
ARTICLES

A Scale to Measure Nonattachment: A Buddhist Complement to Western Research on Attachment and Adaptive Functioning

BALJINDER KAUR SAHDRA,¹ PHILLIP R. SHAVER,² AND KIRK WARREN BROWN³

¹*Department of Psychology and Center for Mind and Brain, University of California, Davis*

²*Department of Psychology, University of California, Davis*

³*Department of Psychology, Virginia Commonwealth University*

The Buddhist notion of “nonattachment” (release from mental fixations) is related to but distinguishable from the Western construct of attachment. Secure (or insecure) attachment is based on internal working models related to security (or insecurity), whereas nonattachment is based on insight into the constructed and impermanent nature of mental representations. Based on historical and contemporary Buddhist scholarship, we designed the Nonattachment Scale and evaluated its psychometric properties in various samples. We also present evidence consistent with Buddhist theory that nonattachment is psychologically and socially adaptive, and we offer directions for further research on nonattachment.

The word *attachment* has a very positive connotation in Western psychology: Secure attachments to parents and other caregivers have been shown, by many researchers, to contribute to well-being from infancy on (for reviews, see Cassidy & Shaver, 2008; Grossmann, Grossmann, & Waters, 2005). This is because secure relationships cause a person to feel safer, more loved, and more adequately supported in life’s ventures (Ainsworth, Blehar, Waters, & Wall, 1978; Mikulincer & Shaver, 2007). Secure relationships have also been shown to provide a good foundation for learning how to regulate one’s emotions and cope with stresses and threats. Perhaps surprisingly to Western psychologists, the term *attachment* has a negative connotation in Buddhist writings: Attachment (Sanskrit: *rāga, upādāna*) is defined as a mental affliction that distorts the cognition of its object by exaggerating its admirable qualities and screening out its disagreeable qualities (e.g., Asanga, 4th–5th Century BCE/1950). Attachments to others (and to things, even to life itself) imply grasping or clinging (to a mistakenly reified self-image, another person, attractive objects, or the physical world), which is thought to cause suffering (e.g., by Wallace, 2005). This view of attachment—as clinging and grasping—ironically seems to overlap with Western psychology’s concept of “anxious attachment,” which is one of the major forms of insecure attachment, known to be associated with anxiety, worry, and conflictual relations with others, including what attachment researchers call anxious “clinging” (Ainsworth et al., 1978; Mikulincer & Shaver, 2007). This conceptual overlap makes it unclear to researchers interested in both Western and Buddhist psychology whether attachment itself is problematic or only anxious attachment.

The relation between the Buddhist concept of nonattachment (Sanskrit: *virāga*) and the Western concept of secure attachment is also unclear. On one hand, the term *attachment* has opposing connotations in the two conceptual systems. On the other hand, the qualities that characterize “mature” persons in both systems are similar. Buddhists claim that a highly developed individual, who presumably practices nonattachment, feels both great autonomy and deep concern for others (e.g., Chödrön, 2003; Rosenberg, 2004). This is similar to the notion in Western attachment theory that secure attachments in childhood, which involve healthy reliance of the “attached” child on other people, especially primary caregivers, provide an optimal background for becoming a secure adult who exhibits considerable autonomy, self-confidence, and lack of anxious conformity (Grossmann et al., 2005; Mikulincer & Shaver, 2007). Moreover, research has shown that securely attached people are more compassionate than their insecure counterparts (Gillath, Shaver, & Mikulincer, 2005), and there is evidence that securely attached individuals tend to be more mindful, an important psychological asset according to Buddhism (Cordon & Finney, 2008; Lukowitsky, Pincus, & Carlson, 2006; Shaver, Lavy, Saron, & Mikulincer, 2007). Thus, as odd as it seems, attachment and nonattachment, viewed from different cultural traditions, may mean similar things.

There are clearly some common issues in the two different conceptions of the healthy, mature adult mind. However, there are grounds for treating secure attachment and nonattachment as distinct constructs. In attachment theory, the core of what persists over time as a residue of attachment experiences is thought to be mental representations of the self, others, and relationships (representations that Bowlby, 1969/1982, in the original formulation of attachment theory, called “internal working models”; see Bretherton & Munholland, 2008, for a recent overview). For instance, individuals with a strong sense of attachment-based security have a stable working model of themselves as being

Received May 27, 2009; Revised September 29, 2009.

Address correspondence to Baljinder Kaur Sahdra, University of California Davis Center for Mind and Brain, 267 Cousteau Place, Davis, CA 95618; Email: bksahdra@ucdavis.edu

lovable and likely to be cared for by attachment figures. This working model is thought to be the basis of secure individuals' generally positive moods and self-esteem. Mental models are an important lens through which people view their experiences, relationship partners, and the world. This includes individuals with an insecure attachment history, except that their working models are based on experiences of being unreliably cared for, neglected or ignored, unsupported, or unloved, which leads to a perpetual sense of danger and potential rejection or abandonment. For most adults not engaging in contemplative activities or psychotherapy, working models remain largely unquestioned.

In a sustained Buddhist meditation practice, however, models of self, others, and the world are objects of deliberate inquiry and questioning. Through practice, the sense of self gradually shifts from the realm of reified conceptual models to the domain of nonconceptual processing. Recent evidence suggests that the two modes of processing—one rooted in established, fairly automatic conceptualizations and the other rooted in present awareness—are phenomenologically distinct and have different neural substrates (Farb et al., 2007).

Buddhist practitioners, in line with a common and ancient Buddhist prayer, "take refuge in the Buddha [the historical Buddha], the Dharma [Buddhist practices], and the Sangha [fellow practitioners]" (e.g., Tenzen Gyatzo, the 14th Dalai Lama, 2002). The social nature of Buddhism is also evident in the Dalai Lama's writings (e.g., *The Heart of Compassion*; Tenzen Gyatzo, 2002). When explaining what Buddhism calls "the Triple Gem," Tenzen Gyatzo (2002) wrote

Which object of refuge will never deceive us? There are three: the rare and supreme Buddha, the Dharma, and the Sangha. . . . The Buddha is the protector and is like a doctor; the precious dharma is like the medicine; and the spiritual sangha is like a nurse, taking care of us like a good friend. (pp. 17–22)

As practice matures, however, mental representations of all kinds, even of one's teachers, peers, and the Buddha, are expected to become increasingly fluid and transparent. The core process of meditation (which is common to various specific techniques) involves persistent but gentle interest in and investigation of one's experiences, first during formal practice and then increasingly in daily life as well. Over time, practitioners can gain a high degree of introspective familiarity with their thoughts and feelings and learn to be vividly aware of mental phenomena—pleasant, unpleasant, or neutral—without mentally grasping onto them or pushing them away. Gradually, all kinds of mental images of the self and others, regardless of whether they are security inducing or insecurity inducing, are seen as mental phenomena arising and falling in dependence on what Buddhists call "causes and conditions" (e.g., Nagarjuna, 2nd century BCE/1995). Insight into dependent arising of mental images helps practitioners to see, in their own experience, the consequences of attachment and nonattachment to particular mental representations. They realize that when they are desperately fixated on or clinging to mental images, hoping that valued objects and relationships will never change or fail, they suffer because people age, get sick, and die; everything changes; and nothing is completely stable, certain, or immutable. Thinking of oneself as a solid, static entity is bound to lead to suffering because such a view of oneself is an illusion.

This means that even secure attachment to loved ones or to meditation teachers can lead to suffering when working models do not match reality (e.g., when loved ones die or a teacher fails to stay the same or meet one's desires and expectations; N. Goldberg, 2004; Ryan, Brown, & Creswell, 2007). Equally important, practitioners often discover another aspect of dependent arising, which is that when anxious fixations on mental images are absent, suffering is also absent. Therefore, incremental insights into the antecedents and consequences of both kinds of experiences—those involving suffering and those involving relief from suffering—help practitioners to recognize and choose mental practices that lead to nonattachment rather than clinging, desperation, and dissatisfaction.

This path of Buddhist development may overlap with attachment theory's developmental course in the beginning: Reliance on warm, responsive, and autonomy-supportive caregivers (parents or meditation teachers or peers) may increase felt security in both cases. However, the Buddhist trajectory seems to involve development in another domain—nonconceptual processing—which has no parallel in attachment theory. This makes sense historically because attachment research has generally been focused on helping individuals function better in social relationships under the assumption that this is crucial for psychological well-being. The key to this goal is the creation of internal working models (mental schemas and expectations) that foster optimistic, nondefensive, interpersonal behavior. Buddhist practitioners, in contrast, are encouraged to become aware of the constructed nature of their mental models, regardless of whether these are security inducing or insecurity inducing. Such practice is thought to cultivate nonattachment to mental constructions and thus to bring relief from the sense of threat and disconnectedness that accompanies unhealthy fixations. That process, in turn, is thought to enhance relatedness, compassion, and well-being because the self is not viewed as separate from everyone and everything else, and the need to influence relationship partners or life events to fit some static mold is no longer present.

The relation between Western and Buddhist ideas about attachment and nonattachment has thus far been theoretical rather than empirically clarified partly because there has been no psychological measure of the Buddhist state or trait of nonattachment. In the research reported here, we designed such a measure and began to explore its psychometric properties in American student and adult samples. We investigated the new measure's factorial structure, internal consistency, temporal stability, known-groups validity, discriminant validity, and convergent validity. Although the construct of nonattachment has been most clearly articulated in Buddhism, there is no reason to assume that the quality of nonattachment is unique to Buddhists. Any kind of "practice"—be it contemplative, spiritual, artistic, psychotherapeutic, or any mundane activity—that involves "letting go" of fixations may promote nonattachment. Furthermore, as with any complex human characteristic, there are likely to be multiple determinants of nonattachment, many of which may be present in life circumstances other than engaging in a formal meditation practice. For instance, parenting involves letting go of one's own needs in favor of one's children's needs. Other experiences that people are likely to have as they age, such as coping with the death of loved ones, undergoing ups and downs and major and minor changes in work, may provide important lessons in nonattachment. Hence, nonattachment is likely to increase with age whether a person meditates or not.

Generally speaking, if nonattachment is like other psychological qualities, there should be a wide and reliable distribution of scores on an instrument assessing this quality in any sizeable sample of college students or community adults. However, because meditation practices are thought to promote nonattachment, people who meditate should score higher on nonattachment than those who do not meditate. Based on our comparison of Buddhist psychology and attachment theory, we expected that nonattachment would correlate inversely with measures of anxious and avoidant (i.e., insecure) attachment, although it should nevertheless be distinguishable from them. Nonattachment should also be positively related to other theoretically related constructs such as acceptance, mindfulness, self-compassion, noncontingent happiness, nonreactivity, autonomy, well-being, empathy, and generosity. Finally, we expected that nonattachment would be inversely related to psychological problems such as anxiety, stress, depression, and difficulties in emotion regulation.

SCALE CONSTRUCTION AND CONTENT VALIDATION

To operationalize the ancient Buddhist construct of nonattachment in modern psychological terms, we relied on the following sources: (a) classical Buddhist texts (e.g., Asanga, 4th to 5th century BCE/1950; Nagarjuna, 2nd century BCE/1995; Shantideva, 7th century BCE/2008), (b) contemporary Buddhist writings (e.g., Chödrön, 2003; Goldstein & Kornfield, 2001; Rosenberg, 2004; Tenzin Gyatso (the 14th Dalai Lama), 1991, 1994, 2005; Thich Nhat Hanh, 2005; Wallace, 2005), (c) numerous contemporary Buddhist teachers and scholars (some of whom are mentioned in our Acknowledgments section). We consulted Buddhist scholars and teachers on the basis of reputation (e.g., based on well-regarded authored books) and word of mouth recommendation. Contact was initiated both in person (e.g., at conferences) and through e-mail and telephone conversations. We asked the experts to help us clarify the Buddhist concept of nonattachment and provide ratings on items in our item pool (described following). For the first task, we provided our working conceptualizations of the Buddhist constructs of attachment and nonattachment (described following) and requested their feedback. In most cases, this feedback was obtained in one or two contacts. For the second task, we contacted expert raters of our item pool only to send an expert ratings worksheet. We later contacted two experts for clarification of comments on the worksheets. The consultants represented the three major traditions of Buddhism: Theravadan, Zen, and Indo-Tibetan. This diversity allowed us to conceptualize and operationalize nonattachment in a way that is consistent with various Buddhist interpretations of the construct.

The 18 Buddhist experts we consulted agreed that attachment, in the Buddhist sense, can take the form of possessiveness (e.g., in relationships), a sense of ownership of persons or things; jealousy; preoccupation; clinging; defensiveness; compulsion; obsession; acquisitiveness; defensive avoidance; competitiveness; and anxiety about gaining, escaping, or being able to avoid. When people are attached (in the Buddhist sense), their sense of well-being is contingent, that is, dependent, on a particular state of affairs. Phenomenologically, they feel stuck or fixated on ideas, images, or sensory objects and experience an internal pressure to acquire, hold, avoid, or change. From a Buddhist perspective, an attached individual oscillates between self-aggrandizement and self-degradation.

With respect to the Buddhist idea of nonattachment, there was consensus among experts that nonattachment can be expressed and therefore observed as psychological flexibility (lack of fixation), nonreactivity (even mindedness), more quickly recovering from upsets, allowing, releasing, supporting others' capacity to choose, and a sense of ease. When people are nonattached, their perceived sense of well-being is noncontingent—that is, not dependent on particular circumstances. Phenomenologically, nonattachment has the subjective quality of not being stuck or fixated on ideas, images, or sensory objects and not feeling an internal pressure to acquire, hold, avoid, or change. Rather than being aloof, indifferent, uncaring, or unengaged (which are common misconceptions about nonattachment in the West), the nonattached individual genuinely cares about, is engaged in, and responsive to the present situation without falling into self-aggrandizement or self-degradation.

Based on these characterizations of the construct, we created a pool of 135 items designed to describe nonattachment as it might be manifested in the everyday lives of a normative American population. The item pool was approximately equally split between positively and negatively worded items. We submitted these items to several Buddhist teachers and scholars belonging to all major traditions and asked them to rate the face validity of each item as an indicator of nonattachment (and attachment, for negatively worded items). The worksheet included our working definitions of the Buddhist concepts of attachment and nonattachment (as described in the preceding paragraphs) and various criteria for rating items such as construct fidelity, clarity of wording, and straightforward meaning. We asked them to comment on our working definitions of the constructs and rate each item based on a 5-point scale with points labeled 0 (*no fit*), 1 (*little fit*), 2 (*moderate fit*), 3 (*good fit*), and 4 (*excellent fit*).

We received ratings from 9 experts. Their mean age was 60 years (range = 55–71). On average, they had 18 years of monastic and/or teacher-led training (range = 6–37 years). In addition to having received Buddhist training, 7 held professional degrees (5 were clinicians). On average, the experts had 18 years of meditation teaching experience (range = 1–34 years); they devoted about 70% of their time to teaching (ranging from 10% to 100%). It is noteworthy that 7 experts had training in more than one Buddhist tradition. Having a roughly equal representation of Theravadan, Zen, and Indo-Tibetan Buddhism among our experts allowed us to retain only those items that cut across intertradition differences in Buddhist interpretations of nonattachment.

As the statistical criterion for item retention, we used a content validity coefficient, the *V* statistic (Aiken, 1985, 1996). Of the 135 items, 75 received consistently high ratings across raters ($p < .01$). The 75-item scale was then subjected to a final round of editorial revisions to ensure that the items were clear and applicable to most adults. With the help of an advanced teacher trained in Buddhist and modern psychology, 3 items were deleted and the wordings of 2 items were slightly modified, resulting in a 72-item set that was subsequently used to refine the measure of nonattachment for a general adult population.

STUDY 1: STRUCTURAL VALIDITY AND INTERNAL CONSISTENCY

Method

Participants and procedure. Undergraduates at a California university ($N = 382$) completed the 72-item preliminary

TABLE 1.—Sample characteristics (Studies 1–4).

Characteristic	Sample				
	A	B	C	D	E
Sample composition	College students	National adults	College students	College students	College students
Time of data collection	Fall 2008 to Winter 2009	April 2009	Spring 2009	Spring 2009	Spring 2009
Cronbach's alpha for the NAS	0.93	0.93	0.93	0.93	0.92
<i>N</i>	331	503	67	91	98
Age range (years)	18–25	18–88	18–25	18–25	18–25
Age mean (years)	19	44	19	19	19
Female (%)	67	47	74	67	68
African American (%)	2	6	1	2	0
Asian (%)	37	4	40	45	37
Hispanic (%)	11	3	12	7	9
Indian/Pakistani (%)	6	1	6	2	5
White/Caucasian (%)	35	84	35	39	39
Other race/ethnicity (%)	9	2	6	5	10

Note. NAS = Nonattachment Scale.

nonattachment scale as part of an online survey for which they received course credit. They also completed several other scales that we describe in Study 4. In a separate shorter survey, American adults ($N = 511$) completed the 72-item scale in an online survey conducted through a private survey firm, Zoomerang. The firm recruits potential survey participants through online advertisement, refer-a-friend programs, and traditional postal-based and direct-mail services. Interested individuals sign up to be included in the firm's database and periodically receive invitations to participate in survey research conducted through Zoomerang. For each completed survey, participants receive compensatory points that they can redeem for merchandise through Zoomerang. For our survey, participants were contacted by Zoomerang through e-mail and were directed to our study's Web site. The adult sample was nationally representative, allowing us to generalize our findings beyond college-age Californians. Participants in both samples rated their agreement with each of the 72 statements on a 6-point Likert scale ranging from 1 (*disagree strongly*) to 6 (*agree strongly*). Using Mahalanobis distance to detect multivariate outliers (Rousseeuw & Van Zomeren, 1990), we retained 331 students (Sample A) and 503 national adults (Sample B). Table 1 provides these participants' demographic characteristics.

Participants in the Zoomerang survey were asked to provide additional background information. On average, they were well educated: 13% held graduate or professional degrees, 7% had some graduate or professional training, 26% had graduated from college, 32% had some college education, 17% were high school graduates, and 3% had less than a completed high school education. They varied in socioeconomic status, from a household income of "\$10,000 or less" to "\$100,000 or more." (The median category was "\$40,000 to \$50,000.") A total of 57% were employed. Regarding civil status, 49% were married, 27% single, 10% divorced, 8% cohabiting, 4% widowed, and 2% engaged. On average, they had 1 child (range = 0–7).

We used data for the student sample ($N = 331$) in an exploratory factor analysis (EFA) of the 72 items. We randomly divided the 503 adults into a calibration sample of 201, whose data we used in a second EFA, and a validation sample of 302 adults, whose data we used in a confirmatory factor analysis of the scale.

Results

EFA. An EFA conducted in SPSS with the principal-axis method of estimation for the student data yielded a single factor with an eigenvalue of 9.82, accounting for 28.56% of the item variance. The next highest eigenvalue was much lower (1.81), and the scree plot indicated a clear "elbow" between the first and remaining factors, so we retained only the first factor. A total of 32 items, 4 of which were negatively worded, loaded above .40 on the factor. The internal consistency of these items, assessed with Cronbach's coefficient alpha, was .92. Using only these 32 items, we then conducted an EFA using the adult calibration sample data ($N = 201$), finding that all but 2 of the 32 items loaded above .40 on a single factor. After deleting these two lower loading items, the remaining 30 items, 3 of which were reverse-scored, explained 35.24% variance, and yielded a coefficient alpha of .94.

Confirmatory factor analysis. Using the adult validation sample ($N = 302$), we formulated 10 random parcels of the 30-item scale of nonattachment based on guidelines provided by Kishton and Widaman (1994) and Little, Cunningham, Shahar, and Widaman (2002). Parceling is used when a scale contains diverse item content, including some that is related to the construct of interest plus additional nuances that make some items more highly intercorrelated than other items. The parcels were subjected to a confirmatory factor analysis (CFA) in Mplus (Muthén & Muthén, 2007). The CFA yielded a good fit to a single-factor model. The $\chi^2/degrees\ of\ freedom$ ratio was 2.26 (78.92/35), within the recommended upper limit of 3:1; the comparative fit index was .98, greater than the recommended minimum value of .95; the Tucker–Lewis Index (Tucker & Lewis, 1973) was .97, above the recommended minimum value of .94; the root mean square error of approximation was .06; and the standardized root mean square residual was .03, both within the recommended upper limits of $\leq .06$ and $\leq .03$, respectively (Bentler, 1990; Steiger & Lind, 1980; Tucker & Lewis, 1973). Cronbach's alpha for the 30-item scale in this sample was high ($\alpha = .93$). Table 2 displays the item wordings, means, standard deviations, factor loadings, and item-total correlations of the 30 items, based on the national adult sample EFA. We henceforth refer to these 30 items as the Nonattachment Scale (NAS).

TABLE 2.—Means, standard deviations, factor loadings, and item-total correlations for the Nonattachment Scale (Study 1).

Scale Item	<i>M</i>	<i>SD</i>	<i>F</i>	<i>I-T</i>
1. I can accept the flow of events in my life without hanging onto them or pushing them away.	4.32	.95	.73	.70
2. I can let go of regrets and feelings of dissatisfaction about the past.	4.13	1.30	.59	.57
3. I find I can be calm and/or happy even if things are not going my way.	4.35	1.09	.77	.75
4. I have a hard time appreciating others' successes when they outperform me.	2.46	1.29	-.48	.47
5. I can remain open to what life offers me regardless of whether it seems desirable or undesirable at a particular time.	4.44	.96	.57	.55
6. I can enjoy pleasant experiences without needing them to last forever.	4.73	.98	.71	.68
7. I view the problems that enter my life as things/issues to work on rather than reasons for becoming disheartened or demoralized.	4.51	1.02	.76	.74
8. I can enjoy my possessions without being upset when they are damaged or destroyed.	3.91	1.28	.54	.53
9. The amount of money I have is not important to my sense of who I am.	4.30	1.33	.55	.54
10. I do not go out of my way to cover up or deny my negative qualities or mistakes.	4.29	1.14	.48	.48
11. I accept my flaws.	4.64	1.12	.64	.62
12. I can enjoy my family and friends without feeling I need to hang on to them.	4.76	1.11	.64	.62
13. If things aren't turning out the way I want, I get upset.	3.44	1.28	-.51	.50
14. I can enjoy the pleasures of life without feeling sad or frustrated when they end.	4.40	1.18	.74	.71
15. I can take joy in others' achievements without feeling envious.	4.77	1.16	.60	.58
16. I find I can be happy almost regardless of what is going on in my life.	4.17	1.27	.65	.62
17. Instead of avoiding or denying life's difficulties, I face up to them.	4.54	1.02	.62	.60
18. I am open to reflecting on my past mistakes and failings.	4.70	1.11	.41	.39
19. I do not get "hung up" on wanting an "ideal" or "perfect" life.	4.47	1.27	.50	.48
20. I am comfortable being an ordinary, less than perfect human being.	4.76	1.24	.49	.48
21. I can remain open to thoughts and feelings that come into my mind, even if they are negative or painful.	4.44	.99	.61	.59
22. I can see my own problems and shortcomings without trying to blame them on someone or something outside myself.	4.81	.99	.59	.57
23. When pleasant experiences end, I am fine moving on to what comes next.	4.66	.99	.75	.71
24. I am often preoccupied by threats or fears.	2.32	1.35	-.41	.40
25. I am not possessive of the people I love.	4.18	1.40	.52	.51
26. I do not have to hang on to the people I love at all costs; I can let them go if they wish to go.	4.32	1.17	.48	.47
27. I do not feel I need to escape or avoid bad experiences in my life.	4.12	1.26	.62	.60
28. I can admit my shortcomings without shame or embarrassment.	4.40	1.18	.40	.38
29. I experience and acknowledge grief following significant losses, but do not become overwhelmed, devastated, or incapable of meeting life's other demands.	4.48	1.23	.64	.61
30. I am not possessive of the things I own.	3.85	1.49	.50	.49

Note. *F* = factor loadings; *I-T* = item-total correlations. All scores are based on the exploratory factor analysis of the adult calibration sample ($N = 201$). Items were introduced by the following instructions: "To help us understand your general approach to life and your views about yourself, others, and life in general, tell us the extent to which the following statements reflect your experiences at this point in your life. Select a number from 1 to 6 on the scale provided with each statement to rate the extent to which you agree with it. Please answer according to what *really reflects* your experience rather than what you think your experience should be." The 6-point scale was labeled as follows: 1 = *Disagree Strongly*, 2 = *Disagree Moderately*, 3 = *Disagree Slightly*, 4 = *Agree Slightly*, 5 = *Agree Moderately*, and 6 = *Agree Strongly*. The item-total correlations were computed with the item in question removed from the total score.

Discussion

After applying expert rating and statistical criteria to the initial item pool, two EFAs on independent samples (with different mean ages) allowed us to choose 30 items that consistently loaded highly on a single factor. A CFA on a third, adult sample supported this single-factor model. The internal consistency of the 30-item NAS was high in all three samples.

Interestingly, of the 32 negatively worded items in the preliminary set of 72 items, all but 3 were dropped during the factor analyses. When constructing self-report scales, there is often a lower average correlation between positively worded and negatively worded items than within either subset of items. This may have to do with the greater clarity of positively worded items, which are not affected by having to understand the positive meaning of a negative statement and then having to think about the forms its reversal might take. (cf. "I believe that X" with the subtle differences between "I don't believe X" and "I believe not X.") Whereas our Buddhist experts agreed that the larger pool of negatively worded items addressed relevant features of attachment (in the Buddhist sense), the nonexpert respondents may have had trouble interpreting the negatively worded items. Nevertheless, the 3 reversed items we retained (Items 4, 13, and 24 in Table 2) loaded substantially on the single factor in all samples, and they may help to counter a tendency to agree with statements without regard to content.

STUDY 2: KNOWN-GROUPS VALIDITY

If, as we noted earlier, nonattachment is a quality that can be developed through meditation, people who practice meditation should obtain higher scores on the NAS than people who do not. Such a difference would support the known-groups validity of the NAS. We tested this hypothesis in the context of our online survey of adults.

Method

Participants and procedure. Participants in the online nationwide survey (Sample B; Table 1) were asked at the end of the questionnaire whether they meditated. If they did, they were asked to report the number of hours they practiced per week and the number of years they had been practicing. To be maximally inclusive, we did not provide a specific definition of meditation; different traditions have different definitions and techniques of meditation, and we chose not to constrain participants' responses. Of the 503 adults, 85 reported that they meditated (weekly hours of practice $M = 2.03$, $SD = 1.65$; years of practice $M = 13.59$, $SD = 15.50$). As a comparison group, we drew a same-sized random sample of nonmeditators from the rest of the sample. The two groups were matched in age (meditators' $M = 46$ years, $SD = 18$; nonmeditators' $M = 44$ years, $SD = 17$); $t(168) = 1.11$, $p = .27$, and gender distribution (48% of the meditators were women; 46% of the nonmeditators were women; $\chi^2(1, N = 170) = 0.02$, $p = .89$).

Results and Discussion

On average, the 85 meditators scored higher on the NAS ($M = 4.64$, $SD = 0.82$) than the randomly selected control group ($M = 4.39$, $SD = 0.76$), $t(168) = 2.06$, $p = .04$ (Cohen's $d = 0.32$). This difference was more pronounced when we compared the 22 meditators who practiced more than 3 hr per week ($M = 4.98$, $SD = 0.72$) with 22 randomly selected nonmeditators ($M = 4.33$, $SD = 0.79$), $t(42) = 2.85$, $p = .007$ (Cohen's

$d = 0.86$). Meditators' scores on the NAS were significantly associated with weekly hours of meditation practice ($r = .25$, $p = .02$) and years of practice ($r = .23$, $p = .04$). The results indicate that the NAS is sensitive to individual differences in the practice of meditation. It is also possible, however, that higher scores on the NAS reflect a predisposition that drew participants to meditation. Although we cannot rule out this possibility, the fact that the difference between the mean nonattachment scores of meditators and nonmeditators was more pronounced when we considered meditators who practiced more than 3 hr per week, and for more years, suggests that meditation itself might influence nonattachment.

The effect sizes of the contrasts between meditators and nonmeditators were modest. It is possible that this is related to the fact that we included all forms of meditation when we asked participants to report about their practice, which resulted in a broad, heterogeneous category. It is an empirical question for future research whether some kinds of meditation have larger effects on nonattachment than other kinds of meditation.

The sensitivity of the NAS to relevant training suggests that it may have assessment value for interventions that include meditation or other practices that encourage participants to "let go" of psychological strategies that unintentionally promote or prolong suffering. For the scale to be effectively used in intervention and other longitudinal research, it is important to establish its temporal stability, a subject to which we turn next.

STUDY 3: TEST-RETEST RELIABILITY

Method

Participants and procedure. A total of 67 college students (Sample C; Table 1) completed the NAS as part of an online survey for which they received research credit in a psychology course. They also completed several other measures that we describe in Study 4. They were contacted after 1 month to participate for an additional credit in another online survey that contained the NAS. Of the 67 participants, 42 complied. Most of the remaining 25 did not participate because they had already participated in several studies to receive the maximum number of research credits applicable to their psychology course.

Results and Discussion

As an index of test-retest reliability, we used the intraclass correlation (ICC), a statistic commonly used to assess homogeneity of pairs of measures in a common class, including measures that share their metric and variance (McGraw & Wong, 1996). For the 42 individuals who completed the NAS on two occasions separated by 1 month, the ICC was .869 ($p < .0001$), indicating that 73.8% of the variance in the scores was accounted for by the underlying common class or construct of nonattachment. This result suggests that NAS scores are stable over time and may be suitable for use in short-term longitudinal studies because they do not change substantially on their own and are not heavily contaminated by random error.

STUDY 4: CORRELATIONS WITH OTHER MEASURES

Establishing the viability of an individual-difference measure involves showing that it is "similar enough to other [concepts] to be recognizable, but different enough to be worth studying" (Mayer, 2000, p. 49). In Study 4, we had two purposes: (a) to establish the convergent and discriminant validity of the NAS

and (b) to examine the relations between NAS-measured nonattachment and a variety of indicators of adaptive psychological and interpersonal functioning.

Regarding the first purpose, we expected several theoretically relevant constructs to be substantially correlated with nonattachment, providing evidence for the convergent validity of the NAS. The Buddhist idea of attachment seems to be conceptually related to Western ideas about insecure, especially anxious, attachments that involve worrying, clinging, coercing, or avoiding. We therefore expected nonattachment to be negatively correlated with anxious attachment. We also anticipated a positive correlation of the NAS with mindfulness because enhanced attention to and awareness of one's mental states and actions is thought to promote nonattachment. Furthermore, because nonattachment implies an absence of fixation on rigid ideas about how things "must" be, it should be easier for nonattached individuals to accept the flow of events. We therefore expected the NAS to be positively correlated with acceptance of events and experiences. We also expected the NAS to have a positive correlation with nonreactivity because nonattachment implies feeling less internal pressure to react to external or internal events.

Nonattachment has implications for both personal distress and happiness. In the face of personal suffering, nonattachment involves release of clinging to or rejection of one's distress, thus less self-judgment and more self-kindness; we therefore expected the NAS to be positively related to self-compassion. With respect to happiness, we expected NAS scores to correlate positively with noncontingent happiness, the belief that happiness does not depend on how things must be or on external circumstances. In a similar vein, nonattached individuals should be less likely to associate their happiness with materialistic success and should be less possessive, competitive, and acquisitive. We therefore expected the NAS to correlate negatively with materialism. Finally, nonattached individuals are thought to be more autonomously motivated (e.g., "choiceful") rather than control motivated (e.g., feeling forced or pressured). Hence, we expected the NAS to correlate positively with autonomous motivation (convergent validity) but not with controlled motivation (discriminant validity).

The Buddhist idea of nonattachment does not connote defensive detachment or disconnection from one's thoughts and feelings. Hence, as evidence of the NAS's discriminant validity, we expected the NAS to yield relatively low or negative correlations with avoidant attachment, dissociation from one's experiences, and alexithymic tendencies (lack of access to one's feelings). Furthermore, because the Buddhist idea of nonattachment is conceptualized as being different from apathy or passive submissiveness, we expected low or negative correlations between the NAS and impersonal motivation (e.g., feeling at the mercy of fate). Finally, we anticipated that nonattachment would be distinguishable from each of the Big Five personality traits (John & Srivastava, 1999; McCrae & Costa, 1987), which are considered to be a general standard or benchmark for the discriminant validity of new measures, although we expected modest associations with the traits most strongly linked with well-being, particularly greater extroversion and reduced neuroticism.

A second aim of this study was to examine relations between the NAS and several other measures of adaptive psychological and interpersonal functioning. As specified in the introduction, we theorized that nonattachment would facilitate psychological

health and enhance positive interpersonal and relationship functioning. Thus, we expected that the NAS would be positively related to a variety of indicators of subjective well-being, such as positive mood and satisfaction with life, and eudemonic well-being such as personal growth and purpose in life. For the same reasons, we expected the NAS to be associated with better mental health as indexed by lower levels of depressive, anxiety, and stress symptoms. Because nonattached individuals are theorized to be less impulsive, more aware and accepting of, and more efficacious and clear about their emotions, we expected the NAS to correlate negatively with difficulties in emotion regulation.

We expected the NAS to correlate positively with several adaptive interpersonal tendencies including relatedness and empathy. If nonattachment enhances relatedness and diminishes the distress associated with fixations on mental representations, as theorized, then the NAS should be positively related to empathic concern and perspective taking but negatively associated with personal distress, which is associated with unhelpful reactions to others' suffering. Finally, because nonattachment is thought to connote a letting go of clinging, selfishness, and greed, we expected the NAS to be positively related to generosity.

Method

Participants and procedure. Samples A, B, and C have already been described. In Samples D and E (Table 1), college students participated for research credit in their psychology courses by completing the NAS and several other measures in an online survey. Reliability coefficients (alphas) of all measures used in this study are reported in Tables 3 and 4.

TABLE 3.—Correlations of the Nonattachment Scale (NAS) with scales relevant to convergent and discriminant validity (Study 4).

Construct (Scale)	Sample	Alpha	Correlation With the NAS
Convergent validity relevant constructs			
Anxious attachment (ECR)	A, D	.90, .90	-.55***, -.56***
Mindfulness (MAAS)	A, D	.87, .89	.35***, .43**
Acceptance (AAQ-II)	C	.87	.60***
Nonreactivity (FFMQ)	D	.89	.49***
Self-compassion (SCS)	A, E	.92, .92	.59***, .50***
Noncontingent happiness (LI)	A, E	.74, .60	.55***, .40***
Materialism (Materialism Scale)	D	.88	-.53***
Autonomous motivation (GCOS)	A, E	.83, .83	.38***, .50***
Discriminant validity relevant constructs			
Avoidant attachment (ECR)	A, D	.93, .90	-.26***, -.22*
Depersonalization (CES)	C	.93	-.35**
Absorption (CES)	C	.84	-.28*
Amnesia (CES)	C	.89	-.27*
Difficulty identifying feelings (TAS)	C	.84	-.30*
Difficulty describing feelings (TAS)	C	.76	-.19
Externally oriented thinking (TAS)	C	.63	-.24*
Controlled motivation (GCOS)	A, E	.71, .60	-.04, .02
Impersonal motivation (GCOS)	A, E	.77, .82	-.33***, -.31***

Note. ECR = Experiences in Close Relationships; MAAS = Mindfulness Attention Awareness Scale; AAQ-II = Acceptance and Action Questionnaire-II; FFMQ = Five Factor Mindfulness Questionnaire; SCS = Self-Compassion Scale; LI = Linking Inventory; GCOS = General Causality Orientation Scale; CES = Curious Experiences Scale; TAS = Toronto Alexithymia Scale. Demographic details of Samples A to E are in Table 1.

* $p < .05$. ** $p < .01$. *** $p < .001$.

TABLE 4.—Correlations of the Nonattachment Scale (NAS) with scales relevant to well-being and interpersonal functioning (Study 4).

Construct (Scale)	Sample	Alpha	Correlation With the NAS
Well-being constructs			
Personality traits (BFI)			
Extraversion	A, E	.85, .86	.25***, .14*
Agreeableness	A, E	.82, .85	.48***, .48***
Neuroticism	A, E	.83, .80	-.55***, -.50***
Openness to Experience	A, E	.83, .85	.26**, .37***
Conscientiousness	A, E	.83, .81	.21**, .42***
Subjective well-being			
Satisfaction with life (SWLS)	C	.91	.55***
Life satisfaction (single-item measure)	B	N/A	.38***
Pleasant affect (AVT)	C	.91	.58***
Unpleasant affect (AVT)	C	.89	-.50***
Eudemonic well-being			
Self-acceptance (PWB)	D	.83	.41***
Personal growth (PWB)	A, E	.70, .73	.56***, .45***
Positive relationships (PWB)	A, E	.77, .86	.45***, .40***
Purpose in life (PWB)	A, E	.79, .81	.35***, .37***
Mental health			
Depression (DASS)	A, D	.86, .92	-.27***, -.27**
Anxiety (DASS)	A, D	.81, .87	-.20**, -.35**
Stress (DASS)	A, D	.82, .88	-.28***, -.24*
Difficult emotion regulation (DERS)	A, E	.93, .94	-.58***, -.48*
Interpersonal functioning constructs			
Perspective taking (IRI)	A, E	.79, .78	.38***, .38***
Empathic concern (IRI)	A, E	.77, .81	.15**, .32**
Personal distress (IRI)	A, E	.79, .72	-.47***, -.42***
Generosity (Generosity Scale)	B	.71	.44***

Notes. BFI = Big Five Inventory; SWLS = Satisfaction With Life Scale; N/A = not applicable; AVT = Affect Valence Trait Scale; PWB = Psychological Well-Being Scale; DASS = Depression, Anxiety, and Stress Scale; DERS = Difficulties in Regulating Emotions; IRI = Interpersonal Reactivity Index. Demographic details of Samples A to E are in Table 1.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Measures

Convergent and discriminant scales.

Experiences in Close Relationships (ECR; Brennan, Clark, & Shaver, 1998): We assessed the two dimensions of insecure attachment in adulthood, attachment anxiety (fear of rejection or abandonment) and avoidance (avoidance of intimacy and interdependence), with the 36-item ECR, which has been used in many studies and has been shown to have high reliability and good construct validity (see Mikulincer & Shaver, 2007, for a review). The scale includes 18 items assessing attachment anxiety (e.g., "I worry about being rejected or abandoned") and 18 assessing avoidant attachment (e.g., "I don't feel comfortable opening up to others"). Participants rated their degree of agreement with each of the items on a scale ranging from 1 (*Disagree Strongly*) to 6 (*Agree Strongly*).

Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003): Participants completed the 15-item MAAS, which assesses mindfulness (e.g., "I rush through activities without being really attentive to them"). Responses are scored on a 6-point Likert-type scale ranging from 1 (*Very Frequently*) to 6 (*Very Infrequently*), with higher scores indicating higher mindfulness.

Acceptance and Action Questionnaire-II (Bond et al., 2009): This measure is designed to assess acceptance, conceptualized as lower experiential avoidance. Items include "My

painful memories prevent me from having a fulfilling life” and “I’m afraid of my feelings.” Responses are scored on a 7-point scale ranging from 1 (*Never True*) to 7 (*Always True*), with higher scores indicating higher acceptance.

Nonreactivity to Internal Experience: Participants completed a 7-item nonreactivity subscale of the Five Facet Mindfulness Questionnaire (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). An example item is “I perceive my feelings and emotions without having to react to them.” Participants rated their degree of agreement with each of the items on a Likert-type scale ranging from 1 (*Disagree Strongly*) to 6 (*Agree Strongly*), with higher scores indicating higher nonreactivity.

Self-Compassion Scale (SCS; Neff, 2003a, 2003b): The SCS assesses six different aspects of self-compassion: self-kindness (e.g., “I try to be understanding and patient toward aspects of my personality I don’t like”); self-judgment (e.g., “I’m disapproving and judgmental about my own flaws and inadequacies”); common humanity (e.g., “I try to see my failings as part of the human condition”); isolation (e.g., “When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world”); mindfulness (e.g., “When something painful happens I try to take a balanced view of the situation”); and over-identification (e.g., “When I’m feeling down I tend to obsess and fixate on everything that’s wrong”). Responses are scored on a 5-point scale ranging from 1 (*Almost Never*) to 5 (*Almost Always*), with higher scores indicating higher self-compassion. Neff (2003a) showed that a single factor of “self-compassion” explained the correlations among the six facets. Hence we combined scores on all items to compute a single self-compassion score.

Linking Inventory (McIntosh & Martin, 1992): This measure assesses the extent to which people believe that their happiness is contingent on obtaining certain outcomes (e.g., “How important is having money to your happiness?”). All items have two response options specific to each question; for example, (a) “Being able to buy the things I want when I want them definitely makes me happier”; (b) “Once I have enough money for the basic necessities of life, more money will not make me happier.” The latter response option represents a noncontingent (“nonlinking”) perspective on happiness.

Materialism Scale (Richins & Dawson, 1992): This scale assesses three aspects of materialism: success (e.g., “I admire people who own expensive homes, cars, and clothes”), centrality (e.g., “I like a lot of luxury in my life”), and happiness (“I’d be happier if I could afford to buy more things”). Scores on these factors are summed into a single materialism score. Responses are scored on a 6-point, Likert-type scale ranging from 1 (*Disagree Strongly*) to 6 (*Agree Strongly*), with higher scores indicating higher materialism.

General Causality Orientations Scale (GCOS; Deci & Ryan, 1985): We used the 12-vignette version of the GCOS to assess (a) autonomy orientation, the extent to which a person is intrinsically motivated and is drawn to aspects of the environment that are optimally challenging; (b) controlled orientation, or the extent to which a person is oriented toward being controlled by external rewards and directives such as deadlines, structures, ego involvement, and orders from superiors; and (c)

impersonal orientation, defined as the extent to which a person believes that desired goals are beyond his or her control and luck or fate determines success. Responses are scored on a 7-point scale ranging from 1 (*Very Unlikely*) to 7 (*Very Likely*), with higher scores indicating higher orientations of each.

Curious Experiences Survey (CES; L. R. Goldberg, 1999): We used the 31-item CES, a revision of the Dissociative Experiences Scale (Bernstein & Putnam, 1986). The CES assesses three aspects of dissociation: depersonalization (e.g., “had the experience of looking in a mirror and not recognizing myself”), absorption (e.g., “find that I sometimes sit staring off in space, thinking of nothing, and am not aware of the passage of time”), and amnesia (e.g., “found writings, drawings, or notes among my belongings that I must have done but cannot remember doing”). Responses are scored on a 5-point scale ranging from 1 (*This never happens to me*) to 5 (*This almost always happens to me*), with higher scores indicating higher dissociation.

Toronto Alexithymia Scale (TAS-20; Parker, Taylor, & Bagby, 2003): The TAS-20 has three subscales: difficulties identifying feelings (e.g., “When I am upset, I don’t know if I am sad, frightened, or angry”), difficulties describing feelings (e.g., “It is difficult for me to find the right words for my feelings”), and externally oriented thinking (e.g., “I prefer talking to people about their daily activities rather than their feelings”). Responses are scored on a 5-point scale ranging from 1 (*Not at all Like Me, or Not True*) to 5 (*Completely Like Me, or Very True*), with higher scores indicating higher alexithymia.

Other Scales: The tendency to respond in a socially desirable manner was assessed with the well-known Marlowe-Crowne Social Desirability Scale (MC-10; Crowne & Marlowe, 1960; Strahan & Gerbasi, 1972). For each concordant answer (a true response for a statement that is supposed to be true for everyone and a false for a statement that is false for everyone), a value of 1 was assigned; and for each discordant answer, a value of 0 was assigned. The total score therefore ranged from 0 to 10, with higher numbers indicating higher social desirability.

Well-being and interpersonal functioning scales.

The Big Five Inventory (BFI; John, Donahue, & Kentle, 1991; John & Srivastava, 1999): We used the 44-item BFI, a commonly used measure of five broadband personality traits, namely, extraversion (being sociable, assertive, and energetic); agreeableness (being sympathetic, kind, and affectionate); conscientiousness (being organized, thorough, and reliable); neuroticism (being tense, moody, and anxious); and openness to experience (having wide interests and being imaginative and insightful). Responses are scored on a 6-point Likert scale ranging from 1 (*Disagree Strongly*) to 6 (*Agree Strongly*), with higher scores indicating higher levels of each trait.

Subjective Well-Being Scales: We used a five-item Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) to measure life satisfaction. Participants rated their degree of agreement with each of the items on a scale ranging from 1 (*Disagree Strongly*) to 7 (*Agree Strongly*). We also used a nine-item Affect Valence Trait Scale (Diener, Smith & Fujita, 1995) to assess pleasant and unpleasant affect. Participants rated the extent to which they felt particular emotions over the past week

on a scale ranging from 0 (*Not at all*) to 6 (*Extremely*). Participants in the nationwide survey of adults (Sample B) completed a single-item measure of life satisfaction. On a scale ranging from 1 (*Not at all satisfied*) to 5 (*Very much satisfied*), they responded to the question, "Overall, how satisfied are you with life in general these days?"

Psychological Well-Being Scale (PWB; Ryff, 1989): Several PWB subscales were used here, each comprising 7 items: self-acceptance (e.g., "When I look at the story of my life, I am pleased with how things have turned out"), personal growth (e.g., "I think it is important to have new experiences that challenge how you think about yourself and the world"), positive relations with others (e.g., "I know that I can trust my friends, and they know they can trust me"), and purpose in life (e.g., "I have a sense of direction and purpose in life"). Responses are scored on a 6-point Likert scale ranging from 1 (*Disagree Strongly*) to 6 (*Agree Strongly*), with higher scores indicating higher well-being on each subscale.

Depression, Anxiety, and Stress Scale (DASS-21; Antony, Bieling, Cox, Enns, & Swinson, 1998; Lovibond & Lovibond, 1995): The DASS-21 comprises three subscales assessing mental health symptoms experienced in the past week: Stress (e.g., "I felt I found it difficult to relax"), Depression (e.g., "I felt that life was meaningless"), and Anxiety (e.g., "I felt scared without any good reason"). Participants indicated the extent to which each statement applied to them during the past week by using a scale ranging from 1 (*Did not apply to me at all*) to 4 (*Applied to me very much, or most of the time*). Higher scores indicate higher levels of each symptom.

Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004): This 36-item measure contains six subscales: (a) Nonacceptance of One's Own Feelings (e.g., "When I'm upset, I become embarrassed for feeling that way"), (b) Difficulties in Fulfilling One's Goals (e.g., "When I'm upset, I have difficulty getting work done"), (c) Impulsiveness (e.g., "When I'm upset, I become out of control"); (d) Lack of Emotional Awareness (e.g., a reverse-scored item, "When I'm upset, I acknowledge my emotions"), (e) Lack of Strategies in Recovering From Negative Emotions (e.g., "When I'm upset, I believe that I will remain that way for a long time"), and (f) Lack of Clarity (e.g., "I have difficulty making sense of my feelings"). Responses are scored on a 5-point scale ranging from 1 (*Never*) to 5 (*Always*), with higher scores indicating higher regulatory difficulties. Gratz and Roemer (2004) showed that these aspects converged on a common latent construct, so we combined scores into an overall DERS score.

Interpersonal Reactivity Index (IRI; Davis, 1983): The IRI assesses cognitive and affective dimensions of empathy using three subscales: Personal Distress, the tendency to experience distress in response to extreme distress in others without necessarily being helpful (e.g., "In emergency situations I feel apprehensive and ill at ease"); Empathic Concern, the tendency to experience feelings of sympathy and compassion for others in need that are conducive to helping (e.g., "I often have tender, concerned feelings for people less fortunate than me"); and Perspective Taking, the degree to which an individual spontaneously takes the point of view of other people in everyday life

(e.g., "I try to look at everybody's side of a disagreement before I make a decision"). Responses are scored on a 6-point Likert scale ranging from 1 (*Disagree Strongly*) to 6 (*Agree Strongly*), with higher scores indicating higher empathy.

Generosity: We used the Generosity Scale (Kasser, 2005), which consists of the following four items: "I enjoy sharing my things with other people"; "I enjoy giving things or money to charity"; "So long as the job I have helps people, it doesn't matter how much it pays"; and "It is really important to me that I work to make the world a better place." Responses are scored on a 6-point Likert scale ranging from 1 (*Disagree Strongly*) to 6 (*Agree Strongly*), with higher scores indicating higher generosity.

Results and Discussion

Preliminary analyses. Among nationally sampled adults (Sample B; $N = 503$), NAS scores were positively related to age as expected ($r = .29, p < .001$). Also, NAS scores were modestly correlated with annual household income ($r = .11, p < .01$) and number of children ($r = .19, p < .001$). There was also a small correlation between the NAS and gender ($r = .10, p = .03$), but it became negligible when we controlled for age (partial $r = .06, ns$). (The men in the sample were older than the women, on average.) Among college students (Samples A, C, D, and E combined; $N = 587$), scores on the NAS were unrelated to gender ($r = .06, ns$).

Convergent and discriminant correlations. As Table 3 shows, the NAS was moderately to highly correlated with the measures used to assess convergent validity ($r_s = .35-.60$). Specifically, as hypothesized, the NAS was negatively related to anxious attachment and materialism and positively related to mindfulness, acceptance, nonreactivity, self-compassion, non-contingent happiness, and higher autonomous motivation. As evidence of discriminant validity, the NAS showed null or inverse relations ($r_s = .02$ to $-.35$), with avoidant attachment and all subscales of dissociation and alexithymia. Finally, NAS scores were unrelated to a controlled motivational orientation and inversely related to impersonal motivational orientation, further supporting its discriminant validity.

Well-being and interpersonal functioning correlations. We anticipated that the NAS would be associated with a variety of indicators of well-being and positive interpersonal functioning. As Table 4 shows, the NAS was positively related to extraversion and inversely related to neuroticism, the two Big Five personality traits most consistently associated with subjective well-being (Costa & McCrae, 1980; DeNeve & Cooper, 1998). Interestingly, the NAS was positively related to the three other (adaptive) broadband personality traits: agreeableness, conscientiousness, and openness to experience (see Table 3). More direct evidence for associations between the NAS and well-being measures is seen in positive correlations with subjective well-being (life satisfaction and emotional traits) and eudemonic well-being (namely, self-acceptance, personal growth, positive relations with others, and purpose in life). Consistent with our predictions, the NAS was inversely correlated with depression, anxiety, stress, and difficulties with emotion regulation. Finally, in line with Buddhist theory that nonattachment can promote

positive interpersonal functioning, the NAS was positively related to empathy and generosity (but as expected, inversely related to personal distress). Taken as a whole, the pattern of correlations in Tables 3 and 4 is consistent with the overarching Buddhist claim that nonattachment is psychologically and interpersonally adaptive.

Incremental validity of the NAS. As with all self-report measures, it is important to consider whether people's responses are based on the intended constructs or are significantly influenced by socially desirable response biases. Sample E participants completed the MC-10. To test the incremental validity of the NAS, we constructed least squares regression models in which associations between the NAS and each of the substantively relevant variables reported for Sample E were examined after controlling for social desirability bias. Although NAS scores were related to MC-10 scores ($r = .36, p < .01$), controlling for the MC-10 had virtually no effect on correlations between the NAS and the other variables reported in Tables 3 and 4.

GENERAL DISCUSSION

In this series of studies, we undertook a preliminary investigation of the Buddhist construct of nonattachment, first by developing a self-report measure of the construct informed by classic and contemporary Buddhist scholarship, then testing the reliability and validity of participants' scores, and finally examining the new measure's associations with a variety of indicators of well-being and interpersonal functioning. We found that participants' scores on the new NAS were internally consistent and exhibited adequate test-retest reliability and significant known-groups validity. Contrary to the notion of nonattachment as detachment, indifference, or submissiveness, we found that the NAS was inversely related to avoidant attachment (avoidance of intimacy in relationships), dissociation (distancing from one's thoughts and feelings), alexithymia (disconnection from one's thoughts and feelings), and impersonal motivational orientation (believing that one's life is driven by fate or luck and one has little choice). Supporting its adaptive nature, NAS-assessed nonattachment was positively related to measures of mindfulness, acceptance, nonreactivity, self-compassion, autonomy, and both subjective and eudemonic well-being. The adaptive value of nonattachment appeared to extend to positive interpersonal functioning as well, with positive associations with social connectedness, empathy, and generosity. Thus, the NAS appears to assess a potentially important psychological quality with manifold personal benefits.

Research on nonattachment is relevant to psychologists interested in adaptive functioning, reduction of suffering, and healthy psychological maturation. From a Buddhist perspective, unexamined mental representations of self, others, and desirable or aversive objects are incompatible with the inherently impermanent, changing, and dependently arising nature of reality. Introspective investigation of and insight into mental representations involves viewing the reified concepts of self and others as hindrances to adaptation. Release from mental fixations (nonattachment) is thought to encourage more objective perception, greater compassion, reduced selfishness, and release from, or letting go of, what Buddhists call "afflictive" emotions, thus alleviating suffering.

Further research on nonattachment may enhance the understanding of security in adulthood. From Western attachment theory's perspective, secure attachment is rooted in mental representations of self and relationship partners, but there is nothing in attachment theory or in its clinical applications (Obegi, 2008) to suggest that optimal security depends on challenging all of one's social-cognitive representations. There is also nothing in the theory to challenge people's tendency to reify their concepts of self or to resist acknowledging that everything in life is subject to change. The theory's terminology (e.g., *secure attachment*) focuses attention on the quality of a person's relationships, but the theory was intended to be a life-span theory of personality development. Unlike, for example, Maslow's (1998) theorizing about the nature of self-actualization in adults, Bowlby (1969/1982) did not provide a conceptual, or ideal, model of optimal adult outcomes. Hence, it is possible that the nature of security in adulthood may be more similar to Buddhist nonattachment than one might at first think.

Still, secure attachment (according to attachment theory) and nonattachment are not completely synonymous. As mentioned earlier, secure attachment is based on mental representations, whereas nonattachment involves release from static mental representations. Attachment theory emphasizes social experiences and mental representations of supportive, loving relationships, whereas Buddhism emphasizes understanding the impermanent and interdependent nature of phenomena, including social-cognitive representations. It is difficult to imagine how attachment security, as conceptualized by attachment theorists, can be attained by a person's own insights and observations in the absence of loving and supportive caregivers. Nonattachment, however, might conceivably be achieved through personal observation, contemplation, and insight, although it is notable that most Buddhist practitioners advance in the practice of nonattachment with guidance from admired teachers, stories about admirable Buddhist exemplars from the past, and a community of fellow practitioners.

Buddhist meditation practices seem to facilitate the growth of nonattachment and its accompanying positive qualities. However, the actual mechanism of change is thought to be *wisdom*, defined as understanding the impermanent and dependently arising or constructed nature of mental images, a kind of wisdom that might be learned in a variety of ways (A. Olendzki, personal communication, April 27, 2009). For instance, confronting challenging life experiences, such as the death of loved ones, significant losses or disruptions in career or relationships, and disconfirmation of one's views about others can encourage people to achieve the kind of understanding that leads to nonattachment. In our research, the positive relation of nonattachment with age and number of children in the nationwide adult sample is consistent with these views. It is also noteworthy that nonattachment is not uniquely Buddhist; a vast majority of our participants were not Buddhists and did not practice meditation. It remains an open question as to why some individuals scored higher on the NAS than others. However, as we suggested earlier, any tradition or set of experiences, whether religious, artistic, or psychotherapeutic, that involves introspective inquiry into and release from mental fixations may support the development of nonattachment.

These series of studies were limited by cross-sectional, correlational designs, so further research is needed to examine the ability of the NAS to predict theoretically meaningful outcomes

in longitudinal and experimental contexts. The studies are also limited by their exclusive use of self-report methodologies. Further research should test the ability of the NAS to predict behavioral and other objective outcomes. This research is, for the time being, limited in generalizability to American college students and adults, and extensions of it should include testing the validity of scores on the NAS in other cultures. The results of this research are applicable to fairly normal, generally healthy adults; future research with clinical populations is needed to test the psychometric properties of the NAS in samples of people with mental health problems.

Our research is intended to contribute to a growing body of scholarship in Western psychology that empirically investigates Buddhist theories about the causes and alleviation of suffering (see reviews in Ekman, Davidson, Ricard, & Wallace, 2005; Wallace & Shapiro, 2006). Our work complements other research inspired by Buddhist psychology such as studies of mindfulness (e.g., Baer et al., 2006; Brown & Ryan, 2003), self-compassion (e.g., Leary, Tate, Adams, Batts Allen, & Hancock, 2007; Neff, 2003a, 2003b; Neff & Vonk, 2009), and acceptance (e.g., Hayes, Luoma, Bond, Masuda, & Lillis, 2006). Future research on adaptive functioning and reduction of suffering may benefit from the new Nonattachment Scale.

ACKNOWLEDGMENTS

Preparation of this article was facilitated by Social Sciences and Humanities Research Council of Canada Postdoctoral Fellowship and Francisco J. Varela Award to Baljinder Kaur Sahdra. We gratefully acknowledge the Buddhist teachers and scholars we consulted, including Alan Wallace, Matthieu Ricard, Anne Klein, Sharon Salzberg, Sylvia Boorstein, Bodhin Kjolhede, Jason Siff, William Waldron, Trudy Goodman, Bhikkhu Bodhi, Andrew Olendzki, and others too numerous to mention. We thank Clifford Saron for his helpful suggestions during the early stages of the study.

REFERENCES

- Aiken, L. A. (1985). Three coefficients for analyzing the reliability and validity of ratings. *Educational and Psychological Measurement, 45*, 131–142.
- Aiken, L. A. (1996). *Rating scales and checklists: Evaluating behavior, personality, and attitudes*. New York, NY: Wiley.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: Assessed in the Strange Situation and at home*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the depression anxiety stress scales in clinical groups and a community sample. *Psychological Assessment, 10*, 176–181.
- Asanga. (1950). *Abhidharmasamuccaya* (Pralhad Pradhan, Ed.). Santiniketan, India: Visva Bharati. (Original work published 4th to 5th century BCE)
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*, 27–45.
- Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., . . . Williams, J. M. G. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment, 15*, 329–342.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238–246.
- Bernstein, E. M., & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *Journal of Nervous and Mental Disease, 174*, 727–735.
- Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Orcutt, H. K., Waltz, T., & Zettle, R. D. (2009). *Preliminary psychometric properties of the Acceptance and Action Questionnaire-II: A revised measure of psychological flexibility and acceptance*. Manuscript submitted for publication.
- Bowlby, J. (1982). *Attachment and loss: Vol. I. Attachment*. New York, NY: Basic Books. (Original work published 1969)
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York, NY: Guilford.
- Bretherton, I., & Munholland, K. A. (2008). Internal working models in attachment relationships: Elaborating a central construct in attachment theory. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed., pp. 102–127). New York, NY: Guilford.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822–848.
- Cassidy, J., & Shaver, P. R. (Eds.). (2008). *Handbook of attachment: Theory, research, and clinical applications* (2nd ed.). New York, NY: Guilford.
- Chödrön, P. (2003). *Comfortable with uncertainty*. Boston, MA: Shambhala.
- Cordon, S. L., & Finney, S. J. (2008). Measurement invariance of the Mindful Attention Awareness Scale across adult attachment styles. *Measurement and Evaluation in Counseling and Development, 40*, 228–245.
- Costa, P. T., & McCrae, R. R. (1980). Influence of extraversion and neuroticism on subjective well-being: Happy and unhappy people. *Journal of Personality & Social Psychology, 38*, 668–678.
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349–354.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*, 113–126.
- Deci, E. L., & Ryan, R. M. (1985). The General Causality Orientations Scale: Self-determination in personality. *Journal of Research in Personality, 19*, 109–134.
- DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin, 124*, 197–229.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment, 49*, 71–75.
- Diener, E., Smith, H., & Fujita, F. (1995). The personality structure of affect. *Journal of Personality and Social Psychology, 69*, 130–141.
- Ekman, P., Davidson, R. J., Ricard, M., & Wallace, B. A. (2005). Buddhist and psychological perspectives on emotions and well-being. *Current Directions in Psychological Science, 14*, 59–63.
- Farb, N. A. S., Segal, Z. V., Mayberg, H., Bean, J., McKeon, D., Fatima, Z., & Anderson, A. K. (2007). Attending to the present: Mindfulness meditation reveals distinct neural models of self-reference. *Social Cognitive and Affective Neuroscience, 2*, 313–332.
- Gillath, O., Shaver, P. R., & Mikulincer, M. (2005). An attachment-theoretical approach to compassion and altruism. In P. Gilbert (Ed.), *Compassion: Conceptualizations, research, and use in psychotherapy* (pp. 121–147). London, UK: Brunner-Routledge.
- Goldberg, L. R. (1999). The Curious Experiences Survey, a revised version of the Dissociative Experiences Scale: Factor structure, reliability, and relations to demographic and personality variables. *Psychological Assessment, 11*, 134–145.
- Goldberg, N. (2004). *The great failure: My unexpected path to truth*. New York, NY: HarperCollins.
- Goldstein, J., & Kornfield, J. (2001). *Seeking the heart of wisdom: The path of insight meditation*. Boston, MA: Shambhala.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment, 26*, 41–54.
- Grossmann, K. E., Grossmann, K., & Waters, E. (Eds.). (2005). *Attachment from infancy to adulthood: The major longitudinal studies*. New York, NY: Guilford.

- Hayes, S. C., Luoma, J., Bond, F., Masuda, A., & Lillis, J. (2006). Acceptance and Commitment Therapy: Model, processes, and outcomes. *Behavior Research and Therapy*, *44*, 1–25.
- John, O. P., Donahue, E. M., & Kentle, R. L. (1991). *The Big Five Inventory—Versions 4a and 54*. Berkeley: University of California, Berkeley, Institute of Personality and Social Research.
- John, O. P., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York, NY: Guilford.
- Kasser, T. (2005). Frugality, generosity, and materialism in children and adolescents. In K. A. Moore & L. H. Lippman (Eds.), *What do children need to flourish?: Conceptualizing and measuring indicators of positive development* (pp. 357–373). New York, NY: Springer Science + Business Media.
- Kishton, J. M., & Widaman, K. F. (1994). Unidimensional versus domain representative parceling of questionnaire items: An empirical example. *Educational and Psychological Measurement*, *54*, 757–765.
- Leary, M. R., Tate, E. B., Adams, C. E., Batts Allen, A., & Hancock, J. (2007). Self-compassion and reactions to unpleasant self-relevant events: The implications of treating oneself kindly. *Journal of Personality and Social Psychology*, *92*, 887–904.
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*, *9*, 151–173.
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the depression anxiety stress scales (DASS) with the beck depression and anxiety inventories. *Behavior Research and Therapy*, *33*, 335–343.
- Lukowitsky, M. R., Pincus, A. L., & Carlson, R. (2006, May). *Mindfulness, attachment, and interpersonal adjustment*. Poster presented at the 9th annual meeting of the Society for Interpersonal Theory and Research, Philadelphia, PA.
- Maslow, A. H. (1998). *Toward a psychology of being* (3rd ed.). New York, NY: Wiley.
- Mayer, J. D. (2000). Spiritual intelligence or spiritual consciousness. *The International Journal for the Psychology of Religion*, *10*, 47–56.
- McCrae, R. R., & Costa, J. P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, *52*, 81–90.
- McGraw, K. O., & Wong, S. P. (1996). Forming inferences about some intraclass correlation coefficients. *Psychological Methods*, *1*, 30–46.
- McIntosh, W. D., & Martin, L. L. (1992). The cybernetics of happiness: The relation between goal attainment, rumination, and affect. In M. S. Clark (Ed.), *Review of personality and social psychology* (Vol. 14, pp. 222–246). Newbury Park, CA: Sage.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York, NY: Guilford.
- Muthén, L. K., & Muthén, B. O. (2007). *Mplus user's guide* (5th ed.). Los Angeles, CA: Muthén & Muthén.
- Nagarjuna. (1995). *The fundamental wisdom of the Middle Way: Nagarjuna's Mulamadhyamakakarika* (Jay L. Garfield, Trans.). New York, NY: Oxford University Press. (Original work published 2nd century BCE.)
- Neff, K. D. (2003a). The development and validation of a scale to measure self-compassion. *Self and Identity*, *2*, 223–250.
- Neff, K. D. (2003b). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2*, 85–102.
- Neff, K. D., & Vonk, R. (2009). Self-compassion versus global self-esteem: Two different ways of relating to oneself. *Journal of Personality*, *77*, 23–50.
- Obegi, J. H. (2008). The development of the client-therapist bond through the lens of attachment theory. *Psychotherapy: Theory, Research, Practice, Training*, *45*, 431–446.
- Parker, J. D. A., Taylor, G. J., & Bagby, R. M. (2003). The twenty-item Toronto Alexithymia Scale—III. Reliability and factorial validity in a community population. *Journal of Psychosomatic Research*, *55*, 269–275.
- Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research*, *19*, 303–316.
- Rosenberg, L. (2004). *Breath by breath: The liberating practice of insight meditation*. Boston, MA: Shambhala.
- Rousseeuw, P. J., & Van Zomeren B. C. (1990). Unmasking multivariate outliers and leverage points. *Journal of the American Statistical Association*, *85*, 633–651.
- Ryan, R. M., Brown, K. W., & Creswell, J. D. (2007). How integrative is attachment theory? Unpacking the meaning and significance of felt security. *Psychological Inquiry*, *18*, 177–182.
- Ryff, C. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*, 1069–1081.
- Shantideva. (2008). *The way of the bodhisattva: Shantideva's Bodhicaryavatara* (Padmakara Translation Group, Trans.). Boston, MA: Shambhala. (Original work published 7th century BCE.)
- Shaver, P. R., Lavy, S., Saron, C. D., & Mikulincer, M. (2007). Social foundations of the capacity for mindfulness: An attachment perspective. *Psychological Inquiry*, *18*, 264–271.
- Steiger, J. H., & Lind, J. M. (1980, June). *Statistically based tests for the number of common factors*. Paper presented at the annual meeting of the Psychometric Society, Iowa City, IA.
- Strahan, R., & Gerbasi, K. C. (1972). Short, homogeneous versions of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology*, *28*, 191–193.
- Tenzen Gyatzo (Dalai Lama XIV). (1991). *Freedom in exile: The autobiography of the Dalai Lama*. New York, NY: HarperCollins.
- Tenzen Gyatzo (Dalai Lama XIV). (1994). *A flash of lightning in the dark of night: A guide to the Bodhisattva's way of life* (Padmakara Translation Group, Trans.). Boston, MA: Shambhala.
- Tenzen Gyatzo (Dalai Lama XIV). (2002). *The heart of compassion*. Boston, MA: Little Brown.
- Tenzen Gyatzo (Dalai Lama XIV). (2005). *Essence of the Heart Sutra: The Dalai Lama's heart of wisdom teachings* (Thupten Jinpa, Trans.). Boston, MA: Wisdom Publications.
- Thich Nhat Hanh. (2005). *Being peace*. Berkeley, CA: Parallax Press.
- Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, *38*, 1–10.
- Wallace, B. A. (2005). *Genuine happiness: Meditation as the path to fulfillment*. New York, NY: Wiley.
- Wallace, B. A., & Shapiro, S. L. (2006). Mental balance and well-being: Building bridges between Buddhism and Western psychology. *American Psychologist*, *61*, 690–701.