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*Psychological Science* published online 21 December 2010  
DOI: 10.1177/0956797610393746

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# Participating in Politics Resembles Physical Activity: General Action Patterns in International Archives, United States Archives, and Experiments

Psychological Science  
 XX(X) 1–8  
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 DOI: 10.1177/0956797610393746  
<http://pss.sagepub.com>  


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## Abstract

A series of studies examined whether political participation can emerge from general patterns of indiscriminate activity. In the first two studies, general action tendencies were measured by combining national and state-level indicators of high activity (e.g., impulsiveness, pace of life, and physical activity) from international and U.S. data. This action-tendency index positively correlated with a measure of political participation that consisted of voting behaviors and participation in political demonstrations. The following two experimental studies indicated that participants exposed to action words (e.g., *go*, *move*) had stronger intentions to vote in an upcoming election and volunteered more time to make phone calls on behalf of a university policy than participants exposed to inaction words did (e.g., *relax*, *stop*). These studies suggest that political participation can be predicted from general tendencies toward activity present at the national and state levels, as well as from verbal prompts suggestive of activity.

## Keywords

political participation, general action tendencies, cross-country analyses

Received 7/15/10; Revision accepted 8/22/10

As a cornerstone to democratic philosophies, participatory political action is central to the organization of social life and the disciplines of political and social psychology, as well as the allied fields of political science, sociology, economics, and history. The study of political participation has consistently revealed that individual differences in socioeconomic status explain differences in political participation (Leighley & Vedlitz, 1999), but when aggregated, regional socioeconomic variations are often unrelated to political participation (Geys, 2006). In this context, we propose that individual and regional variations in general activity levels (i.e., the degree of physical and mental effort or output in which people in a certain region typically engage, as exemplified by such activities as studying or running; see Albarracín et al., 2008) may constitute an understudied yet unifying correlate of political participation at both the individual and the regional levels. Here, we provide a new perspective on how general action tendencies, in addition to a more specific, conscious, and rational interest in politics, can exert surprising influences on political participation.

Several problems plague current explanations of individual and regional variations in political participation (i.e., activities that are designed to influence the selection of governmental personnel and the actions they take; Verba & Nie, 1972). At

the individual level, greater political participation and therefore better representation in the political system (Wolfinger & Rosenstone, 1980) are associated with higher socioeconomic status (Leighley & Vedlitz, 1999). Further, greater voter turnout is related to stronger political interest (Zaller, 1992), higher political trust (Heatherington, 1999), higher moral conviction (Skitka & Bauman, 2008), more geographic mobility (Squire, Wolfinger, & Glass, 1987), deeper church involvement (Verba, Schlozman, & Brady, 1995), and older voting age (Highton & Wolfinger, 2001). Despite their value, these predictors of individual political participation, which explain up to 31% of the variance in political participation (Plutzer, 2002), do not always explain cross-regional variation in participation (Franklin, 1999, 2004). For example, voter turnout in the past two decades—that is, roughly from 1990 to 2010—has been

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higher in European regions than in Asian, North American, and South American regions (Franklin, 2004) and has declined more in the United States (Putnam, 2000) and Switzerland than in countries such as Belgium and Denmark (Mackie & Rose, 1991; Teixeira, 1992).

Yet it is possible that other factors—perhaps factors less rational and expected than political interest or even party identification—shape political participation across both regions and individuals. For instance, political participation could be an expression of broader patterns more similar to hyperactivity than to political interest.

Recent experiments have demonstrated that general action tendencies can be experimentally manipulated and that such manipulations influence several types of activities (Albaracín et al., 2008; Laran, 2010). In these experiments, incidental exposure to action-related words (e.g., *go*) triggered goals to achieve general active states, which promoted general action tendencies, more than did incidental exposure to inaction-related words (e.g., *stop*). Participants with general action goals were more likely to select drawing over sleeping, ate more, and solved more intellectual problems than participants with general inaction goals. Although general action goals promote activity in such laboratory tasks, their potential effect on political participation—a unique variable—remains to be established. In light of past work suggesting that political participation is due to specific political variables, such as political interest, we chose to examine whether general action tendencies may explain political participation in previously unanticipated ways (Huckfeldt & Sprague, 1992; Zaller, 1992).

It is important to note that general action tendencies not only can be experimentally manipulated, but also display natural variation. In the United States, the average number of hours of sleep per day decreased between 1998 and 2005 (National Sleep Foundation, 2005), and diagnosis of attention-deficit/hyperactivity disorder (ADHD) may be on the rise (Kelleher, McInerney, Gardner, Childs, & Wasserman, 1999). Some regions (e.g., Mediterranean and Latin American countries) have a higher prevalence of afternoon naps than other regions do (Masa et al., 2006), and, compared with Eastern European cities, Western European cities are characterized by 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, rapid talking) than their normal counterparts do (Faraone, Sergeant, Gillberg, & Biederman, 2003). To summarize, there are regional and individual variations in level of activity.

In the first two studies reported in this article, regional differences in general action tendencies were measured using the Activity and Impulsiveness scales of the revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992) and a pace-of-life index (Levine & Norenzayan, 1999), as well as diverse indicators of activity level, including stimulant use (for associations with impulsivity, see Leland & Paulus, 2005),

newspaper and movie production, phone and Internet use, frequency of physical activity, and diabetes and obesity rates (reversed-scored, given their negative correlation with physical activity; Caperchione, Duncan, Mummery, Steele, & Schofield, 2008). These archival analyses were followed by two experiments in which action and inaction words were used to elicit systematic individual variations in activity level. We tested whether this experimental manipulation of general action tendencies would influence political participation with respect to an upcoming presidential election and a university policy. We predicted that political activity would be promoted by greater action tendencies whether those tendencies were observed naturally across regions or created in the laboratory.

## Study 1: International Archival Data

### Method

To test whether general action tendencies correlated with political action, we sampled international archival data related to general action tendencies and political participation; we included political interest as a control variable.

**The action-tendency index.** We selected a variety of country-level variables to assess action tendencies, because having multiple measures generally protects research from the biases of a particular variable (variables may have different meanings in different places). Our action-tendency index incorporated measures in the following four areas:

- *Scores on the Activity and Impulsiveness scales of the NEO-PI-R* (Costa & McCrae, 1992): Activity is a subscale of the Extraversion scale and assesses the tendency to rapid tempo and high energy, whereas Impulsiveness is a subscale of the Neuroticism scale and assesses inability to control cravings and urges. Cross-cultural data on these two measures are available from a study by McCrae and Terracciano (2008).
- *The previously developed pace-of-life index* (Levine & Norenzayan, 1999): This index assesses walking speed, postal speed, and clock accuracy. Clock accuracy is based on the accuracy of 15 clocks in randomly selected downtown banks in the area.
- *Data on stimulant use* (United Nations Office on Drugs and Crime, 2005): These data included rates of cocaine, amphetamine, and Ecstasy abuse. We also included the annual prevalence of abuse by taking the percentage of 15- to 64-year-old abusers in each country in the most recent year for which data were available between 1995 and 2005. (The data were collected in the years from 1995 to 2005, but the most recent year for which data were available varied across countries.)
- *Other activity measures related to communications:* Newspaper and movie production were measured by

**Table 1.** Country Rankings on the Action-Tendency Index (Study 1)

Rank	Country	Action index	Rank	Country	Action index
1	Australia	1.39	36	Venezuela	-0.17
2	Iceland	1.16	37	Lithuania	-0.19
3	Norway	1.14	38	Korea Republic	-0.22
4	Denmark	0.97	39	Bulgaria	-0.23
5	New Zealand	0.86	40	Turkey	-0.30
6	United States	0.81	41	Colombia	-0.32
7	Estonia	0.80	42	Brazil	-0.36
8	United Kingdom	0.79	43	Georgia	-0.40
9	Switzerland	0.78	44	Dominican Republic	-0.49
10	Sweden	0.74	45	Peru	-0.52
11	Germany	0.62	46	Philippines	-0.52
12	Finland	0.59	47	Belarus	-0.56
13	Belgium	0.57	48	South Africa	-0.58
14	Italy	0.52	49	Uruguay	-0.58
15	Greece	0.50	50	Russia	-0.61
16	Czech Republic	0.48	51	Albania	-0.64
17	Israel	0.46	52	Romania	-0.65
18	Netherlands	0.46	53	El Salvador	-0.65
19	Ireland	0.45	54	Azerbaijan	-0.66
20	Austria	0.41	55	Jordan	-0.71
21	Spain	0.39	56	Egypt	-0.74
22	Canada	0.28	57	Ukraine	-0.76
23	Japan	0.25	58	India	-0.76
24	France	0.22	59	Mexico	-0.80
25	Hungary	0.21	60	Morocco	-0.81
26	Armenia	0.20	61	Nigeria	-0.85
27	Slovenia	0.09	62	Algeria	-0.93
28	Croatia	0.08	63	Pakistan	-0.96
29	Latvia	0.07	64	Indonesia	-0.97
30	Portugal	0.07	65	Iran	-1.03
31	Argentina	0.02	66	Kyrgyzstan	-1.04
32	Singapore	-0.06	67	Uganda	-1.06
33	Slovakia	-0.06	68	Vietnam	-1.07
34	Chile	-0.06	69	Bangladesh	-1.16
35	Poland	-0.12			

Note: Higher numbers on the index indicate higher action tendencies.

the number of daily-publication newspapers in operation and the number of movies produced between 1995 and 1999. Telephone prevalence was measured by the number of landlines and cell phones in 2006 (Countries of the World, 2006). Internet prevalence was measured by the number of Internet users in 2006 (Countries of the World, 2006). All of the communication measures were divided by the number of people in the country to obtain per capita values.

To be included, a country did not need to have more than one kind of data for a given area; in fact, countries were retained even if they had only one measure (e.g., if amphetamine consumption was the only available stimulant-use measure). When more than one measure was available for a

given index, the component measures were standardized and averaged. Our final sample consisted of 69 countries (see Table 1).

To be conservative, we did not substitute for missing data. Thus, only 25 countries in the final data set included the pace-of-life index. Cronbach's alpha was .77 based on the 29 countries without the pace-of-life index and was .81 based on the 11 countries with the pace-of-life index.<sup>1</sup>

**Political participation.** Political participation was measured by voter turnout and other classic measures of political participation. The percentage of the eligible voters who voted in the most recent parliamentary election was obtained from the International Institute for Democracy and Electoral Assistance (2005). In this database, parliamentary elections are defined as elections to the national legislative body of a country or a

territory, as distinct from presidential elections. We focused on parliamentary elections because (a) these elections are more frequent than presidential ones and (b) not all countries have presidential elections. In addition, we recorded the percentage of citizens who reported (a) signing a petition, (b) joining a boycott, (c) attending a lawful demonstration, and (d) joining an unofficial strike. These data were retrieved from the World Values Survey Database (2006). Cronbach's alpha for the composite political-participation measure was .72 based on the 64 countries that had multiple indices of participation.

**Political interest.** Political interest was measured by questions included in the World Values Survey Database (2006). Specifically, we retrieved the percentage of people who reported that politics is important (either *very important* or *important*) and that they were interested in politics (either *somewhat interested* or *very interested*). Cronbach's alpha for political interest was .67 based on the 56 countries for which we had multiple measures of this index.

**Gross domestic product per capita.** Gross domestic product (GDP) per capita was retrieved from the Countries of the World (2006) database. GDP was not included in the action-tendency index because socioeconomic status alone is a strong factor in predicting political participation. Thus, we differentiated GDP as another factor and examined whether the action-tendency index could predict political participation independently of GDP.<sup>2</sup>

## Results and discussion

Countries of Western heritage ranked higher on the action-tendency index than did African, Asian, and South American countries (see Table 1). The action-tendency index correlated positively with political participation ( $r = .59, p < .001$ ) and GDP ( $r = .87, p < .001$ ). Political interest correlated positively with political participation ( $r = .29, p = .014$ ) and GDP ( $r = .59, p < .001$ ), but was not associated with the action-tendency index ( $r = .02, p = .88$ ).

To test the hypothesis that political participation is higher in countries with higher general action tendencies, we regressed political participation on the action-tendency index while controlling for political interest and GDP. This analysis revealed that, as suggested by the simple correlations, both the action-tendency index and political interest were significantly related to political participation ( $\beta_s = 0.40$  and  $0.26$ , respectively; both  $ps < .05$ ), whereas GDP was not ( $\beta = 0.21, p = .29$ ). The three predictors accounted for 44% of the variance in political participation, and the action-tendency index alone accounted for 35% of the variance.

In sum, the international data support the hypothesis that general action tendencies predict political participation independently of GDP and political interest. In the second study, we aimed to replicate these findings using archival data from the United States. These data could offer complementary

evidence, and a single-country study would provide better control for unmeasured societal factors that may vary in international data. As in Study 1, we created the indices of action tendencies, political participation, political interest, and GDP, and then performed correlation and regression analyses.

## Study 2: U.S. Archival Data

### Method

To retest whether general action tendencies correlated with political action, we employed U.S. archival data related to physical activity, political participation, and political interest, comparing the data at the state level.

**The action-tendency index.** In the U.S. state archival data, we concentrated on variables regarding physical-activity level and stimulant use. The action-tendency index included the following:

- the percentage of people engaging in physical activity 5 or more days per week, or vigorous physical activity for a minimum of 20 min 3 or more days per week, in the past month (Centers for Disease Control and Prevention, CDC, 2006);
- the percentage of self-reported diagnoses of diabetes (reverse-scored; CDC, 2006);
- the percentage of obese people (people with a body mass index greater than 30; reverse-scored; CDC, 2006); and
- the percentage of respondents reporting use of non-medical amphetamines and other stimulants (e.g., diet pills) in the past year (U.S. Department of Health and Human Services, 2006).

At least some of these indicators were available for each of the 50 states and the District of Columbia, so all were included in our analyses. Cronbach's alpha for the action-tendency index was .88 based on 49 states and the District of Columbia. Hawaii had some missing data points and thus was excluded from the calculation of Cronbach's alpha.

**Political participation.** Political participation was measured in part by voter turnout. The percentage of eligible voters who voted in the 2004 presidential election was obtained from the U.S. Census Bureau (2006). In addition, from the American National Electoral Survey (2004), we obtained the percentage of respondents before the November 2004 election who (a) tried to influence the vote of other people; (b) attended campaign meetings, rallies, or speeches; (c) worked for a political party or candidate; (d) wore campaign buttons, stickers, or signs; (e) donated money to a political party or candidate; and (f) wrote letters to a public officer. Cronbach's alpha for the political-participation index was .84 based on 37 states and the District of Columbia (13 states had some missing data points).

**Political interest.** Political interest was measured by the percentage of respondents in the American National Electoral Survey (2004) who reported being interested in politics (*very interested* and *somewhat interested*).

**GDP per capita.** GDP per capita was recorded for each state and the District of Columbia (U.S. Department of Commerce, 2006). Again, we separated GDP from the action-tendency index because socioeconomic status alone strongly predicts political participation.<sup>3</sup>

## Results and discussion

Western states ranked near the top on the action-tendency index, Southern states ranked near the bottom, and Midwestern and Eastern states ranked in the middle (see Table 2). Correlation analyses revealed a positive correlation between the action-tendency index and political participation,  $r = .37$ ,  $p = .008$  ( $n = 51$ ); a positive correlation between political interest and GDP,  $r = .30$ ,  $p = .046$  ( $n = 44$ ); and a positive correlation between political interest and political participation,  $r = .54$ ,  $p < .001$  ( $n = 44$ ). When political participation was simultaneously regressed on the action-tendency index, political

interest, and GDP ( $n = 44$  because of the lack of statistics for some states), the measures of action tendencies and political interest were still significantly associated with political participation ( $\beta = 0.34$  and  $0.39$ , respectively;  $ps < .01$ ). Political interest was not related to general action tendencies,  $r = .26$ ,  $p = .086$ , a result further suggesting that the contribution of general action tendencies was independent of political interest. The three predictors accounted for 41% of the variance in political participation, and the action-tendency index alone accounted for 14% of the variance.

In conclusion, we found support for the prediction that general action tendencies correlate with political participation. Nonetheless, the findings in the first two studies are correlational and therefore cannot indicate a causal relation between general action tendencies and political participation. The next two studies tested this relation experimentally by priming action and inaction concepts. In Study 3, participants were exposed to action, control, or inaction words and then reported their participation intentions with respect to an upcoming presidential election. Study 3 also examined party identification, which is known to influence political participation (Esser & de Vreese, 2007).

**Table 2.** U.S. State Rankings on the Action-Tendency Index (Study 2)

Rank	State	Action index	Rank	State	Action index
1	Colorado	1.77	27	Hawaii	-0.03
2	Alaska	1.41	28	Maine	-0.10
3	Oregon	1.29	29	Oklahoma	-0.12
4	Nevada	1.18	30	Illinois	-0.23
5	Vermont	1.16	31	Virginia	-0.25
6	Idaho	1.15	32	Georgia	-0.26
7	Montana	1.15	33	Maryland	-0.28
8	Minnesota	1.05	34	New Jersey	-0.34
9	Utah	0.96	35	Florida	-0.36
10	Washington	0.88	36	Pennsylvania	-0.43
11	Massachusetts	0.70	37	District of Columbia	-0.45
12	New Mexico	0.68	38	Michigan	-0.45
13	New Hampshire	0.65	39	New York	-0.48
14	Wyoming	0.45	40	Indiana	-0.54
15	California	0.40	41	Arkansas	-0.56
16	Arizona	0.34	42	Ohio	-0.57
17	Connecticut	0.34	43	Texas	-0.60
18	Delaware	0.23	44	Kentucky	-0.63
19	Rhode Island	0.22	45	South Carolina	-0.77
20	South Dakota	0.21	46	North Carolina	-0.91
21	Nebraska	0.18	47	Louisiana	-1.07
22	Wisconsin	0.18	48	Alabama	-1.29
23	Kansas	0.17	49	Tennessee	-1.38
24	Iowa	0.14	50	West Virginia	-1.45
25	Missouri	0.13	51	Mississippi	-1.56
26	North Dakota	0.07			

Note: Higher numbers on the index indicate higher action tendencies.

### Study 3: Experimental Study of Participation in Presidential Elections

#### Method, participants, and design

Participants were 97 introductory psychology students (59% female, 41% male) who participated in the experiment in exchange for course credit.<sup>4</sup> Participants were randomly assigned to the conditions of a three-cell (action primes: action, inaction, or control) between-subjects design. Three participants were excluded from the analysis because they provided extreme values ( $> 3 SD$  from the mean) for several measures.

#### Procedure and measures

At the beginning of the experiment, participants were told that they would complete several tasks within their experimental session. The first task ostensibly measured verbal ability and was designed to prime participants with action, control, or inaction concepts. After this task, participants completed a measure of their political-participation intentions.

**Action-goals manipulation.** In this task, participants were asked to complete 20 word fragments. Of these fragments, 12 were neutral in all cases; 8 were either neutral or related to action or inaction concepts. For a detailed description of this manipulation, see the Supplemental Material available online.

**Political-participation intentions.** Participants were asked three questions regarding the (then-pending) presidential election of 2008. Specifically, they were asked whether they would vote, try to influence the vote of other people, and help with campaign work for a party or a candidate. Participants responded to these items using scales ranging from 1 (*not likely at all*) to 10 (*extremely likely*). The average of the three responses was our participation index (Cronbach's  $\alpha = .74$ ).

**Political partisanship.** Because voting behaviors are strongly affected by party leanings (Huckfeldt & Sprague, 1992), we asked participants whether or not they had a favorite party. The response scale for this question ranged from 1 (*not at all true*) to 10 (*very true*). This measure was used as a covariate in analyses.

#### Results and discussion

The participation-intentions score was analyzed as a function of prime (action vs. control vs. inaction) in an analysis of covariance, with partisanship as the covariate. There was a significant main effect of the priming manipulation,  $F(2, 90) = 3.17$ ,  $p = .047$ . Participants who were primed with action words reported stronger participation intentions than participants who were primed with inaction words ( $M_s = 5.05$  vs.  $3.86$ ;  $p$  for contrast =  $.043$ ). The mean score for the control-prime condition ( $M = 4.27$ ) fell between the means for the action- and inaction-prime conditions, but did not differ

significantly from either one ( $p_s$  for contrasts =  $.28$  and  $.74$ , respectively).

In sum, the correlational findings in the first two studies were further confirmed by this experimental study. Participants who were merely exposed to action words reported greater political-participation intentions than those who were exposed to inaction words. The fourth study was designed as an attempt to replicate this finding, using a task that would be more engaging for our student sample.

### Study 4: Experimental Study of Participation in University Policy

#### Method, participants, and design

Participants were 77 introductory psychology students (58% female, 42% male). They were randomly assigned to the conditions of a two-cell (action primes: action vs. inaction) between-subjects design.

#### Procedure and measures

Participants first completed the same priming task as in the previous study. This manipulation was followed by the presentation of written information concerning implementation of a senior comprehensive exam at the university. We then measured participants' attitudes toward the exam topic and their intention to work for this policy.

**Message.** We employed a frequently used essay concerning implementation of a senior comprehensive exam (Petty & Cacioppo, 1986). The message contained compelling arguments and included objective evidence in favor of the policy.

**Participation intentions.** Participants were asked about the extent to which they (a) wanted to do something about the issue of comprehensive exams, (b) intended to do something about the issue, and (c) were willing to volunteer some time to make phone calls or convey information about the policy to other students. (For additional details, see the Supplemental Material available online.) These measures were averaged as a measure of participation intentions (Cronbach's  $\alpha = .60$ ).

**Attitudes toward the new policy.** Participants also reported their attitudes toward the issue of comprehensive exams by responding to four items using scales from 1 to 9. (For a detailed description of this measure, see the online Supplemental Material.) Cronbach's alpha for these items was  $.94$ , and responses were averaged to obtain an overall index of attitudes.

#### Results and discussion

Participants primed with action words had stronger participation intentions than those who were primed with inaction

words ( $M_s = 3.82$  vs.  $3.00$ ),  $t(75) = 2.33$ ,  $p = .023$ . In contrast, there was no difference on the attitude measure between these two conditions ( $M_s = 4.10$  vs.  $4.53$  for the action and inaction primes, respectively),  $t(75) = 0.95$ ,  $p = .344$ . These findings replicate the findings from Study 3, although in a different context, and suggest that general action tendencies can increase participation intentions independently of political attitudes.

## General Discussion

These four studies support the hypothesis that general action tendencies can explain political participation across regions and across participants in the same region. In Studies 1 and 2, the international data and the U.S. archival data indicated that the action-tendency index was positively related to political participation even we controlled for economic productivity and political interest. The last two studies confirmed a causal relation between action tendencies and political activity, even after controlling for party affiliation and issue-specific attitudes. Specifically, Study 3 demonstrated that exposure to general action concepts (compared with exposure to inaction concepts) resulted in higher intentions to participate in an upcoming U.S. presidential election. Study 4 demonstrated that participants' intentions to take action regarding the implementation of a new policy at their university were similarly heightened after participants were exposed to general action concepts. Taken together, these four studies support the notion that general action tendencies can increase political participation irrespective of more specific factors, such as political interest and party identification.

One unique aspect of this research is its demonstration that general action tendencies are related to political participation at different levels, from the individual level to the regional level to the national level. The results of the first two studies were based on aggregated data, so the results of the last two experimental studies at an individual level are particularly important. Given the patterns found in previous research—that is, inconsistencies in the relationship between political participation and socioeconomic level, both within a country and across countries—the replications in Studies 3 and 4 represent an advance over prior work. For instance, socioeconomic level in previous research has been shown to account for regional variability in political participation within a country, but not for variability in participation across countries. In contrast, the action tendencies we identified were related to political participation both within the United States and across countries, and the same patterns were supported by experiments using rigorous methodologies.

Relative to the action tendencies produced in the lab studies, the general action tendencies measured at the regional level in Study 1 and Study 2 are likely to have more stable sources. First, there may be a culturally based preference for action (driven by such cultural beliefs as the Protestant work ethic) that finds expression in involvement in extracurricular activities,

education, and work (Preston, 1987). Such cultural beliefs may incline individuals to active pursuits in any domain, whether or not action is the wisest course in that particular domain. (That is, if people are expected to be active, they may take prompt action even when such action is not appropriate—for example, in making impulsive purchases.) Second, certain cultural groups may produce and be exposed to more reminders of action than other groups are. Advertisements that encourage people to “take action” and technological devices that facilitate action may offer regular reminders of the need to be active and may be more prevalent in regions with a faster pace of life. Whatever the underlying mechanism, general action patterns appear to have beneficial effects on political participation.

## Acknowledgments

We thank Julia Albarracín and William Hart for their insightful comments on earlier versions of this manuscript and our undergraduate research assistants for their invaluable assistance with this project.

## Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

## Funding

This research was funded by Grants K02-MH01861 and R01-NR08325 from the National Institutes of Health.

## Supplemental Material

Additional supporting information may be found at <http://pss.sagepub.com/content/by/supplemental-data>

## Notes

1. Of the countries for which the pace-of-life index was available, 14 lacked some of the other measures. Thus, only 11 countries remained for computing alpha.
2. Education is another important factor that affects the likelihood of political participation (Franklin, 1999). We performed a regression analysis with education, GDP, and political interest in the equation. However, this model led to multicollinearity, so we repeated the regression analyses without education and report those results here.
3. As in Study 1, education could not be included in the equation because of multicollinearity.
4. Gender had no effect on political participation in either Study 3 or Study 4.

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