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(IMPLICIT) ADVERTISING EFFECTS THROUGH INGAME-ADVERTISING? EFFECTS OF PERCEPTUAL FLUENCY, CONCEPTUAL CONTROL, INVOLVEMENT AND A PERSON'S SUSCEPTIBILITY TO INTERPERSONAL INFLUENCE ON THE IMPACT OF INTEGRATED ADVERTISING MESSAGES IN COMPUTER GAMES

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Abstract

In view of conveying advertising messages, structural linking, immersion and flow are key words to describe the potential of computer games. The high involvement of players, however, seems to be rather hindering to intensive examination of advertising messages, which are unobtrusively placed in the game scene. This so called InGame-Advertising (IGA) is often processed with little attention or not consciously at all. Therefore it is sometimes not remembered. Nevertheless, incidental processing of IGA does not mean ineffectiveness: Repetition of brand and product placements increase perceptual fluency which as a competence is positively experienced, but cannot be attributed to the cause (i.e. repetition) if processing of these stimuli remains unconscious. Instead, this positive experience is misattributed to the brands and products placed in the game. If consciously collected, a concurrently running conceptual process is overlying the prime interpretation of perceptual fluency; if negative thoughts are developed in this conscious control process, the assessment of brands and products turns out to be rather unfavorable, contrary to the misattribution of positively experienced fluency. This paper discusses the effectiveness of IGA from the perspective of perceptual fluency and conceptual control processes together with two individual characteristics (involvement, susceptibility to interpersonal influence) based on an experimental study of the game 'ORF-Ski Challenge 2006'.

InGame-Advertising, perceptual fluency, conceptual control process, attitude change, involvement, consumer's susceptibility to interpersonal influence

1. INTRODUCTION AND BACKGROUND: THE EFFECTIVENESS OF CLASSICAL AND PROGRAM-INTEGRATED ADVERTISING

With a considerably increased number of advertising messages, classical advertising forms seem to be losing their efficiency: the critical, educated and self-conscious media generation (Bousch, Friestad, & Rose 1994) has led to such negative consequences for classic advertising. The more a person recognizes the attempt to be persuaded, the better he or she manages to take conscious control of the communication process. By this means, recipients either avoid the advertising message by switching, turning away, or clicking) or they cognitively reinterpret it (Friestad & Wrigth 1994). For that reason, advertising companies do not only try to change the contact frequency (Naples 1997) but also the quality of contacts.

In order to connect products and brands to the story line it is one strategy of advertisers to incorporate the advertising message into editorial programs or other media offers. Such below-the-line-advertisements like product placement and sponsoring are often not recognized as advertising but sometimes they lead to more positive evaluations (Nelson 2002; Russel 2002). InGame-Advertisement (IGA) is another of these new advertising forms using computer games as advertising media for

products, brands, ideas, and services. Depending on the game genre, the display forms of IGA are variable. Brands or products can be playfully built-in into the dramaturgy, as in so called Ad Games. Ad Games contain mainly the enterprise, the brand, the product or the service or these appear as leader and/or trailer. It can be assumed, that the increased attention, which computer games cause, will be transferred to the marketed brands and products as well (Mackay et al. 2009). Again, as in classical advertisements, the attempt to persuade is rather obvious. A newer form of IGA is integrated into a game that has nothing to do with the advertising message. The advertisement is placed into an already existing focus of attention and interest (Liu & Shrum 2002). Such less obtrusive IGA occurs e.g. as perimeter advertising like in real sports settings or in score displays. A very recent development on the InGame market is called 'Dynamic InGame-Advertising' (DIGA). This is a radical advertising technology, which permits texture changes within the game (Jana 2006). The advertisement can be interchanged flexibly or placed at specific places for a stipulated period.

The acceptance of IGA is usually higher than that of classical advertising forms (Knippelmeyer 2004; König 2002). A study by Nielsen and Activision indicates that IGA is not registered as a disruptive experience, but rather enhances the realism in computer games, as long as they are sensibly integrated into the game. The majority of questioned persons stated, that unique objects, advertising elements, which influence the course of the game, enhance the experience of the game (Activision Inc. 2005).

Special advertising forms – and especially less obtrusive forms – are often not consciously registered and therefore they are sometimes not remembered. In consequence, classical measurements like recall or STAS cannot assess the effectiveness of IGA appropriately even though an advertising effect could be obtained unconsciously. The results from the Nielsen and Activision study shows this: a large number of game players have changed their opinions and attitudes towards products positively that have been marketed via IGA. The combination of product integration and the variable spread, which even adds to the brand recognition, apparently promotes an increased persuasive potential, which means an increased readiness, to change opinions and attitudes towards a brand or product (Activision Inc. 2005).

This paper discusses the effectiveness of IGA from the perspective of incidental learning caused by perceptual fluency including two individual characteristics (involvement, susceptibility to interpersonal influence). It reports on a study, which experimentally investigated the perception and processing of IGA in the computer game 'ORF-Ski Challenge 2006'.

2. RECEPTION OF COMPUTER GAMES - POTENTIALS OF INGAME-ADVERTISING

The popularity of Computer games has rather increased than decreased. A current study by GfK Austria (2010) shows that playing computer games is part of the daily routine of a quarter of young people between the ages of 12 to 24. Every fifth of the 12 to 19 year olds plays several times every day (GfK Austria 2010). The increased conceptual and visual quality of computer games attracts a larger target group. The use, frequency, and kind of preferred games vary individually. The reasons for the fascination of computer games are manifold. More than one study show that 'boredom' is one of the most common reasons to play (Ritterfeld et al. 2009; Mitgutsch et al. 2010). Fritz and Misek-Schneider (1995) in a study with students found, that computer games are also being used for stress reduction and as a diversion. Additionally, computer games help adult players to withdraw for a certain time from social matters and responsibilities (Klimmt et al. 2008; Weaver et al. 2009). These observations indicate that some essential mechanisms make computer games crucial for the perception and the effectiveness of IGA: structural linking, immersion and the flow-experience.

The Model of *structural linking* by Fritz (1995) compares motivational potential of computer games with the social circumstances and personalities of players. This model describes the reasons for the fascination of certain aspects of the computer game, which players apply to their own lives. In computer

games, they search for and find structural commonalities and metaphoric correspondences. By establishing a relationship between the content of computer games and the context of their own life players get deeply involved into the game.

The phenomenon of *immersion* defines and compares the meaning of identification: Immersion describes the high level of identification of the player with his or her figure in the game (Douglas & Hargadon 2001), caused by a high ego-involvement (Kapferer & Laurent 1995; Wirth 2006). This leads to higher levels of attention, concentration and tenseness. The technological development of simulations and perfect graphics increase the level of involvement of the players. The experience of computer games gets increasingly closer to reality and more multi media based.

Computer gaming is a competitive activity and may lead to players becoming fully concentrated on the game and so becoming totally absorbed into this activity. In the computer game, players and the virtual world often merge so much that affective reactions are fully attached to the game and other aspects of medial and social reality become unimportant. This reaction is well known for other activities, like the attentive reading of a thrilling book or intensely playing conventional games. This form of full concentration on the requirements of the game, the stress and the fulfillment of the constant demands are described as *flow* (Csíkszentmihályi 1990).

Summarizing the observations of modalities and strategies in dealing with computer games, various potentials can be recognized with regard to the advertising impact of IGA. It can be expected that positive attitudes and emotions attached to actions and characters in the course of the game are being transferred to the displayed advertising objects in terms of mood or value, which are then more favorably rated (Russel & Stern 2006, Schemer et al. 2008). This should hold especially with highly prominent IGA. At the same time, it can be expected that structural linking, immersion, and flow drive attention to the game plot, the character and the game environment but away from integrated advertising messages. Especially unobtrusive IGA is perceived consciously to a small extent or even not at all (Schneider & Cornwell 2005; Dardis, Schmierbach & Limperos 2012). Therefore the potential effectiveness (i.e. recall) of IGA could be rather minimal. This negative effect should be more substantial than in TV program integrated advertising, because of the higher involvement in computer games caused by increased potential of flow and experience.

3. UNCONSCIOUS PERCEPTIONS, CONCEPTUAL CONTROL AND ATTITUDE CHANGE

At the end of the 50's Packard (1957) in his book The Hidden Persuaders reports on a technique, with which consumers could be subliminally influenced by simple insertions of soft drink brands into a movie resulted in an increased turnover of drinks. The scientific examination of the influence of unreinforced stimuli, that means, processed with minor or no attention started with the analysis of Zajonc 'Attitudinal Effects of Mere Exposure' (Zajonc 1968). In the next 20 years the studies of Zajonc were followed by more than 200 experiments, all of which were carried out in similar fashion (Bornstein 1989). All illustrated, that attitudes towards an object could actually be changed positively, though the stimulus take-up happened unconsciously.

This so called Mere-Exposure-Effect (MEE) is subjected to an unconscious learning process (Zajonc 2001), which contains affective as well as cognitive processes. After the 'Perceptual-Fluency Model' the positive assessment of objects as result of implicit perceived stimuli is the result of increased fluency in perception (Harmon-Jones & Allen 2001): Based on repetition perceptually already 'known' stimuli will be easier (more fluently) processed than non repeated stimuli. Because the first perception of stimuli is unconscious, the corresponding positive emotional experience cannot be attributed to the actual source (the perceptual fluency caused by repetition of stimuli). However, recipients search for an explanation for this positive emotional experience and therefore misattribution happens regularly: stimuli that are

unconsciously registered before are more positively assessed than non-repeated stimuli - this is independent from content aspects. Such more positive evaluations do not only affect the emotional assessment, but are also proven in rational assessments (Reber & Schwarz 1999).

The 'Perceptual-Fluency-Model' can also be used to illustrate, why stimuli, that are unconsciously registered, cause stronger fluency effects than consciously perceived ones. With repeated procession of consciously collected stimuli perceptual fluency is generated, which as a competence is positively experienced. However, a concurrently running conceptual process is overlaying the prime interpretation of perceptual fluency (Bornstein & D'Agostino 1992). If in this conscious control process negative thoughts are developed as for instance in the advertising customary reception strategy 'Coping' (Friestad & Wrigth 1994), the assessment of advertising objects besides misattribution of positively experienced fluency turns out to be rather unfavorable (Winke, Bless & Biller 1996; Ito et al. 1998). Only if recipients at a later judgment do not remember parts of the consciously experienced perception of stimuli (= based on memory judgment; Beattie & Mitchell 1985), the conceptual process does not have any impact: perceptual fluency interpreted as a positive experience is then the only source of attribution to the originally consciously collected stimulus.

Woelke (1998) in a study deals with the effect of product placement on recognition and attitudes. He finds out that product placements in movies yield a more positive assessment of brand and products than commercials, even if they cannot be recognized and thus have been unconsciously perceived. Schemer et al. (2007) examine the integration of advertising messages within Swiss-TV-broadcasting. In their study they explicitly control for the number of product placements: Advertising objects that are unobtrusively placed within the editorial program were evaluated more favorable with increasing frequency. In consequence, the impact of advertising messages within TV-programs seems to be highest when the product is often placed unobtrusively within an editorial content.

4. (IMPLICIT) ADVERTISING EFFECTS OF IGA AND THE ROLE OF INVOLVEMENT AND A PERSON'S SUSCEPTIBILITY TO INTERPERSONAL INFLUENCE

In summary it can be said, that perceptual fluency effects could be of high interest for the research on IGA advertising: The advertising message is usually placed unobtrusively in the games' plots and sceneries. At the same time, a person playing the game should be much more involved (Pham 1992; Grodal 2000) than any TV-viewer. Because involvement has a direction (Mitchell 1981; Kapferer & Laurent 1995), it is the source of the involved reception, that is attentively processed – in case of computer games it is the figure, opponents of the figure or aspects of the immediate context of the game plot (Calleja 2007). This should lead to less attention paid to advertising messages in the background like banners. Therefore integrated IGA is rather unconsciously perceived and if repeated, perceptual fluency increases and an overall MEE (i.e. of an average causal effect) should occur:

H1: *Repeated placements of brands and products in computer games (IGA) lead to more favorable attitudes for these brands and product.*

In a follow-up study concerning the integration of advertising messages within Swiss-TV-broadcasting, Schemer et al. (2007) vary 'program involvement' systematically and capture a person's persuasion knowledge ex-post. Persons with high involvement and low persuasion knowledge have the most positive opinion towards an advertising object. Thus, an MEE is assumed to be much more significant among persons with high levels of involvement for the editorial content. Following this observation, the probability of occurrence of MEE should not only vary across different IGA frequencies, but also across different levels of 'game involvement': The more persons are involved in a game/a play, the more attention is paid to the figure, the opponents of the figure or aspects of the immediate context of the game plot and the less consciously perceived and processed is the IGA:

H2.1: *Persons who are highly involved in a computer game become more fluent with objects, if placements of brands and products in computer games are repeated. Due to a MEE, products and brands presented via IGA will be more positively evaluated if the number of placements increases.*

Vice versa, less involvement in a computer game plot – for instance caused by boredom or by little ego-involvement concerning the game figures – would result in attention paid to banners or advertising inserts in the background. In this case, the perceptual fluency as well as the intention of the IGA become clear which makes a cognitive control strategy and thereby reinterpretation of the advertising message more probable. This conscious control process combined with the possible creation of negative thoughts may superimpose the MEE and the higher perceptual fluency. This prevents more positive assessments:

H2.2: *With repeated placement of brands and products the fluency effect is superimposed by a conscious control process in persons who are little involved in computer game plots: products and brands presented via IGA are even less positively evaluated if the number of placements increases.*

Besides the characteristics of media offers like frequency of presentations and – depending on the situation – a person's involvement, the assessment of advertising messages basically depends on stable personality traits. In general, predictors for the positive evaluation of information conveyed by the media are terms like 'need for cognition', 'need for affect' or 'self-confidence' (Suedfeld & Tetlock 2003). In case of advertising a person's 'susceptibility' is another meaningful predictor. This has been tested in a study about separation of advertising from the program as a control variable (Woelke 2008) using the CSII Scale (Bearden, Netemeyer & Teel 1989). Even though the CSII Scale aims at interpersonal susceptibility at purchase decisions, the tendency of persons to become persuaded by medial messages can also be concluded, because "a person's relative susceptibility in one situation tends to have a significant positive relationship to his or her susceptibility in a range of other situations" (Bearden, Netemeyer, and Teel 1989: 473) (see Loftus 1979; Avtigis 1998; Cialdini 2000). With repeated stimuli and in the course of a rather casual presentation of advertising messages possible cognitive control processes are likely to differ considerably in their occurrence probability and in their quality: Persons, who claim for themselves that they are more or less affected by interpersonal interference attempts (and corresponding with that to advertising messages)should differ significantly in processing the game and the IGA compared to persons, who estimate themselves less susceptible. The latter probably tend to get involved in similar mode into a computer game initially, because of a lack of explicit clues of advertising messages, which means, they are similarly involved into the game plot as persons with high susceptibility. A control process is scarcely applied, because the persons perceive IGA just as casual as persons with high susceptibility. One can expect however, that with repeated IGA the probability increases, that these persons recognize the promotional intent behind the presentation of brands and products in the game and now apply a more elaborate control strategy than persons who estimate themselves more susceptible. There is no systematic information about the possible correlation between involvement and susceptibility with regards to MEE, so far. It is also unexplained, which number of presentations of IGA may change the processing in less susceptible persons from casual into systematic perception with elaborate control processes. This shall be explored by the following research question:

RQ1: *Are MEE effects in the course of the repetition of placements of brands and products in computer games (IGA) different in relation to a person's susceptibility?*

5. RESEARCH DESIGN AND PROCEDURE

Based on the findings so far described about the correlation between repeated presentation, MEE and involvement an experimental design for testing has been chosen: Participants were put into the respective role of game players/testers and each participant did one race in the computer game Orf-Ski Challenge 2006. In these races, which recreated the actual runs of the FIS-Ski World Cup in Wengen,

Kitzbuehel or Bormio via IGA brands and products were inserted on goals, tricots, banners, and other objects (e.g. a hot-air balloon by Uniqa): depending on the race venue in the computer game the number of brands and products varied. As each test participant did only one race, the number of IGA for the targets ORF.at, Kronen Zeitung, Uniqa and Edelviser (= factor 1) could be controlled.

Because only a limited number of persons could do one race at a time, but each race and the completion of a follow up questionnaire took approx. 40 minutes, the experiment was conducted in single session between the 15th and 30th June 2006. To ensure a random spread of participants across the ski races, the participants were contacted before hand on the website, in bulletins issued by the Department of Communication Science, Salzburg University, during lectures in person, and asked to take part and to mail their consent to the person in charge of the test. Based on this registration list a random plan of distribution of the participants across the races was prepared and on the day of execution of the experiment the relevant race for each person was activated on the PC. 132 students overall took part in this experiment. Immediately after they had finished the ski race, the participants received the questionnaire to fill in. Subsequently, the test persons could look at the recording of their race on the PC, while they were served drinks and a chocolate bar or fruits to choose from. The debriefing took place by mail after completion of the field phase.

The level of involvement in the game plot was controlled as a virtual experimental factor (= factor 2). The questionnaire contained four items for the measurement of involvement, which were afterwards added up to a sum index. Based on the sum index two groups were formed via median split (high and low involvement). To be able to control the two main effects, and the interaction effect of the number of IGA and the level of involvement, items from the CSII-scale (for a german Version of the scale: Woelke & Dürager 2011) were included in the questionnaire. 'Susceptibility' was also included in the analysis as quasi-experimental factor (= factor 3) after categorizing by median split. Dependent variables for the evaluation of the effectiveness of IGA were the assessments of the four brands presented via IGA (by using seven property pairs in a semantic differential) as well as the conscious memory by way of an unprompted recall test.

6. RESULTS

Memory: Recall data show that the memory for the promoted brands did not differ significantly when the number of placements of brands and products increased. This holds regardless of being inserted more frequently as the brand ORF.at (34, 49, or 52 times) or rather less frequently as Kronen Zeitung (2,10 or 14 times). Recall data are at a level, which suggests a rather conscious than an unconscious stimulus perception. A critical inspection of the course of the study and the testing instrument discovers the possibility that the inflated recall data for a mere implicit recognition probably are the results of a sequence effect. The recall test was done after some of the items for the assessment of some brands and products (in the computer game via IGA presented brands and products) had been queried. In the subsequent recall test the respondents specified exactly those brands and products. The fact, that even respondents without any IGA for the brand Edelviser claimed a memory of it, underlines this interpretation. It is problematic that Kronen Zeitung, ORF.at and Uniqa belong to the top brands in Austria and were sponsors for the real life Ski World Cup, which attracts high interest not only from ski fans.

The hypotheses for this study do not only consider perceptual fluency as source of differences in evaluations – in this case high recall would pose a theoretical problem – but the perceptual fluency effect with repeated placement of brands and products being superimposed by a conceptual, i.e. conscious control process. In consequence, attitudes would become less favorable compared to those affected by a fluency effect, only. For examination of this hypothesis, the absolute recall is not of interest: For

persons with high game involvement it should not differ much and should stay below the level of recall of persons with low game involvement regardless of the frequency of IGA. In order to examine this assumption, recall tests for persons with high/low game involvement were assessed separately. The results (see Tab.1) show that memory data in groups with high involvement do not differ significantly regardless of the frequency of IGA. With the exception of Uniqa with lowest presentation frequency (4 times) and ORF.at with the highest (52 times) respectively, recall was lower for persons with high game involvement. Under the condition of increased frequency of IGA, the control process superimposing a MEE can be shown particularly for persons with low involvement. Based on data for Uniqa it becomes obvious that recall only increases significantly among persons who play the game with low involvement but not for players with high involvement.

Game Involvement	Frequency of InGame-Advertising				
	low	medium	high	$F_{[2, 126]}$	Sign.
Kronen Zeitung					
N of placements	*2*	*10*	*14*		
high involvement	0,40	0,59	0,50	0,75	.48
low involvement	0,42	0,55	0,68	1,32	.27
ORF.at					
N of placements	*34*	*49*	*52*		
high involvement	0,33	0,45	0,45	0,50	.61
low involvement	0,47	0,50	0,26	1,36	.26
Uniqa					
N of placements	*4*	*5*	*6*		
high involvement	0,50	0,45	0,50	0,06	.94
low involvement	0,42	0,68	0,72	3,11	.05
Edelviser					
N of placements	*0*	*1*	*3*		
high involvement	0,05	0,00	0,14	2,31	.11
low involvement	0,16	0,00	0,14	1,57	.22

Tab. 1: Recall of Brands and Products

Evaluations: Hypothesis 1 stated that the increasing frequency of IGA leads to more favorable attitudes. Neither with single items nor in the sum index of overall attitudes any linear effect of the number of IGA can be found (see tab. 2): The evaluation of Kronen Zeitung, ORF.at, Edelviser and Uniqa are not affected by the frequency of occurrence of logos or slogans of these brands resp. products in the single races of the computer game. A global fluency effect, built on repetition, which as MEE should impact on the judgments of the players, cannot be discerned - therefore H1 must be rejected.

Differences in Evaluations (** p<0.01; * p<0.05)		Brand / Product *Krone*	*ORF.at*	*Uniqa*	*Edelwiser*
Items [Number]	**	-	-	-	-
	*	-	-	-	-
Overall Attitudes	*	-	-	-	-

Tab. 2: Differences in Evaluations at different Frequency of IGA (Compared to the groups with little, medium and high frequency of IGA (see Tab. 1)

The discussion about the MEE (see chapter 3 and 4) showed, that implicit fluency effects on attitudes are more likely the less attention is paid to relevant items. This is also the case, when other elements of an information offer are intensively processed, that means, if the attention is detracted from the test relevant targets as in secondary reaction tasks. Since recall data in this study for groups with low, medium or high frequency of IGA did not vary systematically, but were other than nil, some players perceive the inserted brands and products elaborately, others do rather casually.

In addition, it was expected (hypothesis 2.1 and hypothesis 2.2 respectively), that attitudes also depend on one's individual level of involvement in the game plot. The frequency of IGA and the involvement of the players regarding the evaluation of ORF.at in fact show such a significant interaction effect ($F[_{2,120}] = 3{,}08$; $p = .05$; $eta^2 = .049$). Highly involved persons showed a significant improvement in opinions about the information quality of ORF.at when being confronted with 49 or 52 repetitions of the logo on the gates of a slalom skiing race (race Bormio and race Wengen respectively) instead of 34 (race Kitzbuehel) (see Figure 1). In contrast, ORF.at is estimated less informative with increased presentation frequency, when persons with only low game involvement completed the race.

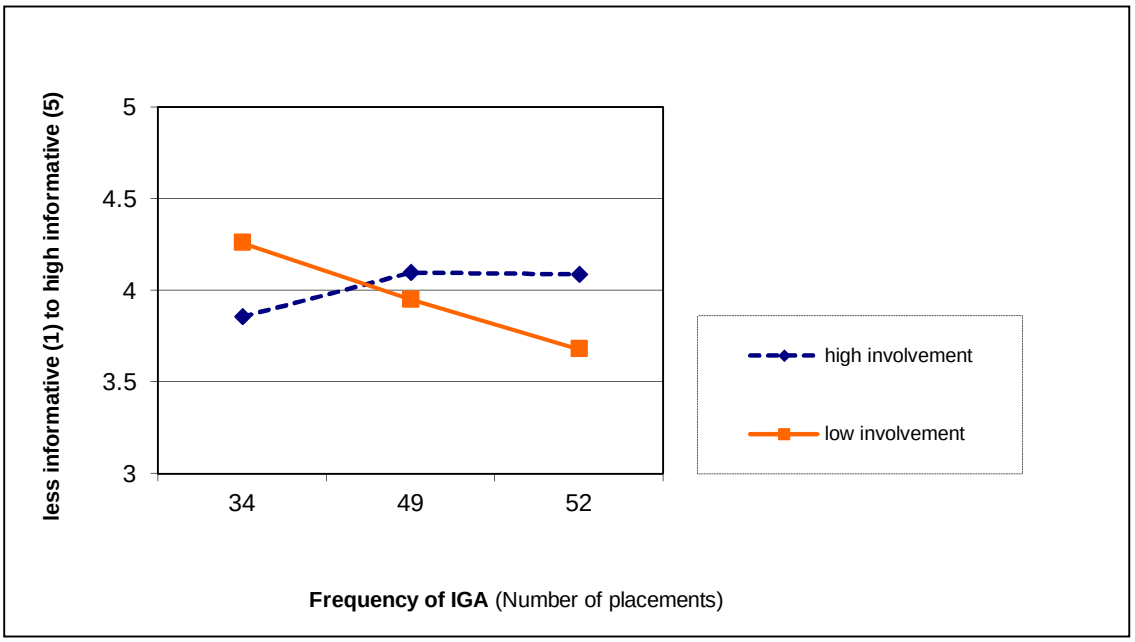


Fig.1: Frequency of IGA, Game Involvement, and Evaluation (Item: informativeness) of ORF.at

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Under the condition of a relatively low number of rather unobtrusive placements of the advertisement the evaluation of ORF.at is significantly more positive for lowly involved players. The brand is assessed more positively already at medium frequency. At the highest presentation frequency the difference of evaluation between the two involvement groups was the same in size but the low involvement group evaluates ORF.at in a significantly more negative way. Whereas the evaluation becomes linearly more positive for players with high involvement, the declining line for the low involvement group seems to prove the taking over of a cognitive control effect. In any case, it has to be stated that the differences between medium and high repetition of the advertisement (49 and 52 respectively) in this experimental setting might have been too low to cause a clear further development for the high involvement group.

Regarding an interaction effect of the number of IGA inserts and a person's involvement in the race the analysis for the brand Kronen Zeitung two items (unattractive…attractive, p = .065; unfavorable…favorable, p= .094) as well as for the sum index ($F[_{2,120}] = 2,46$; $eta^2 = .039$, see Fig. 2) showed a somewhat different trend. Persons with high involvement towards the race showed more favorable evaluations, when the brand Kronen Zeitung appeared ten times instead of twice. This brand was integrated on the perimeter advertisements in a rather unobtrusive way. The evaluations of the highly involved players manifested itself in a U-curve, i.e. the evaluation rose initially, but it declined at the highest number of presentations (14 times).

Players with low involvement evaluate the *Kronen Zeitung* a little more positively under the condition of numerous repetitions than the high involvement group. This effect has been reported in the study of Schemer et al (2007), too. The authors try to explain it with higher persuasion knowledge. In general, hypothesis 2.1 and 2.2 are supported.

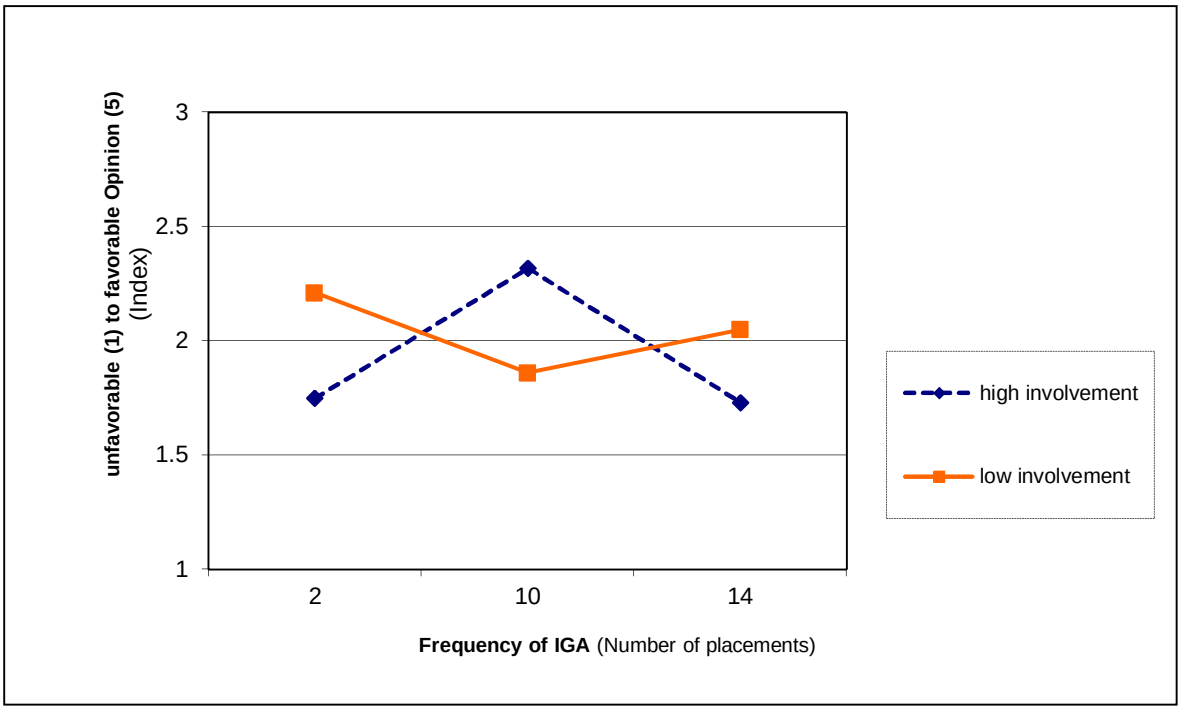


Fig. 2: Frequency of IGA, Game Involvement and Evaluations (overall Opinion) of Kronen Zeitung

RQ1 asked, if attitudinal effects of perceptual fluency caused by repetition of IGA are not only conveyed through involvement, but should also become effective through stable character traits like a person's susceptibility to interpersonal influence (see chapter 5). For the rather obtrusive and long presentation of Uniqa on a hot-air balloon one single MEE main effect was noticeable in trend, but MEE interaction effects of presentation frequency and involvement are not verifiable. This might be due to the obtrusive presentation and the small difference in repetition frequency (4, 5, and 6 respectively).

However, the analysis of interaction between evaluations, presentation frequency and susceptibility showed four significant and four trend results. The MEE interaction effect (presentation frequency and susceptibility) is significant in the evaluation of Uniqa with respect to the item 'favorable' ($F[_{2,120}] = 4{,}56$; $p = .01$; $eta^2 = .071$), 'interesting' ($F[_{2,120}] = 6{,}59$; $p = .002$; $eta^2 = .099$) and 'attractive' ($F[_{2,120}] = 6{,}70$; $p = .001$; $eta^2 = .104$) as well regarding the sum index ($F[_{2,120}] = 4{,}44$; $p = .013$; $eta^2 = .070$).

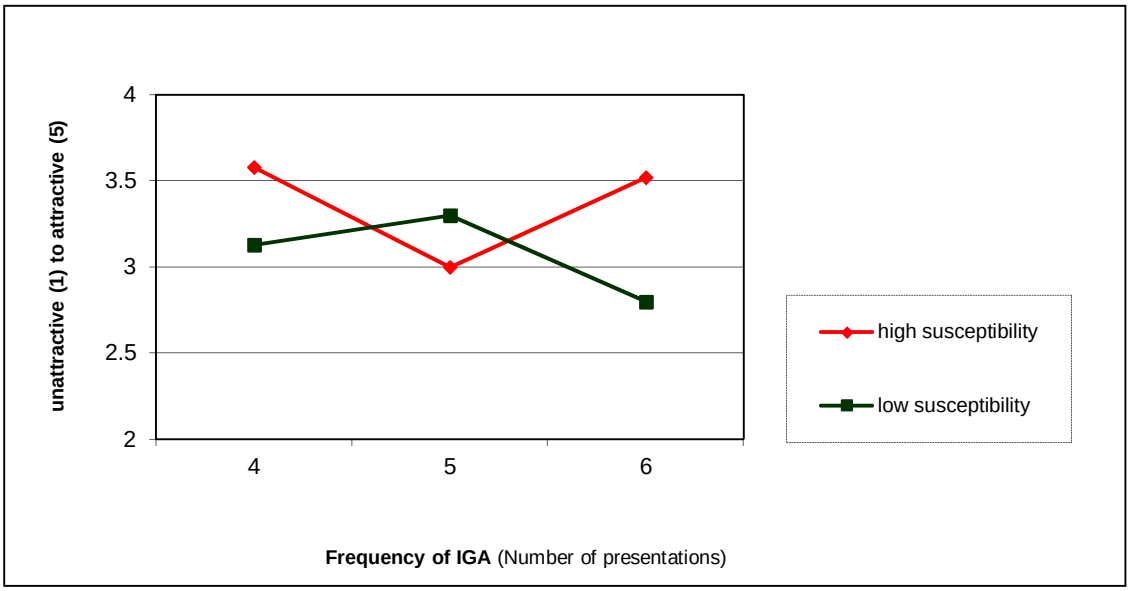


Fig. 3: Frequency of IGA, Susceptibility and Evaluation (Item: Attractiveness) of Uniqa

Persons who consider themselves more susceptible (high values at Scale CSII-D) evaluate the attractiveness of Uniqa more positively under conditions of small and big number of presentations of the IGA. This interaction pattern is representative for all items used in the evaluation of Uniqa. Persons who consider themselves less susceptible showed a significant increase in the evaluation, when the brand appeared more often in the game, in this case five instead of four times. At five presentations the persons who were less susceptible estimated Uniqa more attractive than the persons who are easier to persuade. But with the highest frequency of IGA (placements of a single brand or product) a steep decline of evaluation occurs. Here, the brand is estimated even less attractive compared to the lowest frequency of IGA. The difference in the evaluation between disparate personality types cannot be overlooked. As there is no significant difference in the memory data between all groups, there must have taken place unconscious processes in the judgment by disparate personalities. In the beginning, the persons were not aware, that they were to be influenced by advertising and a conceptual process in terms of 'Coping' could not superimpose the perceptual fluency of the advertising message. At repeated placements of brands and products this caused a positive change of attitudes.

7. DISCUSSION AND CONCLUSION

Changes in opinion are an important objective of advertising activity chiefly because opinions show the willingness to behave in a certain way towards an object. But these changes do not only occur by influencing communication in form of advertising, but are also caused by affective and cognitive processes by the consumer. The pre-knowledge resp. the schemata are constructions, which humans resort to in forming judgments. In the investigation by Steininger and Woelke (2008) an opinion transfer between specific media offers and the promoted brands can be shown. Wear-out and reactance effects through repeated and invasive insertion of brands and products can antagonize a positive change of opinion. Furthermore, memory effort does not say anything about the evaluation of the brand, i.e. what opinions and attitudes consumer have towards that brand. Studies showed that memory effects could emerge without a direct memory effort being established (Shavitt and Wänke 2004). Unconscious information from memory is being used without being explicitly remembered. Such indirect memory effects are independent from attention, i.e. attention at the uptake of information is not a requirement for an implicit use of experience for rendering a judgment.

In IGA as a program integrated advertising form brands and products are only casually perceived, even more than in product placements in classical media. Repeated presentations of IGA do not change this. The interactivity and the possible impacts, which could emanate from computer games - like flow, immersion and structural linking - contribute to computer players living inside the game and therefore are involved in the game plot to a higher extent. This leads to bonding of cognitive capacities and with that to a casual uptake of additional contents as IGA products and brands.

The experimental study showed a MEE by replay of IGA with high involvement in the game plot. Brands were assessed the more favorably, the more often they appeared in the game and the higher the involvement of the players. But it also showed a curve-linear link between the assessment of brands and the presentation frequency. Through intensive and frequent playing brands that before were rather casually perceived became more and more noticeable. This can lead to a control process that will influence the perceptual fluency of presented contents. The study was able to show, as well, that personal susceptibility has a significant relevance for the research on advertising effectiveness. Most implicit opinion effects established by this study could be attributed to the interaction with the personal susceptibility. Persons, who can be influenced more easily, evaluate brands and products more positively. The results of the study also showed that persons, who consider themselves less susceptible to persuasion, gave a more positive evaluation after repeated IGA.

Even though this study could establish a link between repetition of InGame-Advertising and evaluations dependent on the level of involvement in the game plot resp. a person’s susceptibility to interpersonal influence, it could not sufficiently be clarified, if inserted brands and products are really unconsciously perceived. In the chosen test design the free memory of presented brands was assessed only after an opinion measure had been conducted. This seems to have offset the values in the direction of better recall. Regardless of the fact that the level of involvement studies should be controlled in a better way, the observed interaction effect of presentation frequency and a person’s susceptibility (CSII) on attitudes presents a new relevant phenomenon for the empirical analysis of MEE effects.

8. REFERENCES

Activision Inc. 2005, Activision and Nielsen Entertainment Release Results of Pioneer Research on In-Game Advertising, viewed 26 January 2011,

<http://investor.activision.com/releasedetail.cfm?ReleaseID=181109>.

Avtigis, TA 1998, 'Locus of control and persuasion, social influence, and conformity: A meta-analytic review', Psychological Reports, vol. 83, no. 3, pp.899-903.

Bearden, WO, Netemeyer, RG & Teel, JE 1989, 'Measurement of Consumer Susceptibility to Interpersonal Influence', Journal of Consumer Research, vol. 15, no. 4, pp. 473-481.

Beattie, AE & Mitchell, AA 1985, 'The Relationship between Advertising Recall and Persuasion: An Experimental Investigation', in LF Alwitt & AA Mitchell (eds.), Psychological Process and Advertising Effectiveness. Theory, Research, and Application, Lawrence Erlbaum Associates, Hillsdale, pp. 129-155.

Bornstein, RF 1989, 'Exposure and Affect: Overview and Meta-Analysis of Research, 1968-1987', Psychological Bulletin, vol 106, no. 2, pp. 265-289.

Bornstein, RF & D'Agostino PR 1992, 'Stimulus Recognition and the Mere Exposure Effect', Journal of Personality and Social Psychology, vol. 63, no. 4, pp. 545-552.

Bousch, DM, Friestad, M & Rose, GM 1994, 'Adolescent Skepticism toward TV Advertising and Knowledge of Advertiser Tactics', Journal of Consumer Research, vol. 21, no. 1, pp. 165-175.

Calleja, G 2007, 'Digital Game Involvement. A Conceptual Model', Games and Culture, vol. 2, no. 3, pp. 236-260.

Cialdini, RB 2000, Influence: Science and Practice, Allyn & Bacon, Boston.

Csíkszentmihályi, M 1990, Flow: The psychology of optimal experience, Harper & Row, New York.

Dardis, FE, Schmierbach, M & Limperos, AM 2012, 'The Impact of Game Customization and Control Mechanisms on Recall of Integral and Peripheral Brand Placements in Videogames', Journal of Interactive Advertising, vol. 12, no. 2, pp. 1-12.

Douglas, JY & Hargadon, A 2001, 'The pleasure of immersion and engagement: Schemas, scripts and the fifth business', Digital Creativity, vol. 12, no. 3, pp. 153-166.

Friestad, M & Wrigth, P 1994, 'The Persuasion Knowlegde Model: How People cope with Persuasion Attempts', Journal of Consumer Research, vol. 21, no. 1, pp. 1-31.

Fritz, J 1995, 'Modelle und Hypothesen zur Faszinationskraft von Bildschirmspielen', in J Fritz (ed.), Warum Computerspiele faszinieren: Empirische Annäherung an Nutzung und Wirkung von Computerspielen, Juventa, Weinheim, pp. 11-39.

Fritz, J & Misek-Schneider, K 1995, 'Computerspiele aus der Perspektive von Kindern und Jugendlichen', in J Fritz (ed.), Warum Computerspiele faszinieren: Empirische Annäherung an Nutzung und Wirkung von Computerspielen, Juventa, Weinheim, pp. 86-125.

GFK Austria 2010, Sozial- und Organisationsforschung: Jugend 2010, viewed 24 january 2011 <http://www.gfk.at/imperia/md/content/gfkaustria/data/press/2010/2010-12-20_pm_js10_bedeutung_von_computerspielen.pdf>.

Grodal, T 2000, 'Video games and the pleasure of control', in D Zillman & P Vorderer (eds.), Media Entertainment: The psychology of its appeal, Lawrence Erlbaum Associates, Mahwah, NJ, pp. 197-213.

Harmon-Jones, E & Allen, JJB 2001, 'The Role of Affect in the Mere Exposure Effect: Evidence from Psychophysiological and Individual Differences Approaches', Personality and Social Psychology Bulletin, vol. 27, no. 7, pp. 889-898.

Ito, TA, Larsen, JT, Smith, KN & Cacioppo, JT (1998), 'Negative information weighs more heavily on the brain: The negativity bias in evaluating categorizations', Journal of Personality and Social Psychology, vol. 75, no. 4, pp. 887-900.

Jana, R 2006, Is That a Video Game - or an Ad? viewed 6 October 2011, <http://www.businessweek.com/innovate/content/jan2006/id20060124_792815.htm>.

Kapferer, JN & Laurent, G 1995, 'Consumer's Involvement Profile: New Empirical Results', Advances in Consumer Research, vol. 12, no.1, pp. 290-295.

Klimmt, C, Schmid, H, Nosper, A, Hartmann, T & Vorderer, P 2008, ''Moral management': Dealing with moral concerns to maintain enjoyment of violent video games', in A Sudmann-Jahn & R Stockmann (eds.) Computer games as a sociocultural phenomenon: Games without frontiers – wars without tears, Hampshire, Palgrave Macmillan, Basingstoke, pp. 108-118.

Knippelmeyer, M 2004, Virtualität stärkt die Markenglaubwürdigkeit. TNS-Emnid-Studie: Mehr Realismus bei E-Games durch echte Marken, viewed 26 January 2011, http://www.tns-emnid.com/presse/pdf/presseinformationen/2004_02_05_TNS_Emnid_Virtualitaet_Gamer.pdf

König, J 2002, RUB-Forscher untersuchen Adgames: Werbebotschaften im sympathischen Umfeld, viewed 26 January 2011,

<http://www.innovations-report.de/html/berichte/kommunikation_medien/bericht-9882.html>.

Liu, Y & Shrum, LJ 2002, 'What Is Interactivity and Is It Always Such a Good Thing? Implications of Definition, Person, and Situation for the Influence of Interactivity on Advertising Effectiveness', Journal of Advertising, vol. 31, no. 4, pp. 53-64.

Loftus, EF 1979, Eyewitness testimony, Harvard University Press, Cambridge, MA.

Mackay, T, Ewing, M, Newton, F & Windisch, L 2009, 'The effect of product placement in computer games on brand attitude and recall', International Journal of Advertising, vol. 28, no. 3, pp. 423–438.

Mitchell, AA 1981, 'The Dimensions of Advertising Involvement', Advances in Consumer Research, vol. 8, no. 1, pp. 25-30.

Mitgutsch, K, Klimmt, C & Rosenstingl, H 2010, Exploring the edges of gaming. Proceedings of the Vienna Games Conference 2008-2009: Future and Reality of Gaming, Braumüller, Vienna.

Naples, MJ 1997, 'Effective frequency: Then and now', Journal of Advertising Research, vol. 37, no. 4, pp. 7-12.

Nelson, MR 2002, 'Recall of Brand Placements in Computer/Video Games', Journal of Advertising Research, vol. 42, no. 2, pp. 80-92.

Packard, V 1957, The Hidden Persuaders. ig Publishing, Brooklyn, NY.

Pham, TM 1992, 'Effects of Involvement, Arousal, and Pleasure on the Recognition of Sponsorship Stimuli', Advances in Consumer Research, vol. 19, no. 1, pp. 85-93.

Reber, R & Schwarz, N 1999, 'Effects of perceptual fluency on judgments of truth', Consciousness and Cognition, vol. 8, no. 3, pp. 338-342.

Ritterfeld, U, Cody, M & Vorderer, P 2009 (eds), Serious Games: Effects and mechanisms, Routledge, New York.

Russel, CA 2002, 'Investigating the effectiveness of product placement in television shows: The role of modality and plot connection congruence on brand memory and attitude', Journal of Consumer Research, vol. 29, no. 3, pp. 306-318.

Russel, CA & Stern, BB 2006, 'Consumers, Characters and Product. A Balance Model of Sitcom Product Placements Effect', Journal of Advertising, vol.35, no. 1, pp. 7-21.

Schemer, C, Matthes, J & Wirth, W 2007, 'More Than Meets the Eye: Investigating the Hidden Impact of Brand Placements in Television Magazines', International Journal of Advertising, vol. 26, no. 4, pp. 477-503.

Schemer, C, Matthes, J, Wirth, W & Textor, S 2008, 'Does 'Passing the Courvoisier' Always Pay Off? Positive and Negative Evaluative Conditioning Effects of Brand Placements in Rap Videos', Psychology & Marketing, vol. 25, no. 10, pp. 923-943.

Schneider, LP & Cornwell, TB 2005, 'Cashing in on crashes via brand placement in computer games', International Journal of Advertising, vol. 24, no. 3, pp.321-343.

Shavitt, S & Wänke, M 2004, 'Consumer Behavior', in MB Brewer & M Hewstone (eds.) Applied Social Psychology, Wiley-Blackwell, Malden, MA, pp. 569-590.

Steininger, C & Woelke, J 2008, 'Separating TV ads from TV programming. What we can learn about program-integrated advertising from economic theory and research on media use', Communications, vol. 33, no. 4, pp. 455-471.

Suedfeld, P & Tetlock, PE 2003, 'Individual differences in Information processing', in A Tesser & N Schwarz (eds.), Blackwell Handbook of Social Psychology: Intraindividual processes, Wiley-Blackwell, Malden, MA, pp. 284-304.

Winke, M, Bless, H & Biller, B 1996, 'Subjective Experience versus content of information in the construction of attitude judgments', Personality and Social Psychology bulletin, vol. 22, no. 11, pp. 1105-1113.

Weaver III, JB, Mays, D, Weaver, SS, Kannenberg, W, Hopkins, GL, Eroglu, D & Bernhardt, JM 2009, 'Health-Risk Correlates of Video-Game Playing Among Adults', American Journal of Preventive Medicine, vol. 37, no. 4, pp. 299–305.

Wirth, W 2006, 'Involvement', in Psychology of Entertainment, J Bryant & P Vorderer (eds.), Lawrence Erlbaum Associates, Mahwah, NJ, pp. 199-213.

Woelke, J 1998, 'Product Placements oder Werbespots? Zwei Werbepräsentationsformen im Vergleich', Zeitschrift für Sozialpsychologie, vol. 29, no. 3, pp. 165-174.

Woelke, J 2008, 'Nicht alle, aber einige mehr! Werbewirkungen unter dynamisch-transaktionaler Perspektive', in C Wünsch, W Früh & V Gehrau (eds.), Integrative Modelle in der Rezeptions- und Wirkungsforschung: Dynamische und transaktionale Perspektiven, Fischer, Munich, pp. 81-106.

Woelke, J & Dürager, A 2011, 'Beeinflussbarkeit und Werbewirkung. Erstellung einer deutschsprachigen Version der Skala 'CSII' und Test für die Medien- und Werbepsychologie', Journal of Business and Media Psychology, vol. 2, no. 2, pp. 1-9.

Zajonc, RB 1968, 'Attitudinal effects of mere exposure', Journal of Personality and Social Psychology, Monograph Supplement, vol. 9, no. 2, part 2, pp. 1-27.

Zajonc, RB 2001, 'Mere exposure: a gateway to the subliminal', Current Directions in Psychological Science, vol. 10, no. 6, pp. 225-228.