 4.19	3.62	p<.001	13.61	0.41
nNSE	24	18.75	6.50	20.04	6.53	1.29	-0.99, 3.57	1.17	p=.26	6.88	0.20
PERMA-Happiness											
ONE	160	7.15	1.65	8.30	1.30	1.15	0.9, 1.4	9.17	p<.001	16.08	0.70
tNSE	60	5.77	1.77	6.73	1.8	0.96	0.57, 1.36	4.90	p<.001	16.64	0.54
nNSE	24	5.96	1.90	5.99	2.27	0.03	-0.86, .77	-0.11	p=.92	0.50	0.02
PERMA-Positive Emotion											
ONE	159	6.76	1.74	8.10	1.36	1.35	1.08, 1.62	9.88	p<.001	19.88	0.78
tNSE	61	5.35	1.72	6.10	2.13	0.75	0.10, 1.05	2.48	p=.016*	14.02	0.44
nNSE	24	5.56	1.95	5.79	2.08	0.23	-0.45, 0.92	0.83	p=.48	4.14	0.12

Table S5

Program 2 Measures for ONE, tNSE, nNSE

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
MEANING											
PERMA-Meaning											
ONE	160	7.03	2.03	8.31	1.66	1.28	0.98, 1.58	8.36	p<.001	18.20	0.63
tNSE	61	6.16	2.13	6.72	2.23	0.56	0.12, 1.00	2.55	p=.013*	9.09	0.26
nNSE	23	6.39	2.30	6.56	2.48	0.17	-0.57, 0.91	0.48	p=.63	2.66	0.07
MLQ-Presence											
ONE	160	23.04	4.67	25.21	3.67	2.17	1.38, 2.96	5.40	p<.001	9.41	0.46
tNSE	61	21.88	4.63	23.44	3.77	1.56	0.53, 2.57	3.05	p<.001	7.13	0.34
nNSE	24	20.79	4.56	21.20	5.47	0.41	-0.86, 1.69	0.67	p=.51	1.97	0.09
LIFESTYLE FACTORS											
PERMA-Health											
ONE	159	7.55	1.83	8.30	1.42	0.75	0.52, 0.98	6.36	p<.001	9.93	0.41
tNSE	60	6.92	1.81	7.13	2.06	0.21	-0.06, 0.50	1.52	p=.13	3.03	0.12
nNSE	23	7.04	2.60	6.86	2.12	-0.18	-0.70, 0.35	-0.68	p=.51	-2.56	-0.07

Table S5

Program 2 Measures for ONE, tNSE, nNSE

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
PERMA-Relationships											
ONE	160	6.85	2.05	7.86	1.78	1.01	0.70, 1.31	6.51	p<.001	14.69	0.49
tNSE	61	5.93	1.94	6.70	1.94	0.77	0.33, 1.21	3.52	p<.001	12.98	0.40
nNSE	24	6.04	2.15	6.38	2.30	0.34	-1.2, 0.53	-0.79	p=.43	5.63	0.16
PERMA-Accomplishment											
ONE	159	7.30	1.61	8.27	1.41	0.97	0.72, 1.23	7.44	p<.001	13.36	0.60
tNSE	60	6.33	1.83	6.95	1.92	0.62	0.21, 1.01	3.07	p<.001	9.79	0.34
nNSE	23	6.45	2.01	6.73	1.83	0.25	-0.35, 0.93	0.94	p=.36	4.34	0.12
PERMA-Engagement											
ONE	159	7.07	1.76	8.07	1.47	1.0	0.72, 1.27	7.21	p<.001	14.14	0.57
tNSE	61	6.22	1.83	6.62	1.92	0.40	-0.01, 0.82	1.97	p=.05*	6.43	0.22
nNSE	23	6.51	1.96	6.43	2.10	0.28	-0.84, 0.70	-0.20	p=.84	-1.23	0.14

Table S5

Program 2 Measures for ONE, tNSE, nNSE

	Baseline			Post-program							
	N	Mean	SD	Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
NEGATIVE EMOTIONAL AND PSYCHOLOGICAL FACTORS											
CES-D											
ONE	159	10.79	8.03	5.46	5.82	-5.33	-6.58, -4.08	-8.43	p<.001	-49.39	-0.66
tNSE	61	14.82	8.51	10.60	7.25	-4.22	-6.3, -2.11	-4.02	p<.001	-28.48	-0.50
nNSE	24	14.37	9.07	12.79	7.28	-1.58	-4.68, 1.51	-1.05	p=.30	-11.00	-0.17
FEQ-%Time-Unhappy											
ONE	152	13.99	10.20	8.80	7.54	-5.19	-6.81, -3.57	-6.34	p<.001	37.11	-0.51
tNSE	60	20.70	13.70	15.40	11.80	-5.27	-8.13, -2.39	-3.67	p<.001	-25.60	-0.38
nNSE	21	21.10	15.30	16.57	15.91	-4.62	-7.90, -1.32	-2.90	p=.008	-21.47	-0.30
Perceived Stress Scale											
ONE	147	19.86	7.55	13.27	7.25	6.60	5.46, 7.74	11.43	p<.001	-33.23	-0.87
tNSE	50	23.48	8.44	20.22	8.18	-3.26	-5.94, -1.61	-2.92	p<.001	-13.88	-0.39
nNSE	20	24.15	7.68	22.55	6.26	-1.60	-5.56, 2.43	- 0.83	p=.42	-6.63	-0.21
PERMA-Loneliness											
ONE	160	2.84	2.47	1.79	2.29	-1.05	-1.4, -0.67	-5.52	p<.001	-36.97	-0.43
tNSE	59	3.46	2.76	2.794	2.74	-0.67	-1.09, 0.07	-1.73	p=.08	-19.25	-0.24
nNSE	23	3.91	3.07	3.87	2.83	-0.04	-0.80, 0.72	-.118	p=.91	-1.02	-0.01

Table S5

Program 2 Measures for ONE, tNSE, nNSE

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
STAI –State Anxiety (Y-1)											
ONE	151	33.16	8.78	26.36	7.03	-6.79	5.44, 8.15	9.93	p<.001	20.49	-0.77
tNSE	54	38.07	11.22	35.63	11.74	-2.44	-5.11, .217	-1.84	p=.07	-6.41	-0.22
nNSE	21	37.195	11.09	39.48	14.02	1.29	-5.10, 8.15	0.48	p=.63	6.14	0.12
STAI –Trait Anxiety (Y-2)											
ONE	151	37.78	9.12	29.23	7.81	8.55	7.16, 9.94	12.18	p<.001	22.63	-0.94
tNSE	54	42.65	10.77	39.72	10.32	-2.93	-5.33, -0.52	-2.43	p=.01*	-6.87	-0.27
nNSE	21	43.48	8.80	42.57	10.9	-0.91	-6.85, 5.04	-0.32	p=.75	-2.09	-0.10
PERMA-Negative Affect											
ONE	159	3.29	1.87	1.97	1.53	-1.31	-1.63, -.99	-8.09	p<.001	-39.81	-0.70
tNSE	59	3.9	1.77	3.26	1.70	-0.64	-1.03, -0.24	-3.21	p=.002	-16.41	-0.36
nNSE	23	3.94	2.06	3.73	1.95	-0.21	-0.74, 0.33	-0.77	p=.44	-5.33	-0.10

Table S5

Program 2 Measures for ONE, tNSE, nNSE

	Baseline			Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
SELF-TRANSCENDENCE											
MNETI											
ONE	138	69.74	8.51	76.67	10.67	6.93	5.49, 8.36	9.55	p<.001	10.00	0.81
tNSE	52	64.54	9.10	67.96	10.26	3.42	1.59, 5.25	3.75	p<.001	5.30	0.38
nNSE	20	58.24	10.35	59.86	10.12	1.62	2.32, 5.56	0.85	p=.40	2.78	0.16
Mysticism Scale-Total											
ONE	132	99.32	20.82	104.40	18.42	5.08	-7.5, -2.66	-3.98	p<.001	5.00	0.24
tNSE	49	89.91	23.70	93.02	23.32	3.11	4.50, 14.78	3.77	p<.001	3.45	0.13
nNSE	18	71.22	24.31	70.88	24.67	-0.34	-11.87, 11.45	-0.04	p=.97	-0.25	-0.01
Mysticism Scale-Extrovertive											
ONE	132	22.62	6.87	24.61	6.01	1.99	1.09, 2.89	4.36	p<.001	8.80	0.29
tNSE	48	19.89	7.24	21.38	7.43	1.49	0.93, 4.12	3.18	p=.002	10.59	0.21
nNSE	19	13.77	7.67	14.55	6.85	0.78	-3.56, 2.19	-0.50	p=.62	-3.89	0.10
Mysticism Scale-Introvertive											
ONE	132	37.49	8.38	39.27	7.87	1.78	-2.84, -.71	-3.29	p<.001	4.75	0.21
tNSE	48	34.14	9.67	34.00	9.92	-0.14	-0.87, 4.87	1.40	p=.17	5.01	-0.01
nNSE	19	27.33	9.31	27.11	10.26	-0.22	-5.20, 4.46	-0.16	p=.87	-1.14	-0.02

Table S5

Program 2 Measures for ONE, tNSE, nNSE

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
Mysticism Scale-Interpretive											
ONE	132	39.21	7.57	40.51	6.45	1.30	0.34, 2.25	2.70	p<.001	3.95	0.17
tNSE	48	35.87	9.11	37.63	8.13	1.76	2.97, 7.28	4.78	p<.001	12.19	0.19
nNSE	19	30.11	10.35	29.22	10.19	-0.89	-4.13, 5.81	0.36	p=.73	2.40	-0.09
UNCATEGORIZED											
FEQ-%Time-Neutral											
ONE	153	35.78	19.79	24.56	19.95	-11.22	-14.98, -7.47	-5.90	p<.001	31.37	-0.57
tNSE	60	20.70	13.70	15.46	11.8	-5.27	-8.13, -2.39	-3.67	p=.001	-25.31	-0.38
nNSE	21	45.85	21.35	47.381	21.77	1.52	-5.25, 8.3	0.47	p=.64	3.34	0.07
MLQ-Search											
ONE	160	21.64	8.47	18.18	9.73	-3.46	-4.77, -2.14	-5.19	p<.001	-15.97	-0.41
tNSE	61	25.44	7.12	22.11	8.96	-3.33	-5.40, -1.25	-3.20	p<.001	-13.09	-0.47
nNSE	24	23.29	7.19	22.08	7.68	-1.21	-4.46, 2.04	-0.77	p=.45	-5.20	-0.17

* non-significant with Tukey's .05 correction

Table S6

Program 1 Measures by Location

| | N | Baseline | | Post-program | | Diff Mean | CI | t-statistic | p-val | % change | Cohen's d |
		Mean	SD	Mean	SD						
<u>WELLBEING</u>											
Authentic Happiness Inventory											
L1	122	3.03	0.54	3.63	0.5	0.59	0.51, 0.68	14.53	p<.001	19.80	1.09
L2	71	3.34	0.54	4.11	0.49	0.77	0.67, 0.88	14.4	p<.001	23.05	1.43
L3	36	3.54	0.67	4.1	0.49	0.56	0.36, 0.76	5.69	p<.001	15.82	0.84
L4	18	3.52	0.66	4.27	0.75	0.75	0.34, 1.17	3.84	p=.011	21.31	1.14
FEQ-Happiness											
L1	122	6.53	1.61	7.81	1.09	1.28	1.00, 1.56	9.18	p<.001	19.60	0.80
L2	71	7.35	1.43	8.56	0.75	1.21	0.88, 1.54	7.27	p<.001	16.46	0.85
L3	36	7.68	1.15	8.75	0.77	1.07	0.67, 1.47	5.47	p<.001	13.93	0.93
L4	18	7.89	0.9	8.56	1.34	0.67	-0.28, 1.61	1.48	p=.16	8.49	0.74
FEQ-%Time-Happy											
L1	122	45.93	24.67	67.58	22.07	21.66	16.88, 26.43	8.98	p<.001	47.14	0.88
L2	71	53.45	23.41	76.75	20.64	23.3	17.58, 29.02	8.13	p<.001	43.59	1.00
L3	36	63.97	20.77	83.39	15.49	19.42	12.07, 26.76	5.37	p<.001	30.36	0.94
L4	18	62.67	24	75.44	27.34	12.78	2.62, 22.94	2.65	p=.017*	20.38	0.53

Table S6

Program 1 Measures by Location

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
The Gratitude Questionnaire											
L1	122	36.23	5.31	39.56	3.57	3.33	2.66, 3.99	9.83	p<.001	9.19	0.63
L2	71	37.39	5.21	40.25	2.86	2.86	1.76, 3.95	5.19	p<.001	7.65	0.55
L3	36	39.03	3.48	41.19	1.82	2.17	1.08, 3.26	4.04	p<.001	5.53	0.62
L4	18	37.89	4.28	39.67	4.16	1.78	0.07, 3.49	2.19	p=.043*	4.70	0.42
Satisfaction with Life Scale											
L1	122	20.66	7.00	26.66	6.22	6.00	4.92, 7.08	11.02	p<.001	29.04	0.86
L2	71	24.45	6.37	30.76	4.44	6.31	5.01, 7.61	9.68	p<.001	25.81	0.99
L3	36	26.78	6.85	31.17	6.26	4.39	1.99, 6.79	3.72	p<.001	16.39	0.64
L4	18	25.28	6.34	30.33	4.63	5.06	2.71, 7.40	4.54	p<.001	19.98	0.80

Table S6

Program 1 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
PERMA-Happiness											
L1	122	6.65	1.8	8.3	1.32	1.64	1.34, 1.95	10.58	p<.001	24.81	0.91
L2	70	7.4	1.61	9.08	0.76	1.68	1.32, 2.03	9.37	p<.001	22.70	1.04
L3	36	8.19	1.53	9.17	0.77	0.97	0.48, 1.46	4.04	p<.001	11.97	0.63
L4	18	7.72	1.84	9.06	1.26	1.33	0.43, 2.24	3.12	p=0.006	17.36	0.72
PERMA-Positive Emotion											
L1	122	6.42	1.89	7.94	1.39	1.53	1.24, 1.81	10.57	p<.001	23.68	0.81
L2	71	7.03	1.55	8.76	1.08	1.72	1.34, 2.09	9.15	p<.001	24.61	1.11
L3	36	7.98	1.59	9.17	0.68	1.19	0.72, 1.66	5.11	p<.001	14.91	0.75
L4	18	7.74	1.82	9.24	0.7	1.5	0.72, 2.27	4.09	p<.001	19.38	0.82

Table S6

Program 1 Measures by Location

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
MEANING											
PERMA-Meaning											
L1	122	6.94	1.92	8.19	1.63	1.25	0.97, 1.53	8.69	p<.001	18.01	0.65
L2	71	7.77	1.78	9.17	1.17	1.40	1.02, 1.79	7.29	p<.001	18.02	0.79
L3	36	8.08	1.72	9.45	0.68	1.37	0.87, 1.87	5.55	p<.001	16.96	0.80
L4	18	8.26	1.69	9.18	1.3	0.92	0.43, 1.42	3.98	p<.001	11.14	0.54
MLQ-Presence											
L1	122	22.56	4.65	25.35	4.02	2.79	1.97, 3.61	6.74	p<.001	12.37	0.60
L2	71	23.94	3.62	27.24	3.51	3.30	2.35, 4.19	7.08	p<.001	13.64	0.91
L3	36	26.06	3.53	27.81	1.85	1.75	0.68, 2.82	3.33	p=.002	6.72	0.50
L4	18	25.83	3.97	26.94	3.11	1.11	-1.63, 3.85	0.86	p=.40	4.3	0.28

Table S6

Program 1 Measures by Location

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
LIFESTYLE FACTORS											
PERMA-Health											
L1	122	7.17	2.31	8.06	1.91	0.88	0.60, 1.17	6.11	p<.001	12.41	0.38
L2	71	7.61	1.95	8.54	1.5	0.93	0.58, 1.27	5.32	p<.001	12.22	0.48
L3	36	7.84	2.2	8.87	1.47	1.03	0.59, 1.47	4.78	p<.001	13.14	0.47
L4	18	7.41	2.59	8.09	2.44	0.69	-0.10, 1.47	1.84	p=.08	9.18	0.27
PERMA-Relationships											
L1	122	6.67	2.13	7.83	1.78	1.15	0.84, 1.46	7.49	p<.001	17.39	0.54
L2	71	7.03	2.18	8.57	1.55	1.53	1.09, 1.98	6.82	p<.001	21.91	0.70
L3	36	7.81	2.21	9.19	0.97	1.39	0.73, 2.05	4.27	p<.001	17.67	0.63
L4	18	7.72	1.76	9.04	1.08	1.32	0.80, 1.83	5.35	p<.001	17.1	0.75

Table S6

Program 1 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
PERMA-Accomplishment											
L1	122	7.21	1.72	8.21	1.48	1.00	0.79, 1.22	9.42	p<.001	13.87	0.58
L2	71	7.80	1.31	8.81	1.11	1.01	0.66, 1.35	5.83	p<.001	12.95	0.77
L3	36	7.94	1.52	9.08	0.81	1.14	0.66, 1.62	4.80	p<.001	14.36	0.75
L4	18	8.05	1.53	9.07	0.92	1.02	0.33, 1.70	3.13	p=.006	12.67	0.67
PERMA-Engagement											
L1	122	7.14	1.55	7.99	1.34	0.85	0.60, 1.10	6.68	p<.001	11.90	0.55
L2	71	7.51	1.44	8.67	1.15	1.16	0.81, 1.51	6.58	p<.001	15.45	0.81
L3	36	8.27	1.29	9.09	0.77	0.82	0.44, 1.21	4.36	p<.001	9.92	0.64
L4	18	8.18	1.29	9.02	0.67	0.83	0.23, 1.43	2.91	p=.001	10.27	0.64

Table S6

Program 1 Measures by Location

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
NEGATIVE EMOTIONAL AND PSYCHOLOGICAL FACTORS											
CES-D											
L1	122	11.96	9.24	5.33	5.44	-6.65	-8.13, -5.18	-8.94	p<.001	-55.51	-0.72
L2	71	9.92	7.88	3.14	3.17	-6.74	-8.54, -4.95	-7.48	p<.001	-68.25	-0.86
L3	35	6.67	6.36	2.44	3.25	-4.16	-5.97, -2.35	-4.68	p<.001	-62.37	-0.65
L4	18	7.94	9.75	2.17	2.41	-5.78	-9.77, -1.79	-3.05	p=.007	-72.67	-0.59
FEQ-%Unhappy											
L1	122	16.70	12.85	8.9	9.25	-7.80	-10.01, -5.58	-6.98	p<.001	-46.71	-0.61
L2	71	15.59	11.97	4.87	5.14	-10.72	-13.17, -8.27	-8.72	p<.001	-68.76	-0.90
L3	36	11.53	12.06	3.78	4.97	-7.75	-11.11, -4.39	-4.68	p<.001	-67.22	-0.64
L4	17	11.65	17.42	3.82	3.17	-7.82	-15.83, 0.19	-2.07	p=.05*	-67.21	-0.45

Table S6

Program 1 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Perceived Stress Scale											
L1	124	20.87	8.29	13.13	7.04	-7.74	-9.02, -6.46	-11.96	p<.001	-37.09	-0.93
L2	67	18.67	7.97	9.88	6.29	-8.79	-10.99, -6.59	-7.97	p<.001	-47.08	-1.10
L3	38	14.53	7.13	8.42	4.92	-6.11	-7.92, -4.29	-6.83	p<.001	-42.05	-0.86
L4	18	15.94	8.93	7.06	4.72	-8.89	-12.57, -5.21	-5.10	p<.001	-55.71	-1.00
PERMA-Loneliness											
L1	122	3.47	2.8	1.55	2.02	-1.92	-2.36, -1.47	-8.56	p<.001	-55.33	-0.69
L2	71	2.82	2.76	1.08	1.64	-1.74	-2.35, -1.11	-5.57	p<.001	-61.70	-0.63
L3	36	1.86	2.49	0.70	1.55	-1.16	-2.071, -0.24	-2.57	p=.015*	-62.36	-0.47
L4	18	2.06	2.29	0.81	1.79	-1.24	-2.29, -0.18	-2.48	p=.024*	-60.19	-0.54
PERMA-Negative Affect											
L1	122	3.63	2.24	1.92	1.41	-1.72	-2.03, -1.40	-10.72	p<.001	-47.11	-0.77
L2	71	3.2	1.94	1.29	1.14	-1.92	-2.37, -1.47	-8.51	p<.001	-59.69	-0.99
L3	36	2.15	1.58	0.91	0.85	-1.24	-1.67, -0.81	-5.81	p<.001	-57.67	-0.78

Table S6

Program 1 Measures by Location

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
L4	18	1.96	1.41	0.94	0.98	-1.02	-1.68, -0.35	-3.22	p=.005	-52.04	-0.72
STAI –State Anxiety (Y-1)											
L1	124	35.72	10.77	26.73	6.86	-8.98	-10.73, -7.27	-10.18	p<.001	-25.17	-0.83
L2	67	31.39	9.17	23.69	4.82	-7.70	-9.96, -5.43	-6.79	p<.001	-24.53	-0.84
L3	38	28.11	8.35	22.66	4.00	-5.45	-7.71, -3.17	-4.86	p<.001	-19.39	-0.65
L4	18	26.22	6.26	21.22	2.46	-5.00	-7.36, -2.63	-4.46	p<.001	-19.07	-0.80
STAI –Trait Anxiety (Y-2)											
L1	124	39.59	9.59	29.83	7.55	-9.76	-11.09, -8.43	-14.51	p<.001	-24.65	-1.02
L2	67	36.15	9.58	25.25	4.84	-10.9	-13.23, -8.56	-9.31	p<.001	-30.15	-1.14
L3	38	31.11	9.49	24.42	4.32	-6.68	-9.07, -4.30	-5.67	p<.001	-21.50	-0.70
L4	18	30.72	8.82	23.5	4.82	-7.22	-10.08, -4.36	-5.32	p<.001	-23.50	-0.82

Table S6

Program 1 Measures by Location

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
SELF- TRANSCENDENCE											
MNETI											
L1	122	55.8	11.06	73.02	10.41	17.22	15.36, 19.09	18.27	p<.001	30.86	1.56
L2	69	65.39	12.1	85.61	9.35	20.22	17.07, 23.36	12.82	p<.001	30.92	1.67
L3	37	75.97	12.57	91.43	10.46	15.46	11.84, 19.08	8.67	p<.001	20.35	1.23
L4	18	78.11	11.99	94.89	11.06	16.78	12.38, 21.17	8.06	p<.001	21.48	1.40
Mysticism Scale- Total											
L1	122	112.11	32.92	129.66	23.89	17.55	13.44, 21.66	8.45	p<.001	15.65	0.53
L2	69	126.84	29.44	146.22	16.7	19.38	13.44, 25.31	6.51	p<.001	15.28	0.66
L3	37	140.73	20.98	152.81	10.23	12.08	6.55, 17.61	4.43	p<.001	8.58	0.58
L4	18	140.06	19.07	144.22	16.38	4.17	-4.67, 13.01	0.99	p=.33	2.97	0.22

Table S6

Program 1 Measures by Location

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
Mysticism Scale-Extrovertive											
L1	122	24.66	10.54	30.03	8.47	5.37	3.95, 6.78	7.51	p<.001	21.78	0.51
L2	69	29.12	10.13	35.03	7.05	5.91	3.87, 7.96	5.77	p<.001	20.3	0.58
L3	37	34.22	6.14	37.57	3.94	3.35	1.64, 5.06	3.98	p<.001	9.79	0.55
L4	18	33.50	6.67	35.33	5.56	1.83	-1.46, 5.12	1.18	p=.25	5.46	0.27
Mysticism Scale - Introvertive											
L1	122	42.85	13.56	49.66	9.22	6.8	4.867, 8.74	6.95	p<.001	15.89	0.50
L2	69	47.68	12.21	55.38	6.37	7.7	5.26, 10.14	6.29	p<.001	16.15	0.63
L3	37	52.49	9.29	57.27	5.06	4.78	2.38, 7.18	4.04	p<.001	9.11	0.51
L4	18	53.72	6.73	54.00	7.3	0.28	-3.19, 3.75	0.17	p=.87	0.52	0.04

Table S6

Program 1 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Mysticism Scale - Interpretive											
L1	122	44.59	11.68	49.97	8.75	5.38	3.84 6.92	6.92	p<.001	12.07	0.46
L2	69	50.04	10.22	55.81	5.41	5.77	3.58, 7.95	5.27	p<.001	11.53	0.56
L3	37	54.03	7.5	57.97	3.42	3.95	1.69, 6.20	3.55	p<.001	7.29	0.53
L4	18	52.83	7.11	54.89	4.86	2.06	-1.48, 5.59	1.23	p=.23	3.9	0.29
UNCATEGORISED											
FEQ-%Neutral											
L1	121	37.4	21.62	23.59	20.03	-13.81	-18.21, -9.41	-6.22	p<.001	-36.93	-0.64
L2	71	30.96	19.27	16.77	15.68	-14.18	-18.64, -9.73	-6.35	p<.001	-45.83	-0.74
L3	36	24.5	15.99	12.53	12.89	-11.97	-18.27, -5.67	-3.86	p<.001	-48.86	-0.75
L4	16	26.06	20.53	21.12	27.79	-4.94	-19.05, 9.18	-0.75	p=.47	-18.96	-0.24

Table S6

Program 1 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Meaning in Life Questionnaire-Search											
L1	122	22.68	8.06	16.86	9.07	-5.82	-7.29, -4.35	-7.85	p<.001	-25.66	-0.72
L2	71	19.76	8.53	14.76	10.16	-5.00	-7.47, -2.53	-4.04	p<.001	-25.3	-0.59
L3	36	16.75	8.63	14.75	11.39	-2.00	-4.65, 0.65	-1.53	p=0.13	-11.94	-0.23
L4	18	18.67	9.39	12.67	9.65	-6.00	-10.89, -1.10	-2.59	p=.02*	-32.14	-0.64

* non-significant with Tukey's .05 correction

Table S7

Program 2 Measures by Location

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
WELLBEING											
Authentic Happiness Inventory (AHI)											
L1	106	3.12	0.532	3.58	0.62	0.46	0.33, 0.57	7.53	p<.001	14.74	0.86
L2	35	3.46	0.557	3.93	0.59	0.47	0.29, 0.68	5.03	p<.001	13.58	0.84
L3	11	3.27	0.79	4.09	0.30	0.82	0.31, 1.32	3.61	p=.005	25.08	1.04
L4	8	3.50	0.54	3.75	0.46	0.25	-0.34, 0.84	1.00	p=.35	7.14	0.46
FEQ-Happiness											
L1	106	6.82	1.28	7.77	1.19	0.95	0.69, 1.12	7.27	p<.001	13.93	0.74
L2	35	7.28	1.46	8.34	0.68	1.06	0.57, 1.55	4.56	p<.001	14.56	0.73
L3	11	7.00	1.79	8.91	0.83	1.91	0.72, 3.09	3.60	p=.005	27.29	1.07
L4	8	7.75	0.71	8.25	0.89	0.50	-0.59, 1.59	1.08	p=.32	6.45	0.70
FEQ-%Time-Happy											
L1	100	44.70	21.23	63.25	22.55	18.55	13.94, 23.37	7.86	p<.001	41.50	0.87
L2	35	59.37	23.76	73.54	22.40	14.17	6.44, 26.09	3.37	p<.001	23.87	0.60
L3	10	55.30	27.77	83.60	9.35	28.30	10.24, 46.35	3.55	p<.001	51.18	1.02
L4	8	60.13	19.89	68.37	23.49	8.24	17.60, 34.10	4.36	p=.48	13.70	0.41

Table S7

Program 2 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
The Gratitude Questionnaire											
L1	106	37.13	4.55	39.15	3.54	2.02	1.12, 2.92	4.44	p<.001	5.44	0.44
L2	35	38.40	4.03	39.71	3.13	1.31	-0.09, 2.72	1.89	p=.06	3.41	0.33
L3	11	37.18	7.26	41.81	2.97	4.63	0.12, 9.39	2.19	p=.04*	12.45	0.64
L4	8	37.00	2.62	40.25	0.60	3.25	0.65, 5.84	2.96	p=.02*	8.78	1.24
Satisfaction with Life Scale											
L1	106	22.72	6.35	26.97	5.29	4.26	3.11, 5.39	7.36	p<.001	18.71	0.67
L2	35	26.68	6.58	28.85	6.08	2.17	1.16, 3.17	4.37	p<.001	8.13	0.33
L3	11	22.90	6.34	31.36	3.35	8.46	4.03, 12.87	4.26	p=.002	36.94	1.33
L4	8	24.63	8.39	28.00	6.16	3.37	-3.23, 9.99	1.21	p=.27	13.68	0.40
PERMA-Happiness											
L1	106	7.00	1.59	8.06	1.39	1.06	0.74, 1.36	6.75	p<.001	15.14	0.67
L2	35	7.49	1.89	8.65	0.99	1.16	0.66, 1.67	4.73	p<.001	15.49	0.61
L3	11	7.09	1.84	9.27	0.64	2.18	0.95, 3.41	3.94	p=.003*	30.75	1.18
L4	8	7.75	1.04	8.63	0.92	0.88	-0.34, 2.09	1.70	p=.13	11.35	0.85

Table S7

Program 2 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
PERMA-Positive Emotion											
L1	105	6.59	1.69	7.84	1.47	1.25	0.92, 1.59	7.40	p<.001	18.97	0.74
L2	35	7.06	1.97	8.47	0.93	1.41	0.85, 1.97	5.12	p<.001	19.97	0.72
L3	11	6.73	1.83	9.18	0.60	2.45	1.33, 3.12	5.34	p<.001	36.4	1.34
L4	8	7.63	0.90	8.38	0.91	0.75	-0.51, 2.01	1.41	p=.20	9.83	0.83
MEANING											
PERMA-Meaning											
L1	106	6.94	1.95	8.13	1.72	1.19	0.86, 1.53	7.07	p<.001	17.15	0.61
L2	35	7.48	1.98	8.44	1.64	0.96	0.32, 1.67	3.01	p=.005	12.83	0.48
L3	11	6.27	2.91	9.18	0.87	2.91	0.97, 4.83	3.35	p=.007*	46.41	1.00
L4	8	7.38	1.79	8.87	1.35	1.49	-0.46, 3.4	1.81	p=.11	20.19	0.83
MLQ-Presence											
L1	106	22.79	4.73	24.99	3.83	2.20	1.20, 3.18	4.40	p<.001	9.65	0.47
L2	35	24.11	4.27	25.51	3.63	1.40	-0.36, 3.16	0.67	p=.11	5.81	0.33
L3	11	20.81	5.52	25.63	2.5	4.82	1.58, 8.05	3.32	p=.008*	23.16	0.87
L4	8	24.75	2.81	26.25	3.19	1.50	-1.62, 4.62	1.13	p=.29	6.06	0.53

Table S7

Program 2 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
LIFESTYLE FACTORS											
PERMA-Health											
L1	105	7.53	1.74	8.24	1.38	0.71	0.42, 1.01	4.85	p<.001	9.43	0.41
L2	35	7.67	2.06	8.40	1.55	0.73	0.30, 1.18	3.46	p<.001	9.52	0.35
L3	11	7.09	2.25	8.45	1.43	1.36	0.26, 2.45	2.78	p<.001	19.18	0.60
L4	8	8.00	1.3	8.37	1.59	0.37	-0.76, 1.96	0.55	p=.34	4.62	0.28
PERMA-Relationships											
L1	106	6.85	2.03	7.68	1.90	0.83	0.46 1.2	4.47	p<.001	12.12	0.41
L2	35	7.17	2.12	8.15	1.46	0.98	0.30, 1.66	2.93	p<.001	13.67	0.46
L3	11	6.76	2.00	8.81	2.05	-0.93	0.90, 3.21	3.97	p<.001	30.33	-0.47
L4	8	5.54	1.833	7.5	1.60	1.96	0.04, 3.86	2.42	p=.045	35.38	1.07

Table S7

Program 2 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
PERMA-Accomplishment											
L1	105	7.27	1.48	8.13	1.43	0.86	0.544, 1.15	5.50	p<.001	11.83	0.58
L2	35	7.15	1.91	8.34	1.57	1.19	0.56, 1.81	3.87	p<.001	16.64	0.62
L3	11	7.49	2.07	9.09	0.53	1.60	0.21, 2.99	2.57	p<.001	21.36	0.77
L4	8	7.96	0.95	8.75	0.46	0.79	-0.06, 1.64	2.18	p=.035*	9.92	0.83
PERMA-Engagement											
L1	105	6.98	1.74	7.84	1.57	0.86	0.52, 1.17	5.13	p<.001	12.32	0.49
L2	35	7.41	1.76	8.36	1.25	0.95	0.37, 1.53	3.32	p=.002*	12.82	0.54
L3	11	6.79	2.15	9.00	0.63	2.21	0.94, 3.47	3.88	p=.003	32.55	1.03
L4	8	7.17	1.57	8.63	0.74	1.46	-0.18, 3.09	2.10	p=.07*	20.36	0.93

Table S7

Program 2 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
NEGATIVE EMOTIONAL AND PSYCHOLOGICAL FACTORS											
CES-D											
L1	105	11.49	7.82	6.48	6.32	-5.01	-6.63, -3.37	-6.09	p<.001	-43.60	-0.64
L2	35	9.31	9.14	3.82	4.64	-5.49	-7.94, -3.02	-4.53	p<.001	-58.97	-0.60
L3	11	11.2	7.86	2.27	2.45	-7.87	-14.23, -3.76	-3.84	p=.003*	-79.73	-1.00
L4	8	7.25	4.13	3.50	2.67	-3.75	-7.29, -0.21	-2.51	p<.001	-51.72	-0.91
FEQ-%Unhappy											
L1	99	15.09	9.93	9.81	7.74	-5.28	-7.05, -2.73	-5.29	p<.001	-34.99	-0.53
L2	35	12.08	10.98	7.71	7.12	-4.37	-7.22, -1.51	-3.11	p<.001	-36.18	-0.40
L3	10	13.90	11.94	4.60	4.06	-9.30	-18.96, 0.36	-2.17	p=.05*	-66.91	-0.78
L4	8	8.75	5.42	4.63	2.97	-4.12	-7.16, 0.05	-2.27	p=.035*	-47.09	-0.76

Table S7

Program 2 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Perceived Stress Scale											
L1	99	20.49	7.17	14.29	7.60	-6.20	-7.65, -4.75	-8.49	p<.001	-30.26	-0.86
L2	31	20.03	8.9	12.12	6.60	-7.91	-10.36, -5.44	-6.56	p<.001	-39.49	-0.89
L3	11	14.82	6.61	9.36	4.73	-5.46	-9.50, -1.40	-3.00	p<.001	-36.84	-0.83
L4	6	17.83	3.29	9.33	3.67	-8.53	-14.46, -2.53	-3.66	p=.015*	-47.67	-2.59
PERMA-Loneliness											
L1	106	2.96	2.47	2.14	2.53	-0.82	-1.33, -0.31	-2.74	p<.001	-27.70	-0.33
L2	35	2.83	2.71	1.37	1.73	-1.46	-2.06, -0.84	-4.86	p<.001	-51.59	-0.54
L3	11	1.91	1.7	0.45	0.68	-1.46	-2.37, -0.53	-3.52	p<.001	-76.44	-0.86
L4	8	2.63	2.39	0.88	0.99	-1.75	-3.07, -0.43	-3.13	p<.001	-66.54	-0.73

Table S7

Program 2 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
PERMA-Negative Affect											
L1	105	3.32	1.92	2.19	1.67	-1.13	-1.54, -0.70	-5.34	p<.001	-34.04	-0.59
L2	35	3.53	1.80	1.80	1.14	-1.73	-2.35, -1.07	-5.43	p<.001	-49.01	-0.96
L3	11	3.12	1.62	1.00	-2.12	-2.12	-3.19, -1.04	-4.39	p<.001	-67.95	-1.31
L4	8	2.00	1.27	1.13	0.64	-0.87	-1.84, 0.17	-1.74	p=.12	-43.50	-0.69
STAI –State Anxiety (Y-1)											
L1	100	34.85	8.67	27.40	7.43	-7.45	-9.25, -5.62	-8.14	p<.001	-21.38	-0.86
L2	33	30.03	8.86	25.06	6.78	-4.97	-7.54, -2.39	-3.92	p<.001	-16.55	-0.56
L3	11	28.18	5.72	22.82	2.63	-5.36	-8.43, -2.29	-3.89	p<.001	-19.02	-0.94
L4	7	31.57	7.93	23.14	1.95	-8.43	-14.46, -2.54	-3.48	p<.001	-11.88	-1.06

Table S7

Program 2 Measures by Location

		Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
	N	Mean	SD	Mean	SD						
STAI –Trait Anxiety (Y-2)											
L1	100	38.91	8.92	30.59	8.19	-8.32	-10.08, -6.55	-9.36	p<.001	-21.38	-0.93
L2	33	35.67	10.23	27.91	7.09	-7.76	-10.71, -4.80	-5.34	p<.001	-21.75	-0.76
L3	11	35.55	8.25	24.27	2.94	-10.23	-17.01, -5.53	-4.37	p<.001	-31.73	-1.24
L4	7	35.14	4.67	23.86	3.85	-11.29	-17.10, -5.46	-6.39	p<.001	-32.10	-2.42
<u>SELF-TRANSCENDENCE</u>											
MNETI											
L1	92	68.13	7.64	74.13	9.10	6.00	4.46, 7.53	7.77	p<.001	8.81	0.79
L2	32	73.78	9.71	79.12	12.33	5.34	2.22, 8.46	3.49	p<.001	7.24	0.55
L3	10	72.30	8.76	89.30	7.85	17.00	9.86, 24.13	5.38	p<.001	23.51	1.94
L4	5	70	7.58	84.6	7.46	14.60	4.04, 25.16	3.81	p<.001	20.86	1.93

Table S7

Program 2 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
Mysticism Scale-Total											
L1	85	98.36	19.78	102.21	17.34	3.85	0.46, 7.23	2.26	p<.001	13.67	0.19
L2	33	102.27	22.12	107.78	19.85	5.51	1.03, 9.99	2.51	p=.02*	15.51	0.25
L3	9	100.00	26.65	111.33	22.74	11.33	2.56, 20.10	2.98	p=.02*	20.02	0.43
L4	5	95.00	22.86	106.80	17.48	11.8	-3.18, 26.78	2.18	p=.09	20.36	0.52
Mysticism Scale-Extrovertive											
L1	85	22.41	6.79	23.97	5.80	1.56	0.31, 2.81	2.48	p<.001	6.96	0.23
L2	33	23.09	7.06	25.51	6.35	2.42	1.02, 3.82	3.53	p<.001	10.48	0.34
L3	9	23.77	7.61	27.77	6.81	4.00	1.73, 6.27	4.06	p<.001	16.83	0.53
L4	5	21.00	7.44	23.80	4.97	2.80	-4.77, 10.37	1.03	p=.22	13.33	0.38

Table S7

Program 2 Measures by Location

	N	Baseline		Post-program		Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
		Mean	SD	Mean	SD						
Mysticism Scale - Introvertive											
L1	85	37.08	7.96	38.48	7.22	1.40	0.06, 2.73	2.08	p<.05	3.78	0.18
L2	33	38.69	9.47	40.24	9.11	1.55	0.76, 3.86	1.9	p<.05	4.01	0.16
L3	9	37.66	9.06	41.88	9.77	4.22	0.26, 8.18	2.46	p=.013*	11.21	0.47
L4	5	36.20	8.32	41.60	6.14	5.40	-1.14, 11.94	2.29	p=.02*	14.92	0.65
Mysticism Scale - Interpretive											
L1	85	38.87	7.54	39.75	6.29	0.88	0.42 2.18	1.34	p<.001	2.26	0.12
L2	33	40.48	6.77	42.03	6.57	1.55	0.07, 3.13	1.94	p<.001	3.83	0.23
L3	9	38.56	10.33	41.67	7.03	3.11	0.54, 6.76	1.96	p<.05*	8.07	0.30
L4	5	37.80	9.01	41.4	7.23	3.60	0.24, 6.95	2.98	p<.05*	9.52	0.40

Table S7

Program 2 Measures by Location

	N	Baseline Mean	SD	Post-program Mean	SD	Diff Mean	CI	t-statistic	p-val	% change	Cohen's d
UNCATEGORIZED											
FEQ-%Neutral											
L1	100	39.00	19.20	27.67	19.50	-11.41	-15.83, -6.98	-5.11	p<.001	-29.05	-0.59
L2	35	28.80	19.10	18.74	20.6	-10.09	-19.45, -0.07	-2.18	p=.036*	-34.93	-0.53
L3	10	30.8	21.22	11.80	7.13	-19.00	-30.47, -7.50	-3.74	p=.005	-61.69	-0.90
L4	8	31.13	20.87	27.00	23.03	-4.13	-28.77, 20.52	-0.40	p=.65	-13.27	-0.20
Meaning in Life Questionnaire-Search											
L1	106	21.8	8.09	19.14	9.49	-2.66	-4.22, -1.09	-3.37	p<.001	-12.20	-0.33
L2	35	21.85	9.70	17.91	10.45	-2.97	-7.06, -0.82	-2.57	p=.015*	-18.03	-0.31
L3	11	20.81	9.152	14.45	9.8	-6.36	-12.65, -.073	-2.25	p=.04*	-30.56	-0.69
L4	8	19.62	8.03	11.75	6.58	-7.87	-13.79, -2.04	-3.19	p=.015*	-40.11	-0.98

* non-significant with Tukey's .05 correction

Table S8

Correlations Among Well-being Measures, Within and Across Time for Program 1 (4 month protocol)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Authentic Happiness Inventory (AHI) Baseline	---	.68	.63	.58	.40	.74	.74	.48	.49	.42	.43	.30	.60	.52
2. FEQ-Happiness Baseline		---	.70	.50	.43	.60	.77	.37	.53	.43	.41	.29	.49	.54
3. FEQ-%Time-Happy Baseline			---	.47	.39	.54	.72	.33	.48	.52	.38	.28	.42	.49
4. Gratitude Questionnaire (GQ-6) Baseline				---	.27	.56	.55	.30	.38	.34	.61	.26	.46	.46
5. PERMA-Happiness Baseline					---	.37	.49	.15	.17	.22	.18	.53	.25	.25
6. Satisfaction with life (SWLS) Baseline						---	.67	.39	.41	.32	.42	.26	.64	.46
7. PERMA- Positive Emotions Baseline							---	.42	.49	.46	.39	.29	.52	.60
8. Authentic Happiness Inventory (AHI) Post-program								---	.55	.51	.41	.26	.53	.60
9. FEQ-Happiness Post-program									--	.69	.53	.28	.62	.74
10. FEQ-%Time-Happy Post-program										--	.47	.34	.50	.69
11. Gratitude Questionnaire (GQ-6) Post-program											---	.25	.54	.59
12. PERMA-Happiness Post-program												---	.34	.40
13. Satisfaction with life (SWLS) Post-program													---	.70
14. PERMA- Positive Emotions Post-Program														—

Note: **Bold** denotes p<.01; unbolded denotes p<.05

Table S9

Correlations Among Well-being Measures, Within and Across Time for Program 2 (6-week protocol)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Authentic Happiness Inventory (AHI) Baseline	---	.56	.49	.44	.56	.63	.58	.57	.45	.34	.41	.46	.48	.45
2. FEQ-Happiness Baseline		---	.65	.38	.44	.56	.68	.52	.61	.47	.43	.61	.56	.59
3. FEQ-%Time-Happy Baseline			---	.39	.45	.49	.63	.39	.45	.53	.34	.47	.40	.49
4. Gratitude Questionnaire (GQ-6) Baseline				---	.45	.41	.46	.30	.30	.26	.56	.32	.30	.31
5. PERMA-Happiness Baseline					---	.50	.83	.44	.28	.26	.28	.31	.37	.56
6. Satisfaction with life (SWLS) Baseline						---	.59	.46	.43	.35	.35	.46	.64	.43
7. PERMA- Positive Emotions Baseline							---	.49	.49	.44	.44	.53	.51	.56
8. Authentic Happiness Inventory (AHI) Post-program								---	.69	.62	.53	.69	.70	.72
9. FEQ-Happiness Post-program									--	.75	.57	.83	.71	.79
10. FEQ-%Time-Happy Post-program										--	.47	.74	.66	.75
11. Gratitude Questionnaire (GQ-6) Post-program											---	.63	.56	.61
12. PERMA-Happiness Post-program												---	.76	.89
13. Satisfaction with life (SWLS) Post-program													---	.72
14. PERMA- Positive Emotions Post-Program														—

Note: **Bold** denotes p<.01; unbolded denotes p<.05

Table S10

Correlations Among Negative Emotional and Psychological measures, Within and Across Time For Program 1

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. CES-D Baseline	---	.56	.51	.59	.69	.70	.37	.53	.42	.35	.42	.49	.46	.18
2. PERMA-Negative Affect Baseline		---	.54	.52	.68	.64	.34	.39	.57	.31	.35	.43	.46	.21
3. PERMA-Loneliness Baseline			---	.37	.47	.45	.20	.32	.35	.51	.25	.31	.29	.11
4. STAI-State Baseline				---	.71	.65	.35	.40	.39	.29	.48	.49	.48	.20
5. STAI-Trait Baseline					---	.81	.43	.49	.51	.39	.50	.62	.57	.31
6. Perceived Stress Scale Baseline						---	.44	.46	.48	.33	.42	.50	.57	.27
7. FEQ-%Time-Unhappy Baseline							---	.19	.20	.13	.22	.28	.33	.51
8. CES-D Post-program								---	.68	.55	.72	.77	.74	.32
9. PERMA-Negative Affect Post-program									---	.58	.66	.73	.70	.31
10. PERMA-Loneliness Post-program										---	.48	.56	.47	.23
11. STAI-State Post-program											---	.83	.76	.37
12. STAI-Trait Post-program												----	.84	.43
13. Perceived Stress Scale Post-program													---	.44
14. FEQ-%Time-Unhappy Post-program														---

Note: **Bold** denotes p<.01; unbolded denotes p<.05

Table S11

Correlations Among Negative Emotional and Psychological measures, Within and Across Time for Program 2

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. CES-D Baseline	---	.57	.48	.51	.55	.62	.58	.47	.48	.40	.48	.56	.56	.46
2. PERMA-Negative Affect Baseline		---	.47	.44	.46	.54	.57	.34	.45	.30	.41	.43	.35	.35
3. PERMA-Loneliness Baseline			---	.29	.32	.33	.40	.34	.33	.59	.34	.38	.34	.33
4. STAI-State Baseline				---	.72	.71	.37	.40	.41	.30	.53	.46	.52	.38
5. STAI-Trait Baseline					---	.76	.42	.39	.42	.31	.48	.54	.54	.44
6. Perceived Stress Scale Baseline						---	.47	.46	.42	.29	.46	.48	.56	.40
7. FEQ-%Time-Unhappy Baseline							---	.41	.48	.33	.53	.57	.45	.60
8. CES-D Post-program								---	.61	.54	.61	.66	.65	.56
9. PERMA-Negative Affect Post-program									---	.66	.61	.62	.59	.64
10. PERMA-Loneliness Post-program										---	.50	.51	.48	.44
11. STAI-State Post-program											---	.83	.73	.60
12. STAI- Trait Post-program												----	.83	.66
13. Perceived Stress Scale Post-program														.59
14. FEQ-%Time-Unhappy Post-program														

Note: **Bold** denotes $p<.01$; unbolded denotes $p<.05$

Table S12

Correlations Among Meaning measures, Within and Across Time for Program 1

	1.	2.	3.	4.
1. Meaning-Presence Baseline	---	**.56**	**.44**	**.35**
2. PERMA-Meaning Baseline		---	**.47**	**.57**
3. Meaning-Presence Post-program			--	**.73**
4. PERMA-Meaning Post-program				--

Note: **Bold** denotes p<.01; unbolded denotes p<.05

Table S13

Correlations Among Meaning measures, Within and Across Time for Program 2

	1.	2.	3.	4.
1. Meaning-Presence Baseline	---	**.48**	**.44**	**.31**
2. PERMA-Meaning Baseline		---	**.46**	**.58**
3. Meaning-Presence Post-program			--	**.64**
4. PERMA-Meaning Post-program				--

Note: **Bold** denotes p<.01; unbolded denotes p<.05

Table S14

Correlations Among Lifestyle factors measures, Within and Across Time for Program 1

	1.	2.	3.	4.	5.	6.	7.	8.
	---	.49	.50	.28	.65	.34	.32	.18
1. PERMA-Relationships Baseline								
2. PERMA-Accomplishments Baseline		---	.60	.37	.42	.57	.37	.34
3. PERMA-Engagement Baseline			---	.28	.43	.39	.57	.24
4. PERMA-Health Baseline				---	.23	.29	.20	.72
5. PERMA-Relationships Post-program					---	.66	.60	.33
6. PERMA-Accomplishments Post-program						--	.72	.49
7. PERMA-Engagement Post-program							--	.37
8. PERMA-Health Post-program								---

Note: **Bold** denotes p<.01; unbolded denotes p<.05

Table S15

Correlations Among Lifestyle factors measures, Within and Across Time for Program 2

	1.	2.	3.	4.	5.	6.	7.	8.
	---	**.52**	**.48**	**.37**	**.54**	**.44**	**.30**	**.28**
1. PERMA-Relationships Baseline								
2. PERMA-Accomplishments Baseline		---	**.60**	**.41**	**.31**	**.57**	**.37**	**.34**
3. PERMA-Engagement Baseline			---	**.30**	**.28**	**.45**	**.53**	**.28**
4. PERMA-Health Baseline				---	**.28**	**.33**	**.20**	**.71**
5. PERMA-Relationships Post-program					---	**.67**	**.59**	**.45**
6. PERMA-Accomplishments Post-program						--	**.74**	**.58**
7. PERMA-Engagement Post-program							--	**.47**
8. PERMA-Health Post-program								---

Note: **Bold** denotes p<.01; unbolded denotes p<.05

Table S16

Correlations Among Self-Transcendence measures, Within and Across Time for Program 1

	1.	2.	3.	4.
1. MNETI Baseline	---	**.57**	**.71**	**.47**
2. M-Scale Total Baseline		---	**.43**	**.71**
3. MNETI Post-program			---	**.62**
4. M-Scale Total Post-program				---

Note: **Bold** denotes p<.01; unbolded denotes p<.05

Table S17

Correlations Among Self-Transcendence measures, Within and Across Time for Program 2

	1.	2.	3.	4.
1. MNETI Baseline	---	**.55**	**.72**	**.52**
2. M-Scale Total Baseline		---	**.41**	**.79**
3. MNETI Post-program			---	**.56**
4. M-Scale Total Post-program				---

Note: **Bold** denotes p<.01; unbolded denotes p<.05