

## Research article

# Naïve definitions of action and inaction: The continuum, spread, and valence of behaviors

KATHLEEN C. McCULLOCH<sup>1\*</sup>, HONG LI<sup>2</sup>, SUNGJIN HONG<sup>3</sup> AND DOLORES ALBARRACIN<sup>3</sup>

<sup>1</sup>Idaho State University, Pocatello, USA; <sup>2</sup>University of Florida, Gainesville, USA; <sup>3</sup>University of Illinois at Urbana-Champaign, Champaign, USA

### Abstract

*The cohesiveness of a society depends, in part, on how its individual members manage their daily activities with respect to the goals of that society. Hence, there should be a degree of social agreement on what constitutes action and what constitutes inaction. The present research investigated the structure of action and inaction definitions, the evaluation of action versus inaction, and individual differences in these evaluations. Action–inaction ratings of behaviors and states showed more social agreement at the ends of the inaction–action continuum than at the middle, suggesting a socially shared construal of this definition. Action–inaction ratings were also shown to correlate with the valence of the rated behaviors, such that the more active the behavior, the more positive its valence. Lastly, individual differences in locomotion, need for closure, and Christian religious beliefs correlated positively with a preference for action. Copyright © 2011 John Wiley & Sons, Ltd.*

Millions of advertising dollars are spent on motivating people to “just do it,” and the rise of energy drink sales attest to the ever-growing popularity of being active in today’s society. Given this popular rise in attention to action, one might ask if engaging in various degrees of activity from a high level of action (e.g., running) to a lower level of action or inaction (e.g., sitting) has repercussions for how people regulate and value these activities. In this paper, we ask if there is individual variability in defining behaviors and current states of experience as actions or inactions. Are actions valued more than inactions, and do attitudes toward action and inaction depend on Christian religious beliefs that idealize work and productivity? These questions are important to psychologists and all social and behavioral scientists because what individuals think of action is likely to affect how action is regulated in societies. Up to now, however, there has been minimal research attention to the construal of actions and inactions, the extent to which different people agree on defining actions and inactions, or the antecedents and consequents of these definitions. Investigating these matters will improve the understanding of socially shared meanings about behavior in social, political, developmental, and clinical contexts.

Activity is normally defined based on the level of effort invested in a behavior, whereas inactivity normally implies rest (Albarracin, et al., 2008). As regulating activity level (amount of cognitive and motor output; see Albarracin et al., 2008; Gendolla & Silvestrini, 2010; Laran, 2010; Noguchi, Handley & Albarracín, 2011) is important in daily life, people are likely to construe an organism’s behaviors and states in terms of activity (e.g., actions and inactions). Undeniably,

people may arrive at idiosyncratic, individual definitions of action and inaction by, for example, tracking their levels of effort and difficulty with different behaviors (Albarracin, Hepler & Tannenbaum, 2011). Although personal experiences should contribute to defining action and inaction, socialization is likely to provide at least some illustrations of these concepts. For example, in Western cultures, “running” is likely to be viewed as a popular form of action, whereas a behavior such as “judging” may be more likely to fluctuate given personal circumstances (e.g., judging what to wear on Saturday night or judging conflicting evidence in a trial). We contend that extreme cases of action (e.g., run) and inaction (e.g., sleep) may be part of a social rhetoric shared by members of a group, whereas other cases may be left up to the individual members of the group (Haidt & Baron, 1996). This sort of social definition of the meaning of action and inaction implies between-person agreement on the ends of the inaction–action continuum (i.e., extreme cases or examples of action and inaction) but between-person variability in the middle. We posit that naïve definitions of action and inaction will lie on a fine-grained continuum, with extreme behaviors and states as well as more moderate ones lying between the ends. Such a continuum has been proposed (Albarracin et al., 2008) but has never been tested empirically.

Study 1 in this paper examined this possibility by asking participants to judge a series of words denoting behaviors expressed in verbs (e.g., run), or behavioral states expressed in nouns and adjectives (e.g., calm and dynamic). We then modeled the means and variances of reported action/inaction using multiple analytic procedures to remove potential ceiling

\*Correspondence to: Kathleen C. McCulloch, 921 S. 8th St, Garrison Hall, Psychology Department, Idaho State University, Pocatello, Idaho, USA, 83209.  
E-mail: mccukath@isu.edu

effects that could artificially reduce rating variance at the extremes of our bounded scales. We predicted that we would find agreement on the extreme ends of the inaction–action continuum and variability in the middle.

Defining behaviors or states as actions or inactions has important, although not necessarily straightforward, implications for evaluations. On the one hand, there are reasons to hypothesize that inactions will be evaluated more favorably than actions. For example, people's moods improve when they engage in relaxing activities (e.g., meditation; Lane, Seskevich & Pieper, 2007) and are impaired by sleep deprivation (Vandekerckhove & Cluydts, 2010). On the other hand, there are several reasons to believe that actions will be evaluated more favorably than inactions. First, social ethics often prescribe work and condemn idleness, suggesting that actions such as work might be seen as more positive than inactions such as taking a nap (Miller, Woehr & Hudspeth, 2002). Presumably, if work and industriousness are more valued than laziness, other behaviors that are subsumed under overarching categories of action (which includes work) and inaction (which includes idleness) may be valued accordingly. Second, actions are likely to be more salient than inactions, and thus more likely to recruit attention and be evaluated. This natural focus on action has been researched in learning, self-perception, and decision making (Allison & Messick, 1988; Cioffi & Garner, 1996; Dittrich & Lea, 1993; Fazio, et al., 1982; Kardes, et al., 2006) and may reflect a fundamental property of goals that which people pay more attention to what to do than what to not do (Senay, Wang, McCulloch & Albarracin, 2010). Third, notions of goal progress suggest that if all actions receive attention, people may see them as connected to goal progress more often and thus evaluate them more favorably than inactions (see e.g., Ferguson & Bargh, 2004; Ferguson, 2007). From these premises then, action may be seen as more favorable than inaction. To test whether people have more positive evaluations of behaviors and states that explicitly defined as actions than inactions, we asked participants in Studies 1 and 2 to rate the valence of particular actions and inactions. In Study 1, we gave participants a list of behaviors to rate, whereas in Study 2, participants generated their own examples of inaction and action and rated their valence.

Proposing individual and social variability in defining and valuing action suggests an important question: What are the likely social and individual bases for differential evaluations of action or inaction? Individual differences that hasten goal-directed activity (e.g., locomotion; Kruglanski, et al., 2000) or closure (e.g., need for closure; Kruglanski, Webster & Klem, 1993) may be associated with preferring action as opposed to inaction. Locomotors are eager to engage in goal-directed activity and show persistence in the face of obstacles, whereas individuals with a high need for closure seek quick problem resolution and decisions. Therefore, these concerns should be correlated with yet distinct from preference for action versus inaction.

Furthermore, religion, which is a historically derived and socially transmitted cultural system, influences people's thoughts, feelings, and actions by providing general frames of reference (Tsai, Miao & Seppala, 2007; Koole et al., 2010). Importantly, religiosity fosters effective self-regulation in people's actions in addition to their beliefs (Koole et al., 2010). For example, a series of empirical research studies

showed that religious primes triggered implicit processes that promoted the enactment of religious norms and goals. Specifically, priming of God-related concepts increased social interaction (Shariff & Norenzayan, 2007) and prosocial behaviors (Randolph-Seng & Nielsen, 2007; Pichon, Boccato & Saroglou, 2007), which all involved active components. In addition, religion differences emerge in ideal affect states (Tsai et al., 2007). For example, although both Christians and Buddhists want to experience more positive and less negative affect, Christians value high-arousal positive states (e.g., excited) versus low-arousal positive states (e.g., calm) to a greater extent than Buddhists. Moreover, Christians (vs. Jews) hold that mental events related to actions are in some sense equivalent to the action itself (Cohen & Rozin, 2001). For example, Christians see themselves as being holistic in their moral judgments by having a strong linkage between thoughts and explicit behaviors. That is, Christians use both overt actions and thoughts as criteria for moral judgments. For example, to Christians, thoughts of committing wrongful acts are seen as just as sinful as committing such acts. This evidence suggests that through regulating thinking processes, goals, and affect, Christianity may implicitly or explicitly promote people's favorable attitudes toward action (vs. inaction). Therefore, in Studies 3 and 4, we tested these ideas by developing a preference for action scale and using it to explore its relations with Christian beliefs, locomotion, and need for closure.

## STUDY 1: SOCIALLY SHARED MEANINGS OF ACTION VERSUS INACTION

### Method

#### *Participants*

One hundred seventy three students (76% female, 24% male) from a US university participated in the study in exchange for credit. None of the students had participated in an earlier study conducted to generate the research stimuli.

#### *Procedures*

Participants received a list of 88 words with two rating scales. For our definition measure, participants were told to rate each word using a 7-point scale ranging from inaction (−3) to action (3). For our valence measure, participants were asked if they thought that the word was positive (good) or negative (bad) and rate it on a 7-point scale from negative (−3) to positive (3).

#### *Materials*

The words used in the current study were taken from a list generated by an independent sample of 80 undergraduate students who provided words relating to action and inaction. This earlier group of students sat in a classroom and received a sheet of paper with instructions to generate examples of given concepts/words. They were specifically asked to list examples that immediately popped into mind when they read a particular concept/word. An example illustrated how the concept/word fruit might first evoke apple and then pear and instructed students to write down

the examples in the order in which they came to mind (e.g., apple, pear). The rest of the sheet listed either action or inaction and included 10 slots below the concept labeled 1–10 in ascending order. Participants learned that they did not have to fill in all the examples, and could stop if they found themselves beginning to struggle. We examined each generated word and selected the 88 concept/words that consisted of a single word. These single words were of a varying nature, in that some words denoted clear definable behaviors (e.g., verbs such as kick), whereas other words denoted physical or mental states (e.g., adjectives such as tired, calm). Lastly, participants were thoroughly debriefed and thanked for their participation.

**Results**

We calculated the means for the action–inaction definition and evaluation ratings for each word (see Figures 1 and 2, respectively). All the behaviors and states were coded for word frequency and held constant for each analysis (definition and valence). To explore if the data have reflected our socially shared hypothesis, we used the polynomial fitting of the standard deviations regressed on the definition means (see Figure 3). Under our hypothesis, the words rated clearly inactive or active (extreme means) should be less variable (smaller SDs), which can be tested via the incremental proportion of variance accounted for by the quadratic trend over the linear trend as well as the weight for the quadratic component in the quadratic polynomial. The

data supported our hypothesis: incremental  $R^2=0.343$  (0.579 vs. 0.236),  $F(1, 84)=68.304$ ,  $p < 0.001$  and regression weight for the quadratic component  $b=-0.112$ ,  $t(84)=-8.265$ ,  $p < 0.001$ . That is, the extreme examples of action and inaction had greater variability than the moderate ones.

Our second main hypothesis was that there should be a positive linear relation between action–inaction ratings and evaluation ratings. The means of evaluation ratings were therefore regressed on action–inaction definition ratings and indicated a strong positive relation:  $b=0.628$ ,  $t(85)=7.613$ ,  $p < 0.001$ , corresponding to 41% of variance shared by mean ratings of action, inaction, and evaluation.

Although the evidence strongly supported the hypotheses about the definition ratings and their linear association with the evaluation ratings, the extreme ratings toward  $-3$  and  $+3$  might have been ceiled due to the nature of the presented scale. Such ceiling effects could of course lead to an overestimation of the effect of the quadratic component supporting the socially shared hypothesis. To remedy this problem, we adjusted the action–inaction rating data by adding a random component, sampled from a uniform distribution bounded by  $(-0.5, 0.5)$ . This adjustment follows an assumption that the raters rounded their definition of the concept/words into the enforced scale values of integer. With the adjusted data, we found essentially equivalent results for the effect of the quadratic component on the variance of the action-definition ratings: incremental  $R^2=0.335$  (0.575 vs. 0.239),  $F(1, 84)=66.252$ ,  $p < 0.001$  and  $b=-0.108$ ,

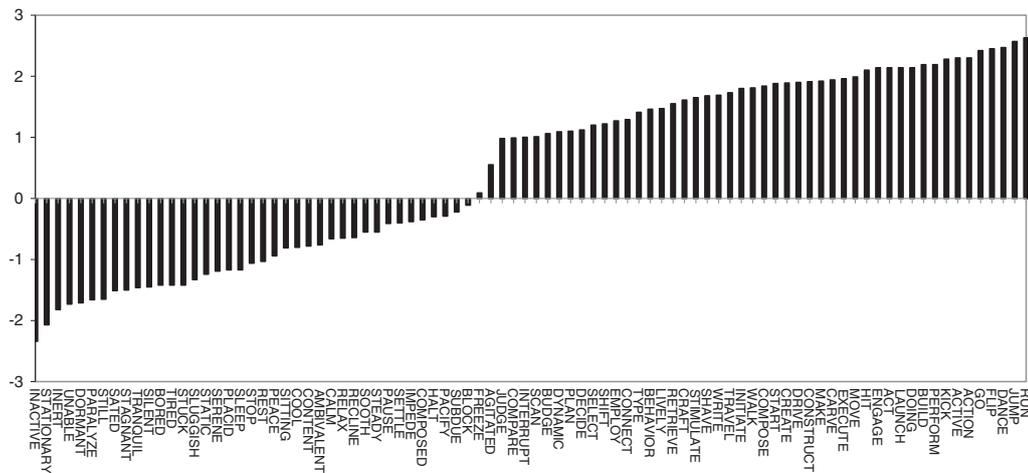


Figure 1. Mean action-definition ratings Study 1

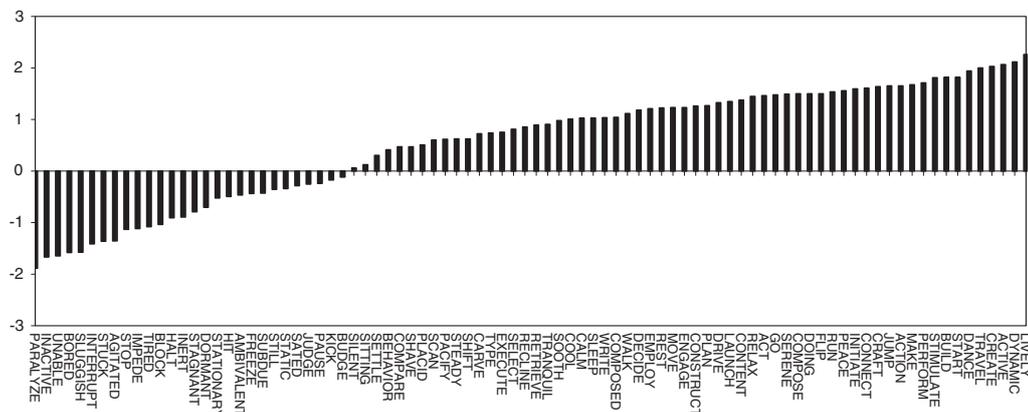


Figure 2. Mean valence ratings Study 1

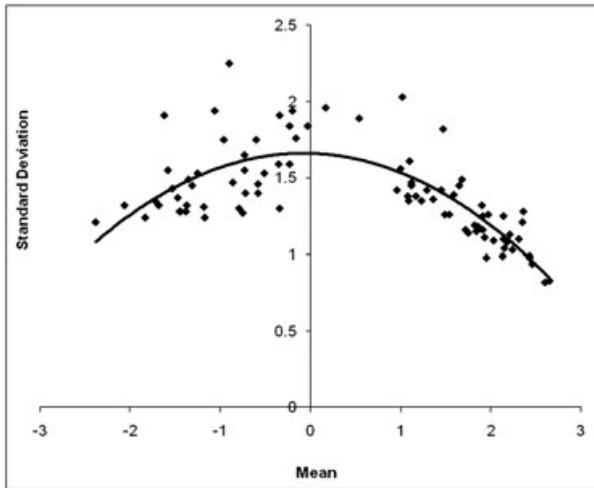


Figure 3. Spread and variability of the action-definition ratings Study 1

$t(84) = -8.140, p < 0.001$ . For the correlation between means of the definition and evaluation ratings, the adjustment made no difference up to three decimals. This latter result is to be expected because the added random component is independent of the integer ratings, has much smaller variance than the ratings, and was sampled from a symmetric distribution. Consequently, the added component should have been near perfectly canceled when the adjusted ratings were averaged.

## Discussion

The results of Study 1 confirmed our hypotheses. Specifically, we found evidence for the socially shared-meaning hypothesis, such that action–inaction ratings had more variability in the middle of the inaction–action continuum than at the ends. We suggest that the lack of variability in the more extreme poles of the continuum reflects a shared or common perception of what is likely to be categorized as an action or an inaction. Furthermore, we found that the stronger the example of action, the more positive its associated valence. This result supports the notion that behaviors are evaluated not only in terms of specific favorable outcomes (e.g., “working is good”) but also by virtue of how active they are.

In the following study, we wanted to replicate and validate the findings of Study 1 regarding the greater positivity of action than inaction. This time, we asked participants to generate their own examples of action and inaction and rate their valence. We predicted that these individual examples of action and inaction would yield the same pattern of results, such that behaviors generated to the concept of “action” would be significantly more positive than those generated to the concept of “inaction.”

## STUDY 2: SELF-GENERATED EXAMPLES OF ACTION AND INACTION BEHAVIORS

### Method

#### Participants

Thirty-eight participants (58% female, 42% male) from a US university were given class credit in an introductory psychology course in exchange for their participation.

### Materials and procedure

Participants sat in a lecture hall and received a questionnaire packet with an example-generation part and an example-rating part. In the first part, participants were asked to generate some examples of given concepts/words. Similar to the construction of the materials for Study 1, participants were instructed to list examples that immediately popped into mind after they read a particular concept/word and were given an example of generating apple and pear in response to fruit. Next, participants were asked to write down the examples in the order in which they came to mind. Below the instructions, the first concept (either action or inaction) was presented before five slots labeled 1–5 in ascending order. Participants were informed that they did not have to fill in all the examples, and that if they started to struggle, they were to move on to the next concept. Each participant then listed associates to both action and inaction, one preceding another in a counterbalanced order between participants.

Next, participants engaged in the rating task. Participants were instructed to reprint all the examples that they had just generated in the designated spaces on the following pages. The following pages were set up, such that participants would re-list their examples under each concept, and then, engage in the same valence rating procedure used in Study 1. Participants were asked to evaluate each example on a scale that assessed valence on a negative (–3) to positive (3) 7-point scale. At the end of the study, participants were debriefed and thanked for their participation.

### Results

Valence ratings for action and inaction exemplars were averaged within each set and then submitted to a *t*-test. Word frequency was not controlled, given the idiosyncratic nature of the exemplars. Although the most frequent first generated words were “run” (or running) for action, and “sleep” (or sleeping) for inaction, there were no further patterns. Moreover, because the words were self-generated, it follows that the words were familiar to the individual. Replicating the findings from Study 1, we evaluated the action examples more positively than inaction examples,  $M_s = 2.08$  ( $SD = 0.83$ ) vs.  $0.54$  ( $SD = 1.117$ ),  $t(37) = 4.71, p < 0.001$ .

### Discussion

In this second study, the concepts of action and inaction were explored in a more individually tailored way. Participants generated their own examples of actions and inactions and then rated the valence of these behaviors. As predicted, the study revealed that actions were judged as more favorable than inactions. This result supported the idea that action is, overall, perceived as more positive than inaction.

In Study 3, rather than asking participants to evaluate words, we created a two-item scale that directly assessed the preference for action. We predicted that asking people to evaluate general action and inaction would lead to an internally consistent measure with more positive ratings for the evaluation of action than inaction. In addition, we sought to identify potential individual differences associated with the preference

for action. We hypothesized that individual differences in the general promotion of goal-directed action (locomotion) and the hastening of action towards an end (need for closure) should correlate positively with a preference for action.

### STUDY 3

#### Method

##### *Participants*

One hundred and thirty-seven undergraduate students (64% female, 36% male) from a US university participated in this study in exchange for course credit.

##### *Materials and procedure*

Participants were asked to complete two items regarding preference for action (vs. inaction), the Need for Closure Scale (Kruglanski et al., 1993), and the Locomotion Scale (Kruglanski, et al., 2000). Testing occurred in a group format. Each participant was thanked and debriefed after completing the questionnaires.

*Preference for action (vs. inaction).* Preference towards action (vs. inaction) was assessed using a two-item 7-point scale. Specifically, participants were asked to indicate the extent to which they agree with the statements “To me, action is more important than inaction,” and “To me, action is always better than inaction.” Both items were rated on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).

*Need for closure.* We used a 42-item measure of differences in the desires for a definite cognitive closure versus ambiguity (Kruglanski & Webster, 1996). The scale includes items such as “I find that a well-ordered life with regular hours suits my temperament,” “I don’t like to be with people who are capable of unexpected actions,” “When faced with a problem I usually see the one best solution very quickly,” and “I don’t like situations that are uncertain.” The 6-point rating scale ranged from 1 (Strongly disagree) to 6 (Strongly agree) with no neutral point. A composite need for closure score was computed by summing responses across all five subscales. The Cronbach’s alpha coefficient was .84.

*Locomotion.* The locomotion scale was designed to measure commitment to initiate and maintain goal-directed activity, often by overcoming possible distractions and difficulties in the process (Kruglanski et al., 2000). Examples of locomotion items include “I feel excited just before I am about to reach a goal” and “I don’t mind doing things even if they involve extra effort.” Participants were asked to rate the extent to which each statement described them personally on a 5-point scale ranging from 1 (Not at all characteristic of me) to 5 (Extremely characteristic of me). When averaged, the items had a Cronbach’s alpha of .88.

#### Results

##### *Preference for action (vs. inaction)*

A strong correlation was obtained between the two preference for action items (“To me, action is more important than

inaction” and “To me, action is always better than inaction”),  $r=0.67$ ,  $p < 0.001$ . An average score of these two items was used in further analyses as an indication of individual differences in preference for action (vs. inaction). The mean score of preference for action (vs. inaction) was 5.18,  $SD=1.43$ , with a 95% confidence interval from 3.06 to 5.42. In addition, the mean score of 5.18 was significantly greater than the value of the neutral point of the scale,  $t(136)=15.68$ ,  $p < 0.001$ . Therefore, we verified that evaluations of action were more positive than evaluations of inaction. This finding complements the results from our first two studies.

##### *Correlations with need for closure and locomotion*

The aggregated need for closure score ( $M=3.72$ ,  $SD=0.48$ ) had a significant correlation with the preference for action (vs. inaction) score,  $r=0.27$ ,  $p < 0.01$ . Similarly, the correlation between locomotion ( $M=3.66$ ,  $SD=0.66$ ) and preference for action was significant,  $r=0.29$ ,  $p < 0.01$ . These moderate-size correlations suggested that preference for action was distinct yet psychologically related to need for closure and locomotion.

#### Discussion

Consistent with our predictions, the preference for action (vs. inaction) correlated with need for locomotion and need for closure. These moderate associations suggest discriminable constructs that are nonetheless related. We believe that these relationships suggest that people who seek quick resolution of uncertainty and are goal-oriented benefit from preferring action because actions are more indicative of progress. For instance, seeking quick resolution to a problem enables a person to move on from that problem. This “moving on” is more aligned with the construct of action than inaction.

In Study 4, we wished to replicate the existence of preference for action as an individual difference using a multi-item scale and to test our hypothesis of an association between preference for action and Christian religious beliefs. We assessed these beliefs to determine if the preference for action correlates positively with Christian religious beliefs.

### STUDY 4

#### Method

##### *Participants*

Two hundred and thirty-seven undergraduate students (66% female, 33% male) at a US university participated in this study in exchange for partial fulfillment of requirements for course credit.

##### *Materials and procedures*

Participants were asked to complete a pencil and paper questionnaire with items regarding preference for action (vs. inaction) and religious beliefs associated with Christianity.

Testing occurred in individual cubicles in a laboratory setting. Each participant was thanked and debriefed after completing the questionnaires.

*Preference for action (vs. inaction).* The two items in Study 3 were not included in this scale. Instead, the scale used in this study contained 10 items regarding attitudes and beliefs towards action and inaction (e.g., “Action is good” and “Inaction is good”) (see Appendix A for a full list of the scale items). Participants were asked to indicate the extent to which they agreed with each statement on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). When averaged, the items had a Cronbach’s alpha of .72.

*Religious beliefs associated with Christianity.* The scale measuring Christian beliefs included 10 items regarding fundamental Christian beliefs about God (e.g., “God exists”) (for the actual scale, see Appendix B). Participants rated their agreement with each statement on a 5-point scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Once items were averaged, the Cronbach’s alpha score of the scale was .86.

## Results

Results from the one-sample *t*-test indicated that participants’ preference for action (vs. inaction) was significantly higher than the neutral value of the scale ( $M = 5.13$  vs. 4.0),  $t(236) = 28.04$ ,  $p < 0.001$ . Furthermore, the five items measuring positive evaluations of action yielded a mean score of 5.66 (one-sample *t*-test vs. the neutral point,  $t(236) = 35.28$ ,  $p < 0.001$ ), and the five items on positive evaluations of inaction yielded a mean score of 4.61 (one-sample *t*-test versus the neutral point,  $t(236) = 10.34$ ,  $p < 0.001$ ). The two subscales were positively correlated ( $r = 0.16$ ,  $p = 0.01$ ), indicating that a higher positive evaluation of action was associated with a higher positive evaluation of inaction. More importantly, however, consistent with the findings from Study 3, participants in Study 4 had higher positive evaluations of action than inaction,  $t(236) = 15.20$ ,  $p < 0.001$ . In addition, as predicted, the more individuals favored action (vs. inaction), the more they endorsed religious beliefs associated with Christianity,  $r = 0.18$ ,  $p < 0.01$ .

## Discussion

The results from Study 4 confirmed our prediction. The degree to which action is favored correlates with stronger endorsement of Christian beliefs. We suggest that the underpinnings of this association may involve a shift from valuing high arousal, positive affect states, explicit actions, and work prescribed by a Protestant work ethic to a preference for general action.

## GENERAL DISCUSSION

Do people agree on what constitutes an action and what constitutes an inaction? Does action cast a more positive light than inaction? In this research, we attempted to answer these questions along with looking at individual and cultural differences in the evaluations of action and inaction. Our results supported

the idea that people define action and inaction on a continuum and that the ends of the poles represent socially shared concepts. In addition, we found that Christian beliefs, locomotion, and need for closure play a role in the preference for or positivity of action.

In our first study, we found evidence for our hypothesis of a socially shared meaning of action and inaction, such that there was more agreement on the poles of the inaction–action continuum than in the middle of the continuum. In other words, there was less variability for ratings of behaviors such as run (an extreme case of action) or sleep (an extreme case of inaction) than behaviors such as judge. Support that action ratings are positively correlated with valence ratings was also found for our hypothesis, thereby demonstrating the general positivity accorded to action. In our second study, we replicated and extended our primary results from the first study using participant-generated examples of action and inaction. Again, action examples were more likely to be evaluated positively than inaction examples. In our third and fourth studies, we explored individual differences in this general positivity towards action and used different measures to assess correlates of the evaluation of action and inaction. To this end, we constructed a preference for action versus inaction scale and tested whether a preference for action correlated with need for closure, locomotion, and Christian beliefs. In each case, a significant positive correlation was found, whereas the small to moderate size of the associations suggested high discriminant validity of the preference for action.

What are the implications of our findings? First, if groups agree only on the definitions of the extreme actions and inactions (run and sleep, respectively), then most daily behaviors can be flexibly used to satisfy either action or inaction goals. All the middle behaviors must require other markers of what constitutes action and inaction. The contextual or personal markers that may allow people to select appropriate behaviors based on their goals for action or inaction are likely to be related to their naïve definitions. For example, comparing was rated in the middle of the distribution of actions and inactions (see Figure 1) and thus may be seen as more active when more energy and will are attributed to it. If people plan to compare two elements to make an important decision (e.g., comparing two cars in order to purchase one), the comparison is likely to be construed as highly willful and thus be seen as highly active.

The consistent association between rating a behavior as active or inactive and its positivity is intriguing. People socialized into these notions via religious beliefs, or those with chronic tendencies to hasten activity, may be likely to ignore the benefits of rest and relaxation.

Moreover, people who desire to be active may categorize their actions as positive even when the actions are risky or morally questionable. Essentially, preferring action irrespective of its nature suggests a dangerous bias in which active risk taking or aggression may be pleasing because of associated attitudes toward action. However, as we did not sample undesirable behaviors such as stealing or lying, such possibilities should be verified empirically in the future.

Future work is needed to understand how self-regulatory principles interact with the positivity of action versus inaction. From a psychological perspective, sustained effort or

persistence is essential for goal achievement (Bargh, Gollwitzer, Lee-Chai, Barndollar & Trotschel, 2001; Brehm & Self, 1989; Wright, 1996; Wright & Brehm, 1989), as the function of effort is to carry out or inhibit certain activities to advance important goals (Wright, 1996). Therefore, greater energy (i.e., effort required to perform or withhold a behavior) and will (i.e., intentionality and control required to perform or withhold a behavior) are likely to be ascribed to desirable behaviors as a way of ensuring that group members will invest resources in those behaviors (Ryan, 2002). In this paper, we did not test the potential effects of action–inaction evaluations on characterizing behaviors as energetic or willful. It might be that construing effort expenditure as positive occurs because of effort justification effects, where the effort expended justifies value (Aronson & Mills, 1959). For example, sorority pledges that are “run through the mill” are more likely to value the sorority and its practices more than those that are not.

In addition to behavior, the perception and interpretation of events may depend on people’s greater positivity towards action. If potential action opportunities are favorable, they are likely to attract attention, promoting a natural focus on action at the expense of inactive or restful activities (e.g., meditation). In particular, instilling an indiscriminate preference for action may produce difficulties with relaxation and increase stress and impulsivity. In the US, average sleep hours decreased between 1998 and 2005 (National Sleep Foundation, 2005), and diagnosis of attention-deficit hyperactivity disorder (ADHD) may be on the rise (Kelleher, Moore, Childs, Angelilli & Comer, 1999). Some regions have higher prevalence of afternoon naps (e.g., Mediterranean and Latin American countries) than other regions (Masa et al., 2006), and compared with Eastern European cities, Western European cities display faster walking speed in downtown locations as well as faster postal speed (Levine & Norenzayan, 1999). Moreover, people with ADHD and bipolar disorder manifest more pronounced levels of energy and hyperactivity (fidgeting, faster talking speed) than of their unaffected counterparts (Faraone, Sergeant, Gillberg & Biederman, 2003). Our current studies provide the basis for future explorations of regional and historic variations in level of activity resulting from the preference for action.

An important cultural difference that was shown here to correlate with preference for action is adherence to Christian beliefs. In addition, certain types of cultures encourage individual members of the culture to personally take action in response to life circumstances, whereas other types of cultures encourage a more passive, accommodating approach to life events. As an example, cultures of face (e.g., many East Asian cultures) encourage members to remain inactive in response to confrontation and upsetting life events, whereas cultures of honor (e.g., the southern United States) encourage members to actively deal with upsetting events (Cohen & Leung, 2011). Although the implications of these cultural attitudes toward action and inaction goals have yet to be explicitly tested, individuals who are part of a religion or culture that prescribes action at the expense of inaction should be likely to pursue action goals more frequently and intensely than inaction goals.

With respect to the positivity of action and goal theory (e.g., Ferguson & Bargh, 2004), as people strive for their goals, they are in fact reducing a tension that is created by

the need to achieve a goal or end state. In other words, people are trying to resolve the discrepancy between where they are (e.g., being overweight) and where they would like to be (e.g., being slender). If they are expending energy or initiating behaviors to reduce tension, then the effort or action will be rewarding or at least perhaps not aversive. It may be however, that if an action is very effortful and does not have a clear goal or desirable end state associated with it, then perhaps effort or the action itself is aversive. In line with the energy conservation principle, people who have achieved an end state or are happy with the state of progress might see extra activity or effort as aversive because they want to do the minimum to maintain their goal (e.g., being slender).

In the domain of culture, more work could be conducted to determine how cultures differ in naïve definitions and evaluations of action and inaction. Self-construal styles of interdependence and independence (Markus & Kitayama, 1991) may interact with action to promote greater levels of collective action when cultures are high in both interdependence and preference for action but greater levels of individual action when cultures are high in independence and preference for action. Perhaps people with an interdependent construal only prefer action (vs. inaction) when it is associated with agency that promotes the good of the group (Kitayama & Uchida, 2005).

In sum, individual and cultural definitions and evaluations of action should play a fundamental role in goal adoption and completion, as well as general self-regulatory success. This research is important because action and inaction concepts influence all kinds of behaviors (e.g., Albarracín, et al., 2008), and yet we know very little about how these concepts are construed or valued. We know very little about this in relation to all goal concepts, and this is a true limitation, as the words used for goal priming are often not even well controlled. Understanding semantic implications including valence variations of goal concepts adds to our knowledge of how the activation of these concepts elicits behaviors. Finally, if people vary in their evaluations of active and inactive behaviors, these variations might explain individual differences in behavior and cognition, such as their actual level of activity, productivity, or impulsivity. Our findings advance theory by proposing that these individual differences do exist, explaining how they exist with respect to socially ambiguous behaviors and not others, and connecting these differences to religion, locomotion, and need for closure.

## ACKNOWLEDGEMENTS

The research was facilitated by support from the National Institutes of Health (grants K02-MH01861 and R01-NR08325). We would like to thank Kenji Noguchi for his assistance with data collection and preliminary data analyses. We would also like to thank Marci Gleason for valuable statistical suggestions.

## REFERENCES

- Albarracín, D., Handley, I. M., Noguchi, K., McCulloch, K. C., Li, H., Leeper, J., . . . Hart, W. P. (2008). Increasing and decreasing motor and cognitive output: A model of general action and inaction goals. *Journal of Personality and Social Psychology, 95*, 510–523.

- Albarracín, D., Hepler, J., & Tannenbaum, M. (2011). General action and inaction goals: Their behavioral, cognitive, and affective origins and influences. *Current Directions in Psychological Science*, *20*, 119–123.
- Allison, S. T., & Messick, D. M. (1988). The feature-positive effect, attitude strength, and degree of perceived consensus. *Personality and Social Psychology Bulletin*, *14*, 231–241. doi:10.1177/0146167288142002
- Aronson, E., & Mills, J. (1959). The effect of severity of initiation on liking for a group. *Journal of Abnormal and Social Psychology*, *59*, 177–181.
- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology*, *81*, 1014–1027.
- Brehm, J. W., & Self, E. (1989). The intensity of motivation. *Annual Review of Psychology*, *40*, 109–131.
- Cioffi, D., & Garner, R. (1996). On doing the decision: Effects of active versus passive choice on commitment and self-perception. *Personality and Social Psychology Bulletin*, *12*, 133–147. doi:10.1177/0146167296222003
- Cohen, D., & Leung, A. K. (2011). Violence and character: A CuPS (culture x person x situation) perspective. In P. R. Shaver, & M. Mikulincer (Eds.), *Human aggression and violence: Causes, manifestations, and consequences* (pp. 187–200). Washington, DC: American Psychological Association.
- Cohen, A. B., & Rozin, P. (2001). Religion and the morality of mentality. *Journal of Personality and Social Psychology*, *81*, 697–710.
- Dittrich, W. H., & Lea, S. E. G. (1993). Motion and as a natural category for pigeons: Generalization and a feature-positive effect. *Journal of the Experimental Analysis of Behavior*, *59*, 115–129. doi:10.1901/jeab.1993.59-115
- Faraoane S. V., Sergeant, J., Gillberg, C., & Biederman, J. (2003). The worldwide prevalence of ADHD: is it an American condition? *World Psychiatry*, *2*, 104–113.
- Fazio, R. H., Sherman, S. J., & Herr, P. M. (1982). The feature-positive effect in the self-perception process: Does not doing matter as much as doing? *Journal of Personality and Social Psychology*, *42*, 404–411. doi:10.1037/0022-3514.42.3.404
- Ferguson, M. J. (2007). On the automatic evaluation of end-states. *Journal of Personality and Social Psychology*, *92*, 596–611.
- Ferguson, M. J., & Bargh, J. A. (2004). Liking is for doing: The effects of goal pursuit on automatic evaluation. *Journal of Personality and Social Psychology*, *87*, 557–572.
- Gendolla, G. H. E., & Silvestrini, N. (2010). The implicit “Go”: Masked action cues directly mobilize mental effort. *Psychological Science*, *21*, 1389–1393.
- Haidt, J., & Baron, J. (1996). Social roles and the moral judgment of acts and omissions. *European Journal of Social Psychology*, *26*, 201–218.
- Kardes, F. R., Cronley, M. L., & Kim, J. (2006). Construal-level effects on preference stability, preference-behavior correspondence, and the suppression of competing brands. *Journal of Consumer Psychology*, *16*, 135–144.
- Kelleher, K. J., Moore, C. D., Childs, G. E., Angelilli, M. L., & Comer, D. M. (1999). Patient race and ethnicity in primary care management of child behavior problems: A report from PROS and ASPN. *Medical Care*, *37*, 1089–1091.
- Kitayama, S., & Uchida, Y. (2005). Interdependent agency: An alternative system for action. In R. Sorrentino, D. Cohen, J. M. Ison, & M. P. Zanna (Eds.), *Culture and social behaviour: The Ontario symposium* (Vol. 10, pp. 165–198.). Mahwah, NJ: Erlbaum.
- Koole, S. L., McCullough, M. E., Kuhl, J., & Roelofsma, P. H. M. P. (2010). Why religion’s burdens are light: From religiosity to implicit self-regulation. *Personality and Social Psychology Review*, *14*, 95–107.
- Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: “seizing” and “freezing.” *Psychological Review*, *103*, 263–283.
- Kruglanski, A. W., Thompson, E. P., Higgins, E. T., Atash, M. N., Pierro, A., Shah, J. Y., & Spiegel, S. (2000). To “do the right thing” or to “just do it”: Locomotion and assessment as distinct self-regulatory imperatives. *Journal of Personality and Social Psychology*, *79*, 793–815.
- Kruglanski, A. W., Webster, D. M., & Klem, A. (1993). Motivated resistance and openness to persuasion in the presence or absence of prior information. *Journal of Personality and Social Psychology*, *65*, 861–876.
- Lane, J. D., Seskevich, J. E., & Pieper, C. F. (2007). Brief meditation training can improve perceived stress and negative mood. *Alternative Therapies in Health and Medicine*, *13*, 38–44.
- Laran, J. (2010). The influence of information processing goal pursuit on postdecision affect and behavioral intentions. *Journal of Personality and Social Psychology*, *98*, 16–28.
- Levine, R. V., & Norenzayan, A. (1999). The pace of life in 31 countries. *Journal of Cross Cultural Psychology*, *30*, 178–205.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*, 224–253.
- Masa, J. F., Rubio, M., Pérez, P., Mota, M., Sanchez de Cos, J., & Montserrat, J. M. (2006). Association between habitual naps and sleep apnea. *Sleep*, *29*, 1463–1468.
- Miller, M. J., Woehr, D. J., & Hudspeth, N. (2002). The meaning and measurement of work ethic: Construction and initial validation of a multidimensional inventory. *Journal of Vocational Behavior*, *60*, 451–489.
- National Sleep Foundation. (2005). 2005 sleep in America poll. Retrieved June 10, 2007, from [http://www.sleepsolutions.com/phys/education/NSF\\_2005\\_Sleep\\_in\\_America\\_Poll\\_Results.htm](http://www.sleepsolutions.com/phys/education/NSF_2005_Sleep_in_America_Poll_Results.htm)
- Noguchi, K., Handley, I. M., & Albarracín, D. (2011). Participating in politics resembles physical activity: General action patterns in international archives, US archives, and experiments. *Psychological Science*, *22*, 235–242.
- Pichon, I., Boccato, G., & Saroglou, V. (2007). Nonconscious influences of religion on prosociality: A priming study. *European Journal of Social Psychology*, *37*, 1032–1045.
- Randolph-Seng, B., & Nielsen, M. E. (2007). Honesty: One effect of primed religious representations. *The International Journal for the Psychology of Religion*, *17*, 303–315.
- Ryan, J. J. (2002). Work values and organizational citizenship behaviours: Values that work for employees and organizations. *Journal of Business and Psychology*, *17*, 123–132.
- Senay, I., Wang, W., McCulloch, K. C., & Albarracín, D. A. (2010). *When doing is more demanding than not doing: The fundamental asymmetry of regulating action and inaction goals in tasks involving multiple targets*. Manuscript submitted for publication (copy on file with author).
- Shariff, A. F., & Norenzayan, A. (2007). God is watching you: Supernatural agent concepts increase prosocial behavior in an anonymous economic game. *Psychological Science*, *18*, 803–809.
- Tsai, J. L., Miao, F. F., & Seppala, E. (2007). Good feelings in Christianity and Buddhism: Religious differences in ideal affect. *Personality and Social Psychology Bulletin*, *33*, 409–421.
- Vandekerckhove, M., & Cluydts, R. (2010). The emotional brain and sleep: An intimate relationship. *Sleep Medicine Reviews*, *14*, 219–226.
- Wright, R. A. (1996). Brehm’s theory of motivation as a model of effort and cardiovascular response. In P. M. Gollwitzer, & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 424–453). New York: Guilford.
- Wright, R., & Brehm, J. W. (1989). Energization and goal attractiveness. In L. A. Pervin (Ed.), *Goal concepts in personality and social psychology* (pp. 169–210.). Hillsdale, NJ: Lawrence Erlbaum Associates.

## APPENDIX A

### Preference for action (vs. inaction) scale

- (i) Action is important in people’s lives.
- (ii) Action is essential for life.
- (iii) Actions contribute to society.
- (iv) Being active makes people happy.
- (v) Action is good.
- (vi) Inaction is important in people’s lives.
- (vii) Being inactive is pleasant.
- (viii) Inaction is good.
- (ix) Inaction is necessary in one’s life.
- (x) Inaction offers many benefits.

## APPENDIX B

### Religious beliefs related to Christianity

- (i) God exists.
- (ii) I shall not swear falsely by the name of the Lord.
- (iii) One should honor one’s parents.
- (iv) One should honor one’s God.
- (v) One should not lie.
- (vi) One should not kill.
- (vii) One should not commit adultery.
- (viii) One should not envy what others have.
- (ix) One should go to religious ceremonies on the prescribed basis.
- (x) One day of the week should be dedicated to God and not to work.