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Short Communication

Gender differences in the predictors of life satisfaction across 150 nations

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ABSTRACT

This study used multi-level modeling to explore gender differences in the predictors of life satisfaction in a sample of 952,739 individuals from 150 countries. A wide set of demographic, social, and psychological predictors (N = 31) were examined. The results revealed a large degree of similarity in the predictors of life satisfaction across gender. However, nontrivial gender differences also emerged. With some exceptions, the results generally suggest that socio-political, employment-related, and education-related variables are more important in determining life satisfaction in men, whereas variables related to marital status and interpersonal relationships are more important in women.

1. Introduction

Prior research has extensively investigated gender differences in the levels of life satisfaction around the world (for a review, see Batz & Tay, 2017). However, another research question which has received much less attention at the global level is whether or not the relationships between predictors and life satisfaction vary by gender. There is evidence to suggest that some variables influence the life satisfaction of men and women differently (e.g., De Neve & Ward, 2017). Previous studies have typically focused on a small number of predictors, and have usually used samples from a single nation. The present study included 31 demographic, social, and psychological predictors, and used a large sample from 150 countries to provide a relatively holistic assessment of the gender differences in the predictors of life satisfaction across the globe.

2. Methods

2.1. Participants

The data were drawn from the Gallup World Poll (GWP) dataset. Using randomly selected and nationally representative samples, GWP continually surveys residents in a large number of countries. Given the large number of predictors in the present study, and its global focus, all available data between 2009 and 2017 were used to maximize sample sizes across the gender groups. The final sample consisted of 952,739 individuals in 150 countries for whom data were available on all of the variables of the study. The average age in the whole sample was 41.19 (SD = 17.65, min = 15, max = 99). Women constituted 54% of sample (N = 516,638). The names of the countries, national sample sizes, gender ratios, and average age and life satisfaction scores are reported in the supplementary material (Table S1). The average national sample size was 6351.

2.2. Measures

The variables of the study are shown in the supplementary material (Table S2) along with their response formats. The categories of the demographic variables along with the baseline categories are described in Table S3 in the supplementary material.

2.3. Statistical analysis

Considering the hierarchical nature of the data, multi-level modeling was used (Hox, 2010). All of the models were estimated with Restricted Maximum Likelihood (REML), which is the generally recommended estimation method in multi-level modeling (Brown & Prescott, 2015). The intercepts and the slopes of the predictors were allowed to vary across nations. With such a large number of predictors in the models, convergence was not achieved using the unstructured covariance matrix. For model identification purposes, the *variance components* structure for random effects was used instead. Specifying *variance components* estimates all of the variances for random effects, and constrains the covariances between the random effects to zero (Hox, 2010). The covariances between random effects are not generally of interest to researchers (Nezlek, 2010), as is the case in the present analysis.

In multi-level modeling, the variance in the outcome variable is partitioned into individual- and group-level components. Therefore, a separate effect size estimate is reported for each level. Effect size in

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Table 1
Variance estimates and effect sizes.

Gender	Parameter	Variance	Wald *Z*	*p*	95% CI		% variance explained	
					Low	Up	Individual level	Country level
Male	Baseline model							
	Residual	4.254	466.878	0.000	4.236	4.272		
	Intercept	1.155	8.614	0.000	0.920	1.450		
	With predictors						0.217	0.580
	Residual	3.327	464.446	0.000	3.313	3.341		
	Intercept	0.485	7.729	0.000	0.376	0.624		
Female	Baseline model							
	Residual	4.424	508.177	0.000	4.407	4.441		
	Intercept	1.253	8.617	0.000	0.998	1.573		
	With predictors						0.224	0.615
	Residual	3.432	505.957	0.000	3.419	3.445		
	Intercept	0.482	7.743	0.000	0.374	0.621		

Note. Other variance estimates are not of interest and thus they are not reported.

multi-level modeling is the proportional reduction in the unexplained variance of the outcome as a result of adding the predictors to the model (Brown & Prescott, 2015; Hox, 2010). Thus, effect sizes represent the percentage of residual variance explained at each level (roughly similar to R^2 in regression analysis).

3. Results

First, a multi-level model without predictors (a null model) was tested separately for each gender group. The random effects of the null models are reported in Table 2. In the main models of the study, all of the 31 predictors were included. The random and fixed effects of the main models are reported in Tables 1 and 2, respectively. As shown in Table 1, adding the predictors explained about 21% of the individual-level variance and about 60% of the country-level variance in life satisfaction scores. But there were slight gender differences, such that the predictors explained slightly more variance in females than males. Table 2 shows the fixed effects. The effects are largely similar across gender. Yet, some differences are remarkable. Table 3 presents a sorting of the predictors based on the magnitude of gender differences in their fixed effects. The largest gender difference was observed in the variable "unemployed", which is a stronger predictor of life satisfaction in men. The smallest gender difference was observed for the variable age, with its coefficients being almost identical across gender. As reported in

Table 2
Regression coefficients.

	Male					Female				
	Estimate	*t*	*p*	95% CI		Estimate	*t*	*p*	95% CI	
				Low	Up				Low	Up
Age	−0.005	−7.765	0.000	−0.006	−0.003	−0.005	−8.308	0.000	−0.006	−0.004
Negative effect	−0.422	−17.841	0.000	−0.469	−0.375	−0.425	−17.185	0.000	−0.474	−0.377
Positive effect	0.257	14.990	0.000	0.223	0.291	0.248	13.992	0.000	0.213	0.283
Part-time not want full-time	0.083	5.069	0.000	0.050	0.115	0.076	5.677	0.000	0.049	0.102
Unemployed	−0.208	−10.097	0.000	−0.248	−0.167	−0.145	−8.249	0.000	−0.180	−0.110
Part-time want full-time	−0.099	−6.196	0.000	−0.131	−0.068	−0.061	−4.015	0.000	−0.091	−0.031
Out of workforce	0.024	1.977	0.050	0.000	0.049	0.025	2.521	0.013	0.005	0.045
Secondary education	0.232	19.218	0.000	0.208	0.256	0.256	19.919	0.000	0.231	0.281
Tertiary education	0.470	25.285	0.000	0.433	0.506	0.429	22.639	0.000	0.391	0.466
A rural area or on a farm	−0.171	−8.235	0.000	−0.212	−0.130	−0.175	−8.021	0.000	−0.218	−0.132
A small town or village	−0.115	−7.290	0.000	−0.146	−0.084	−0.120	−7.360	0.000	−0.153	−0.088
Married	0.050	3.786	0.000	0.024	0.075	0.034	3.037	0.003	0.012	0.056
Widowed	−0.039	−1.869	0.064	−0.080	0.002	−0.099	−6.570	0.000	−0.128	−0.069
Divorced/Separated	−0.076	−4.018	0.000	−0.114	−0.039	−0.101	−7.377	0.000	−0.129	−0.074
Health problems	−0.192	−13.513	0.000	−0.220	−0.164	−0.217	−16.686	0.000	−0.242	−0.191
HHIS	0.411	37.966	0.000	0.389	0.432	0.409	41.590	0.000	0.389	0.428
SWSL	0.808	38.862	0.000	0.767	0.849	0.814	40.385	0.000	0.774	0.854
Satisfaction with healthcare	0.069	7.194	0.000	0.050	0.088	0.058	6.247	0.000	0.040	0.076
Satisfaction with housing	0.106	10.984	0.000	0.087	0.125	0.101	9.890	0.000	0.081	0.121
Confidence in government	0.068	6.302	0.000	0.047	0.089	0.044	4.070	0.000	0.023	0.066
Corruption in businesses	−0.070	−6.048	0.000	−0.093	−0.047	−0.012	−1.044	0.299	−0.034	0.010
Satisfaction with city	0.134	9.530	0.000	0.106	0.162	0.135	9.295	0.000	0.106	0.163
Helped	0.039	3.795	0.000	0.019	0.060	0.058	6.362	0.000	0.040	0.076
Volunteered	0.048	4.537	0.000	0.027	0.069	0.068	6.143	0.000	0.046	0.090
Donated	0.098	8.595	0.000	0.075	0.120	0.102	8.364	0.000	0.078	0.127
Religiosity	−0.009	−0.798	0.427	−0.032	0.014	−0.002	−0.176	0.861	−0.027	0.023
Social support	0.338	23.348	0.000	0.310	0.367	0.374	24.426	0.000	0.344	0.405
Interesting experience	0.152	15.578	0.000	0.133	0.171	0.143	15.576	0.000	0.125	0.162
Freedom	0.075	6.115	0.000	0.050	0.099	0.088	7.580	0.000	0.065	0.110
Safe at night	0.001	0.075	0.940	−0.020	0.022	−0.003	−0.370	0.712	−0.022	0.015
Respect	0.028	2.114	0.037	0.002	0.055	0.034	2.244	0.027	0.004	0.064

Note. HHIS = household income satisfaction. SWSL = satisfaction with standard of living.