

From Selflessness to Fulfillment: The Role of Connectedness, Disidentification, and Impermanence in Cultivating Non-Attachment and Happiness in Regular Meditators

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Abstract

Objectives

The present study examined selflessness-related dimensions within the framework of the Self-Centeredness/Selflessness Happiness Model (SSHM; Dambrun & Ricard, 2011). Specifically, we investigated whether connectedness to humanity, impermanence-related insight, and disidentification were associated with non-attachment and with authentic happiness, assessed as a brief indicator of authentic-durable happiness, among regular meditators.

Method

A final analytic sample of 212 regular meditation practitioners completed self-report measures. Five path models based on observed composite scores were tested to examine the associations among connectedness to humanity, impermanence-related insight, disidentification, non-attachment, and authentic happiness.

Results

In the primary theoretically informed model, connectedness to humanity, impermanence-related insight, and disidentification were each positively associated with non-attachment, which was in turn positively associated with authentic happiness. Connectedness to humanity also showed a direct positive association with authentic happiness. Statistical indirect associations through non-attachment were significant for all three selflessness-related indicators, but should not be interpreted as evidence of causal mediation given the cross-sectional design. Exploratory alternative models suggested that non-attachment was consistently the construct most proximal to authentic happiness, while the three selflessness-related indicators were meaningfully interrelated.

Conclusions

Findings provide preliminary support for the SSHM by suggesting that selflessness-related dimensions are associated with authentic happiness partly through non-attachment. They also suggest that connectedness to humanity may reflect a distinct relational route to authentic happiness. Results should be interpreted as exploratory patterns of association and warrant replication using longitudinal, experimental, and fully latent variable approaches in larger samples.

1. Introduction

Buddhist contemplative traditions have long proposed that suffering is closely related to the tendency to experience the self as a stable, autonomous, and enduring entity. From this perspective, psychological

well-being is fostered not only by external circumstances but also by the way individuals relate to themselves and to their ongoing experience. Rather than seeking lasting happiness through the pursuit of pleasure or the avoidance of discomfort, these traditions and contemporary psychological models inspired by them suggest that greater well-being emerges as attachment to a fixed sense of self gradually loosens. Drawing on these ideas, Dambrun and Ricard (2011) proposed the Self-Centeredness/Selflessness Happiness Model (SSHM), a psychological framework describing how different modes of self-experience may influence psychological functioning and, ultimately, the quality of happiness. Within the SSHM, selflessness does not refer to the disappearance of the self, but to a less reified mode of self-experience in which the self is experienced as more flexible, interdependent, and continuously changing rather than as a permanent and independent entity. This way of experiencing the self is proposed to foster a corresponding mode of psychological functioning characterized by non-attachment, which in turn promotes authentic-durable happiness: a relatively stable form of well-being marked by inner peace, emotional balance, and reduced dependence on external circumstances (Dambrun & Ricard, 2011; Dambrun, 2017).

Although the SSHM offers a coherent theoretical account of the relations among selflessness, non-attachment, and authentic-durable happiness, empirical evidence remains relatively limited. Existing research has primarily focused on isolated components of the model, particularly non-attachment and well-being, while comparatively little attention has been devoted to examining how different dimensions of selflessness relate to these constructs within a unified conceptual framework. As a result, the multidimensional organization proposed by the SSHM has received only limited empirical examination. Within the SSHM, selflessness is conceptualized as a multidimensional construct rather than a single psychological characteristic.

Dambrun and Ricard (2011) describe three complementary dimensions of a less reified self. The first is interdependence: the perception that the self is fundamentally embedded within a network of relationships rather than existing as an isolated entity. The second is impermanence: the recognition that both the self and experience are continuously changing rather than fixed over time. The third is third-person phenomenology: a decentered mode of awareness in which thoughts, emotions, and experiences can be observed from a less egocentric perspective. Together, these dimensions describe complementary aspects of a less self-centered way of experiencing the self. Importantly, the SSHM distinguishes these structural dimensions of selflessness from non-attachment, which refers not to the structure of the self itself but to the way individuals relate to their experience. Non-attachment has been defined as a flexible and balanced manner of engaging with thoughts, emotions, relationships, possessions, goals, and life events without excessive clinging or fixation (Sahdra et al., 2010). Although conceptually related, selflessness and non-attachment therefore represent different levels of the model: the former concerns how the self is experienced, whereas the latter concerns how individuals respond to experience. According to the SSHM, this selfless mode of psychological functioning is expected to facilitate authentic-durable happiness, a form of well-being that remains relatively stable despite changing external circumstances. Table 1 summarizes the working distinctions among the key constructs examined in the present study and clarifies how each construct was positioned within the SSHM.

Table 1
Working distinctions among key constructs in the present study

Level in the SSHM	Working definition	Theoretical origin	Key distinctions with related constructs	Operationalization
Selflessness / non-self				
Structure of the self	A mode of self-experience in which the self is apprehended less as a bounded, permanent, and independent entity than as a dynamic, interdependent, and changing process.	Buddhist non-self (<i>anattā/anātman</i>); SSHM.	Refers to the structure of self-experience, distinct from non-attachment, which concerns psychological functioning.	Not assessed as a unitary construct. Approached through connectedness to humanity, impermanence-related insight, and disidentification.
Interdependence / connectedness				
<i>Note.</i> SSHM = Self-Centeredness/Selflessness Happiness Model; MPoD-t = Metacognitive Processes of Decentering Scale–Trait; NAS = Non-Attachment Scale. The definitions provided in this table are working distinctions for the purposes of the present study. They are not intended to offer exhaustive doctrinal definitions across Buddhist traditions. The constructs are theoretically related and partially overlapping, but they are not treated as interchangeable. The empirical indicators used in the present study should be understood as psychological approximations of selected SSHM-related dimensions rather than as definitive measures of selflessness itself.				

Level in the SSHM	Working definition	Theoretical origin	Key distinctions with related constructs	Operationalization
Selflessness / non-self				
Structural dimension of selflessness	The perception that the self is embedded within broader networks of relations rather than existing as an isolated entity	Buddhist dependent arising; interdependent self-construals; connectedness literature; SSHM.	Refers to the relational structure of self-experience. Other-oriented emotions, compassion, and harmony may be expressions of this dimension, but are not identical to it.	Operationalized through the Connectedness to Humanity short form, capturing belonging, emotional connection, and perceived interdependence with the human community. Example items include: "I often feel a sense of oneness with the human beings around me," "I think of other human beings as a community to which I belong," and "I often feel part of a larger human ecosystem."
Impermanence				
Structural dimension of selflessness	The perception that the self and experience are continuously changing rather than fixed or stable over time.	Buddhist impermanence (anicca/anitya); SSHM; contemplative accounts of changing experience.	Emphasizes the temporal and changing nature of self-experience. Related to non-attachment because perceiving experience as changing may loosen clinging to it as stable, controllable, or "mine."	Assessed with four preliminary study-specific items targeting continuous change in material and mental phenomena and the absence of a permanent self. Example items include: "All things, whether material or mental, are continuously
<i>Note.</i> SSHM = Self-Centeredness/Selflessness Happiness Model; MPoD-t = Metacognitive Processes of Decentering Scale–Trait; NAS = Non-Attachment Scale. The definitions provided in this table are working distinctions for the purposes of the present study. They are not intended to offer exhaustive doctrinal definitions across Buddhist traditions. The constructs are theoretically related and partially overlapping, but they are not treated as interchangeable. The empirical indicators used in the present study should be understood as psychological approximations of selected SSHM-related dimensions rather than as definitive measures of selflessness itself.				

Level in the SSHM	Working definition	Theoretical origin	Key distinctions with related constructs	Operationalization
Selflessness / non-self				
				changing,” “Nothing remains permanent,” and “There is no unchanging, permanent self or essence in living beings.”
Third-person phenomenology / outsider perspective				
Structural dimension of selflessness	A decentered mode of self-experience in which thoughts, emotions, and experiences can be observed from a less egocentric standpoint.	SSHM; insider/outsider phenomenology; decentering literature.	Related to decentering and disidentification, but broader than disidentification alone. Refers to a perspective on self-experience rather than to non-attachment as a whole.	Not directly measured. Approached through disidentification as a psychological indicator related to third-person phenomenology.
Disidentification				
Process-level indicator related to third-person phenomenology	The tendency to experience internal events, especially thoughts and emotions, as mental events rather than as defining features of the self.	Metacognitive Processes of Decentering model; contemplative non-identification.	Narrower than non-attachment. Disidentification concerns identification with internal experience, whereas non-attachment concerns a broader relation to internal and external phenomena.	Operationalized using the Disidentification with Internal Experience subscale of the MPoD-t. Example items include: “My thoughts and emotions are part of me, but they are not me,” “I am more than my thoughts and feelings,” and “I am separate from my changing
<i>Note.</i> SSHM = Self-Centeredness/Selflessness Happiness Model; MPoD-t = Metacognitive Processes of Decentering Scale–Trait; NAS = Non-Attachment Scale. The definitions provided in this table are working distinctions for the purposes of the present study. They are not intended to offer exhaustive doctrinal definitions across Buddhist traditions. The constructs are theoretically related and partially overlapping, but they are not treated as interchangeable. The empirical indicators used in the present study should be understood as psychological approximations of selected SSHM-related dimensions rather than as definitive measures of selflessness itself.				

Level in the SSHM	Working definition	Theoretical origin	Key distinctions with related constructs	Operationalization
Selflessness / non-self				thoughts and feelings."
Non-attachment				
Selfless psychological functioning	A flexible, engaged, and non-grasping way of relating to thoughts, emotions, relationships, possessions, goals, and life events.	Buddhist psychology; contemporary non-attachment research; NAS; SSHM.	Broader than disidentification and decentering. It does not imply avoidance, indifference, or emotional disengagement. In the SSHM, it represents psychological functioning rather than self-structure.	Operationalized using the short form of the NAS. Example items include: "I can let go of regrets and feelings of dissatisfaction about the past," "I can enjoy pleasant experiences without needing them to last forever," and "When pleasant experiences end, I am fine moving on to what comes next."
Authentic-durable happiness				
Quality of happiness / outcome level of the SSHM	A relatively stable quality of happiness characterized by inner peace, emotional balance, fulfillment, and reduced dependence on external circumstances.	SSHM; authentic-durable happiness literature; contemplative and eudaimonic accounts of happiness.	Distinct from hedonic or fluctuating happiness, which depends more strongly on pleasure, desire satisfaction, and external conditions.	Assessed through a brief two-item indicator derived from the Subjective Authentic-Durable Happiness Scale. The two items were "happiness" and "inner peace," rated from 1 (very low) to 7 (very high).
Note. SSHM = Self-Centeredness/Selflessness Happiness Model; MPoD-t = Metacognitive Processes of Decentering Scale–Trait; NAS = Non-Attachment Scale. The definitions provided in this table are working distinctions for the purposes of the present study. They are not intended to offer exhaustive doctrinal definitions across Buddhist traditions. The constructs are theoretically related and partially overlapping, but they are not treated as interchangeable. The empirical indicators used in the present study should be understood as psychological approximations of selected SSHM-related dimensions rather than as definitive measures of selflessness itself.				

Research conducted over the past decade provides indirect support for these theoretical propositions. Non-attachment has consistently been associated with greater psychological well-being, lower psychological distress, and higher levels of happiness (Banth & Talwar, 2012; Gupta & Agrawal, 2021; Hang & Ngan, 2017; Ju & Lee, 2015; Siah et al., 2020; Weiss et al., 2014; Whitehead et al., 2019). Meta-analytic evidence further indicates that non-attachment accounts for part of the association between mindfulness and psychological health outcomes (Ho et al., 2022). Likewise, studies have reported positive associations between non-attachment and constructs conceptually related to selflessness, including social connectedness (Chio et al., 2018), awareness of interdependence (Yu et al., 2020), connectedness to nature (Barrows et al., 2022), and cognitive decentering (Feliu-Soler et al., 2016). Though these findings are broadly consistent with the SSHM, they have generally investigated isolated links rather than the broader organization of the model.

The present study sought to examine this conceptual organization by investigating three psychological indicators corresponding to the structural dimensions of selflessness proposed by the SSHM. Connectedness to humanity was used as an indicator of interdependence, impermanence-related insight was assessed through study-specific items targeting the recognition of continuous change in experience, and disidentification was used as a psychological indicator related to third-person phenomenology. We examined whether these three selflessness-related indicators were positively associated with non-attachment and whether non-attachment was, in turn, associated with authentic-durable happiness. In addition, we explored indirect associations through non-attachment and compared alternative theoretically plausible models describing the relationships among these constructs.

2. Methods

2.1. Participants

A total of 228 English-speaking individuals who reported engaging in regular meditation practice in their daily lives completed the questionnaire. Fourteen participants were excluded due to unusually fast completion times, failure to pass attention checks, or because they did not currently meditate. During data screening, duplicate or non-unique Prolific IDs were identified; to ensure independence of observations, only one response per Prolific ID was retained. The final analytic sample consisted of 212 unique meditators. Participant and meditation-background characteristics are reported in Table 2.

The planned sample size was informed by meta-analytic findings reported by Ho et al. (2022), who identified moderate associations between non-attachment and well-being ($\beta \approx .42$) and small-to-moderate indirect associations involving non-attachment across 41 studies involving 24,704 participants. Based on these benchmarks, we targeted a sample of approximately 200 participants. With the final analytic sample of 212 meditators (two-tailed $\alpha = .05$), a sensitivity analysis indicated $\geq 80\%$ power to detect correlations as small as $r \approx .19$ and $\geq 90\%$ power for correlations of approximately $r \approx .22$. Accordingly, the sample size was considered adequate for detecting the expected bivariate associations among the main constructs. However, given the use of observed composite scores, the exploratory nature of the path models, and the

cross-sectional design, statistical indirect associations were interpreted cautiously rather than as confirmatory evidence of mediation.

Table 2
Participant and meditation-background characteristics of the analytic sample

Characteristic	Value
Final analytic sample	212
Women	97 (45.8%)
Men	115 (54.2%)
Age, years	$M = 35.85, SD = 6.77$
Age range	23–49
Weekly meditation practice, minutes	$M = 85.59, SD = 113.68$
Weekly meditation practice, median	60
Weekly meditation practice, IQR	30–101.25
Weekly meditation practice, range	0–980
Completed a meditation training program or spiritual retreat	84 (39.6%)
Access to Buddhist ethics and wisdom teachings: at least sometimes	89 (42.0%)
Access to Buddhist ethics and wisdom teachings: never or rarely	122 (57.5%)
Access to Buddhist ethics and wisdom teachings: did not know	1 (0.5%)
<i>Note.</i> Percentages are based on the final analytic sample ($N = 212$). IQR = interquartile range. Meditation training/spiritual retreat and access to Buddhist ethics and wisdom teachings were assessed with brief self-report items. More detailed meditation-background and demographic variables, including meditation tradition, years of practice, retreat intensity, teacher guidance, primary practice type, and racial/ethnic identity, were not collected.	

2.2. Procedure

English-speaking participants aged 18 and older from the United States were recruited through Prolific. Using Prolific’s prescreening tools, we specifically selected individuals who reported engaging in regular meditation practice in their daily lives. To further ensure the accuracy of this classification, participants were asked at the beginning of the survey whether they were currently meditating in their daily life and to indicate the number of minutes they meditated per week. Participants who answered “no” to the meditation status question were excluded from the sample. Participants were then invited to complete an online survey hosted on the Limesurvey platform and were compensated £1.50 for completing the 15-minute questionnaire. To ensure gender balance, the sample was carefully managed. Participants were provided with information regarding (1) the study’s purpose, (2) their right to withdraw at any time, and (3) the confidentiality and anonymity of their responses. Before starting the survey, all participants gave informed consent in line with the Declaration of Helsinki (2008). Sociodemographic details, including age

and gender, were collected. Following Prolific's guidelines, we included one engagement check ("Can we count on you to provide thoughtful responses to the survey questions?") and three attention checks (e.g., "Please select 3 to show that you are paying attention to this question"). Participants who failed two or more attention checks were excluded from the study.

2.3. Materials

Operationalizing the Three Foundations of Selflessness

At the time of data collection in 2023, no validated scale existed that simultaneously captures the three foundational dimensions of selflessness (i.e., interdependence, impermanence, and third-person phenomenology) making their empirical assessment particularly challenging. Our objective was to identify the most appropriate validated tools available in contemporary psychology while remaining as faithful as possible to the original meanings of these constructs as articulated in SSHM. Since then, the Selflessness/Self-Centeredness Inventory Trait (SSI-T), developed by David et al. (2025), has been validated, providing a valuable tool for assessing selflessness-related functioning. Although this recent measure primarily captures the psychological functioning associated with selflessness rather than its structural foundations or experiential aspects, it represents a significant advancement in the empirical study of the construct. In this context, our study offers a complementary contribution by proposing an initial operationalization of the structural dimensions of selflessness through a multidimensional framework.

Interdependence was assessed using the Connectedness to Humanity Scale (Stinus et al., 2025), which measures a form of belonging that transcends conventional identification. Rather than positioning humanity as the primary framework for self-definition, this measure captures a self-transcendent perspective in which individuals experience themselves as part of a broader whole. It captures emotional resonance with others and highlights the mutual interdependence between the self and the wider human community—a conceptualization that closely aligns with Buddhist views on interconnectedness. Preliminary findings from Stinus et al. (2025) indicate positive associations between connectedness to humanity and both authentic happiness ($r = .60$) and non-attachment to the self ($r = .45$). The short-form version is a 7-item scale (Stinus et al., 2024), where participants rated each item on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In this study, the scale exhibits excellent internal consistency ($\alpha = .91$).

Impermanence-related insight was assessed using four study-specific items developed for the present study. These items were designed to capture the extent to which participants experienced, in the context of their meditative practice, the continuous change of material and mental phenomena and the absence of a permanent, unchanging self. The items were: "All things, whether material or mental, are continuously changing"; "Nothing remains permanent"; "There is no unchanging, permanent self or essence in living beings"; and "What we perceive as self is a formation of our thoughts, feelings, emotions, sensations, memory, reason and intelligence." Participants were asked: "In the context of your meditative practice, how often do you experience that..." and rated each item on a 10-point scale ranging from 1 (*never*) to 10 (*very often*). Because these items were developed for the present study, we conducted a preliminary

exploratory factor analysis to examine whether they could be summarized as a single indicator. A one-factor solution was specified based on the theoretical purpose of the scale and estimated using minimum residual extraction without rotation. Sampling adequacy was acceptable, KMO = .774, and Bartlett's test of sphericity was significant, $\chi^2(6) = 316.74$, $p < .001$. The one-factor solution accounted for 54.8% of the variance, and all items loaded above .30, with factor loadings ranging from .554 to .835. Internal consistency was good, $\alpha = .802$, $\omega = .826$, with corrected item-total correlations ranging from .511 to .696. The total score was relatively high in this sample of regular meditators, $M = 7.43$, $SD = 1.95$. Given the study-specific nature of the items, this measure should be interpreted as a preliminary indicator of impermanence-related insight rather than as a validated measure of impermanence.

Disidentification was assessed using the Disidentification subscale of the Metacognitive Processes of Decentering scale (Hanley et al., 2020). The concept of disidentification reflects the capacity to observe thoughts and emotions without fusing with them—seeing them as transient mental events rather than inherent components of the self. Disidentification enables individuals to create psychological distance from their inner experiences, thereby reducing their emotional impact and supporting greater emotional and cognitive regulation. This process is conceptually related to contemplative accounts of non-identification with mental phenomena, although it should be understood here as a contemporary psychological indicator rather than as a direct measure of Buddhist non-self. As Kumar et al. (2023) note, disidentification resonates with psychological interpretations of *anattā* (non-self), insofar as it invites individuals to recognize that thoughts, emotions, and experiences do not constitute a fixed or enduring identity. Preliminary findings from De Oliveira et al. (2024) reveal positive associations between disidentification and both positive emotions ($r = .19$) and awe/gratitude ($r = .17$). The five-item subscale (Hanley et al., 2020) therefore measures the ability to detach from thoughts and emotions, reducing identification with mental experiences. Items are rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Internal consistency was good ($\alpha = .88$).

Non-attachment was assessed using the Non-Attachment Scale (Sahdra et al., 2010), which measures the ability to approach one's experiences in a flexible and open manner, without attempting to control them by clinging to what is perceived as desirable or avoiding what is considered undesirable. The scale pertains to life in general, with a particular focus on the social context. Its short version comprises 7 items, each rated on a 6-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). In this study, the scale demonstrated strong internal consistency ($\alpha = .88$).

Authentic happiness was assessed using two items derived from the Subjective Authentic-Durable Happiness Scale (SA-DHS; Dambrun & Desprès, 2012). The SA-DHS was developed to assess authentic-durable happiness through two related components: durable contentment and inner peace. In the validation study, the contentment component included items such as happiness, satisfaction, fulfillment, and joy, whereas the inner-peace component included items such as peace of mind, serenity, inner peace, inner calm, and plenitude. In the present study, we selected one item from each component: "happiness," which loaded strongly on the durable contentment component, and "inner peace," which loaded strongly on the inner-peace component. Participants rated each item from 1 (very low) to 7 (very high). The two-item indicator showed a strong inter-item correlation in the present sample, $r = .77$, with $\alpha = .87$. Because

only two items were used, this measure should be interpreted as a brief indicator of authentic happiness rather than as a comprehensive assessment of authentic-durable happiness.

Meditation practice and background were assessed using several self-report questions. Participants were asked whether they currently engaged in meditation practice and, if so, to report the average number of minutes they typically spent meditating per week. They were also asked whether they had ever completed a meditation training program or spiritual retreat, and how often they had access to teachings on Buddhist ethics and wisdom. These variables were used to characterize the sample. Weekly meditation practice was also used in sensitivity analyses.

2.4. Statistical Analyses

Analyses were conducted in R using the lavaan package. Descriptive statistics, including means, standard deviations, skewness, and kurtosis, and zero-order Pearson correlations were first computed for the main study variables (Table 3). Because weekly meditation practice, expressed in minutes per week, was highly skewed, a log-transformed weekly meditation variable was computed using $\log_{10}(\text{minutes})$ and used in sensitivity analyses. The main hypotheses were examined using path models based on observed composite scores. This approach was selected given the sample size, the number of constructs included in the models, and the measurement structure of the study. The models were therefore treated as exploratory models of theoretically informed associations rather than as confirmatory latent structural equation models. The primary model (Fig. 1–1a) specified connectedness to humanity, impermanence-related insight, and disidentification as selflessness-related indicators associated with non-attachment. Authentic happiness was regressed on non-attachment and on the three selflessness-related indicators. The selflessness-related indicators were allowed to covary. In this specification, Model 1a was saturated. With five observed composite variables, the model estimated the associations from the three selflessness-related indicators to non-attachment, the direct associations from all four predictors to authentic happiness, and the covariances among the three selflessness-related indicators. These estimated paths and covariances accounted for the full set of covariances among the observed variables, resulting in zero degrees of freedom and exact reproduction of the observed covariance matrix.

As a secondary exploration, four alternative models were estimated to examine whether other theoretically plausible configurations of the constructs provided a better representation of the observed covariance structure. The first alternative model (Fig. 1–1b) specified non-attachment as associated with the three selflessness-related indicators, which were in turn specified as associated with authentic happiness. The three remaining alternative models (Fig. 1–1c, –1d, and –1e) examined different sequential configurations involving connectedness to humanity, impermanence-related insight, disidentification, non-attachment, and authentic happiness. Models were estimated using robust maximum likelihood estimation (MLR). Model fit was evaluated using the scaled chi-square statistic, CFI, TLI, RMSEA with 90% confidence interval, SRMR, AIC, and BIC, as reported in Table 4. Because some models had few degrees of freedom and the primary model was saturated, global fit indices were interpreted cautiously. In particular, fit indices for saturated models were not interpreted as evidence of model adequacy. Direct, total, and statistical indirect associations were reported using standardized coefficients and p-values, as reported in

Table 5. Given the cross-sectional design, statistical indirect associations were not interpreted as evidence of temporal ordering, causal mediation, or psychological mechanisms. Modification indices were inspected to identify potential sources of model misfit, but no additional post hoc paths were added solely on the basis of these indices. Finally, the primary model was re-estimated while controlling for log-transformed weekly meditation practice. Supplementary item-level analyses examined internal consistency, single-factor confirmatory factor models, a four-factor measurement model, and a partial latent version of the primary model to evaluate the robustness of the findings when measurement error was modeled explicitly.

3. Results

3.1. Preliminary Analyses

Means, standard deviations, skewness, kurtosis, and zero-order correlations are reported in Table 3. Overall, the main study variables showed acceptable levels of skewness and kurtosis, with no indication of severe deviations from normality. Weekly meditation practice showed a highly skewed distribution, reflecting substantial heterogeneity in participants' meditation engagement; therefore, log-transformed weekly meditation minutes were used in sensitivity analyses. Mean scores indicated moderate to high levels across the main constructs, with participants reporting relatively high impermanence-related insight and non-attachment, along with moderate levels of connectedness to humanity, disidentification, and authentic happiness. Consistent with the proposed framework, connectedness to humanity, impermanence-related insight, and disidentification were positively interrelated and each showed significant positive associations with non-attachment and authentic happiness. Non-attachment was strongly associated with authentic happiness. Weekly meditation practice was positively associated with connectedness to humanity, non-attachment, and authentic happiness, but was not significantly associated with disidentification. Its association with impermanence-related insight was significant when using the log-transformed variable, but not when using raw weekly minutes.

Table 3

Intercorrelations and descriptive statistics (means, standard deviations, skewness, and kurtosis statistics) of study variables

Connectedness to Humanity (CH)	CH	IMP	DISID	NA	AH	MP
Impermanence-related insight (IMP)	0.136 [*]					
Disidentification (DISID)	0.186 ^{**}	0.260 ^{***}				
Non-Attachment (NA)	0.438 ^{***}	0.358 ^{***}	0.370 ^{***}			
Authentic Happiness (AH)	0.467 ^{***}	0.184 ^{**}	0.188 ^{**}	0.554 ^{***}		
Meditation Practice (MP)	0.174 [*]	0.111	0.050	0.220 ^{**}	0.209 ^{**}	
Mean	3.56	7.43	3.45	4.55	4.94	85.59
Standard deviation	0.89	1.95	0.96	1.00	1.47	113.68
Skewness	-0.58	-0.94	-0.40	-0.66	-0.67	4.68
Kurtosis	-0.06	1.03	-0.19	0.31	-0.16	29.43
<i>Note.</i> $N = 212$. $^{**}p < .001$, $^{*}p < .01$, $p < .05$. CH and DISID items were rated on 5-point Likert scales; NA items on a 6-point scale; AH items on a 7-point scale; IMP items on a 10-point scale. CH = Connectedness to Humanity; IMP = impermanence-related insight; DISID = disidentification; NA = non-attachment; AH = authentic happiness; MP = weekly meditation practice in minutes.						

3.2. Model comparison

Fit indices for the five path models are presented in Table 4. The primary model, Model 1a, was saturated because all covariances among the five observed variables were accounted for by the estimated paths and covariances described above. It therefore had zero degrees of freedom and reproduced the observed covariance matrix exactly. Consequently, its fit indices are reported for completeness but were not interpreted as evidence of model adequacy. Among the non-saturated alternatives, Models 1c and 1e showed the most favorable relative fit, with lower AIC and BIC values and acceptable SRMR values compared with the other alternatives. However, chi-square tests remained significant and RMSEA values were elevated, indicating that these models should be interpreted cautiously rather than as well-fitting confirmatory models. Model 1b showed poorer fit than Models 1c and 1e, and Model 1d showed the weakest fit across indices. Overall, the model comparison appeared more consistent with configurations in which non-attachment was positioned closer to authentic happiness than with configurations in which disidentification was positioned as the final construct before authentic happiness. However, given the cross-sectional design and the mixed fit of the non-saturated models, these comparisons were interpreted as exploratory rather than as evidence for a definitive temporal or causal ordering.

Table 4
Comparison of fit indices for the five path models

Model	χ^2	df	p	CFI	TLI	RMSEA	SRMR	AIC	BIC
Model 1a	0.000	0	-	1.000	1.000	-	0.000	3210	3278
Model 1b	32.884	4	< .001	.784	.459	.185 [.137, .236]	0.072	3247	3301
Model 1c	16.952	3	.001	.896	.652	.148 [.090, .214]	0.050	3225	3282
Model 1d	58.849	3	< .001	.582	– .394	.296 [.245, .351]	0.148	3295	3352
Model 1e	17.853	4	.001	.896	.741	.128 [.077, .184]	0.057	3225	3278

Note. N = 212. Models were estimated using robust maximum likelihood estimation. χ^2 values are scaled test statistics. Model 1a was saturated (df = 0); therefore, its fit indices are reported for completeness but should not be interpreted as evidence of model adequacy. RMSEA confidence intervals are 90% confidence intervals. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; CFI = Comparative Fit Index; TLI = Tucker–Lewis Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual.

3.3. Standardized path coefficients and statistical indirect associations

Given its direct correspondence with the theoretical model, Model 1a was retained as the primary model for interpretation, while the alternative models were treated as secondary exploratory comparisons. Standardized path coefficients and statistical indirect associations for Model 1a are presented in Table 5. Connectedness to humanity, impermanence-related insight, and disidentification were each positively associated with non-attachment. Non-attachment, in turn, was positively associated with authentic happiness. Connectedness to humanity also showed a positive direct association with authentic happiness. By contrast, the direct associations of impermanence-related insight and disidentification with authentic happiness were not statistically significant when non-attachment and the other selflessness-related indicators were included in the model. The model explained 33.5% of the variance in non-attachment and 37.0% of the variance in authentic happiness. Statistical indirect associations through non-attachment were significant for connectedness to humanity, impermanence-related insight, and disidentification, indicating that each selflessness-related indicator was indirectly associated with authentic happiness through non-attachment. This pattern remained unchanged when the primary model was re-estimated while controlling for log-transformed weekly meditation practice; weekly meditation practice was not significantly associated with either non-attachment or authentic happiness in the adjusted model. Given the cross-sectional design, these statistical indirect associations should not be interpreted as evidence of causal mediation or temporal ordering.

Table 5
Standardized Direct, Statistical Indirect, and Total Associations in the Primary Model

Standardized direct paths	
CH → NA	$\beta = 0.360, p < .001$
IMP → NA	$\beta = 0.247, p < .001$
DISID → NA	$\beta = 0.239, p = .003$
NA → AH	$\beta = 0.443, p < .001$
<i>Statistical indirect associations</i>	
CH → NA → AH	$\beta = 0.160, p < .001$
IMP → NA → AH	$\beta = 0.109, p = .006$
DISID → NA → AH	$\beta = 0.106, p = .003$
<i>Direct associations</i>	
CH → AH	$\beta = 0.279, p < .001$
IMP → AH	$\beta = -0.005, p = .935$
DISID → AH	$\beta = -0.027, p = .638$
<i>Total associations</i>	
CH → AH	$\beta = 0.438, p < .001$
IMP → AH	$\beta = 0.104, p = .106$
DISID → AH	$\beta = 0.079, p = .218$
<i>Note.</i> N = 212. Standardized coefficients are reported. Statistical indirect associations were estimated within the path model but should not be interpreted as causal mediation effects. CH = Connectedness to Humanity; IMP = impermanence-related insight; DISID = disidentification; NA = non-attachment; AH = authentic happiness.	

3.4. Exploratory Alternative Models

The alternative models were examined as secondary exploratory configurations. In Model 1b, non-attachment was positively associated with disidentification ($\beta = .370, p < .001$), impermanence-related insight ($\beta = .358, p < .001$), and connectedness to humanity ($\beta = .438, p < .001$). Among the three selflessness-related indicators, only connectedness to humanity was significantly associated with authentic happiness ($\beta = .439, p < .001$), whereas disidentification and impermanence-related insight were not. However, Model 1b showed poorer fit than Models 1c and 1e and was therefore not emphasized further. Models 1c and 1e showed the most favorable relative fit among the non-saturated alternatives, although their overall fit remained mixed. In Model 1c, impermanence-related insight ($\beta = .239, p = .001$)

and connectedness to humanity ($\beta = .154, p = .040$) were both positively associated with disidentification, which was in turn positively associated with non-attachment ($\beta = .239, p = .003$); non-attachment was positively associated with authentic happiness ($\beta = .554, p < .001$). Statistical indirect associations through non-attachment were significant for impermanence-related insight, connectedness to humanity, and disidentification, although the sequential indirect association from connectedness to humanity through disidentification and non-attachment did not reach statistical significance. In Model 1e, disidentification was positively associated with impermanence-related insight ($\beta = .260, p = .001$) and connectedness to humanity ($\beta = .186, p = .013$). Impermanence-related insight ($\beta = .249, p < .001$), connectedness to humanity ($\beta = .363, p < .001$), and disidentification ($\beta = .241, p = .003$) were each positively associated with non-attachment, which was again positively associated with authentic happiness ($\beta = .551, p < .001$). The statistical indirect association from disidentification through impermanence-related insight and non-attachment was significant, whereas the corresponding indirect association through connectedness to humanity and non-attachment did not reach conventional statistical significance. Model 1d showed poor fit and explained little variance in authentic happiness, indicating that this configuration was less consistent with the observed covariance structure. Overall, the alternative models were broadly consistent with the central role of non-attachment as the construct most proximal to authentic happiness. They also suggested that disidentification, impermanence-related insight, and connectedness to humanity are meaningfully interrelated. However, because these models were exploratory, cross-sectional, and showed mixed fit, they were interpreted as alternative statistical configurations rather than as evidence for a definitive sequence among the constructs.

4. Discussion

The present study examined selflessness-related dimensions within the framework of the Self-Centeredness/Selflessness Happiness Model (SSHM; Dambrun & Ricard, 2011) in a sample of regular meditators. Overall, the findings were consistent with the core logic of the SSHM. Connectedness to humanity, impermanence-related insight, and disidentification were each positively associated with non-attachment, and non-attachment was positively associated with authentic happiness. Statistical indirect associations through non-attachment were significant for the three selflessness-related indicators. Given the cross-sectional design, these associations should not be interpreted as evidence of causal mediation or temporal ordering. The clearest result concerns the role of non-attachment. Across the primary model and the exploratory alternatives, non-attachment was the construct most closely associated with authentic happiness. This supports the SSHM's distinction between the structure of the self and the psychological functioning that may emerge from it. Within this framework, impermanence-related insight and disidentification are not expected to produce happiness merely as isolated insights or metacognitive capacities. Rather, they reflect aspects of a less reified self-structure, from which a more selfless mode of functioning may emerge. In the present study, this functioning was represented by non-attachment. The absence of direct associations from impermanence-related insight and disidentification to authentic happiness, once non-attachment was included, is therefore theoretically meaningful: their relevance for happiness may lie primarily in the non-attached mode of relating to experience with which they are associated.

Connectedness to humanity showed a different pattern. Unlike impermanence-related insight and disidentification, it remained directly associated with authentic happiness when non-attachment was included. This suggests that connectedness to humanity may capture a distinct relational dimension of selflessness. Whereas impermanence-related insight and disidentification concern how individuals relate to changing mental events and self-related contents, connectedness to humanity concerns how the self is situated within the broader human world (Stinus et al., 2025). This relational dimension may support authentic happiness through processes not fully captured by non-attachment. Feeling connected to humanity may shift attention away from a narrowly self-focused perspective and toward concern for others, compassion, altruistic values, and participation in a shared human condition. This interpretation is consistent with the SSHM, in which selfless functioning involves not only reduced clinging, but also weaker self–other boundaries and greater orientation toward harmony with others. It also aligns with previous findings showing that connectedness to humanity is associated with altruistic values and lower identity threat appraisal (Stinus et al., 2025). From this perspective, connectedness to humanity may support authentic happiness not only by reducing attachment to self-centered concerns, but also by making the social world feel less organized around evaluation, rejection, or threat to the self. The non-significant findings further refine this interpretation. In the exploratory sequential models, connectedness to humanity did not follow the same pattern as impermanence-related insight. Its sequential indirect associations through disidentification and non-attachment were weaker and did not reach conventional statistical significance. Rather than suggesting that connectedness to humanity is less relevant to the SSHM, this pattern suggests that it may operate through a partly distinct relational route. Future longitudinal studies should examine whether compassion, prosocial motivation, altruistic values, belonging, social safeness, meaning in life, or reduced identity threat account for the association between connectedness to humanity and authentic happiness beyond non-attachment.

More broadly, these findings also speak to the SSHM's emphasis on self-reification. Impermanence-related insight and disidentification may both loosen the tendency to treat mental contents, self-images, and experiences as stable or defining features of the self. However, such loosening may not automatically translate into happiness. Depending on how these experiences are integrated, they may be liberating, neutral, or even destabilizing. Non-attachment may therefore represent one psychological expression through which selflessness-related insights become associated with a more stable quality of happiness. This interpretation remains tentative and should be tested in longitudinal and experimental designs.

4.1. Limitations and Future Research

Several limitations should be acknowledged. First, the cross-sectional design prevents conclusions about causal direction or temporal ordering. The statistical indirect associations reported here should therefore not be interpreted as causal mediation. Longitudinal, repeated-measures, and intervention studies are needed to examine whether changes in selflessness-related dimensions are followed by changes in non-attachment and authentic happiness over time. Second, the primary analyses were based on observed composite scores and therefore did not explicitly model measurement error. Supplementary item-level analyses supported the overall four-factor measurement structure, although fit for some isolated single-

factor models was mixed, and a partial latent SEM in which connectedness to humanity, impermanence-related insight, disidentification, and non-attachment were modeled as latent variables reproduced the substantive pattern observed in the primary model. Nevertheless, authentic happiness remained an observed two-item composite, and the present sample was modest for estimating a more complex fully latent model. Replication in larger samples using more comprehensive measures and fully latent structural models is therefore needed to test the measurement structure and structural associations more precisely. Third, the study relied exclusively on self-report measures. This is a limitation when examining selflessness, which may include experiential, pre-reflective, affective, and embodied dimensions that are not fully accessible to explicit report. Many processes relevant to self-experience may unfold partly outside reflective awareness, including micro-affective processes, approach–avoidance tendencies, embodied readiness, self–other orientation, perceived agency, agency attribution, somatosensory attenuation, implicit appraisal, and moral inference (Berkovich-Ohana et al., 2024; Ciaunica, 2024; Elimari & Lafargue, 2023, 2024; Elimari et al., 2025; Hohwy, 2007; Johnston et al., 2016; Juneau et al., 2021; Millière, 2020). Self-report may therefore be valid but insufficient to capture the full architecture of selflessness as a lived mode of experience. Future studies should combine self-report with phenomenological methods, such as micro-phenomenology (Petitmengin et al., 2019), behavioral measures, such as approach–avoidance tendencies (Juneau et al., 2021), and physiological or neurocognitive indicators, such as event-related potentials related to action monitoring, attentional change, or conflict detection (Atchley et al., 2016; Elimari & Lafargue, 2023, 2024; Schendan & Ganis, 2012). Fourth, the assessment of impermanence-related insight was preliminary. The four study-specific items showed acceptable internal consistency and a coherent one-factor structure, but they should not be treated as a validated measure of impermanence. They capture selected aspects of impermanence-related insight in meditation practice, especially change in material and mental phenomena and the absence of a permanent self, but not the full philosophical, phenomenological, or contemplative scope of impermanence across Buddhist traditions. Fifth, the outcome was assessed with only two items from the Subjective Authentic-Durable Happiness Scale (SA-DHS; Dambrun & Després, 2012), selected to reflect durable contentment and inner peace. This limits construct coverage and measurement precision. Future work should use the full SA-DHS or other comprehensive measures of authentic-durable happiness. Sixth, participants’ contemplative background was only partially characterized. We assessed weekly practice, meditation training or retreat experience, and access to teachings on Buddhist ethics and wisdom, but not meditation tradition, years of practice, retreat intensity, teacher guidance, primary practice type, or racial/ethnic identity. These variables are important because different practices may cultivate impermanence, interdependence, disidentification, and non-attachment in different ways. The absence of more detailed demographic and contemplative-background information also limits our ability to determine whether the observed associations generalize across specific meditation traditions, cultural contexts, racial or ethnic groups, and levels of contemplative expertise. Finally, the focus on regular meditators limits generalizability. Regular meditators may differ from non-meditators in introspective capacity, emotion regulation, spiritual orientation, or familiarity with contemplative concepts. Replication in larger and more diverse samples, including non-meditators and clinical populations, is needed.

4.2. Conclusion

In conclusion, this study provides a preliminary empirical test of how selflessness-related dimensions are organized within the SSHM. Connectedness to humanity, impermanence-related insight, and disidentification were each associated with non-attachment, and non-attachment was closely associated with authentic happiness. At the same time, the findings do not establish a causal sequence. They suggest that selflessness-related dimensions may not be interchangeable: impermanence-related insight and disidentification may be linked to authentic happiness mainly through non-attachment, whereas connectedness to humanity may also reflect a distinct relational route involving belonging, prosocial orientation, and reduced social threat. These findings support further work on how selflessness-related processes are associated with more stable forms of well-being in contemplative and clinical contexts.

Declarations

Supplementary Material

Supplementary Measurement Analyses

To further examine the psychometric adequacy of the measures used in the main analyses, supplementary item-level analyses were conducted in the final analytic sample of 212 unique participants. These analyses assessed internal consistency, the factor structure of the four multi-item constructs, and the robustness of the primary structural model when the selflessness-related constructs and non-attachment were modeled as latent variables rather than observed composite scores. All confirmatory factor analyses and structural equation models were estimated using robust maximum likelihood estimation (MLR) with full-information maximum likelihood for missing data. Latent factors were standardized by fixing their variances to 1.

Internal Consistency

Internal consistency was good to excellent across the multi-item measures (Table S1). Cronbach's alpha ranged from .80 to .91 for the four multi-item constructs, and omega total ranged from .83 to .92. The two-item authentic happiness indicator showed a strong inter-item correlation between happiness and inner peace, $r = .77$.

Author Contribution

C.S. contributed to conceptualization, methodology, investigation, formal analysis, visualization, and writing of the original draft. L.D. contributed to conceptualization, formal analysis, and writing—review and editing. N.E. contributed to conceptualization and writing—review and editing. M.D. contributed to conceptualization, methodology, and writing—review and editing. S.B. contributed to conceptualization, methodology, formal analysis, writing—review and editing, and supervision. All authors reviewed and approved the final manuscript.

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Figures

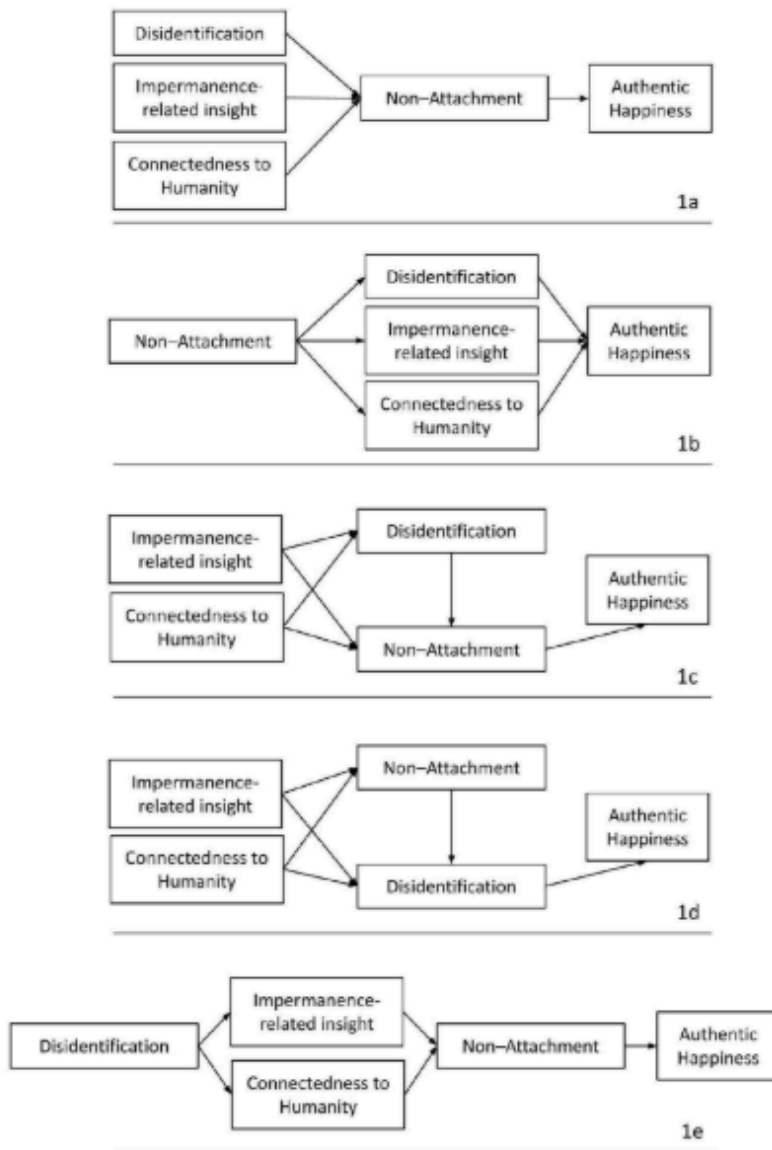


Figure 1

Conceptual diagrams of the five path models examined using observed composite scores among regular meditators. Model 1a represents the primary theoretically informed model, in which connectedness to humanity, impermanence-related insight, and disidentification were specified as selflessness-related indicators associated with non-attachment, and non-attachment was specified as associated with authentic happiness. Model 1b represents an alternative configuration in which non-attachment was specified as associated with the three selflessness-related indicators, which were in turn specified as associated with authentic happiness. Models 1c, 1d, and 1e represent additional sequential configurations involving connectedness to humanity, impermanence-related insight, disidentification, non-attachment, and authentic happiness. The diagrams summarize the main structural paths tested in each model and do not imply temporal ordering or causal mediation. For visual clarity, the diagrams display the main theoretical paths only. In Model 1a, the covariances among the three selflessness-related indicators and the direct associations from these indicators to authentic happiness were also estimated but are not displayed in the

simplified diagram. These additional estimated parameters are what make Model 1a saturated, with zero degrees of freedom.

Supplementary Files

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