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## CONCEPTUALIZING HUMOR IN ADVERTISING: THE MODERATING ROLE OF SELF-MONITORING

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### Abstract

*This research paper explores the mediating role of attitude towards the advertisement and attitude towards the brand, and moderating role of self-monitoring in the relationships between perceived humor in the advertisement and purchase intention of the customer. Survey data was collected from 209 individuals after showing advertisements. Confirmatory factor analysis, structural equation modeling, and macro developed by Preacher and Hays have been used to test moderation and mediation effect in the hypothesized model. A good fit between the data and tested model was observed. As predicted, purchase intention was positively related to perceived humor and full mediation effect has been found. The moderating role of self-monitoring has also been supported by the data. The findings are particularly salient for national and multinational media agencies in Pakistan as well in the other parts of the world.*

**Keywords:** Perceived Humor, Purchase Intention, Self-Monitoring, Attitude towards the advertisement, Attitude towards the brand

**JEL Classification:** M 370

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### **Introduction**

Humor is widely being used in television advertisements, as per an estimate 20 percent advertisements being advertised on television contains humorous aspects in one way or another (Lang, Kurita, Gao, & Rubenking, 2013). Advertising is a useful way to raise awareness about the entire marketing campaign; hence it is at prime interest to the marketers and then using this as an executioner's tactic (Chung & Zhao, 2011). Many different dependent variables have been used in studies, some of them supported this idea but some came up with varied results (McRae, Misra, Prasad, Pereira, & Gross, 2012). Humor used in one type of advertisements cannot be generalized (Weinberger & Gulas, 1992). Now it has been recommended that effectiveness of humor doesn't matter, what matters is that humor used in that advertisement should be effective. In order to understand this variation some of the moderating and mediating variables should also be studied (Chattopadhyay & Basu, 1990).

### **Theoretical Background**

The question about effectiveness of Humor being used in television advertisement is still an unsolved question (Gelb & Pickett, 1983). The predictor humor in advertisement has been researched upon many variables such as attitude towards the advertisement, memory, attitude towards the brand, purchase intention (Lang, Sanders-Jackson, Wang, & Rubenking, 2013). A number of studies have been conducted and still they are unable to conclude consistent findings, the existing studies are useful but they still provide a limited view about effectiveness of advertisement (Cline & Kellaris, 2007). The studies conducted in the beginning focused more towards the consumer behavior, as they should like the product and even now a days the researchers are also evaluating whether humorous advertisements are better shaping the consumer behavior by comparing humorous advertisements with their counterpart non-humorous advertisements (Wang, Lang, & Busemeyer, 2011).

It has been observed that a commonly used technique in advertisement is the inclusion of Humor; it increases the effectiveness of the advertisement. It also affects the memory and grabs attention as well as positive emotional experience is also created (Reichert & Carpenter, 2004; Woltman, Elpers, Mukherjee, & Hoyer, 2004). These effects have been tested in many researches but researches do not say much about various psychological mechanisms operating for humorous type of content in advertisements.

#### *Humor and purchase Intention*

Humor is being studied for a very long time as evidence from the study of Sternthal and Craig (1973), suggests that attention towards humorous advertising increased from the past two decades. The research is ongoing and humor is also part of the current research on advertising being done by Sparks and Lang (2014). Speck (1991) presented that humor has many dimensions and hence having varied results is reasonable -, so the researchers should not look for consistency of results with different types of humor. Any type of humor might be unfavorable to be used in advertising, so the resulting change in consumer response does not mean change in psychological level of consumers (Wang, Solloway, Tchernev, & Barker, 2012). The conditions should be kept in mind where humor is effective and where it is not before anticipating the effect of humor. The humor when used in advertising makes it pleasant and easy to accept. The audience is generally inspired by such type of advertising and shows their willingness to purchase the advertised product.

*H1: Perceived humor in advertisements has significantly positive impact on customers Purchase Intention*

#### *Moderating Role of Self Monitoring*

Chattopadhyay and Basu (1990) suggested that certain communication variables must be identified and they should be tested

systematically to identify their effect as moderators. The variables to be used for moderation effect can be needed for cognition, product types, self monitoring, and audience involvement. The people who are high in self monitoring focus on the behavior of others carefully and behave in socially acceptable manner. On the other hand people with low self monitoring focus do not care much about acceptance of their behavior in front of others - they mostly behave as they deem fit. They actually feel that their own behavior is their self expression and they want to show it in the same way(Debono&Harnish, 1988).

The idea of reference groups works more for the high self monitors because they mostly purchase as per suggestions of other people. People with different levels of self monitoring focus behave differently (Wang, Solloway, Tchernev, & Barker, 2012). The person who is high on self monitoring will show more favorable response towards the purchase of the product where humor has been used as a stimulus. On the other hand a person who is a low self monitor will not show a positive response towards purchase of the product by watching humor in advertisement.

*H2: Self Monitoring moderates the positive relationship between perceived humor and Purchase Intention, such that a person high on self monitoring is more inclined towards purchase intention and vice versa.*

*From Attitude toward the Advertisement to Attitude towards the Brand*

The major issue is to understand the mechanism how humor influences persuasion. Researchers have proved that advertising affects feelings about the brand but it follows a route from the attitude towards the advertisement; hence it acts as a mediator. Zhang (1996) argued that various models have been developed (or used) to estimate that some antecedents affect the attitude towards Advertisement acting as a central or peripheral clue. Lord, Lee, and Sauer (1995)

suggested that peripheral cues along with message arguments affects attitude towards the advertisement. The advertisement evokes feelings in the audience, which in turn influences attitude towards the advertisement (Yi, 1990).

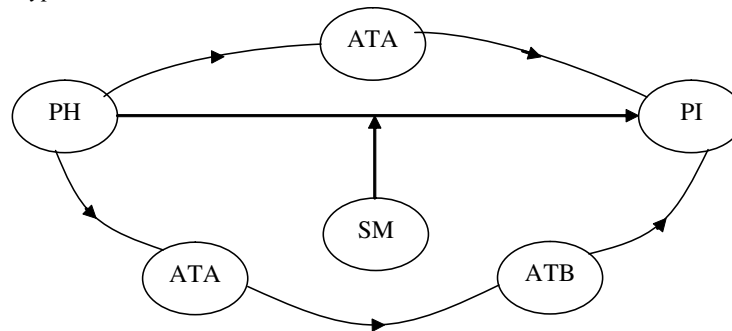
In order to understand how advertising affects purchase intention, it is perhaps important to understand the role of a mediator (Eisend, 2009). The mediator in this case is Attitude towards the advertisement. After watching an advertisement a certain attitude is formed about it. If that is favorable then the attitude of the person would be positive towards purchasing the brand. If somehow a negative attitude is formed towards the advertisement then chances are that the person might not go to purchase the advertised brand. Therefore the following relationship was proposed:

*H3: Attitude towards the advertisement mediates the positive relationship between Perceived Humor and customers Purchase Intention.*

Humor can act as an antecedent to the attitude towards an advertisement, but attitude towards an advertisement does not directly lead towards purchase intention. It does affect the mind subconsciously, but by looking at the mechanism it is concluded that there are many factors between liking an advertisement and purchase intention (Zhang & Zinkhan, 2006). Attitude towards the advertisement is one mediator but other mediators are also needed to reach towards purchase intention. Hence we came to our multi-mediated model which has two mediators, Attitude towards the advertisement and attitude towards the brand.

*H4: The relationship between Attitude towards an advertisement and Purchase Intention is mediated positively by Attitude towards the brand, when Perceived Humor is used as predictor of attitude towards the advertisement.*

**Figure 1:**  
*Hypothesized Model*



### Methodology

#### *Participants and Design*

It was required that the participants should have all their senses working well, and also should be able to watch, listen, read and write. The other important aspect was that all of the questions were in English language and ads were in Urdu/Hindi, so the person should have good understanding of both the languages. This kind of study also requires that a good number of respondents should be sitting together in a controlled environment. They were targeted right in their class rooms, because this was the only situation where all the assumptions were met. The respondents of different semesters were contacted during their classes and they were briefed about the study and the importance of their honest responses. Then they were shown an advertisement and later on the questionnaire was distributed in order to retrieve their responses about the advertisement and various other variables involved in the study. Un-restricted (Purposive) sampling based on non-probability sampling technique was used in order to select the sample. Sample size was determined keeping in mind time and budget constraints, but it was made sure that the sample should be adequate - so 209 respondents were included. The sample consisted of N = 209; male: 63.64%; female: 36.36% as shown in table 1.

**Table1:**  
*Demographic Information*

		Respondents	
		Frequency	%
Gender	Male	133	63.64
	Female	76	36.36
Age	16-20	84	40.19
	21-25	98	46.89
	26-30	27	12.92
Education			0.00
	Some College	145	69.38
	Bachelors Degree	64	30.62
Total		N = 209	

*Advertisements used as Stimuli*

Testing the effect for more than one advertisement helps to have generalizable findings. The selected advertisements should have high perceived humor, so two advertisements have been selected for overcoming the issue of external validity (Sasser&Koslow, 2008). The details are given below,

First, approximately 3000 TV ads were checked for presence of Perceived Humor. In the secondstage 39 selected advertisements were analyzed carefully, out of which 10 advertisements met the set criteria. Then in step number three, the selected ads were shown to the faculty members associated with teaching (Marketing) to extract the ads best suited to criteria.

The Pepsi ad depicted a young boy go to a dispenser machine and inserting coins to take out a can of Coca-Cola. Then he



again inserts coins to take out another can. Then the fun part starts in that he again inserts coins in the slot to push the button for cans of Pepsi but this time he is seen standing on the two cans of Coca-Cola he had obtained earlier, to be able to press the Pepsi button. He then takes Pepsi, leaving the Coca-Cola cans behind.

The Nike ad depicts a tired girl coming back home and was about to take her shoes off, a person with a mask on attacks her. She runs away from the killer and keeps on running even out of her home and then ultimately the killer falls down after a long chase but the girl keeps on running. Then this statement highlights "Why Sports? You will live longer".

### Measurement

#### *Perceived Humor*

Perceived humor was measured using a seven-point semantic differential scale consisting of five pairs of bipolar anchors (Not Humorous/Humorous, Not Funny/Funny, Not Playful/Playful, Not Amusing/Amusing, And Not Dull/Dull) with the last item reverse-coded,  $\alpha = .91$ ; (Zhang, 1996).

#### *Self-Monitoring*

There are three psychographic variables, viz. need for cognition, self-monitoring, and political ideology (Gulas & Weinberger, 2006). Need for cognition has been used in many researches (Zhang, 1996) but up till now none of the researcher has used self-monitoring in this association to find out the relationship with purchase intention.

The scale was originally developed by Snyder (1974) having 25 questions in it and they were supposed to be answered as True or False. Lennox and Wolfe (1984) attempted to cover up the deficiencies in the original scale and came up with the modified scale of 13 questions,

where each item yielded a score between 0 to 5. In order to understand the attention level of the audience question numbers 9 and 12 were reverse coded.

#### *Purchase Intention*

Purchase intention was measured with a three item scale *Unlikely-Likely, Improbable-Probable, Impossible-Possible*. ( $\alpha = .89$ ). All the above semantic-differential scales had a range from -3 to 3, with 0 being the central point. The mean scores of the ratings were used as the dependent measures of the above constructs (Zhang, 1996).

#### *Attitude towards the Brand (ABR)*

The following five items were measured on a 7-point scale: Favorable / Unfavorable, Nice / Awful, Unappealing / Appealing, Useful / Useless, Satisfactory / Unsatisfactory (Cho & Stout, 1993). Also for this scale coefficient of alpha is high (0.84). Therefore, the attitude towards the brand score would be represented by the mean of the five items'.

#### *Attitude towards the Advertisement (AAD)*

It was the critical thing to measure the attitude of a person towards the advertisement. Seven items based on previous work (Cho & Stout, 1993) were used: Pleasant /Unpleasant, Likable / Unlikable, Unfavorable / Favorable, Persuasive / Unpersuasive, Informative / Uninformative, Believable / Unbelievable, Effective / Ineffective. All items were measured on a 7-point scale. Coefficient of alpha is comfortably high (0.87).

## Results

Missing values have been calculated by “Transform → Replace missing values” method, and then further analysis was done to calculate Aberrant values present in the data which were calculated by graphical representation through the box plot. Furthermore the normality of the data was tested by using Kolmogorov-Smirnov and Shapiro-Wilk tests of normality. The values left after performing CFA (Confirmatory Factor Analysis) using Structural equation modelling in Amos 18 were ready for the hypotheses testing.

### *Descriptive Statistics and Correlations.*

All the variables showed adherence to that factor analysis. The correlation of all the variables is presented in the table below:

**Table 2:**  
*Descriptive Statistics and Correlations*

		PH	ATA	ATB	SM	PI
PH	Pearson Correlation	1				
	Sig. (2-tailed)					
ATA	Pearson Correlation	0.591	1			
	Sig. (2-tailed)	0.000				
ATB	Pearson Correlation	0.451	0.776	1		
	Sig. (2-tailed)	0.000	0.000			
SM	Pearson Correlation	-0.041	0.032	0.017	1	
	Sig. (2-tailed)	0.548	0.637	0.805		
PI	Pearson Correlation	0.517	0.591	0.604	0.008	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.904	
	Mean	5.637	5.155	5.344	5.401	5.474
	Standard Deviation	1.026	1.185	1.221	0.718	1.047

Hypothesis 1: The results of the regression analysis revealed that Perceived Humor significantly predicted Purchase Intention ( $\beta = .517, p < .001$ ). Hence our hypothesis was supported by the data as shown in table 3.

**Table 3:**  
*Coefficients<sup>a</sup>*

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	2.500	.344		7.272	.000
	PH	.528	.060	.517	8.792	.000

a. Dependent Variable: PI

Hypothesis 2: For testing moderation we used the method of Baron and Kenny (1986). But the steps involved in checking of moderation (i.e. mean centering predictor and moderator variable, creating interaction term, and running hierarchical regression analysis) were not performed manually. For this purpose the SPSS macro named “modprobe” developed by Preacher and Hayes (2008) was used, which automatically covers all these steps.

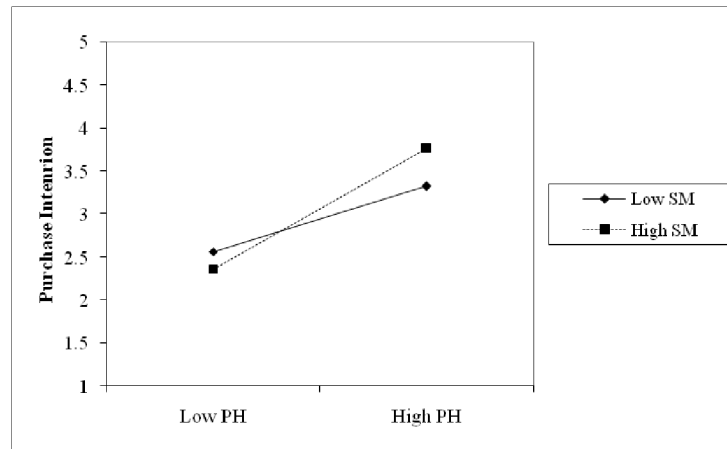
The results of the analysis shown in the table 4 highlighted that SM significantly moderated the relationship between PH and PI as the effect of interaction term was found to be significant (Unstandardized  $\beta = .1604$ ,  $p < .10$ ). The effect of moderation in this analysis is categorized as pure moderation as the moderating variable (i.e. SM) itself had non-significant effect on the dependent variable.

**Table 4:**  
*Modprobe*

Variable	B	SE	t statistic	Significance (p)
Constant	5.4785	.0612	89.4836	.000
PH	.5401	.0601	8.9852	.000
SM	.0584	.0858	.6780	.498
Interact (PHxSM)	.1604	.0858	1.8685	.063

For further probing the interaction effect, we developed the graph of the moderation effect. The graph below clearly shows that two lines are interacting and crossing each other, which highlights that when PH is low but the person is highly self-monitored, PI will be high. And if person is high in PH but SM is low, then PI will also be lower.

**Figure 2**  
*Moderation Results (HT-3)*



Hypothesis 3: Baron and Kenny (1986) approach has been most prevalent for assessing mediation. Recently, Baron and Kenny (1986)'s three step approach has been disputed by some researchers who argued that the first condition i.e. direct relationship between predictor and dependent, may not be necessary for mediation to hold; rather it is indirect effect that should be significant (Zhao, Lynch & Chen, 2010; Shrout & Bolger, 2002). According to Preacher and Hayes (2004), the two conditions for mediation are (1) there exists an effect to be mediated, and (2) the indirect effect should be statistically significant in the direction predicted by the mediation hypothesis. Baron and Kenny (1986) tests are useful in identifying the type of mediation. Zhao et al. (2010) classified five types of mediation. These authors also argued in favor of using bootstrapping instead of Sobel test for assessing the significance of indirect path. Again as in the case of moderation, we used a SPSS macro named "indirect" developed by Preacher and Hayes (2008). This macro facilitates us in such a way that we don't need to perform all the conditions of mediation manually; instead it's the macro which performs the steps for us.

The results shown in table 5 highlighted that both a (Unstandardized  $\beta = .6829$ ,  $p < .001$ ) and b (Unstandardized  $\beta = .3882$ ,

$p < .001$ ) path are significant and also the indirect effect of independent variable (through mediator) is also significant which supports our hypothesis.

**Table 5:**

*Indirect*

Relationship	Unstandardized effect	SE	t	z	p
PH->ATA (a path)	.6829	.0640	10.6770	--	.000
ATA->PI (b path)	.3882	.0588	6.641	--	.000
Total effect (c path)	.5275	.0600	8.7920	--	.000
Direct effect (c prime)	.2624	.0679	3.8647	--	.000
Indirect effect (through mediator)	.2651	.0470	--	5.6394	.000

Hypotheses 4: The relationship between attitude towards the advertisement and the purchase intention is further mediated by attitude towards the brand, so it was multi-mediated model and tested by using “Process” module developed by Hayes & Preacher (2014).

The results shown in table below highlighted that indirect path 2 serves as a complete model, having two mediators. In case where attitude towards the brand is taken as a second mediator the upper boundary (0.3118) and lower boundary (0.0589) both are positive and it does not contain zero in it. The indirect effect of independent variable (through mediator) is significant which supports our hypothesis. This is not same in indirect path 1 and 2 which makes it a perfectly multi-mediated model as shown in table 6 and indirect effects key is given in table 7.

**Table 6:**

*Indirect effect(s) of X on Y*

	Effect	Boot SE	BootLLCI	BootULCI
Total:	0.2605	0.0762	0.1267	0.4267
Ind1 :	0.0908	0.0688	-0.043	0.223
Ind2 :	0.1743	0.0649	0.0589	0.3118
Ind3 :	-0.0046	0.0249	-0.0626	0.0398

**Table 7:***Indirect effect key*

Ind1 :	PH	->	ATA	->	PI		
Ind2 :	PH	->	ATA	->	ATB	->	PI
Ind3 :	PH	->	ATB	->	PI		

**Discussions & Implications of the Findings**

The discussions are carefully devised because generalizability depends upon many factors, like the sampling technique, advertisements chosen for study, and procedure for data gathering. Most of the studies related to self-monitoring have been conducted by keeping in consideration American College/university students. None of the study on self monitoring was available related to South Asian (Pakistani) culture.

The study also highlights the mechanism of how perceived humor leads to purchase intention, as Humor leads to favorable Attitude towards the Advertisement which then leads the model to favorable attitude towards the brand and ultimately the person shows purchase intention. The understanding of its breakup is also important in terms of how humor in advertisement shapes the positive attitude towards the advertisement. Now as the favorable attitude towards the Advertisement has been created a person starts to think positively about the advertised brand that results in developing a favorable attitude towards the brand. Attitude towards the brand is positive and hence the person selects this brand whenever being asked to show purchase intention.

The findings are substantive for academic researchers that they must consider moderating and mediating variables while doing any research, specially related to Humor in advertisements. Clearly, media agencies are eager to use Humor in advertising and can't do research about self monitoring level of audience by themselves. There are some people with high self monitoring and then some with low. Hence they can make an estimate of how people will behave after

watching their advertisement. If the competitor is having strong arguments in their advertisement, then humor can be used to overcome this gap. The arguments used in the advertisement should be strong and the brand that can come up with a strong message and also good humor in the advertisement would most likely leave its owner pleased with the cash left in the company's bank account.

### **Future Research**

Research is an ongoing process and it never ends with any one research undertaking. Certain variations can be made in the original research in terms of time and space to estimate the effects. There are some general observations such as increasing the sample in a future research, and population sample comprising all relevant age groups, and some other areas specifically related to this study that can be further improved by considering these factors.

*Firstly*, the findings in this study can be extended further by understanding the processes in between the attitude towards the Advertisement and Attitude towards the brand, as they are related, and attitude towards the brand is affected by attitude towards the advertisement. But what comes between them as a mediator should be investigated and analyzed in future research.

*Secondly*, The study has certain limitations as there is only one type of humor taken into consideration, whereas people may behave differently with different types of Humor. Future research may focus on the combined effect of all the Humor types taken together or their effects may be considered individually and compared with other types. *Thirdly*, The effect has been studied keeping in mind that the person will behave only in response to having watched the advertisement and ignoring external sources, so, they should also be studied and their impact calculated. *Fourthly*, the study has been done by using advertisements that were made for television - but there are many other mediums of advertising such as Radio, Print, Outdoor as well as Social Media. These other types can also be taken into consideration for future more generalizable research.



### References

- Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Chattopadhyay, A., & Basu, K. (1990). Humor in advertising: The moderating role of prior brand evaluation. *Journal of Marketing Research*, 27(4), 466-476.
- Cho, H. G., & Stout, P. A. (1993). An extended perspective on the role of emotion in advertising processing. *Advances in Consumer Research*, 20, 692-697.
- Chung, H., & Zhao, X. (2011). The Effects of Humor on Ad Processing: Mediating Role of Brand Familiarity. *Journal of Promotion Management*, 17(1), 76-95.
- Cline, T. W., & Kellaris, J. J. (2007). The influence of humor strength and humor-message relatedness on ad memorability: A dual process model. *Journal of Advertising*, 36(1), 55-67.
- DeBono, K. G., & Harnish, R. J. (1988). Source expertise, source attractiveness, and the processing of persuasive information: A functional approach. *Journal of Personality and social psychology*, 55, 541-546.
- Eisend, M. (2009). A meta-analysis of humor in advertising. *Journal of the Academy of Marketing Science*, 37(2), 191-203
- Gelb, B. D., & Pickett, C. M. (1983). Attitude-toward-the-ad: Links to humor and to advertising effectiveness. *Journal of Advertising*, 12(2), 34-42.
- Gulas, C. S., & Weinberger, M. G. (2006). *Humor in advertising. A comprehensive analysis*. Armonk, NY: Sharpe.
- Hayes, A. F. & Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *British Journal of Mathematical and Statistical Psychology*, 67, 451-470.
- Lang, A., Kurita, S., Gao, Y., & Rubenking, B. (2013). Measuring television message complexity as available processing

- resources: Dimensions of information and cognitive load. *Media Psychology*, 16(2), 129–153
- Lang, A., Sanders-Jackson, A., Wang, Z., & Rubenking, B. (2013). Motivated message processing: How motivational activation influences resource allocation, encoding, and storage of TV messages. *Motivation and Emotion*, 37(3), 508–517.
- Lennox, R. D., & Wolfe, R. N. (1984). Revision of the self-monitoring scale. *Journal of personality and Social Psychology*, 46(6), 1349-1364.
- Lord, K. R., Lee, M., & Sauer, P. L. (1995). ‘The Combined Influence Hypothesis: Central and Peripheral Antecedents of Attitude Toward the Ad. *Journal of Advertising*, 24, 73-85.
- McRae, K., Misra, S., Prasad, A. K., Pereira, S. C., & Gross, J. J. (2012). Bottom-up and top-down emotion generation: Implications for emotion regulation. *Social Cognitive and Affective Neuroscience*, 7(3), 253–262.
- Preacher, K. J., & Hays, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717-731
- Preacher, K. J., & Hays, A. F. (2008). Asymptotic and re sampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879-891
- Reichert, T., & Carpenter, C. (2004). An update on sex in magazine advertising: 1983 to 2003. *Journalism & Mass Communication Quarterly*, 81(4), 823–837.
- Sasser, S. L., & Koslow, S. (2008). Desperately seeking advertising creativity: Engaging an imaginative” 3Ps” research agenda. *Journal of Advertising*, 37(4), 5-20.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non-experimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422–445.

- Sparks J. V., & Lang, A. (2014). Mechanisms Underlying the Effects of Sexy and Humorous Content in Advertisements. *Communication Monographs*, 1-29.
- Sparks, J. V., & Lang, A. (2010). An initial examination of the post-auricular reflex as a physiological indicator of appetitive activation during television viewing. *Communication Methods and Measures*, 4(4), 311–330.
- Snyder, M. (1974). The self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, 30, 526-537.
- Wang, Z., Lang, A., & Busemeyer, J. R. (2011). Motivational processing and choice behavior during television viewing: An integrative dynamic approach. *Journal of Communication*, 61(1), 71–93.
- Wang, Z., Solloway, T., Tchernev, J. M., & Barker, B. (2012). Dynamic motivational processing of antimarijuana messages: Coactivation begets attention. *Human Communication Research*, 38(4), 485–509.
- Weinberger, M. G., & Gulas, C. S. (1992). The impact of humor in advertising: A review. *Journal of Advertising*, 21(4), 35–59.
- Woltman Elpers, J. L. C. M., Mukherjee, A., & Hoyer, W. D. (2004). Humor in television advertising: A moment-to-moment analysis. *Journal of Consumer Research*, 31(3), 592–598.
- Yi, Y. (1990). Cognitive and Affective Priming Effects of the Context for Print Advertisements, *Journal of Advertising*, 19, 40-48.
- Zhang, Y. (1996). Responses to humorous advertising: The moderating effect of need for cognition. *Journal of Advertising*, 25(1), 15–32.
- Zhang, Y. & Zinkhan, G. (2006). *Humor in Television Advertising: Does Audience Involvement Matter?*. *Journal of Advertising*, 35(4), 113-127.
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis. *The Journal of Consumer Research*, 37(2), 197-206.