

ESM 2: Translation and the Pilot Study

ESM 2.1 Translation

To accomplish a valid translation, we applied the translation and back-translation approach¹. This approach requires two translators who are competent in both Chinese and German language, and who both have experiences in the two different cultures. The first translator, who is also the investigator, was born and raised in China and has been living in Germany for more than ten years. She studied psychology in Germany and is aware of the cultural differences between the two countries. The back translator is German who had been staying in China for almost two years and is fluent in Chinese. In addition, he studied Chinese Culture and International Relations in Germany, China, and South Korea. At first, the original questionnaire was translated into Chinese by the investigator and then back-translated into the original language by the second translator, who was unaware of the original German item wording. In the next step, we compared the back-translated German version with the original version to validate that the meaning of each item was maintained. Then, we revised inaccurate items and compared these with the original ones again. We repeated this process until there was no incongruence between the two language versions.

¹ Brislin, R. W. (1980). Translation and content analysis of oral and written material. *Handbook of Cross-Cultural Psychology: Methodology*, 2, 389–444.

ESM 2.2 *The Pilot Study*

Participants and Procedure

In all, 302 students from Beijing (171 boys and 131 girls) with a mean age of 11.94 years ($SD = 2.39$; age range = 8 to 16; 13.95% 3rd-graders, 10.63% 4th-graders, 16.61% 5th-graders, 10.30% 6th-graders, 5.98% 7th-graders, 13.29% 8th-graders, and 29.24% 9th-graders) participated in the pilot study. All participants were Mandarin native speakers. Data were collected during regular school lessons.

Psychometric Properties

Goodness of Fit of the Unidimensional Confirmatory Factor Analyses for the Ten Resources in the Pilot Study (WLSMV-Estimates)

	χ^2	<i>df</i>	<i>p</i>	<i>RMSEA</i>	90% C.I.		<i>CFI</i>
					lower	upper	
EPT	14.49	9	.11	.05	.00	.09	1.00
SEFF*	14.00	7	.05	.06	.00	.10	.98
SEST	30.13	5	<.001	.13	.08	.18	.96
SOC	32.61	9	<.001	.08	.06	.13	.95
OPT	28.99	9	<.001	.08	.05	.12	.95
SCON	14.68	9	.101	.05	.00	.08	.98
PSUP	27.46	9	<.001	.08	.05	.12	.98
AUP*	16.64	8	<.05	.06	.02	.10	.98
IPG*	14.29	7	.05	.06	.01	.10	.99
EDUI*	23.50	8	<.05	.08	.04	.12	.99

Note. $N = 302$. * = Residual correlations between the items inside of each subscale score were allowed. 90% C.I. = 90% confidence interval of the *RMSEA*. EPT = empathy and perspective-taking. SEFF = self-efficacy. SEST = self-esteem. SOC = sense of coherence. OPT = optimism. SCON = self-control. PSUP = parental social and emotional support. AUP = authoritative parenting. IPG = integration into peer groups. EDUI = educational integration.

The subscale score SEFF showed a relatively low internal consistency ($\alpha = .59$), whereas internal consistency of all other resources was acceptable or high ($\alpha = .61$ to $.81$). Item-total correlations ranged from $.25$ to $.64$ for all subscale scores. However, in contrast to the original German validation study, the only reverse-worded Item 17 (“I wish I were another

person”) still showed a negative item-total correlation after recoding. One possible reason for this is that participants might have misunderstood it. Compared to the results of the German study, internal consistencies were generally lower in the Chinese pilot sample (9 out of ten cases).

Internal Consistency and Item-Total Correlations for the Pilot Study and the German Study

	McDonald's Omega	Cronbach's alpha		r_{it}	
		CN	GE	min	max
EPT	.81	.81	.78	.49	.64
SEFF	.60	.59	.81	.25	.43
SEST	.71 (.75)	.61 (.75)	.82	-.08 (.44)	.51 (.56)
SOC	.68	.67	.69	.28	.50
OPT	.69	.69	.72	.34	.49
SCON	.64	.63	.68	.26	.44
PSUP	.79	.79	.89	.49	.60
AUP	.64	.64	.77	.31	.48
IPG	.77	.76	.79	.39	.55
EDUI	.80	.79	.87	.46	.62

Note. CN = Chinese sample. GE = German sample. r_{it} = corrected item-total correlation. Values in parentheses for SEST depict the estimates without Item 17. EPT = empathy and perspective-taking. SEFF = self-efficacy. SEST = self-esteem. SOC = sense of coherence. OPT = optimism. SCON = self-control. PSUP = parental social and emotional support. AUP = authoritative parenting. IPG = integration into peer groups. EDUI = educational integration.

To sum up, these findings provide initial support for the sound translation of the QARC-C, as well as for a comparable internal structure and a valid and reliable assessment of the ten resources. However, the reverse-worded Item 17 reveals cultural differences. To keep the two versions of the QARCA as comparable as possible, and due to the relatively small sample size of the Chinese pilot study, we decided to keep Item 17 in its original wording in the validation study.