Pakistan Journal of Psychological Research, 2014, Vol. 29, No. 1, 53-77

# The Development of Third-person Effect Questionnaire and Media Exposure List in Local and Foreign Electronic Entertainment Media Context

## Aliya Abdul Hayee and Anila Kamal

Quaid-i-Azam University

Present study attempts to develop the third-person effect questionnaire and media exposure list in the context of local and foreign electronic entertainment media. For this purpose the study was divided into three steps. In the first step, on the basis of existing literature of third-person effect and media exposure, six focus groups were conducted. As a result various themes were generated including beautification of religion, adults' belief that media effect others more than themselves, and adolescents acceptance and idealization of foreign media. In step two, list of items were generated and sent for the experts review. After approval of reviewers, third-person effect questionnaire of 36 items and media exposure list of 16 items was finalized. Further, in third step psychometric properties were established by applying questionnaires on 328 adolescents and young adults. Content and construct validity was established. Gender, age, education, and media exposure differences were also found in third-person effect.

*Keywords:* Third-person effect, media exposure list, adolescents, young adults

Social institutions like family, religion, and school were considered central to social life but nowadays media has replaced these institutions (Gitlin, 2001). Media being the very basis of society, influence people's perception and change their opinions (Gunther & Douglas, 2003). The debate of media effect on people has been present since the mid 20<sup>th</sup> century. Since the time of human existence people always believed that negative aspects have more influence on others than themselves. Same is the case with media impact. People

Aliya Abdul Hayee and Anila Kamal, National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan.

Correspondence concerning this article should be addressed to Aliya Abdul Hayee, National Institute of Psychology, Quaid-i-Azam University, Islamabad, Pakistan. E-mail: aliya.a.h@hotmail.com

always consider negative and harmful content of media to be influencing others and positive influencing themselves. Davison (1983) was the first sociologist to term this perceptual phenomenon as Third-Person Effect. Media influence people's perception and change their opinions (Gunther & Douglas, 2003). Desai (2005) described television as a medium of mass communication with an integration of technology, culture, commerce and politics. Therefore it projects the cultural values of their producers and the social realty in which they are produced. That is the reason media influences on audiences are the most debated and researched phenomenon of today.

For the very first time Davison (1983) explained the third-person effect by a military unit that consisted of African American troops in the World War II. This predominantly Black troop was led by White officers. The Japanese discovered their location and sent planes to drop propaganda leaflets stressing the point that this was a White man's war and that the Japanese had no guarrel with people of color. Next day that unit was withdrawn fearing that soldiers would carry out the instructions on the brochures. On the basis of this observation he conducted various experiments on different age groups about the media influences. His work concluded that third-person effect is important for two reasons; first to investigate the discrepancies in the perception of communication effects on self and others, and second its consequences on attitudes, opinions, and behaviors. Corresponding to this, two general third-person effect hypotheses were formulated: perceptual third-person effect and behavioral third-person effect. According to Perceptual third-person effect people will perceive greater media influence on other people than on themselves. As a reaction people support message restriction that is referred as Behavioral third-person effect.

According to Davison (1983) the concept of reference group is much important in explaining third-person effect. According to Wills (1981) people undergo downward comparison to enhance their subjective well-being by comparing themselves with less fortunate others like ill patients compare themselves with worse conditioned patients (Taylor & Brown, 1994). Behavioral third-person effect hypothesis ignores many mediating processes of perception-behavior relationship (Perloff, 1999) that include the time of exposure (Eveland, Nathanson, Detenber, & Mcleod, 1999), susceptibility and severity of the impact, the distance of perceived others (Chapin, 2000), the content of the message, and what the message is thought to do to its receivers (Gunther & Thorson, 1992).

Optimistic bias is found to be the foremost important underlying mechanism in third-person effect (Brosius & Engel, 1996; Duck &

Mullin, 1995; Duck, Terry, & Hogg, 1995; Gunther, 1991; Gunther & Mundy, 1993). It predict people's perception of others being more vulnerable to harmful influences, less restraint to coercion of media impacts, more susceptible to false information and its misleading effect on opinion, and less able to see through misinformation or disinformation in biased media messages. Individuals undergo optimistic bias to enhance their self-esteem. Third-person effect is driven by a desire to preserve self-esteem therefore people willing acknowledge socially desirable effects of communications that are regarded as socially good for the self (Perloff, 2002).

Another promising mechanism is the psychological distance (Buehler, Griffin, & MacDonald, 1994; Duck & Mullin, 1995; Gibbon & Durkin, 1995) which is believed to be behind both optimistic bias and third-person effect (Chapin, 2000). According to Perloff (1993) it is a complex variable which includes the perceived similarity, familiarity, and identification. Moreover it is the way in which individual target peers when asked to make comparative risk judgments. Psychological distance falls along a continuum from 'my closest group or community' to 'my largest group or community' and reflects the heterogeneity and size of the audience in question.

Previous researchers have found the mixed results regarding the relationship of media exposure to the third-person effect. Rucincki and Salmon (1990) found greater television exposure related to the greater perceived effects on oneself. Innes and Zeitz (1988) concluded that light viewers of television reported the greater differences between the influences of media on themselves than on others, whereas the differences were small for the heavy viewers. According to Salwen (1998) media use act as a moderator and amplifier in third-person effect on self than others of different psychological gap and relation with the perceiver. Scholars believed that third-person effect is a social and cultural construct reflecting values, symbols, history and ideology (Chapin, 2000; Weinstein, 1989), therefore individuals are likely to affect it. According to Chapin (2000) gender based perceptual bias is context specific and thus could be difficult to predict. Males exhibited greater first-person perception than did females (Chapin, 2005). On other hand, some researchers found no gender differences in third person effect perception (Eiser, Eiser, & Pauwels, 1993; Fontaine & Smith, 1995; Rojas & Kruger, 1990; Weinstein, 1987; Whalen, et al., 1994).

Both the cognitive development and collected experiences have the potential to impact risk perception (Weinstein, 1989). Most of the previous researchers only focused the adults; little has been investigated about the age and third-person perception in young adolescents. In adults, first-person perception has been shown to increase with age (Brosius & Engel, 1996; Stretcher, Kreuter, & Kobrin, 1995; Weinstein, 1987). Only few studies (Chapin, 2000) compare children, adolescents, and or adults but found no age differences. Common deficit in third-person effect is the over reliance on college students and or adults samples. Few researchers studied adolescents (Hingson, Strunin, Berlin, & Heeren, 1990; Welkenhuysen, Everkiebooms, Decruyenaere, & Vandenberghe, 1996; Whalen, et al., 1994; Chapin, 2000).

Only few studies focused on differences in educational attainment, with the more educated believing others were more influenced by the media than they were (Brosius & Engel, 1996; Willnat, 1996) as they employ the downward comparisons. Similarly, Klacynski and Fauth (1996) reported that college students exhibited considerable optimistic bias in estimations of the probability that they would experience more desirable and fewer undesirable life events than their peers did. Students with high academic achievement were more biased than their peers with low academic achievement. Chapin (2005) did research on adolescence, and he concluded that students believed themselves to be more knowledgeable and expert in related fields and perceive first-person effect of positive media messages. According to Brosius and Engel (1996) third-person effect will always occur because people's negative predispositions to media influences are so strong that they cannot be overridden by variations in question wording. Several authors believed it to be the main cause of thirdperson effect (Atwood, 1994; Cohen & Davis, 1991; Gunther, 1991; Mutz, 1989; Price & Tewksbury, 1996).

Pakistan like any other country is exposed to variety of channels both from local and foreign media. Today people have common perception that media is degrading family values (Newcomb, 2007), and especially foreign culture is influencing the youth (Rapten, 2001). 75% of Pakistanis believed foreign media to be harmful for their society (Gallup, 2010). Like every society people believe that others are being more influenced by the negative media content than themselves and even youth feel that they are not fools to be affected from negative aspects of media from any culture (Afzal, 2010). Therefore, it is important to see the prevalence of third-person effect in Pakistani culture and for this indigenized instrument is the first requirement.

Main objectives of present study were to formulate the thirdperson effect questionnaire, media exposure list, and develop their psychometric properties. In addition role of gender, age, education, and media exposure was also studied. There is high level of dependence of audiences on mass media information resources in urban societies (Ball-Rokeach & DeFleur, 1976). That is why the present study targeted adolescents and young adults from Rawalpindi and Islamabad.

## Method

#### **Step I: Development of Initial Questionnaire**

On the basis of existing literature of third-person effect and media exposure (Besley, 2008; Brosius & Engel, 1996; Buehler et al., 1994; Chapin, 2000; Davison, 1983; Duck & Mullin, 1995; Eveland et al., 1999; Gerbner et al., 1994; Gibbon & Durkin, 1995; Gunther & Douglas, 2003; Gunther & Thorson, 1992: Perloff, 2002, Rapten, 2001; Reid & Hogg, 2005) focus groups were conducted to explore people's opinion and attitude about local and foreign media effects. Third-person effect questionnaire and media exposure list were generated by keeping in mind the focus group findings as well as following important aspects.

Focus groups. On the basis of existing literature of third-person effect and media impacts, focus group guideline was developed to explore people's perception about the impact of Pakistani, Indian, and Western electronic entertainment media. Adolescents (Cohen, 1999) and young adulthood (Bukhari, 2002) is considered as the crucial age in every ones life for the world interaction and development of the individual's personality and mind set about life. Adults believe that Pakistani as well as foreign media is devaluing our society as they are trying to change thought patterns of youngsters and harming their young minds. On other hand youngsters think they are actually providing direction and fruitful meaning to life. Today people believe that society is in transition phase only because world has become global village because of no boundaries and limits of media. Once something new is accepted by an individual or an institution in the society it cast its profound impact. This changes people's perception, thoughts, attitudes, ideas and behaviors (Rapten, 2001).

In addition other important themes include beautification of religion, and believe of adults that others are affected by foreign media messages and they are not as they believe themselves to be more knowledgeable and have logical thinking. Previous researches provide the support to this notion that generalized negative attitudes (Atwood, 1994; Price & Tewksbury, 1996); knowledge (Conners, 2005; Salwen & Dupagne, 2001); and age (Brosius & Engel, 1996; Chapin, 2000) play important role in third-person effect. Increase in them will increase the third-person effect as well as changes the people behaviors.

#### HAYEE AND KAMAL

**Media type.** The items formulated cater the most effecting media types identified through focus group, that is electronic entertainment media and include music, drama, movie and internet. Only these entertainment media types were included because television plays the most vital role in shaping and changing people's opinion (Rapten, 2001) and entertainment television is the key factor in this regard (Putnam, 1995, 2000). Researchers have concluded that entertainment television viewing (dramas, movies, and entertaining shows) has greater impact on the audience (Shah, McLeod, & Yoon, 2001) than the other television viewing whether it is news, current affairs, talk shows, etc (Scheufele & Shah, 2000; Shah et al., 2001).

**Questionnaire wording.** Moreover while formulating the items; components of Third-person effect were also considered which include social distance (Buehler et al., 1994; Chapin, 2000; Conners, 2005; Duck & Mullin, 1995; Gibbon & Durkin, 1995; Perloff, 1993); perceived knowledge (Brosius & Engel, 1996; Conners, 2005; Hu & Wu, 1998; Willnat, 1996); and media exposure (Conners, 2005; Eveland, et. al., 1999). In addition, Price and Tewksbury (1996) studied the impact of question order and wording on the third-person effect findings, and found non-significant differences in this regard.

Measurement and scoring of Third-person effect. There are not much ways of measuring the third-person effect hypothesis. Survey research is the most common method among the masses other than the experimentation, in which researchers explore the difference in opinion about the media effects on one's own self and among others (Davison, 1983; Huh, Delorme, & Reid., 2004; Reid & Hogg, 2005). Most typical approach is to phrase questions about the effect of mass media on oneself, measured on five point rating scale from strongly disagree to strongly agree. The same questions would reworded to reflect the effect of mass media on others, either defined as varying levels by social distance, or perhaps as a single comparison group that means others in community or society (Conners, 2005). These scores are then compared to identify significant differences between effect on oneself and effect on others (Paxton, 1996; Salwen & Driscoll, 1997; Shah, Faber, Youn, & Rojas, 1997; Tiedge, Silverblatt, Havice, & Rosenfeld, 1991). When social distance are considered, a difference score can be calculated between the reported effect on oneself and the effect on the various groups of others (Conners, 2005), literature support this concept as well.

Questionnaire was developed in Urdu as it is the national language of Pakistani culture and easily understands by masses. For example the question stated that 'Effect of Pakistani music, on your values and moralities'. In present study same questions were phrased for the effect of particular kind of media on self, relatives and friends, and on others in the society. Total 36 items were formed, 12 related to each electronic entertainment media that is Pakistani, Indian, and Western electronic entertainment media. Therefore 4 items each, measuring perception about the effects of music, drama, movies, and internet blog on self, relatives and friends, and others in society.

Scores were computed for each media effect by adding up the responses and dividing it by the total number of items of that subscale for example in case of Pakistani media impact on self, scores on item number 1, 4, 7, and 10 will be added and then divided by the total number of items that is 4. Same will be repeated with items measuring effect on relatives and friends, and others. Therefore the potential score range of third-person effect questionnaire will be from -4 to +4. The items measuring effect for particular electronic entertainment media are as follow:

Pakistani media effect on self (PM-self) = Items (1, 4, 7, 10).

Pakistani media effect on friends and relatives (PM-relatives) = Items (2, 5, 8, 11).

Pakistani media effect on others (PM-others) = Items (3, 6, 9, 12).

Indian media effect on self (IM-self) = Items (13, 16, 19, 22).

Indian media effect on friends and relatives (IM-relatives) = Items (14, 17, 20, 23).

Indian media effect on others (IM-others) = Items (15, 18, 21, 24).

Western media effect on self (WM-self) = Items (25, 28, 31, 34).

Western media effect on friends and relatives (WM-relatives) = Items (26, 29, 32, 35).

Western media effect on others (WM-others) = Items (27, 30, 33, 36).

**Measurement and scoring of media exposure list.** For the development of media exposure list approach of Besley (2008), and Gerbner, Gross, Morgan, and Signorielli (1994) was followed. First question of media exposure list is based on asking about at least three favorite entertainment programs of individual from Pakistani, Indian, and Western electronic entertainment media. Next three items asked about number of days in a week individuals watch particular media. Then 12 items asked about rating the individuals' interaction with particular electronic entertainment media on 6 point rating scale that range from one hour per day, two hours, three hours, four hours, five hours, and more than five hours per day.

Favorite electronic entertainment media programs were only asked to counter check the responses given on different statements.

For example if an individual state that favorite programs from Indian media and on other items he or she rate that they do not confront with any media at all, then this will be the question mark for the credibility of responses and therefore such respondents lists will be dropped out from present research. Scores will be computed by adding the number of hours individual interact with particular media and then multiplying it with number of days watched that media and then divided by the total number of days in a week that is seven to get the as much accurate exposure as possible for that particular media.

#### Step-II: Establishing the Content Validity

In this regard experts from field of psychology, psychometrics, anthropology, and media studies were provided with the copy of thirdperson effect questionnaire and media exposure list along with its content, and asked for their evaluation. Necessary changes were made on basis of their reviews and then again sent for their final views. When no further changes were required then the present final versions were obtained for three media sources, which are Pakistani, Indian, and Western electronic entertainment media.

#### **Step-III: Determining the psychometric properties**

**Participants.** For the establishment of psychometric properties of third-person effect questionnaire and media exposure list, sample of 328 was targeted from Rawalpindi and Islamabad. Purposive sampling technique was followed to target both male (n = 162) and female (n = 166) of age range 15 to 25 which is divided into two groups of adolescents (n = 177) and young adulthood (n = 151). Only those individuals were included who as the minimal criteria can fully understand and write Urdu. There was no restriction for the media use criteria as researcher was interested in getting varied media exposure from non-viewer to high viewers. Sample was divided into six groups on the basis of their education level that are Middle (n = 70), Matric (n = 68), Intermediate (n = 34), Bachelors (n = 109), Masters (n = 43), Mphil (n = 4). On the basis of particular media exposure participants were divided into four categories for that particular media. For Pakistani media exposure sample comprises non-viewers (n = 49), light (n = 267), moderate (n = 10), and heavy viewers (n = 2). For Indian media exposure sample consist of non-viewers (n = 102), light (n = 93), moderate (n = 49), and heavy viewers (n = 84). For Western media sample comprises of non-viewers (n = 169), light (n = 134), moderate (n = 21), and heavy viewers (n = 4).

**Procedure.** Statements were formed related to third-person effect and media exposure list based on electronic entertainment media watched in the country. Then experts related to media, anthropology, psychology, and behavior studies were contacted for their feedback for improvement and any change in questionnaire statements. Final form of questionnaire and media exposure list was then applied on the targeted sample. All the instructions were given in Urdu and questionnaire itself was in Urdu as its being the national language of this country and easily understandable to the people.

#### Results

To establish the psychometric properties, reliabilities, and validity estimates, correlations were computed.

# Reliability of Media Exposure List and Third-Person Effect Questionnaire

Reliability of media exposure list and third-person effect questionnaire was determined by finding the alpha coefficients of the whole questionnaire and its subscales. Alpha reliability coefficient of 15 items of media exposure list was found to be .75, 36 items of the Third-person effect questionnaire was .92, and the reliability of its sub-scales that are Pakistani, Indian, and Western electronic entertainment media were found as .84, .86, and .89, respectively. The high values of alpha coefficients indicate that Media exposure list and Third-person effect questionnaire is internally consistent and highly reliable for measuring the third-person perception regarding these electronic entertainment media.

# Validity of Third-Person Effect Questionnaire and Media Exposure List

**Content validity.** Content validity of Third-person effect questionnaire and Media exposure list was developed by contacting the subject matter experts (SMEs) to review the items of questionnaire. In the present study experts from media studies, psychology, anthropology, psychometrics and sociology were contacted. They were given the copy of questionnaire as well as the comprehensive, and precise content related to the literature of Third-person effect perception. They were asked to indicate whether or not

the items fulfill the criteria of present study and intended to measure for what they are designed for. In short they were asked to judge its appearance, relevance and representativeness. As the questionnaire has already gone through the experts' evaluation during the development phase, all the SMEs agreed that this instrument is valid and measure people's perception about the specific media effect on themselves and others mentioned in the study.

**Construct Validity.** Item-total correlation of third-person effect questionnaire was computed to analyze each item in order to check whether all items were significantly measuring the third-person effect perception. For this purpose all items of each subscale were individually correlated with the total score of that corresponding subscale.

#### Table 1

Item-Total Correlation of Third-Person Effect Questionnaire of Pakistani, Indian, and Western media related to self, friends and relatives, and others in society (N=328)

Pakistani n	nedia-	Pakistani m	edia-	Pakistani n	Pakistani media-		
Self		Friends and	<b>Relatives</b>	<b>Others</b>			
Item no.	r	Item no.	r	Item no.	r		
1	.72**	2	.78**	3	.68**		
4	.75**	5	.78**	6	.74**		
7	.77**	8	.67**	9	.65**		
10	.75**	11	.72**	12	.71**		
Indian med	lia-Self	Indian medi	a-Friends	Indian media-			
		and Relative	es	Others			
Item no.	r	Item no.	r	Item no.	r		
13	.82**	14	.84**	15	.76**		
16	.85**	17	.81**	18	.77**		
19	.69**	20	.79**	21	.71**		
22	.75**	23	.78**	24	.68**		
Western m	edia-Self	Western me	dia-	Western media-			
		Friends and	<b>Relatives</b>	Others			
Item no.	r	Item no.	r	Item no.	r		
25	.82**	26	.85**	27	.80**		
28	.84**	29	.86**	30	.83**		
31	.84**	32	.84**	33	.81**		
34	.80**	35	.82**	36	.78**		

Table 1 shows the Item total correlation for 36 items of Third-Person Effect Questionnaire. Four items of each subscale of Pakistani, Indian, and Western Third-Person perception related to self, relatives and friends, and others in society. Results show that all items have positive significant correlation with the total score and have contributed to the total score of the scale.

#### **Differences in Third-Person Effect Perception**

One way repeated measure ANOVA was used to see the differences of Pakistani, Indian, and Western electronic media effects on self, relatives and friends, and others. In addition Post-Hoc analysis using Bonferroni was also done to see the detailed differences among these social distances.

## Table 2

One way repeated measure ANOVA and follow up multiple comparison showing Mean, Standard deviation, and F-values of Pakistani, Indian, and Western electronic media effect on self, relatives, and friends, and others in society (N = 328)

	S	elf	Re	latives	C	Others						
	and Friends								95% CI			
Variables	М	SD	М	SD	М	SD	F	i-j	Mean D.(i-j)	SE	LL	UL
Pakistani	2.46	0.98	3.04	0.81	2.63	0.90	73.81***	Self < R & F	-0.58*	0.06	-0.73	-0.44
Media								Self < Others	- 0.17*	0.04	-0.27	-0.07
								R & $F > Others$	0.41*	0.04	0.30	0.52
Indian	2.47	1.08	2.74	1.04	3.43	0.84	158.11***	Self < R & F	-0.27*	0.05	-0.38	-0.15
Media								Self < Others	-0.96*	0.06	-1.11	-0.80
								R & $F \le O$ thers	-0.69*	0.05	-0.82	-0.56
Western	2.06	1.11	2.18	1.03	2.95	1.03	131.74***	Self < Others	-0.89*	0.07	-1.06	-0.72
Media								R & F < Others	-0.77*	0.05	-0.91	-0.64
<i>Note.</i> R & F = Relatives and Friends; $*p \le 0.05$ , $**p \le 0.01$ , $***p \le 0.001$												

The table 2 shows the differences in perception about effect on self, relatives and friends, and others in society in context of Pakistani, Indian, and Western electronic entertainment media. Results show that for Pakistani media effect, Maucly's test has violated the assumption of Sphericity  $\chi^2$  (2) = 94.81, p < 0.001, therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of Sphericity ( $\epsilon = .80$ ). The results show that there was significant difference in perception about media effect when reporting about self, relatives and friends, and others in society F (1.59, 94.81) = 73.81, p < 0.001. Post-Hoc test using Bonferroni correction revealed that perception of Pakistani media effect on self is less than relatives and friends, and less than others, and relatives and friends is greater than others.

For Indian media effect, results show that Maucly's test has violated the assumption of Sphericity has been violated  $\chi^2$  (2) = 54.62, p < 0.001, therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of Sphericity ( $\varepsilon = .87$ ). The results

show that there was significant difference in perception about media effect when reporting about self, relatives and friends, and others in society F (1.73, 54.62) = 158.11, p < 0.001. Post-Hoc test using Bonferroni correction revealed that perception of Pakistani media effect on self is less than others, and relatives and friends is less than others.

For Western media effect, Maucly's test indicated that the assumption of Sphericity has been violated  $\chi^2$  (2) = 53.26, *p*<0.001, therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of Sphericity ( $\epsilon$  = .87). The results show that there was significant difference in perception about media effect when reporting about self, relatives and friends, and others in society *F* (1.74, 53.26) = 131.74, *p* < 0.001.

# Demographic differences on Media Exposure List and Third-Person Effect Questionnaire

Demographic differences in third-person effect were determined by applying the *t*-tests and ANOVA on groups of gender, age, and education. Age was divided into two groups of adolescents and young adults. *Cohen's d* was also calculated to see the effect size of significant mean differences. Education was divided into six groups i.e., middle, matriculation, intermediate, bachelors, masters, and M.Phil.

#### Table 3

Mean, Standard deviation, and t-values on Media Exposure List, and Third-Person Effect Questionnaire and its subscales between male and female (N = 328)

	Male		Female							
_	( <i>n</i> =162)		( <i>n</i> =166)		95% CI					
Scale	М	SD	М	SD	t(326)	p	LL	UL (	Cohen's d	
MEL-P	0.47	0.61	0.66	0.72	2.60	.010	-0.33	-0.04	0.28	
MEL-I	3.35	5.08	3.25	4.66	0.19	.840	-0.95	1.16	0.02	
MEL-W	0.51	0.91	0.44	0.44	0.74	.450	-0.12	0.28	0.09	
Pak-TPE	0.54	1.07	0.62	1.11	0.71	.470	-0.32	0.15	0.07	
Ind-TPE	0.84	1.15	1.06	1.19	1.73	.080	-0.47	0.03	0.18	
Wes- TPE	0.67	1.21	1.10	1.29	3.10	.000	-0.70	-0.16	0.34	

*Note.* MEL-P= Media exposure list for Pakistani media, MEL-I= Media exposure list for Indian media, MEL-W= Media exposure list for Western media; Pak-TPE= Pakistani third-person effect, Ind-TPE= Indian third-person effect, Wes-TPE= Western third-person effect; CI= Confidence Interval; LL= Lower Limit; UL= Upper Limit.

Table 3 shows that there are slight differences in men and women but they are only significant for Pakistani media exposure, and Western third-person effect. Women score higher than men.

# Table 4

Mean, Standard deviation, and t-values on Media Exposure List, and Third-person effect questionnaire between adolescents and young adults (N = 328)

	Adolescent $(n = 177)$		Young	3					
			Adults $(n = 151)$				95% C	ĽI	
Scale	М	SD	М	SD	t(326)	р	LL	UL	Cohen's d
MEL-P	0.51	0.64	0.65	0.72	-1.90	.058	-0.28	0.07	-0.21
MEL-I	4.37	5.69	2.05	3.28	4.43	.000	1.29	3.36	0.49
MEL-W	0.46	0.87	0.47	1.04	-0.37	.71	-0.24	0.17	0.04
Pak-TPE	0.33	0.96	0.87	1.15	4.70	.000	-0.78	-0.32	0.52
Ind-TPE	0.61	1.07	1.36	1.16	6.07	.000	-0.99	-0.51	0.67
Wes-TPE	0.53	1.19	1.31	1.23	5.79	.000	-1.04	-0.51	0.64

*Note.* MEL-P= Media exposure list for Pakistani media, MEL-I= Media exposure list for Indian media, MEL-W= Media exposure list for Western media; Pak-TPE= Pakistani third-person effect, Ind-TPE= Indian third-person effect, Wes-TPE= Western third-person effect; CI= Confidence Interval; LL= Lower Limit; UL= Upper Limit.  $*p \le 0.05$ ,  $**p \le 0.01$ 

Table 4 shows mean differences of adolescents and young adults among media exposure and third-person effect perception of Pakistani, Indian and Western electronic entertainment media. Results show that adolescents are more exposed to Indian media; third-person effect related to Pakistani, Indian, and Western media is high among young adults, which means young adults perceive greater effect of these Medias on others than on themselves.

Table 5 shows significant mean differences on six groups of education on media exposure and third-person effect. Average educated individuals are more exposed to Indian media than bachelor and master educated individuals. Results show that Pakistani thirdperson effect is less among middle and matriculation level education than the bachelor level ones. Indian third-person effect is less among middle and matriculation level education than masters and M.Phil ones. Whereas, on Western third-person effect, significant differences were found among all levels of education and it shows that the high level education individuals perceive greater third-person effect than their individuals of preceding class. HAYEE AND KAMAL

66

MEDIA EXPOSURE AND THIRD-PERSON EFFECT

67

#### HAYEE AND KAMAL

#### Media Exposure differences on Third-Person Effect

For exploration of media exposure differences, respondents were divided into four groups on the basis of their media exposure (Gerbner et al., 1994) that are non-viewer, light, moderate, and heavy viewer. Those who do not confront with media at all were placed in non viewer category, those watching less than two hours as light viewer, more than two and less than four as moderate viewer, and more than four hour daily as heavy viewers. After that ANOVA was applied to check the differences and for more in depth information of group differences post-hoc using Bonferroni was applied.

Results show that there are nonsignificant mean differences among non, light, moderate, and heavy viewers on Pakistani, Indian, and Western Third-person effect for Pakistani media exposure. The Table 6 shows the mean differences, standard deviation and *F* value on four levels of Indian media exposure as well. Results show that there are significant mean differences among non-viewers, light, moderate, and heavy viewers on Pakistani, Indian, and Western thirdperson effect. Non-viewers view greater Pakistani, Indian, and Western third-person effect. Moreover results show that there are significant mean differences among non-viewers, light, moderate, and heavy viewers on Western third-person effect. Non-viewers view greater Western third-person effect.

#### Discussion

The main aim of present study was to develop the third-person effect questionnaire and media exposure list. In addition, to see the perception of media effect among people watching Pakistani, Indian, and Western electronic entertainment media as well as role of various demographics in this regard. Alpha reliabilities and item-total correlation of both scales were found satisfactory. Moreover, content and construct validity was determined by taking the subject matter experts' view and through item-total correlation as shown in Table 1. All items of third-person effect questionnaire were positive show the positive relation with the total score of the instrument. It shows that the instrument is internally consistent and is a valid, reliable measure for exploring the Third-person effect.

Results show that perception of Pakistani, Indian, and Western media effect on self is less than relatives and friends, and less than others, and relatives and friends, is greater than others. People when

68

evaluate themselves they try to increase their self-esteem by positive evaluation of their self and negative evaluation of others. In thirdperson effect context individuals rate themselves as not at all are being affected by local as well as foreign electronic media. People confront with entertainment media to quench their desire for self-enhancement (Besley, 2008) that is why they do not think to be affected by negative media aspects. When participants undergo downward comparison with people related to them like friends and family they positively evaluate them. As they believe them to be part of their own self. But people in comparison to friends and relatives are negatively evaluated as we do not accept our shortcomings and perceive others to be at elevated risk while overestimating our skills to divulge any threats to self-esteem (Chapin, 2000; Weinstein, 1987).

One of the most important underlying mechanisms in thirdperson effect is psychological distance. Results show that respondents score for media effect increases as their psychological distance increase, which in present study case is self, relatives and friends, and others. Mostly psychological distance is represented as my closest group to my largest group. As psychological distance increases the amount of perceptual bias increases which lead to the increase of third-person effect, previous research support this notion as well (Chapin, 2000). People mostly show discrepancy in rating others and their own self in context of being influenced by the media (Price & Tewksbury, 1996). According to fundamental attribution error of attribution theory, respondents underestimate others' awareness of situational factors and overestimate others' susceptibility to media content (Youn, Faber, & Shah, 2000).

There are slight differences in male and female on third-person effect but these differences are only significant for Western electronic entertainment media. Women score high than men. According to Chapin (2005) men exhibit greater first-person perception than did females, so it means females are high on third-person perception. Gender based perceptual bias is context specific and both male and female are highly optimistic about them and therefore it is difficult to predict. Previous researchers have supported this notion (Chapin, 2000; Fontaine & Smith, 1995; Whalen et al, 1994) that is why no gender differences found in third-person effect of Pakistani, and Indian electronic entertainment media.

Previous literature show that third-person effect increases with the age. Results of present study show that third-person effect related to Pakistani, Indian, and Western media is high among young adults (Quadrel, Fischoff, & Daivis, 1993; Stretcher et al., 1995). That means young adults perceive greater effect of these Medias on others than on themselves. Young adults prefer television programs in which characters are close to their age group (Harwood, 1999a, 1999b) that is why teenagers prefer more exciting, adventurous and fun related programs like watching vampire movies, and the most famous series FRIENDS. Every person seek different things in their choice of programs like some seek sensation (Krcmar & Greene, 1999), and some seek variety (Jeffres, Atkin, Neuendorf, & Lin, 2004), this could be one cause of different influences.

Brosius and Engel (1996) concluded that third-person effect is stronger among people of higher age as their optimistic bias increases with the increase in age (Stretcher et al., 1995). Third-person effect is high among young adults than adolescents (Quadrel et al., 1993). More educated people usually undergo the downward comparison with less educated ones (Chapin, 2000, 2005). It is because of the reason that every educated person whether or not they are highly educated compare themselves with the less successful or less educated peers. It does not matter in whatever class they presently are; they will compare themselves with academically less successful peers.

According to present study, Pakistani third-person effect is less among people of middle and matriculation level education than the bachelor level ones. Indian third-person effect is less among those having middle and matriculation level education than masters and M.Phil ones. Whereas Western third-person effect was found among all levels of education and it shows that the high level education individuals perceive greater third-person effect than the individuals of preceding class. Previous researchers have found the same that more educated perceive others to be more affected than themselves (Brosius & Engel, 1996; Chapin, 2005; Willnat, 1996). According to Klacynski and Fauth (1996) more educated do the downward comparison with less educated peers, that is why they perceive good things happening to them and bad or wrong things to others.

According to present study there are nonsignificant mean differences among Pakistani media viewers on Pakistani, Indian, and Western Third-person effect. Significant mean differences were found among Indian media viewers among non-viewers, light, moderate, and heavy viewers on Pakistani, Indian, and Western third-person effect. Non-viewers view greater Pakistani, Indian, and Western third-person effect. For Western media exposure, non-viewers report greater thirdperson effect. Rucincki and Salmon (1990) concluded that greater television exposure results in greater perceived effects on oneself and positive perceptions towards that media thus lessen the third-person effect and increases the first-person effect or effect on self. Innes and Zeitz (1988) also concluded the same that third-person effect is very small among heavy viewers. An important aspect in this regard is the negative predispositions related to certain media and it is the most vital cause behind third-person effect (Atwood, 1994; Cohen & Davis, 1991; Gunther, 1991; Price & Tewksbury, 1996). Although we watch Indian and Western media but still in our society people have negative attitudes about their culture (FGDs finding) and believed them to be destructive and damaging to our society (Gallup, 2010). But when confrontation with certain media increases it change perception of people on the basis of their experience and not because of their previous negative predispositions.

# **Limitations and Suggestions**

Despite the usefulness of present study in Pakistan, few limitations have also been observed. All important demographic variables were not included in the present study as people were reluctant to tell their monthly income. In current scenario it is very important in determining the media impact as it also shape and determines the media preferences of people of different socio economic class. Therefore future researchers should also consider that.

Another limitation of the present study was its only focus on people from urban areas which limits the external validity. Future researchers should also include rural areas as they also have the full access to these electronic entertainment medias. In addition, future researchers should also include respondents of other age as they can also be affected by these media and their perception about Indian and Western media effect is also important in shaping the society.

#### **Conclusion and Implications**

Aforementioned discussion reveled that Pakistanis do believe that Indian and Western media is affecting their friends, relatives, and others in society but they themselves are intelligent enough to deflate negative and harmful effects of media messages. Moreover, age, education and media exposure level was found to be the important demographics in this regard. Present study has provided fruitful basis for future researches in this area as it has highlighted the impact of foreign media and how people perceive its effects. It can also help the parents as well as media regulatory authorities to develop their censor ship policy about what to broadcast as it is effecting our youth who are the main pillar of society and future holders of any nation. Moreover it has also opened the new aspect to study the media impact on those who negate that local and foreign media effect on them.

## References

- Afzal, A. (2010). Negative effects of foreign media: The Pakistani spectator, a candid blog. Retrieved from http://www.pkhope.com/negitive-effectsof-foreign-media.
- Atwood, L. E. (1994). Illusions of media power: The third-person effect. Journalism Quarterly, 71(2), 269-281.
- Ball-Rokeach, S. J., & DeFleur, M. L. (1976). A dependency model of massmedia effects, *Communication Research*, 3(1), 3-22.
- Besley, J. C. (2008). Media use and human values. *J&MC Quarterly*, 85(2), 311-330. doi: 10.1177/107769900808500206.
- Brosius, H. D., & Engel, D. (1996). The causes of third-person effects: Unrealistic optimism, impersonal impact, or generalized negative attitudes towards media influence. *International Journal of Public Opinion Research*, 8(2), 142-162. Retrieved from http://ijpor. oxfordjournals.org/content/8/2/142.full.pdf
- Buehler, R., Griffin, D., & MacDonald, H. (1994). The role of motivated reasoning in optimistic time predictions. *Personality and Social Psychology Bulletin*, 23, 238-247. Retrieved from http://psp.sagepub.com/ content/23/3/238.full.pdf
- Bukhari, B. (2002). The effect of television programs on youth (Unpublished Master's Thesis). Department of Mass Communication, University of the Punjab, Lahore, Pakistan.
- Chapin, J. (2005). I want my FPP: Reversing third-person perception for the MTV generation. *The Social Sciences Journal*, 42, 453-457. doi:10.1016/ j.soscij.2005.06.004
- Chapin, J. R. (2000). Third-person perception and optimistic bias among urban minority at risk youth. *Communication Research*, 27(1), 51-81. Retrieved from http://crx.sagepub.com/content/27/1/51.full.pdf
- Cohen, J. (1999). Favorite characters of teenage viewers of Israeli serials. *Journal of Broadcasting and Electronic Media*, 43, 327-345. doi: 10.108 0/08838159909364495.
- Cohen, J., & Davis, R. G. (1991). Third-person effects and the differential impact in negative political advertising. *Journalism Quarterly*, 68(4), 680-88. doi: 10.1177/107769909106800409.
- Conners, J. (2005). Understanding the Third-person effect, Communication Research Trends, 24(2), 1-22. Retrieved from http://cscc.scu.edu/trends/ v24/v24\_2.pdf

- Davison, W. P. (1983). The third-person effect in communication. *Public Opinion Quarterly*, 47(1), 1-15. Retrieved from http://poq.oxfordjournals.org/content/47/1/1.full.pdf
- Desai, M. K. (2005). Intra and Inter-Cultural diversities in the era of globalization: Transnational television in India. *Global Media Journal*, 4(7). Retrieved from http://lass.calumet.purdue.edu/cca/gmj/fa05/gmjfa05-desai.htm
- Duck, J. M., & Mullin, B. A. (1995). The perceived impact of mass media: Reconsidering the third-person effect. *European Journal of Social Psychology*, 25(1), 77-93. doi: 10.1002/ejsp.2420250107
- Duck, J., & Terry, D., Hogg, M. (1995). The perceived influences of AIDS advertising: Third-person effects in the context of positive media content. *Basic and Applied Social Psychology*, 17(3), 305-325. doi: 10.1207/ s15324834basp1703 2
- Eiser, J., Eiser, C., & Pauwels, P. (1993). Skin cancer: Assessing perceived risk and behavioral attitudes. *Psychology and Health*, 8(6), 393-404. doi: 10.1080/08870449308400444
- Eveland, W. P., Nathanson, A. I., Detenber, B. H., & McLeod, D. M. (1999). Rethinking the social distance corollary: Perceived likelihood of exposure and the third-person perception. *Communication Research*, 26(3), 275-302. Retrieved from http://crx.sagepub.com/content/26/3/27.full.pdf
- Fatima, N. (2000). Effects of satellite channel (Zee TV) on Lahore middle class (Unpublished Master's Thesis). Department of Sociology, University of the Punjab, Lahore. Pakistan.
- Fontaine, K., & Smith, S. (1995). Optimistic bias in cancer risk perception: A cross national study. *Psychological Reports*, 77(1), 143-146. doi: 10.2466/pr0.1995.77.1.143
- Gallup. (2010). Retrieved from http://galluppakistan.blogspot.com/2010/05/ effect-of-foreign-media-on-society.html
- Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1994). Growing up with television: The cultivation perspective. In: J. Bryant & D. Zillman (Eds.), *Media effects: Advances in theory and research* (pp. 17-41). Hillsdale, NJ: Erlbaum.
- Gibbon, P., & Durkin, D. (1995). The third-person effect: Social distance and perceived media bias. *European Journal of Social Psychology*, 25(5), 597-602. doi: 10.1002/ejsp.2420250509
- Gitlin, T. (2001). Media Unlimited: How the Torrent of images and sounds overwhelms our lives. New York: Metropolitan Books.
- Gunther, A. C. (1991). What we think others think: Cause and consequence in the third-person effect. *Communication Research*, *18*(3), 355-372. Retrieved from http://crx.sagepub.com/content/18/3/355.full.pdf
- Gunther, A. C., & Douglas, S. J. (2003). Effects of mass media on perceived public opinion. *Journal of Communication*, 53(2), 199-215.
- Gunther, A. C., & Mundy, P. (1993). Biased optimism and the third-person effect. *Journalism Quarterly*, 70(1), 58-67.

- Gunther, A. C., & Thorson, E. (1992). Perceived persuasive effects of product commercials and public service announcements: Third-person effects in new domains. *Communication Research*, 19, 574-596. Retrieved from http://crx.sagepub.com/content/19/5/574
- Harwood, J. (1999a). Age identification, social identity gratifications, and television viewing. *Journal of Broadcasting and Electronic Media*, 43, 123-136.
- Harwood, J. (1999b). Age identity and television viewing preferences. Communication Reports, 12, 85-90. Retrieved from http://www.tand fonline.com/doi/abs/10.1080/08934219909367713#preview
- Hingson, R., Strunin, L., Berlin, B., & Heeren, T. (1990). Beliefs about AIDS, use of alcohol and drugs, and unprotected sex among Massachusetts adolescents. *American Journal of Public Health*, 80(3), 295-299. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC 1404679/
- Hu, Y. W., & Wu, Y. C. (1998). The 'critics', 'believers', and 'outsiders' of election polls: Comparing characteristics of the third-person effect, firstperson effect and consensus effect. Paper presented at the annual meeting of the Association for Education in Journalism and Mass Communication, Baltimore, Md.
- Huh, J., Delorme, D. E., & Reid, L. N. (2004). The third-person effect and its influence on behavioral outcomes in a product advertising context: The case of direct-to consumer prescription drug advertising. *Communication Research*, 31(5), 568-589. Retrieved from http://crx.sagepub.com/ content/31/5/568.full.pdf
- Innes, J. M., & Zeitz, H. (1988). The public's view of the impact of the mass media: A test of the third person effect. *European Journal of Social Psychology*, 18(5), 457-463. doi: 10.1002/ejsp.242018050
- Jeffres, L. W., Atkin, D. J., Neuendorf, K. A., & Lin, C. A. (2004). The influence of expanding media menus on audience content selection. *Telematics and Informatics*, 21, 317-334. doi: 10.1016/j.tele.2004.02.002
- Klacynski, P., & Fauth, J. (1996). Intellectual ability, rationality, and intuitiveness as predictors of warranted and unwarranted optimism for future life events. *Journal of Youth and Adolescence*, 25(6), 755-819. Retrieved from http://www.eric.ed.gov/ERICWebPortal/search/detailmin i.jsp?\_fpb=true&\_&ERICExtSearch\_SearchValue\_0=EJ538566&ERICE xtSearch\_SearchType\_0=no&accno=EJ538566
- Krcmar, M., & Greene, K. (1999). Predicting exposure to and uses of television violence. *Journal of Communication*, 49(3), 24-45. Retrieved from http://www.eric.ed.gov/ERICWebPortal/search/detailmini.jsp?\_nfp b=true&\_&ERICExtSearch\_SearchValue\_0=EJ590949&ERICExtSearch SearchType 0=no&accno=EJ590949
- Mutz, D. C. (1989). The influence of perceptions of media influence: thirdperson effects and the public expression of opinions. *International*

*Journal of Public Opinion Research, 1*(1), 3-23. Retrieved from http://ijpor.oxfordjournals.org/content/1/1/3.full.pdf

Newcomb, H. (2007). Television: The critical view. New York: Oxford.

- Perloff, R. M. (1993). Third-person effect research 1983-1992: A review and synthesis. *International Journal of Public Opinion Research*, 5(2), 167-184. Retrieved from http://ijpor.oxfordjournals.org/content/5/2/167.full. pdf
- Perloff, R. M. (1999). The third-person effect: A critical review and synthesis. *Media Psychology*, 1, 353-378. doi: 10.1207/s1532785xmep 0104\_4
- Perloff, R. M. (2002). The third-person effect. In J. Bryant & D. Zillmann (Eds.), *Advances in theory and research* (pp. 489-506). Mahwah, NJ: Erlbaum.
- Price, V., & Tewksbury, D. (1996). Measuring the third-person effect of news: The impact of question order, contrast, and knowledge. *International Journal of Public Opinion Research*, 8(2), 120-141. Retrieved from http://ijpor.oxfordjournals.org/content/8/2/120.full.pdf
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. Journal of Democracy, 6(1), 65-78. Retrieved from http://www. saddleback.edu/faculty/agordon/documents/Bowling\_Alone.pdf
- Putnam, R. D. (2000). Bowling alone: The collapse and revival of American community. New York: Simon and Schuster
- Quadrel, M., Fischoff, B., & Daivis, W. (1993). Adolescents in vulnerability. *American Psychologist*, 48(2), 102-116. Retrieved from http://www.ncbi. nlm.nih.gov/pubmed/8442566
- Rapten, P. (2001). Mass media: its consumption and impact on residents of Thimphu and rural areas. *Journal of Bhutan Studies*, 3(1), 172-198. Retrieved from http://himalaya.socanth.cam.ac.uk/collections/journals/ jbs/pdf/JBS 03 01 06.pdf
- Reid, S. A., & Hogg, M. A. (2005). A self-categorization explanation for the third-person effect. *Human Communication Research*, 31(1), 129-161. doi: 10.1111/j.1468-2958.2005.tb00867.
- Rojas, B., & Kruger, T. (1990). HIV: Late adolescents' knowledge and its influence on sexual behavior. *Adolescence*, 25, 399-448.
- Rucincki, D., & Salmon, C. T. (1990). The 'other' as the vulnerable voter: A study of the third-person effect in the 1988 U.S. presidential campaign. *International Journal of Public Opinion Research*, 2(4), 345-368. Retrieved from http://ijpor.oxfordjournals.org/content/2/4/345.full.pdf
- Salwen, M. B. (1998). Perceptions of media influence and support for censorship: The third-person effect in the 1996 presidential election. *Communication Research*, 25, 259-285. Retrieved from http://crx.sage pub.com/content/25/3/259.full.pdf

- Salwen, M. B., & Driscoll, P. D. (1997). Consequences of third-person perception in support of press restrictions in the O. J. Simpson trial. *Journal of Communication*, 47(2), 60-78. doi: 10.1111/j.1460-2466.1997. tb02706.x
- Salwen, M. B., & Dupagne, M. (2001). Third-person perception of television violence: The role of self-perceived knowledge. *Media Psychology*, 3(3), 211-236.
- Scheufele, D. A., & Shah, D. V. (2000). Personality strength and social capital: The role of dispositional and informational variables in the production of civic participation. *Communication Research*, 27(2), 107-131.
- Shah, D. V., Faber. R. J., Youn, S., & Rojas, H. (1997). Censorship of political advertising: A third-person effect. Paper presented to the Advertising Division, Association for Education in Journalism and Mass Communication, Chicago, IL.
- Shah, D. V., J. M. McLeod., & S. Yoon (2001). Communication, Context, and Community: An Exploration of Print, Broadcast and Internet Influences. *Communication Research*, 28(4), 464-506. Retrieved from http://users.journalism.wisc.edu/~dshah/cr2001.pdf
- Stretcher, V., Kreuter, M., & Kobrin, S. (1995). Do cigarette smokers have unrealistic perceptions of their heart attack, cancer and stroke risks? *Journal of Behavioral Medicine*, 18(1), 45-54. doi: 10.1007/BF01857704
- Taylor, S., & Brown, J. (1994). Positive Illusions and well-being revisited: Separating fact from fiction. *Psychological Bulletin*, 8, 21-27. Retrieved from http://web.psych.utoronto.ca/psy430/Taylor&Brown\_Positive%20 Illusions%20and%20Well-Being%20Revisited.pdf
- Tiedge, J. T., Silverblatt, A., Havice, M. J., & Rosenfeld, R. (1991). Discrepancy between perceived first-person and perceived third-person mass media effects. *Journalism Quarterly*, 68(1), 141-154.
- Weinstein, N. (1987). Unrealistic optimism about susceptibility to health problems: Conclusions from a community-wide sample. *Journal of Behavioral Medicine*, 10(5), 481-500. doi: 10.1007/BF00846146
- Weinstein, N. (1989). Perceptions of personal susceptibility to harm. In V. Mays, G. Albee, & F. Schneider (Eds.), *Psychological Approaches to the Primary Prevention of Acquired Immune deficiency Syndrome* (pp. 142-167). Newbury Park, CA: Sage.
- Welkenhuysen, M., Everkiebooms, G., Decruyenaere, M., & Vandenberghe, H. (1996). Unrealistic optimism and genetic risk. *Journal of Psychology* and Health, 11(4), 479-492. doi: 10.1080/08870449608401984
- Whalen, C., Henker, B., O'Neil, R., Hollingshead, J., Holman, A., & Moore, B. (1994). Preadolescents' perceptions of AIDS before and after Earvin Magic Johnson's announcement. *Journal of Pediatric Psychology*, 19(1), 3-17. doi: 10.1093/jpepsy/19.1.3

- Willnat, L. (1996). Mass media and political outspokenness in Hong Kong: Linking the third-person effect and the spiral of silence. *International Journal of Public Opinion Research*, 8(2), 187-212. doi: 10.1093/ijpor/ 8.2.187
- Wills, T. (1981). Downward comparison principles in social psychology. *Psychological Bulletin*, 90(2), 245-271. doi: 10.1037/0033-2909.90.2.245
- Youn, S., Faber, R. J., & Shah, D. (2000). Restricting gambling advertising and the third-person effect. *Psychology and Marketing*, 17(7), 633-649. Retrieved from http://users.journalism.wisc.edu/~dshah/PAM2000.pdf

Received October 18, 2012 Revision received May 21, 2013