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The Efficient Assessment of Need for Cognition

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Abstract: A short form for assessing individual differences in need for cognition is described.

Need for cognition refers to an individual's tendency to engage in and enjoy effortful cognitive endeavors. Research on need for cognition suggests that this characteristic is predictive of the manner in which people deal with tasks and social information (e.g., Cacioppo & Petty, 1982, in press; Cohen, 1957). In the present study, the need for cognition scale (NCS) was revised to enhance its efficiency as an assessment instrument.

Method and Results

The short form of the NCS was developed by: (a) ranking the 34 items from the original NCS in terms of the absolute value of their factor loadings in the experiment in which the scale was developed (i.e., Experiment 1 of Cacioppo & Petty, 1982); (b) calculating Cronbach's alpha as each successive item was added; and (c) applying a Scree test to determine the specific number of items to be retained. The variability associated with the 19th item actually decreased Cronbach's alpha, and little additional internal consistency was gained by including yet more items. Hence, 18 items were retained in the short form, which is presented in Table 1.

Next, the 34-item NCS was included in a battery of tests administered at the beginning of the semester to 527 students at the University of Iowa. Two procedures were then employed to assess the 18-item NCS. First, each subject's score on the full scale was correlated with the score derived using the 18 items selected above. Even though the selection of these 18 items was based on data from a previous study, subjects' scores on original and 18-item versions of the NCS correlated high and significantly ($r = +0.95$, $p < .001$).

Second, responses to the 34-item NCS made by these 527 subjects werre factor analyzed, and a second factor analysis was performed using only the 18 items selected for inclusion in the short form. A principal components factor analysis was performed for each since only one dominant factor was expected. One factor was clearly dominant and was retained in the 34-item and in the 18-item NCS. The variance attributable to this factor in the 18-item NCS was 37%, comparing favorably to the 27% associated with this factor in the 34-item NCS. Hence, the 18-item NCS does appear more efficient. Finally, little is sacrificed in terms of the reliability of the scale, as the theta coefficient, which is a maximized Cronbach's alpha coefficient, was +.90 for the 18-item NCS and +.91 for the longer 34-item NCS.

Discussion

The strong correlation between the short and long forms of the NCS indicates that the results obtained in previous research using the 34-item NCS would not be changed by repeating the analyses using the 18-item scale. Moreover, the validating factor analysis of the short form revealed that: (a) the first extracted factor explained a comparatively large proportion of the variance in the items, (b) subsequent factors explained fairly equal (though, of course, decreasing) proportions of the remaining variance, (c) all but one of the items had substantial loadings on the first fac-

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Table 1
18-Item Need for Cognition Scale

Item Number	Item Wording
1	I would prefer complex to simple problems.
2	I like to have the responsibility of handling a situation that requires a lot of thinking.
3	Thinking is not my idea of fun.*
4	I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.*
5	I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something.*
6	I find satisfaction in deliberating hard and for long hours.
7	I only think as hard as I have to. *
8	I prefer to think about small, daily projects to long-term ones.*
9	I like tasks that require little thought once I've learned them.*
10	The idea of relying on thought to make my way to the top appeals to me.
11	I really enjoy a task that involves coming up with new solutions to problems.
12	Learning new ways to think doesn't excite me very much.*
13	I prefer my life to be filled with puzzles that I must solve.
14	The notion of thinking abstractly is appealing to me.
15	I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.
16	I feel relief rather than satisfaction after completing a task that required a lot of mental effort.*
17	It's enough for me that something gets the job done; I don't care how or why it works.*
18	I usually end up deliberating about issues even when they do not affect me personally.

* Reverse scoring is used on this item.

tor, and (d) all but one of the items had higher loadings on the first than subsequent factors. According to Carmines and Zeller (1979), these are the four features that would be expected if the 18-item NCS was measuring a single phenomenon given the properties of an unrotated principal components factor analysis.

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