

■ Article

Monetary Wealth or Shared Values? Multilevel Analysis of Family Life Satisfaction

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経済的豊かさか、価値観の共有か？ —家庭生活満足度のマルチレベル分析—

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要約

望ましい人生に寄与する要因として心理的幸福感が指摘され、その幸福感を予測する要因として、経済的豊かさ、身体的健康、社会的関係などの要因があるとされる。しかし、これらの測定は個人変数を使用しており、より大きな社会構造まで考慮されたものではない。そこで、本研究では、家庭生活満足度に影響を与えると考えられる要因として経済的豊かさや性別意識を取り上げ、それらの相対的影響度について検討した。また性別意識や経済的な豊かさは国によって異なるとされていることから、家庭生活満足度の個人、国レベル、さらには両レベルの交互作用の影響について階層線形モデル(HLM)を使用して検討した。

本研究は、国際社会調査プログラム(International Social Survey Programme, ISSP)が2002年度に世界40カ国で実施した「家族と性別の変化III」の2次分析である。国レベルの統計データがそろっている25カ国合計34,149名を対象とした。従属変数は、家庭生活満足度1項目であった。個人レベルの項目は、a)家事分担に関する価値観、b)子育ての決定の仕方、c)世帯年間収入である。国レベルとしては、a)性平等主義尺度(House et al., 2004)による国の数値を標準化した値、b)国内総生産額(GDP)であった。

分析を行ったところ以下の結果が得られた。まず個人レベルでは、家事分担と子育ての価値観が配偶者間で共有されることは家庭生活満足度に正の影響を及ぼしており、その効果は子育ての決定においてより強い効果がみられた。また、世帯年間収入はごくわずかだが有意に家庭生活満足度に正の影響を及ぼしていた。国レベルでは、性平等主義は負の影響を及ぼしていたが、GDPは有意ではなかった。個人と国のレベル間交互作用においては、家事分担×性平等主義、子育て×性平等主義が有意であり、両者とも類似した特徴が見出された。

つまり、家事分担、子育ての平等主義が配偶者間で高く共有されている場合、国の性平等主義レベルにかかわらず、家庭生活満足感は高くなる傾向があるが、家事分担と子育ては女性がより行うべきと認識されていると、家庭生活満足感は一般的には低くなり、その程度は性平等主義傾向が高い国では特に低くなるという傾向がみられた。つまり、性平等主義が高い国では、配偶者間で平等な役割が期待されるが、それが期待以下であるとより不満が高まることが考えられる。結論として、経済的な豊かさよりも、性役割の平等性が共有されると家庭生活満足感が高まり、国との交互作用も見られることが明らかとなった。

What enables a good life has been one of the major concerns in social psychology (e.g., Snyder, Lopez, & Pedrotti, 2011). A good life has often been characterized as psychological well-being, including the concepts of happiness and relational satisfaction. In fact, when people were asked to evaluate the life outcomes they would find most desirable, they reported that being happy was more valued than any other factor such as wealth, attractiveness, health, or love (Diener & Oishi, 2004).

Researchers have been investigating how material wealth, physical health, and social relationships affect aspects of psychological well-being such as subjective happiness (Aknin & Norton, 2009; Lucas & Diener, 2008). Among various factors that can be related to psychological well-being, the benefits of social relationships to people's lives have been an important concern. However, in comparisons between income and the effect size of social relationships, researchers found that social relationship variables are significantly associated with happiness, but the effect size tends to be quite small (Aknin & Norton, 2009; Lucas & Dyrenforth, 2006). The size of one's social network and the number of close friends are significant predictors of happiness, but the strength of the relationship is the same as that for income predictors (Lucas & Dyrenforth, 2006).

Beyond general psychological well-being, psychological well-being particularly in the family domain has been also been closely studied. The importance of the family situation for happiness has been demonstrated in a large number of studies (e.g., Broman, 1991; Diener, Suh, Lucas & Smith, 1999). It has consistently been indicated that satisfaction with family life, as well as sound relationships with children and spouses, are substantial contributors to the overall feeling of well-being (Hellevik, 2003). Similarly, marital conflict may lead to adverse effects on children's well-being (Bradford & Barber, 2005) and have a negative impact on overall family satisfaction (Mechanic & Hansell, 1989). Therefore, the sharing of common values among spouses may increase

the chance to spend good family lives together. How well families deal with the dual needs of income and care is a vital issue. However, not many studies have been done to investigate the relative importance of both monetary wealth and the quality of family relationships.

The general purpose of this study is thus to investigate the family satisfaction process by using the variables of monetary wealth and the value of gender roles. Since monetary wealth and gender values are different country by country, the author would like to examine these relationships at both the national and individual levels. Cross-cultural research thus far has analyzed and used only individual-level data to compare and contrast psychological and behavioral processes across cultures. However, this type of research has been problematic in that researchers cannot distinguish the differences between individual and societal levels. This kind of research has underestimated how societal and cultural differences impact on individual differences, and how the individual and societal levels interact with each other. However, the development of statistical analysis and the relative ease of obtaining large data across nations have enabled researchers to pay more attention to the complex relationship between individual and societal processes with respect to social psychological processes. We are at the beginning stage of understanding how the societal and individual levels affect psychological well-being in general, and family life satisfaction in particular.

In a nutshell, the purpose of this paper is to investigate to what extent family life satisfaction is predicted by monetary wealth or the quality of social relationships, particularly focusing on gender roles among married couples. The second purpose is to examine whether individual and national cultural levels interact to predict family life satisfaction.

Method

Data

The author conducted a secondary data analysis by using the dataset Family and Changing Gender Roles III (2002) in the International Social Survey Program (ISSP). The ISSP is a cross-national collaboration survey covering topics in social science such as psychology, politics, and economics. A different topic has been assigned and investigated each year since 1985. For the current analysis, data collected in 2002 are used. Originally data from more than 40 countries were collected, but ultimately data from a total of 34,149 people (15,040 males and 19,074 females) from 25 countries were analyzed in the current study because the author was not able to obtain data

from some countries. Ages ranged from 15 to 96 ($Mean=45.27$, $SD=16.97$). Sample sizes in each country ranged from 888 to 2,455 (See Table 1).

Table 1 Participating countries and sample sizes

Country	Sample Size	Country	Sample Size
Australia	1214	Philippines	1180
Germany	888	Israel	1190
Great Britain	1855	Japan	1122
United States	1148	Spain	2455
Austria	1866	France	1818
Hungary	1018	Portugal	1083
Ireland	1196	Denmark	1341
Netherlands	1200	Switzerland	970
Sweden	1034	Brazil	1987
Slovenia	1070	Finland	1258
Poland	1222	Mexico	1474
Russia	1606	Taiwan	1970
New Zealand	984		

Measurement

Relevant variables for the current analysis were chosen from among various questions that were asked regarding several dimensions of family life in the original questionnaire. More concretely, family life satisfaction is a dependent variable. Division of household work, and decisions regarding childrearing, and household annual incomes are level-1 (individual-level) predictors, while gender egalitarianism and the index of gross domestic product (GDP) are level-2 (country-level) predictors. In other words, as monetary variables, the indicator for household income is used as a level-1 predictor and that of country's GDP is used as a level-2 predictor. As gender role variables, two variables that include gender roles in household work and childrearing are used as level-1 (individual-level) predictors, and gender egalitarianism is a level-2 predictor.

Family Life Satisfaction. Family life satisfaction was measured with one item asking, "All things considered, how satisfied are you with your family life?" This item was measured by a 7-point Likert-type scale (1-*completely dissatisfied*, 7-*completely satisfied*).

Household Income. A level-1 predictor and monetary variable is annual household income. The survey asked how much each household earned. The participants answered by using their national currencies. For example, many European countries use the euro. Because conversion from original national currencies to US dollars was necessary, this was done by checking the average foreign currency exchange rate in 2002. Also, because in many

countries the survey asked monthly salary, the annual income was calculated based on monthly salary.

Gross Domestic Product (GDP). A level-2 predictor is the gross domestic product (GDP) of each country. This index was easily obtained from the International Monetary Fund website. Table 2 shows the top 8 countries in terms of GDP.

Table 2 GDP in Top 8 countries

Country	GDP in 2002
1.US	10,470
2. Japan	4,326
3. Germany	2,400
4. UK	1,794
5. China	1,575
6. Italy	1,465
7. Spain	836
8. Canada	834

Unit: billion U.S. dollars

Household work and childrearing. Two level-1 predictors about gender role are division of household work and decisions regarding childrearing. Division of household work scores were added from four types of household work, including a) doing the laundry, b) shopping for groceries, c) cleaning, and d) preparing meals, taken from the original questionnaire items. Questions “In your household who does ---?” were used, and participants answered from five options (1-*always me*, 2-*usually me*, 3-*about equal/both together*, 4-*usually my spouse/partner*, 5-*always my spouse/partner*). Because this response style generated different responses based on participants’ sex, the author reorganized these categories as follows; 1-*always the woman*, 2-*usually the woman*, 3-*about equal/both together*, 4-*usually the man*, 5-*always the man*. This reorganization enabled the creation of an ordinal scale ranging from 1-*always the woman* to 3-*equal/both together* (i.e., from gender inequality to gender equality), and categories 4 and 5 were excluded because they were qualitatively different from categories 1 and 2. By checking the frequency of each point, very few participants answered that household work and childrearing are the husband’s job (See Figure 1 for response to doing the laundry). Thus, the author decided not to include categories 4 (*usually the man*) and 5 (*always the man*) to create the ordinal scale. This fact also shows that it is still rare that husbands predominantly do household work and childrearing in many countries.

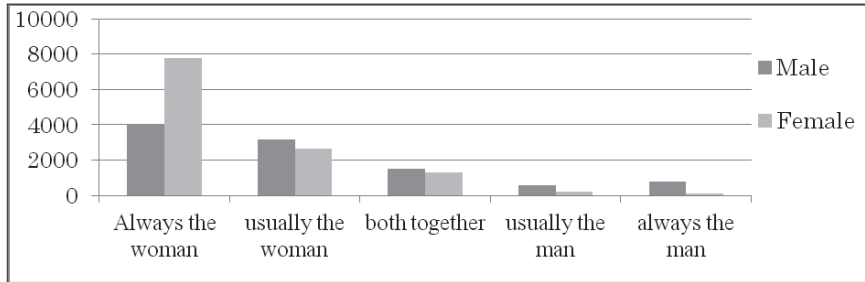


Figure 1. Frequency of responses to the question about division of doing the laundry.

Gender Egalitarianism. Gender egalitarianism is a level-2 predictor in gender roles. This is one of the prominent cultural patterns in cross-cultural psychology. In fact, one of the landmark works of cross-cultural communication and psychology is Hofstede’s study (2001), which investigated cultural patterns across the globe. He identified the five dimensions of cultural patterns, and one of them was masculinity-femininity. Recently, a larger study was conducted to examine cultural patterns worldwide. This was done by House and his team of more than 170 investigators (House et al., 2004). The project GLOBE (global leadership and organizational behavioral effectiveness) collected information from nearly 20,000 middle managers in 61 countries. Based on seminal works on cross-cultural research (Hofstede, 1980; Kluckhohn & Strodtbeck, 1961), this team generated the questionnaire items and found nine dimensions. One of them is gender egalitarianism, which is defined as “the degree to which an organization or a society minimizes gender role differences while promoting gender equality” (p. 12). The current study used standardized scores that appeared in Lustig and Koester (2010), which is based on the index of gender egalitarianism found in the GLOBE project. Table 3 shows the index of gender egalitarianism of 25 countries in the current study. Generally, the table shows that the higher negative values, the lower gender egalitarianism.

Table 3 Gender Egalitarianism Index

Country	Gender Value	Country	Gender Value
Hungary	0.22	Finland	-1.75
Russia	0.19	United States	-1.78
Poland	0.05	Brazil	-1.86
Slovenia	-0.11	New Zealand	-2.10
Denmark	-0.19	Ireland	-2.13
Sweden	-0.43	Israel	-2.18
Great Britain	-0.89	Japan	-2.18
Portugal	-0.91	Germany	-2.42
Philippines	-0.97	Austria	-2.45
France	-0.97	Spain	-2.66
Mexico	-0.97	Switzerland	-2.77
Netherlands	-1.35	Taiwan	-2.91
Australia	-1.61		

Note. See Lustig and Koester (2010) for details.

Results

Hypothesized Model

The following two-level hierarchical model was hypothesized: a) family life satisfaction is a dependent variable, b) level-1 (individual level) predictors are household income, division of household work, and childrearing decisions, c) level-2 (national culture level) predictors are national GDP and national gender egalitarianism index. In the hypothesized model, all level-1 predictors are predicted to have random effects to assess variability across countries.

Null Model

To check the validity of the multilevel model, an intraclass correlation (ICC) was calculated. ICC was .034, $p < .001$, which means only 3.4 % of all variance was explained at the national level. Although this correlation was relatively small, level-2 variance was significant, and thus multilevel analysis was warranted.

Multilevel Modeling

The full model was significantly better than the null model, $\chi^2(17) = 101095.80 - 40854.89 = 60240.91$, $p < .001$. The results are shown in Table 4.

Table 4 Results of full model of family life satisfaction predicted by monetary and gender role variables (random intercept and random slopes)

Fixed effects						
Effect	Estimate	Standard Error	<i>t</i>	<i>p</i>	95% Confidence Interval	
					<i>Lower</i>	<i>Upper</i>
Intercept	4.815	0.108	44.756	<.001	4.593	5.037
Household work	0.096	0.019	4.954	<.001	0.055	0.137
Childrearing	0.242	0.028	8.780	<.001	0.185	0.299
Household income	0.000	0.001	0.058	.954	-0.002	0.003
Gender egalitarianism	-0.183	0.065	-2.830	.009	-0.316	-0.050
Household work * Gender egalitarianism	0.030	0.012	2.560	.019	0.005	0.055
Childrearing*Gender egalitarianism	0.042	0.017	2.515	.020	0.007	0.076
GDP	0.000	0.000	1.048	.302	0.000	0.000
Income * GDP	0.000	0.000	-1.001	.317	0.000	0.000

Random effects							
Effect	(Covariance	Estimate	Standard Error	Wald Z	Sig.	95% Confidence Interval	
						<i>Lower</i>	<i>Upper</i>
Residual		0.906	0.011	85.623	<.001	0.886	0.927
1.Intercept	UN (1,1)	0.068	0.026	2.572	.010	0.032	0.145
	UN (2,1)	-0.007	0.004	-1.701	.089	-0.015	0.001
2.Household work	UN (2,2)	0.001	0.001	1.130	.258	0.000	0.006
	UN (3,1)	-0.007	0.006	-1.207	.228	-0.018	0.004
	UN (3,2)	0.000	0.001	-0.263	.793	-0.002	0.002
3. Childrearing	UN (3,3)	0.004	0.002	2.144	.032	0.002	0.010
	UN (4,1)	0.000	0.000	.	.	.	.
	UN (4,2)	0.000	0.000	.	.	.	.
	UN (4,3)	0.000	0.000	.	.	.	.
4. Household income	UN (4,4)	0.000	0.000	.	.	.	.

As for the fixed effect, level-1 predictors of household work and childrearing are positive predictors. The level-2 predictor of gender egalitarianism is a negative predictor of family life satisfaction. Cross-level interactions between household work and gender egalitarianism, and between childrearing and gender egalitarianism are also significant. None of the monetary variables (i.e., household income and national GDP) were significant.

As for random effects, the variance of the intercept was significant; childrearing variances may also be significant since the confidence intervals do not contain zero. The variance of household income cannot be estimated because the convergence was not successful. For a better understanding of the predicted model, another model with a fixed slope of household income was tested.

The revised model as a whole was a significantly better one in terms of the intercept and slopes of all level-1 predictors, $\chi^2(4) = 40854.89 - 40523.96 = 330.93$, $p < .001$. The predictors as a group improved the model substantially even with the smaller number of predictors. The results are shown in Table 5.

Table 5 Results of full model of family life satisfaction predicted by monetary and gender role variables (random intercept and random slope except for household income)

Fixed effects							
Effect	Estimate	Standard Error	<i>t</i>	<i>p</i>	95% Confidence Interval		
					<i>Lower</i>	<i>Upper</i>	
Intercept	4.855	0.110	44.006	<.001	4.627	5.083	
Household work	0.095	0.020	4.774	<.001	0.053	0.137	
Childrearing	0.243	0.027	8.972	<.001	0.187	0.299	
Household income	1.1E-006	0.001	3.235	<.001	0.000	0.000	
Gender egalitarianism	-0.179	0.065	-2.720	.012	-0.315	-0.043	
Household work * Gender egalitarianism	0.027	0.012	2.265	.036	0.002	0.052	
Childrearing*Gender egalitarianism	0.042	0.016	2.609	.016	0.009	0.076	
GDP	0.000	0.000	.693	.492	0.000	0.000	
Income * GDP	0.000	0.000	-1.001	.471	0.000	0.000	

Random effects							
Effect	(Covariance	Estimate	Standard Error	Wald Z	Sig.	95% Confidence Interval	
						<i>Lower</i>	<i>Upper</i>
Residual		0.910	0.011	85.633	<.001	0.889	0.931
1. Intercept	UN (1,1)	0.075	0.028	2.653	.008	0.036	0.156
	UN (2,1)	-0.008	0.004	-1.768	.077	-0.016	0.001
2. Household Work	UN (2,2)	0.002	0.001	1.285	.199	0.000	0.005
	UN (3,1)	-0.009	0.006	-1.487	.137	-0.019	0.003
	UN (3,2)	0.000	0.001	-0.099	.921	-0.002	0.002
3. Childrearing	UN (3,3)	0.004	0.002	2.110	.035	0.001	0.009

The results were basically similar to the previous model except for one change. In the revised model, the effect of household income became significant despite its very small effect. This coefficient suggested that almost one million dollars are needed to increase a unit of family life satisfaction when other independent variables are fixed. Since the revised model showed a better model fit than the full model, the results may indicate that household income is a positive predictor of family life satisfaction.

As illustrated in the full model, household work and childrearing are positive predictors of family life satisfaction. In other words, as both husbands and wives try to share the household work and childrearing, they will be

more satisfied with their family life. Gender egalitarianism is a negative predictor of family life satisfaction. Put differently, as gender egalitarianism decreases, family life satisfaction increases.

Since there are two significant cross-level interactions, a detailed analysis was conducted by drawing separate lines around gender egalitarianism to predict the relationship between level-1 gender role predictors and family life satisfaction (See Figures 2 and 3). According to Figure 2, when the household work is equally shared between husband and wife, the level of family life satisfaction is high regardless of the country. However, when household work is not equally shared (i.e., women predominantly do household work), those who live in high egalitarian countries feel more dissatisfied than those who live in low egalitarian countries. In other words, in high gender egalitarian countries, the equal sharing of household work between husbands and wives is expected, and they have high expectations regarding gender roles. When this is violated, they feel more dissatisfied.

A similar tendency was observed in the interaction between childrearing and family life satisfaction (see Figure 3). Regardless of culture, if childrearing is more collaborative, people tend to have high family life satisfaction. If childrearing is predominantly left to women, those in high gender egalitarian countries are likely to feel lower family life satisfaction than those who live in low gender egalitarian countries. Since the slope of childrearing is steeper than household work, childrearing may be a stronger predictor of family life satisfaction.

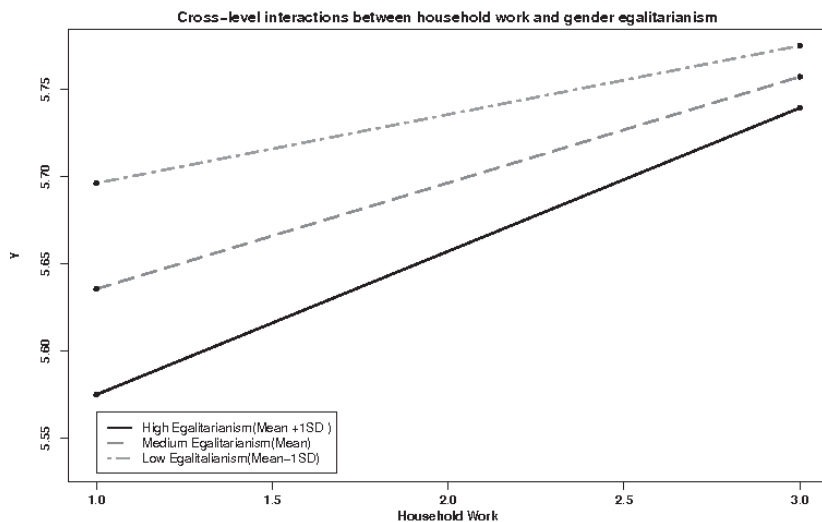


Figure 2. Cross-level interaction between gender role variables (household work *gender egalitarianism) in family life satisfaction

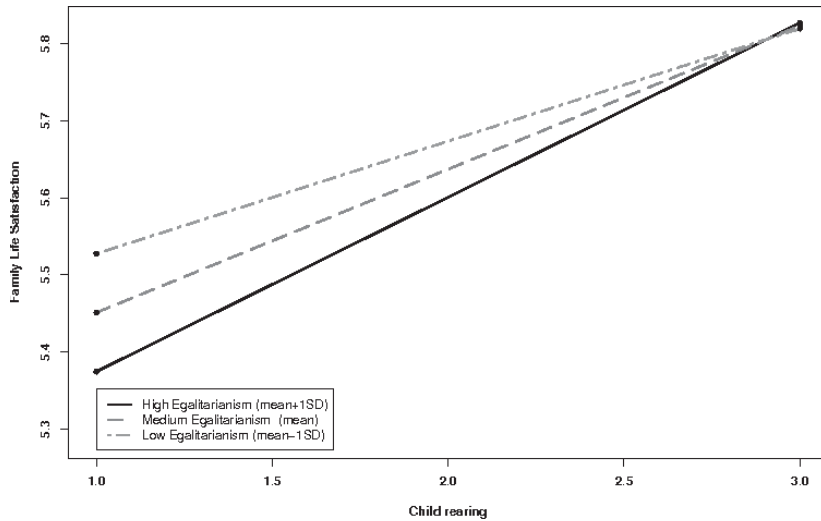


Figure 3. Cross-level interaction between gender role variables (childrearing * gender egalitarianism) in family life satisfaction.

Discussion

The purpose of the current study was a) to investigate to what extent monetary wealth and the quality of social relationships impact on family life satisfaction, and b) to examine whether individual and national cultural level variables interact to predict family life satisfaction. The results revealed that monetary variables did not predict family life satisfaction well, but that gender roles are better predictors of family life satisfaction. Moreover, gender roles were interacted at the individual and country levels; those who live in high gender egalitarian countries are less satisfied when household work and childrearing are not shared than those who live in low egalitarian countries. The results, limitations, and future implications are discussed below.

Overall, monetary variables were not good predictors of family life satisfaction, showing no significant impact on satisfaction. When household income was treated as a fixed effect, this became a significant predictor but with a very small effect. If this result is accepted as valid, this is a welcome trend from a social relationships perspective; family life satisfaction is not predicted by the level of monetary wealth per se, but mutual relationships and collaboration do matter to family life satisfaction. However, further investigation is necessary since the random effects of household income could not be calculated due to measurement problems. One reason why variances cannot be estimated is a suboptimal treatment of monetary variables. If household income is centered from the grand mean, iteration conversion may be possible. Also, I used GDP as a country-level predictor, but GDP per

capita may be a better unit to measure national wealth. GDP does not reflect difference in the cost of living, nor population differences in each country. Using GDP per capita as a monetary variable may be better when comparing differences in living standards on the whole between countries.

Although the current study was significant in that it describes cross-level interactions between gender roles at the individual and national levels, this level-2 predictor of gender egalitarianism had a negative relationship with family life satisfaction, which is counterintuitive. Probably there are confounding factors surrounding this relationship. For example, when checking countries with high gender egalitarianism, I found these countries tended to be former communist countries in Eastern Europe. This speculation is not conclusive, but other national characteristics, including political, economic, and social reasons, may be at play. To increase the level of explanatory power and reduce confounding effects, other variables should be considered in addition to gender egalitarianism.

Another implication is the need to test a more complex model. When women predominantly do household work and childrearing, people in high gender egalitarian countries feel less satisfied than those in low gender egalitarian countries. It seems that there might be gender differences in family life satisfaction in this situation. If so, a three-way interaction may be significant; the same may hold true for a two-way interaction between gender and level-1 predictors of gender roles. To explain the complex picture of the relationship of monetary and gender roles to family life satisfaction, a more complicated model should be tested.

Although this current project was exploratory in nature, it is hoped that it may serve as a catalyst for understanding the multilayered human psychological processes in family life. Multilevel analysis is still in its infancy, so expectations are high that future studies will unveil the complex phenomena underlying human communication and psychology.

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