

# Three Principles, Expertise and Well-being: Introducing the 3PHR-scale

Adriaan Denkers

Jeanne Catherine-Gray (✉ [jcatherine@mymail.ciis.edu](mailto:jcatherine@mymail.ciis.edu))

California Institute of Integral Studies


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## Research Article

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## Abstract

The popularity of Three Principles of Health Realization (3PHR) interventions among mental health professionals is increasing. We developed a scale to measure the core theoretical beliefs that underlie 3PHR interventions: Thought, Consciousness, and Mind. To test the scale, we surveyed 282 participants enrolled in an annual 3PHR conference ( $n = 238$ ). We examined the construct validity using confirmatory factor analyses and investigated its associations with 3PHR expertise on one side and well-being—in particular, purpose in life and affect—on the other. We also examined the mediating effect of the 3PHR scale in explaining the relationship between 3PHR expertise and well-being. The factor analyses confirmed the three-factor structure. Results further demonstrated strong positive interrelations between 3PHR expertise, the 3PHR scale and subscales, and levels of well-being. The relationship between expertise and well-being measures was found to be fully mediated by scores on the 3PHR scale. Both the new measurement tool and the results contribute to furthering the knowledge about potentially important drivers of well-being.

## Introduction

Stimulating higher ordered metacognitions, or “abstract beliefs about our thinking”<sup>1</sup> such as knowledge or skills<sup>2</sup>, was found to be strongly related to effective coping and well-being<sup>3–5</sup>. While the content of metacognition is much debated within the literature<sup>6,7</sup>, previous studies have shown that such meaning making (mental representation of possible relationships<sup>8</sup>) play a significant role in psychological outcomes, including subjective experiences of well-being<sup>9,10</sup>. Both the need for programs that increase well-being through the construct of meaning making<sup>11</sup> and scientific investigations into the effects of core beliefs in specific populations on mental health<sup>12</sup> are well established in previous research.

To address this gap and to efficiently cover a broad scope of different types of well-being in line with Deci and Ryan<sup>13</sup>, we used a hedonic measure—*affect*<sup>14</sup>—and an eudaimonic measure of well-being—*purpose in life*<sup>15,16</sup>—with a novel philosophical approach called Three Principles of Health Realization (3PHR). *Affect* is included in the study as a general measure of well-being, found to be closely related to a wide range of emotions, moods, and physical health outcomes<sup>17,18</sup>. *Purpose in life* has been shown to be indicative of positive psychological functioning and good mental health in an array of populations<sup>19–22</sup>. The 3PHR program theoretically overlaps with more established approaches (i.e., humanistic psychology<sup>16,23,24</sup>, positive psychotherapy<sup>25</sup>, mindfulness<sup>26</sup>, and other fourth wave therapies<sup>27</sup>). The program has grown exponentially over the last forty years.

3PHR theory, first described by Banks<sup>28–30</sup>, is defined in terms of three fundamental principles, or core beliefs: Thought, Consciousness, and Mind. Exposure to or experience with 3PHR is assumed to promote and bolster beliefs about Thought, Consciousness, and Mind and lead to enhanced levels of well-being<sup>31,32</sup>.

To test this assumption, we designed a 3PHR scale to measure the degree to which people embrace the 3PHR core beliefs. We then examined the relationship of exposure to the 3PHR and the individuals’ underlying beliefs and well-being. The items of our scale were based on Banks’s description of each construct and small-scale tests among both experts and laypeople.

We investigated whether this scale is applicable to those who have been exposed to 3PHR and those who have not been, and whether more experience with 3PHR is related to higher scores on the 3PHR Scale and to higher levels of well-being. We examined the possible mediating role of the 3PHR Scale on exposure to 3PHR and well-being by investigating: “Does the data support the theoretical notion that beliefs about Thought, Consciousness, and Mind can explain the relationship between 3PHR expertise and well-being?”

## 3PHR Theory

Growing numbers of mental health professionals (e.g., psychiatrists, psychologists, social workers, counselors, and coaches) incorporate or follow a theory that describes psychological experience or “the way the mind works”<sup>33</sup> in their dealings with clients and patients. Previous references to Banks’s theory in the scientific literature occurred under many different names, including *three principles*<sup>34</sup>, *health realization*<sup>35</sup>, *inside-out paradigm*<sup>36</sup>, *three principles/innate health*<sup>37</sup>, and *three principles correctional counseling*<sup>38</sup>. At issue is that the number of scientific investigations into 3PHR programming fail to keep up with its popularity among mental health professionals. Additionally, previous studies that investigated the effects of 3PHR interventions did not test possible mediating factors. Thus, there is no current scientific focus on substantiating claims about underlying processes, and measurement tools must be developed and validated. This study aims to contribute to this endeavor.

Banks’s 3PHR theory<sup>29</sup> proposes that innate mental health is the natural state of being for every individual, that mental suffering is unwillingly caused by an individual’s own thinking, and that experience is created from the inside-out. Understanding Thought, Consciousness, and Mind (principles believed to underly cognitive processes) would enable individuals to free themselves from being captives of their own thinking.

According to 3PHR theory, strong beliefs about Thought, Consciousness, and Mind are crucial for inducing and maintaining good mental health<sup>30</sup>. The principle of thought in 3PHR refers to the constant flow of conscious and unconscious events (e.g., thoughts, perceptions, appraisals, emotions, sensations), including positive and negative interpretations. Banks considered thought to be a creative agent—a power through which one experiences reality. Banks hypothesized that understanding the principle of thought would allow one to effortlessly discriminate oneself from one’s thoughts. This ability to recognize thought was expected to result in increased access to positive thinking that includes common sense, natural self-esteem, and the potential to rise above past and present circumstances. This capability to rise above the content of thought follows the principle of consciousness.

Banks’s<sup>29</sup> principle of consciousness describes individuals as possessing a self with a free will that can ultimately choose, rise above, and/or be undisturbed by the content of thought (i.e., recognizing disturbing thinking and allowing it to pass). Banks proposed that consciousness gives individuals the ability to recognize their thinking. This source of consciousness was assumed to stem from a universal driving force labeled the principle of mind.

According to Banks<sup>29</sup>, mind is an impersonal spiritual constant, a universal organizing phenomenon, a driving force from within—be it a cosmic consciousness, a supreme being, or Mother Nature—that provides innate capacity for resilience, health, and insight<sup>5</sup>. This innate capacity—wisdom—or driving force was described by Kessel et al.<sup>33</sup> as “something beyond our human comprehension” and “can be seen to be behind the extraordinary human capabilities that reside within all of us: to love, to nurture, to empathize, to connect with others, creativity, resilience and the ability to be inspired” (p. 170). These three principles form the core of the 3PHR theory and are considered intrinsic to every human being.

To date, Banks’s 3PHR theory has received only a smattering of empirical research on its effectiveness as a mental health intervention<sup>34–47</sup>. Studies suggest a marked increase in measurements of well-being in participants, even among those from high-risk populations<sup>38–41</sup>. Examples of preliminary results include (a) increases in resilience, mastery, self-efficacy, optimism, adaptability, and tolerance in U.S. and U.K. middle and high school-aged children<sup>34,36</sup>; (b) decreases in depression, anxiety, and anger and increases in well-being and purpose in life in English male inmates<sup>38</sup>; increases in levels of coping, self-control, seeking social support, positive reappraisal, and fewer negative coping styles in female Somali refugees<sup>47</sup>; and (d) increases in levels of communication, decision making, problem solving, emotional regulation, and resilience among U.S. middle school students<sup>44,45</sup>.

While the results of these studies are promising, positive outcomes cannot yet be attributed to 3PHR-related beliefs. This is because some previous research failed to report any 3PHR measurement<sup>37,46</sup>. Other research used a 3PHR measurement<sup>34,38,44,41,47</sup> but without demonstrating its relationship to the observed changes (i.e., no mediation analysis was reported). The absence of such analyses allows for the possibility that confounding variables are responsible for the reported results, such as the relative attention that participants in the experimental group received during the intervention.

Like many psychological intervention studies, the limited research on 3PHR has focused on evidencing therapeutic effectiveness. These scientific endeavors fully align with the traditional medical model and the search for so-called evidence-based interventions<sup>48</sup>. However, this type of research fails to contribute to understanding how the processes bring about change or to accumulating the knowledge that leads to better intervention protocols<sup>49</sup>. Such improvements come about by either removing elements that do not contribute to the relief (or may even be counterproductive) or by pointing to the crucial effective elements of the therapy. Thus, rather than focus on revealing the outcomes of the therapy, research is needed to understand the process that underlies the effects of the intervention or process-focused research<sup>50</sup>.

## The Present Study

Banks’s 3PHR theory suggests that exposure to the principles of Thought, Consciousness, and Mind is sufficient to render positive change and that more exposure can increase deeper insight. We first explore whether experience with 3PHR is related to improved well-being and then test whether such exposure is also related to higher scores on the 3PHR scale. Finally, we test whether the relationship between experience with 3PHR and well-being can be explained by differences in 3PHR-beliefs, thus testing Thought, Consciousness, and Mind as mediating variables.

Based on the description of the 3PHR theory above and in line with the assumptions of mediation analyses<sup>51</sup>, our first hypothesis was that a higher level of 3PHR expertise would be positively related to purpose in life (PiL) and affect. Our second hypothesis was that a higher level of 3PHR expertise would be positively related to stronger 3PHR beliefs. The third hypothesis was that stronger 3PHR beliefs would be positively related to PiL and affect. Our fourth hypothesis was that 3PHR-related beliefs would (at least partially) mediate the influence of 3PHR expertise on both PiL and affect.

We also tested if all three core beliefs (Thought, Consciousness, or Mind) contribute to mediating the relationship between expertise and well-being or if one is more influential in explaining the relationship between 3PHR expertise and the outcome measures of PiL and affect.

## Results

### Descriptive Statistics

Table 1 shows the descriptive statistics, including means and standard deviations and the correlations among the central measures. All correlations are in line with the first three hypotheses: expertise is related to both PiL and affect (Hypothesis 1); expertise is related to 3PHR and to the three subscales (Hypothesis 2); and 3PHR and its subscales are related to the outcome measures PiL and affect (Hypothesis 3).

Table 1  
Descriptive statistics and correlations between Exposure, 3PHRS (and thought, consciousness, mind), Purpose in Life and Affect

	M	SD	Exper.	3PHR	Thought	Consc.	Mind	PiL	Affect
Exposure	-.07	.81	1						
3PHR	4.28	.72	.49***	1					
Thought	4.11	.88	.48***	.91***	1				
Consciousness	4.06	.74	.48***	.89***	.82***	1			
Mind	4.67	.86	.32***	.81***	.56***	.53***	1		
PiL	3.90	.57	.35***	.71***	.64***	.56***	.64***	1	
Affect	3.93	.72	.35***	.67***	.61***	.59***	.55***	.66***	1

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

## Confirmatory Factor Analyses

Confirmatory factor analyses (CFAs) were conducted examining a one-factor model of 3PHR, where 12 items were used as indicators (discussed in *Methods*). The model provided a poor fit for the data:  $\chi^2(54) = 386.67, p < 0.001$ , comparative fit index (CFI) = 0.81, root mean error of approximation (RMSEA) = 0.16, standardized root-mean-square residual (SRMR) = 0.09. However, all items did load significantly on the one-factor model with absolute coefficients ranging from 0.45 to 0.85. We also performed a CFA to test a three-factor model, with four items loading on each of the three factors (Thought, Consciousness, and Mind). Although the Chi-square analysis indicated poor fit—( $\chi^2(51) = 207.55, p < 0.001$ ) and RMSEA (0.11)—the indices that do take sample size into account suggest acceptable fit for the three-factor model: CFI = 0.91 and SRMR = 0.06. The fit for the three-factor model outperformed the one-factor model with a difference in  $\chi^2(3) = 179.12, p < 0.001$ . All items significantly loaded on their factor, with absolute coefficients ranging from 0.55 to 0.86. The three factors were strongly correlated to one another, with correlations ranging between  $r = 0.66$  and  $r = 0.97$ . Figure 2 shows the three-factor model.

## Mediation Analyses

The results of the first PROCESS analysis (Table 2) show that the expertise and 3PHR explain 51% the variance of PiL and 45% of the variance of affect, respectively. The results support all four hypotheses. Consistent with Hypothesis 1, expertise explains 3PHR ( $b = 0.44, t(236) = 8.64, p < 0.001$ ). In line with Hypothesis 2, expertise (when ignoring the 3PHR mediator), explains both PiL ( $b = 0.24, t(236) = 5.64, p < 0.001$ ) and affect ( $b = 0.31, t(236) = 5.67, p < 0.001$ ). Consistent with Hypothesis 3, 3PHR explains both PiL ( $b = 0.56, t(235) = 13.51, p < 0.001$ ) and affect ( $b = 0.66, t(235) = 11.81, p < 0.001$ ). The analyses revealed that consistent with Hypothesis 4, the indirect routes from expertise via 3PHR were significant; controlling for the 3PHR mediator, expertise was not a significant predictor of PiL ( $b = -0.00, t(235) = -0.08, ns$ ) or of affect ( $b = 0.02, t(235) = 0.43, ns$ ). This suggests full or indirect-only mediation by 3PHR. This type of mediation is generally referred to as the “gold standard”<sup>52</sup> in the literature.

Table 2  
Results of mediation analyses with the total 3PHR scale

	a X b	95% CI of a X b	a	b	c	c'
PiL	.34	[.26, .43]	.44***	.57***	.24	***
Affect	.32	[.24, .40]	.44***	.66***	.31	***
Model PiL:	$R^2 = 51\%$		$F(2, 235) = 119.35, p < .001$			
Model Affect:	$R^2 = 45\%$		$F(2, 235) = 95.26, p < .001$			

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ ; 5000 bootstrap samples with 95% confidence

The exploration of the relative influence of the three subscales of 3PHR (Thought, Consciousness, and Mind) as mediators between expertise and outcome measures is depicted in Table 3. The results in this table show that expertise predicted each of the 3PHR subscales: Thought:  $b = 0.52, t(236) = 8.37, p < 0.001$ ; Consciousness:  $b = 0.44, t(236) = 8.50, p < 0.001$ ; and Mind:  $b = 0.35, t(236) = 5.25, p < 0.001$ . All three 3PHR subscales contributed to explaining affect: Thought:  $b = 0.22, t(233) = 3.01, p = 0.01$ ; Consciousness:  $b = 0.20, t(233) = 2.39, p < 0.05$ ; and Mind:  $b = 0.23, t(236) = 4.73, p < 0.001$ . However, Consciousness did not contribute to explaining the variance of PiL ( $b = 0.01, t(233) = 0.19, ns$ ) above the variance explained by Thought:  $b = 0.26, t(233) = 4.89, p < 0.001$ , and Mind ( $b = 0.27, t(233) = 7.27, p < 0.001$ ). Table 3 further reveals that all indirect routes from expertise via the 3PHR subscales to the outcome measures were significant, with exception of the route via Consciousness to PiL. Combined, the 3PHR subscales completely mediated the influence of expertise on both PiL and affect. After controlling for the three mediators, expertise was not a significant predictor of PiL:  $b = 0.01, t(233) = 0.32, ns$ , or of affect:  $b = 0.02, t(233) = 0.48, ns$ .

Table 3  
Results of mediation analyses with the 3PHR subscales Thought, Consciousness and Mind entered simultaneously

PiL	a X b	95% CI of a X b	a	b	c	c'
Thought	.19	[.07, .30]	.52 ***	.26 ***	.24 ***	.01
Consciousness	.01	[-.08, .11]	.44 ***	.01		
Mind	.13	[.08, .19]	.35 ***	.27 ***		
Affect	a X b	95% CI of a X b	a	b	c	c'
Thought	.13	[.03, .25]	.52 ***	.22 **	.31 ***	.02
Consciousness	.10	[.01, .20]	.44 ***	.20 *		
Mind	.09	[.04, .14]	.35 ***	.23 ***		
Model PiL:		R <sup>2</sup> = 53%	F(4, 233) = 64.63, p < .001			
Model Affect:		R <sup>2</sup> = 45%	F(4, 233) = 42.28, p < .001			
* p < 0.05; ** p < 0.01; *** p < 0.001; 5,000 bootstrap samples with 95% confidence.						

Table 4 shows the results of separate analyses for each of the three 3PHR subscales, testing whether these subscales individually mediated the relationship between expertise and outcome measures for both PiL and affect. Expertise predicted each of the three 3PHR subscales (see Table 3), and each of these subscales predicted PiL: Thought:  $b = 0.41$ ,  $t(235) = 10.90$ ,  $p < 0.001$ ; Consciousness:  $b = 0.40$ ,  $t(235) = 8.46$ ,  $p < 0.001$ ; and Mind:  $b = 0.39$ ,  $t(235) = 11.22$ ,  $p < 0.001$ . It also predicted affect: Thought:  $b = 0.47$ ,  $t(236) = 9.69$ ,  $p < 0.001$ ; Consciousness:  $b = 0.53$ ,  $t(236) = 9.18$ ,  $p < 0.001$ ; and Mind:  $b = 0.40$ ,  $t(236) = 8.67$ ,  $p < 0.001$ . All three subscales mediated the influence of expertise on both PiL and affect in that all indirect routes via Thought, Consciousness, and Mind subscales were significant. However, with respect to both PiL and affect, full mediation was obtained by Thought and Consciousness. After controlling for these mediators, expertise did not predict PiL: Thought:  $b = 0.03$ ,  $t(235) = 0.85$ ,  $ns$ ; Consciousness:  $b = 0.07$ ,  $t(235) = 1.53$ ,  $ns$ . It also did not predict affect: Thought:  $b = 0.06$ ,  $t(235) = 1.24$ ,  $ns$ ; Consciousness:  $b = 0.07$ ,  $t(235) = 1.32$ ,  $ns$ . The results regarding the Mind subscale individually did not reveal full mediation. After controlling for Mind, expertise still predicted PiL:  $b = 0.11$ ,  $t(235) = 2.98$ ,  $p < 0.01$ . It also predicted affect:  $b = 0.17$ ,  $t(235) = 3.35$ ,  $p < 0.001$ . These findings suggest that Mind by itself does not completely explain the relationship between expertise and the outcome measures of PiL and affect.

Table 4  
Results of mediation analyses with the 3PHR subscales Thought, Consciousness and Mind entered separately

PiL	a X b	95% CI of a X b	a	b	c	c'
Thought	.21	[.15, .28]	.52 ***	.41 ***	.24 ***	.03
Consciousness	.17	[.12, .24]	.44 ***	.40 ***	.24 ***	.07
Mind	.13	[.09, .19]	.35 ***	.39 ***	.24 ***	.11 **
Affect	a X b	95% CI of a X b	a	b	c	c'
Thought	.24	[.17, .33]	.52 ***	.47 **	.31 ***	.06
Consciousness	.24	[.16, .33]	.44 ***	.53 ***	.31 ***	.07
Mind	.14	[.08, .20]	.35 ***	.40 ***	.31 ***	.17 **
Model PiL-Thought:		R <sup>2</sup> = 41%	F(2, 235) = 83.32, p < .001			
Model PiL-Consc.:		R <sup>2</sup> = 32%	F(2, 235) = 56.47, p < .001			
Model PiL-Mind:		R <sup>2</sup> = 43%	F(2, 235) = 87.29, p < .001			
Model Affect-Thought:		R <sup>2</sup> = 37%	F(2, 235) = 69.41, p < .001			
Model Affect-Consc.:		R <sup>2</sup> = 35%	F(2, 235) = 63.87, p < .001			
Model Affect-Mind:		R <sup>2</sup> = 33%	F(2, 235) = 58.76, p < .001			
* p < 0.05; ** p < 0.01; *** p < 0.001; 5000 bootstrap samples with 95% confidence.						

The results of the analyses represented in Table 4 further display that all models tested were significant and explained between 32% and 43% of the variance of the outcome measures PiL and affect. The models as exhibited in Tables 3 and 4 are not as strong as those concerning the total 3PHR scale in Table 2 (all  $F'_{s_{diff}} > 25$  and  $p's < 0.001$ ). This suggests that the combination of the three subscales better explain the outcome measures than did each subscale by itself.

## Discussion

This study set out to introduce and test a 3PHR scale. The test involved (1) assessment of the scale's reliability and structure; (2) an investigation into its construct validity; and (3) an exploration of its aptness as a tool for studies into the process by which 3PHR interventions cause beneficial (or other) outcomes. The results of these analyses suggest that (a) both the 3PHR scale and its subscales are reliable; the most satisfactory solution included three strongly related factors; (b) the 3PHR scale has good construct validity with subscales strongly related to both experience with 3PHR and well-being; and (c) the 3PHR scale could be useful for studying the processes underlying the effects of 3PHR interventions.

The introduction described four hypotheses, none of which have been rejected. The results indicate that 3PHR expertise is related to higher levels of self-reported PiL and affect (Hypothesis 1). This suggests that prolonged exposure to these three principles is related to higher levels of well-being. Higher levels of expertise were related to stronger beliefs about 3PHR (Hypothesis 2). This result suggests that 3PHR expertise is related to the 3PHR scale. This relationship can be seen as a validation of the measurement tool. The 3PHR scale measuring beliefs about 3PHR and its subscales (Thought, Consciousness, and Mind) were strongly related to both PiL and affect (Hypothesis 3). This suggests that 3PHR-related beliefs induce higher levels of well-being. Moreover, the strong relationship between PiL and affect further validate this tool. The results show that the relationships between expertise and the outcome measures are mediated by beliefs about 3PHR (Hypothesis 4). This pattern of results holds both for the general 3PHR scale and its three subscales. However, the combined 3PHR scale explained more variance in both PiL and affect than did each subscale. This finding supports Banks's claim that these three principles form a complementary triad rather than individual constructs. The results of the present study support previous findings about the influence of 3PHR on well-being.

The current study contributes to the scientific literature in several ways. First, it provides a new scale for measuring the beliefs about 3PHR. For social scientific research on the effects of the three principles theory, such a scale is essential. Without such a working measurement tool, it is impossible to establish if shifts after an intervention are caused by changes in 3PHR beliefs because the effects of interventions could be attributed to one or more possible confounding factors. Second, the 3PHR scale enables research directed toward identifying the contribution of mediating factors in explaining the outcomes. Third, the study seeks to close the gap between the limited attention 3PHR has received from scientists as compared with the growing attention it is receiving from mental health professionals.

## Limitations

Although the results of the present study are promising, the study leaves room for further improvement. First, participants were attendees of a 3PHR conference, so they were somewhat to extremely interested in the topic of study. This sample will need to be followed up by research among other populations. Second, the current study is cross-sectional and thus does not provide any information about causality. To test causality without traditional experimental design, panel data could examine the possibility of causal relationships in natural situations (e.g., Granger Causality tests<sup>53–55</sup>). Third, there are several kinds of well-being described in the academic literature<sup>56,57</sup>, but the results of the present study do not automatically apply to all other well-being constructs; thus, the relationship between 3PHR and other well-being constructs should be tested. Fourth, 3PHR may overlap with other theoretical concepts; however, this study does not provide insight into those relationships. Research needs to be conducted that compare 3PHR beliefs to related constructs (i.e., mindfulness, humanistic psychology, positive psychology) and their unique contribution to explaining mental health.

## Conclusion

Over the last forty years, Banks's theory has accumulated a growing following of practitioners and mental health providers. These professionals appear convinced of the advantageous effects of 3PHR interventions on their patients' well-being. The problem is that scientific proof of such effects is lagging even as knowledge of 3PHR is extremely important to all concerned, including any mental health benefits and possible unforeseen negative side-effects. The 3PHR scale introduced in this paper may be the tool that both scientists and practitioners can use to uncover the effects of an individual's beliefs about Thought, Consciousness, and Mind on their state of well-being.

## Methods

### Participants and Procedure

This study was conducted at the annual 3PHR conference in the United Kingdom (titled Life 2.0) on June 2–4, 2019. This research was conducted in accordance with the European Commission's ethical standards. All participants provided informed consent, including information about potential publication of the information collected, prior to completing this study. Approximately 1,065 individuals were invited to participate in the research. The first method of contact was an invitation sent to registrants via email by conference organizers three days prior to the beginning of the conference (667 individuals were registered at this time and received this email). The research team provided a second invitation to all registrants arriving on the first morning of the conference (this also allowed a second opportunity for those 667 participants who had not opened their email). Both invitations provided a link to an anonymized digital information page (i.e., about the study, who was conducting it, and confidentiality), informed consent page, and a questionnaire (constructed in Qualtrics). Participants were assured that their decision to participate or not participate would not reflect on them in any way. To protect privacy and confidentiality, no identifying information was collected on any of the participants who answered the questionnaire.

A total of 282 participants filled out the questionnaire, although some skipped or missed questions. Of these 282 participants, 69.3% were female; 30.7% were male. Participants' ages ranged from 19 to 79, with an average of  $50 \pm 12$  years. Most had university degrees: 35.6% had bachelor's degrees, 24.5% had master's degrees, and 11.1% had professional or doctoral degrees. The majority of participants were professionally active: 45.0% were employed and 39.4% were self-employed. Other participants were retired (6.4%), unemployed (4.3%), students (2.5%), or other (1.8%). The participants were from the United

Kingdom (177); the United States (19); the Netherlands (8); Denmark (7); Norway (5); Germany (4); Israel (4); Switzerland (4); Ireland and Spain (3 each); Australia, Austria, Macau, and Sweden (2 each); and Belgium, Czech Republic, France, India, Italy, Jersey, and Slovenia (1 each). The median time spent on filling out the questionnaire was 11 minutes and 30 seconds.

After providing information about the study, the conference organizers did not participate in any other way. Organizers did not take the survey, collect survey data, or financially reimburse the researchers. Participants received no monetary compensation. The results of the study were presented on the third day of the conference.

## Measurements

The questionnaire included the three principles to be tested on the 3PHR Scale, a PiL test, and items that measure expertise and affect. These constructs and the items within the constructs were presented to participants in random order.

## Three Principles of Health Realization Scale

The 3PHR scale includes 12 items. Four items measure Thought (e.g., Negative thoughts stay with me for a long time); four measure Consciousness (e.g., When I feel bad, it is easy to shift to other thoughts); and four measure Mind (e.g., I feel connected to something bigger than myself). These items form three reliable subscales and a reliable total 3PHR scale, with Cronbach's alpha's of 0.90, 0.74, 0.83, and 0.91 for Thought, Consciousness, Mind, and the total scale, respectively.

## Expertise Scale

Participants rated their own level of 3PHR expertise by answering four questions. The first question was: "How long have you known about the three principles (also known as the inside-out understanding or health realization)?" This included six response options: less than 3 months, 3–6 months, 6 months–1 year, 1–5 years, 5–10 years, and more than 10 years. Just under half of the participants (46.7%) reported that they had known about the three principles for 1–5 years; 27.3% reported knowing for a longer period; and 26.0% reported knowing for a shorter period. The second question we asked was: "How knowledgeable are you about the three principles?" This was scored on a 5-point rating scale, ranging from not knowledgeable at all (0) to extremely knowledgeable (5). About half of the participants (48.3%) reported that they were moderately knowledgeable; 31.0% reported being very or extremely knowledgeable; and 20.7% reported that they were not at all or slightly knowledgeable. The third item was: "Do you consider yourself to be an expert on the understanding of the three principles?" The three response options were: No, not at all; Somewhat; and Yes, completely. About half the participants (50.7%) reported No, not at all; 45.4% responded Somewhat; and 3.9% selected "Yes, completely." The fourth question was: "Do you currently teach, facilitate, or coach as a three principles practitioner?" Again, there were three response options: Yes, all the time; Sometimes; and Never (reverse scored): 17% selected Yes, all the time; 40.2% selected Sometimes; the remainder chose Never. Together, these items formed a reasonably reliable scale (Cronbach's alpha = 0.70). An expertise score was computed for each participant by taking the mean of the z-scores of these four questions (all items were coded so that a higher score indicated more expertise).

## Purpose in Life Test

The PiL test<sup>15</sup> consists of 20 short sentences (e.g., "I am ..." or "If I could choose, I would...") followed by a 7-point rating scale (e.g., 1 = *completely bored or prefer never to have been born*; and 7 = *enthusiastic or like nine more lives just like this one*). A higher score on the total scale indicates a higher presence of meaning. Studies report good psychometric properties within different populations and cultures<sup>58–62</sup>. The current study also found the scale to be reliable (Cronbach's alpha = 0.92).

## Affect

Affect was assessed with 5-point semantic differential scales: Calm–Angry (reverse); Good–Bad (reverse); Confident–Afraid (reverse); Sad–Happy; Unsociable–Sociable; Unsatisfied–Satisfied; Depressed–Ecstatic; Unstable–Stable. The mean score was computed to result in an affect scale ranging from negative to positive affect. The affect scale was reliable (Cronbach's alpha = 0.90).

## Data Analysis

Participants with missing data (that is, missed or skipped questions) were removed from the analyses, leaving 238 participants. We first generated descriptives and correlations (see Table 1). We then used the structural equation modeling package in CFAs on the 3PHR items to test the one-factor and three-factor models. The one-factor model was tested first, with all items loaded onto one 3PHR scale. This was followed by testing the three-factor model, with four items loaded for Thought, four items for Consciousness, and four items for Mind.

To perform mediation analyses, we used the PROCESS macro version 3.4 (model = 4, Hayes<sup>63</sup>), 5,000 bootstrap samples, and bias-corrected 95% confidence intervals. This approach is advantageous as normality is not required<sup>64</sup>, and it has been shown to be a powerful and advanced test of mediation<sup>52,65</sup>.

We entered the total 3PHR scale into the equation as the mediator between expertise, PiL, and affect (i.e., the outcome measures; see Table 2). To assess their relative contribution, Thought, Consciousness, and Mind (the 3PHR subscales) were simultaneously entered into the equation as mediators (see Table 3). Finally, to assess whether the 3PHR subscales individually mediate the relationship between expertise and the outcome measures, we conducted three separate analyses (see Table 4). Figure 2 shows the model that was tested.

For Tables 2, 3 and 4, the second column (under *a X b*) shows the standardized indirect effects. As seen in the third column, these are significant if the 95% CI of *X b* does not include zero. The fourth column (under *a*) shows the effect of expertise on 3PHR; and the fifth column (under *b*) describes the influence of 3PHR on the outcome measures. The sixth column (under *c*) depicts the direct effect of expertise on the outcome measures before correcting for the influence

of the other variables in the model. The seventh column (under *c*) shows the effect of expertise on the outcome measures after controlling for the influence of the indirect route via 3PHR.

## Data Availability

The datasets generated and/or analyzed during this study are available from the corresponding author upon request.

## Declarations

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### Author Contributions

AJD and JCG made substantial contributions to the conception, design, material preparation, data collection, initial drafts and revisions of the manuscript, and final approval. Data preparation, analysis, interpretation, and design were performed by AJD.

### Additional Information

**Supplementary information:** Available by request.

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### Competing Interests

The authors declare no competing interests.

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# Figures

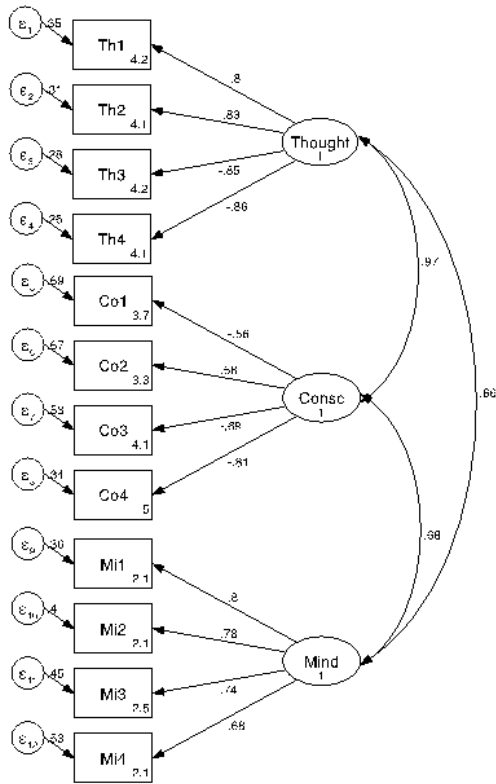


Figure 1

CFA, three factor model of 3PHR (though, consciousness and mind)

Figure 2 Model: influence of expertise on well-being mediated by 3PHR

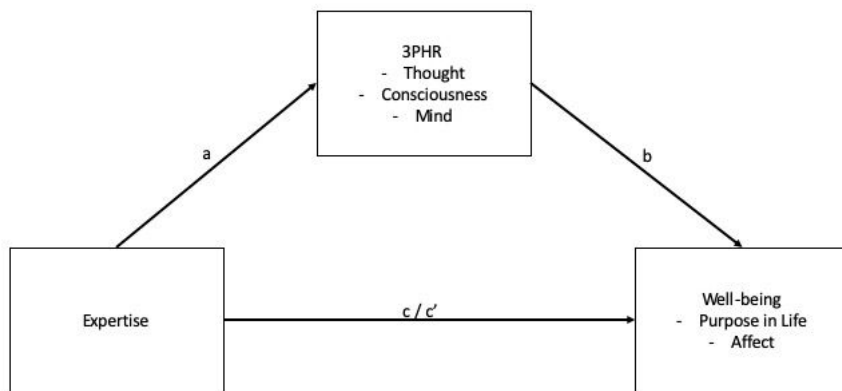


Figure 2

Model: Influence of expertise on well-being mediated by 3PHR