JOURNAL OF MASS COMMUNICATION JMCD
Vol. 34, May 2026 | www.jmcd-uok.com

In Search of the Predictors of the "Mean World Syndrome" and Political Moderation: A Replication of the Cultivation Research

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Abstract

Responding to the emerging call of replicating influential research projects, with five rounds of U.S. data (1995-2017) from the World Value Survey, this study tests the main findings, the "mean world syndrome" and "mainstreaming" hypotheses, of the original cultivation theory research. Both the Gamma tests and the binary logistical regressions, which control the demographic and socioeconomic variables, confirm both hypotheses with some data that measure TV viewing in a certain way. The apparent contributions of education to social trust and of subjective social status to political moderation are noticed. Possible causes for television viewing's negative impacts on social trust, compared with newspaper reading's positive one, which is a robust finding in several threads of researches, is the difference in the verbal and audio-visual information processing.

Keywords: Cultivation research, replication, social trust, moderation, TV viewing

Introduction

Cultivation research was initiated by George Gerbner and his associates in the 1960s (Morgan & Shannahan, 2010) when television became prevalent. Television, wrote Gerbner (1998), was different from all media because of its centrality in American society and little requirement of literacy and consumption cost. It for the first time provides a media in which people are born and immersed with their whole life. Cultivation research has been found among the three most taught and cited communication theories, generating hundreds of published studies (Shanahan & Morgan, 1999). The current study is a revisit of the original cultivation analysis with quality national survey data. Cultivation research is one part of the big project "Cultural Indicators," in which Gerbner and associates first content-analyzed the U.S. television programs and found them dominated by violence, sex, and stereotypes (Gerbner, Gross, Eleey, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1977; Gerbner, Gross, Morgan, & Signorielli, 1980, 1986). They further found heavy television users more likely to perceive the world as untrustworthy, thus having low social trust and the "mean world syndrome" (Gerbner 1998; Morgan & Shannahan, 2010), and more likely to take a moderate stance on political or other issues, being mainstreamed (Gerbner & Gross, 1976; Gerbner, Gross, Morgan, & Signorielli, 1980, 1982, 1986). Gerbner and associates used different operational definitions of their independent variable (heavy users sometimes were classified as watching more than four hours a day, sometimes three hours and more) and, particularly, their dependent variables. Since their three-item "mean world index," which was borrowed from Rosenberg's (1957) five-item "faith in people scale," often had low reliability, most of the time they analyzed those items one by one or just use the question of whether or not "most people can be trusted" (Gerbner & Gross, 1976; Gerbner et al., 1980, 1986; Morgan & Shannahan, 2010). Interestingly, television consumption's detrimental function on trust in other people (i.e., social trust)

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has also been identified by the social trust research initiated by Robert Putnam (2000), which identified a decline in social trust and social capital in American society and attributed the decline mainly to TV viewing. That research also noticed newspaper reading's positive contribution to social trust or capital. For the "mainstreaming" hypothesis, Gerbner and associates often used a self-designated political position of being moderate as the dependent variable (Gerbner et al., 1982, 1984, 1986; Gerbner, 1998; Potter 1994).

Critics have argued that the original cultivation research projects used low-level statistical analyses (e.g., gamma) that could only identify superficial relationships (Hirsch, 1980; Hughes, 1980), and that the conceptualization and operationalization of the independent variables and dependent variables were inconsistent and unreliable at times (Potter, 1993, 1994).

The current study, as a revisit to the original cultivation analysis research, is justified based on three reasons. First, it responds to the call of empirical researchers of replicating influential social science research projects to converge the true and robust relationships (Edmond & Hales, 2003; Herrnson, 1995; King, 1995; Lewandowsky & Oberauer, 2020; Open Science Collaboration, 2015; Yao, 2021). Second, analyzing national survey data that contain variables to test the cultivation hypothesis, with advanced multivariate models that are not used in the original cultivation studies, can provide better evidence, particularly because Gerbner and associates preferred survey over experiment as a method of cultivation testing (Gerbner & Gross, 1976; Gerbner, Gross, Morgan, & Signorielle, 1994). Third, the cultivation hypothesis was squarely based on the prevalence of television as if "a religion" (Gerbner et al., 1986). While the prevalence has been withering due to the emergence of the new media since the 1980s, it is time to revisit the original cultivation analyses to see if they still hold.

The current study specifically testes the hypotheses of "mean world syndrome" and "mainstreaming" with five rounds of U.S. part of data from the World Value Survey (WVS, www.worldvaluessurvey.org), a quality global longitudinal survey (Ariely & Davidov, 2011; MacIntosh, 1998). Specifically, the hypotheses are:

H1: The more one views TV, the less likely one trusts most people in society.

H2: The more one views TV, the more likely one self-reports having a moderate political position.

Methodology

The five rounds of US part of the WVS data were collected in 1995 (N = 1542), 1999 (N = 1200), 2006 (N = 1249), 2011 (N = 2232), and 2017 (N = 2596) in the U.S. The first four rounds were supervised by Ronald Inglehart, Professor of Political Science at the University of Michigan and founding president of the World Value Survey Association; the last round was supervised by Jon Miller, Research Scientist at the Institute of Social Research of the University of Michigan; and all five rounds were based on representative samples of the national population of age 18 and above. The 1995 survey was conducted face to face by the Gallup Organization (Princeton) from Sep. 21 to Dec. 21; the 1999 survey, also face-to-face, was conducted by the Institute of Social Research at the University of Michigan from Nov. 19 to Dec. 23 (600 responses were postponed to Aug. 4–Sep. 6, 2000 due to financial reasons); the 2006 survey, again face-to-face, was conducted by Knowledge Networks of GfK from Sep. 19 to Sep. 29; the 2011 survey was also conducted by Knowledge Networks, but online, from Jun. 9 to Jul. 5; the 2017 survey was conducted by NORC by phone and web mode through Apr. 28 and May 22.

Variables:

Social Trust. All rounds asked the question if most people can be trusted, with a positive ("most people can be trusted"), a negative ("need to be very careful"), and a "don't know" choice. This was the most oft-used question in the "mean world index" of the original cultivation research. The variable was coded into a dummy one with the positive choice equal to 1 and all else equal to 0.

Moderation. All rounds asked the respondents to report their self-position on a political scale ranging from 1 (= left) to 10 (= right). The variable was coded into a dummy one with the choices of 5 or 6 (being "moderate") equal to 1 and all others equal to 0.

TV Viewing. The 1995 round measured respondents' "frequency of watching television," ranging from "do not watch" (= 1), "1-2 hours per day", "2-3 hours per day," to "more than 3 hours per day" (= 4). Round 1999 measured if respondents strongly agreed (= 1), agreed, disagreed, or strongly disagreed (= 4) with the statement that "television is the most important entertainment" (reversely coded for the analyses). Round 2006 measured if or not respondents used news broadcast or in-depth reports on radio or TV (Usmani, 2025) last week as an informational source (each with a dichotomous yes-no scale and the two questions were added into a 3-point index: neither, either, or both). Round 2011 and 2017 measured respondents' frequency of using TV news, daily newspaper, radio, internet, and talking to friends/colleagues as information sources (daily = 1, weekly, monthly, less than monthly, and never = 5; reversely coded for analyses. Those two rounds of data were analyzed together due to using the same measurements). The different measurements of TV viewing in different rounds also provided a chance to observe which measurement would be more constructively valid in this context.

Controlling Variables:

In the logit regression models, demographical variables such as age, gender (M = 1 and else = 0), education (from 1 = less than high school to 8 = professional or doctoral degree), religiosity (a religious person * the importance of god, with the former measured from 1 = A convinced atheist to 3 = a religious person and the latter measured from 1 = not at all important to 10 = very important) and subjective social class (from 1 = lower class to 5 = upper class) were controlled. Neighborhood security (very secure = 1, quite secure, not very secure, and not at all secure = 4; reversely coded for analyses) was also controlled when checking the influence of informational channels on social trust. The purpose was to avoid identifying superficial relationships.

Results

The Gamma tests supported H1, which predicted that more TV viewing results in a lower social trust, by data in 1995 clearly (γ = -.172, p <.001) and in 1999 marginally (γ = -.091, p =.056) but not at all in 2006 and 2011/2017 (See Table 1). H2, which predicted that more TV viewing led to a higher likelihood of being politically moderate, was supported by data in 1995 marginally (γ = .08, p =.054) and 1999 clearly (γ = .13, p =.005) but not in 2006 (which actually reported contrary evidence: γ = -.199, p <.001) and 2011/2017. Gamma tests seem to favor TV viewing measurements used in the early rounds.

Table 1

The Gamma Tests of the Association between TV Usage and Social Trust, Moderation

		Social Trust ("Mean Word Syndrome")			**Moderation ("Mainstreaming")**		
		= 1	= 0	Coefficient	= 1	= 0	Coefficient
1995: Frequency watches TV	Do not watch TV	22, 18 (1.2)	29, 33 (-1.2)	Cramer's *V* = .113 (*p* < .001)	24, 24.1 (.0)	27, 26.9 (.0)	Cramer's *V* = .055 (*p* = .208)
	1-2 hours per day	245, 222 (2.5)	384, 407 (-2.5)	Gamma = -.172 (*p* < .001)	277, 297 (-2.1)	352, 332 (2.1)	Gamma = .08 (*p* = .054)
	2-3 hours per day	155, 146.1 (1.1)	259, 267.9 (-1.1)		204, 195.5 (1)	210, 218.5 (-1)	
	More than 3 hours per day	111, 146.8 (-4.3)	305, 269.2 (4.3)		208, 196.4 (1.3)	208, 219.6 (-1.3)	
1999: TV is the most important entertainment	Strongly Disagree	117, 118.2 (-.2)	212, 210 (.2)	Cramer's *V* = .103 (*p* = .005)	139, 158.3 (-2.5)	190, 170.7 (2.5)	Cramer's *V* = .086 (*p* = .033)
	Disagree	218, 193.7 (2.9)	321, 345.3 (-2.9)	Gamma = -.091 (*p* = .056)	261, 259.3 (.2)	278, 279.7 (-.2)	Gamma = .13 (*p* =.005)

	Agree	73, 87 (-2.1)	169, 155 (2.1)		132, 116.4 (2.2)	110, 125.6 (-2.2)	
	Strong Agree	20, 29.1 (-2.2)	61, 51.9 (2.2)		41, 39 (.5)	40, 42 (-.5)	
2006: used broadcast news or in-depth report on radio or TV last week	Neither = 0	38, 41.5 (-.7)	66, 62.5 (.7)	Cramer's V = .029 (p = .608) Gamma = .055 (p = .329)	65, 56.4 (1.8)	39, 47.6 (-1.8)	Cramer's V = .106 (p = .001) Gamma = -.199 (p < .001)
	Either = 1	135, 138.9 (-.5)	213, 209.1 (.5)		210, 188.7 (2.7)	138, 159.3 (-2.7)	
	Both = 2	296, 288.6 (.9)	427, 434.4 (-.9)		362, 392 (-3.6)	361, 331 (3.6)	
2011 & 2017: TV News as Info Source	Never	142, 144.1 (-.2)	228, 225.9 (.2)	Cramer's V = .027 (p = .492) Gamma = -.005 (p = .853)	141, 149.9 (-1)	229, 220.1 (1)	Cramer's V = .024 (p = .621) Gamma = -.008 (p = .755)
	Less than monthly	204, 188.9 (1.5)	281, 296.1 (-1.5)		198, 196.5 (.1)	287, 288.5 (-.1)	
	Monthly	137, 135.9 (.1)	212, 213.1 (-.1)		152, 141.4 (1.2)	197, 207.6 (-1.2)	
	Weekly	343, 360.3 (-1.3)	582, 564.1 (1.3)		382, 374.9 (.5)	543, 550.1 (-.5)	
	Daily	1026, 1022.8 (.2)	1600, 1603.2 (-.2)		1054, 1064.2 (-.6)	1572, 1561.8 (.6)	

Notes. 1. Entries are count, expected count, and adjusted residuals (which have a standard normal distribution; a value greater than 1.95 or less than -1.95 suggests a statistically significant difference. See Agresti, 2002). Expected counts that are significant at the .05 level (whose absolute values of the adjusted residuals are greater than 1.96) are bolded.

2. For "social trust," 1 = "most people can be trusted and 0 = else ("need to be very careful" or not answering). For "moderation," 1 = choosing "5" or "6" on a 10-point scale of self-position of political ideology; 0 = choosing other points or not answering.

When demographic variables and social status were under control in the logit models, H1 was supported by data in 1995 (B = -.193, p = .005) and 2011/2017 (B = -.07, p = .007. See Table 2). The marginal support in data of 1999 was further distanced from statistical significance (B = -.123, p = .106). H2 was again supported by data in 1999 (B = .156, p = .027) but clearly rejected by data in 2006 (B = -.342, p = .001). So, controlling demographic variables not only avoids superficial relationships, like the marginal support of H1 by the 1999 data and of H2 by the 1995 data, but also reveals hidden relationships, like the support of H1 by the 2011/2017 data

Table 2

Hierarchical Binary Logistic Regressions of Social Trust and Moderation on TV Usage and Demographic/Socioeconomic Variables

Survey Year	**Variables**	**Social Trust ("Mean World Syndrome")**			**Moderation ("Mainstreaming")**		
		B	Exp(*B*)	*SE*	*B*	Exp(*B*)	*SE*
1995	Constant	0.22	1.022	.397	-.638	.528	.376
	Age	.009**	1.01	.003	.001	1.001	.003
	Gender (M = 1)	-.27*	.764	.117	-.184	.832	.11
	Education	.162***	1.176	.03	-.063*	.939	.029
	Religiosity	-.013	.987	.007	.01	1.01	.007
	Subjective Social Class	-.197**	.821	.067	.126*	1.134	.063
	Frequency Watches TV	-.193**	.824	.069	.049	1.051	.064
1999	Constant	-.57	.566	.404	-.013	.987	.379
	Age	.019***	1.02	.004	.003	1.003	.004

	Gender (M = 1)	-.264*	.768	.133	-.275*	.76	.124
	Education	.141***	1.151	.032	-.08**	.923	.03
	Religiosity	-.023**	.977	.008	-.008	.992	.008
	Subjective Social Class	-.147*	.863	.072	.024	1.024	.067
	TV is Most Important Entertainment	-.123	.884	.076	.156*	1.169	.071
2006	Constant	-.989*	.372	.426	.802	2.229	.423
	Age	.019***	.004	1.019	.008*	1.008	.004
	Gender (M = 1)	-.148	.862	.127	-.20	.819	.127
	Education	.229***	1.258	.041	-326***	.727	.042
	Religiosity	-.013	.987	.007	-.003	.997	.007
	Subjective Social Class	-.255**	.775	.073	.318***	1.374	.073
	Used News/In-depth Report on Radio/TV Last Week	-.087	.916	.101	-.342**	.711	.104
2011/2017	Constant	-.299	.487	.741	.309	1.362	.208
	Age	.015***	1.105	.002	-.006**	.994	.002
	Gender (M = 1)	.039	1.04	.063	-.318***	.727	.062
	Education	.136***	1.146	.018	-.187***	.829	.019
	Religiosity	-.011***	.989	.003	.003	1.003	.003
	Subjective Social Class	-.343***	.709	.036	.169***	1.184	.034
	TV News as Info Source	-.07**	.932	.026	.007	1.007	.026

Notes. 1. In each model, demographic variables are in block one and the TV consumption variable is in block two.

2. Statistically significant coefficients are bolded, with * denoting $p < .05$, ** denoting $p < .01$, and *** denoting $p < .001$.

Two statistically significant predictors in almost all regression models are education, which are positively associated with social trust (1995: B = .162, p < .001; 1999: B = .141, p < .001; 2006: B = .229, p < .001; 2011/2017: B = .136, p < .001. See Table 2) but negatively associated with political moderation (1995: B = -.063, p < .05; 1999: B = -.08, p < .01; 2006: B = -.326, p < .001; 2011/2017: B = -.187, p < .001), and subjective social statues, which are negatively associated with social trust (1995: B = -.197, p < .01; 1999: B = -.147, p < .05; 2006: B = -.255, p < .01; 2011/2017: B = -.343, p < .001) but positively associated with political moderation (1995: B = .126, p < .05; 1999: insignificant; 2006: B = .318, p < .001; 2011/2017: B = .169, p < .001). Those effects had not been identified in previous studies but appeared quite robust in this one.

Data in 2011/2017 provided a possibility to test the social trust research's (Putnam, 2000) findings of the negative impact of TV viewing (consistent with H1) and the positive one of newspaper reading on social trust. They were both confirmed (for TV viewing, B = -.14, p < .001; for newspaper reading, B = .085, p < .001), with demographic/socioeconomic variables and neighborhood security controlled (see Table 3).

Table 3

Hierarchical Binary Logistic Regressions of Social Trust on Information Channels, Demographic/Socioeconomic Variables, and Neighborhood Security

Independent Variables	***B***	**Exp(*B*)**	***SE***
Constant	-2.751***	.064	.301
Age	.013***	1.013	.002
Gender (M = 1)	-.013	.988	.067
Education	.128***	1.137	.02
Religiosity	-.013***	.987	.003
Subjective Social Class	-.226***	.797	.038
Secure in Neighborhood	.641***	1.899	.049
TV News as Info Source	-.14***	.869	.029
Daily Newspaper as Info Source	.085***	1.089	.023
Radio as Info Source	.083***	1.087	.024

Internet as Info Source	-.035	.966	.029
Talking as Info Source	.079*	1.082	.034

Notes. 1. Data are from rounds of 2011 and 2017. Demographic/socioeconomic variables and neighborhood security are in block one; the information channel variables are in block two.

2. Statistically significant coefficients are bolded, with * denoting $p < .05$, ** denoting $p < .01$, and *** denoting $p < .001$.

Discussion

This study replicates the original cultivation studies (Gerbner et al., 1977; Gerbner et al., 1980, 1986) with five rounds of U. S. data (1995, 1999, 2006, and 2011/2017) from the WVS survey. The "mean world syndrome" hypothesis is supported by data of the 1995 round in Gamma test and by the data of both 1995 and 2011/2017 rounds in the logit regression test with demographic/socioeconomic variables under control. The "mainstreaming" hypothesis is supported by the data of the 1999 round and rejected by the data of the 2006 round in both the Gamma test and the logit regression test that controls the demographic / socioeconomic variables.

The regression method suggested by cultivation's critics (Hirsch, 1980; Hughes, 1980) shows no big difference from the Gamma tests used in the original cultivation research (Gerbner et al., 1977; Gerbner et al., 1980, 1986). It avoids superficial relationships in some situations but reveals hidden relationships in other situations. So, the challenge that Gamma can only identify superficial relationships is not solidly supported, and the magic power of TV viewing predicted in the cultivation research is replicated in some situations even with demographic/socioeconomic conditions controlled.

But the two major findings of the original cultivation research (the "mean world syndrome" and "mainstreaming" hypotheses) are only supported by part of the WVS data, confirming the observation that social science studies have low replicability (Lewandowsky & Oberauer, 2020; Open Science Collaboration, 2015). The low replicability could be attributed to such factors as inconsistent or inaccurate operations or measurement of the variables (Potter 1994), which is an apparent limitation of this study that is based on secondary quality data, or people's adaption to the findings of the social science studies and modification of their own behaviors (Yao, 2021). In this study, the different measurements of TV viewing seemingly contribute most to the inconsistent findings. The measurement of hours of TV viewing on a typical day, used in the 1995 round, is particularly effective for the "mean world syndrome" hypothesis, and the measurement of the entertaining nature of TV viewing, used in the 1999 round, is more effective for the "mainstreaming" hypothesis. So those different measurements of TV viewing in this study, in fact, trigger an important idea that commonly used variables in communication research and theory development, such as media consumption, should have well-established operations or measurements vetted and recognized by the research community at large (Yao, 2021) to connect studies in the field. At least, communication theories need to have their variable measurements clearly stated and standardized as the foundation of themselves.

The relatively robust finding that TV viewing (even just for news consumption) negatively, and newspaper reading positively, impacts social trust (even if demographic/socioeconomic conditions are under control) is intriguing, and its underlying mechanism worthy of exploring. In addition to the context effect that TV programing wraps news with violent, sexual, and stereotypical entertainment (Gerbner et al., 1977; Gerbner et al., 1980, 1986), the different effects of verbal learning and audio-visual learning, which needs further study to understand the still-mysterious influence of TV viewing, may also contribute to the difference between newspaper reading and TV viewing. Since the 2011/2017 round of data confirms the "mean world syndrome" hypothesis, the decline of TV's dominance in the media landscape should not have a role in the replication issue.

Also noticeable are the roles of education and subjective social status in the "mean world syndrome" and "mainstreaming" hypotheses, which are greater in magnitude and more robust in appearance than TV viewing and other media consumption and demographic variables. In all tests, education enhances social trust but reduces moderation (a posthoc analysis shows a negative

correlation between education and the self-reported political position on the 10-point scale, meaning the more educated the less likely to be on the right end of the political scale), and subjective social class reduces social trust but enhances moderation. Those results reveal education's function in building a more trusting and equalized society and subjective social status's association with a mentality of social privilege and status quo ("mainstreaming"). The effects of those variables on social trust and political moderation that are first identified in this study need further research and may be used to explain the findings of future social science studies.

* The study receives no funding, and the author declares no competing interests.

References

Agresti, A. (2002). *Categorical Data Analysis (2nd Ed.)*. New York: Wiley.

Ariely, G., & Davidov, E. (2011). Can we rate public support for democracy in a comparable way? Cross-national equivalence of democratic attitudes in the World Value Survey. *Social Indicators Research, 104*, 271–286. doi: 10.1007/s11205-010-9693-5.

Edmonds, B., & Hales, D. (2003). Replication, replication and replication: Some hard lessons from model alignment. *Journal of Artificial Societies and Social Simulation, 6*(4). Available at http://jasss.soc.surrey.ac.uk/6/4/11.html.

Gerbner, G. (1998). Cultivation analysis: An overview. *Mass Communication & Society, 1*(3/4), 175-194. doi: 10.1080/15205436.1998.9677855.

Gerbner, G., & Gross, L. (1976). Living with television: The violence profile. *Journal of Communication 6*(2), 172-194. doi: 10.1111/j.1460-2466.1976.tb01397.x.

Gerbner, G., Gross, L., Eleey, M., Jackson-Beeck, M., Jeffries-Fox, & N., Signorielli, (1977). Sex, violence, and the rules of game: TV violence profile no. 8: The highlights. *Journal of Communication*, 27(2), 171-180. doi: 10.1111/j.1460-2466.1977.tb01845.x

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1980). The "mainstreaming" of America: Violence profile no. 11. *Journal of Communication, 30*(3), 10-29. doi: 10.1111/j.1460-2466.1980.tb01987.x

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1982). Charting the mainstream: Television's contributions to political orientations. *Journal of Communication, 32*(2), 100-127. doi: 10.1111/j.1460-2466.1982.tb00500.x.

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1984). Political correlates of television viewing. *Public Opinion Quarterly*, 48, 283-300. doi: 10.1093/poq/48.1B.283

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1986). Living with television: The dynamics of the cultivation process. In J. Bryant & D. Zillman (Eds.), *Perspectives on media effects* (pp. 17–40). Hilldale, NJ: Lawrence Erlbaum Associates.

Gerbner, Gross, Morgan, and Signorielli. (1994). Growing up with television: A cultivation perspective. In J. Bryant & D. Zillmann (eds.) *Media effects: Advances in theory and research,* (pp. 17-41). Hillside, NJ: Lawrence Erlbaum.

Herrnson, P. (1995). Replication, verification, secondary analysis, and data collection in political science. *PS: Political Science and Politics, 28*(3), 452-455. doi: 10.2307/420302.

Hughes, M. (1980). The fruit of cultivation analysis: A reexamination of some effects of television watching. *Public Opinion Quarterly, 44*(3), 287-302. doi: 10.1086/268597.

King, G. (1995). Replication, replication. *PS: Political Science and* Politics, 28(3), 541-559. doi: 10.2307/420301.

Lewandowsky, S., & Oberauer, K. (2020). Low replicability can support robust and efficient science. *Nature Communication, 11*(358), 1-12. doi: 10.1038/s41467-019-14203-0.

MacIntosh, R. (1998). Global attitude measurement: An assessment of the World Values Survey Postmaterialism Scale. *American Sociological Review, 63*(3), 452-464. doi: 10.2307/2657558.

Morgan, M., & Shannahan, J. (2010). The state of cultivation. *Journal of Broadcasting and Electronic Media, 54*(2), 337-355. doi: 10.1080/08838151003735018.

Open Science Collaboration. (2015). Estimating the reproducibility of psychological science. *Science, 349*(6251), 1-8. doi: 10.1126/science.aac4716.

Potter, J. (1993). Cultivation theory and research: A conceptual critique. *Human Communication Research, 19*(4), 564-601. doi: 10.1111/j.1468-2958.1993.tb00313.x

Potter, J. (1994). Cultivation theory and research: A methodological critique. *Journalism Monographs*, 147, 1-37. Available at: https://www.aejmc.org/home/wp-content/uploads/2012/09/W.-James-Potter.Cultivation-Theory-and-Research.October-1994.pdf.

Putnam, R. (2000). *Bowling along: The collapse and revival of American community*. NY: Simon & Schuster.

Rosenberg, M. (1957). *Occupations and values* (pp. 25-35). Glencoe, IL: Free Press.

Shanahan, J., & Morgan, M. (1999). *Television and its viewers: Cultivation theory and research*. New York: Cambridge University Press.

Usmani, S. A. A. (2025). *AI Stories for Healthier Lives: Narrative Paradigms in AI-Augmented Mass Media Health Campaigns.* Journal of Mass Communication Department, Dept of Mass Communication, University of Karachi, 33.

Yao, Q. J. (2021). *Logical issues in social scientific approach of communication research*. Paper accepted to be presented to the 107th annual convention of the National Communication Association, November 18-21, Seattle, WA.