# Constructivist Self-Construal: Antecedents and Consequences

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Constructivist Self-Construal: Antecedents and Consequences

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Abstract

Building on independent vs. interdependent self-construal theory, three studies provide empirical evidence for a third way of construing the self: constructivist self-construal. People with a constructivist view of the self perceive the self as constantly changing (impermanence), a collection of distinct phenomena from moment to moment (discontinuity), without an essence (disentification), and psychologically overlapping with other people and things in the universe (boundlessness). Study 1 described the development of the Multidimensional Self-Construal Scale and established discriminant validity against independent and interdependent self-construals. Study 2 found that regardless of the type of self-construal, people in seven countries with diverse cultural backgrounds all cognitively represented the self in these four dimensions. Culture (Study 2), context (Study 3), and individual differences in perspective-taking (Study 3) were identified as three factors shaping the extent to which people endorse constructivist self-construal. People from collectivistic cultures where Buddhist philosophy is more prevalent (Study 2), or high perspective-takers who were primed with constructivist thinking (Study 3), tended to endorse constructivist self-construal to a greater degree than people from other cultures, or low perspective-takers. Furthermore, the results in Study 3 suggest that mere exposure to constructivist self-construal led to greater self-reported kindness toward other people.

Keywords: constructivist self-construal, no-self, culture, malleability, prosociality.
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The notion that the self does not exist as an entity – an idea sometimes referred to as no-self – has been discussed in both Western and Eastern philosophical traditions. Hume (1738/2000), for example, argues against the idea that the self transcends time or that it is at its core unchanging. Instead, he claims that the self is an illusion, nothing more than a collection of perceptions that are rapidly succeeding each other through the flow of time. In Buddhist philosophy, the self is seen as non-independent, lacking an essential(ized) identity that would separate oneself from other human beings or elements of nature (Siderits, 2007). In a similar vein, social constructionists argue that the self is construed in terms of its interdependence with other people, situations, and contexts—all of which shape the construction of the self and interact with it; without them, the self cannot be construed and therefore does not exist (e.g., Gergen, 2009). Recently, research in neuroscience identified a brain area associated with people’s processing of self-relevant information (mPFC; e.g., Craik et al., 1999; Kelley et al., 2002). Most importantly, this research supported the argument that contrary to many lay people’s conceptualizations of the self as an essential, fixed entity, there is nothing to the self beyond a fleeting, subjective experience that is mentally construed by the brain from moment to moment in order to facilitate people’s exploration of the world (e.g., Gazzaniga, 2011; Metzinger, 2010).

Despite its vast discussion in philosophy and science alike, no empirical work has investigated the concept of no-self from a psychological perspective. Instead, psychological research on the construal of the self has been focusing predominantly on the distinction between independent vs. interdependent self-construal. This distinction mainly refers to the degree to which the self is construed in relation to other people (Markus & Kitayama, 1991). An independent self-construal perceives the self as a unique entity that is separate from other people
and social contexts. By contrast, an interdependent self-construal perceives the self as embedded in interpersonal relationships and social contexts. In the past two decades, Markus and Kitayama’s seminal paper on independent and interdependent self-construal (1991) has generated voluminous research examining the role of the self in influencing psychological functions such as motivation (e.g., Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997; Markus, Uchida, Omoregie, Townsend, & Kitayama, 2006), cognition (e.g., Kitayama, Duffy, Kawamura, & Larsen, 2003; Masuda & Nisbett, 2001; Na & Kitayama, 2011), emotion (e.g., Kitayama, Markus, & Kurokawa, 2000; Kitayama, Mesquita, & Karasawa, 2006), and well-being (e.g., Kitayama, Karasawa, Curhan, Ryff, & Markus, 2010; Yamaguchi & Kim, 2015).

Despite the numerous insights this line of research has generated, we argue that its near exclusive focus on independent and interdependent self-construal has led to at least two limitations. First, if we imagine that the degree of self-other overlap varies on a spectrum from self to no-self (see Figure 1), independent and interdependent self-construal only capture half of this spectrum. On this spectrum, an independent self-construal stands on one end represented by a sharp boundary between the self and other people and things, and an interdependent self-construal stands on the midpoint of the spectrum represented by a sense of connectedness between the self and other people. The other half of the spectrum in which the self psychologically overlaps and is connected with all elements in the environment (e.g., animals, trees, architectures, etc.; see also Leary, Tipsord, & Tate, 2008) has largely been neglected by this research. We argue, therefore, that an exclusive focus on the relation between self and other people is valuable but overlooks a more comprehensive perspective, in which (a particular construal of) the self is possibly connected to all other elements in the universe.
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Figure 1. The spectrum from self to no-self that captures various degrees of self-other/things overlap.

Second, the heavy focus on the overlap between self and other as the chief distinction between independent and interdependent self-construal has come at the expense of other important dimensions that were overlooked as part of the defining features of a self-construal. While questions about the degree to which the self is (un-)changing across time and context or a (dis-)continuous experience over time have been asked and answered by the self literature (e.g., Sani, 2010; Spencer-Rogers, Williams, & Peng, 2010), they have not been linked to the construal of the self. It is thus not clear whether for example differences in consistency of the self directly underlie people’s self-construal. Here we argue that this and other dimensions do underlie people’s self-construal and are therefore important to understanding the self and its psychological functions. In doing so, we propose a new type of self-construal underlying the basic belief that the self does not exist as an entity, but is solely construed by individuals as a dynamic process that is largely integrated into the moment-to-moment experience: the constructivist self-construal.

Constructivist Self-Construal

Consistent with theory and supported by research on self-transcendence (Levenson, Jennings, Aldwin, & Shiraishi, 2005), allo-inclusive identity (Leary et al., 2008), and selfless psychological functioning (Dambrun & Ricard, 2011), the constructivist self-construal highlights the belief that there is no self-entity that transcends time and space. Rather, the self is mentally
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construed by people and is inextricably linked to and immersed in ongoing events, without which it does not independently exist. As a result, the experience of self is chiefly shaped by and adapted to environmental stimuli, which render the structure of the self less enduring and more subject to change. Furthermore, as the enduring aspect of the self is an illusion, the actual perceptions of the self are composed of distinct experiences succeeding one another rather than one single continuous experience. This integration of self and environment also fosters and reinforces a sense of interconnectedness between the self and all elements in the environment.

We argue therefore that individuals cognitively represent the self on four dimensions: 1) boundlessness: the extent to which the self is embedded with other people as well as other things in the environment; 2) impermanence: the extent to which the self is constantly in flux rather than at its core unchanging; 3) discontinuity: the extent to which the self is a string of distinct phenomena from moment to moment rather than a continuous experience over the life span; and 4) disentification: the extent to which the self does not have an essence. Different combinations of these dimensions then allow for construal of the self as independent, interdependent, or constructivist.

The four theoretical dimensions are reminiscent of research in social-cognitive and neuroscientific domains of the self and teachings in Buddhist philosophy. Boundlessness, of course, is firmly rooted in and explained by the literature on independent vs. interdependent self-construal (Markus & Kitayama, 1991). Impermanence is in line with literature on the perceived consistency of the self, showing that people from Eastern cultures perceive the self as more inconsistent and more likely to change than people from Western cultures (for a review see Spencer-Rogers et al., 2010). Discontinuity is related to the self-continuity literature, and yet is distinct from how it has been studied. Self-continuity has been examined mainly in two ways: 1)
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the extent to which the self is a coherent (vs. discrete) experience and 2) the extent to which the self changes across time and situations (Sani, 2010). While the self-continuity literature did not clearly disentangle the two aspects, we argue that it is important to differentiate the two, as one aspect does not completely overlap with the other. A person may experience drastic changes in the self, for example, and still see the self as coherent. Our operationalization of discontinuity thus solely consists of the first aspect, capturing the extent to which the experience of the self is composed of separate moments flowing together; the second aspect was captured in the definition of impermanence. Finally, disentification is consistent with teachings in Buddhist philosophy that the self does not exist as an essentialized entity (Siderits, 2007). It is also in line with neuroscientific evidence indicating that the conception of the self is mentally construed by the brain (Gazzaniga, 2011; Metzinger, 2010). As shown above, past research has been examining the dimensions in isolation. We argue that these dimensions more comprehensively capture the structure of self-construal, and thus should be investigated in relation to each other.

Specifically, we argue that the four dimensions (i.e., boundlessness, impermanence, discontinuity, and disentification) are conceptually distinct aspects of the self, such that each dimension characterizes a unique aspect of the self that cannot be totally captured by the other dimensions. At the same time, the dimensions should be positively related, and altogether coherently capture the fundamental structure of the self. Furthermore, we argue that across cultures, people have cognitive representations of the self based on these four dimensions, even though in some cultures people may not explicitly endorse certain types of self-construal (e.g. constructivist self-construal) on some or all of these dimensions. In other words, while the endorsement of different types of self-construal (especially the constructivist type) may differ
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across cultures, cognitive representations of the self should be rather similar across cultures, described by the four dimensions we have outlined.

As illustrated in Table 1, individuals with an independent self-construal perceive the self as an essence that is distinct from other people and elements in the environment. They perceive the self as at its core unchanging and as a continuous experience over the life span. Similarly, individuals with an interdependent self-construal perceive the self as an essence that is at its core continuous and unchanging, although to a lesser extent, as it might change slightly as a function of its relations with other people (e.g., English & Chen, 2007). Unlike an independent self-construal, however, an interdependent self-construal sees the self as psychologically embedded with other people, albeit psychologically separate from other objects in the universe. Finally, people with a constructivist self-construal perceive that the self does not have an essence that defines its intrinsic existence. They see the self as psychologically intermeshed with other people and other elements in the universe. Furthermore, the self is seen as always changing and consisting of a string of distinct phenomena rather than a continuous experience over the life span.

Table 1

Proposed Underlying Dimensions of Self-Construal

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<th>Interdependent Self-Construal</th>
<th>Constructivist Self-Construal</th>
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<tbody>
<tr>
<td>Boundlessness</td>
<td>Boundaries: the self is separate from other people and objects</td>
<td>Partial boundaries: the self is separate from other objects but not people</td>
<td>Boundlessness: the self is inseparable from other people and objects</td>
</tr>
<tr>
<td>(Im-)Permanence</td>
<td>Permanence: the self is at its core unchanging</td>
<td>Permanence: the self is at its core unchanging (even if it may fluctuate insofar its relations to other people change)</td>
<td>Impermanence: the self is always changing</td>
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(Dis-)Continuity | Continuity: the self is a continuous experience over the life span | Continuity: the self is a continuous experience over the life span | Discontinuity: the self is a string of distinct phenomena that occur over the life span
(Dis-)Entification | Entification: the self has an essence that exists in and of itself | Entification: the self has an essence that exists in and of itself | Disentification: the self has no essence and thus does not exist in and of itself

Table 1 also demonstrates that independent and interdependent self-construals are largely distinguished by the dimension of boundlessness, but comparatively similar across the other three dimensions. This is why it made perfect sense for the research focusing on independent vs. interdependent self-construal to focus mainly on conceptualizing the self as a degree of self-other overlap. Yet, when also considering other types of self-construal such as the constructivist type, it becomes clear that there are more dimensions than only boundlessness to distinguish different types of self-construal. We thus highlight the importance of broadening the breadth and depth of self-construal as a multidimensional construct.

In sum, although the idea of no-self has been prevalent in philosophy and science for a long time, it is still an open empirical and psychological question whether or not anyone endorses this type of constructivist self-construal, and, if so, in what context and to what degree. To illuminate when people may construe the self in a constructivist manner, we highlight three factors that should shape the degree of constructivist self-construal: culture, context, and individual differences in perspective-taking.

Antecedents of Constructivist Self-Construal

Culture

Decades of cross-cultural research have emphasized the importance of cultural beliefs in influencing self-construal (e.g., Markus & Kitayama, 1991; Triandis, 1989). Culture guides...
people’s construction of the self by promoting certain values. Collectivistic cultural values that encourage relationship harmony and cooperation, for example, lead individuals to construe the self as interdependent and interconnected with other people and context. Individualistic cultural values that encourage individual autonomy and freedom, on the other hand, lead individuals to construe the self as independent and separate from other people and context (for a review see Oyserman, Coon, & Kemmelmeier, 2002). Given that the constructivist view of the self emphasizes the interconnectedness with other people and things, collectivistic cultural values should also have a greater tendency to foster constructivist self-construal than individualistic cultural values. Moreover, individuals from cultures where Buddhist philosophy and teachings are more prevalent should have greater exposure and be more receptive to the idea of no-self than individuals from cultures where there is a higher degree of individualism. These cultural and philosophical values are embedded in daily interactions, which constantly serve as a reinforcement that predisposes individuals to adopting a particular type of self-construal. Consequently, we argue that individuals from more collectivistic cultures and those with, on average, more exposure to Buddhist philosophy, should endorse constructivist self-construal to a greater extent than individuals from more individualistic cultures with, on average, less exposure to Buddhist philosophy.

Context

Past research has suggested that the self-concept is by no means fixed and is susceptible to situational influences (e.g., Gardner, Gabriel, & Lee, 1999; Markus & Kunda, 1986). Research examining the hypothesis that the self is malleable frequently adopts a priming paradigm, typically exposing participants to different cultural values (e.g., individualism and collectivism). In general, this research has found that (regardless of culture) participants primed with
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individualistic values tend to construe the self as more independent, whereas participants primed with collectivistic values tend to construe the self as more interdependent (e.g., Gardner, Gabriel, & Hochschild, 2002; Gardner et al., 1999; Kühnen, Hannover, & Schubert, 2001; Lee, Aaker, & Gardner, 2000; for a review see Oyserman & Lee, 2008).

Consistent with this line of research, in addition to the enduring influence of cultural values, we argue that even within the same culture, individuals’ endorsement of constructivist self-construal will be relatively flexible and largely contingent on the specific situation or context in the moment. In other words, a supposedly culturally dominant construal of the self as an independent (or interdependent) entity can at least temporarily be replaced by a constructivist self-construal due to contextual influences, for instance through increased accessibility of *no-self* related concepts. In cultures predisposed to independent (rather than interdependent) self-construal, the constructivist self-construal should constitute a particularly extreme way of conceptualizing the (absence of the) self. Thus, an investigation of this type of self-construal in an individualistic culture such as the U.S., where the self is often brought to the foreground as one of the most important entities, should provide a particularly powerful test of the hypothesis that constructivist self-construal is indeed cognitively available and malleable.

**Individual Differences in Perspective-Taking**

It is to be expected that people in individualistic cultures should generally have rather limited exposure to the constructivist notion of the self. When being presented with the ideas of *no-self*, which are rather incongruent with the dominant values most individualistic people typically hold, people’s tendency to endorse the constructivist self-construal might depend on their ability and motivation to understand unfamiliar and potentially counterintuitive concepts or perspectives. Past research has shown that endorsement of foreign concepts often relies on
individuals’ cognitive openness or flexibility (e.g., Clobert, Saroglou, & Hwang, 2015). As perspective-taking is positively related to cognitive flexibility (Grattan, Bloomer, Archambault, & Eslinger, 1994; Grattan & Eslinger, 1989; Hale & Delia, 1976), we chose perspective-taking as one proxy for this higher-order cognitive functioning in the current research. Perspective-taking reflects the cognitive capacity to spontaneously attempt to adopt another’s point of view (Davis, 1980). We argue that perspective-taking represents an individual difference variable that should readily capture people’s ability and/or motivation to endorse constructivist self-construal. For high perspective-takers, exposure to the constructivist self-construal may actually lead them to adopt this type of self-construal at least to some extent, whereas for low perspective-takers it may not.

**Consequences of Constructivist Self-Construal**

Even though no empirical research has directly examined psychological tendencies associated with constructivist self-construal, we argue that this particular view of the self as a dynamic system should be conceptually related to a diverse range of positive outcomes. Given the structure of constructivist self-construal as impermanent, discontinuous, and interdependent without boundaries between the self and any other elements in the universe, its associated psychological functioning should be driven by the goal of harmoniously adjusting the self to the environment (see also Dambrun & Ricard, 2011). This sense of integration and interconnectedness should be related to individual qualities that imply a self-other connection, such as empathy and compassion.

Preliminary evidence for the link between the dimensions we argue underlie the constructivist self-construal (i.e., boundlessness, impermanence, discontinuity, and disentification) and positive outcomes stems from research investigating the consequences of
interdependent self-construal. It was found that interdependent self-construal is associated with empathy (Ma-Kellams & Blascovich, 2012; Woltin, Yzerbyt, & Corneille, 2011), compassion (Niiya, Crocker, & Mischkowski, 2013), cooperative behavior (Liu & Li, 2009; Utz, 2004), prioritizing one’s group’s welfare over one’s personal welfare (Gardner, Gabriel, & Dean, 2004), morality (Gollwitzer & Bucklein, 2007), and group ethical decision-making (Hoyt & Price, 2015). Similarly, a more inclusive sense of identity typically increases empathy and compassion with others, as well as prosocial behavior (e.g., Otten & Epstude, 2006; Pittinsky & Montoya, 2009). If constructivist self-construal is breaking down even more boundaries than interdependent self-construal, it should have at least similar, perhaps even greater benefits with respect to morality and prosociality, such as greater prosociality toward all individuals – rather than the interdependent self’s greater prosociality toward only ingroup members (Duclos & Barasch, 2014).

More directly related to the dimensions we argue underlie constructivist self-construal, recent work in different domains of social psychology has found that priming people with Buddhist concepts, for example, can activate positive behavioral tendencies, such as increased prosociality and reduced prejudice toward religious or ethnic outgroups (Clobert et al., 2015). Similarly, perceiving self-discontinuity or feeling disconnected from past selves motivates problem gamblers and drinkers to make behavioral change from addiction (Kim & Wohl, 2014). In sum, we argue that due to its underlying, defining dimensions, the constructivist self-construal should be linked to positive interpersonal outcomes.

**Overview of Studies**

The overarching aims of the present studies were to 1) empirically establish the theoretical construct of constructivist self-construal; 2) examine whether the cognitive
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representation of the self is not bound by culture, but the endorsement of constructivist self-construal is; and 3) investigate antecedents and consequences of constructivist self-construal. In Study 1, we developed a scale that measures the dimensions of constructivist self-construal and examined its discriminant validity against other self-construal scales. In Study 2, conducted in seven countries, we examined how culture as a major factor shapes the cognitive representation of the self and the endorsement of constructivist self-construal. In Study 3, we explored the malleability of constructivist self-construal by experimentally manipulating different types of self-construal and investigating perspective-taking as a potential moderator of the level of endorsement of self-construal, as well as prosociality and ethical decision making as potential outcomes.

Study 1

In Study 1, we developed a scale to measure four theoretically derived dimensions of self-construal: impermanence, discontinuity, disentification, and boundlessness. We also examined the discriminant validity of the scale by including measures assessing independent and interdependent self-construal, individualism and collectivism.

Methods

Participants

The sample consisted of ninety-six participants recruited via Amazon Mechanical Turk (MTurk). The study was only limited to Americans who were native speakers. There were 59 women (61.46%) in the study. The mean age of the sample was 36.52 years ($SD = 14.02$). Participants were well educated, with 44.77% of the sample having achieved a bachelor’s degree or above.

Procedure and Measures
Participants were instructed to complete a collection of measures, assessing their endorsement of different self-construals and cultural orientations. The measures are detailed below, in the order they were presented to participants in the study.

**Multidimensional Self-Construal.** Participants completed a set of 35 items assessing four theoretical dimensions of self-construal: impermanence, discontinuity, disentification, and boundlessness. While we argue that the scale measures common dimensions underlying all types of self-construal, due to the focus on constructivist self-construal in the present paper, we frequently refer to this scale as a measure of constructivist self-construal throughout the paper (even though it assesses also independent and interdependent self-construal). We conducted exploratory factor analyses (EFA) for each dimension. The results revealed that the theoretical factor *boundlessness* actually contained two statistically distinct subcomponents: existence of boundaries between the self and other people/things, and non-existence of boundaries (boundlessness) between the self and other people and things. Consequently, our scale measured five dimensions of self-construal: impermanence, discontinuity, disentification, boundaries, and boundlessness. Greater scores indicate greater endorsement of constructivist self-construal (except the boundaries dimension). Additionally, we dropped three items that yielded item-total correlations less than .30 for their respective subscales. Thus, we included 32 items in the final scale (see Appendix A). All items were rated from 1 *Strongly disagree* to 9 *Strongly agree.*

The final *impermanence* subscale included eight items and measured the extent to which one believes the self is susceptible to change (e.g. “When analyzed very closely, it becomes apparent that all things that make up a person inevitably change, even if only slightly, from moment to moment.”; $M = 5.78$, $SD = 1.19$, $\alpha = .75$).
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The final discontinuity subscale included seven items and assessed the extent to which one believes the experience of the self as separate and distinct phenomena throughout the life course (e.g., “My life is like a flip-book. When I flip through the pages it creates the visual illusion of a continuous story but I know there really is no story and it is simply a sequence of distinct pages or moments flowing together.”; M = 4.63, SD = 1.42, α = .84).

The final disentification subscale included five items and measured the extent to which one believes the self does not have a core essence (e.g. “There is no such thing as a self; the word self is just a convenient way of talking about all of the parts that make up a whole person.”; M = 4.00, SD = 1.44, α = .83).

The final boundaries subscale contained four items and assessed the degree to which one believes that there are boundaries between the self and other people, as well as between the self and other things (e.g. “Who I am is not dependent upon anyone or anything else.”; M = 6.15, SD = 1.27, α = .61).

The final boundlessness subscale contained eight items and assessed the extent to which one believes that there are ultimately non-existent boundaries between the self, other people, and all other animate and inanimate things in the world (e.g. “Having a concept of ‘me’ as separate from everything else is necessary for navigating the world, but ultimately I know that this separation is an illusion.”; M = 4.15, SD = 1.61, α = .93).

Individualism-Collectivism Scale. People’s endorsement of cultural values was assessed with the Individualism-Collectivism Scale (Singelis, Triandis, Bhawuk, & Gelfand, 1995). The Horizontal Individualism subscale contained eight items and assessed the extent to which one has an autonomous self and equal status with others. The Horizontal Collectivism subscale contained eight items and assessed the extent to which one is interconnected with other people.
and has equal status with others. All items were rated from 1 *Does not describe me at all* to 9 *Describes me very well*. We conducted an EFA on the subscales using a two-factor solution, and dropped three items that yielded item-total correlation less than .30 for the Horizontal Individualism subscale. The Cronbach alpha was .75 for the resulting 5-item Horizontal Individualism subscale \((M = 6.93, SD = 1.03)\) and .76 for the 8-item Horizontal Collectivism subscale \((M = 6.20, SD = 1.02)\).

**Self-Construal Scale.** We used the Self-Construal Scale to measure the extent to which individuals construed the self in relation to others (Hardin, Leong, & Bhagwat, 2004). We used the scale to measure the two higher-level independence and interdependence dimensions rather than the more fine-grained six dimensions. The scale contained thirty items, but in order to reduce participant burden, we selected ten items from each subscale that had yielded the highest factor loadings in the original study according to its authors (Hardin et al., 2004). The independent self-construal subscale contained ten items and measured the extent to which one construed the self as independent from other people. The interdependent self-construal subscale contained ten items and measured the extent to which one construed the self as interconnected with other people. All items were rated from 1 *Strongly disagree* to 9 *Strongly agree*. We conducted an EFA on the twenty items using a two-factor solution with oblique rotation, and dropped one item from the independent self-construal subscale and two items from the interdependent self-construal subscale that yielded item-total correlations less than .30. The Cronbach’s alpha was .79 for the resulting 9-item independent self-construal subscale \((M = 6.57, SD = 1.04)\) and .80 for the resulting 8-item interdependent self-construal subscale \((M = 5.49, SD = 1.12)\).

**Results**
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We first created a composite score of no-self averaging across the five dimensions of constructivist self-construal (reversing the boundaries sub-scale; $M = 4.48$, $SD = .99$, $\alpha = .86$). The correlations between constructivist self-construal and other types of self-construals are summarized in Table 2.

Table 2

*Correlations between Measures in Study 1*

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<td>5. Boundlessness</td>
<td>.81***</td>
<td>.26*</td>
<td>.39***</td>
<td>.66***</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Boundaries</td>
<td>-.67***</td>
<td>-.24*</td>
<td>-.27**</td>
<td>-.43***</td>
<td>-.47****</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Individualism</td>
<td>-.10</td>
<td>.16</td>
<td>.00</td>
<td>-.08</td>
<td>-.10</td>
<td>.33**</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Collectivism</td>
<td>-.11</td>
<td>.02</td>
<td>-.24*</td>
<td>-.08</td>
<td>-.03</td>
<td>.05</td>
<td>.09</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>9. Independent self</td>
<td>-.11</td>
<td>.17†</td>
<td>-.11</td>
<td>-.05</td>
<td>-.09</td>
<td>.30**</td>
<td>.52***</td>
<td>.17†</td>
<td>--</td>
</tr>
<tr>
<td>10. Interdependent self</td>
<td>-.08</td>
<td>-.05</td>
<td>-.08</td>
<td>-.12</td>
<td>-.02</td>
<td>.04</td>
<td>-.06</td>
<td>.54***</td>
<td>-.20*</td>
</tr>
</tbody>
</table>

*Note.* The composite variable no-self was computed by averaging across the five dimensions of constructivist self-construal.

The correlations between the five dimensions of self-construal were statistically significant and the magnitude ranged from small to moderate, supporting our hypothesis that the five dimensions constitute related but distinct aspects of the self. As evidence for discriminant validity, individualism, collectivism, independent self-construal and interdependent self-construal were not significantly correlated with no-self or most of its underlying dimensions. The boundaries dimension was moderately positively correlated with
individualism and independent self-construal, which was consistent with the conceptualization of independent self-construal (Markus & Kitayama, 1991) and provided evidence for convergent validity of this dimension.

To seek additional support for the notion that constructivist self-construal is a unique construct that is distinct from each of the other types of self-construals or cultural orientations (i.e., independent self-construal, interdependent self-construal, individualism, collectivism), we conducted confirmatory factor analyses testing its discriminant validity from each of the four other self-construals. That is, four separate analyses tested whether a model in which constructivist self-construal was allowed to differ from each other self-construal type (i.e., a two-factor model) was superior to an alternative model in which self-construal was constrained to be perfectly correlated with the other self-construal types (i.e., a one-factor model). Chi-square model comparison tests indicated that the two-factor models provided significantly better fit to the data than the one-factor models in all cases, demonstrating discriminant validity from each type of self-construal. That is, constructivist self-construal was distinct from independent self-construal, \( \Delta \chi^2 (1) = 58.51, p < .001 \), interdependent self-construal, \( \Delta \chi^2 (1) = 37.99, p < .001 \), individualism, \( \Delta \chi^2 (1) = 36.28, p < .001 \), and collectivism, \( \Delta \chi^2 (1) = 39.16, p < .001 \).

Discussion

In Study 1, we developed a multidimensional self-construal scale that measured four theoretical dimensions of the self: impermanence, discontinuity, disentification, and boundlessness. The results provided preliminary evidence for our hypothesis that the dimensions were positively related but also captured conceptually distinct aspects of the self. The results also indicated that the constructivist self-construal could be empirically distinguished from other self-construals and cultural orientations. The marginally positive correlation between independent
self-construal and impermanence was unexpected and inconsistent with our theory. We thus revisited this issue in Studies 2 and 3, aiming to test whether this unexpected finding in Study 1 was spurious or could be replicated using different methods (cross-cultural comparisons in Study 2, and priming/manipulating different types of self-construal in Study 3).

**Study 2**

In Study 2, we tested the hypothesis that people’s cognitive representations of the constructivist self are culturally universal, investigating whether the four theoretical dimensions adequately captured the structure of constructivist self-construal in a variety of cultures. Next, as we hypothesized culture to be an important factor in shaping individuals’ levels of endorsement of constructivist self-construal, we investigated whether individuals from different cultures endorsed this self-construal to varying degrees.

**Methods**

**Participants**

The sample included university students from Australia, Mainland China, Hong Kong, Italy, Japan, and Taiwan, as well as American adults recruited via MTurk. The study was only limited to participants who were native speakers and born in their respective countries. Demographic information for each country is summarized in Table 3. The majority of participants indicated membership in a major religion in their respective countries.

**Table 3**

*Demographic Information in Study 2*

<table>
<thead>
<tr>
<th>Country</th>
<th>N</th>
<th>Age</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Women</td>
<td>Men</td>
<td>M</td>
</tr>
<tr>
<td>Australia</td>
<td>68</td>
<td>41</td>
<td>27</td>
<td>19.83</td>
</tr>
<tr>
<td>China</td>
<td>60</td>
<td>30</td>
<td>30</td>
<td>20.97</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>45</td>
<td>32</td>
<td>13</td>
<td>21.00</td>
</tr>
<tr>
<td>Italy</td>
<td>49</td>
<td>38</td>
<td>11</td>
<td>23.36</td>
</tr>
</tbody>
</table>
CONSTRUCTIVIST SELF-CONSTRUAL

<table>
<thead>
<tr>
<th>Country</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>83</td>
<td>41</td>
</tr>
<tr>
<td>USA</td>
<td>161</td>
<td>77</td>
</tr>
<tr>
<td>Taiwan</td>
<td>74</td>
<td>31</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>42</td>
<td>20.02</td>
</tr>
<tr>
<td>USA</td>
<td>84</td>
<td>32.19</td>
</tr>
<tr>
<td>Taiwan</td>
<td>43</td>
<td>20.54</td>
</tr>
</tbody>
</table>

Procedure

Questionnaires were administered in English in countries where English was (one of) the official language(s) (i.e. Australia, Hong Kong, and the United States). For other countries, questionnaires were translated into the official language of the country and then back-translated to ensure compatibility of questions between languages and cultures. The procedures were the same in all countries except the United States. In the U.S., eligible MTurkers completed the questionnaires online. In all other countries, participants completed the same questionnaires in paper-and-pencil format during regular class periods. Measures are described below in the order they were presented to all participants in the study. All items were assessed using 9-point Likert scales in the U.S. and 7-point Likert scales in other countries. We used 9-point scales in the U.S. because reliability increases with increasing number of response alternatives (Lozano, García-Cueto, & Muñiz, 2008). It was not feasible to administer 9-point scales in paper-and-pencil format, however, which is why we used 7-point Likert scales in other countries. The response rate for all countries except the MTurk sample was 100%. The reliabilities of measures are summarized in Table 4.

Measures

The Multidimensional Self-Construal Scale. Participants completed the multidimensional self-construal scale described in Study 1. In order to minimize redundancy of items and reduce participant burden, we narrowed down to 26 items in the final scale. The correlations between the 32-item and 26-item scales for the five dimensions in Study 1 were all above .92, suggesting that we did not lose psychometric soundness by dropping the items. All
items were rated from *Completely disagree* to *Completely agree*, and overall four out of the 26 items were dropped due to item-total correlations less than .40 in at least one country.

Table 4

<table>
<thead>
<tr>
<th>Country</th>
<th>Impermanence</th>
<th>Discontinuity</th>
<th>Disentification</th>
<th>Boundaries</th>
<th>Boundlessness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>.76</td>
<td>.83</td>
<td>.86</td>
<td>.54</td>
<td>.91</td>
</tr>
<tr>
<td>China</td>
<td>.79</td>
<td>.80</td>
<td>.83</td>
<td>.58</td>
<td>.74</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>.54</td>
<td>.44</td>
<td>.80</td>
<td>.55</td>
<td>.76</td>
</tr>
<tr>
<td>Italy</td>
<td>.68</td>
<td>.71</td>
<td>.79</td>
<td>.72</td>
<td>.82</td>
</tr>
<tr>
<td>Japan</td>
<td>.73</td>
<td>.72</td>
<td>.70</td>
<td>.58</td>
<td>.81</td>
</tr>
<tr>
<td>USA</td>
<td>.79</td>
<td>.91</td>
<td>.91</td>
<td>.66</td>
<td>.93</td>
</tr>
<tr>
<td>Taiwan</td>
<td>.80</td>
<td>.73</td>
<td>.80</td>
<td>.70</td>
<td>.88</td>
</tr>
</tbody>
</table>

**Results**

**Do People’s Cognitive Representations of the Constructivist Self Differ across Cultures?**

To test for cross-cultural similarities and differences in people’s cognitive representations of the constructivist self-construal, we ran 1) confirmatory factor analyses testing the factor structure of constructivist self-construal both within each country and across all countries and 2) Fisher’s z correlations between the five dimensions, testing the equality of correlations across countries. To allow for comparisons across all countries, the data for all countries but the U.S., originally measured on 7-point scales, were converted to 9-point scales through linear transformation; the distributions of the variables remained untouched by the transformations.

For the confirmatory factor analyses, we tested a single-factor model (constructivist self-construal as a unidimensional construct), a four-factor model (impermanence, discontinuity, disentification, and boundlessness) according to our theory, and a five-factor model (impermanence, discontinuity, disentification, boundaries, and boundlessness) according to the exploratory factor analysis results from Study 1. Next, we conducted chi-square model
comparison tests between the single- and the four-factor model. As shown in Table 6, with the exception of Japan, the four-factor model demonstrated a consistently better model fit than the single-factor model, providing support for our theory that people’s cognitive representations of the constructivist self consist of four underlying dimensions rather than one dimension.

Furthermore, we conducted chi-square model comparison tests between the four-factor model and the five-factor model. As shown in Table 5, the five-factor model demonstrated a consistently better fit than the four factor model across all countries. Because including *boundlessness* and *boundaries* as two distinct but correlated dimensions significantly improved the model fit, and the resulting five-factor model was still broadly consistent with our theory, we used this five-dimensional structure of the self in all subsequent analyses. Taken together, the results of the confirmatory factor analyses indicated that people’s cognitive representations of the constructivist self share substantial cross-cultural similarities.

### Table 5

<table>
<thead>
<tr>
<th>Country</th>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\Delta\chi^2$</th>
<th>$\Delta df$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Single factor</td>
<td>467.20</td>
<td>209</td>
<td>47.97</td>
<td>9</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Four factors</td>
<td>419.23</td>
<td>200</td>
<td>23.26</td>
<td>1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Five factors</td>
<td>395.47</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Single factor</td>
<td>392.19</td>
<td>209</td>
<td>20.28</td>
<td>9</td>
<td>.016</td>
</tr>
<tr>
<td></td>
<td>Four factors</td>
<td>371.91</td>
<td>200</td>
<td>41.64</td>
<td>1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Five factors</td>
<td>330.27</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Single factor</td>
<td>397.57</td>
<td>209</td>
<td>44.21</td>
<td>9</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Four factors</td>
<td>353.36</td>
<td>200</td>
<td>26.14</td>
<td>1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Five factors</td>
<td>330.27</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>Single factor</td>
<td>362.61</td>
<td>209</td>
<td>30.44</td>
<td>9</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Four factors</td>
<td>332.17</td>
<td>200</td>
<td>26.14</td>
<td>1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Five factors</td>
<td>316.90</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>Single factor</td>
<td>365.05</td>
<td>209</td>
<td>11.24</td>
<td>9</td>
<td>.260</td>
</tr>
<tr>
<td></td>
<td>Four factors</td>
<td>353.81</td>
<td>200</td>
<td>46.90</td>
<td>1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Five factors</td>
<td>306.91</td>
<td>199</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>Single factor</td>
<td>640.48</td>
<td>209</td>
<td>78.24</td>
<td>9</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
Furthermore, in order to test the equality of correlations between the five dimensions across countries, we computed Fisher’s z correlations between all possible combinations of the five dimensions and all possible combinations of countries. We then calculated the average absolute Fisher z value, which was 1.08, with an average p-value of .39, indicating that the strengths of correlations between the five dimensions did not differ significantly across countries on average. The non-significance of the average Fisher z correlation again suggested more cross-cultural similarity than difference in people’s cognitive representations of the self.

Taken together, despite the variety of countries in our data, the results for two indices of cross-cultural similarity/difference yielded converging evidence that the structure of the constructivist self is rather similar across cultures. In other words, people’s cognitive representations of the constructivist self-construal did not depend on what country they were from. The results were particularly compelling given that the countries in our study vary drastically on the dimension of individualism-collectivism and different values are normatively sanctioned across countries (Hofstede & Hofstede, 2010). Yet, a cross-culturally robust structure or representation of the constructivist self does not necessarily mean that the constructivist self will also be endorsed to the same extent across cultures. It is possible that people’s cognitive representations of the constructivist self do not differ across cultures, but the extent to which they engage in construing their self from a constructivist perspective does differ across cultures. In fact, this is what we had hypothesized and tested next.
CONSTRUCTIVIST SELF-CONSTRUAL

Which Aspects of the Constructivist Self Are Hardest for People to Endorse?

To test if, and, if so, which, aspects of the constructivist self are harder to endorse for some people than for others, we conducted a mixed design 7 (Country) X 5 (Self-Construal Dimension) ANOVA with country as a between-subjects factor and self-construal dimension as a within-subject factor. The main effect of self-construal dimension yields the answer to the question of whether some aspects of the constructivist self are generally (regardless of country) harder to endorse than others. This main effect was significant, $F(4, 2132) = 204.09, p < .001, \eta^2_p = .28$, indicating that people endorsed different dimensions of the constructivist self to different degrees, independent of culture. Means and standard deviations for the five dimensions in all countries are summarized in Table 6. Follow-up within-subject contrasts revealed that regardless of culture, impermanence was endorsed most strongly by participants, followed by boundaries and discontinuity. Boundlessness and disentification were shown to be the most difficult to endorse for participants. All contrasts were statistically significant, $F_{S}(1, 533) > 3.89, ps < .05$.

Although specific patterns of endorsement generally varied as a function of country (see the interaction results reported below), impermanence was consistently endorsed most strongly in all seven countries. In a similar vein, participants from China, Hong Kong, and Italy rated disentification as the least strongly endorsed dimension, and participants from Australia, Japan, and Taiwan rated it as the second least strongly endorsed dimension.
Table 6

Means and Standard Deviations of the Five Dimensions of Constructivist Self-Construal across Countries in Study 2

<table>
<thead>
<tr>
<th>Country</th>
<th>N</th>
<th>Impermanence M</th>
<th>SD</th>
<th>Discontinuity M</th>
<th>SD</th>
<th>Disentification M</th>
<th>SD</th>
<th>Boundaries M</th>
<th>SD</th>
<th>Boundlessness M</th>
<th>SD</th>
<th>No-self M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>69</td>
<td>6.61</td>
<td>1.39</td>
<td>5.21</td>
<td>1.76</td>
<td>4.24</td>
<td>1.66</td>
<td>5.02</td>
<td>1.61</td>
<td>4.70</td>
<td>1.78</td>
<td>5.16</td>
<td>0.93</td>
</tr>
<tr>
<td>China</td>
<td>60</td>
<td>7.38</td>
<td>1.42</td>
<td>4.19</td>
<td>1.61</td>
<td>3.98</td>
<td>1.57</td>
<td>5.33</td>
<td>1.55</td>
<td>4.25</td>
<td>1.23</td>
<td>5.03</td>
<td>0.74</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>45</td>
<td>6.27</td>
<td>0.86</td>
<td>4.97</td>
<td>1.00</td>
<td>4.99</td>
<td>1.35</td>
<td>5.77</td>
<td>1.25</td>
<td>5.13</td>
<td>1.01</td>
<td>5.43</td>
<td>0.63</td>
</tr>
<tr>
<td>Italy</td>
<td>50</td>
<td>6.27</td>
<td>1.59</td>
<td>4.67</td>
<td>1.75</td>
<td>4.21</td>
<td>1.69</td>
<td>5.08</td>
<td>1.83</td>
<td>4.77</td>
<td>1.45</td>
<td>5.00</td>
<td>0.86</td>
</tr>
<tr>
<td>Japan</td>
<td>83</td>
<td>7.34</td>
<td>1.23</td>
<td>4.20</td>
<td>1.50</td>
<td>5.00</td>
<td>1.34</td>
<td>4.66</td>
<td>1.74</td>
<td>4.48</td>
<td>1.36</td>
<td>5.14</td>
<td>0.77</td>
</tr>
<tr>
<td>USA</td>
<td>161</td>
<td>6.59</td>
<td>1.50</td>
<td>5.44</td>
<td>2.00</td>
<td>4.09</td>
<td>1.96</td>
<td>6.28</td>
<td>1.56</td>
<td>4.22</td>
<td>1.82</td>
<td>5.33</td>
<td>1.04</td>
</tr>
<tr>
<td>Taiwan</td>
<td>74</td>
<td>7.35</td>
<td>1.23</td>
<td>5.90</td>
<td>1.29</td>
<td>4.62</td>
<td>1.25</td>
<td>5.86</td>
<td>1.53</td>
<td>4.47</td>
<td>1.33</td>
<td>5.65</td>
<td>0.69</td>
</tr>
</tbody>
</table>

Does People’s Endorsement of the Constructivist Self Differ across Cultures?

To examine the extent to which people’s endorsement of constructivist self-construal varies across cultures, we used evidence from 1) intraclass correlations testing to what extent the variability in responses to the five dimensions was explained by differences in countries and 2) the main effect of country, from the same Country X Self-Construal Dimension mixed ANOVA described above.

We used hierarchical linear modeling (HLM 7; Raudenbush, Bryk, & Condgon, 2011) to estimate the individual and country variability in the five dimensions that were needed to compute intraclass correlations (ICC). Individual variability was estimated at Level 1, country variability at Level 2. As shown in Table 7, all the Level 2 variances (country variability) were statistically significant across the five dimensions, indicating that country differences explained a significant amount of variability in endorsement of constructivist self-construal. It is also important to note that even though the country variability was significant, the magnitude of ICCs was not large. Instead, individual variability accounted for a substantial amount of variability (> 90%) in endorsement of...
constructivist self-construal, suggesting that individual differences in endorsement of the constructivist self might be malleable, which later led to our central research question in Study 3.

Table 7

Intraclass Correlations of Variability in the Five Dimensions of Constructivist Self-Construal in Study 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level 1, $\sigma^2$</th>
<th>Level 2, $\tau$</th>
<th>$p$</th>
<th>ICC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impermanence</td>
<td>1.84</td>
<td>0.19</td>
<td>&lt; .001</td>
<td>9.15%</td>
</tr>
<tr>
<td>Discontinuity</td>
<td>2.81</td>
<td>0.31</td>
<td>&lt; .001</td>
<td>9.90%</td>
</tr>
<tr>
<td>Disentification</td>
<td>2.67</td>
<td>0.11</td>
<td>&lt; .001</td>
<td>4.03%</td>
</tr>
<tr>
<td>Boundaries</td>
<td>2.53</td>
<td>0.26</td>
<td>&lt; .001</td>
<td>9.46%</td>
</tr>
<tr>
<td>Boundlessness</td>
<td>2.36</td>
<td>0.05</td>
<td>.006</td>
<td>1.94%</td>
</tr>
<tr>
<td>No-self</td>
<td></td>
<td></td>
<td></td>
<td>6.90%</td>
</tr>
</tbody>
</table>

Note. Level 1, $\sigma^2$ represents individual variability; Level 2, $\tau$ represents country variability; ICC = $\tau/(\sigma^2 + \tau)$

The main effect of country from the Country X Constructivist Self-Construal Dimension mixed ANOVA was significant, $F(6, 533) = 4.60$, $p < .001$, $\eta^2_p = .05$, but was further qualified by a significant Country X Self-Construal Dimension interaction, $F(24, 2132) = 9.89$, $p < .001$, $\eta^2_p = .10$, indicating that (a) people’s endorsement of the constructivist self does differ across cultures, and that (b) this cultural difference further depends on the particular aspects of the constructivist self.

In order to first compare the endorsement of the constructivist self across countries regardless of the particular aspects of the constructivist self, we conducted follow-up contrasts of self-construal between countries (i.e. the main effect of country) based on the composite score of the constructivist self averaging across the dimensions. As shown in Table 8, participants from Taiwan demonstrated significantly greater endorsement of constructivist self-construal than participants from Australia, China, Italy, Japan, and the USA. Participants from Hong Kong and
the U.S. in turn endorsed constructivist self-construal more strongly than participants from China and Italy. None of the other contrasts between countries reached statistical significance.

Table 8

Contrasts between Countries for Constructivist Self-Construal, Averaging across the Five Dimensions in Study 2

<table>
<thead>
<tr>
<th>Country</th>
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<tr>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2. China</td>
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<td>5.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.83</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. Hong Kong</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>2.30*</td>
<td>0.63</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Italy</td>
<td>-0.16</td>
<td>-0.03</td>
<td>-0.43</td>
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<td></td>
</tr>
<tr>
<td></td>
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<td>-2.36*</td>
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<td></td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
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<td>-1.73†</td>
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<td>0.77</td>
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</tr>
<tr>
<td>6. USA</td>
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<td>-0.68</td>
<td>2.29*</td>
<td>1.52</td>
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</tr>
<tr>
<td>7. Taiwan</td>
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<td>0.62</td>
<td>0.22</td>
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<td>0.50</td>
<td>0.32</td>
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</tr>
<tr>
<td></td>
<td>3.32**</td>
<td>4.04***</td>
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<td>4.01***</td>
<td>3.56***</td>
<td>2.59**</td>
<td>0.69</td>
</tr>
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</table>

Note. Off diagonally, the first rows in each cell represent unstandardized estimates and the second rows represent t values for each pair of countries. Diagonally, the first rows in each cell represent means and the second rows represent standard deviations for each country. † p < .10. * p < .05. ** p < .01. *** p < .001.

As indicated by the interaction between country and self-construal dimension, these differences in endorsement of the constructivist self further depended on the specific self-construal dimensions. For impermanence, two distinct clusters emerged: participants from Taiwan, China, and Japan endorsed impermanence more strongly than participants from Australia, Italy, Hong Kong, and the U.S. (see Table 9). Unlike the marginally positive correlation between independent self-construal and impermanence in Study 1, in Study 2 participants from more collectivistic cultures who past research has shown to have an interdependent self-construal endorsed impermanence to a greater extent than participants from
more individualistic cultures who past research has shown to have an independent self-construal, which was in line with our theoretical prediction. For discontinuity, participants from Taiwan endorsed it more strongly than participants from any other country. Participants from China and Japan, however, endorsed discontinuity less strongly than participants from Australia, Hong Kong, and the U.S. (see Table 10). For disentification, participants from Japan and Hong Kong endorsed it more strongly than participants from Australia, China, Italy, and the United States. Participants from Taiwan were in the middle, endorsing disentification more strongly than participants from China and the U.S., but not differently than participants from any other country (see Table 11). For boundaries, participants from the U.S. endorsed them more strongly than participants from any other country. Furthermore, participants from Hong Kong and Taiwan endorsed boundaries more strongly than participants from Australia, Italy, and Japan. Participants from China were in the middle, endorsing boundaries marginally less strongly than participants from Taiwan and more strongly than participants from Japan (see Table 12). For boundlessness, participants from Hong Kong endorsed them more strongly than participants from China, Japan, and Taiwan. Consistent with the results for boundaries, participants from the U.S. endorsed boundlessness less strongly than participants from Australia, Italy, and Hong Kong (see Table 13).

Table 9

<table>
<thead>
<tr>
<th>Country</th>
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<td>-4.10***</td>
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Contrasts between Countries for Impermanence in Study 2
CONSTRUCTIVIST SELF-CONSTRUAL

<table>
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<td>China</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>-3.43***</td>
<td>1.61</td>
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<td></td>
</tr>
<tr>
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<td>0.77</td>
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</tr>
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<td></td>
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<td>0.03</td>
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<td>-1.53</td>
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<td>0.78</td>
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<td>5.44</td>
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<tr>
<td></td>
<td>0.95</td>
<td>4.90***</td>
<td>1.68†</td>
<td>2.85***</td>
<td>5.42***</td>
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<td>2.93***</td>
<td>4.00***</td>
<td>6.28***</td>
<td>1.93†</td>
<td>1.29</td>
</tr>
</tbody>
</table>

Note. Off diagonally, the first rows represent unstandardized estimates and the second rows represent t values for each pair of countries. Diagonally, the first rows represent means and the second rows represent standard deviations for each country.

† p < .10. * p < .05. ** p < .01. *** p < .001.

Table 10

Contrasts between Countries for Discontinuity in Study 2
Table 12

<table>
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<th>Country</th>
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<td>1.55</td>
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<td></td>
</tr>
<tr>
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<td>5.08</td>
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<td>Japan</td>
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<td>-0.42</td>
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Note. Off diagonally, the first rows represent unstandardized estimates and the second rows represent t values for each pair of countries. Diagonally, the first rows represent means and the second rows represent standard deviations for each country.
† p < .10. * p < .05. ** p < .01. *** p < .001.

Table 13

<table>
<thead>
<tr>
<th>Country</th>
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<td>4.25</td>
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</table>

Note. Off diagonally, the first rows represent unstandardized estimates and the second rows represent t values for each pair of countries. Diagonally, the first rows represent means and the second rows represent standard deviations for each country.
† p < .10. * p < .05. ** p < .01. *** p < .001.
CONSTRUCTIVIST SELF-CONSTRUAL

<p>| | | | | | |</p>
<table>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
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<tr>
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<td>1.01</td>
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</tr>
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Note. Off diagonally, the first rows represent unstandardized estimates and the second rows represent t values for each pair of countries. Diagonally, the first rows represent means and the second rows represent standard deviations for each country.

† p < .10. * p < .05. ** p < .01. *** p < .001.

In summary, participants from Taiwan consistently showed greater endorsement of the constructivist self-construal compared to other countries, whereas countries such as the U.S. demonstrated generally less endorsement of the constructivist self-construal. Yet, even in countries with generally lower endorsement of the constructivist self, some aspects of the constructivist self were endorsed strongly relative to other countries (e.g. discontinuity in the U.S., disentification and boundlessness in Hong Kong). With respect to our question of cultural differences, it is safe to say that while people from different cultures share very similar cognitive representations of the constructivist self, they nevertheless differ in the extent to which they endorse (particular aspects of) the constructivist self.

Discussion

Study 2 demonstrated the universality of people’s cognitive representations of the constructivist self in a variety of cultures. Regardless of cultural background, people substantially agreed that constructivist self-construal encompasses a view of the self that is impermanent, discontinuous, without an essence, and interconnected with other people and things in the universe. Even though the constructivist self was universal in its cognitive
representation in people’s minds, its endorsement differed depending on culture. People from
countries such as Taiwan and Hong Kong showed greater endorsement of the constructivist self-
construal, whereas people from countries such as the U.S. and Italy showed less endorsement of
the constructivist self-construal. People from countries such as China and Japan were more
variable, endorsing constructivist self-construal to a greater extent on some dimensions (e.g.,
impermanence) but less so on others (e.g., discontinuity). Importantly, the variations in levels of
endorsement were also dependent on specific aspects of the constructivist self. Further, the
findings that in all countries 1) a substantial amount of variability in endorsing the constructivist
self was explained by individual differences and 2) people endorsed at least one aspect of
constructivist self-construal strongly lend tangential support for our hypothesis that constructivist
self-construal should be malleable even in countries where it is generally endorsed to rather
small degrees.

Study 3

Study 3 tested whether constructivist self-construal is malleable. To this end, we aimed to
experimentally induce constructivist self-construal in an individualistic culture, among American
participants. We predicted that Americans who were primed with constructivist self-construal
would endorse to a greater extent the belief that the self is impermanent, discontinuous, without
an essence, and largely interconnected with the elements in the universe, compared to
participants who did not receive any prime, or those who were primed with independent or
interdependent self-construal. Additionally, whereas Study 1 differentiated constructivist self-
construal from other relevant cultural constructs (e.g., independent and interdependent self-
construals) using existing measures, Study 3 sought to establish these differences using an
experimental priming method.
Furthermore, because individual differences in cognitive flexibility, more specifically, in the habitual effort of taking another’s viewpoint might affect the endorsement of that viewpoint, we examined whether perspective-taking moderated the effect of primes on people’s endorsement of constructivist self-construal dimensions. We predicted that perspective-taking would be overall positively associated with the endorsement of constructivist self-construal. Critically, self-construal should be malleable among high but not low perspective-takers, as perspective-taking might be required to adopt a type of self-construal that diverges from the type people are culturally predisposed to.

Lastly, Study 3 also examined whether (manipulated) constructivist self-construal leads to prosocial outcomes and ethical decisions, and whether its endorsement is necessary for positive outcomes to emerge, or whether mere exposure to it may be sufficient.

Methods

Participants

Five hundred and ninety Americans were recruited via MTurk and each respondent was paid one dollar for participation. Fourteen participants were excluded from subsequent analyses because they reported to find the experimental primes non-credible or misunderstood them. Another thirty-one participants were excluded due to incorrect answers to questions that checked whether or not they had paid sufficient attention to the experimental primes. The final sample thus consisted of 545 participants (56.33% female; average age = 34.13 years, $SD = 11.82$; 29.91% of participants had some college and 39.82% of participants had a bachelor’s degree).

Procedure

Participants were randomly assigned to read one of three descriptions of the self: independent, interdependent, or constructivist (see Appendix B). Each description was a
narrative about how to achieve happiness via understanding that the self is (a) independent of other people and things (independent condition), (b) interconnected with other people but independent of things (interdependent condition), or (c) a moment-by-moment construction interconnected with other people and things (constructivist condition). In a fourth condition that served as a baseline, participants did not read anything. Given the differences in familiarity and complexity of self-construals, we considered it necessary to describe certain concepts in detail, which inevitably resulted in greater length of narrative in the constructivist condition. After the experimental manipulation, three manipulation check questions were administered to ensure that participants had paid sufficient attention to the primes. In each question, there was clearly only one correct answer that corresponded to each prime (e.g. “According to the author of the article you just read, the self is something that exists ________?: (a) independently of other people and things (independent self-construal), (b) interconnected with other people but independent of things (interdependent self-construal), (c) as a moment-by-moment construction interconnected with but not overly attached to other people and things (constructivist self-construal)”).

Participants in the baseline condition were not asked manipulation check questions.

**Measures**

After the manipulation check, participants completed the same 26-item multidimensional self-construal scale used in Study 2: impermanence: $\alpha = .77$, $M = 6.18$, $SD = 1.35$, discontinuity: $\alpha = .90$, $M = 5.09$, $SD = 1.79$, disentification: $\alpha = .86$, $M = 4.25$, $SD = 1.70$, boundaries: $\alpha = .73$, $M = 5.87$, $SD = 1.60$, boundlessness: $\alpha = .93$, $M = 4.61$, $SD = 1.71$. All items were rated on visual analog scales from 1 (Completely disagree) to 9 (Completely agree). In addition, participants also completed measures assessing their perspective-taking, prosociality, and ethical decision-making.
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Other-Kindness. Individuals’ kindness and understanding toward other people was assessed using three items of the Other-Kindness subscale from the Compassion Scale (Pommier, 2011; e.g. “If I see someone going through a difficult time, I try to be caring toward that person.”). All items were rated from 1 (Almost never) to 9 (Almost always) ($\alpha = .90$, $M = 7.18$, $SD = 1.42$).

Ethical decision-making. Participants’ ethical decisions were measured with two scenarios pertaining to ethical dilemmas (i.e., the Trolley Dilemma and the Footbridge Dilemma). In each dilemma, a run-away trolley is about to kill five people. These people can be saved, however, by either flipping a switch thereby rerouting the trolley to kill only one person (the Trolley Dilemma) or by pushing a fat man from a footbridge such that he stops the trolley but is killed himself (the Footbridge Dilemma). In the moral psychology literature, the decision to kill one person in order to save five is used as an index of utilitarian-consequentialist reasoning (Greene, 2008). Under this view, an action is reasoned to be morally right if the consequences following that action are good. On the other hand, the decision to not intervene but thereby also not taking part in harming another person, is used as an index of deontological, harm-based reasoning (Greene, 2008). Under this view, an action is reasoned to be morally right if the intention behind the action is good. Given that no prior research has examined the level of self-construal in relation to utilitarian or deontological reasoning, our attempt at investigating the association between constructivist self-construal and ethical decision-making was exploratory in nature and we made no specific predictions. Participants indicated the extent to which they would intervene in each scenario from 1 (No, absolutely not) to 9 (Yes, absolutely).

Perspective-Taking. Perspective-taking was measured by four items taken from the perspective-taking subscale of the Interpersonal Reactivity Index (Davis, 1980). This subscale
assessed the degree to which one attempts to adopt other people’s point of view (e.g. “When I’m upset at someone, I usually try to ‘put myself in his shoes’ for a while.”). All items were rated from 1 (Does not describe me well) to 9 (Describes me very well) ($\alpha = .80$, $M = 6.34$, $SD = 1.46$).

Following others (e.g., Feygina, Jost, & Goldsmith, 2009; Hirschberger & Ein-Dor, 2006; Leidner, Castano, Zaiser, & Giner-Sorolla, 2010), the potential moderator (i.e., perspective-taking) was administered towards the end of the study in order to avoid making participants suspicious of the study goal or to increase demand characteristics.

**Results**

A one-way ANOVA with self-construal condition (baseline vs. independence vs. interdependence vs. constructivist) as the independent variable and perspective-taking as the dependent variable revealed that perspective-taking was unaffected by the experimental manipulation, $F(3, 541) = .85$, $p = .47$, $\eta^2_p = .005$, allowing us to use this variable as a moderator.

We created a composite score of no-self, averaging across impermanence, discontinuity, disentification, boundlessness, and boundaries ($\alpha = .88$). We used the composite score as our first dependent variable, providing evidence that people endorsed the idea of no-self more after being primed with constructivist views of the self. Then for each dependent variable, we conducted a moderated regression analysis with condition, perspective-taking (PT), and the interaction between condition and PT as independent variables. Moderated regression results are summarized in Table 14, contrasts to main effects are summarized in Table 15, and simple effects in Table 16.
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Table 14

Moderated Regression Results in Study 3

<table>
<thead>
<tr>
<th>Condition</th>
<th>PT</th>
<th>C X PT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F(df)</td>
<td>η²</td>
</tr>
<tr>
<td>No-self</td>
<td>2.08 (.3,537)</td>
<td>.01</td>
</tr>
<tr>
<td>Impermanence</td>
<td>.98 (.3,537)</td>
<td>.01</td>
</tr>
<tr>
<td>Discontinuity</td>
<td>1.40 (.3,537)</td>
<td>.01</td>
</tr>
<tr>
<td>Disentification</td>
<td>6.51*** (.3,537)</td>
<td>.04</td>
</tr>
<tr>
<td>Boundlessness</td>
<td>11.14*** (.3,537)</td>
<td>.06</td>
</tr>
<tr>
<td>Boundaries</td>
<td>19.52*** (.3,537)</td>
<td>.10</td>
</tr>
<tr>
<td>Otherkindness</td>
<td>2.15† (.3,537)</td>
<td>.01</td>
</tr>
<tr>
<td>Trolley</td>
<td>1.56 (.3,537)</td>
<td>.01</td>
</tr>
<tr>
<td>Footbridge</td>
<td>.60 (.3,537)</td>
<td>.00</td>
</tr>
</tbody>
</table>

Note. PT = perspective-taking. C X PT = the interaction between condition and perspective-taking.
† p < .10. * p < .05. ** p < .01. *** p < .001.

Table 15

Outcome Means in Study 3

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Indep</th>
<th>Inter</th>
<th>Construct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>No-self</td>
<td>5.35a (0.93)</td>
<td>5.10ab (0.85)</td>
<td>5.12ab (0.78)</td>
<td>5.21b (1.01)</td>
</tr>
<tr>
<td>Impermanence</td>
<td>6.19 (1.41)</td>
<td>6.06 (1.33)</td>
<td>6.13 (1.22)</td>
<td>6.33 (1.41)</td>
</tr>
<tr>
<td>Discontinuity</td>
<td>5.26a (1.90)</td>
<td>4.86b (1.71)</td>
<td>5.04ab (1.72)</td>
<td>5.14b (1.77)</td>
</tr>
<tr>
<td>Disentification</td>
<td>4.09a (1.96)</td>
<td>3.94b (1.49)</td>
<td>4.18a (1.45)</td>
<td>4.77b (1.66)</td>
</tr>
<tr>
<td>Boundlessness</td>
<td>4.24a (1.80)</td>
<td>4.22a (1.61)</td>
<td>4.88b (1.56)</td>
<td>5.17b (1.63)</td>
</tr>
<tr>
<td>Boundaries</td>
<td>6.28a (1.56)</td>
<td>6.43a (1.36)</td>
<td>5.39b (1.57)</td>
<td>5.34b (1.59)</td>
</tr>
<tr>
<td>Otherkindness</td>
<td>7.11a (1.52)</td>
<td>7.15ab (1.51)</td>
<td>7.06ab (1.40)</td>
<td>7.39b (1.23)</td>
</tr>
<tr>
<td>Trolley</td>
<td>6.69 (2.25)</td>
<td>6.65 (2.17)</td>
<td>6.31 (2.34)</td>
<td>6.20 (2.50)</td>
</tr>
<tr>
<td>Footbridge</td>
<td>3.92 (2.58)</td>
<td>4.22 (2.54)</td>
<td>3.78 (2.37)</td>
<td>3.94 (2.55)</td>
</tr>
</tbody>
</table>

Note. Indep = independent self-construal. Inter = interdependent self-construal. Construct = constructivist self-construal. Within each row, means with different subscripts differ at the .05 level of significance.
Table 16

Outcome Means and Simple Effects at 1 SD Below and Above Perspective-Taking Mean in Study 3

<table>
<thead>
<tr>
<th></th>
<th>Low Perspective-Takers</th>
<th>High Perspective-Takers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Indep</td>
</tr>
<tr>
<td>No-self</td>
<td>5.13</td>
<td>5.21</td>
</tr>
<tr>
<td>Impermanence</td>
<td>5.87</td>
<td>6.21</td>
</tr>
<tr>
<td>Discontinuity</td>
<td>5.33</td>
<td>5.10</td>
</tr>
<tr>
<td>Disentification</td>
<td>4.18</td>
<td>4.23</td>
</tr>
<tr>
<td>Boundlessness</td>
<td>4.39</td>
<td>4.36</td>
</tr>
<tr>
<td>Boundaries</td>
<td>5.88</td>
<td>6.17</td>
</tr>
<tr>
<td>Otherkindness</td>
<td>6.24</td>
<td>6.43</td>
</tr>
<tr>
<td>Trolley</td>
<td>6.75</td>
<td>6.81</td>
</tr>
<tr>
<td>Footbridge</td>
<td>4.15</td>
<td>4.56</td>
</tr>
</tbody>
</table>

Note. Indep = independent self-construal. Inter = interdependent self-construal. Construct = constructivist self-construal. Within each row for low and high perspective-taking respectively, means with different subscripts differ at the .05 level of significance.

No-self. The interaction between condition and PT was significant (see Figure 2). Simple slope effects indicated that greater PT was associated with stronger endorsement of no-self in the constructivist condition, $\beta = .22, t(537) = 2.82, p = .005$. Slopes in the other three conditions were not statistically significant. Simple effects at 1 SD below and above mean PT revealed that whereas low perspective-takers did not differ in terms of no-self across conditions, high perspective-takers in the constructivist condition reported significantly greater endorsement of no-self than participants in the baseline, independent, and interdependent conditions. In addition, high perspective-takers in the independent condition reported significantly lower endorsement of no-self than participants in the
baseline condition. No other comparisons reached statistical significance.

![Graph showing self-construal and perspective-taking interaction]

**Figure 2.** The interaction between self-construal and perspective-taking predicts *no-self*. Low and high perspective-taking are plotted at 1 standard deviation below and above the mean.

**Impermanence.** The main effect of PT and its interaction with condition were significant (see Figure 3). Simple slope effects indicated that greater PT was associated with stronger endorsement of impermanence in the constructivist condition, $\beta = .25$, $t(537) = 2.14$, $p = .033$, and the baseline condition, $\beta = .30$, $t(537) = 2.77$, $p = .006$. Slopes in the other two conditions were not statistically significant. Simple effects at 1 SD below and above mean PT revealed that whereas low perspective-takers did not differ in terms of impermanence across conditions, high perspective-takers in both the constructivist condition and the baseline condition reported significantly greater impermanence than participants in the independent condition. No other comparisons reached statistical significance.
Figure 3. The interaction between self-construal and perspective-taking predicts impermanence. Low and high perspective-taking are plotted at 1 standard deviation below and above the mean.

**Discontinuity.** The interaction was significant (see Figure 4). The simple slope indicated that greater PT was associated with stronger endorsement of discontinuity in the constructivist condition, $\beta = .39$, $t(537) = 2.52$, $p = .012$. Slopes in the other three conditions were not statistically significant. Simple effects at 1 SD below and above mean PT revealed that low perspective-takers in the constructivist condition reported marginally less discontinuity than participants in the baseline condition, whereas high perspective-takers in the constructivist condition reported significantly more discontinuity than participants in the independent condition, and marginally more discontinuity than participants in the interdependent condition. Similarly, high perspective-takers in the baseline condition reported significantly more discontinuity than participants in the independent condition. No other comparisons reached statistical significance.
Figure 4. The interaction between self-construal and perspective-taking predicts discontinuity. Low and high perspective-taking are plotted at 1 standard deviation below and above the mean.

**Disentification.** The main effect of condition was significant. Follow-up contrasts to the main effect of condition revealed that participants in the constructivist condition reported significantly stronger endorsement of disentification than participants in the baseline, independent, and interdependent conditions; the latter three conditions did not differ from each other. The main effect of condition was qualified by a marginally significant interaction of condition and PT (see Figure 5). Simple slope tests indicated that greater PT was associated with less endorsement of disentification in the independent condition, \( \beta = -.32, t(537) = -2.14, p = .033 \). PT was positively associated with endorsement of disentification in the constructivist condition, but the slope was only trending towards significance, \( \beta = .21, t(537) = 1.43, p = .155 \). Simple effects at 1 SD below and above mean PT revealed that whereas low perspective-takers did not differ in terms of disentification across conditions, high perspective-takers in the constructivist condition reported significantly more disentification than participants in each of the three other conditions. Furthermore, participants in the interdependent condition reported
marginally more disentification than participants in the independent condition. No other comparison reached statistical significance.

![Figure 5](http://mc.manuscriptcentral.com/jccp)

Figure 5. The interaction between self-construal and perspective-taking predicts disentification. Low and high perspective-taking are plotted at 1 standard deviation below and above the mean.

**Boundlessness.** The main effect of condition was significant. Follow-up contrasts to the main effect of condition revealed that participants in the constructivist condition reported significantly stronger endorsement of boundlessness than participants in the baseline and independent condition. Likewise, participants in the interdependent condition reported significantly stronger endorsement of boundlessness than participants in the baseline and independent conditions. The baseline did not differ from the independent condition, nor did the constructivist condition differ from the interdependent condition. The main effect of condition was qualified by a significant interaction of condition and PT (see Figure 6). The simple slope effect indicated that greater PT was related to greater endorsement of boundlessness in the constructivist condition, $\beta = .43, t(537) = 2.96, p = .003$. Slopes in the other three conditions were not statistically significant. Simple effects at 1 $SD$ below and above mean PT revealed that whereas low perspective-takers did not differ in terms of boundlessness across conditions, high
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Perspective-takers in the constructivist condition reported significantly more boundlessness than participants in each of the three other conditions. Moreover, participants in the interdependent condition reported significantly more boundlessness than participants in the independent and baseline conditions. No other comparison reached statistical significance.

**Figure 6.** The interaction between self-construal and perspective-taking predicts boundlessness. Low and high perspective-taking are plotted at 1 standard deviation below and above the mean.

**Boundaries.** The main effect of condition was significant. Follow-up contrasts to the main effect of condition revealed that participants in both the constructivist and the interdependent conditions reported significantly less boundaries than participants in both the baseline and the independent conditions. Neither constructivist and interdependent, nor baseline and independent conditions, differed from one another. The main effect of condition was qualified by a significant interaction of condition and PT (see Figure 7). Simple slopes indicated that greater PT was associated with greater endorsement of boundaries in the baseline condition, $\beta = .37$, $t(537) = 3.10$, $p = .002$, and the independent condition, $\beta = .29$, $t(537) = 2.12$, $p = .035$. Greater PT was associated with less endorsement of boundaries in the interdependent and constructivist conditions, but the effects did not reach significance, $\beta = -.16$, $t(537) = -1.24$, $p$
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= .214, β = .17, t(537) = -1.29, p = .196, respectively. Simple effects at 1 SD below and above mean PT revealed that compared with the independent condition, low perspective-takers reported significantly less boundaries in both the constructivist and interdependent conditions. High perspective-takers showed a similar pattern, but even more strongly, reporting significantly less boundaries in the constructivist and interdependent conditions, compared with both the independent and baseline conditions.

![Graph showing boundaries for different conditions](image)

*Figure 7. The interaction between self-construal and perspective-taking predicts boundaries. Low and high perspective-taking are plotted at 1 standard deviation below and above the mean.*

**Other-kindness.** The main effect of condition was marginally significant. Follow-up contrasts to the main effect of condition revealed that participants in the constructivist condition reported significantly more other-kindness than participants in the baseline condition, and marginally so than participants in the interdependent condition. The main effect of PT was significant, which was further qualified by a marginally significant interaction of PT and condition (see Figure 8). The main effect of PT and simple slopes indicated that across all conditions, PT was positively associated with other-kindness, βs > .40, ts > 4.00, ps < .001. Simple effects at 1 SD below and above mean PT revealed that low perspective-takers reported
significantly greater other-kindness in the constructivist condition than in each of the other three conditions. High perspective-takers did not differ from each other in terms of other-kindness.

Figure 8. The interaction between self-construal and perspective-taking predicts other-kindness. Low and high perspective-taking are plotted at 1 standard deviation below and above the mean.

Trolley dilemma. The interaction of condition and PT was statistically significant (see Figure 9). Simple slopes indicated that greater PT was associated with greater likelihood of sacrificing one person to save five others in the constructivist condition, $\beta = .61$, $t(537) = 3.02$, $p = .003$. Slopes in the other three conditions were not statistically significant. Simple effects at 1 SD below and above mean PT revealed that whereas high perspective-takers did not differ in their likelihood of sacrificing one person to save five others across conditions, low perspective-takers in the constructivist condition were significantly less likely to sacrifice one person to save five others than in the independent condition as well as the baseline condition, and marginally so
compared with the interdependent condition.

*Figure 9.* The interaction between self-construal and perspective-taking predicts the trolley dilemma. Low and high perspective-taking are plotted at 1 standard deviation below and above the mean.

**Footbridge dilemma.** The interaction of condition and PT was significant (see Figure 10). Similar to the trolley problem, simple slopes indicated that greater PT was associated with greater likelihood of sacrificing one person to save five others in the constructivist condition, $\beta = .51$, $t(537) = 2.36$, $p = .019$. Simple effects at 1 $SD$ below and above mean PT revealed that low perspective-takers in the constructivist condition were significantly less likely to sacrifice one person to save five others than in the independent condition, and marginally so compared with the baseline condition. High perspective-takers, on the other hand, were significantly more likely to sacrifice one person to save five others in the constructivist condition compared with the interdependent condition, and marginally so compared with the baseline condition.
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Figure 10. The interaction between self-construal and perspective-taking predicts the footbridge dilemma. Low and high perspective-taking are plotted at 1 standard deviation below and above the mean.

Discussion

Study 3 showed that constructivist self-construal was shifted by contextual influences and could be endorsed by participants who grew up in an individualistic society. Furthermore, when the dominant cultural values were incongruent with the contextual influences of the constructivist view of the self, individual differences in perspective-taking modulated the effect of contextual influences on people’s actual endorsement of constructivist self-construal. When being exposed to the constructivist view of the self, high perspective-takers tended to endorse constructivist self-construal to a greater extent than low perspective-takers.

Furthermore, the finding that endorsement of impermanence was lowest in the independent condition and highest in the constructivist condition again provided us with more confidence that the marginally positive correlation between independent self-construal and impermanence in Study 1 may have been spurious. This finding in Study 3 instead supported our
theoretical prediction that independent self-construal is characterized by permanence, not impermanence.

Moreover, results of Study 3 provided causal support for the positive impact of constructivist self-construal. Specifically, low perspective-takers who were primed with constructivist self-construal demonstrated greater kindness toward others than low perspective-takers who were not primed at all or who had exposure to independent or interdependent self-construal. This finding suggests that mere exposure to the constructivist self, rather than actual endorsement, is sufficient to elicit prosocial outcomes. While high perspective-takers who were exposed to the constructivist view of the self did not evidence a significant increase in other-kindness, this might be due to a ceiling effect, as high perspective-takers in all conditions reported a mean of at least 7.80 on a 9-point scale. In other words, regardless of condition, high perspective-takers reported to be very kind to others, making it difficult to measure any significant increase in other-kindness due to priming a constructivist view of the self.

In addition, constructivist self-construal led to differential ethical decision-making as well. After being exposed to the constructivist view of the self, low perspective-takers engaged in more deontological harm-based reasoning (i.e., being less willing to sacrifice one person to save five others), whereas high perspective-takers engaged in more utilitarian-consequentialist reasoning (i.e., being more willing to sacrifice one person to save five others). The positive association between perspective-taking and utilitarian-consequentialist reasoning for people who were primed with constructivist self-construal is both interesting and puzzling. One possible explanation for the findings is that killing one person in order to save five is more linked to a sense of personal agency and responsibility and is more emotionally charged than inaction (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001). Construing the self as a solid entity
should make this sense of agency and responsibility particularly salient, which renders it emotionally difficult for participants to do the action in order to save the other five people. Construing the self as less of an entity and more integrated into fleeting experiences, however, might psychologically attenuate and emotionally override this link between agency and action and orient people toward the outcome of the actions. We conducted additional mediational analyses (not reported in the Results section) and found preliminary support for this explanation. Specifically, disentification mediated the effect of self-construal on footbridge dilemma responses when perspective-taking was high. Priming high perspective-takers with a constructivist self-construal made them endorse the belief that the self does not possess an entity to a greater extent, which then made them more likely to push the fat man from the footbridge, sacrificing one person in order to save five. To be sure, deontological harm-based reasoning and utilitarian-consequentialist reasoning represent two different moral viewpoints, and we in no way suggest that one reasoning entails a more ethically righteous decision than the other. Future research is necessary to replicate this finding and further clarifies the link between constructivist self-construal and ethical decision-makings.

**General Discussion**

The present research is among the first to empirically identify the structure of no-self (constructivist self-construal) in social psychology and examine the potential antecedents and consequences of adopting, or being exposed to, this psychological construct. We developed a scale that measures constructivist self-construal in Study 1 and the findings provided support for our hypothesis that constructivist self-construal encompasses the perception of the self as impermanent, discontinuous, without an essence, and interconnected with other people and things in nature. The results of Study 1 also indicated that constructivist self-construal is
empirically distinct from independent and interdependent self-construals. The results of Study 2 provided substantial evidence for the similarity of people’s cognitive representation of the constructivist self across cultures. Moreover, the results of Study 2 also indicated that people from cultures such as Taiwan, promoting collectivistic values and embracing Buddhist philosophy, typically endorse constructivist self-construal to a greater degree than people from cultures such as the U.S., promoting individualistic values and embracing Buddhist philosophy to a lesser extent.

Study 3 further found that in addition to cultural influences, the endorsement of constructivist self-construal can be quite malleable, and its malleability depends on the joint influences of contexts and individual characteristics. Specifically, even in a highly individualistic society such as the U.S., where the dominant cultural values are rather incongruent with the constructivist view of the self, people who were primed with no-self related concepts and who were high perspective-takers showed greater endorsement of constructivist self-construal than high perspective-takers in the baseline, independent, or interdependent condition. Additionally, providing support for our hypothesis about the positive consequences of the constructivist self, constructivist self-construal predicted individuals’ kindness toward other people in Study 3. Furthermore, the finding also suggests that mere exposure to the constructivist view of the self, rather than actual endorsement, might be sufficient to elicit this prosocial outcome. Lastly, low perspective-takers primed with constructivist self-construal were more prone to deontological harm-based reasoning, whereas high perspective-takers primed with constructivist self-construal were more prone to utilitarian-consequentialists reasoning.

Our findings contribute to and extend prior research in a number of ways. We addressed the almost exclusive focus on the independent vs. interdependent self-construal in the literature
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by extending the breadth and depth of ways to conceptualize the self. Prior research has mainly focused on how the self interacts and overlaps with other people; our findings extended this spectrum by including a more encompassing sense of interconnectedness with all of the elements in the universe as well. This is consistent with past research on allo-inclusive identity and self-transcendence (Leary et al., 2008; Levenson et al., 2005), both of which emphasize the dissolution of rigid boundaries between the self and other people and the world. Furthermore, we expanded the breadth of conceptualizing the self from a sole focus on the self-other overlap to a multidimensional cognitive representation, including additional dimensions of impermanence, discontinuity, and disentification, which fundamentally all capture the underlying perception that the self does not exist as an entity, but as a moment-to-moment integrated experience. Past research on the factor structure of self was typically conducted in a couple countries (Christopher, Norris, D’Souza, & Tiernan, 2011; Hardin et al., 2004). The converging evidence from seven countries in the present study builds confidence to our argument that the multidimensional cognitive structure of the self is the same across diverse cultures.

The present research also extends the literature by identifying factors that shape the constructivist view of the self. As this type of self-construal is largely reminiscent of teachings in Buddhist philosophy and collectivistic values, we found evidence that people from collectivistic cultures typically endorsed constructivist self-construal to a greater degree, especially in Taiwan. Furthermore, in line with the view that self-concept is malleable (Gardner et al., 1999; Markus & Kunda, 1986), our research indicated that constructivist self-construal could even be induced among American participants, who typically hold more individualistic values that are less compatible with the constructivist notion of the self. The fact that this type of self-construal could be induced among Americans is interesting, as for most Westerners, the idea of no-self
CONSTRUCTIVIST SELF-CONSTRUAL seems rather unfamiliar or even counterintuitive or “esoteric.” We further uncovered an individual difference variable that modulated how well Americans received this construct—constructivist self-construal was only well-accepted among high perspective-takers. Even though in the present research we conceptualized perspective-taking as a proxy for cognitive openness and flexibility, unfortunately we did not include measures that directly tap this construct. Future research is needed to clarify whether people’s receptiveness toward the constructivist self is accounted for by this cognitive flexibility implied in perspective-taking.

Taken together, the present findings have important theoretical and practical implications. Theoretically, the present research identified and validated a new and more comprehensive type of self-construal, which has not been explored in the social psychology literature. Hopefully the current work will generate more empirical research to uncover the positive influences of constructivist self-construal on individuals’ well-being. On the practical side, given that constructivist self-construal can be situationally induced and produce positive individual outcomes, practitioners and therapists may consider incorporating it as a new way of using the self as a base for helping individuals cope with the ups and downs in life.

Limitations

The present study is also characterized by a few limitations. In Study 2, the U.S. sample consisted of MTurkers, whereas samples from all other countries consisted of university students. Because the demographics of MTurkers are somewhat different from university students, particularly with respect to age and ethnicity (Buhrmester, Kwang, & Gosling, 2011), this discrepancy limits the interpretation of comparisons between the U.S. sample and samples from other countries. Even though people’s cognitive representations of the self should not be affected by their ethnic or cultural background according to our theory and evidence, the extent
to which people *endorse* constructivist view of the self might vary by demographic variables, such as age. Past theory and research, for example, has suggested that self-transcendence is positively associated with adult development and the process of aging (e.g., Levenson, Aldwin, & Cupertino, 2001; Tornstam, 1994). It is possible that with the development of experience and wisdom, older people tend to endorse the constructivist self to a greater extent than younger generations. Future research would benefit from recruiting participants from more diverse populations.

In addition, our studies have only focused on a small subset of positive outcomes that benefit from the constructivist view of the self. Our theory and similar others (e.g., Dambrun & Ricard, 2011) suggest that perceiving the self as integrated moment-to-moment experience should have diverse implications, ranging from emotional stability to attitudes toward and actions taken after success or failure. Emerging research in culture and well-being indicates that apart from the Western conception of happiness as the pursuit of positive states, the Eastern conception of happiness emphasizes the notion that nothing is stable and permanent (Kan, Karasawa, & Kitayama, 2009). Hence, the sense of gratitude and peaceful disengagement constitute essential features of well-being in the East (Kan et al., 2009). It would be interesting to see whether and how constructivist self-construal is associated with different types of well-being (Church et al., 2014). In sum, more research is needed to uncover the conditions under which a constructivist view of the self confers benefits on individual and interpersonal outcomes.

**Conclusion**

Consistent with thinking in philosophy and research in neuroscience, the present work identified four theoretical dimensions of conceptualizing *no-self* – what we called constructivist self-construal. It showed that people did and could adopt this idea that the self is constructed as
cognitive representations of integrated moment-to-moment experiences. Using a cross-cultural correlation study and a U.S. experimental study, the current research demonstrated that to what extent people endorsed this type of self-construal varied as a function of culture, context, and individual differences in perspective-taking. The findings also suggested that constructivist self-construal was associated with prosociality.
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Appendix A

The Multidimensional Self-Construal Scale

Impermanence

1. When analyzed very closely, it becomes apparent that all things that make up a person inevitably changes, even if only slightly, from moment to moment.
2. If you think of a whole person as consisting of many smaller parts (from arms to legs to muscles to veins to blood cells to the atoms and elements that make up all the parts) it becomes evident that all of the parts of who you are constantly change from one moment to the next, even if only slightly.
3. There is not even one part of a person that remains completely stable over time.
4. It is impossible for someone to remain the same person in any way as time passes.
5. People are always changing in all aspects of who they are, even if only slightly.
6. Whereas the rest of a person is subject to change, one’s essence or soul is not.
7. There is at least one central or core part of a person that defines them and never changes.
8. You will always be the same person you have been since birth because your core remains unchanged.

Discontinuity

9. Even though I tend to experience my life as an uninterrupted story, I know that, upon closer analysis, there is no story and it’s really just many different moments of my life strung together.
10. While it’s sometimes helpful to think of my life as a collection of individual moments, I know it is more accurate to view it as a flowing story, with a beginning, middle, and end.
11. My life is like a flip-book. When I flip through the pages it creates the visual illusion of a continuous story but I know there really is no story and it is simply a sequence of distinct pages or moments flowing together.
12. I understand my life to be a continuous story from the moment I am born to the moment I die.
13. While my life may appear to be a continuous story, I know that the story is not real because my mind is constantly building that story by stringing together past, present, and future.
14. My life is a story just like the story of a character in a movie. It plays with no pauses from start to finish.
15. Even though the experiences in my life seem to blend together to create a story, I know that in reality they are all just separate experiences and there is no coherent story.

Disentification

16. There is no such thing as a self; the word self is just a convenient way of talking about all of the parts that make up a whole person.
17. Since we didn’t always hold the belief that we had a self (i.e. when we lacked self-awareness as babies) it is clear that our mind simply creates the self all on its own.
18. Even though I often get caught up in the story of “me,” at times I can step back and...
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remind myself that “me” is just something constructed by my mind.

19. Because of everyday language, we assume that the self (“I” or “me”) is real, but in reality there is no self to start with that could have any experience.

20. We use the belief in a self (“I” or “me”) as a vehicle in order to communicate our experiences, even though the self is not real.

Boundaries

21. My identity only makes sense in the context of other people.

22. There is a “me” independent of other people in the world.

23. Who I am is not dependent upon anyone or anything else.

24. While other people may influence me, the identity I build for myself is mine and mine alone.

Boundlessness

25. Even though everyday language (“I,” “me,” “mine” vs. “you,” “your,” “yours”) would have us believe that we exist separately from other people, this separation is just an illusion.

26. Ultimately, it makes no sense to say that other people or things can be “mine” (i.e., my boyfriend, my car) because we are not separate from anyone or anything else.

27. The idea that we have a self that is distinct from the world is never challenged because everything appears to be separate from “me.” But this is not really the case.

28. The idea that we have a self that is distinct from other people is never challenged because everyone appears to be separate from “me.” But this is not really the case.

29. Having a concept of “me” as separate from everything else is necessary for navigating the world, but ultimately I know that this difference is an illusion.

30. Having a concept of “me” as separate from everyone else is necessary for interacting with other people, but ultimately I know that this difference is an illusion.

31. Our mind naturally forms a concept of everything we become aware of in order to identify it. Because of this, we think of everything in the world as different from us. But this is not really accurate.

32. Our mind naturally forms a concept of everyone we become aware of in order to identify him/her. Because of this, we think of everyone as different from us. But this is not really accurate.

Note. Bolded items were used in Studies 2 and 3.
Appendix B

Manipulations in Study 3

Independent Self-Construal

Achieving Happiness: The “Self” as Independent of Other People and Things

Happiness is not something you find. It’s a puzzle you have to figure out. It’s all about taking a closer look at how you came to be the person you are today. Happiness is about really knowing who you are and then making your “self” and your life the best that they can be. The most important thing to understand is that the “self” exists independently of other people and things in the world. We exist independently of other people because we have full control over our lives but not the lives of others. This control allows us to build our identity in any way that we choose. We exist independently of things because we can “own” them; because they can “belong” to us and be “ours.” This ability to “own” things also allows us to build our identity because we can choose the things we want to become part of us and define us. We know these truths to be obvious now, but we must remember that they weren’t obvious at all when we were infants.

Let’s take a closer look at how we came to be the person who exists independently of other people and things. As babies, we were unable to build our identities; due to a lack of control over our lives and a lack of ability to acquire things to incorporate into our identity. This is because we started out with no sense of self. We started out with no identity. We formed our identity growing up and learned that it was independent thanks to two things: the development of our minds, which gave us the ability to think of our lives as being like a story; and the tool of language, which taught us that “I”/“me” is the main character in that story. Now that we have examined how our identity came to be, it is our job to build it independently of other people and things. We do this by figuring out what things we enjoy and then using our control to fill our life stories with as many pleasurable things as possible. In doing so, we achieve happiness.

Interdependent Self-Construal

Achieving Happiness: The “Self” as Interconnected With Other People But Independent of Things

Happiness is not something you find. It’s a puzzle you have to figure out. It’s all about understanding how you came to be the person you are today and then learning to see things from a different perspective. Happiness is about really knowing who you are and then making your “self” and your life the best that they can be. The most important thing to understand is that the “self” exists in a unique way. On the one hand, the “self” exists independently of things in the world. We exist independently of things because we can “own” them; because they can they “belong” to us and be “ours.” This ability to “own” things allows us to build our identity because we can choose the things we want to become part of us and define us.

But on the other hand, the “self does not exist independently of other people. Contrary to how reality appears to us, everyone is interconnected. So it is much more accurate to say that we exist interdependently with other people. This truth becomes obvious after realizing that we are only one small person in a much greater society. Even though we have a good deal of control over our lives, we cannot just build our identities by choosing things we wish to acquire and
incorporate into our identity. Rather, we must accept that the lives of everyone else in society have an impact on our life – on our ability to choose and acquire things – even if only slightly. At the same time, our life has an impact on the lives of everyone else, even if only slightly. Therefore, control over how our identity is built is a shared process. This is a good thing, because it also means that achieving happiness is a shared process. Because everyone is interconnected, we are never striving for happiness alone. We are always striving for happiness on both a smaller individual level and a greater societal level.

The trouble is, the truth of interdependence is far from obvious when we are infants. Let’s take a closer look at how we are fooled into thinking that we exist independently of other people. As babies, we were unable to build our identities due to a lack of ability to acquire things to incorporate into our identity. This is because we started out with no sense of self. We started out with no identity. We formed our identity growing up thanks to two things: the development of our minds and the tool of the language. While the development of our minds gave us the useful ability to think of our lives as being like a story, seeing the story unfold through our eyes only makes it appear far more individualistic than is true in reality. And while the tool of language gave us the useful ability to think of “I”/“me” as being the main character in our life story, saying “I did this” or “that happened to me” fools us into believing that “I”/“me” is the only character that matters. In reality, “we” are all characters that play an important role in each other’s life stories.

It is everyone’s job to see through the illusory independent identity that our minds automatically create and build a new interdependent identity that is in touch with reality. Remember, our “self” is independent of things because we can “own” them. But our “self” is interconnected with other people because control over our lives is shared; other people influence our lives and we influence their lives. Therefore, we build our interdependent identity by figuring out what things we enjoy as individuals and then, using our shared control, help each other fill our life stories with as many pleasurable things as possible. That is the only way to make everyone’s life story truly fulfilling and complete. In doing so, we achieve both individual and societal happiness.

**Constructivist Self-Construal**

Achieving Happiness: The “Self” as a Moment-by-Moment Construction Interconnected With But Not Overly Attached to Other People and Things

Happiness is not something you just find one day and then have forever more. It’s a changing puzzle that you constantly have to figure out. Often times, happiness is made out to be some final goal that you reach. Countless stories end with, “And then they lived happily ever after.” But happiness is not some fantasy place where everything is always pleasurable and nothing is ever painful. In reality, it’s about maintaining a balanced state of mind that can embrace both pleasure and pain as natural parts of the human experience. It’s about having a flexible attitude and accepting that, no matter how much control you think you have, each new moment could bring either a pleasurable experience or a painful one. You see, we bring unnecessary suffering upon ourselves all the time by overestimating how much control we have. This is because we view the world in illusory ways. So in order to stop suffering unnecessarily and start making your “self” and your life the best that they can be, you need to stop being blinded by illusions and start understanding the truth.
Ironically, the biggest illusion of all is that our “self” is permanent, that we are somehow
the same person from one moment to the next. This is just a convenient way of looking at things
that allows us to think of our lives as a story with “I”/“me” as the unchanging main character.
The word “self” confuses us because it seems to always refer to the same person. Looking at
things more carefully, however, “self” actually refers to all of the smaller parts that make up a
whole person. Our “self” is really just a moment-by-moment construction of smaller parts (e.g.,
atoms and elements) found in the world, all of which are constantly changing and continually
transforming us into a different person. The most important thing to understand on the path to
happiness – and this cannot be emphasized enough – is that everything in the world is always
changing and transforming. This includes our thoughts, our desires, our possessions, our
relationships, our jobs, our creations, our bodies, our beliefs, everything.

If everything in the world, including our “self,” is always changing and transforming,
then everything, including our “self,” is a moment-by-moment process. Nothing in the world is
permanent or exists in a fixed way. Rather, everything is impermanent and exists in a flexible
way. This is because the world is a giant network of nonstop interactions where everything
depends on everything and everybody else for its unique, momentary form and existence.
Therefore, the “self” does not exist independently of other people and things in the world. Our
illusory view of the “self” as permanent causes us to suffer unnecessarily because it leads us to
believe that we are in full control of our life and are not influenced by other people and things;
that we exist independently of other people and things. But contrary to how reality appears to us,
we exist interdependently with other people and things. In fact, our “self” is so interconnected
with other people and things that we literally depend on them and how they change each and
every moment for our very identity. Likewise, they depend on us and how we change each and
every moment for their identities.

This is a very difficult truth to accept. We are so used to thinking of our identity not as
something greatly influenced by how other people and things change us, but rather as something
built by us, something that we can control on our path to happiness. After all, language tells us
that people and things we find pleasurable and want to become part of us can make us happy
because they can be “ours.” For example, by saying “this is my wife” or “that is my house,” we
are defining ourselves. But the word “ours” does not mean that we exist separately from other
people and things or that other people and things are unchanging. Unfortunately, the everyday
language we use makes it easy to assume that both of these things are true. But they are just
illusions. Looking at things more closely, the word “ours” is just a convenient way of explaining
that the smaller parts we call “I”/“me” are, for the moment, more closely connected to the
smaller parts forming whomever or whatever we call “ours.” Our identity shapes, and is shaped
by, other people and things based on the moment-by-moment way in which we are connected to,
and interact with, each other.

At the same time, however, we should not take this interconnectedness with other people
and things too far by becoming overly attached to them. This is very important to understand
because we often lose touch with reality and get so attached to someone or something that our
happiness depends upon them being a certain way. Unfortunately, we will inevitably experience
loss when that person or thing changes enough to be noticeably different, or when our mind
changes enough that we now want someone or something else to make us happy. People and
things can of course bring us momentary pleasure, but never happiness—as long as we assume
they exist in a certain fixed way. Getting overly attached to people and things, and assuming
they are permanent or exist in a fixed way, will bring us only momentary pleasure followed by
suffering—because other people and things are actually impermanent and exist in a flexible way, changing moment by moment. Likewise, getting overly attached to our “self” being a certain fixed way, and needing it to be that way in order to be happy, will cause us to suffer unnecessarily when we change enough to be noticeably different from who we were before. In other words, we should be, and inevitably are, interconnected with other people and things; but we should not get overly attached to people and things or to our “self” as existing in a certain fixed way.

So how do we build our identity without causing unnecessary suffering? How do we make our “self” and our life the best that they can be when we have much less control over each than we would like to think? On the one hand, we are only one small person in a much bigger world where everything is always changing and transforming. It’s true that we have very little control over how other people and things are constructed and formed anew in each moment; over how the world changes and impacts our lives. On the other hand, we have a great deal of control over how we change. We are constructed and formed anew in each moment also. We are always transforming, which means that we can always choose in the moment how we respond to any pleasurable or painful experience the world presents us with.

Using the truth of change and transformation to our advantage instead of blindly fighting against it is the key to happiness. Instead of trying to control the world in each moment and make sure that our lives are always filled with people and things we find pleasurable, we just have to work on constructing a “self” that does not need anything in the world to be a certain fixed way in order to be happy. We must accept the reality that both pleasure and pain are part of life and develop a balanced state of mind that can embrace both. Most importantly, we must practice maintaining a flexible attitude that can resist getting overly attached to people and things in a certain fixed way, most of all our “self,” and go with the flow of change and transformation moment-after-moment. This is how we achieve happiness.