

The effect of descriptive norms on University students' pro-environmental behaviors: Cross cultural comparison

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INTRODUCTION

The study examined the determinants of environmental behaviors in four countries: U.S., Germany, Japan and China. Our focus was on examining the role of descriptive norms in these countries.

Descriptive norms

Descriptive norms were found to be consistent predictor of the pro-environmental behavior(e.g. Göckeritz *et al.* 2010 :Nolan et al., 2008)

The present study aim to investigate “who’s” norm affect behavior most strongly. We predict that norms of one’s reference group would have stronger effect than norms of broader groups.

Descriptive norms of the students of same university have stronger impacts on behavior than those of community. However, descriptive norm of community would have stronger impacts on citizen's participation.

Cultural differences

Cross-Cultural studies (Triandiset al., 1988; Markus & Kitayama, 1991) showed that interpersonal relationships are valued in Asian countries while independence are placed more importance in Western countries.

In U.S. and Germany, personal norm would have stronger effects on pro-environmental behavior. In Japan and China. Subjective norm would play more important role.

RESULTS

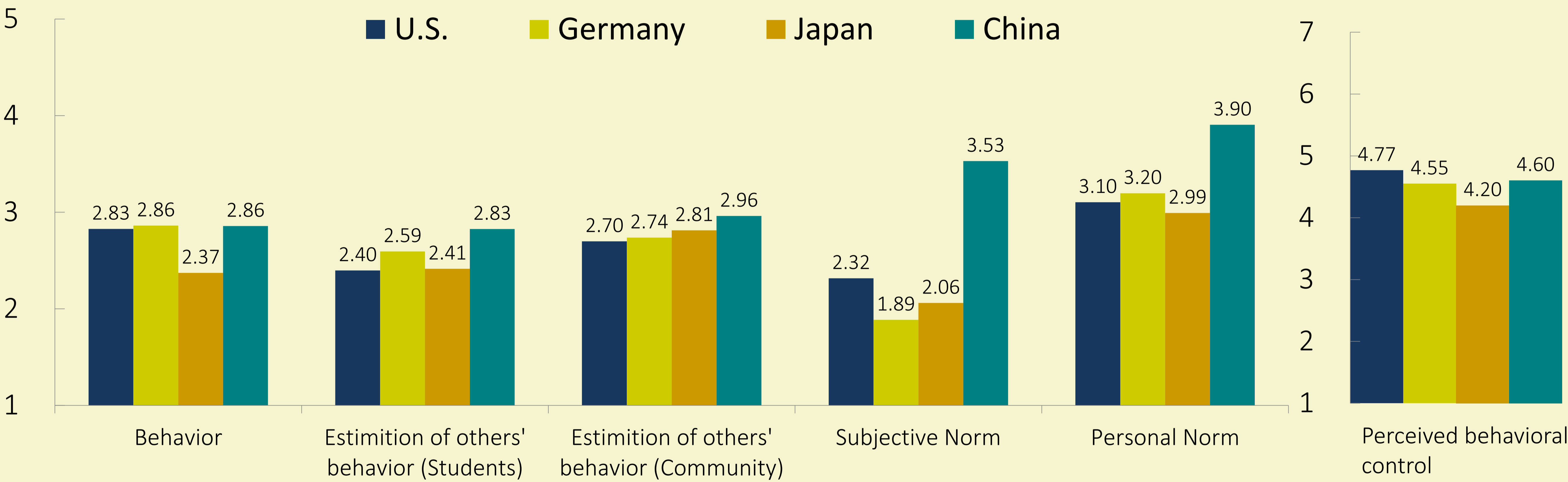


Figure 1. Mean scores of 3R behaviors

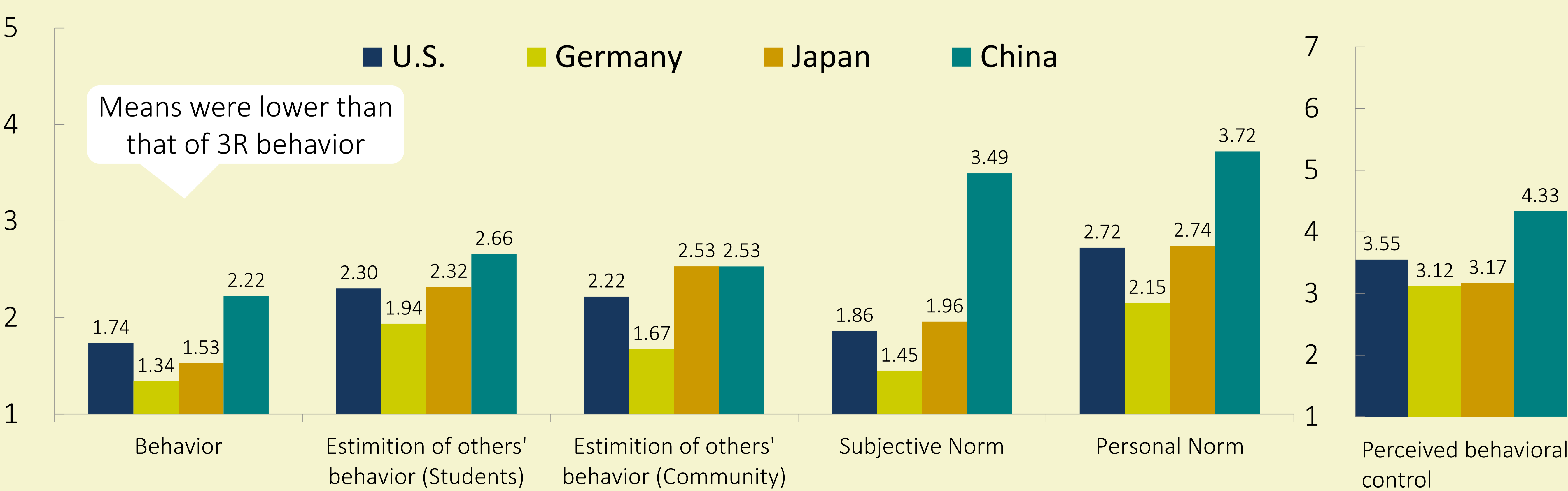


Figure 2. Mean scores of Citizen's participation

METHOD

Research period

The study was conducted in April – July 2012

Procedures

The study was conducted in 4 countries (Japan, China, Germany and U.S.).

Respondents

University students from 4 countries answered the questionnaires at the classroom.

(Total number Japan: 661, China: 184, Germany: 296, U.S.: 87)

Questionnaire

Participants answered the questions about 3R behavior and Citizen’s participation. The items are as below: frequency of the behavior(1 item), Estimation of other’s behavior (2 items), Subjective norm(2 items), Personal norm(2 items), Perceived behavioral control(1 item), Eco-net(1 item).

DISCUSSION

Influence of Descriptive Norms

The results indicated that descriptive norm of the reference group was important for individual behaviors, while that of the community was relevant for the collective behaviors.

For Chinese students, descriptive norm of peer students were important for both behaviors, that may be because most of them live in dormitory with other students.

Cultural differences

For individual behavior, personal norm also had influence in Japan, and for collective behavior, subjective norm had effects only in China. The results showed that regarding the determinants of environmental behavior, Japan is rather similar to Germany. The results also showed that the differences between the behavioral domain are also nonnegligible. Personal norm had effects in 3 countries for individual behavior, but it had effects in none of the country for collective behavior.

Mean scores

Collective behavior was perceived to be more difficult than individual behavior in all four countries. That suggest that one would need stronger motivation to conduct collective behavior.

Subjective norm and personal norm were especially high for Chinese students. Chinese students were likely to perceive both internal and external norms to conduct environmental behavior.

Table 1. Hierarchical Regression analysis of 3R behaviors

	U.S.		Germany		Japan		China	
	STEP1	STEP2	STEP1	STEP2	STEP1	STEP2	STEP1	STEP2
Grade	-.068	-.105	.078	-.004	-.061	-.001	-.014	-.028
Sex	.000	.011	.155 *	.077	.024	-.015	.070	.021
Estimation of others' behavior (Students)		.116		.081		.114 **		.289 ***
Estimation of others' behavior (Community)		-.098		.087		.106 *		.074
Subjective Norm		.073		.037		.073 †		.031
Personal Norm		.269 *		.357 ***		.191 ***		-.001
Perceived behavioral control		-.414 ***		-.228 ***		-.308 ***		-.412 ***
Eco-net		.050		.151 **		.076 *		-.014
R ²	.005	.460	.031	.429	.004	.281	.005	.376
ΔR ²		.456 ***		.398 ***		.277 ***		.371 ***
F	0.18	7.679 ***	3.93 *	22.58 ***	1.190	27.89 ***	0.44	12.41 ***

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

Table 2. Hierarchical Regression analysis of Citizen's participation

	U.S.		Germany		Japan		China	
	STEP1	STEP2	STEP1	STEP2	STEP1	STEP2	STEP1	STEP2
Grade	.135	.154	.065	.032	.036	.026	-.163 *	-.014
Sex	.009	.011	.048	-.009	.012	.028	.029	-.027
Estimation of others' behavior (Students)		.077		-.044		.051		.446 ***
Estimation of others' behavior (Community)		.176		.246 ***		.200 ***		.053
Subjective Norm		-.039		.104		.025		.226 **
Personal Norm		.201		.103		.051		-.116
Perceived behavioral control		-.040		-.181 **		-.172 ***		-.152 *
Eco-net		.193		.242 ***		.288 ***		.090
R ²	.018	.180	.007	.307	.002	.245	.027	.414
ΔR ²		.161 *		.301 ***		.244 ***		.387 ***
F	0.72	1.969 †	0.83	13.32 ***	0.434	23.17 ***	2.39 †	14.75 ***

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

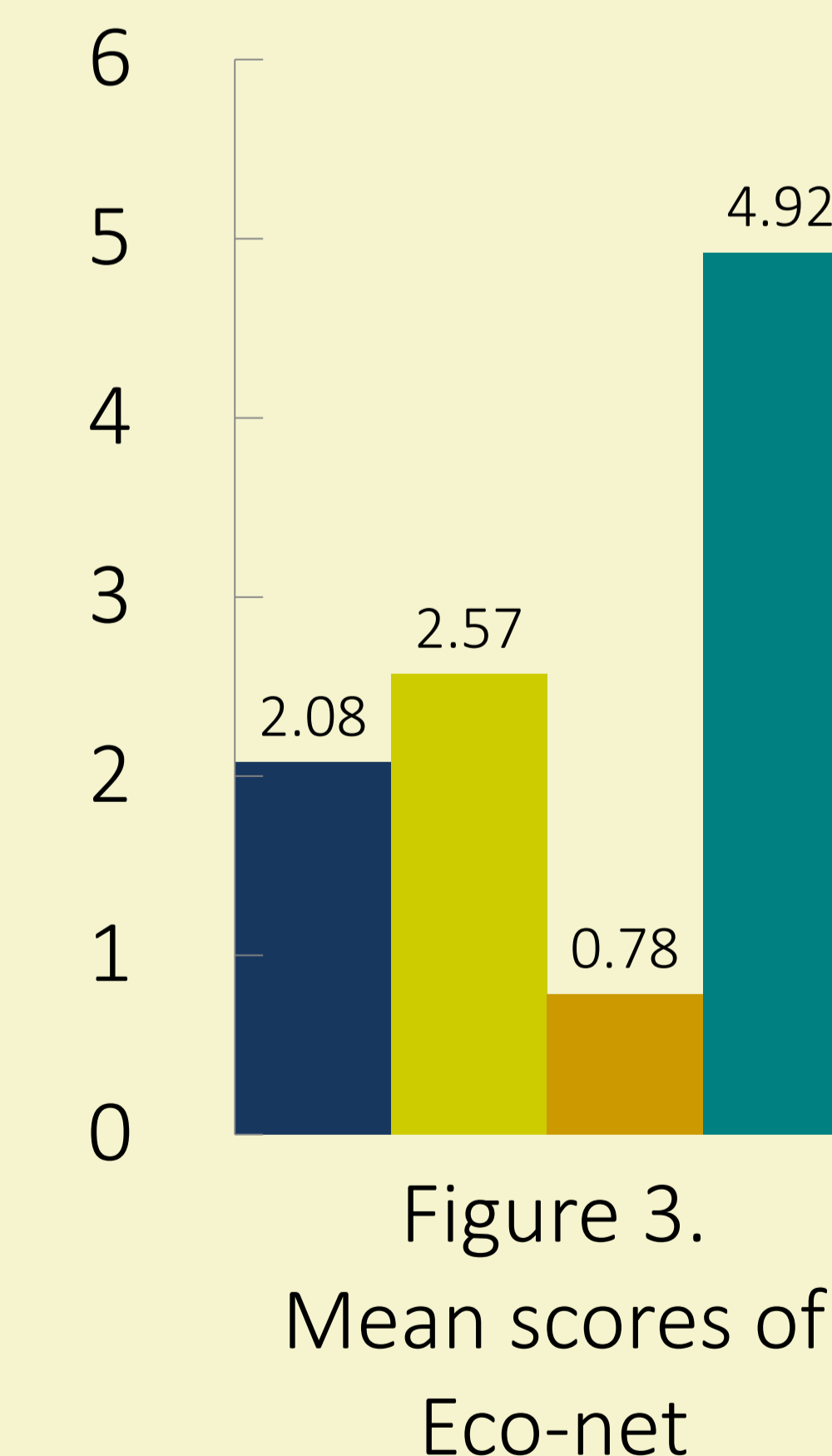


Figure 3. Mean scores of Eco-net