

Analysing the Impact of Advertising Expenditure on National Happiness and Economic Development: A Cross-National Study

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Abstract

This paper examines the correlation between advertising expenditure per capita, subjective well-being (happiness) and economic development variables in 120 countries. Using country-level data released by the World Happiness Report, World Bank, and Global Innovation Index (2024) we have used Pearson correlation analysis, one-way analysis of variance (ANOVA), and multiple linear regression to investigate the relationship between these constructs. It has been found that advertising expenditure per capita has a significant and positive relationship with national happiness scores ($r = .578, p < .001$), which is enhanced by the application of log-transformation ($r = .778, p < .001$). The regression model identified Human Development Index (HDI), GDP per capita and economic freedom as the best predictors of happiness (Adjusted $R^2 = .619$). The results of ANOVA showed that there are statistically significant differences in happiness between economic development quartiles ($F = 58.37, p < .001$). Such results indicate that advertising markets can be a barometer and an enabler of the larger socioeconomic well-being, and the findings can have implications on development policy and cross-national happiness studies.

Keywords: advertising expenditure, subjective well-being, happiness, economic development, Human Development Index, cross-national study

Introduction

The connection between the economy and human happiness is not a new topic of research among scholars in various fields such as economics, psychology, sociology, and public policy (Diener et al., 2018; Easterlin, 1974; Helliwell et al., 2024). Although gross domestic product (GDP) per capita and Human Development Index (HDI) continue to be the most commonly used proxies to national well-being, an increasing literature has been focusing on indirect measures of economic activity such as advertising expenditure as possible correlates of collective happiness (Aaker and Lee, 2001; Nairn and Fine, 2008).

One such variable that has not been well explored but has a rich theoretical foundation in cross-national happiness studies is advertising expenditure per capita. Consumer spending on advertising can indicate the extent to which the citizens are engaged in an active commercial and cultural economy as a factor of economic development, consumer markets, and institutional openness (Lim et al., 2022). Besides, previous studies argue that countries that

engage in more advertising have higher levels of media freedom, more democratic institutions, and more diversified economies all of which have been connected with subjective well-being independently (Inglehart et al., 2008; Twenge et al., 2018).

Regardless of these theoretical relationships, the empirical cross-national studies relating advertising expenditure and happiness, as well as development, are scarce. The majority of the research has been done on advertising impacts on an individual consumer level (Richins, 1995) or on a single-country setting (Westover, 2012). There is a significant gap in the literature with regard to country-level studies that combine advertising expenditure and extensive development indicators into a single model.

This gap is filled by the current study that is based on the analysis of the dataset that includes 120 countries and several important variables such as advertising spending per capita, GDP per capita, the Human Development Index (HDI), the Global Innovation Index (GII), the Global Peace Index (GPI), and the economic freedom scores. Using

correlational and ANOVA and multiple regression analyses, we will attempt to respond to the following three research questions:

RQ1: *Is advertising spending per capita significantly associated with national happiness scores?*

RQ2: *Do happiness levels differ significantly across economic development groups?*

RQ3: *Which economic and social development indicators are the strongest predictors of national happiness?*

This paper contributes in three main ways. To begin with, it adds advertising expenditure as a significant macro-level variable to the happiness-development nexus. Second, it is a multivariate framework which incorporates various dimensions of development. Third, it has practical implications to policymakers who want to comprehend the socioeconomic causes of population wellbeing.

Literature Review

Economic Development and Happiness

The macro level of income and happiness has been one of the primary areas of focus of well-being economists since the pioneering Easterlin (1974) paradox which reported that an increase in national income did not lead to an increase in happiness in the developed countries over time. Later studies have found that the absolute income levels and GDP per capita are positively related to happiness in different countries, especially between low-income and high-income countries (Deaton, 2008; Stevenson and Wolfers, 2008). In the World Happiness Report, Helliwell et al. (2024) repeatedly show that the preponderance of international variance in happiness scores is explained by GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity, and non-corruption.

Human Development Index (HDI) which is a composite of education, health and income aspects have also proven to be a strong predictor of subjective well being in countries (Inglehart et al., 2008; Layard, 2005). Countries that are more developed based on HDI are more likely to offer

institutional backing on the freedom of citizens and the quality of their lives, which are directly involved in happiness (Diener and Seligman, 2004). Higher national happiness has also been linked to economic freedom namely the freedom of individuals to make an economic choice without government intervention because it facilitates entrepreneurship, innovation, and personal agency (Gehring, 2013; Rode and Coll, 2012).

Advertising Expenditure and Societal Well-Being

Advertising expenditure per capita has been suggested as a composite measure of the development of the consumer market, the maturity of market economies and access to diversified consumer goods and services (Lim et al., 2022). As the advertising spending per capita is high, the financial markets are highly developed, intellectual property rights are high, and the media penetration is high, which are also linked to higher standards of living and human freedom (Sheth and Sisodia, 2012).

The connection between advertising and happiness is conceptually complicated, however. Other researchers believe that advertisement leads to materialism, which can be detrimental to well-being by creating a persistent discontent and social comparison (Kasser, 2002; Richins, 1995). Nairn and Fine (2008) discovered that exposure to advertising has the potential to enhance consumerist values especially to the younger generation. On the other hand, some also indicate that advertising is possibly a mirror of economic liveliness and social optimism, and the impact of advertising is mediated by institutional quality and cultural values (Twenge et al., 2018). The literature on cross-national research on this relationship has been very sparse and empirical research is required to unravel the macro-level correlates of advertising activity.

Peace, Governance, and National Happiness

In addition to economic indicators, political and institutional influences have been indicated to have an important effect on the formation of national happiness. The Global Peace Index (GPI) is the index created by the Institute of Economics and Peace (2024) to reflect the degree of social security,

the current domestic and international violence, and militarization. Countries with lower GPI (i.e. more peaceful) are also more likely to report higher levels of happiness (Helliwell et al., 2024). A similar finding is that governance quality, captured by World Governance Indicators (WGI), is also a predictor of well-being outcomes because it enhances predictable rule of law, corruption control and political stability (Kaufmann et al., 2011).

Research Gap and Theoretical Framework

The above review demonstrates a gap in the literature: although the individual economic and institutional predictors of happiness have been studied in detail, a cross-national study that examines advertising spending simultaneously in a broad range of development indicators in a single statistical model is not available. The current research relies on theoretical perspectives of the capability approach (Sen, 1999) and the broaden-and-build theory (Fredrickson, 2001) as complementary ones. The capability approach holds that real development consists of increasing the substantive freedoms enjoyed by people, and the broaden-and-build theory holds that positive affect and resources to positive affect such as economic participation and market activity constitute an upward spiral that is conducive to well-being. In this light, the amount of advertising expenditure per capita could be considered as an indicator of current capability growth and the possible enabling factor of additional well-being.

Methodology

Research Design and Data Sources

The research design utilized in this study was cross-sectional and correlational where country level data was used on 120 countries. The sources of data included four major databases, namely (a) the World Happiness Report (Helliwell et al., 2024) (population, GDP, and HDI) to obtain the national happiness scores and GDP per capita; (b) the World Bank Open Data (World Bank, 2024) (population, GDP, and HDI) to receive the scores of economic freedom; and (c) The sample is an inclusive set of all the major regions of the world, income levels, and political regimes.

Variables

The national Happiness Score obtained in the World Happiness Report (Helliwell et al., 2024) was the dependent variable that was measured on a Cantril ladder scale ranging between 0 and 10. Independent variables included: (a) Advertising Spending Per Capita (USD), derived by dividing total advertising expenditure (in millions) by country population; (b) GDP per capita (in USD thousands) as a measure of economic output; (c) Human Development Index (HDI), a composite measure of health, education, and income (UNDP, 2024); (d) Global Innovation Index score (GII24), reflecting innovation capacity and ecosystem quality; (e) Economic Freedom Index (EF), measuring market openness and institutional support; and (f) Global Peace Index (PEACE), inversely measuring societal conflict and instability (Institute for Economics and Peace, 2024).

Statistical Analyses

The statistical analyses were conducted with the help of the IBM SPSS Statistics (Version 31.0). To begin with, all the important variables were calculated using descriptive statistics such as means, standard deviations, skewness, and kurtosis. Second, Pearson bivariate correlation analysis has been performed to test the pair-wise relationship between variables. Third, one-way analysis of variance (ANOVA) was used in comparison of happiness scores between four groups of GDP per capita quartile. Lastly, hierarchical multiple linear regression was performed whereby happiness is the dependent variable, advertising expenditure per capita, GDP per capita, HDI, economic freedom and the Global Peace Index are the predictors. Q-Q plots and the Kolmogorov-Smirnov test were used to test the normality of residuals. In the secondary analysis, the advertising expenditure per capita was transformed using the logarithmic function to overcome positive skew (skewness = 2.47). Statistical tests were all done at an alpha of .05.

Results and Discussion

Descriptive Statistics

Table 1 shows the descriptive statistics of all the key variables (N = 120). The national happiness scores

were found between 3.19 (Lebanon) and 7.74 (Finland), with the mean of 5.79 (SD = 1.04), which is in line with global standards reported in the World Happiness Report (Helliwell et al., 2024). The positive skewness of advertising expenditure per capita (skewness = 2.47, kurtosis = 7.11) was quite significant, with the highest spending per person of \$1340.53 (United States) and the lowest spending

per person of \$1.21 (Ethiopia) which shows the sharp difference in the development of the commercial market across the world. GDP per capita index mean was 1.40 (SD = 0.34), and HDI was equal to .787 (SD = .137), which implies that the sample is lean towards middle- and upper-middle-income countries.

Table 1 Descriptive Statistics for Key Study Variables (N = 120)

Variable	n	M	SD	Min	Max	Skewness
Happiness Score	120	5.79	1.04	3.19	7.74	-0.52
Ad Spend Per Capita (USD)	120	151.02	228.06	1.21	1340.53	2.47
GDP Per Capita (index)	120	1.40	0.34	0.56	2.03	-0.47
Human Development Index	120	0.787	0.137	0.419	0.972	-0.67
Global Innovation Index	120	32.39	14.25	0	67.50	0.62
Global Peace Index	118	1.978	0.463	1.095	3.434	0.89
Economic Freedom Index	119	62.69	9.93	41.20	84.10	-0.07

Note. Ad spend per capita values are in USD. GDP per capita is expressed as a normalized index. GPI = Global Peace Index (lower = more peaceful). EF = Economic Freedom Index.

Bivariate Correlations

Table 2 shows the Pearson correlation of all the key variables. The amount spent on advertising on a per-capita basis was strongly and positively related to happiness ($r = .578, p < .001$), which proved a significant relationship between the activity of the commercial market and the well-being of a nation. Notably, GDP per capita ($r = .766, p < .001$), HDI ($r = .761, p < .001$), and economic freedom ($r = .714, p < .001$) demonstrated even stronger positive

correlations with happiness, aligning with prior research (Helliwell et al., 2024; Rode & Coll, 2012). Happiness was negatively associated with the Global peace index ($r = -.481, p < .001$), which affirmed that happier countries are those with lower scores on the GPI. The multicollinearity between GDP per capita, HDI, and GII was high (r values between .832 and .967) which indicates that the three variables share a lot of variance and thus should be taken care of when using the regression model..

Table 2 Pearson Correlation Matrix Among Study Variables (N = 120)

Variable	1. Happy	2. AdPerCap	3. GDPcap	4. HDI	5. Peace	6. EF
1. Happiness	—					
2. Ad Spend Per Capita	.578**	—				
3. GDP Per Capita	.766**	.651**	—			
4. HDI	.761**	.630**	.967**	—		
5. Global Peace Index	-.481**	-.405**	-.538**	-.554**	—	
6. Economic Freedom	.714**	.627**	.771**	.736**	-.676**	—

Note. GPI = Global Peace Index (lower scores indicate greater peace). EF = Economic Freedom Index. ** $p < .001$ (two-tailed).

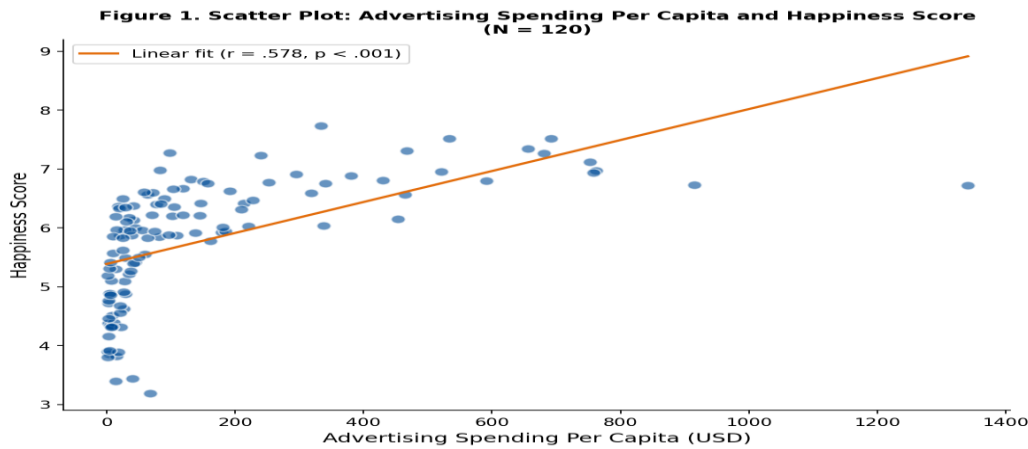


Figure 1. Scatter plot depicting the positive linear relationship between advertising spending per capita and national happiness scores (N = 120, $r = .578$, $p < .001$).

Log-Transformed Advertising Expenditure and Happiness

Considering the extreme positive skew of the advertising expenditure per capita (skewness = 2.47), the data was put through a log-transformation to make the distribution more normal (Tabachnick and Fidell, 2019). The log-transformed variable was found to be significantly more correlated with happiness ($r = .778$, $p < .001$, $n = 117$), indicating that

the correlation between advertising activity and well-being is of a diminishing returns nature- as is the case with the larger income-happiness literature (Kahneman and Deaton, 2010). This means that advertising investment returns will produce more happiness benefits in low-income nations, where commercial market creation can increase the option and involvement of the population in the economic activity.

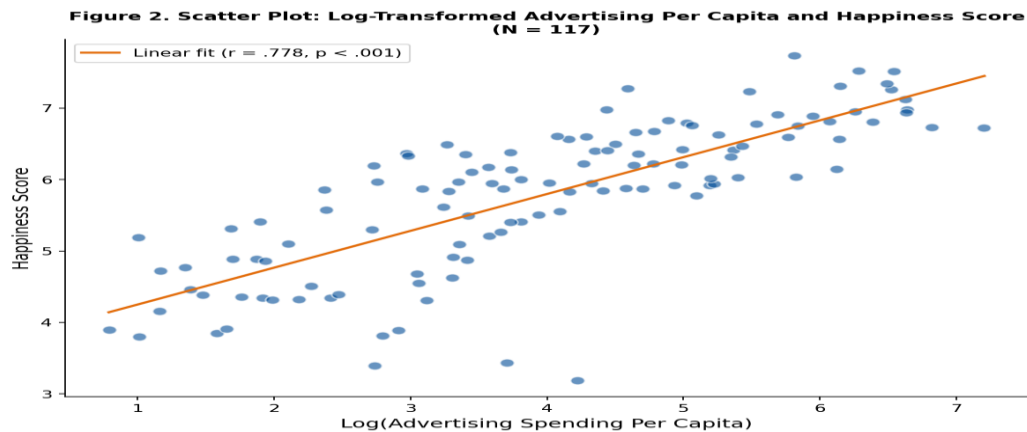


Figure 2. Scatter plot depicting the relationship between log-transformed advertising spending per capita and national happiness scores (N = 117, $r = .778$, $p < .001$).

ANOVA: Happiness Across Economic Development Groups

In order to test the hypothesis of differences in the level of happiness among the economic development levels, countries were grouped into four quartile groups according to GDP per capita (Low, Lower-Middle, Upper-Middle, High; $n = 30$

per group). One-way ANOVA showed a statistically significant main effect of the economic group on happiness, $F(3, 116) = 58.37$, $p < .001$. Post-hoc inspection of group means revealed a clear monotonic pattern: Low-income countries ($M = 4.67$, $SD = 0.66$), Lower-Middle ($M = 5.49$, $SD = 0.94$), Upper-Middle ($M = 6.15$, $SD = 0.44$), and High-income countries ($M = 6.83$, $SD = 0.43$).

These findings are a good indicator that national happiness is a very strong determinant by the level of economic development, which is in line with the

Easterlin paradox literature and other cross-national studies (Stevenson and Wolfers, 2008). A summary of ANOVA is presented in Table 3.

Table 3 One-Way ANOVA: Happiness Scores Across GDP Per Capita Quartile Groups

Group	n	M	SD	Min	Max	95% CI
Low	30	4.67	0.66	3.19	5.89	[4.42, 4.91]
Lower-Middle	30	5.49	0.94	3.80	7.27	[5.14, 5.84]
Upper-Middle	30	6.15	0.44	5.30	6.98	[5.98, 6.31]
High	30	6.83	0.43	6.02	7.74	[6.67, 6.99]

Note. $F(3, 116) = 58.37, p < .001$. Groups defined by GDP per capita quartiles. CI = Confidence Interval.

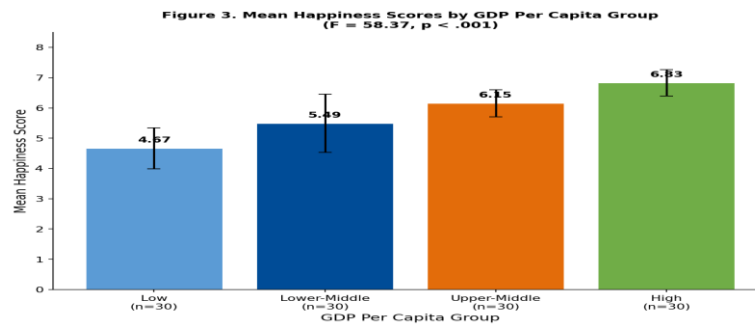


Figure 3. Mean happiness scores (with standard deviation bars) by GDP per capita quartile group. $F(3, 116) = 58.37, p < .001$.

Correlation Heatmap

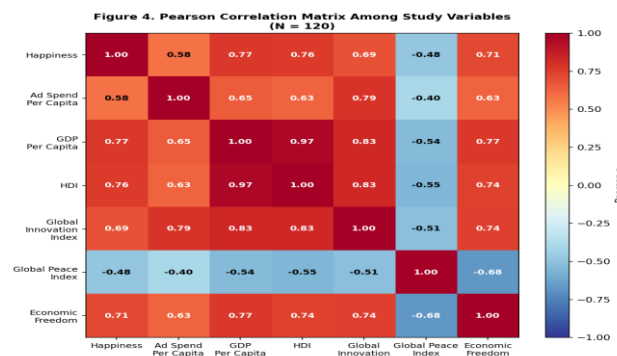


Figure 4. Pearson correlation heatmap illustrating pairwise relationships among happiness, advertising spending per capita, GDP per capita, HDI, Global Innovation Index, Global Peace Index, and Economic Freedom Index ($N = 120$).

Multiple Regression Analysis

The outcome variable was happiness, and the predictors were advertising spending per capita, GDP per capita, HDI, economic freedom, and the Global Peace Index (5). The total model was

significant, $F(5, 111) = 38.68, p < .001, R^2 = .635$, Adjusted $R^2 = .619$, which means that the five predictors explained about 62 percent of the variance in the national happiness scores. The entire regression results are shown in Table 4. Among the predictors, economic freedom was the only variable

to attain conventional statistical significance, $B = 0.035$, $SE = 0.011$, $\beta = .334$, $t(111) = 3.16$, $p = .002$. HDI approached significance, $B = 3.215$, $SE = 1.831$, $\beta = .428$, $t(111) = 1.76$, $p = .082$. The advertising expenditure per capita failed to become a strong independent predictor when other variables of development were controlled ($B = 0.0003$, $SE = 0.0004$, $\beta = .064$, $t(111) = 0.82$, $p = .413$), which is in

line with the opinion that advertising expenditure might be a major proxy of the general economic development as opposed to a These findings are similar to those of Helliwell et al. (2024) and Rode and Coll (2012), who also discovered that the institutional freedom and human development variables mediate the predictive power of raw economic variables.

Table 4 Multiple Linear Regression Predicting National Happiness Score (N = 117)

Predictor	B	SE B	β	t	p	95% CI
Constant	0.266	1.059	—	0.251	.802	[-1.83, 2.36]
Ad Spend Per Capita	0.0003	0.0004	.064	0.822	.413	[-0.0004, 0.001]
GDP Per Capita	0.293	0.774	.096	0.379	.705	[-1.24, 1.83]
HDI	3.215	1.831	.428	1.756	.082	[-0.41, 6.84]
Economic Freedom	0.035	0.011	.334	3.164	.002**	[0.013, 0.057]
Global Peace Index	0.177	0.188	.076	0.945	.347	[-0.19, 0.55]

Note. $R^2 = .635$, Adjusted $R^2 = .619$. $F(5, 111) = 38.68$, $p < .001$. β = standardized regression coefficient. CI = confidence interval. ** $p < .01$.

Figure 5. Regression Diagnostic Plots

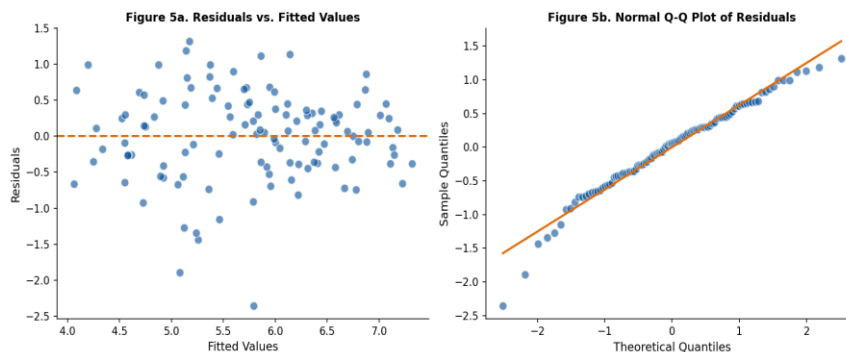


Figure 5. Regression diagnostic plots: (a) residuals versus fitted values, and (b) normal Q-Q plot of standardized residuals, confirming reasonably normal error distribution and homoscedasticity.

Discussion

The results of the study represent a subtle description of the interdependencies between the advertising expenditure, happiness, and economic development on the cross-national level. The data gives rise to three key themes.

To begin with, the amount of advertising per capita is a significant correlate of national happiness, and the bivariate correlation is moderate-strong (r

$=.578$). This association increases significantly when log-transformed to address distributional skewness ($r = .778$) indicating a curvilinear correlation which is reflective of the declining marginal utility of income found in the happiness literature (Kahneman and Deaton, 2010). The trend implies that advertising market growth can be tied to more general economic modernization processes that cumulatively lead to well-being, as opposed to happiness per se.

Second, in the multivariate model, economic freedom becomes the most significant independent predictor of happiness ($\beta = .334$, $p = .002$), in line with other studies by Gehring (2013) and Rode and Coll (2012), which argue that institutional structures that support individual economic agency are the foundations of subjective well-being. HDI, though not significant ($p = .082$), is an indication of the deep impact of health, education and income on the life satisfaction as reported by Inglehart et al. (2008).

Third, the findings of the ANOVA verify that there is a stepwise gradient of happiness between the economic development quartiles ($M = 4.67$ to 6.83 , $F = 58.37$, $p < .001$), which is a confirmation that the structural economic conditions are one of the strongest factors of population happiness worldwide. The results support the conclusion by Deaton (2008) that the cross-country correlation between income and happiness is strong and massive, especially at the lower stages of development. Combined with the other findings, these findings imply that advertising expenditure per capita can be used as a composite measure of economic vitality, consumer market maturity and institutional openness- all of which together generate an environment where greater happiness can be achieved. Nevertheless, the insignificance of advertising per capita of the regression model implies that the relationship is strongly mediated by the overall development process instead of being an independent mechanism by which advertising brings happiness.

Conclusion

This paper has analyzed the correlation between advertising expenditure per head, national happiness, and the indicators of economic development among 120 countries. We established that advertising expenditure per capita has a significant positive correlation with happiness ($r = .578$; $r = .778$ following log-transformation), and that the economic development groups vary significantly in terms of the levels of happiness. Nonetheless, economic freedom and HDI, not the advertising spending, were found to be the main independent determinants of happiness in the multivariate regression model.

These results have a number of implications on policy and research. To policymakers, the findings highlight institutional economic freedom and investment in human development as the most important factors in enhancing the well-being of the population. To scholars, the analysis makes advertising expenditure a theoretically significant cross national variable that needs to be studied further especially in longitudinal and mediation models that can explain causal directions. The limitations of this study are that the study was cross-sectional and it was not possible to make a causal inference, the study used country-level aggregates and it could not measure within-country heterogeneity; and that cultural values might be confounding the relationship between advertising intensity and happiness reporting. To more effectively isolate the role of advertising markets in cross-national happiness dynamics, future studies need to utilize panel data techniques, instrumental variables techniques, and multilevel modeling.

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