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Abstract

Background: Process-based and metacognitive approaches increasingly emphasize changes in individuals' relationships with their thoughts as mechanisms of psychological change. The Three Principles of Health Realization (3PHR) proposes that beliefs about Thought, Consciousness, and Mind are associated with psychological well-being, yet to our knowledge, no validated theory-specific measure has been available to assess these beliefs. **Method:** The theory-driven Three Principles Beliefs Scale (3PBS) was administered to 238 adults attending an international Three Principles conference. Confirmatory factor analysis evaluated factorial structure, reliability, convergent validity, and measurement invariance across gender and age. Correlational and cross-sectional bootstrap mediation analyses examined associations among Three Principles exposure, 3PBS scores, purpose in life, and positive affect. **Results:** A revised nine-item 3PBS demonstrated good psychometric properties, including a three-factor structure representing Thought, Consciousness, and Mind, acceptable internal consistency, convergent validity, and largely invariant measurement across gender and age. Greater endorsement of Three Principles beliefs was associated with higher purpose in life and more positive affect. Cross-sectional indirect-effect analyses indicated statistical mediation by 3PBS scores. Models including the overall 3PBS score or all three subscales explained more variance than models using individual subscales. **Conclusions:** The findings provide preliminary psychometric support for the 3PBS as a measure of theory-specific beliefs central to the Three Principles framework. The observed associations are consistent with the proposition that these beliefs may represent a psychological process linked to well-being. The 3PBS offers a useful tool for investigating mechanisms of change and evaluating Three Principles-informed counseling interventions.

Keywords: Three Principles; metacognitive beliefs; psychometric validation; purpose in life; positive affect; counseling

Introduction

Therapeutic approaches that seek to modify higher-order beliefs about thinking, often described as metacognitive approaches, have become increasingly prominent across counseling and psychotherapy. Rather than focusing primarily on the content of thoughts, these approaches emphasize individuals' understanding of, and relationship with, their own cognitive processes (Flavell, 1979; Fleming and Frith, 2014). In other words, they focus not only on what individuals think, but also on how they interpret, monitor, and respond to their thinking. This shift from what people think to how they experience and regulate thinking has been associated with improved emotional functioning, resilience, self-regulation, and psychological well-being across diverse clinical and nonclinical populations (Katyal and Fleming, 2024; Seow et al., 2021; Szczepanik et al., 2020; Veenman et al., 2006; Wells and Cartwright-Hatton, 2004). Systematic-review and meta-analytic evidence further indicates that metacognitive interventions can reduce symptoms across several psychiatric conditions, although the quality and scope of the evidence vary across intervention types, comparison conditions, and outcomes (Andersson et al., 2025; Normann and Morina, 2018; Philipp et al., 2019).

Although metacognitive approaches share a common emphasis on higher-order cognition, they differ in the mechanisms through which psychological change is expected to occur. Some interventions focus on identifying and modifying dysfunctional metacognitive beliefs through techniques such as attention training, cognitive restructuring, and behavioral experiments (Andersson et al., 2025; Capobianco and Nordahl, 2023; Moritz et al., 2014; Wells, 2019). Other approaches propose that psychological change emerges primarily through increased awareness of the transient nature of thought and changes in how individuals relate to their cognitive experiences, rather than through deliberate modification of cognitive content (Bernstein et al., 2015; Hayes et al., 2006; Hofmann and Hayes, 2019). These process-oriented perspectives conceptualize psychological flexibility, emotional regulation, and well-being as linked to changes in how individuals relate to their thoughts rather than solely to changes in thought content itself (Bernstein et al., 2015; Hayes et al., 2006; Hofmann and Hayes, 2019; Kashdan and Rottenberg, 2010).

The Three Principles of Health Realization (3PHR; Banks, 1998) can be situated alongside this broader family of process-oriented frameworks. It proposes that psychological experience arises through the interaction of Three Principles - Thought, Consciousness, and Mind - which together shape how individuals experience reality (Banks, 1998; Mills, 1995; Wartel, 2003). Within this framework, Thought refers to the continuous mental activity through which experience is constructed, Consciousness to the awareness that makes thought experienceable, and Mind to a broader source of psychological functioning and insight (Mills, 1995; Wartel, 2003). Central to the model is the proposition that psychological experience is generated "from the inside out": external events do not directly determine emotional experience; rather, experience is mediated by moment-to-moment thought and awareness (Banks, 1998). Consequently, psychological distress is viewed as arising not primarily from circumstances themselves but from individuals' relationship to their thinking about those circumstances. Greater awareness of the transient nature of thought and, thus, the transience of an emotional experience, is expected to foster resilience, emotional regulation, and well-being.

Over the past three decades, 3PHR has been applied in counseling, healthcare, education, criminal justice, organizational settings, and community interventions under related labels such as Health Realization, the Inside-Out Paradigm, and Innate Health (Halcón et al., 2007; Kelley et al., 2021; Kessel et al., 2017). Across these settings, intervention studies have reported

improvements in, or associations with, psychological well-being, resilience, adaptive coping, emotional regulation, self-efficacy, and purpose in life, together with reductions in depression, anxiety, anger, and maladaptive coping (e.g., Banerjee et al., 2007; Dingle et al., 2023; El-Mokadem et al., 2020; Green et al., 2021; Kelley et al., 2018). Although these findings suggest that 3PHR-informed interventions may be beneficial across diverse populations, the empirical evidence remains limited by relatively small samples, quasi-experimental designs, selected study populations, and a predominant focus on intervention outcomes rather than the mechanisms through which change is hypothesized to occur.

In particular, the central theoretical proposition of 3PHR - that changes in higher-order beliefs concerning Thought, Consciousness, and Mind explain improvements in psychological functioning - has received remarkably little direct empirical examination. Several intervention studies have demonstrated positive outcomes without measuring participants' endorsement of these beliefs (El-Mokadem et al., 2020; Rees-Evans and Pevalin, 2017). Others have assessed 3PHR-related constructs but have not examined whether changes in these beliefs mediate intervention effects (Green et al., 2021; Kelley et al., 2017, 2018, 2021). Recent studies have also explored broader potential mechanisms, such as resilience or psychological flexibility, rather than the theory-specific beliefs proposed by the 3PHR framework itself (Dingle et al., 2023). Consequently, it remains unclear whether the reported benefits of 3PHR interventions are specifically associated with the theoretical mechanisms on which the model is based.

This limitation reflects a broader challenge within counseling and psychotherapy research. Although several well-established instruments assess metacognitive processes and beliefs associated with psychological distress, including the Metacognitions Questionnaire (Wells and Cartwright-Hatton, 2004), these measures were not designed to assess the distinctive theoretical assumptions of specific counseling models. Research suggests that some effects of some metacognitive interventions can be explained by such general metacognitive measures (Ivan, et al., 2025; Pine, et al., 2021; Pukstad et al., 2025; Schaich et al., 2025). However, the overall literature suggests such a general mechanism falls short of explaining across all interventions and outcomes. As psychotherapy research increasingly emphasizes mechanisms of change alongside treatment outcomes (Hofmann and Hayes, 2019), theory-specific measures are needed to evaluate whether interventions influence the processes they claim to target and whether these processes account for subsequent improvements in mental health.

The present study addresses this gap by providing a preliminary psychometric evaluation of the Three Principles Beliefs Scale (3PBS), a new instrument designed to assess endorsement of the central metacognitive beliefs underlying the 3PHR framework. The scale was developed from the theoretical proposition that beliefs concerning Thought, Consciousness, and Mind constitute three distinguishable but related dimensions, that individuals vary in the extent to which they endorse these beliefs regardless of previous exposure to 3PHR, and that stronger endorsement is associated with greater psychological well-being. Furthermore, the framework proposes that participation in 3PHR-informed interventions increases endorsement of these beliefs and that these changes contribute to improvements in mental health and well-being.

The objectives of the present study were threefold. First, we examined the factorial structure, internal consistency, convergent validity, and measurement invariance of the 3PBS. Second, we investigated whether endorsement of the three hypothesized dimensions—Thought, Consciousness, and Mind—was associated with psychological well-being. Third, we examined (cross-sectional) indication for 3PBS explaining, or mediating, the assumed positive relationship between exposure to 3PHR and well-being, thereby providing an initial empirical examination of

the pattern proposed by the 3PHR framework. Consistent with contemporary models, well-being was operationalized using a cognitive indicator, Purpose in Life (Crumbaugh and Maholick, 1964, 1969), and an emotional indicator, positive affect (Gross et al., 2019; Kashdan and Rottenberg, 2010).

Materials and Methods

Data and Participants

The present study describes secondary analyses of an anonymous dataset originally collected from adults attending the annual Three Principles Conference (Life 2.0), held in the United Kingdom from June 2 to June 4, 2019. The original survey collected anonymous questionnaire data assessing well-being and related psychological constructs. For the current study this existing anonymous dataset was analysed.

Life 2.0 is an annual conference focused on the Three Principles framework and its relevance to happiness, clarity, and well-being and is attended by both individuals new to the framework and returning members of the Three Principles community (3PUK, n.d.). Approximately 1,065 conference attendees were eligible to participate. Eligibility was limited to conference attendees aged 18 years or older.

Participants in the original study were invited by conference organizers through email before the conference and through announcements during conference registration. Participation was voluntary, and no compensation was provided. The original survey included electronic informed consent before questionnaire completion. The survey did not collect any personally identifying information.

A total of 282 participants submitted the questionnaire, corresponding to an approximate participation rate of 26.5% among eligible conference attendees. Forty-four questionnaires were excluded because the survey was not completed, resulting in a final analytic sample of 238 participants. Analyses were conducted using the data from the completed questionnaires.

Participants ranged in age from 19 to 79 years ($M = 50.0$, $SD = 12.0$); 69.3% identified as female and 30.7% as male. Most participants had at least a bachelor's degree (71.2%) and were employed (45.0%) or self-employed (39.4%). Participants represented 20 countries, with the majority residing in the United Kingdom ($n = 177$). The median survey completion time was 11 minutes and 30 seconds.

Ethical Considerations

This study involved a secondary analysis of an anonymous dataset originally collected with electronic informed consent; ethical oversight, exemption determination, and consent procedures are detailed in the Ethics Statement at the end of this manuscript.

Instrument Development

The Three Principles Beliefs Scale (3PBS) was developed to operationalize the core metacognitive beliefs proposed by the Three Principles of Health Realization (3PHR). Scale development was theory driven and followed established recommendations for construct operationalization and content validation.

Item generation began with a comprehensive review of the theoretical literature describing the three central principles of the framework—Thought, Consciousness, and Mind (Banks, 1998; Mills, 1995; Wartel, 2003). Twenty-one preliminary items were written to represent the breadth of the theoretical construct while minimizing conceptual overlap.

Content validity was evaluated through expert review. Twelve reviewers assessed the preliminary items for theoretical relevance, clarity, comprehensibility, and redundancy. Six reviewers were recognized experts in the Three Principles framework, whereas the remaining reviewers possessed varying degrees of familiarity with the model. Based on their evaluations, items were revised, merged, or removed to improve conceptual precision and readability while maintaining fidelity to the underlying theoretical framework.

The resulting 12-item version consisted of four items assessing each of the three hypothesized dimensions. Items were intentionally written using straightforward language to facilitate administration across diverse adult populations. Readability analyses indicated high accessibility (Flesch Reading Ease = 82.7; Flesch–Kincaid Grade Level = 3.82; Gunning Fog Index = 8.52).

Measures

Three Principles Beliefs Scale

The psychometric properties of the newly developed 3PBS constituted the primary focus of the present study. The instrument was designed to assess endorsement of the higher-order beliefs underlying the Three Principles framework rather than knowledge of, or participation in, Three Principles interventions. Consequently, the instrument is intended to be applicable both within intervention-evaluation studies and broader investigations of metacognitive belief systems in counseling and psychological research.

Participants completed the initial 12-item version of the scale using a six-point Likert-type response scale ranging from Always (6) to Never (1). Negatively worded items were reverse scored before analysis so that higher scores consistently reflected stronger endorsement of Three Principles beliefs. Following psychometric evaluation, one item from each subscale was removed, yielding the final nine-item instrument presented in the Supplementary Material. Unless otherwise specified, psychometric analyses report results for both the initial and final versions of the scale, whereas subsequent analyses using the 3PBS were conducted with the final nine-item version.

Three Principles Exposure

Exposure to the Three Principles framework was assessed using four self-report indicators measuring (a) duration of familiarity with the framework, (b) perceived knowledge, (c) self-rated expertise, and (d) current professional involvement as a Three Principles practitioner. Responses were standardized before aggregation because the items employed different response formats. A composite exposure score was subsequently calculated as the mean standardized score across the four indicators. Higher scores reflected greater exposure to the framework. Internal consistency of the composite measure was acceptable (Cronbach's $\alpha = .70$).

Purpose in Life

Purpose in life was assessed using the Purpose in Life Test (PIL; Crumbaugh and Maholick, 1969), a 20-item instrument derived from Frankl's existential theory. Participants responded using seven-point semantic differential scales, with higher scores indicating greater perceived purpose and meaning in life. Previous research has demonstrated satisfactory psychometric properties across diverse populations. Internal consistency in the present sample was excellent (Cronbach's $\alpha = .92$).

Positive Affect

Positive affect was measured using eight semantic differential items adapted from established affective assessment procedures (Bradley and Lang, 1994; Mehrabian and Russell, 1974). Participants rated their current emotional state on five-point bipolar scales (e.g., *Calm–Angry, Sad–Happy, Unsatisfied–Satisfied).* Responses were averaged to create an overall positive affect score, with higher scores indicating greater positive affect. Internal consistency in the present sample was excellent (Cronbach's $\alpha = .90$).

Statistical Analysis

Analyses were conducted using JASP (Version 0.19.1) and the PROCESS macro (Version 3.5.2; Hayes, 2018) for SPSS (Version 29.0.2.0).

The hypothesized correlated three-factor structure of the 3PBS was evaluated using confirmatory factor analysis (CFA) with Maximum Likelihood estimation (ML). The initial model included all 12 items, with four items specified as indicators of each of the three theoretically proposed factors: Thought, Consciousness, and Mind. A confirmatory rather than exploratory approach was used because the three-dimensional structure was specified a priori by the 3PHR framework rather than derived empirically. As preliminary factorability diagnostics, Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were examined.

Model fit was evaluated using the comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA) with its 90% confidence interval, and standardized root mean square residual (SRMR). Following conventional recommendations, values of CFI and TLI $\geq .90$ (preferably $\geq .95$), RMSEA $\leq .08$ (preferably $\leq .06$), and SRMR $\leq .08$ were interpreted as indicating acceptable model fit (Hu and Bentler, 1999; Kline, 2016).

Following evaluation of the initial model, theoretically justifiable item removal was considered based on standardized factor loadings, model diagnostics, theoretical interpretability, and preservation of construct coverage. The revised model was evaluated using the same fit indices as the initial model. Potential model refinements were evaluated using changes in χ^2 (p $\Delta\chi^2 < .05$), CFI ($\Delta >= .010$), RMSEA ($\Delta >= .015$), and SRMR ($\Delta >= .015$) while maintaining theoretical interpretability. A one-factor model containing the retained items was also estimated and compared with the revised three-factor model to determine whether the 3PBS was better represented as a unidimensional or multidimensional measure.

Internal consistency was evaluated using Cronbach's alpha and McDonald's omega. Convergent validity was assessed using standardized factor loadings and average variance extracted (AVE). Standardized factor loadings of .50 or greater and AVE values of .50 or greater were considered indicative of acceptable convergent validity (Fornell and Larcker, 1981).

Measurement invariance of the final three-factor model was examined across gender and age groups using multigroup CFA. Gender groups comprised participants identifying as female (69.3%) or male (30.7%). Age groups were defined as 50 years or younger (53.7%) and older than 50 years (46.3%). Note that the number of male participants is on the low side for testing measurement invariance. Configural, metric, scalar, and strict invariance models were estimated sequentially. Invariance decisions were based primarily on changes in CFI, RMSEA, and SRMR, with chi-square difference tests considered supplementary because of the sensitivity to sample size. Invariance decisions were based on changes in CFI ($\Delta CFI \geq .010$), RMSEA ($\Delta RMSEA \leq .015$), and SRMR ($\Delta SRMR \leq .030$ for metric invariance and $\Delta SRMR \leq .015$ for scalar and strict invariance; Chen, 2007; Cheung and Rensvold, 2002).

Following psychometric evaluation of the scale, means, standard deviations and Pearson correlations were calculated for the final 3PBS overall score, the three subscale scores, Three Principles exposure, purpose in life, and positive affect. Also, normality of the distributions was examined with skewness and kurtosis. All descriptive, correlational, and path analyses involving the 3PBS were conducted using the final nine-item version of the instrument, or the corresponding subscales.

The theoretical model proposing that endorsement of Three Principles beliefs mediates the association between exposure to the framework and psychological well-being was examined using ordinary least squares path analysis implemented in PROCESS Model 4 (Hayes, 2018). Indirect effects were estimated using 5,000 bias-corrected bootstrap resamples with 95% confidence intervals.

Note that due to the cross-sectional data utilized in the current study, results do not in any way imply causality. Logically the theoretical model does suggest that exposure leads to stronger beliefs, which in turn leads to higher levels of well-being. The current study does not test the causality of the model, only if these relationships are statistically plausible. Hence, the results of the current study do not rule out the option that different levels of well-being lead individuals to embrace different beliefs, which in turn cause individuals to get involved with frameworks that supports those beliefs, or that a fourth group of variables influences all three.

Three complimentary mediation models were estimated (see Figure 1). First, the overall 3PBS score was examined as the mediator between Three Principles exposure and the two outcome variables (Purpose in Life and Affect). Second, the three latent dimensions (Thought, Consciousness, and Mind) were entered simultaneously as parallel mediators to estimate their unique indirect effects. Third, separate mediation analyses were conducted for each subscale individually to evaluate their independent contributions to the association between exposure and psychological well-being. Indirect effects were considered statistically significant when the corresponding bootstrap confidence interval did not include zero.

Results

Confirmatory Factor Analysis and Scale Refinement

A confirmatory factor analysis (CFA) was conducted to evaluate the hypothesized three-factor structure of the 12-item Three Principles Beliefs Scale (3PBS), with four indicators specified for each latent construct: Thought, Consciousness, and Mind. Preliminary screening indicated that the item correlation matrix was factorable, Bartlett's test of sphericity, $p < .001$, and the overall measure of sampling adequacy (MSA) was .907.

The initial 12-item model demonstrated suboptimal fit to the data, CFI = .910, TLI = .883, RMSEA = .112, and SRMR = .060. Standardized factor loadings ranged from .56 to .86. Average variance extracted (AVE) values were .703 for Thought, .427 for Consciousness, and .558 for Mind, indicating acceptable convergent validity for Thought and Mind but weaker convergent validity for Consciousness.

Inspection of standardized factor loadings and model diagnostics, together with consideration of theoretical interpretability and construct coverage, suggested that one comparatively weak item could be removed from each factor.[1] After removing these three items, the resulting nine-item model demonstrated substantially improved fit, $\Delta\chi^2(18) = 133.54$, $p < .001$, with improvements across all fit indices (ΔCFI = .048, ΔTLI = .054, ΔRMSEA = .019,

[1] Items removed for thought, consciousness and mind respectively were: "I take negative thoughts seriously", "For me it is important to thoroughly work through things that went wrong" and "Solutions come to me when I need them".

ΔSRMR = .014). Although RMSEA (.093) remained above the conventional criterion for good fit, the remaining indices indicated acceptable to strong fit (CFI = .958, TLI = .937, SRMR = .046).

To examine whether the retained items could be represented by a single general dimension, a one-factor nine-item model was estimated. Its fit was clearly inferior to that of the correlated three-factor solution, CFI = .846, TLI = .794, RMSEA = .168, and SRMR = .089. The correlated three-factor structure was therefore retained as the preferred representation of the 3PBS. Subsequent analyses were conducted using both the overall nine-item score and the three three-item subscale scores.

As shown in Table 1, all standardized factor loadings for the final nine-item model exceeded the prespecified .50 criterion. AVE values were .728 for Thought, .510 for Consciousness, and .572 for Mind, supporting acceptable convergent validity for all three factors, although the value for Consciousness was only slightly above the criterion. Internal consistency was acceptable to good across the three subscales, with McDonald's ω values ranging from .764 to .891 and Cronbach's α values ranging from .744 to .890. Internal consistency for the overall nine-item score was also acceptable, ω = .86 and α = .89.

Measurement Invariance

To assess whether the 3PBS operated comparably across participant groups, measurement invariance of the nine-item three-factor model was examined across gender and age groups (Table 2). Across gender, the results supported configural, metric, scalar, and strict invariance. Although the χ^2 difference test reached significance at the scalar level, changes in practical fit indices (ΔCFI, ΔRMSEA, and ΔSRMR) remained well within recommended thresholds, indicating that factor loadings, intercepts, and residual variances were sufficiently comparable across men and women.

For age groups, configural invariance was supported. Evidence for metric invariance was somewhat mixed, with a significant χ^2 difference test and ΔCFI reaching the conventional cutoff value. However, scalar and strict invariance were subsequently supported based on changes in practical fit indices. Overall, these findings suggest that the 3PBS functions similarly across gender and, with some caution regarding metric equivalence, across age groups. Comparisons of latent means therefore appear generally defensible.

Table 2. Measurement Invariance of the Three Principles Beliefs Scale Across Gender and Age Groups

Descriptive Statistics

Following evaluation of the psychometric properties of the 3PBS, we examined the descriptive statistics and zero-order correlations among the study variables (Table 3). Mean scores were generally near or above the midpoint of their respective scales. Skewness and kurtosis values for all variables fell within acceptable ranges (all between −2 and 2), indicating no substantial departures from normality.

As hypothesized, greater exposure to the Three Principles framework was positively associated with overall 3PBS scores ($r = .45$, $p < .001$) and with each of the three subscales (r's = .28–.47, all p's < .001). Exposure was also positively associated with both purpose in life and positive affect. Furthermore, the overall 3PBS score and each of its constituent dimensions were positively correlated with both outcome variables. Correlations ranged from moderate to strong,

except for the relatively modest association between exposure and the Mind subscale ($r = .28$, $p < .001$). Overall, these findings provide preliminary support for the hypothesized associations among Three Principles exposure, Three Principles beliefs, and psychological well-being.

Cross-Sectional Indirect-Effect Analyses

Overall 3PBS Score

The first set of mediation analyses examined whether the total 3PBS score mediated the relationship between Three Principles exposure and each outcome; purpose in life and positive affect (Table 4). The models explained 51.8% of the variance in purpose in life and 45.4% of the variance in positive affect.

Three Principles exposure was significantly associated with higher overall 3PBS scores, and both exposure and 3PBS scores were significantly associated with purpose in life and positive affect. Bootstrap analyses indicated significant indirect associations between exposure and both outcomes through the 3PBS, with confidence intervals that did not include zero. After the overall 3PBS score was included in the models, the remaining direct associations between exposure and purpose in life and between exposure and positive affect were no longer statistically significant. This pattern is consistent with statistical mediation of the relationship between exposure and well-being by the overall 3PBS scores.

Parallel-Subscale Model

To examine the unique contributions of Thought, Consciousness, and Mind, the three subscales were entered simultaneously as parallel intervening variables (Table 5). Exposure was significantly associated with each subscale.

For positive affect, all three subscales made significant unique contributions, and each showed a significant indirect association. For purpose in life, however, only Thought and Mind remained significant unique predictors when all three subscales were included simultaneously. The indirect association through Consciousness was not statistically significant after accounting for the other two subscales. As with the total-score model, the remaining direct associations between exposure and both outcomes were no longer statistically significant after inclusion of the three subscales. This pattern is consistent with statistical mediation of the associations between exposure and both well-being outcomes by the combined three 3PBS dimensions. The parallel-subscale models explained 53.1% of the variance in purpose in life and 45.6% of the variance in positive affect.

Separate-Subscale Models

Finally, separate models examined each subscale individually as the mediating variable (Table 6). When considered separately, Thought, Consciousness, and Mind each showed a significant indirect association between exposure and both purpose in life and positive affect. However, differences emerged in the remaining direct associations.

Thought was the only subscale for which the remaining direct associations between exposure and both outcome variables were no longer statistically significant after inclusion of the mediator. In contrast, the remaining direct associations remained statistically significant in the Consciousness and Mind models. Thus, the indirect-association pattern was strongest for Thought, although significant indirect associations were observed for all three subscales. Across the separate models, explained variance ranged from approximately 31% to 42%.

Comparison of the indirect-effect models further indicated that the model including the overall 3PBS score explained more variance in both outcome variables than the models examining each subscale individually. Together, these findings suggest that although each dimension was associated with psychological well-being, the overall 3PBS score captured the pattern of associations among Three Principles exposure, purpose in life, and positive affect more comprehensively than any single subscale considered alone.

Discussion

The present study introduced the Three Principles Beliefs Scale (3PBS), a theory-specific measure designed to assess the metacognitive beliefs central to the Three Principles of Health Realization (3PHR) framework. The 3PHR framework is an approach for supporting mental health and well-being with a growing evidence-base; however, to our knowledge, this is the first study to offer a cohesive, process-based examination of the relationship among 3PHR exposure, metacognitive beliefs, and well-being outcomes. This study sits within a broader movement of intervention research interested in the processes of change, not just the outcomes of intervention (Hofmann and Hayes, 2019).

Across a series of psychometric and mediation analyses, three key findings emerged. First, the revised nine-item version of the 3PBS demonstrated satisfactory psychometric properties, including a clear three-factor structure, acceptable internal consistency, convergent validity, and largely invariant measurement across gender and age groups. Second, stronger endorsement of Three Principles beliefs was consistently associated with greater purpose in life and more positive affect. Third, endorsement of these beliefs statistically accounted for the association between exposure to the Three Principles framework and psychological well-being, providing a pattern of statistical associations consistent with the mechanism of change proposed by the 3PHR model. These findings should be interpreted in light of a cross-sectional sample drawn primarily from individuals already engaged with the Three Principles framework (see Limitations).

Three Principles Beliefs scale: A reliable measure

One of the principal contributions of this study is the development of a psychometrically supported instrument for assessing the metacognitive beliefs central to the Three Principles framework (3PHR framework). Whereas previous evaluations of Three Principles interventions have primarily relied on outcome measures, the 3PBS enables direct assessment of the constructs that the 3PHR framework proposes to influence psychologically. Although the original 12-item version showed only moderate model fit, removal of one comparatively weak item from each subscale resulted in a concise nine-item instrument with good fit indices and satisfactory reliability.

The fact that 9-items versus 12-items was a better fit does raise questions about whether these belief constructs are yet fully defined and does point to the potential for continued measurement evolution. At the same time, this initial and successful attempt to define and measure the beliefs of Thought, Consciousness, and Mind show consistency with the theoretical premise of the 3PHR framework. The superiority of the correlated three-factor model over a unidimensional alternative gives support to the premise that there are three distinct metacognitive beliefs, not previously operationalized within a unified theory-specific framework, potentially relevant for therapeutic or training focus.

The measurement invariance analyses further strengthen confidence in the scale and these beliefs as distinct constructs. The findings indicate that the instrument functions similarly across men and women and, with only limited caution regarding metric invariance, across younger and older adults. Consequently, the 3PBS appears suitable for comparing psychological functioning across demographic groups in both research and applied counseling settings.

Validity of the 3PBS: Evidence Based on Relations to Other Variables

The second key finding was that the metacognitive beliefs of Thought, Consciousness, and Mind had moderate to strong positive associations with cognitive and affective dimensions of psychological well-being. Associations were in expected direction in which higher 3PBS factor scores were associated with higher scores on Affect and Purpose in Life. The pattern of correlational findings is consistent with the 3PHR theoretical premise that Thought, Consciousness, and Mind are beliefs about human psychological functioning that relate to enhanced well-being and mental health outcomes.

3PBS as a Potential Mechanism of the Three Principles Framework

The cross-sectional indirect-effect analyses (i.e., mediation analyses) provided further support for the relevance of Thought, Consciousness, and Mind as a mechanism of well-being. Although the cross-sectional design precludes causal conclusions, the observed pattern is consistent with the theoretical proposition that changes in higher-order beliefs represent an important psychological process through which Three Principles-based interventions may influence outcomes. Importantly, the observed pattern is consistent with the sequence the 3PHR framework proposes: greater exposure to the Three Principles is associated with a stronger set of corresponding beliefs for navigating life's challenges, which is in turn associated with greater well-being and mental health. Obviously, the present cross-sectional data cannot establish the causality of these associations.

The subscale analyses provide further insight into how the three dimensions may operate individually and collectively. Thought, Consciousness, and Mind were each associated with purpose in life and positive affect when examined separately, indicating that all three dimensions were meaningfully related to psychological well-being. However, their unique contributions differed when the subscales were entered simultaneously. Thought and Mind retained significant unique associations with purpose in life, whereas Consciousness did not. When entered simultaneously with Thought and Mind, Consciousness no longer uniquely predicted purpose in life.

The combined scale involving all three factors accounted for the greatest proportion of explained variance. This finding aligns with the theoretical assumption that the three principles, though reliable, distinguishable factors, may operate as an integrated system rather than as isolated psychological processes. Taken together, these findings suggest complexities in which belief factors may matter most to various outcomes, as well as the idea that a constellation of beliefs, rather than any single metacognitive belief, may be most relevant to explore as a mechanism of change. Future studies employing larger samples and structural equation modeling may clarify the ways these beliefs relate to a wider set of measures of psychological functioning.

Implications for counseling practice

From a clinical perspective, the findings suggest that counselors working from a Three Principles perspective may benefit from assessing whether clients have developed the intended

understanding of Thought, Consciousness, and Mind during counseling. Until now, evaluations of Three Principles interventions have primarily focused on changes in psychological outcomes. The availability of the 3PBS allows clinicians and researchers to examine whether changes in theoretical understanding accompany improvements in well-being and whether these changes predict longer-term outcomes.

More broadly, the instrument may prove useful for evaluating counselor training, treatment fidelity, and individual differences in responsiveness to Three Principles-informed interventions. Because the items assess endorsement of metacognitive beliefs rather than familiarity with Three Principles terminology, the scale may also have applications outside formal Three Principles programs.

Limitations and future directions

Several limitations should be considered when interpreting the findings. First, the cross-sectional design prevents causal inference. Although the mediation analyses were consistent with the theoretical model, alternative causal explanations remain plausible, including the possibility that psychologically healthier individuals are more likely to endorse Three Principles beliefs or engage more extensively with the framework. Longitudinal studies and randomized controlled trials incorporating repeated assessments of the 3PBS are needed to determine whether changes in these beliefs precede subsequent improvements in well-being.

Second, participants were recruited from an international Three Principles conference. Consequently, the sample consisted largely of individuals who were already interested in, or positively disposed toward, the framework. This recruitment strategy may have restricted variability and limits the generalizability of the findings to broader community or clinical populations. Validation of the instrument among counseling clients, general population samples, and culturally diverse populations therefore represents an important next step.

Third, all variables were assessed through self-report questionnaires, raising the possibility of common-method variance. Future research could strengthen construct validation by incorporating behavioral indicators, clinician ratings, or longitudinal assessments of therapeutic change. Future studies using larger samples and latent-variable approaches, including higher-order and bifactor models, are needed to clarify the extent to which the 3PBS reflects a general Three Principles belief construct alongside distinct subscale-specific variance.

Fourth, although the nine-item version demonstrated satisfactory psychometric properties, further validation remains necessary. Future studies should examine test-retest reliability, predictive validity, sensitivity to therapeutic change, and discriminant validity relative to established measures of metacognition, mindfulness, psychological flexibility, and related constructs.

Finally, this study offers support for the notion that exposure to the three principles is related to enhanced three principles beliefs, which in turn may explain why this exposure is related to higher levels of well-being. However, the three principles framework also proposes that Three Principles beliefs are associated with coping with life's stressors and misfortunes. The current study did not address this coping-assumption. The developed scale can however, after further validation, facilitate future research into the stress-buffering qualities of the Three Principles beliefs.

Conclusion

Across several therapeutic traditions, including Acceptance and Commitment Therapy, mindfulness-based interventions, and metacognitive therapy, increasing attention has shifted

from changing the content of thoughts toward altering individuals' awareness of, interpretation of, and relationship with their cognitive experiences (Bernstein et al., 2015; Hayes et al., 2006; Wells, 2009). Just as the present study demonstrates that the theory-specific beliefs proposed by the 3PHR framework can be measured and are systematically associated with indicators of psychological well-being, it also illustrates the broader value of developing instruments that directly assess the psychological processes thought to be the 'active ingredients' of other counseling approaches.

The present study provides the first psychometric evaluation of the Three Principles Beliefs Scale and offers an initial empirical examination of the theoretical mechanism underlying the Three Principles of Health Realization. Although further research is required to establish causal pathways, the 3PBS provides researchers and counselors with a theoretically grounded instrument for investigating mechanisms of change within Three Principles-informed counseling and contributes to the broader movement toward mechanism-focused psychotherapy research.

The present findings extend previous evaluations of Three Principles-informed interventions, which have generally focused on whether psychological outcomes improved without directly assessing whether participants' endorsement of the framework's central beliefs also changed (Dingle et al., 2023; El-Mokadem et al., 2020; Green et al., 2021; Kelley et al., 2018, 2021). By demonstrating that Three Principles beliefs can be assessed directly and that 3PBS scores are associated with both exposure to the framework and indicators of well-being, to our knowledge, the present study is the first to address this gap.

Data availability statement

The final nine-item Three Principles Beliefs Scale, including item wording and scoring instructions, is provided in the Supplementary Material. On request, the raw data supporting the conclusions of this article, the statistical syntax used for the analyses and/or additional study materials will be made available by the corresponding author.

Ethics statement

The present study involved a secondary analysis of an anonymous dataset originally collected with electronic informed consent. The study was reviewed by Pearl IRB and determined to be exempt from IRB review (Protocol No. 2026-0436). Electronic informed consent was obtained from all participants before they accessed the questionnaire.

Author contributions

Adriaan J. M. Denkers contributed to the conceptualization of the study, development of the Three Principles Beliefs Scale, study design, data collection, formal analysis, interpretation of the findings, and preparation of the original manuscript. Jeanne L. Catherine-Gray contributed to the conceptualization of the study, development of the scale, study design, data collection, interpretation of the findings, preparation, review and editing of the manuscript. Anita McGinty contributed to the conceptualization of the study, interpretation of the findings, and review and editing of the manuscript. All authors read and approved the final manuscript.

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Conflict of interest

The authors declare that they have no competing financial or non-financial interests. The authors are affiliated with Innate Health Research (IHR), a registered 501(c)(3) non-profit research and consulting organization. IHR aims to develop scientific evidence about innate human well-being. This knowledge is built in collaboration with practitioners to further programs that foster community resilience especially among underserved populations, such as youth, incarcerated individuals, and those facing addiction or housing insecurity.

Generative AI statement

During the preparation of this manuscript, the authors used an AI-based language tool (Claude, Anthropic), solely to improve readability and language (grammar, spelling, and style) and to verify submission requirements. The authors reviewed and edited the output as needed and take full responsibility for the content of the publication.

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Tables

Table 1. Standardized Factor Loadings, Reliability, and Convergent Validity of the Final Nine-Item Three Principles Beliefs Scale

Subscales		Standardized Loading *	SE	AVE	McDonald's ω	Cronbach's α	Mean	SE
Thought	T2. I take negative emotions seriously [a]	.764	.068	.728	.891	.882	4.106	.057
	T3. Negative thoughts stay with me for a long time [a]	.896	.068					
	T4. Negative emotions stay with me for a long time [a]	.885	.062					
Consciousness	C2. When I feel bad, it is easy to shift to other thoughts	.613	.079	.510	.764	.744	4.060	.048
	C3. I think about things that went wrong [a]	.689	.062					
	C4. I concentrate on things that make me feel bad [a]	.844	.068					
Mind	M1. I know I am part of something good	.847	.064	.572	.794	.890	4.664	.056
	M2. I feel there is wisdom within me	.733	.065					
	M4. I feel connection with something bigger than myself	.703	.079					

[a] Negatively worded item. *All standardized factor loadings were significant at $p < .001$. Model fit: $\chi^2(24) = 74.701$, $p < .001$; CFI = .958; TLI = .937; RMSEA = .093; SRMR = .046.

Invariance level	χ^2 (df)	*p* for $\Delta\chi^2$	RMSEA	ΔRMSEA	SRMR	ΔSRMR	CFI	ΔCFI	**Interpretation**
Gender									
Configural	108.79 (48)		.102		.055		.951		
Metric	116.22 (54)	.2829	.097	.005	.064	.009	.950	.001	Supported
Scalar	130.31 (60)	.0286	.098	.001	.055	.001	.943	.007	Supported
Strict	139.94 (69)	.3813	.092	.006	.061	.006	.943	.000	Supported
Age									
Configural	100.62 (48)		.095		.052		.957		
Metric	118.17 (54)	.0075	.098	.003	.079	.027	.947	.010	Mixed
Scalar	125.50 (60)	.2914	.094	.004	.073	.006	.946	.001	Supported
Strict	139.79 (69)	.1124	.092	.002	.075	.003	.942	.002	Supported

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Table 3. Descriptive Statistics and Zero-Order Correlations Among Study Variables

	M	SD	3P Exposure	Overall 3PBS	Thought	Consciousness	Mind	Purpose in Life	Positive Affect
3P Exposure	-.06	.81	1						
Overall 3PBS	4.30	.73	.45***	1					
Thought	4.14	.91	.47***	.89***	1				
Consciousness	4.02	.77	.41***	.87***	.76***	1			
Mind	4.74	.90	.28***	.80***	.52***	.51***	1		
Purpose in Life	3.90	.57	.34***	.72***	.64***	.57***	.62***	1	
Positive Affect	3.93	.72	.35***	.67***	.61***	.61***	.51***	.66***	1

Note. *p < .05. **p < .01. ***p < .001. All skewness and kurtosis values were between −2 and 2.

799

Table 4. Cross-Sectional Indirect Associations Through the Overall Three Principles Beliefs Scale

	a X b	95% CI of a X b	a	b	c		c'
PiL	.32	[.24, .40]	.45***	.71***	.34	***	.02
Affect	.29	[.22, .37]	.45***	.65***	.35	***	.05
Model PiL:		R2 = 51.8%	F(2, 233) = 125.18, p < .001				
Model Affect:		R2 = 45.4%	F(2, 233) = 96.78, p < .001				

Note. a X b = indirect effect; CI = confidence interval. *p < .05. **p < .01. ***p < .001. 5,000 bootstrap resamples with 95% confidence intervals.

800

Table 5. Cross-Sectional Indirect Associations Through the Three Principles Beliefs Subscales Entered Simultaneously

PiL	a X b	95% CI of a X b		a		b		c		c'
Thought	.17	[.06,	.27]	.47	***	.36	***	.34	***	.03
Consciousness	.04	[-.03,	.12]	.41	***	.09				
Mind	.11	[.06,	.16]	.28	***	.38	***			
Affect	a X b	95% CI of a X b		a		b		c		c'
Thought	.12	[.03,	.22]	.47	***	.25	***	.35	***	.05
Consciousness	.12	[.05	.19]	.41	***	.28	***			
Mind	.06	[.03	.12]	.28	***	.23	***			
Model PiL:		R2 = 53.1%		F(4, 231) = 65.35, p < .001						
Model Affect:		R2 = 45.6%		F(4, 231) = 48.38, p < .001						

Note. a X b = indirect effect; CI = confidence interval. *p < .05. **p < .01. ***p < .001. 5,000 bootstrap resamples with 95% confidence intervals.

801

Table 6. Cross-Sectional Indirect Associations Through Individual Three Principles Beliefs Subscales

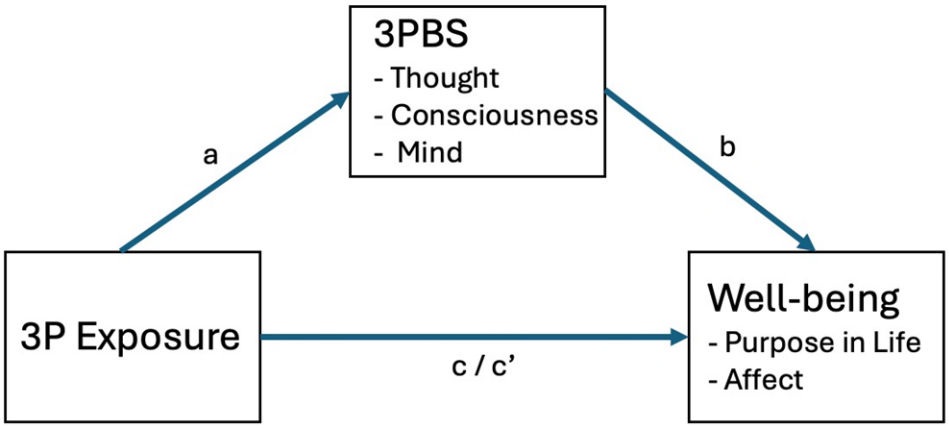
PiL	a X b	95% CI of a X b		a		b		c		c'	
Thought	.29	[.21,	.37]	.47	***	.62	***	.34	***	.05	
Consciousness	.21	[.14,	.30]	.41	***	.52	***	.34	***	.13	*
Mind	.16	[.10,	.23]	.28	***	.57	***	.34	***	.18	***
Affect	a X b	95% CI of a X b		a		b		c		c'	
Thought	.27	[.18,	.36]	.47	***	.57	***	.35	***	.08	
Consciousness	.23	[.15,	.31]	.41	***	.56	***	.35	***	.12	*
Mind	.13	[.07,	.19]	.28	***	.45	***	.35	***	.22	***

Model PiL-Thought:	R2 = 42%	F(2, 233) = 82.64, p < .001
Model PiL-Consciousness:	R2 = 34%	F(2, 233) = 60.51, p < .001
Model PiL-Mind:	R2 = 42%	F(2, 233) = 82.73, p < .001
Model Affect-Thought:	R2 = 37%	F(2, 233) = 68.50, p < .001
Model Affect-Consciousness:	R2 = 38%	F(2, 233) = 71.84, p < .001
Model Affect-Mind:	R2 = 31%	F(2, 233) = 51.33, p < .001

Note. a X b = indirect effect; CI = confidence interval. *p < .05. **p < .01. ***p < .001. Indirect effects were estimated using 5,000 bootstrap resamples and 95% confidence intervals.

804 **Figure Legends**

Figure 1. Hypothesized 3PBS mediation model



805
806 **Figure 1.** The diagram illustrates the conceptual mediation models examined in the cross-
807 sectional indirect-effect analyses. Path *a* represents the association between Three Principles
808 exposure and Three Principles beliefs, path *b* represents the association between Three Principles
809 beliefs and psychological well-being, path *c* represents the total association between exposure
810 and psychological well-being, and path *c′* represents the remaining direct association after
811 accounting for the indirect association through Three Principles beliefs (path *a X b*). In separate
812 analyses, the intervening variable was represented by (I) the overall 3PBS score, (II) the
813 Thought, Consciousness, and Mind subscale scores entered simultaneously as parallel
814 intervening variables, and (III) each subscale entered individually.

Supplementary Material

Three Principles Beliefs Scale (3PBS): Final Nine-Item Version

The Three Principles Beliefs Scale (3PBS) is a nine-item self-report instrument designed to assess beliefs associated with the Three Principles of Health Realization framework. It comprises three related subscales—Thought, Consciousness, and Mind—with three items assigned to each dimension.

Instructions to Participants

Below are a number of statements about your thoughts and experiences. Please indicate how often each statement applies to you by selecting one response for every item.

Response Options (Original Administration)

Response	Score*
Always	6
Almost Always	5
Mostly	4
Sometimes	3
Almost Never	2
Never	1

**For reverse-scored items, the scoring is reversed.*

Scale Items

Item	Statement	Subscale	Reverse Scored
1	I take negative emotions seriously.	Thought	Yes
2	Negative thoughts stay with me for a long time.	Thought	Yes
3	Negative emotions stay with me for a long time.	Thought	Yes
4	When I feel bad, it is easy to shift to other thoughts.	Consciousness	No
5	I think about things that went wrong.	Consciousness	Yes
6	I concentrate on the things that make me feel bad.	Consciousness	Yes
7	I know I am part of something good.	Mind	No
8	I feel there is wisdom within me.	Mind	No
9	I feel connected with something bigger than myself.	Mind	No

Scoring

Items 1, 2, 3, 5, and 6 are reverse scored before subscale and overall scores are calculated. For these items, responses are recoded as follows: Always = 1, Almost Always = 2, Mostly = 3, Sometimes = 4, Almost Never = 5, and Never = 6. Items 4, 7, 8, and 9 retain their original coding. After reverse scoring, higher scores consistently indicate stronger endorsement of beliefs aligned with the Three Principles framework.

Subscale scores. Calculate each subscale score by averaging its three constituent items: Thought (Items 1–3), Consciousness (Items 4–6), and Mind (Items 7–9). Each subscale score ranges from 1 to 6.

Overall score. Calculate the overall 3PBS score by averaging all nine scored items. The overall score ranges from 1 to 6, with higher scores indicating stronger overall endorsement of Three Principles beliefs.

Missing responses. A subscale or overall score should be calculated only when all items contributing to that score have valid responses. Researchers applying an alternative missing-data rule should describe it explicitly.

Interpretation

The 3PBS is intended to generate continuous subscale and overall scores for research purposes. No validated clinical cut-points or normative classifications have been established. Scores should therefore be interpreted comparatively within research samples and should not be used independently to classify individuals or guide clinical decisions.

Conditions of Use

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