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ORL5523/5524 Scale Development Final Paper

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**The Interbeing Scale: Measurement of Personal Identity and
Attitudes Regarding the Fundamental Nature of Being**

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METHOD

The Interbeing Scale was developed following the Iterative Process Model, a generalized model of scale development formulated by Chatterji (2003).

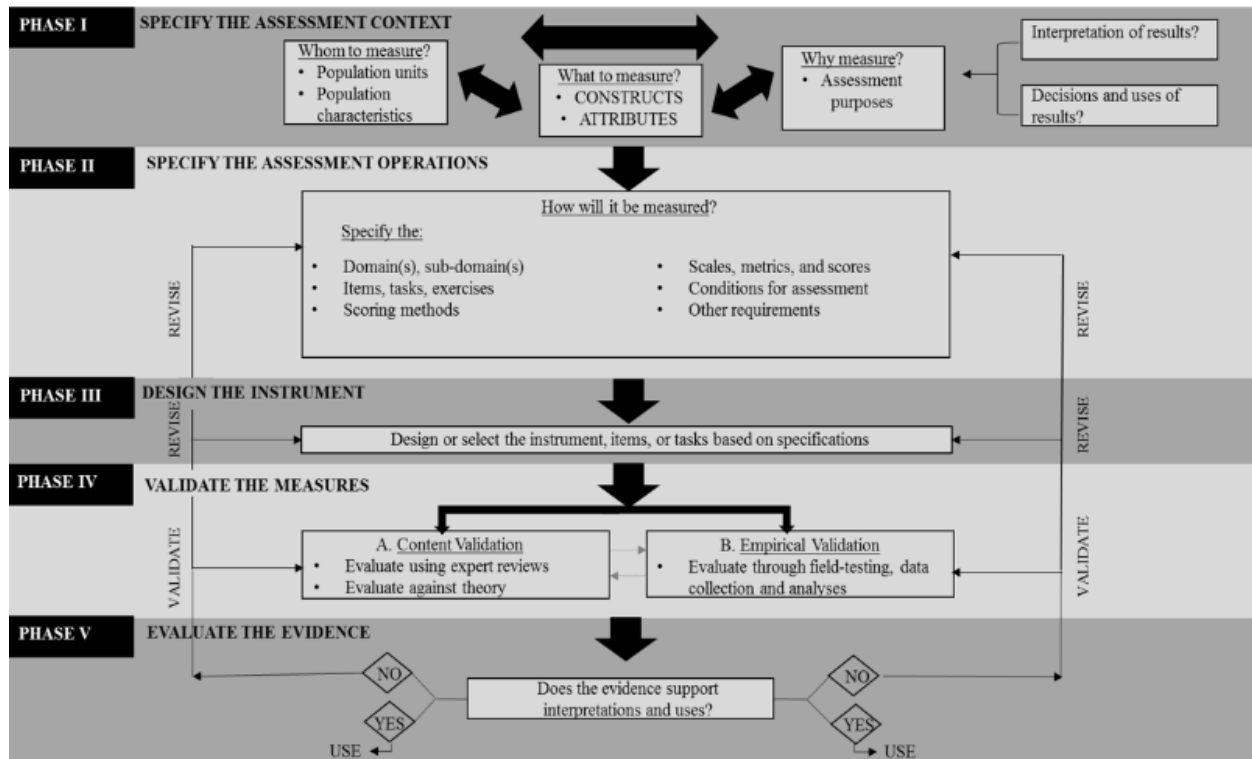


Figure: Iterative Process Model (Chatterji, 2003)

The particular sequence of developmental steps that were carried out for the Interbeing Scale are laid out in the figure below.



Figure: Interbeing Scale developmental process outline

PHASE I: Specification of Assessment Context

Specifying Construct Meaning - What is Interbeing?: Based on the literature of Thich Nhat Hanh, the Vietnamese monk who coined the term, the following formal definition of Interbeing is proposed: ‘Describing all beings as the transformation of a universal system of relationships, undivided by separate selves.’ The quote below from Thich Nhat Hanh captures the spirit of this definition:

“The food I eat was once the sunshine, the rain and the earth. I am the cloud, the river and the air at this very moment, so I know that in the past I was also a cloud, a river and the air... Interbeing means you cannot be by yourself alone; you can only inter-be... You are empty of your separate self, but full of the cosmos.”

- Thich Nhat Hanh (The Other Shore, 2017)

The Interbeing Scale is a metric of individual's attitudes towards the fundamental relationship between themselves and other beings, nature, and the cosmos. Hovland (1960) characterizes the three components of an attitude as beliefs, experiences, and behaviors - each of which are captured by the Interbeing Scale. In characterizing Interbeing, it is notable that Buddhist practitioners following the tradition of Thich Nhat Hanh refer to Interbeing as an 'awareness'. By the Oxford dictionary's definition an awareness is "knowledge or perception of a situation or fact" (Awareness, 2019). While it may be premature to designate Interbeing as fact from a scientific perspective, there is growing evidence to support its factual grounding derived from the fields of biology, philosophy, cognitive science, abnormal psychology, physics, and deep ecology (Maturana & Varela, 1991; Morin, 1992; Smith, 1998; Cilliers, 2002; Gazzaniga, 2005; Diehm, 2007; Woerman, 2011; Oizumi, Albantakis, & Tononi, 2014; Yaden, Vago, & Newberg, 2017; Nordbotten, 2018).

In pertaining directly to phenomenological being, the term Interbeing conceptually extends beyond the interconnectedness of 'things' to explicitly encompass interconnectedness at the level of consciousness - the intimate first-person experience of existing (Nagel, 1974). Because people intuitively tend to be dualists (categorically differentiating mind from matter), Interbeing is an important term for unambiguously identifying connectedness at the level of consciousness (Bering, 2006). Use of terms such as 'oneness', 'unity', or 'interconnectedness' leave open the possibility of meanings restricted solely to the domain of matter. Forstermann and Burgmer, for example, showed that most adults maintain a dualistic belief that mind and matter are separate, despite scientific advances demonstrating the connectedness of all matter and energy (2015). This common dualistic intuition underscores the importance of having a terminology to explicitly specify a consciousness-encompassing notion of connectedness. For this reason, Interbeing is unique and useful in directly referring to an understanding of connection that applies not only to matter but to phenomenological beingness.

While Interbeing recognizes each person's being as entirely interwoven within a universal system of relationships, it does not assert that the universe is itself a higher entity with a phenomenological existence of its own separate from its constituents. As such Interbeing is distinct from constructs such as 'higher being', 'supreme being', or 'God'. In fact, core to the awareness of Interbeing is the understanding that nothing can exist on its own, separate from relationship to parts outside itself. This understanding is outlined in the following quote:

“The elements that make up the world are patterns of dependency and interweaving. In other words, they are relationships. When we are fully aware, we see that there are only relationships. All relationships are patterns of interaction. So they are, by definition, dynamic; they are patterns of change. There are no individual things, but only ongoing processes. These processes are made up of other, constantly changing, processes. All of reality is combinations of patterns of relationships in process. This is the foundation of "interbeing" a term defined by Thich Nhat Hanh.” (Robins, 2010)

The theory of Interbeing affirms both the oneness of all existence as well as the uniqueness of each being. It describes the universe (subjective experiences of consciousness included) as being fully connected, yet does not postulate about the particular nature of informational access between one unique area of the universe and another. As such, Interbeing does not make the claim that particular individuals have special abilities to directly access the contents of other's minds. Claims such as these about functional access to information fall under the inquiry of disciplines such as information science and the psychology of sensation and perception. Should various distant forms of communication be proven, however, they could lend support to the notion of connectedness intrinsic to the theory of Interbeing.

The intersection of universal connectedness and local uniqueness gives rise to the personal identity tenets of Interbeing. The way that the Interbeing theory interprets the co-existence of connectedness and uniqueness can be described as follows: a fully connected system of relationships (the universe), arises experientially one-by-one through each unique instance of subjective consciousness that exists (for example, the discrete conscious experience of you as a reader, right now - followed in the exact same moment by the discrete experience of someone else near you). This description emerges from identifying the total universal system of relationships as the holder of each instance of consciousness, rather than a separate individual self as the holder of consciousness. It is helpful to identify that each experience of consciousness is what it uniquely is by nature of differing from others that it is not (Tononi, Boly, Massimini, & Koch, 2016). For example, to experience a moment through the eyes of the reader of this article is *not* to experience a moment through the eyes of a dog, a fly, or of any other person existing simultaneously. Thus, within a single global moment of time, once the focal point of consciousness has manifested as the experience of one particular individual it must then become *not* that individual to occur as the experience of a different individual. If an individual *associates her personal identity (her sense of 'I') with the greater system of relationships* that simultaneously arises as all consciousness, she then assumes an Interbeing oriented identity. She might state a belief along the lines of the following (written by the author for the purpose of this article):

‘I am my individual self, and *in this very moment* I will also leave this particular self to be every other self that exists simultaneously, one-by-one. In the next global moment I will arrive back at this particular individual self, and I will not have functional memory access to all of the other selves I have been. Given the rapidity of moments passing by, like a figure brought to life on the passing pages of a flipbook, I will feel myself as a continuous individual - discretely isolated to one lifespan of memories and actions. However, before each flipbook page turns (before each unique individual moment passes) I am aware that I will also exist through a page of each other flipbook (all other unique individual moments occurring simultaneously). As such, I hold all other beings as equally important and true instances of myself.’

Integrated Information Theory (IIT), a prominent conceptualization of the relationship between information and consciousness, is a useful theory for considering how Interbeing may be described in technical terms. IIT proposes that unique subjective experiences occur wherever there is a local peak in integrated information (for example, a brain is a local peak in integrated information because of the density of connected information processing occurring within the brain) (Tononi et al., 2016). IIT may be considered alongside the empirically supported notion that all information in the universe is ultimately connected - even if distant information may have levels of remove from or intangible consequences on other information (Borde & Viliken, 1993). Taking the connectedness of all information together with IIT, a picture is painted of a universe that is simultaneously ‘analog’ and ‘digital’; an oceanic-like structure of relationships, which individualizes itself - actualizing as every existing ‘particulate’ instance of consciousness within a single moment. Borrowing from the language of physics, within any given moment the focal point of consciousness could be said to be in a ‘superposition’ of every discrete individual having an experience at that time.

Specifying Category of Measurement - How will Interbeing be Measured?: Interbeing is a theory of personal identity. It is associated with *beliefs* about the nature of personhood, which may be *experienced* directly via non-ordinary states of consciousness. The beliefs and experiences associated with Interbeing are in turn related to individual’s *behaviors*. As such, the Interbeing Scale is constructed as *attitudinal* measure. As specified by Hovland (1960), attitudinal measures encapsulate an intersection of beliefs, experiences, and behaviors.

Specifying Population - What sample is used for data collection?: Whether implicitly or explicitly, each person has a sense of fundamental separateness from or connectedness to other conscious beings. As such, we conceptualize Separate Being vs Interbeing identification as an axis along which all people fall. In the current study, we use an MTurk sample of the general population in the United States - aiming to capture responses from individuals across the spectrum of non-identification with Interbeing to identification with Interbeing. Research shows

that the general population in the United States tends to endorse dualistic notions of consciousness, which are opposed to Interbeing based notions (Bering, 2006). As such, we expect that the average individual's score on the Interbeing Scale might be negatively skewed.

Experience with non-ordinary states of consciousness is expected to contribute to higher scores on the Interbeing Scale. Such experience would include, but not be limited to experiences arising from practice in meditation, a natural attunement to spirituality, near death experiences, and psychedelic experiences (Yaden, Haidt, Hood, Vago, & Newberg, 2017; Cloninger, 1998). Followup studies using the Interbeing Scale, explicitly targeting populations with identifiably varied levels of experience with non-ordinary states of consciousness, will be useful for further investigating the relationship between Interbeing identity and non-ordinary states of consciousness.

Specifying Scale Purpose - Why is an Interbeing Scale Needed?: Despite the wide berth of writing on the topic of Interbeing, the construct itself has not yet been formally defined or operationalized in an academic context. The purpose of the present research is to define the construct of Interbeing through a contemporary psychological frame, and to develop and validate an Interbeing Scale (IS) for measuring attitudes (a culmination of beliefs, behaviors, and experiences) towards personal identity aligned with Interbeing.

The Interbeing Scale will be particularly useful for investigating the long term impact of temporary non-ordinary states of consciousness. Clinical trials involving psychedelic interventions are currently being developed for mental health purposes, and are a reliable way of introducing non-ordinary states of consciousness for those who have no previous experience with them (Carhart-Harris et al., 2012; Nichols, Johnson, & Nichols, 2017; Hartogsohn, 2018). The Interbeing Scale would be particularly useful as a tool for investigating the relationship between perception of personal identity and the healing process involved with inducing non-ordinary states of consciousness. Previous research has shown that mystical experience is a mediator of symptom reduction in treatment resistant depression (Carhart-Harris et al., 2016). Mystical experiences are associated with a shift from dualistic to non-dual perception of consciousness, and non-dual perception of personal identity is the basis of Interbeing (Berman & Stevens, 2015). Mystical experiences themselves, however, are typically fleeting (Berman & Stevens, 2015). As such, the Interbeing Scale will be a useful tool for increasing scientific knowledge regarding the relationship between a particular mystical experience, an individual's lasting sense of Interbeing identity, and their mental wellness over time.

Knowledge regarding the relationship between induction of non-ordinary states of consciousness, a shift in perception of personal identity towards Interbeing, and sustainable improvements in mental health, could in turn be used to inform the design and improvement of clinical interventions. For example, if it were found that the sustainability of symptom reduction

caused by mystical experiences was mediated by Interbeing identity, interventions could be designed to facilitate effective translation of mystical experience into Interbeing identity.

PHASE II: Specification of Assessment Operations

Specifying Domain and Sub-domains - What theoretical landscape does *Interbeing* cover?:

We propose that the domain of Interbeing is comprised of these three related yet distinct subdomains, each with their own empirical and conceptual grounding. These subdomains are self-transcendence, nature connectedness, and open individualism.

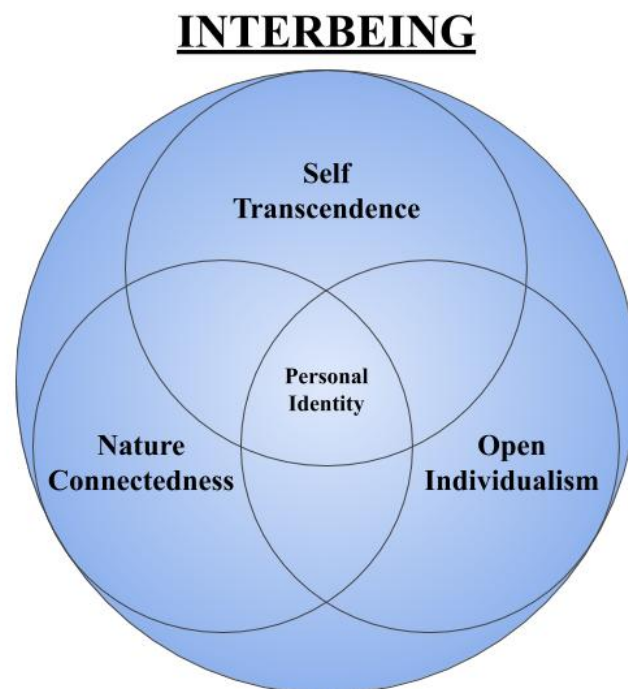


Figure 1: Interbeing Domain Specification

Self-Transcendence: Self-transcendence refers to the experience of expansion and dissolution of individual boundaries, and the corresponding shift towards a more unitive, all-encompassing sense of identity (Cloninger, Svrakic, & Przybeck. 1998; Hood, 2001; Koltko-Rivera, 2006; Reed, 2008). The altered sense of identity accompanying self-transcendence is captured by terms used to describe these experiences, such as ego-dissolution, unitive consciousness, and oceanic boundlessness (Cloninger, Dragan, Przybeck., 1993; Dittirich, 1998; Vollenweider, 2001). These commonly agreed upon aspects of self-transcendence reflect the identity shift, and corresponding quality of experience central to Interbeing. They suggest that a deep identification

with others and the universe at large, which Interbeing is predicated upon, follows from dissolution of the traditional view of separate self.

Self-transcendence can be achieved through a number of methods, including meditation, prayer, communion with nature, and the use of entheogens (Nour, Evans, Nutt, & Carhart-Harris, 2016; Urgesi, Aglioti, Skrap, & Fabbro, 2010; Vago & Silbersweig, 2012). It is seen as a central goal of most meditation practices, and empirical evidence has shown it to be a consistent outcome of practice among experienced meditators (Gifford-May & Thompson, 1994). A growing body of literature has linked self-transcendence to numerous indicators of psychological and spiritual health, including higher levels of resilience, purpose in life, sense of coherence, spiritual well-being, and self-reported general mental health (Coward, 1996; Lundman et al., 2010; Reed, 1991; Thomas, Burton, Quinn Griffin, & Fitzpatrick, 2010)

Nature Connectedness: The domain of nature connectedness refers to a sense of relationship to the whole of nature. It does not refer just to a connection with natural or wilderness settings, but rather to a system of relationships which encompasses all humans, non-human life, and inanimate material. However, some models blend the restrictive and encompassing meanings together, such as the Connectedness to Nature Scale (Mayer & Frantz, 2004). The CNS has items ranging from a wilderness context (“I often feel a sense of oneness with the natural world around me”) to a more philosophical context (“When I think of my life, I imagine myself to be part of a larger cyclical process of living”). While previous research, such as that using the Inclusion of Nature in Self scale (INS) has investigated the relationship between self-conceptualization and nature, the Interbeing scale explicitly emphasizes the identification of one’s phenomenological consciousness with nature (Martin & Czellar, 2015).

Higher levels of nature connectedness have been empirically linked to numerous components of psychological health, including general wellbeing and mindfulness (Howell, Dopko, Passmore, & Buro, 2011). When examined more closely, the relationship between nature connectedness and wellbeing was found to be mediated by self-reported meaning in life (Howell, Passmore, & Buro, 2013). A meta-analysis concluded that individuals who reported higher subjective nature connectedness tend to also report higher life satisfaction, vitality, and general positive affect (Capaldi, Dopko, & Zelenski, 2014). Evidence also suggests that beliefs in oneness, broadly defined, are linked with higher environmental concern and increased donation amounts to pro-environmental groups (Garfield, Drwecki, Moore, Koortenkamp, & Gracz, 2013).

Open Individualism: Open Individualism is a philosophy of personal identity, which posits that there is only one ultimate subject of all experience (Kolak, 2004). The subject of all experience is not, however, understood to be a separate person or entity apart from all of the individual experiences that comprise the universe. Rather, it is understood to be all subjective experience itself, wherever it occurs - whether as human consciousness, animal, or other. Open

Individualism arises from the position that there are no fundamental boundaries dividing individuals. Without true boundaries, the different experiences of unique individuals are understood to be different aspects of a single conscious whole. Open Individualism posits that the existence of a fundamental dividing line existing between different conscious beings is no more real than the existence of a fundamental dividing line existing between the unique waves of an ocean or territories of a country (Kolak, 2004).

Attaching the notion of self - of 'I' - to the entirety of existence is the consequence of Open Individualism. The following excerpt from Thich Nhat Hanh's poem, 'Please Call Me By My True Names' (2004), captures the sense of Open Individualism inherent to the awareness of Interbeing:

“Look deeply: every second I am arriving to be a bud on a Spring branch, to be a tiny bird, with still-fragile wings, learning to sing in my new nest, to be a caterpillar in the heart of a flower, to be a jewel hiding itself in a stone. I still arrive, in order to laugh and to cry, to fear and to hope. The rhythm of my heart is the birth and death of all that is alive. I am a mayfly metamorphosing on the surface of the river. And I am the bird that swoops down to swallow the mayfly. I am a frog swimming happily in the clear water of a pond. And I am the grass-snake that silently feeds itself on the frog. I am the child in Uganda, all skin and bones, my legs as thin as bamboo sticks. And I am the arms merchant, selling deadly weapons to Uganda.”

Open Individualism is directly contrasted with Closed Individualism - the traditional view that an individual person consists of one complete entity that is fundamentally separate from all other individuals. The idea of fundamental separateness between individuals rests on the assumption that a fixed boundary delineates each person from others. This boundary is often assumed to be the boundary of the physical body, of the brain, or of a personal soul (Bering, 2006). While such a boundary is often assumed without question based on normative self-experience, skilled practitioners of meditation report that the experience of self-boundedness is illusory (Epstein, 1988; Travis & Shear, 2010).

Specify Scoring Method - How are responses measured?: A five-point Likert scale is used to measure responses, with the anchors ‘strongly disagree,’ ‘disagree,’ ‘neither agree nor disagree,’ ‘agree,’ and ‘strongly agree’. The following prompt is used to orient participants to the task:

“The following series of statements have to do with your experiences, beliefs, and behaviors relating to the ultimate nature of being. There are no right or wrong answers.

Please indicate the level to which you agree or disagree with each statement. Answer as honestly as possible.”

PHASE III: Instrument Design

Instrument Design - How were scale items generated?: Scale items were generated and revised in an iterative process involving focus group meetings, consultation with Order of Interbeing senior monastics, consultation with Interbeing and scale development researchers, and cognitive interviews.

Focus Group: A broad sample of literature on nature connectedness, self-transcendence, open individualism, and popular literature written by Thich Nhat Hanh was surveyed. A table of sub-domain indicators was subsequently created.

Table: Interbeing sub-domain indicators, specified along feeling, belief, and behavior dimensions (Hovland, 1960)

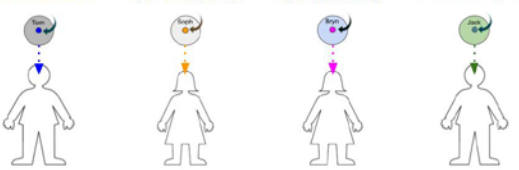
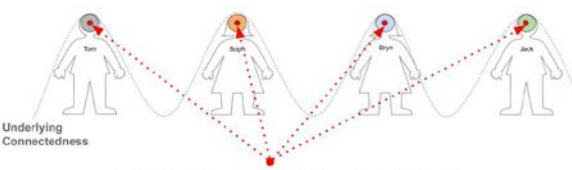

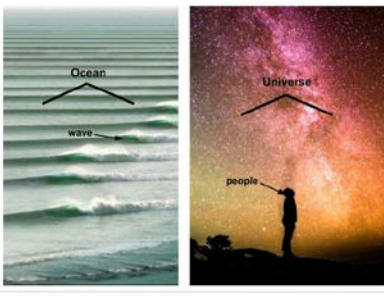
Interbeing									
Sub-Domains	<u>Nature Connectedness</u> (Relationship to Nature)			<u>Self-Transcendence</u> (Relationship to Universe)			<u>Open Individualism</u> (Relationship to Others)		
General Indicator	Expresses a sense of non-dual relationship between self and the natural world.			Expresses a sense non-dual relationship between self and the cosmos.			Expresses a sense of non-dual relationship between self and other conscious beings.		
Dimension	<u>Feeling</u>	<u>Belief</u>	<u>Behav.</u>	<u>Feeling</u>	<u>Belief</u>	<u>Behav.</u>	<u>Feeling</u>	<u>Belief</u>	<u>Behav.</u>
Sub-Indicator	Kinship with Nature, Affinity for Nature	Nature Relatedness, Inter-connection	Loving Care for Nature, Animal Compassion	Mindful, Boundless, Oceanic Dissolution, Awe	No-Self, Non-Duality	Selflessness, Non-judgmentality	Mystical Experience, Goodwill	Unity, Golden Rule Religiosity	Perspective Taking, Altruism
Sub-Indicator	When in nature feels a sense of love and kinship.	Believes that all consciousness is an expression of nature.	Shows loving care for all of nature.	Feels union with the universe.	Believes the conscious self is not separate from the universe.	Acts with mindfulness of being embedded within a greater context..	When with others experiences a sense of shared self.	Believes there is just one subject of all experience.	Connects to others as if they are other instances of oneself.

The item pools generated included an approximately even distribution between three dimensions: the relationship to nature, to the universe, and to other beings. The nature dimension represents the perception of personal identity being a part of a natural process underlying all organic and inorganic material, and consciousness (e.g., ‘I often experience my consciousness as woven within nature.’). The universal or cosmic dimension represents the perception of personal identity having a non-dual relationship to the greater cosmos in which humanity is embedded (e.g., ‘Deep down, I belong to the universe, not just the human species.’). The interpersonal dimension represents perception of personal identity tied to an overarching context that exists as all beings at once (e.g., ‘The deepest part of my identity exists as all beings.’).

Over thirty weekly focus groups were then held with five students from the Spirituality Mind-Body Institute at Columbia University, who had volunteered to contribute to the scale’s development. At each focus group existing items were revised based on discussions of item clarity and validity, and new items were generated. Approximately once every four focus groups the existing item pool was administered to a group of MTurk respondents, along with a series of graphics designed to depict the awareness of Interbeing in a rich visual format. Items which had non-significant correlations with the graphics were flagged for revision. The final item pool

generated by the focus group included 65 items, capturing the various attitudinal facets of Interbeing identity.

Table: Interbeing and Separate Being graphics used for correlation with preliminary Interbeing Scale item pool

<p>Experience is isolated within the boundaries of individual selves.</p> <p>SELF TIMELINE #1 SELF TIMELINE #2 SELF TIMELINE #3 SELF TIMELINE #4</p>  <p>There is a fundamental separation between each human mind.</p> <p>Separate Being Graphic 1</p>	<p>A universal process exists as all experiences.</p>  <p>Underlying Connectedness</p> <p>In the <u>single</u> frozen moment of time [depicted here], The universe becomes each first-person experience simultaneously.</p> <p>Interbeing Graphic 1</p>
 <p>EACH PERSON'S CONSCIOUSNESS IS CONTAINED WITHIN THE BOUNDARIES OF THEIR BODY</p> <p>ALTHOUGH MY BODY MAY BE CONNECTED TO EVERYTHING ELSE... MY MIND IS FUNDAMENTALLY SEPARATE</p> <p>Separate Being Graphic 2</p>	 <p>Ocean wave Universe people</p> <p>AS THE OCEAN "WAVES"... THE UNIVERSE "PEOPLES"</p> <p>"EVERY INDIVIDUAL IS AN EXPRESSION OF THE WHOLE REALM OF NATURE, A UNIQUE ACTION OF THE TOTAL UNIVERSE."</p> <p>Interbeing Graphic 2</p>

Consultation with Senior Monastics of the Order of Interbeing: Six senior monks at Blue Cliff Monastery, who had trained directly with Thich Nhat Hanh (N=6), were consulted individually for feedback on the scale items. Feedback that was consistent between multiple individuals was taken into special consideration. This included feedback on wording related to the coexistence of oneness and uniqueness, on concepts of self and universe, and on interfacing between Buddhist and secular language. Following feedback the items were revised accordingly.

Consultation with Interbeing and Scale Development Researchers: The updated item pool was reviewed by a group of researchers who had published on the topic of Interbeing or on scale development (N=6). Items were rated for relevance, clarity, and conciseness on a four-point Likert scale. Qualitative feedback was also provided where the researchers found a notable problems. Items which had a mean score of below three in any of the categories were revised or eliminated, taking into account the qualitative feedback suggested. For example, a change made

for clarity and conciseness included changing the item ‘Although all beings are unique, I believe ‘I am you and you are me’ is literally true.’ to the revised form ‘I am unique and yet one with other beings.’ After revisions an item pool of 37 items remained.

PHASE IV: Validation of Measures

Validation - How was item quality demonstrated?: Validation of the Interbeing Scale was conducted via cognitive interviewing, expert interviews, assessment of inter-item correlations, and exploratory factor analysis.

Cognitive Interviewing: For cognitive interviews a purposive sample (N=20) was used. The participants were known by the authors, and chosen for their varying levels of spirituality. The participants were interviewed by the first author. After reading and indicating the degree to which they agreed with each scale item, participants answered the prompt ‘What was your thought process when answering the previous question?’ Interviews were conducted over the phone and responses were transcribed verbatim by the interviewer as the participants vocalized their thought processes. Problems uncovered by the interview were assessed and used for item revision.

Table: Problems uncovered and revisions based on the cognitive interviews

Original Question	Particular Problem(s) Uncovered by Interview	Quote from Interview Regarding Problem	Action Taken	Revised Question	Implication
‘My mind is entirely woven together from elements that were once part of something else.’	‘Mind’ interpreted as referring to thought rather than mental experience.	“Mind is very limiting. This question is asking about how I think.”	Replace the term ‘mind’ with consciousness.	‘My consciousness is a continuation of what was once part of something else.	Question more specifically referring to subjective experience.
‘‘I am you, you are me - and we are both unique’ is an awareness I experience’.	‘I am you and you are me’ not interpreted in the literal sense of personal identity.	“I agree, although I don't fully get it. Is that empathy? I think that's empathy.”	Changed to a belief statement about identity including the term ‘literally’.	‘While each being is unique, ‘I am you and you are me’ is literally true.’	Less room for interpretation unrelated to personal identity.
‘My existence belongs to a universal web of relationships - not a separate self or	Unclear reference to a personal relationship with a greater context subsuming one's	“I don't understand what existence ‘belonging to a web of	Used common terminology, ‘human being’ to refer to the category	‘I experience myself as a being of the universe, not just a human	More readily interpretable reference to categories of ontological

individual soul.'	identity.	relationships' would be."	associated with belongingness of one's being.	being.'	belonging.
'The awareness that self and other are not fundamentally separate connects me to a feeling of universal love'.	1) Confusion based on negative wording 'not fundamentally separate'. 2) Phrase 'universal love' identified as too grand in regards to considering 'self and other'.	1) "The wording is confusing. I keep reading it wrong. So, <i>not</i> fundamentally separate. Does that mean connected? 2) "I find that the use of the term self and other makes this more effortful to interpret... it's hard to jump into universal love from just two individuals (self and other)."	1) Use of positively worded reference to a sense of identity beyond the individual self, 'my ultimate nature'. 2) Replaced 'feeling of universal love' with the more modest behavior oriented phrase 'act with goodwill towards everyone'.	'Awareness of my ultimate nature leads me to act with goodwill towards everyone.'	1) Less cognitive load in item interpretation. 2) Less extremist statement, more daily life oriented.

Table: Sample of item interpretations fitting intended measurement

Item	Interbeing vs Separate Being Oriented Response	Participant Quote Regarding Thought Process
'The deepest part of my identity exists as all beings.'	Interbeing Oriented	"I really believe in the idea of my identity being embedded within a larger context." "I think of the word namaste, and greeting someone as honoring the deepest part of them, and the part of them that is the same in everyone. So I do think there is a part of us that is the same in everyone, some level of subjectivity."
'The deepest part of my identity exists as all beings.'	Separate Being Oriented	"I have not had this experience that my identity exists like through other beings, or as other beings. I very much experience it as an individual." "To me, the deepest part of my identity is something I share with only myself and that no one else could ever understand."
'I have had an experience in which I realized that no being is	Interbeing Oriented	"I believe that though everything is interconnected - on the deepest fundamental level - that doesn't mean that there isn't a level of uniqueness within that broader context. I've had many experiences but the one that I felt the strongest was a near death experience where I was in a near fatal car

separate from another, although each is unique.'		<p>accident and I felt time slow down and I felt a complete peace and connection to all that is but I still had my own unique awareness of that experience."</p> <p>"This reminded of when I was at a mosque many years ago and I had looked at somebody singing and chanting and I felt at once so different from this individual and at the same time that I belonged to the same world."</p> <p>"I came close when I was feeling like I was moving into other people's experiences and particularly feeling the interconnectedness of blood relationships, particularly my sister and mom."</p> <p>"I have had that experience through looking at another person's eyes and through a loving kindness meditation."</p>
'I have had an experience in which I realized that no being is separate from another, although each is unique.'	Separate Being Oriented	<p>"We are physically bound by our bodies so we are separate from each other. I don't think we are intrinsically connected in any way. I think connectedness is a choice you make and cultivate with a person. I don't think that connections exist between people without that cultivation. I don't think they exist at that cosmic level."</p> <p>"I guess I'm coming to believe we are all connected and all people are equal but I don't really feel like we are one being."</p> <p>"I disagree because this idea (nor any regarding interconnectedness) has never crossed my mind in any compelling, significant manner."</p>
'I am one way the universe experiences itself.'	Interbeing Oriented	<p>"I am the universe and the universe is me. I strongly agree. Each one of us - plants, animals, beings - are just an iota of an experience for the universe."</p> <p>"I just like that idea. It makes sense. That's my best guess at what consciousness is."</p>
'I am one way the universe experiences itself.'	Separate Being Oriented	<p>"I don't see myself as that important that I am this 'one way' that the universe experiences itself. I think that places a lot of importance on me."</p> <p>"I'm not sure I'm confident that the universe has something we can define as an experience. At least not in the way that I can conceptualize as experience. At least in the way that I think of in my human lens of experience."</p>
'I take notice of profound similarities between myself and other forms of nature.'	Interbeing Oriented	<p>"I see myself and nature as continuous with each other, and that I am not separate from nature. I see profound similarities because we are the same."</p> <p>"I often think of people as animals, animals as plants. I often look at people and think of whether they are being like a cow or being like a frog."</p> <p>"I just notice what's around me, I think especially when it comes to nature. I think of tree branches looking like the veins of lungs."</p> <p>"The inside of a tree looks like our own fingerprint. The way we dance is like the way that trees sway in the wind."</p>
'I take notice of profound similarities between myself	Separate Being Oriented	<p>"I take notice of similarities between me and other human beings. I compare myself to human beings - not to nature."</p> <p>"I rarely, if ever, become aware of emotional or spiritual similarities between</p>

and other forms of nature.'		<p>myself and other forms of nature. The thought that I, a separate human being, am present in nature always dominates other such thoughts.”</p> <p>“I'm too wrapped up in my own head to see the similarities, even if they do exist.”</p>
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Expert Interviews: Expert interviews were conducted with a population of psychedelics researchers (N=5), chosen for their academic expertise and familiarity with their own and other's non-dual experiences of consciousness. Content Validity Indexes were calculated based on content relevance, clarity, and conciseness. CVI scores were expected to be somewhat lower than would be typical for scale items because of the challenging nature of capturing atypical perceptions of consciousness using interpretable language. One of the expert validators, Dr. Bill Richards, captured the nature of this challenge in his general feedback:

“You’ve taken on a challenging task, though it may well lead to a valued research instrument. As I’m sure you know paradoxicality and ineffability reign supreme in these transcendental states of consciousness which are often claimed to go beyond the limits of language and the usual concepts that structure our views of reality... Nonetheless, I believe we need to work at the growing edges of science, including social science, and do the best we can with human language and assessment procedures.”

Items with CVI scores of greater than .6 were retained. Of the 37 items evaluated 17 items, listed below, fit this criteria. Despite the particularly challenging nature of creating items that would be affirmed by researchers of varied spiritual and religious backgrounds, the scale-CVI for items included in the final scale was calculated to be .81.

Table: Item pool with CVI scores greater than .6

Item	CVI	Included in Final Scale
I am unique and yet one with other beings.	1	yes
I seek settings in which I can feel at one with nature.	1	no
I have had an experience in which I realized that no being is separate from another, although each is unique.	0.93	yes
I often experience my consciousness as woven within nature.	0.93	no
When with animals I experience myself as part of a greater family of life.	0.93	yes
I am you and you are me' is a type of awareness that guides my daily actions.	0.93	no
Awareness of my ultimate nature leads me to act with goodwill towards everyone.	0.86	yes
I gaze at the night sky to feel connected to my deeper origins.	0.80	no
The deepest part of my identity exists as all beings.	0.73	yes
I am one way the universe experiences itself.	0.73	yes
All beings are one with nature, whether or not they are aware of it.	0.73	no
There is no individual self which either passes on to another stage or suddenly stops existing at death.	0.73	no
I take notice of profound similarities between myself and other forms of nature.	0.66	yes
My life choices are guided by an awareness that the universe exists through each living being.	0.66	yes
I experience myself as a being of the universe, not just as a human being.	0.66	yes
I look deeply into the eyes of animals to connect to our shared existence.	0.66	no
My existence is held by the universe, not by a separate self or soul.	0.66	no

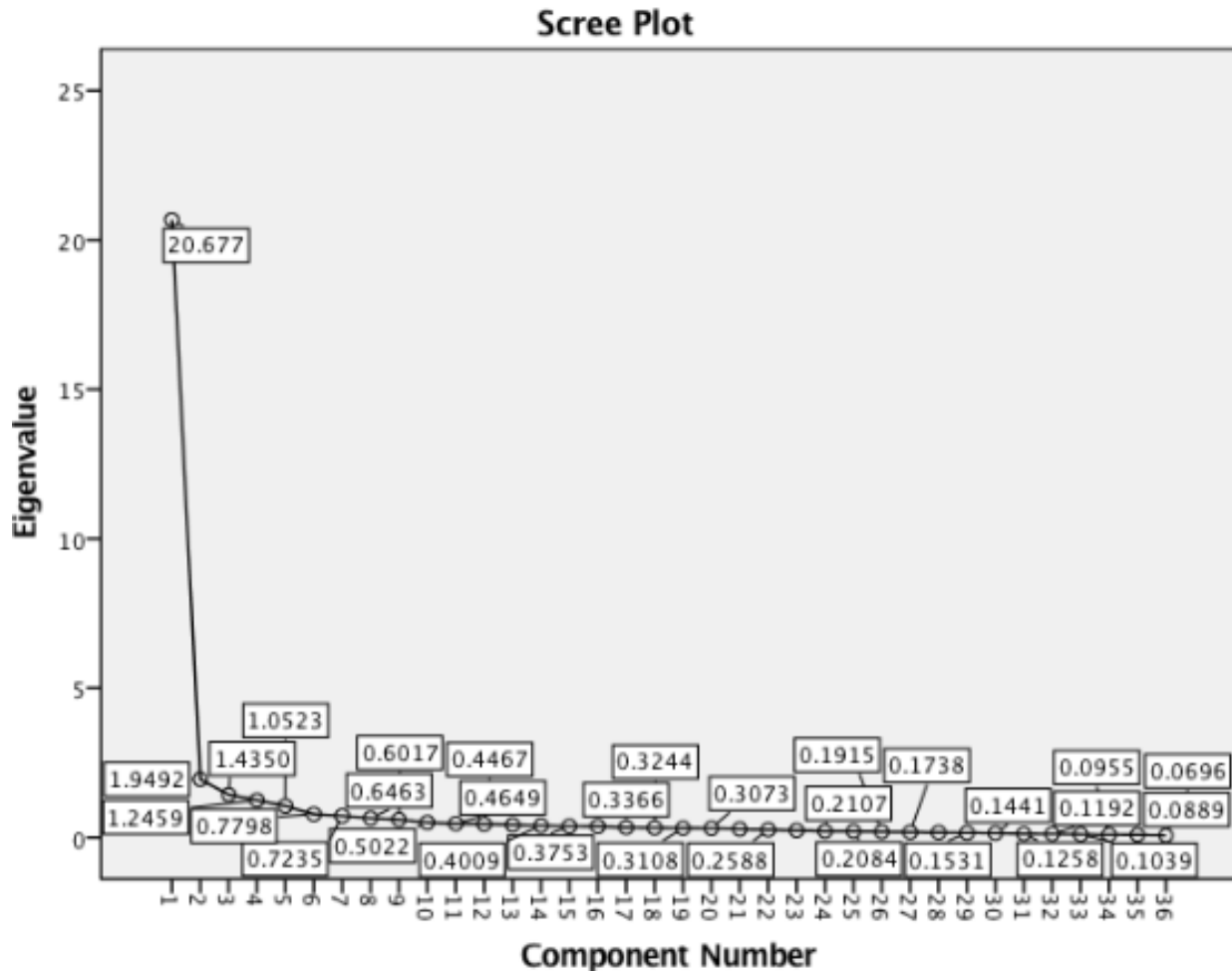
Inter-Item Correlations: An inter-item correlation was performed, with a selection criteria of omitting any item that did not correlate with at least one other item at $r > .4$, or that correlated with at least one other item at $r > .8$, to avoid inclusion of unrelated items or items that were redundant. No items were found to have inter-item correlations of either $r > .8$ or $r < .4$. Thus, no items were deleted based on the criterion of inter-item correlations.

Exploratory Factor Analysis: An exploratory factor analysis (EFA) was conducted using an online sample of workers from the United States on Amazon's data collection platform, Mechanical Turk (N = 277). A single factor representing Interbeing based identity emerged, accounting for 64.46 percent of the total variance. To produce a brief, coherent, practical scale

that would be easily integrated into questionnaire batteries for both clinical use and research, items with factor loadings below .75 were omitted. After the resulting omission of seven items a final scale of 10 items remained.

Table: Exploratory Factor Analysis (n = 277): Total Variance Explained

Component	Initial Eigenvalues	Percent Variance Accounted For	Cumulative Percent Variance Accounted For
1	6.446	64.461	64.461
2	0.615	6.154	70.616
3	0.488	4.879	75.494
4	0.44	4.399	79.894
5	0.433	4.333	84.226



Cronbach's Alpha: Internal consistency for the IS was good, with a Cronbach's alpha score of .94 for the overall scale. The internal consistency for interpersonally-based items was .87, for cosmic-based items was .84, and for nature-based items was .86.

PHASE V: Evaluation of Evidence

Overall Evaluation - Does the evidence support the utility of the scale?: The overall evidence supports the validity and reliability of the Interbeing Scale. Cognitive interviews (N = 20) showed response processes aligned with the intended interpretation of items. A scale CVI score of .81 (N = 5) demonstrated a high level of item relevance, clarity, and conciseness endorsed by experts in related fields. An absence of inter-item correlations below .4 or above .8 indicated that the scale items were neither unrelated nor overly redundant. Exploratory factor analysis (N = 277) revealing factor loadings of above .75 for all final scale items, and 64.46 percent of the total variance accounted for by the first factor, showed high cohesion between the scale items. Lastly, internal reliability was demonstrated via an observed Cronbach's alpha score of .94.

The final scale items are listed in the table below, with (i) denoting interpersonally-based items, (n) denoting nature-based items, and (c) denoting cosmic-based items:

Table: List of Interbeing Scale final items

I am unique and yet one with other beings. (i)
The deepest part of my identity exists as all beings. (i)
I have had an experience in which I realized that no being is separate from another, although each is unique. (i)
Awareness of my ultimate nature leads me to act with goodwill towards everyone. (i)
I am one way the universe experiences itself. (c)
I experience myself as a being of the universe, not just as a human being. (c)
My life choices are guided by an awareness that the universe exists through each living being. (c)
I often experience my consciousness as woven within nature. (n)
I take notice of profound similarities between myself and other forms of nature. (n)
When with animals I experience myself as part of a greater family of life. (n)

DISCUSSION

This paper set out to define and operationalize Interbeing, proceeding from Thich Nhat Hanh's concept of a personal identity rooted in the connectedness not only of all things but of all phenomenological being, transcending the notion of a separate self. It is important to emphasize that while Interbeing could be framed as an ideological position about the nature of reality, or an experience of self-transcendence, we approached Interbeing specifically as a personal identity stance informing individual's attitudes. To this end, we constructed the Interbeing Scale to encapsulate individuals' beliefs, experiences, and behaviors consonant with a sense that all conscious beings are the transformation of a universal system of relationships, undivided by separate selves. Through an iterative process of scale development, which included factor analyses, inter-item correlations, cognitive interviewing, and expert reviews, we arrived at a 10-item scale with a Scale Content Validity Index of .81 and Cronbach's alpha of .94.

Interbeing is a higher-order construct, not to be confused with related but non-coterminous constructs such as self-transcendence, boundary thinness, and absorption. While some of these, when regarded as trait-level personality dimensions, might predispose individuals to higher

scores on the Interbeing Scale, Interbeing itself is not conceived of strictly as a personality trait, but rather as a stance reflected in experiences, beliefs, and behaviors across a collection of related domains. These three domains, selected after intensive theoretical and empirical review, are self-transcendence, nature connectedness, and open individualism. The sense that one is part of nature, that one is at one with the universe, and that one identifies all conscious beings as equal instances of herself are all reflections of Interbeing.

In recent times, the discussion of personal identity and its everyday relevance has become increasingly common in both popular discourse and academic psychology. The trend toward taking the role of subjective experience seriously, which fueled the fall of behaviorism, the ascendancy of individual difference studies, and the birth of consciousness studies, continues apace. However, its foundational questions, among them—*What does it mean to be a conscious self?*—continue to defy a neat resolution. Without weighing in on the metaphysical dimensions of this question, the present study hopes to further the investigation of how people relate to their experience as conscious selves.

One of the dimensions along which people's relationship to selfhood varies is the degree to which they feel identified with the broader whole encompassing all conscious experience—that which we call Interbeing. The Enlightenment Western approach to the self, reflected in the atomistic views of both secular and Western religious folk metaphysics, has led mainstream psychologists to take the assumption of a separate, ego-sized self for granted. Even among researchers and thinkers who acknowledge the social, ecological, and physical reality of interdependence, a personal identity stance grounded in separateness is considered to be normative. However, truth value aside, it should be expected that people differ in the scope of things they identify with as part of their *self*—a dimension of difference that has largely been neglected in psychology research, and left to academic philosophers. The Interbeing Scale makes it possible to empirically explore this dimension of variation in the context of psychology.

In addition, the availability of the Interbeing Scale will allow researchers interested in consciousness and personal identity to assess Interbeing as a correlate, a factor, and a dependent variable in a range of correlational and experimental analyses. It would be reasonable to hypothesize, for example, that Interbeing correlates with absorption (Tellegen, 1974), but the strength of this relationship has yet to be established. Baseline Interbeing might also be suggested to predict strength of response to certain psychotherapeutic and psychopharmacological interventions. Moreover, Interbeing's relationship with various aspects of wellbeing, as well as different psychopathologies, might illuminate the ways in which different senses of personal identity have different adaptive profiles, and distinct downsides. Researchers interested in these relationships are encouraged to incorporate the Interbeing Scale into their studies.

While Interbeing poses many interesting questions as a dimension of individual difference, it is perhaps an even more valuable construct relative to its implications for well-being and ethical behavior. In the ancestral environment, it was likely adaptive for individuals to develop and wield a strong sense of individual, distinct self—to the exclusion of identifying with a wider whole. In *Why Buddhism Is True*, however, Robert Wright describes how an array of such evolutionary adaptations have left contemporary humans anxious and disconnected, and describes the methods developed by Buddhist practitioners to dial them back (Wright, 2017). Indeed, Daniel Kolak's *I Am You*, the foundational text of open individualist ethics, chalks up the ontology of separate being as the source of nearly all preventable suffering (Kolak, 2004).

Experiences of oneness with the universe or greater whole, and the beliefs that often result from them, have been shown to promote appreciation for life, positive mood, self-acceptance, concern for others, and concern for social and planetary values (Doblin, 1991; Schneeberger, 2010). Recently, a bevy of studies from the world of psychedelic research have pointed to the same set of conclusions over multiple time points (Krebs & Johansen, 2013; Nicholas et al., 2017). Meanwhile, Yaden et al. (2016) have linked the “overview effect”, which famously inspired astronauts to humanitarian zeal out of identification with humanity and the earth as a whole, to the construct of self-transcendence, a component of Interbeing (Garan, 2015; White, 1987).

Another thread in the ethical implications of Interbeing can be traced through the world of Buddhist ecology, drawing directly on Interbeing-centered teachings. David Barash's *Buddhist Biology* (2013) describes how Buddhist insights into the interconnectedness and intersubjectivity of all natural systems anticipates and corresponds to contemporary views in ecological science and activism, while David Loy's *Ecodharma* describes how they can be harnessed toward more responsible planetary stewardship (2019).

CONCLUSIONS

Overall, the clinical and ethical implications of Interbeing—whatever its stimulus—appear to be formidable. Given that Interbeing is a stance that can evolve out of experiences and new beliefs, it is worth considering the possibility that promoting higher levels of Interbeing would be of benefit to both individuals and society.

While our primary concern in this paper is with Interbeing as a psychological construct, we consider the publication of the Interbeing Scale to be of a piece with wider trends in the natural sciences that emphasize connectedness and relational identity as the basis for living systems, consciousness, and the physical universe. Without denying the uniqueness of objects and experiences, scholars of complex systems, evolutionary dynamics, and ecology frame separateness as an emergent, *relative* property of systems and their interrelated components (Cilliers, 1998; Nordbotten et al., 2008; Tononi et al., 2016).

In an echo of Buddhist philosophy, the complexity theorist Edgar Morin conceives multiplicity and unity as non-contradictory properties of complex systems (1992), while the computer scientist Brian Cantwell Smith writes that, “everything that exists ... lies in the middle distance, an intermediate realm of partial engagement with and partial separation from, the enveloping world” (Cantwell Smith, 1996). If human individuals are both unique and inextricable from all things, should it not be possible for someone to identify with different levels of the ‘zoom’, from thoughts-in-the-moment, to ego, to universe?

Far from crowding the landscape of higher-order personality constructs, the operationalization of Interbeing as a psychological construct has the potential to expand research psychologists’ realm of inquiry, equipping them with the tools to approach questions previously left to philosophers of mind and religious scholars. Despite the challenges that remain in characterizing the nature of subjective experience, *personal identity* and *sense of self* need not be thought of as black boxes. The Interbeing Scale is an opening shot in an attempt to normalize the scientific study of these phenomena, without denying their remarkable texture and variation.

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APPENDIX

The Interbeing Scale

A five-point Likert scale is used to measure responses, with the anchors ‘strongly disagree,’ ‘disagree,’ ‘neither agree nor disagree,’ ‘agree,’ and ‘strongly agree’. The following prompt is used to orient participants to the task:

“The following series of statements have to do with your experiences, beliefs, and behaviors relating to the ultimate nature of being. There are no right or wrong answers. Please indicate the level to which you agree or disagree with each statement. Answer as honestly as possible.”

The final scale items are listed in the table below:

Table: List of Interbeing Scale final items

I am unique and yet one with other beings.
The deepest part of my identity exists as all beings.
I have had an experience in which I realized that no being is separate from another, although each is unique.
Awareness of my ultimate nature leads me to act with goodwill towards everyone.
I am one way the universe experiences itself.
I experience myself as a being of the universe, not just as a human being.
My life choices are guided by an awareness that the universe exists through each living being.
I often experience my consciousness as woven within nature.
I take notice of profound similarities between myself and other forms of nature.
When with animals I experience myself as part of a greater family of life.