

An investigation into the advantage of non-verbal measurement of emotion in television advertisements
across South African generations

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DECLARATION

I hereby declare that this dissertation, titled **An investigation into the advantage of non-verbal measurement of emotion in television advertisements across South African generations**, is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

J Poalses

Date

LETTER OF CONSENT

We, the supervisor and co-supervisor, hereby give consent that Jacolize Poalses may submit the following manuscript for purposes of a dissertation (article format):

An investigation into the advantage of non-verbal measurement of emotion in television advertisements across South African generations.

It may also be submitted to *International Journal for Consumer Studies* for publication.

Dr. WA Nienaber

Supervisor

Prof JPR Joubert

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SUMMARY

Title: An investigation into the advantage of non-verbal measurement of emotion in television advertisements across South African generations.

Key Terms: Emotive reaction, Baby Boomers, Xers, Millennials, AdSAM Self-Assessment Manikin (AdSAM), Product Emotion Measurement (PrEmo), List of Emotions (LoE).

Emotions have become an important research topic in both the behavioural sciences and advertising. Nowadays, emotions are acknowledged as an important mediator of cognitive and behavioural consumer responses to advertising. Consequently, researchers in marketing and advertising have emphasised the need to consider emotions as a crucial factor in the advertising process. To test the viability of this assumption, an empirical research study was conducted at the Behavioural and Communication Research Division of the Bureau of Market Research (BMR). More specifically, the research study used a three-dimensional approach to measure generational differences in consumers' emotional response to television advertisements. To capture immediate, positive and negative emotive responses towards a pre-selected test advertisement, the study used three research instruments, namely AdSAM, PrEmo (both non-verbal measurement instruments) and the List of Emotions (LoE) (verbal measurement instrument). Gauteng consumers ($n = 102$) who view television participated in the study, which revealed that ageing appears to be a significant antecedent in measuring emotive response to advertisements. In this regard, the study showed, among others, that Baby Boomers (older generation) were inclined to react to the advertisement in a different manner than younger generations (Millennials and Xers). For example, Baby Boomers found it easier to acknowledge higher levels of engagement with the test advertisement, as was noted in the high Arousal ratings. No significant differences were, however, evident between generations on the Pleasure dimension as all generations seem to have felt positively towards the test advertisement. Furthermore, although all generations felt positive emotive reactions when viewing the test advertisement, Millennials feel more Comfortable, whereas the Xers and Baby Boomers feel stronger Warm emotions. Overall, older people tend to purposefully seek to experience positive emotions and avoid or limit negative emotions. In summary, both non-verbal and verbal measures reflected generational differences that seem to be more apparent when analysing negative emotions.

The study also revealed that the AdSAM instrument appears to be advantageous when measuring emotions in television advertising due to its non-verbal properties. However, greater generational differences seem to be evident when emotions are measured with a verbal rather than non-verbal instrument.

Against this background, certain recommendations for future research were made, amongst others, the need for further research on emotive reaction to television advertisements and the need for innovative research models that are customised for the diverse South African consumer market.

OPSOMMING

Titel: 'n Ondersoek na die voordeel van nie-verbale metings van emosie op televisie-advertensies oor Suid Afrikaanse generasies.

Sleutelterme: Emotiewe reaksie, Baba Boomers, Xers, Millennials, Adsam Self-Assessment Manikin (AdSAM), Product Emotion Measurement (PrEmo), Lys van Emosies (LvE).

Emosies het 'n belangrike navorsingsonderwerp geraak gedurende die afgelope jare, beide in die gedragswetenskappe en bemarking. Deesdae word emosies as 'n belangrike tussenganger vir verbruikers se kognitiewe en gedragsreaksies erken in die advertensiewese. Dus begin navorsers in bemarking en die advertensiewese die behoefte daaraan beklemtoon om emosies te ag as 'n essensiële faktor tydens die adverteringsproses. As sulks het die Gedrags- en Kommunikasie-navorsingsafdeling van die Buro vir Marknavorsing (BMN) 'n empiriese navorsingstudie uitgevoer ten einde die waarde van hierdie aanname te ondersoek. In die navorsingstudie is 'n drie-dimensionale benadering gevolg om generasieverskille in verbruikers se emosionele reaksie op televisie-advertensies te ondersoek. In die studie is drie navorsingsinstrumente gebruik, naamlik AdSAM, PrEmo (beide nie-verbale meetinstrumente) en die Lys van Emosies (LvE) (verbale meetinstrument), met die doel om onmiddellike, positiewe en negatiewe emosionele reaksies op 'n voorafgeselekteerde toetsadvertensie te bepaal. Televisieverbruikers ($n = 102$) uit Gauteng het deelgeneem aan die studie, wat bevind het dat veroudering blyk om 'n insiggewende rolspeler te wees tydens die meting van emosionele reaksie op advertensies. In hierdie verband het die studie, onder andere, bevind dat Baba Boomers (ouer generasie) daartoe geneigd is om verskillend teenoor die advertensie te reageer as die jonger generasies (Millennials en Xers). Baba Boomers het dit byvoorbeeld makliker gevind om hoër vlakke van aangetrokkenheid tot die toetsadvertensie te erken, soos wat deur die hoë Opwekking-puntetoekenning getoon is. Geen insiggewende verskille is aangedui tussen generasies op die Plesier-dimensie nie, siende dat al die generasies positief gevoel het teenoor die toetsadvertensie. Dit blyk verder dat, hoewel alle generasies positiewe emosionele reaksies gevoel het tydens die besigtiging van die toetsadvertensie, Millennials meer Gemaklik gevoel het, terwyl die Xers en Baba Boomers sterker Warm emosies gevoel het. Oor die algemeen neig ouer persone om doelbewus daarna te streef om positiewe emosies te ervaar en negatiewe emosies te vermy of verminder. Ter opsomming, beide nie-

verbale en verbale metings reflekteer generasieverskille wat duideliker blyk sodra negatiewe emosies geanaliseer word.

Die studie het dit ook aan die lig gebring dat die AdSAM-instrument meer voordelig blyk te wees om emosies teenoor televisie-advertensies te meet wat toegeskryf word aan die nie-verbale eienskappe daarvan. Nieteenstaande, blyk groter generasieverskille opsigtelik wanneer emosies met 'n verbale eerder as 'n nie-verbale instrument gemeet word.

Teen hierdie agtergrond word sekere aanbevelings vir toekomstige navorsing gemaak wat verband hou met die noodsaaklikheid vir verdere navorsing oor emosionele reaksie op televisie-advertensies en die belangrikheid van innoverende navorsingsmodelle wat aangepas word vir die diverse Suid-Afrikaanse verbruikersmark.

An investigation into the advantage of non-verbal measurement of emotion in television advertisements across South African generations

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ABSTRACT

The objectives of this study were to explore the differences and similarities in emotive profiles of South African generations, inclusive of Baby Boomers ($n=22$), Xers ($n=42$) and Millennials ($n=38$), as measured on three measurement instruments, of which two were non-verbal scales and one verbal. This study is relevant for generational research on emotive reaction to television advertisements in a South African context, in terms of both methodology and results. A cross-sectional survey design was used to achieve the research objectives by means of disproportionate quota sampling. From the multi-dimensional scaling, generational emotive profiles to the test advertisement were established, in accordance with the AdSAM, PrEmo and LoE models. A three-dimensional AdSAM non-verbal emotive structure (Pleasure, Arousal and Dominance), a twelve-factor PrEmo non-verbal emotive loading (six positive and six negative emotions) and a cognitive List of Emotions (LoE) (eight positive and eight negative emotions) were statistically analysed and compared across generations. Generational emotive differences, which seem more apparent with negative emotions and when using a verbal measurement instrument, were evident in response to a television advertisement aimed at the adult consumer market. Contrary to customary belief, liking ratings alone do not necessarily translate into a higher propensity for television viewers to act, but feelings of engagement are also required.

Keywords

Emotive reaction, Baby Boomers, Xers, Millennials, AdSAM Self-Assessment Manikin (AdSAM), Product Emotion Measurement (PrEmo), List of Emotions (LoE)

INTRODUCTION AND BACKGROUND

Despite the extensive use of emotional appeals in television advertising, studies investigating the behavioural impact on viewers rely almost entirely on cognitive measurement scales, requiring advanced verbal skills and analytical processing by participants. These methods rely on the assumption that participants are capable of translating their emotions into numerical scaled responses. Although verbal and numeric measures can represent many distinct aspects of emotion, they, however, require considerable cognitive processing. In this regard, neurologist Donald Calne is of the opinion that 'the essential difference between emotion and reason is that emotion leads to action while reason leads to conclusions' (Weisnewski, 2006:1). Against this background, researchers have emphasised the need to consider emotions as a crucial factor in the advertising process (Ambler & Bume, 1999; Du Plessis, 2005; Hall, 2002).

Allen, Machleit and Kleine (1992) argue that failing to understand the role of emotions by focusing on the cognitive process only, impedes the ability to achieve an enhanced understanding of consumer behaviour. Therefore, one clear solution entails the development and use of non-verbal measures of emotion, which offer the potential for representing measures whereby cognitive processing is limited. Part of the difficulty in developing measures of emotional response stems from the complexity of emotion itself. Various instruments are available for measuring emotional reactions to advertisements. The development of visually orientated scales like the Self-Assessment Manikin (AdSAM) (Morris, 1995) and Product Emotion Measurement (PrEmo) (Desmet, 2002; s.a.) using animated graphic characters, hold much promise. To date, research findings are not clear on what measurement instrument provides the most valid measurement. Additional research is consequently needed to determine the role of emotion and to find methods for mitigating measurement bias associated with emotive measures that rely on cognitive techniques (Erevelles, 1998).

Since emotions are learnt through interpersonal interactions (Denham, 1998), such as referent age groups, the question arises whether different emotions are experienced by different generations when exposed to the same television advertisement. The Generational Theory (Codrington, 2008; 2010) attempts to explain some of the differences between young and older people regarding how they act, react and interact in different environments, which seems plausible when investigating emotion across South African generations.

In the fourth century BC, Plato compared the human soul to a chariot pulled by the two horses of reason and emotion. In his mind, human behaviour clearly had an emotional element. However, it is the horse of reason that has prevailed through the centuries and has been predominantly used to explain human behaviour and that of consumers. This rational focus shifted radically during the early 1900s when Edmund Husserl came to be regarded as the founder of the philosophy of phenomenology (Moran, 2005). The need to better understand whether cognition dominates or mediates the relationship between affect and intent remains of interest to researcher and practitioners alike.

The Compact Oxford Dictionary (2002:357) defines emotion as 'a strong feeling'. The etymology of 'emotion' is the Latin word to move something. In the field of consumer behaviour,

emotions are acknowledged as the catalyst that moves people into action, hence, what drives consumers' behaviour. An emotion entails a diversity of reactions involving different mental processes visualised on a continuum. On the one end emotional reactions are spontaneous and uncontrollable, which Rossiter and Bellman (2005) call type 1 emotions, sometimes also referred to as primary emotions (Damásio, 1994) or automatic lower-order emotions (LeDoux, 1996; Zajonc, 1980). These do not require to be cognitively labelled as a specific emotion. Emotions that depend on deeper cognitive processing, referred to as higher-order, type 2 emotions or secondary emotions (Damásio, 1994), are placed at the other end. However, some emotions, such as fear, anger and happiness, are situated on the continuum between the two extremes.

Emotions have always been present in some way or another in models on 'how advertising works'. The earliest conceptual advertising model, is arguably the AIDA Model (Strong, 1925): get Attention, hold Interest (cognitive processing), arouse Desire (affect), and then obtain Action (generate behaviour). An emotional reaction, in this case Desire, occurred only after consumers experienced interest in the advertisement or the product. Such hierarchy-of-effects models dominated advertising literature for years (Vakratsas & Ambler, 1999). From the 1980s on, the role of emotion changed. Neurosurgical evidence by Zajonc (1980) and Damásio (1994) argued that emotion has primacy over and can function independently of cognition. This led to emotions being accepted as an important mediator of cognitive and behavioural consumer responses to advertising (Batra & Ray, 1986; Edell & Burke, 1987). The Advertising Research Foundation (ARF) copy-testing project (Haley & Baldinger, 1991) found that liking of an advertisement is a good predictor of effectiveness. However, Allen, Machleit and Kleine (1992) observed that insightful attitudinal information toward the advertisement can be learned by expanding the measurement beyond this simple correlation index. Reviews of the role of affect in marketing suggest that affect is not dependent on cognitive variables only (Machleit & Wilson, 1983) and later studies showed that highly emotional advertising leads to better recall (Hazlett & Hazlett, 1999).

According to Codrington (2008): 'Facing similar issues, impacted by the same events and sharing similar experiences, people of the same age are likely to have similar underlying value systems, regardless of their country or community of birth. These 'value systems' are the drivers of behaviours and attitudes, and are good predictors of behaviour and expectations.' A generation can be defined as a cohort or group of people which share common interests regarding significant events from their country of origin. It generally commences from the cohort's time of birth until they start having their own children, and lasts for approximately 20 years. Most generations do not have specific start and end dates, and overlaps sometimes occur. Generational labels generally used are GI (born 1900-1920s), Silent or Veteran (born 1929-1945), Boomers or Baby Boomers (born 1946-1960s), Generation X (born 1968-1989) and the Millennials or Generation Y (born mid 1980s-present). Codrington (2010:2) explains there is 'general global acceptance' of the Generational Theory's principles.

Ageing seems significant when determining the emotional importance of advertisements as opposed to the factual content thereof. Older and young consumers with a shortened life expectancy appear to like and remember advertisements in which negative emotions are avoided, whereas those consumers with an unrestrained life expectancy appear to like and prefer advertisements in which positive emotions are elicited (Williams & Drolet, 2005). Research by MillwardBrown (2009) confirms that age is an important variable when testing television advertisements. Children alone undergo four basic stages of emotional needs. Although children generally tend to recall advertising detail better than adults do, they do not have such a strong brand relationship as adults. MillwardBrown (2009:57) is of the opinion that 'targeting the over-50s market represents an opportunity for most marketers'. This is because they are perceived to be 'heavy media consumers', specifically of traditional media, and they can be reached more easily than other market segments. The study indicates that, in terms of tone and content, communications need to be carefully targeted for this audience. MillwardBrown (2009:59) concludes that 'when targeting the Boomer generation, ads that demonstrate a genuine understanding of the targets' needs, not just their date of birth, are most effective. Nonetheless, it needs to be recognised that in many parts of the world, this generation has spent most of its life being exposed to advertising, and established associations can be hard to shift'.

Television advertisements, such as the advertisement used in the current research, are commonly aimed at certain generational cohorts. The research therefore aimed to investigate whether three South African generations display different emotive profiles to the same television advertisement. In addition, the research aimed to investigate whether it is advantageous to measure emotion in television advertisements by means of non-verbal measurement instruments as opposed to a verbal instrument. The exploratory nature of this research does not lend itself to the formulation of hypotheses. However, the following specific objectives could be formulated based on the aforementioned description of the research problem:

- To investigate differences in emotive reactions between the generations focused on in this study, namely the Baby Boomer (also referred to as Boomers), Generation X (also referred to as Xers) and Millennial generations.
- To explore the applicability of the AdSAM, PrEmo and List of Emotions (LoE) measures of emotion.

METHOD

Design

To investigate whether three South African generations display different emotive profiles to the same television advertisement and whether it is advantageous to measure emotion in television advertisements by means of non-verbal measurement instruments, a quasi-experimental design was employed, in which participants were invited to participate in a cross-sectional survey. Data collection took place at a single point in time and in accordance with purposive disproportionate quota sampling specifications (Babbie, 2010).

Participants

The study included a sample of adult television viewers residing in the Gauteng province. According to the All Media and Products Survey (AMPS), the majority of South African television viewers reside in the Gauteng province (SAARF 2011). The only recruitment criteria were age and television viewing. Nonprobability sampling was performed, whereby a nonproportionate quota sample of television viewers ($n=102$) was drawn from different population groups, gender, occupational and educational status aged 18 years and older. Due to a low response representation for the Silent generation, aged 65-81 ($n=9$) and the Baby Boomer generation, aged 46-64 ($n=13$), analysis for these two generations were combined and referred to as the Baby Boomer generation for purposes of this study. The sample also included Xers, aged 25-45 ($n=42$) and Millennials, aged 18-24 ($n=38$).

Measuring Instruments

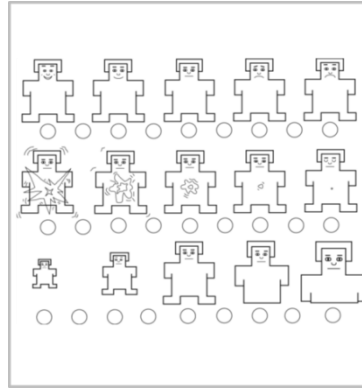
The AdSAM (Morris, Bradley, Waine & Lang, 1993), PrEmo (Desmet, 2002) and LoE instruments were used to identify differences in emotive reactions between the generations focused on in this study and to explore the applicability of these instruments in the measurement of emotion.

AdSAM

The AdSAM scale consists of a pictorial self-assessment rating of primary emotions experienced on the emotive dimensions of Pleasure, Arousal and Dominance (PAD). Due to the non-verbal design, which requires no literacy, the instrument is usable regardless of the age, educational or cultural background of participants. This instrument provides a measure of a participant's immediate reaction, largely undiluted by cognitive rationalisation. Immediate emotions are indicated on a 9-point nonnumerical rating scale, depicted by static human figure manikins. AdSAM is a proprietary measure of emotional response used worldwide in market research that has been validated over the past 25 years and has been used in both qualitative and quantitative research in over 30 countries (Morris *et al.*, 1993).

Exhibit 1 illustrates the AdSAM model in the manner in which it is presented to participants. The scales' numeric assignment is not presented to participants in order to elicit the most authentic emotive response. The Pleasure dimension is represented by the top row, the Arousal dimension is represented by the middle row and the Dominance dimension is represented by the bottom row of manikins.

Exhibit 1: AdSAM manikin 9-point rating scale



Empirical studies report a positive relationship between Pleasure and Arousal dimensions, which is ideally to be expected in advertising (Morris *et al.*, 1993). Morris *et al.* (1993) suggest that, by restricting the analysis to the Pleasure and Arousal dimensions alone, an interpretable 'two-dimensional affective space' results without losing much variance. The AdSAM has been used in numerous psychophysiological studies since its development in the 1980s. In validating the instrument's ability to effectively index similar emotive stimuli, the developers Morris, Bradley, Waive and Lang (1993) conducted various validity tests against other emotional scales (Mehrabian & Russell, 1974; Bradley, Greenwald & Hamm (in Morris et al 1993); Greenwald, Cook & Lang, 1989; Holbrook & Batra, 1988 in Morris *et al.*, 1993), using television advertisements. Correlations between scores obtained using the AdSAM and others were significant for both Pleasure (.94) and Arousal (.94) and smaller but still substantial for Dominance (.66). To date, the AdSAM has been used extensively to measure emotional reactions to a wide variety of affective stimuli, including colour pictures, descriptive sentences, digitised sound clips, films and more.

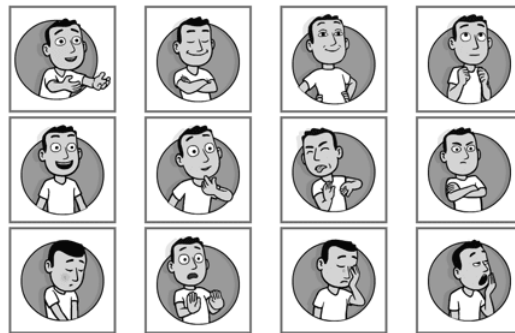
PrEmo

The PrEmo is an electronic non-verbal self-report instrument that measures twelve emotions reflected on animations of a cartoon character. This is an audio-visual measure. In each animation, the character expresses a different emotion in approximately one second, both with movement and sound, by clicking on each character. The character expresses six positive emotions, namely Desire, Satisfaction, Pride, Hope, Joy and Fascination as well as six negative emotions such as Disgust, Dissatisfaction, Shame, Fear, Sadness and Boredom. PrEmo can be used to assess to what extent each of the emotions is elicited by the appearance of a visual stimuli. The respondent's emotions are rated in relation to the emotion depicted by the animated human figure character using a 5-point scale. Even though the instrument is computerised, literacy is not a pre-requisite for participation. The PrEmo uniquely combines two qualities. It measures distinct secondary emotions and it can be

used cross-culturally because it does not ask participants to verbalise their emotions. In addition, it can measure mixed emotions, that is, more than one emotion experienced simultaneously.

Exhibit 2 displays the PrEmo animations used with the six positive emotions displayed from top left to right and the negative emotions displayed from the middle of the second row left to right and in the third row. Due to the non-verbal nature of the instrument, participants are only presented with the animations without being pre-informed of the emotions depicted by each character in an attempt to elicit the most emotively authentic response. The PrEmo instrument has also been extensively applied in mostly developed countries. In conceptually grounded pioneering work conducted by Desmet (2002), validation and reliability indices are discussed.

Exhibit 2: PrEmo animated character reflecting 12 emotions



LoE

The List of Emotions (LoE) uses a survey-based approach. Participants are shown an advertisement twice, and answer a series of introspective questions about their reaction to the copy. This generates an understanding of the memorability of the copy, rational and emotional message take-out, and motivational power. It also includes diagnostic measures, which indicate which parts of the copy are the focus of attention for consumers, and which influenced their responses to the advertisement most strongly. The LoE instrument has been applied in more than 90 countries and comprehensive normative criteria have been compiled. The intention with the current research is primarily to investigate the self-reported list of emotions measured on a verbal scale after being required to indicate rational responses to the same stimuli. This list is adapted from Plutchik's (2001) wheel of emotions originally designed in 1962. Importantly, this research design facilitates an investigation into similarities or differences between non-verbal and verbal measures of emotion.

Procedure

Participants were invited to a central venue at the Bureau of Market Research. Each participant was assigned to an Internet-linked computer. The nature of the non-verbal measurement instruments

requires direct access to different servers, whereas the verbal instrument was installed on the respective computers. Data was collected under supervision.

Participants were required to view two television advertisements, introducing the respective instruments with a 'dummy' advertisement. Subsequently participants' spontaneous emotions were elicited whilst viewing the advertisements. Whilst no time limit was imposed, the importance of undeliberated emotive reactions was reiterated. The AdSAM procedure of including a 'general mood' question was followed. Following this measure, the PrEmo and LoE instruments were administered. The LoE instrument requires exposure to a reel consisting of four randomised advertisements, of which one represents the test advertisement.

The BulaBoot advertisement (also known as the Castle Lager advertisement viewed during the Fifa World Cup in 2010) was used as test advertisement for all three measurement instruments. Due to South Africa being the host of the Fifa World Cup in 2010 and Castle Lager being one of the main sponsors of this event, the use of this advertisement in this study seemed fitting. Television viewers from all generations were exposed to this event as well as the supporting television advertisements.

Ethical issues

The ethical aspects of the research were discussed with participants. Participation was voluntary and required a signed consent form. However, participants could withdraw from the research at any time. Participants were not incentivised, but were invited to a light lunch after completion of all three measurements. The tests were administered in English during a single point in time in the Bureau of Market Research's (BMR) computer room, however, participants could respond to the open-ended questions in their mother tongue. Ethical approval was given for the research by the Ethics Committee of the North-West University (number NWU-00125-11-S1).


RESULTS

One-way ANOVAs and a Rasch analysis were conducted to investigate the generational differences in emotive reactions to the AdSAM and PrEmo instruments. LoE chi-square analysis was conducted to investigate the generational differences in emotive reactions. This was followed by a thematic analysis of verbatim comments. The results of these analyses will now be reported, followed by a discussion thereof.

Table 1: AdSAM PAD ANOVA

Dimension	Age	N	Mean	df	F	Sig. (p)
Gen P	18-24	38	8.08	2	1.849	.163
	25-45	42	7.52	99		
	46+	22	7.50			
	Total	102	7.73	101		
Gen A	18-24	38	5.26	2	2.547	.083
	25-45	42	6.40	99		
	46+	22	6.05			

Dimension	Age	N	Mean	df	F	Sig. (p)
	Total	102	5.90	101		
Gen D	18-24	38	6.97	2	3.286	.042
	25-45	42	5.86	99		
	46+	22	6.05			
	Total	102	6.31	101		
Ad1 P	18-24	38	7.47	2	1.154	.319
	25-45	42	7.05	99		
	46+	22	6.68			
	Total	102	7.13	101		
Ad1 A	18-24	38	6.05	2	1.590	.209
	25-45	42	5.31	99		
	46+	22	5.00			
	Total	102	5.52	101		
Ad1 D	18-24	38	6.42	2	3.191	.045
	25-45	42	5.14	99		
	46+	22	5.36			
	Total	102	5.67	101		
Ad2 P	18-24	38	8.05	2	1.052	.353
	25-45	42	7.48	99		
	46+	22	7.82			
	Total	102	7.76	101		
Ad2 A	18-24	38	6.18	2	1.289	.280
	25-45	42	6.10	99		
	46+	22	7.18			
	Total	102	6.36	101		
Ad2 D	18-24	38	7.34	2	2.255	.110
	25-45	42	6.36	99		
	46+	22	6.05			
	Total	102	6.66	101		

 $p \leq 0.05$

Gen: General mood
P: Pleasure dimension

Ad1: Dummy advertisement
A: Arousal dimension

Ad2: Test advertisement
D: Dominance dimension

Significant generational differences were limited to general mood and dummy advertisement measures on the Dominance dimension. It is, however, apparent that the test advertisement elicited stronger emotive reactions on all the dimensions. The consolidated generational matrix in accordance to the AdSAM model is reflected in exhibit 3.

Exhibit 3: AdSAM generational emotive profiles

		Generation	Comfortable (Valid N%)	Warmed (Valid N%)	Enthusiastic (Valid N%)
PLEASURE	High 7-9	Millennials	18	8	55
		Gen X	10	12	50
		Baby Boomers*	0	18	64
	Moderate 4-6		Indifferent (Valid N%)	Ambivalent (Valid N%)	Apprehensive (Valid N%)
		Millennials	8	8	0
		Gen X	7	17	0
		Baby Boomers*	9	0	9
	Low 1-3		Sullen (Valid N%)	Troubled (Valid N%)	Alarmed (Valid N%)
		Millennials	0	0	3
		Gen X	2	2	0
		Baby Boomers*	0	0	0
			1-3 Low	4-6 Moderate	7-9 High

AROUSAL

* Due to a low respondent base for the proposed Silent Generation (ages 65-81), the nine participants' (8.8%) emotive profiles were incorporated with those of the Baby Boomers.

Exhibit 3 reflects high Pleasure and high Arousal across all generational groups. More participants, however, expressed high Pleasure than high Arousal.

In assessing whether Pleasure, Arousal and Dominance reactions differ with respect to the acknowledgement of the experienced emotion, the Rasch analysis, a construct validation tool, was applied. The Rasch model is particularly appropriate due to the nature of scales in the AdSAM instrument. A rating of six by a specific respondent could, for example, indicate a reasonably strong aroused feeling. A similar rating by another respondent could, however, indicate a much stronger aroused feeling. Descriptive statistics, such as the two-sample tests of proportion, assume that this rating reflects similarly between participants. The perspective underpinning the Rasch model is therefore distinctly different from the perspective underlying descriptive statistics, with the objective to obtain data that fit the model and not to merely describe raw data. This model can be applied wherever discrete data are obtained with the intention of measuring constructs such as emotion. The Rasch output for the general mood question on the AdSAM instrument is reflected in table 2.

Table 2: AdSAM Rasch analysis on the test advertisement

PERSON*	DIF	PERSON	DIF	t	df	Prob. (p)	Name
1	0.14	2	-0.45	-0.65	78	0.52	Pleasure
1	0.14	3	-0.45	-0.50	58	0.62	Pleasure
2	0.11	3	-0.34	0.04	62	0.97	Pleasure
1	0.10	2	0.42	1.56	78	0.12	Arousal
1	0.10	3	0.42	2.79	58	0.01	Arousal
2	0.09	3	0.21	1.57	62	0.12	Arousal
1	0.11	2	-0.05	-1.14	78	0.26	Dominance
1	0.11	3	-0.05	-2.46	58	0.02	Dominance
2	0.09	3	0.11	-1.57	62	0.12	Dominance

* Person class 1 = Millennials; 2 = Generation X; 3 = Baby Boomers


☐ $p \leq 0.05$

The general emotive reaction to the Arousal and Dominance dimensions reflected in table 1 is also evident in table 2 with Millennials and Baby Boomers reflecting significant differences. Baby Boomers reacted with greater Arousal intensity whereas Millennials expressed higher levels of Dominance than Baby Boomers. The advertisement elicits feelings of empowerment (Dominance) among Millennials whilst feelings of engagement are evoked from Baby Boomers. No significant differences were detected between generations on the Pleasure dimension. Analyses of the PrEmo instrument are discussed below.

Table 3: PrEmo ANOVA on the 12 emotive dimensions

Dimension	Generation	n	Mean	df	Mean Square	F	Sig. (p)
Desire	Millennial	38	2.53	2	.635	.277	.758
	X	42	2.29		2.291		
	Baby Boom	22	2.32	101			
	Total	102	2.38				
Satisfaction	Millennial	38	2.82	2	.464	.265	.768
	X	42	3.02		1.750		
	Baby Boom	22	2.86	101			
	Total	102	2.91				
Pride	Millennial	38	2.97	2	.471	.295	.745
	X	42	3.02		1.594		
	Baby Boom	22	3.23	101			
	Total	102	3.05				
Hope	Millennial	38	1.79	2	2.429	1.163	.317
	X	42	1.45		2.088		
	Baby Boom	22	2.00	101			
	Total	102	1.70				
Joy	Millennial	38	3.32	2	.080	.065	.937
	X	42	3.24		1.229		
	Baby Boom	22	3.23	101			
	Total	102	3.26				
Fascination	Millennial	38	2.71	2	.796	.487	.616
	X	42	2.43		1.632		
	Baby Boom	22	2.55	101			
	Total	102	2.56				
Disgust	Millennial	38	.89	2	1.578	1.188	.309

Dimension	Generation	n	Mean	df	Mean Square	F	Sig. (p)
Dissatisfaction	X	42	.52	101	1.328	.969	.383
	Baby Boom	22	.55				
	Total	102	.67				
	Millennial	38	.92	2	1.275		
	X	42	.57	99	1.316		
Shame	Baby Boom	22	.82	101		.693	.503
	Total	102	.75				
	Millennial	38	.47	2	.464		
	X	42	.26		.670		
	Baby Boom	22	.32				
Fear	Total	102	.35	101		2.658	.075
	Millennial	38	.97	2	3.536		
	X	42	.40		1.330		
	Baby Boom	22	.86				
	Total	102	.72	101			
Sadness	Millennial	38	.58	2	1.380	1.262	.288
	X	42	.45		1.094		
	Baby Boom	22	.14				
	Total	102	.43	101			
	Millennial	38	.84	2	3.976	3.529	.033
Boredom	X	42	.38		1.127		
	Baby Boom	22	.14				
	Total	102	.50	101			
	Millennial	38	.84	2	3.976		
	X	42	.38		1.127		

 $p \leq 0.05$


Significant generational differences were limited to one negative emotion, namely Boredom with the Baby Boomers expressing less Boredom than the other generations. Positive emotions were felt strongly by all generations whilst negative emotions featured less prominently. Directional differences between generations seem to be more apparent on the negative emotions. Conversely, reactions to the positive emotions are largely similar.

Table 4: PrEmo Rasch analysis on the test advertisement

PERSON CLASS*	DIF MEASURE	PERSON CLASS*	DIF MEASURE	t	df	Prob. (p)	Name
1	-0.54	2	-0.58	0.26	78	0.80	Desire
1	-0.54	3	-0.55	0.06	58	0.96	Desire
2	-0.58	3	-0.55	-0.16	62	0.87	Desire
1	-0.75	2	-1.08	1.64	78	0.10	Satisfaction
1	-0.75	3	-0.97	0.90	58	0.37	Satisfaction
2	-1.08	3	-0.97	-0.45	62	0.65	Satisfaction
1	-0.88	2	-1.08	0.97	78	0.34	Pride
1	-0.88	3	-1.34	1.65	58	0.11	Pride
2	-1.08	3	-1.34	0.95	62	0.35	Pride
1	-0.07	3	-0.33	1.22	58	0.23	Hope
2	-0.10	1	-0.07	-0.20	78	0.84	Hope
2	-0.10	3	-0.33	1.08	62	0.28	Hope
1	-1.23	2	-1.28	0.19	78	0.85	Joy
1	-1.23	3	-1.34	0.36	58	0.72	Joy

PERSON CLASS*	DIF MEASURE	PERSON CLASS*	DIF MEASURE	t	df	Prob. (p)	Name
2	-1.28	3	-1.34	0.22	62	0.83	Joy
1	-0.67	2	-0.67	-0.01	78	1.00	Fascination
1	-0.67	3	-0.71	0.19	58	0.85	Fascination
3	-0.71	2	-0.67	-0.21	62	0.83	Fascination
1	0.55	2	0.66	-0.48	78	0.63	Disgust
1	0.55	3	0.80	-0.88	58	0.38	Disgust
2	0.66	3	0.80	-0.46	62	0.64	Disgust
1	0.53	2	0.60	-0.33	78	0.74	Dissatisfaction
1	0.53	3	0.51	0.06	58	0.96	Dissatisfaction
2	0.60	3	0.51	0.33	62	0.74	Dissatisfaction
1	1.01	2	1.13	-0.38	78	0.71	Shame
1	1.01	3	1.15	-0.39	58	0.70	Shame
2	1.13	3	1.15	-0.06	62	0.95	Shame
1	0.48	2	0.83	-1.43	78	0.16	Fear
1	0.48	3	0.47	0.04	58	0.96	Fear
2	0.83	3	0.47	1.29	62	0.20	Fear
1	0.87	2	0.76	0.42	78	0.68	Sadness
1	0.87	3	1.72	-1.66	58	0.10	Sadness
2	0.76	3	1.72	-1.86	62	0.07	Sadness
1	0.59	2	0.88	-1.10	78	0.28	Boredom
1	0.59	3	1.72	-2.23	58	0.03	Boredom
2	0.88	3	1.72	-1.62	62	0.11	Boredom

* Person class 1 = Millennials; 2 = Generation X; 3 = Baby Boomers

 $p \leq 0.05$

A significant generational difference is, once again, evident on the Boredom emotion. Lower p -levels ($p < 0.20$) were also detected on Satisfaction, Pride, Fear and Sadness.

Table 5: Chi-square comparison of LoE emotions of generational proportions

List of emotions	Emotion felt	Millennial	Xer	Baby Boomer	Chi-square	p
Attracted	Yes	.76	.86	.77	1.291	.524
	No	.24	.14	.23		
Excited	Yes	.84	.88	.68	4.083	.130
	No	.16	.12	.32		
Confident	Yes	.79	.79	.59	3.513	.173
	No	.21	.21	.41		
Contented	Yes	.76	.79	.77	.059	.971
	No	.24	.21	.23		
Affectionate	Yes	.68	.74	.32	11.725	.003
	No	.32	.26	.68		
Surprised	Yes	.50	.29	.64	8.050	.018

List of emotions	Emotion felt	Millennial	Xer	Baby Boomer	Chi-square	<i>p</i>
	No	.50	.71	.36		
Proud	Yes	.82	.79	.86	.580	.748
	No	.18	.21	.14		
Inspired	Yes	.79	.74	.73	.400	.819
	No	.21	.26	.27		
Repelled	Yes	.26	.31	.09	3.836	.147
	No	.74	.69	.91		
Inadequate	Yes	.26	.14	.05	5.046	.080
	No	.74	.86	.95		
Sad	Yes	.13	.12	.05	1.167	.558
	No	.87	.88	.95		
Annoyed	Yes	.13	.17	.09	.716	.699
	No	.87	.83	.91		
Hatred	Yes	.11	.07	.00	2.424	.298
	No	.89	.93	1.00		
Disappointed	Yes	.11	.21	.09	2.595	.273
	No	.89	.79	.91		
Guilty	Yes	.08	.14	.00	3.727	.155
	No	.92	.86	1.00		
Unimpressed	Yes	.18	.19	.14	.316	.854
	No	.82	.81	.86		


 $p \leq 0.05$

Table 5 displays the chi-square analysis of the LoE requiring participants to indicate whether they think that a particular emotion is felt after being exposed to the test advertisement. Greater generational differences are evident for emotions measured on the verbal LoE scale than on the non-verbal instruments. Significant differences are apparent on the Affectionate and Surprised emotions with Baby Boomers and Xers expressing lower reported incidence of these respective emotions.

This study also investigated the measurement of emotions by means of non-verbal instruments as opposed to verbal instruments. It was necessary to determine whether participants who were classified in one of the emotive segments on the non-verbal AdSAM instrument claimed to have experienced certain comparable emotion(s) on the verbal LoE instrument. Table 6 represents the emotional AdSAM segments and specific emotions as measured by the LoE instrument.

Table 6: Two-way analysis of LoE and AdSAM emotions

LoE EMOTIONS	ADSAM EMOTIVE SEGMENTS								
	Sullen	Troubled	Alarmed	Indifferent	Ambiva- lent	Apprehen- sive	Comfort- able	Warmed	Enthusias- tic
	<i>n</i> (1) *	<i>n</i> (1) *	<i>n</i> (1) *	<i>n</i> (8)	<i>n</i> (10)	<i>n</i> (2)	<i>n</i> (11)	<i>n</i> (12)	<i>n</i> (56)
Excited	1	1	1	5	9	1	10	10	46
Proud	1	1	1	5	7	2	9	11	46
Attracted	1	1	1	5	8	1	10	10	45
Contented	1	1	1	6	7	1	9	10	43
Inspired	1	1	1	4	6	1	9	9	45
Confident	0	1	1	6	8	1	10	10	39
Affectionate	1	1	1	2	8	1	7	8	35
Surprised	1	0	1	2	2	2	4	5	28
Positive emotions	7	7	8	35	55	10	68	73	327
Repelled	0	0	1	3	2	0	4	1	14
Unimpressed	0	0	0	3	1	0	2	1	11
Annoyed	0	0	0	2	1	0	1	0	10
Inadequate	0	0	0	3	1	0	3	1	9
Disappointed	0	0	0	2	2	0	1	1	9
Sad	0	0	0	1	0	0	1	1	8
Guilty	0	0	0	1	0	0	1	0	7
Hatred	0	0	0	1	0	0	0	0	6
Negative emotions	0	0	1	16	7	0	13	5	74
Average	7.0	7.0	9.0	6.4	6.2	5.0	7.4	6.5	7.2

* Due to low respondent bases in the Sullen, Troubled, Alarmed and Apprehensive segments, analysis was limited to the Indifferent, Ambivalent, Comfortable, Warmed and Enthusiastic segments.

The LoE multiple response scale contained in the instrument resulted in an average of approximately seven reported emotions per respondent. It is evident from table 6 that Indifferent and Ambivalent AdSAM segment participants expressed a mixture of negative and positive emotions. With regard to the Comfortable, Warmed and Enthusiastic segments a similar emotive pattern emerged. Participants mentioned that Excited, Proud, Attracted, Contented, Inspired, Confident and Affectionate emotions were all felt with more or less the same intensity. The proportion of emotions as measured by the LoE within each of the AdSAM segments is reflected in table 7.

Table 7: Proportional segment distribution

AdSAM segments	AdSAM proportion	LoE proportion
Sullen	1.0	1.0
Troubled	1.0	1.0
Alarmed	1.0	1.3
Indifferent	7.8	7.2
Ambivalent	9.8	8.8
Apprehensive	2.0	1.4
Comfortable	10.8	11.5
Warmed	11.8	11.0
Enthusiastic	54.9	56.8

DISCUSSION

The first objective was to investigate differences in emotive reactions between generations.

Analyses based on all three measurement instruments indicated that Millennials and Xers were inclined to react to the test advertisement in a different manner compared to the older generation (Baby Boomers). Overall, the test advertisement elicited mostly strong Pleasure and Arousal-related emotions from all generations on the AdSAM instrument. Strong positive and limited negative emotions were measured for all generations on the PrEmo instrument, with only Boredom reflecting significant differences. Directional differences were, however, more prevalent, which implies that a bigger sample could result in more significant differences being detected.

The AdSAM analysis indicates that Baby Boomers found it easier to acknowledge higher levels of Arousal and Pleasure with the test advertisement, but more difficult to resonate with emotions relating to Dominance.

Baby Boomers' reasons for emotive reactions, as measured on AdSAM, tend to confirm more emotively authentic and mature responses regarding their reactions in comparison with the other generations. This finding could be confirmative of the findings of Williams and Drolet (2005) who concluded that consumers with a shortened life expectancy (due to age or illness), appear to like and remember advertisements in which negative emotions are avoided. On the contrary, consumers with an unrestrained life expectancy appear to like and prefer advertisements in which positive emotions are deliberately elicited. Baby Boomers tend to indicate how they feel with greater confidence and conviction than the other generations.

Although all generations expressed positive emotive reactions on PrEmo while viewing the test advertisement, directional differences indicate that Millennials felt more Comfortable, whereas the

Xers and Baby Boomers felt stronger Warm emotions. Millennials expressed feeling higher levels of Boredom, and overall it appears, as with AdSAM measures, that the Baby Boomer generation differed from the other generations by displaying less intense negative and more intense positive emotions.

These findings also seem to confirm studies that have been done previously, reflecting that older individuals tend to purposefully seek to experience positive emotions and avoid or limit negative emotions (Charles, Piazza, Luong & Almeida, 2009; Drolet, Lau-Gesk, Williams & Jeong, 2009; Drolet, Lau-Gesk & Scott, 2009; Phillips, Henry, Hosie & Milne, 2008; Williams & Drolet, 2005; Gavazzeni, 2008). Mather and Carstensen (2005:2) state unequivocally that 'chronological age is associated with paying more attention to emotional gratification and the emotional aspects of life'. The accruelement of positive information seems to be accentuated with age. The conclusion by Mather and Carstensen was furthermore evident during the analysis of the verbatim responses to emotive reactions, which revealed that, as the emotive clusters evolved (from the bottom left Sullen dimension to the top right Enthusiastic dimension on the AdSAM matrix), participants' level of understanding and being in touch with personal emotions, seemed to increase and mature. The same argument applies to the Baby Boomers who tended to produce more emotively authentic responses regarding their reactions in relation to the other generations. Participants reacting with Sullen, Troubled or Alarmed emotions, excluding Baby Boomers, tended to rationalise their reasons for emotions experienced. As a result of this cognitive process they appeared inclined to purposefully avoid or distance themselves from becoming emotionally involved with the stimuli presented.

These findings confirm the challenge that is faced by creative teams and marketers, namely the importance and difficulty of having one advertisement to reach a diverse consumer market.

The second objective was to explore the applicability of the three research instruments.

The LoE multiple response scale contained in the instrument resulted in an average of seven reported emotions per respondent. Responding to this instrument requires participants to think about their feelings, resulting in ubiquitous cognitive processing. In contrast, the AdSAM instrument requires participants to project an immediate feeling on a nonnumerical, non-verbal pictorial scale, thereby avoiding cognitive processing to a great extent. The PrEmo instrument, whilst predominantly a non-verbal emotive measurement, appears to encompass a certain degree of analytical judgement and can be viewed as partly cognitive, partly reactive.

From the AdSAM results reflecting reasons for a particular emotive reaction, participants show a greater resistance to admit to negative emotions, rationalising reasons in contrast to expressing feelings when providing reasons for positive emotive reactions. It should be reiterated that, when responding to the LoE, participants were required to contemplate whether a particular emotion was actually felt. It can therefore be assumed that cognitive processing is pervasive when indicating whether a particular emotion was felt or not, after reflecting on the meaning thereof.

It appears that the underlying structure of the AdSAM's PAD model accommodates the LoE model without specific comparable positive or negative emotions as measured by the LoE model. Due

to the nature of the LoE scale used, participants are inclined to endorse a multitude of emotions, which should be interpreted as either positive or negative, and not necessarily according to an authentic emotion felt. Therefore, taking the aforementioned information on the three measuring instruments into account, the AdSAM instrument appears to render the most emotively authentic data regarding the manner in which participants from all ages react to a television advertisement in a way that is cost and time effective, easy to understand and does not require any literacy. Greater generational differences seem to be evident when emotions are measured with a verbal instrument than with non-verbal instruments, and due to the nature of the LoE, higher acquiescence with regard to the list of emotions is noted.

Traditional measures tend to rely heavily on Pleasure or happiness only to the detriment of the engagement or inner excitement as a result of being exposed to the advertisement. AdSAM measures, however, suggest that high levels of Pleasure do not necessarily translate into a higher propensity to act, but that feelings of excitement are also required for an advertisement to influence television viewers to act.

With regard to the PrEmo instrument, participants' reactions to the positive emotions were largely similar, except for the Hope emotion. This dimension should therefore be interpreted with caution as it could imply that the test advertisement either elicited lower levels of Hope, or the animated character could have been misconstrued for a different emotion.

Lastly, emotive response to a respondent's general mood seems to permeate throughout the responses to the test advertisement, which could be indicative of the pervasive nature of general mood in reacting to visual stimuli. Dr Calne's statement, that 'the essential difference between emotion and reason is that emotion leads to action while reason leads to conclusions' (Weisnewski, 2006:1) appears fitting. Although verbal measures can represent many distinct aspects of emotion, they do not produce a true dichotomy between affect and cognition because they too require cognitive processing. However, this study concludes that the rating instrument used to determine participants' emotive reactions to a television advertisement, whether verbal or non-verbal, could influence the manner in which participants indicate their true reaction to the advertisement, whether emotive or cognitive, and as a result thereof determine the way in which they make consumer decisions about the product or service being advertised.

LIMITATIONS AND RECOMMENDATIONS

The present research is not without limitations. Limited research findings on generational differences in South Africa as they relate to emotive profiles have been published. This implies that a holistic view of the respective generational cohorts is largely unavailable to the scientific community. This study recommends including a larger sample that is nationally representative of different generations. Research on generational values could be considered as emotions are consciously and subconsciously driven by values.

The applicability of verbal and non-verbal measuring instruments to measuring emotive reaction to television advertisements could be explored further, given the complexity of emotions and rational judgement.

Whilst different advertisements were used, only analyses related to the test advertisement were presented in this article. Against this background, investigation whether generational emotive differences or similarities would change during exposure to a larger variety of television advertisements is recommended. It could also be insightful to investigate how generations and culture groups will react emotively to different types of marketing stimuli in the consumer market.

The capability of being able to reliably and accurately measure the emotional impact in different types of media contexts would be of special interest to a variety of industry professionals including, but not limited to, creative directors and advertisers. The implication thereof is that consumers would not only be more inclined to endorse advertising, but that it would result in desirable consumer purchasing behaviour. It therefore seems that the introduction of emotional response measurements would contribute to a more robust paradigm for analysing the behavioural impact of advertisements.

South Africa, being a diverse country, could benefit from the development of alternative non-verbal models based on a South African context, through which non-verbal characters would have a stronger African association. Consumers need to be understood. Challenging researchers with innovative models could result in greater significant insights to marketing and advertising companies to reconfigure or extend current branding, communication and marketing strategies directed at a diverse South African consumer market.

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