The Effect of Dynamic and Realistic Imagery in Promotional Posters for Performing Arts Performances

By Wouter Stoter (s2394340)

University of Twente
Faculty of Behavioral, Management
and Social Sciences
Communication Science

2023-06-29

Supervisor: Dr. H.A. van Vuuren





NEXT WEEK

UNIVERSITY CAMPUS

Abstract

Various universities offer cultural performances on campus, but some barriers stop many students from attending. Various research is available on arts marketing and strategies, but research regarding the design of promotional material is missing. The goal of this research was to find design cues that increase the effectiveness of promotional material for cultural performances targeted towards students. This encourages more students to visit these performances, which improves their mental health and helps cultural organizations fill their audience. It was found in literature that non-visitors of performances often are afraid to be bored, and it was hypothesized that suggesting movement in posters might reduce this. Current visitors, however, mostly visited for the feeling of a live performance and connection with the performers, which resulted in the hypothesis that realistic photos of people with faces in them are more effective in posters than graphics. To test this, data was collected from 154 students through a survey with 4 different posters, in a two-by-two-design varying in dynamism and realism. Their effects on poster attractiveness, event attitude and intention to visit were analysed, and interaction between the independent variables was also considered. This was done for three different events: a music, dance and theatre performance. Current attendance was measured as a moderator for the effects on event attitude and intention to visit. A significant negative effect of dynamic imagery on intention to attend was found, but moderation of current attendance affected this positively. The poster attractiveness was negatively impacted by realism, but positively by dynamism, with a combination of the two being most positive. Since these effects vary between dependent variables and between attendees compared to non-attendees, it is important for cultural organizations to consider their goals and target audience when designing promotional material. Future research could look into more cues and consumer segments that might have an effect.

Keywords: performing arts, promotional posters, culture, dynamism, realism, students

The Art of Promotion: The Effect of Dynamic and Realistic imagery in Promotional Posters for Performing Arts Performances

Research suggests that attending cultural activities on a regular basis has positive mental health benefits (O'Neill, 2010). Therefore, in a time when the mental well-being of Dutch youth is decreasing (Centraal Bureau voor de Statistiek, 2022), it becomes increasingly important to make them aware of the cultural offer. Furthermore, research found various other gains for students attending on-campus Cultural Events, including aspects of cognition, social, emotional and personal gains (Tuten et al., 2020). This makes the promotion of cultural events among students essential. However, research outlining how to best promote these kinds of events among students is scarce.

Numerous cultural performances take place on the campus of the University of Twente (UT), organized by various student-driven cultural organizations. These organizations need to make sure they sell enough tickets for their performances, to stay financially stable while making their performances enjoyable for their audience and performers. Therefore, they usually promote their events using physical posters, social media posts and stories, and slides shown on screens present on the campus. However, these visuals are currently often designed without a clear strategy, often due to a lack of knowledge in how to make the designs as attractive as possible for the target group.

Quite some research on arts marketing exists already focused on the organizational and management side, outlining different marketing strategies and the role of marketing (O'Reilly, 2011).

However, research into graphic design or design cues that are effective within arts marketing is barely available. Even though literature exists on design in topics like packaging or logo design (e.g., Deng & Kahn, 2009; Cian et al., 2014), it is not clear if the same principles translate to promotion material for art performances. These design cues are also often researched in a more general context, meaning there is a lack of research specifically aimed at what cues are effective for students.

This research aims to fill these gaps, resulting in the following research question: Which design cues in promotional material make attending cultural events more attractive to students? By answering this question, organizations can target students more easily, increasing their audience, and improving the mental health of the students. This study focuses on the events at the University of Twente but might apply to a wider audience. The process of answering this question is described in the rest of this report, starting with a theoretical framework, followed by the research methods, results, discussion, and conclusions.

Theoretical Framework

In order to find effective cues in the promotional material, it is important to be aware of what the reasons are for people to visit or not to visit a performance. This information can then be addressed visually in the material, to make it more appealing. This way it can be hypothesized what kind of promotion is effective, which can then be tested. Therefore, in the following sections, the barriers and motivations of consumers are discussed. For each, corresponding visual elements are considered and used to make hypotheses. Lastly, it is hypothesized how these visual elements interact.

Barriers

To properly target students, it is important to be aware of what is keeping them from attending cultural performances, to address those concerns in the promotional materials. Kolb (1997) identified cost as the most common barrier among British and American students, with 31% stating this as a reason. However, since the cultural organizations at the UT are non-profit, ticket prices cannot easily be decreased, which is why this variable is not applicable for this research. The second most common barrier was fear of boredom, with 29%. This barrier was also identified by Andreasen & Belk (1980) among students from the South of the US and found to be the most common barrier by Tajtakova & Arias-Aranda (2008) for Slovakian students to attend opera and ballet performances. Another barrier that was mentioned by all three aforementioned articles was a lack of knowledge or ability to

understand the arts. Other commonly mentioned barriers were related to social pressure (Kolb, 1997), like a lack of interest from their surroundings (Tajtakova & Arias-Aranda, 2008) and fear that their companions would not enjoy the event. Attention to these barriers might influence the effectiveness of promotional materials. However, since this would only address barriers of non-visitors, this effect might be less strong among current visitors.

To limit the scope of these research, only one of these barriers was picked to address using design cues. Since fear of boredom is the most commonly mentioned barrier, after cost, this barrier will be focused on most. The goal is to address this barrier with design cues in the promotional material. The barrier of 'fear of boredom' can be addressed in different ways. Ohl (2016) found three features that make imagery boring: dull repetition, the indolence of movement, and lacunas and banalities. These features were examined in the context of moving U.S. drone imagery, but translating this to promotional imagery, could suggest that avoiding repetition, suggesting movement, and avoiding white space or tropes could make images less boring. The use of these design cues, therefore, could make the event seem less boring to viewers, and make them feel more positive about the event and more likely to attend. Other research also shows that suggested movement in logos increases engagement (Cian et al., 2014). This suggests that using suggested movement might not only improve the event attitude and intention to attend, by making the event look less boring but might also make the poster itself look more attractive. Movement can be suggested within the image itself, for example by a person being in a walking pose, but can be highlighted using visual elements like stripes or certain types of blurs (Van Den Broek et al., 2012). Therefore, the use of dynamic imagery could make the poster more attractive and help address the fear of boredom, and in doing so improve the event attitude and intention to visit of consumers. This results in the following hypothesis:

H1: Posters with dynamic imagery enhance students' (a) event attitude, (b) intention to attend and (c) poster attractiveness compared to posters with static imagery.

Since the effects on event attitude and intention to attend were hypothesised based on the barrier of fear of boredom, it is important to remember that these barriers were found by asking non-visitors. Therefore, it can be suggested that these effects are moderated by the current attendance, showing a stronger effect for non-visitors. This results in the following hypotheses:

H2: The positive effect of image dynamism on (a) event attitude and (b) intention to attend is stronger for people who currently do not visit on-campus cultural performances.

Motivations

In the previous paragraph, the barriers that stop non-visitors from attending performances were outlined and used these to find design cues that might make cultural events more appealing. The same can be done by looking at motivations. Tajtakova & Arias-Aranda (2008) also looked into the motivations of current attendees to attend. The most mentioned motivations were (in order) to experience live performance, to see a particular piece, interest in the genre in general and to go out with friends or family. Matthew (2004) looked into what elements create the perception of 'liveness' in theatre performances. He concluded that the feeling of shared memory, awareness of the human performer and sense of the audience create this feeling. These elements all relate to a feeling of connection to the performers or other audience members. Personal conversations with people involved in the performances at the UT also highlighted that, in their experience, a lot of visitors attend their shows due to a personal relation to the performers. The importance of this personal connection is also highlighted by Tajtakova & Arias-Aranda (2008), who had a substantial part of their participants indicate that they do not usually visit performances but have done so influenced by other people or circumstances. Finding design cues that highlight this, might convince people to attend more or different shows. Since these motivations were given by current visitors, this effect is probably stronger in this group.

One possible way to highlight this is using pictures of people in promotional material, as opposed to more stylized images. This might make the performance feel more personal and create a connection with the performers already before the show starts. Using pictures might also make it feel more realistic, addressing the perception of 'liveness' among viewers. Therefore, this change could improve the event attitude and intention to attend. Research also found that the use of faces increases attention (Sajjacholapunt & Ball, 2014), suggesting that it might also make the poster itself look more attractive. To contrast these photos, drawings or silhouettes can be used in the same pose, that do not show the facial features, to make them feel less personal, without changing the entire design of the poster. Therefore, the realistic-looking photos of people should make the poster look more attractive and increase the attitude towards and the intention to attend the event, more than stylized impersonal images. This results in the following hypothesis:

H3: Posters with realistic personal imagery enhances (a) event attitude, (b) intention to attend and (c) poster attractiveness compared to posters with stylized impersonal imagery.

Here too, the effect on event attitude and intention to attend was based on motivations in current visitors, suggesting that this group might be more affected by this cue. This results in the following hypothesis:

H4: The positive effect of image realism on (a) event attitude and (b) intention to attend is stronger for people who already visit on-campus cultural performances.

Interaction

Since for many consumers, it is important to both be motivated as well as having their barriers taken away, it is expected that these effects strengthen each other, making a dynamic realistic image the most effective. Furthermore, having one positive design cue on the poster and one negative design

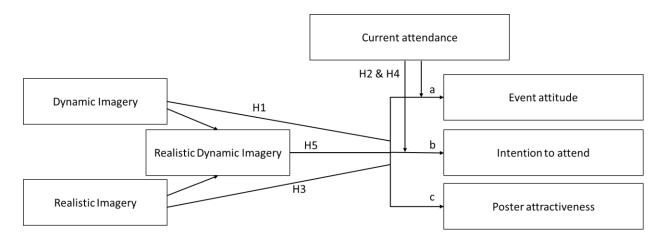
cue might give viewers the feeling of incongruence. Research in packaging design has shown that congruence makes a design more attractive (Van Rompay & Pruyn, 2011). However, it should be taken into consideration that it was mentioned in this study that this effect varies across product categories and consumer personalities. Furthermore, they suggest that a small amount of incongruence might even have a positive effect, by attracting attention. Other research in the area of sports sponsorships shows that congruence between the event and the sponsor mentioned on the poster showed a positive effect on purchase intention (Santos et al., 2019). This suggests that using congruent messaging does not only improve the attractiveness of the poster itself, but can also positively influence the event attitude and intention to attend. This results in the following hypothesis:

H5: The combination of a dynamic, realistic image has a positive effect on (a) event attitude, (b) intention to attend and (c) poster attractiveness over and above the individual effects of dynamism and realism

The full model giving an overview of all the hypotheses can be found in Figure 1.

Figure 1

Conceptual Model showing all hypotheses



Methodology

Stimuli

This study focusses on the use of dynamic images (containing suggested movement) and the use of personal realistic images (photos featuring people) in posters on the intention to visit and event attitude for student cultural performances. To test this, various stimuli were designed. For this design, photos were selected from various performances in different disciplines (theatre, dance, music) featuring people. These photos were selected on the basis that there was a pair of photos that looks very similar, but one with and one without suggested movement. Motion blurs were used to further emphasize the movements in the pictures. In a small pre-test (*N*=21, see Appendix A) it was tested if photos were correctly identified as dynamic or static by participants. The photos with intended implied movement were correctly identified as such by (almost) all participants. The photos for theatre and dance that were intended to be static were rated as dynamic by some participants but were still more often rated as static than dynamic. There was also always a significant difference between the rating of the static and dynamic pictures, with a significance level of 5%. Therefore, these pictures were deemed sufficient, and it was decided to continue with these pictures.

These images were used as the personal realistic stimuli. To contrast these photos, the pictures were used to create a drawing with the same pose, but without a visible face, to create a less personal, more stylized poster. These graphics were put into a poster design. This gives for all three different performances (theatre, dance, music) four different posters; with or without suggested movement and with a photo or with a graphic, and combinations of these (see Appendix B).

Sampling method

The participants of the study were found using convenience sampling. The requirements were that the participants need to be over 16 years old and students at a University of Applied Science (HBO) or Research University (WO). This is to make sure they are part of the target audience of the posters.

Participants were approached through social media and messaging channels (WhatsApp, Snapchat, LinkedIn) of the researcher and online survey-sharing sites. Participants that participated through survey-sharing websites (i.e. Survey Circle and Survey Swap) were given the incentive of receiving points on the respective website. This only applied to a total of seven participants.

Using this method 212 participants were found, of which 154 had valid responses. Ten of those were only partial responses but were filled in far enough to still have valid information for some of the analyses. These participants were mostly female (81) and most had a Dutch nationality (85). Participants were aged between 16 and 45 (M = 22.5; SD = 3.3) as can be expected from students. Most were doing a bachelor's at a research university and had visited a cultural performance in the past year. A full overview of the demographics data per condition can be found in Table 1.

Table 1Demographics of Study Participants per Subgroup

Baseline characteristic	Dynamic Realistic Imagery		Dynamic Stylized Imagery		Static Realistic Imagery		Static Stylized Imagery		Full sample	
	n	%	n	%	n	%	n	%	n	%
Gender										
Male	17	44.7	12	29.3	14	35.9	9	25.0	52	33.8
Female	15	39.5	23	56.1	20	51.3	23	63.9	81	52.6
Non-binary / Third gender	2	5.3	3	7.3	1	2.6	3	8.3	9	5.8
Prefer not to say / Missing	4	10.5	3	7.3	4	10.3	1	2.8	12	7.8
Nationality										
Dutch	19	50.0	26	63.4	24	61.5	16	44.4	85	55.2
German	7	18.4	4	9.8	4	10.3	10	27.8	25	16.2
Other	8	21.1	9	22.0	6	15.4	7	19.4	30	19.5

Prefer not to say / Missing	4	10.4	2	4.9	5	12.8	3	8.3	14	9.1
Education										
HBO Bachelor	5	13.2	9	22.0	4	10.3	7	19.4	25	16.2
HBO Master	4	10.4	2	4.9	0	0.0	0	0.0	6	3.9
WO Bachelor	18	47.4	16	39.0	24	61.5	19	52.8	77	50.0
WO Master	11	28.9	14	34.1	11	28.2	10	27.8	46	29.9
Current Visitor										
Yes	22	57.9	19	46.3	29	74.4	28	77.8	98	63.6
No	16	42.1	22	53.7	10	25.6	8	22.2	56	36.4
Total	38	100	41	100	39	100	36	100	154	100

Note. Participants were on average 22.5 years old (SD = 3.3).

Investigation of independence

To test independence, the relationship between the demographics and the condition they were placed in was calculated. Chi-squared tests of independence were used for categorical demographics and analyses of variance were used for numeric demographics. With a 5% significance level, these tests showed no significant relationship with gender ($X^2(6, N = 142) = 5.81, p = .44$), nationality ($X^2(6, N = 140) = 7.04, p = .32$) or study level ($X^2(9, N = 154) = 11.93, p = .21$). Despite the assignment of conditions being done randomly, an association was found between the condition and the current attendance ($X^2(3, N = 154) = 10.89, p = .01$), suggesting this was not equally distributed. However, this should not influence the results significantly, since current attendance is already taken into account as an independent variable. The relation between condition and age was also examined, but this was done using an Analysis of Variance since this is a continuous variable. No significant association was found (F(3, 138) = 1.84, MSE = 10.95, p = .14).

Instrument

These participants were asked to fill in a survey of approximately 5 minutes (see Appendix C). The online survey tool Qualtrics was used to gather data. Before starting the study, an informed consent form was shown. This form did inform participants that the goal of this study is to improve promotional material for cultural performances aimed at students. They were not informed about the exact variables, to avoid bias when answering questions. Furthermore, they were informed about the risks of a data breach, due to the online nature of the study. Participants were encouraged to reach out to the Ethical Committee of the Faculty of Behavioural, Management and Social Sciences at the UT if they had any ethical concerns about the study and were informed that this committee had also examined and approved the study beforehand. Participants needed to confirm to have read and agreed to this information before starting the study.

At the beginning of the survey, some filtering questions were asked, to filter out people that do not fill the requirements. After this, participants were randomly assigned to one of the poster types. The posters of this type for every discipline are shown to the participant in a random order for a maximum of 7.5 seconds. This is to simulate the fact that poster boards are often only seen at passing by, and screen slides and social media stories are always only shown for a limited time of 5 seconds or 10 seconds, respectively.

After each poster, the event attitude and intention to attend the event were measured using multiple questions. For all these questions a seven-point Likert scale, ranging from strongly disagree to strongly agree, was used. Using multiple questions per construct and having a Likert scale with more than five points, increased the likelihood that the ordinal variables could be used for a linear relationship (van den Berg, 2019). The questions for both constructs were presented together in random order. The items used in the questionnaire were based on other studies, to ensure reliability and validity. For the event attitude four items were used, like "The event is attractive" and "I like the event" ($\alpha = 0.88$). These items were adapted from the scale by Shin et al. (2018), leaving out one of the items ("I am satisfied

with the event") since this item did not seem applicable to an event the participants have not (yet) visited. Their intention to attend was measured with three items, like "I intend to attend the performance" and "Attending this event is something I plan to do" (α = 0.95). These items were adapted from Hagger et al. (2001) and used in multiple studies (Cunningham & Kwon, 2003; Eddosary et al., 2015) to measure the intention to visit sports events. All items, including their factor loadings can be found in Table 2.

At the end of the survey, to compare the poster attractiveness, participants are shown all four poster options for each event in random order and are asked to pick the most attractive poster. After this, the demographic data was collected. After completing the survey, participants were informed of the exact variables researched in the study. Evidently, after knowing this information, participants were given the opportunity to withdraw their consent. Furthermore, participants were encouraged to keep the information about the real nature of the study to themselves, to avoid bias in possible future participants.

Table 2Maximum-likelihood factor analysis with a Varimax rotation.

Items	Factor loading			
	1	2		
Intent to Attend				
I intend to attend the performance	.85	.41		
Attending this event is something I plan to do	.87	.35		
I will try to attend the performance	.85	.37		
Event Attitude				
I like the event	.44	.76		
I am in favour of the event	.62	.71		
The event is attractive	.53	.66		
The event is good	.26	.72		

Note. N = 462. Factor loadings above .50 are in bold.

Analysis

Data was analysed in R (R Core Team, 2023) using two different types of models: Linear Mixed Models (LMM), to create regressions with both fixed and random variables, and Poisson Models, to create models of count data. To create LMMs in R, the Ime4 (v1.1.33; Bates et al., 2015) and ImerTest (v3.1.3; Kuznetsova et al., 2017) packages were used. These models were estimated using the ML and nloptwrap optimizers. P-values and confidence intervals were computed using a Wald t-distribution approximation. Additional parameters were extracted using the parameter package (v0.21.1; Lüdecke et al., 2020). An alpha of .05 was used as the critical *p*-value. To create Poisson Models in R, the glm function was used, which is included in the basic packages of R. These models were estimated using ML, and p-values and confidence intervals were computed with a Wald z-distribution approximation.

Results

Results were analysed by dependent variable, so the different predictors for this variable could be included in the same model.

Event Attitude

To test the effects of the different predictors on event attitude, a LMM was fitted with Realistic, Dynamic and Current Visitor as predictors, including the interactions between the variables. Since participants were asked to rate posters of multiple events, the participant and the event type (music, theatre, dance) were taken into account as random effects. The total explanatory power of the model is substantial (conditional $R^2 = .33$). When only taking the fixed effects into account (marginal R^2) the explanatory power is .07. The full model can be seen in Table 3.

The results show no significant difference in event attitude between people shown a realistic poster and people shown a stylized poster (t(434) = -1.05, p = .30), rejecting hypothesis H3a. Hypothesis H4a was rejected as well since its interaction with the current attendance was also not significant (t(434) = -0.20, p = .84). There was also no main effect of dynamism found (t(434) = -0.32, p = .75), nor any

interaction with current visitor (t(434) = 0.90, p = .37), rejecting H1a and H2a. Combining realism and dynamism did not yield any significant effect either (t(434) = 0.62, p = .54), rejecting also H5a. The differences between each group are visualized in Figure 2.

Table 3

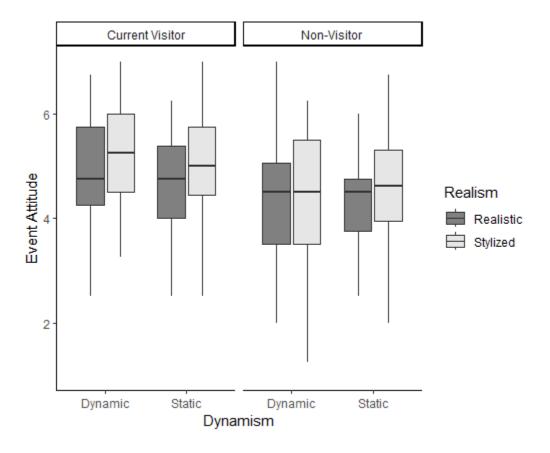
Linear Mixed Model of the Effects on Event Attitude

Effect	Estimate	SE	95%	р	
			LL	UL	_
Fixed effects					
(Intercept)	4.57	0.27	4.05	5.10	<.001
Realistic ^a (H3a)	-0.37	0.35	-1.06	0.32	.30
Dynamic ^b (H1a)	-0.10	0.31	-0.70	0.51	.75
Current visitor ^c	0.36	0.30	-0.22	0.95	.22
Realistic × Dynamic (H5a)	0.27	0.44	-0.58	1.12	.54
Realistic × Current visitor (H4a)	0.08	0.40	-0.71	0.87	.84
Dynamic × Current visitor (H2a)	0.34	0.38	-0.40	1.09	.37
(Realistic × Dynamic) × Current visitor	-0.37	0.53	-1.42	0.67	.48
Random effects					
Participant SD	0.54	0.06	0.43	0.68	
Event Type SD	0.10	0.07	0.02	0.38	
Residual SD	0.87	0.04	0.80	0.95	

Note. Number of respondents = 153, number of posters = 3, total N = 445. CI = confidence interval; LL = lower limit; UL = upper limit. Significant p-values are shown in bold.

^a 0 = stylized, 1 = realistic. ^b 0 = static, 1 = dynamic. ^c 0 = has not visited a performance in the past year, 1 = has visited a performance in the past year.

Figure 2Boxplot showing the distribution of Event Attitude by dynamism, realism and current attendance



Intention to Attend

Similarly, a model was fitted with the same predictors and random variables, but intention to attend as the dependent variable. The conditional R^2 of this model is .36, and the marginal R^2 is .10. The model shows a negative non-significant effect of realism (t(435) = -1.35, p = .18), rejecting H3b. Also, no significant interaction with the current attendance was found (t(435) = 0.74, p = .46), rejecting H4b. The effect of dynamism, however, is significant (t(435) = -1.98, p = .05), showing that the intent to attend is approximately 0.84 lower for people shown a dynamic poster compared to people shown a stylized poster. Since this effect is in the opposite direction than hypothesised, H1b is still rejected. Its interaction with current attendance was also significant, showing that the intent to attend of participants is 1.04 higher for current visitors when shown a realistic poster than for non-visitors.

However, since it was hypnotized that current visitors were less positively affected by dynamism, H2b was also rejected. The interaction between realism and dynamism is insignificant (t(435) = 1.96, p = .05), rejecting H5b. The full model can be seen in Table 4, and the distribution of the intention to attend within each group is visualized in Figure 3.

Table 4

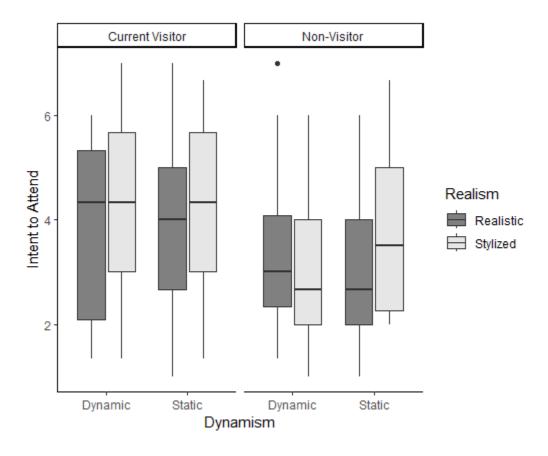
Linear Mixed Model of the Effects on Intent to Attend

Effect	Estimate	SE	95% CI		р
			LL	UL	-
Fixed effects					
(Intercept)	3.75	0.39	2.99	4.51	<.001
Realistic ^a (H3b)	-0.66	0.49	-1.62	0.30	.18
Dynamic ^b (H1b)	-0.84	0.42	-1.67	-0.01	.05
Current visitor ^c	0.44	0.41	-0.37	1.25	.28
Realistic × Dynamic (H5b)	1.17	0.60	-0.01	2.34	.05
Realistic × Current visitor (H4b)	0.41	0.56	-0.69	1.51	.46
Dynamic × Current visitor (H2b)	1.04	0.52	0.01	2.06	.05
(Realistic × Dynamic) × Current visitor	-1.38	0.73	-2.82	0.06	.06
Random effects					
Participant SD	0.74	0.09	0.59	0.94	
Event Type SD	0.23	0.12	0.09	0.63	
Residual SD	1.22	0.05	1.12	1.32	

Note. Number of respondents = 154, number of posters = 3, total *N* = 446. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. Significant p-values are shown in bold.

^a 0 = stylized, 1 = realistic. ^b 0 = static, 1 = dynamic. ^c 0 = has not visited a performance in the past year, 1 = has visited a performance in the past year.

Figure 3Boxplot showing the distribution of Intent to Attend by dynamism, realism and current attendance



Attractiveness

To measure the attractiveness, participants were asked to pick the most attractive poster out of all four posters. Figure 4 visualizes how often each of the posters was picked. Since the votes for each poster type were count data, a Poisson model was used. The full model can be found in Table 5. This model shows a significant negative effect of realism (z = -3.49, p < .001), suggesting that stylized posters are more attractive than realistic posters, rejecting H3c. The effect of dynamism was found to be significantly positive (z = 2.02; p = .04), supporting H1c, suggesting that dynamism in posters improves the attractiveness of the poster. The interaction between the two variables was also found to be significantly positive (z = 3.92; p < .001), supporting H5c, showing that participants found the poster with

realistic dynamic imagery significantly more attractive than posters with just realistic or just dynamic imagery. The full model can be found in Table 5.

Figure 4Bar chart showing which percentage of participants marked each of the four posters as their favourite.

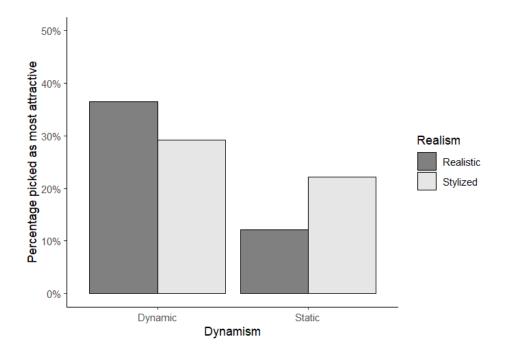


Table 5Poisson model showing the effects of realism and dynamism on the attractiveness of the poster

Effect	Estimate	SE	95% CI		р
			LL	UL	
(Intercept)	4.55	0.10	4.35	4.75	<.001
Realistic ^a (H3c)	-0.60	0.17	-0.95	-0.27	<.001
Dynamic ^b (H1c)	0.27	0.14	0.01	0.54	.04
Realistic × Dynamic (H5c)	0.82	0.21	0.42	1.24	<.001

Note. N = 428. CI = confidence interval; *LL* = lower limit; *UL* = upper limit. Significant p-values are shown in bold.

Conclusion and discussion

Main findings

This study had the aim of finding design cues that are effective in promoting cultural events among students. By examining barriers and motivations for visiting cultural performances for students, and examining effective cues used in other fields, the variables dynamism and realism were selective to use for the manipulations. The analysis found no significant effects on event attitude. However, contrary to the hypothesis dynamism was found to negatively impact the intention to attend. Possibly, the dynamic imagery made the poster more complex and increased the cognitive load, making it difficult to process for participants, especially since they could only look at the poster for limited time. A high cognitive load can make it more difficult for participants to learn new information (Mayer & Moreno, 2003), possibly making the barrier 'lack of knowledge or ability to understand the arts' mentioned by Tajtakova & Arias-Aranda (2008) even more present. Those who had visited an event before were positively impacted by dynamism, possibly since they already were familiar with these kinds of events, making the poster easier for them to process.

When it comes to poster attractiveness, the poster with dynamic imagery was rated as significantly more attractive than the ones with static imagery, despite this poster leading to a lower intention to visit among some participants. Perhaps this is caused by the over-representation of previous attendees in the study. Alternatively, non-attendees might have had an easier time processing the poster this time, since there was no time limit and they had already seen some of the posters before. The realistic poster, however, was seen as less attractive than its stylized counterpart. Possibly, people who preferred the realistic poster over the stylized poster were more inclined to pick the combination of realistic and dynamic, resulting in less people voting for the poster that was realistic and static. This can be supported by the fact that the dynamic realistic poster was most often seen as most attractive by participants, as hypothesised.

Theoretical implications

The fact that some effects were found that opposed the hypotheses, shows that effective cues in other fields cannot be directly translated to cultural promotional posters. Some significant differences between visitors and non-visitors also show that not every target audience can be targeted with the same material. This supports the findings of Van Rompay & Pruyn (2011) that product category and consumer personality play a big role in the effectiveness of certain cues. This show that more research is needed in this field, to uncover more cues that work effectively for cultural performances and be able to distinguish between more target audiences.

Quite some of the results gave a *p*-value very close to the critical *p*-value of .05, making some just significant and others just insignificant. For those cases, it is important to remember that the cut-off point is decided by the researcher. Despite the significance level of 5% being commonly used, this is merely a convention, meaning that for those variables future research might be needed to make sure these results were not subject to a Type I or Type II error.

Finally, the analysis shows that the explained variance in these models explained by the variables is not that high (maximum 36%), meaning there are still other variables that are of influence here that were not taken into account, for which future research might be needed.

Practical implications

The results of this study can be used by cultural organizations targeting students to improve their promotional material. It shows that these organizations need to carefully consider who their target audience is to decide between dynamic or static imagery. For example, they could decide to use more static imagery for posters they hang around the city, but use more dynamic imagery to hang around the theatre itself.

This research also shows clear differences between the independent variables. While stylized imagery might make a poster more attractive, that does not mean that it makes people more likely to

attend. These differences spark a lot of interesting questions, meaning future research might give more insight into the exact relationship between these. In general, this means that cultural organizations need to carefully consider their exact goals, and not assume that attractive imagery is always effective imagery.

Limitations

It is important to acknowledge that this study also has some weaknesses that need to be taken into account when interpreting its results. Having an unequal representation of visitors compared to non-visitors might have impacted the results of this study. Specifically, the group of people that did not visit a performance at their university in the last year was underrepresented, probably because those people are less present in the direct circle of the researcher. Furthermore, participants were mostly from the Netherlands and Germany, for the same reason. Doing the same study with a different participant group might give different results, which needs to be considered when applying these findings.

Furthermore, these effects were measured in the testing environment of a survey and not in a practical scenario. This difference could have influenced the results as well. For example, someone might have had a high intent to visit when presented with the poster right in front of them but might not have even noticed the same poster if hung on a poster board.

Future research

Besides the option of replication and other possibilities already mentioned in previous sections, there are still more options for future research to be discussed. For example, the study could be done in a more practical setting instead of a survey, by hanging up actual posters in public and see how often a QR code on there is scanned, for example. Future research could look into the differences between the different event types to see if there are differences between theatre and dance events for example. This could also be approached as a qualitative analysis, letting people highlight things they like or dislike

about the posters, to also give insight into more possible design cues. Unfortunately, these options were not possible for this research due to time restraints but can be explored further by other researchers.

Conclusions

Overall, this paper has demonstrated that making posters for cultural performances is not as straightforward as people might think. It is important to consider both the target group and the goal of the poster when designing. Especially the design cue of dynamism can be used to one's advantage when used properly and to the right target audience. By examining the effects of dynamism and realism in posters, this paper contributes to the scarce literature on design cues in arts marketing and has provided some practical implications for cultural organizations that are aiming to attract more students to their performances. However, more research is still needed to explore other target groups, design cues, and event types that might impact the effectiveness of promotional posters for cultural events.

References

- Andreasen, A. R., & Belk, R. W. (1980). Predictors of Attendance at the Performing Arts. *Journal of Consumer Research*, 7(2), 112. https://doi.org/10.1086/208800
- Bates, D. M., Mächler, M., Bolker, B. M., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*(1), 1–48. https://doi.org/10.18637/jss.v067.i01
- Centraal Bureau voor de Statistiek. (2022, May 31). Mentale gezondheid jongeren afgenomen. *Centraal Bureau Voor De Statistiek*. https://www.cbs.nl/nl-nl/nieuws/2022/22/mentale-gezondheid-jongeren-afgenomen
- Cian, L., Krishna, A., & Elder, R. S. (2014). This Logo Moves Me: Dynamic Imagery from Static Images.

 **Journal of Marketing Research, 51(2), 184–197. https://doi.org/10.1509/jmr.13.0023
- Cunningham, G. B., & Kwon, H. (2003). The Theory of Planned Behaviour and Intentions to Attend a Sport Event. *Sport Management Review*, *6*(2), 127–145. https://doi.org/10.1016/s1441-3523(03)70056-4
- Deng, X., & Kahn, B. E. (2009). Is your product on the right side? The "Location effect" on perceived product heaviness and package evaluation. *Journal of Marketing Research*, 46(6), 725–738. https://doi.org/10.1509/jmkr.46.6.725_JMR6B
- Eddosary, M., Ko, Y. J., Sagas, M., & Kim, H. J. (2015). Consumers' Intention to Attend Soccer Events:

 Application and Extension of the Theory of Planned Behavior. *Psychological Reports*, *117*(1), 89–102. https://doi.org/10.2466/01.05.pr0.117c13z7
- Hagger, M. S., Chatzisarantis, N. L. D., & Biddle, S. J. H. (2001). The influence of self-efficacy and past behaviour on the physical activity intentions of young people. *Journal of Sports Sciences*, *19*(9), 711–725. https://doi.org/10.1080/02640410152475847
- Kolb, B. M. (1997). Pricing as the key to attracting students to the performing arts. *Journal of Cultural Economics*, 21(2), 139–146. https://doi.org/10.1023/a:1007354503158

Kuznetsova, A. A., Brockhoff, P. B., & Christensen, R. H. B. (2017). ImerTest Package: Tests in Linear Mixed Effects Models. *Journal of Statistical Software*, 82(13), 1–26. https://doi.org/10.18637/jss.v082.i13

- Lüdecke, D., Ben-Shachar, M. S., Patil, I., & Makowski, D. (2020). Extracting, Computing and Exploring the Parameters of Statistical Models using R. *Journal of Open Source Software*, *5*(53), 2445. https://doi.org/10.21105/joss.02445
- Mayer, R. E., & Moreno, R. (2003). Nine Ways to Reduce Cognitive Load in Multimedia Learning. *Educational Psychologist*, *38*(1), 43–52. https://doi.org/10.1207/s15326985ep3801_6
- Ohl, J. J. (2015). Nothing to See or Fear: Light War and the Boring Visual Rhetoric of U.S. Drone Imagery.

 *Quarterly Journal of Speech, 101(4), 612–632. https://doi.org/10.1080/00335630.2015.1128115
- O'Neill, M. D. (2010). Cultural attendance and public mental health from research to practice. *Journal of Public Mental Health*, *9*(4), 22–29. https://doi.org/10.5042/jpmh.2010.0700
- O'Reilly, D. (2011). Mapping the arts marketing literature. *Arts Marketing*, 1(1), 26–38. https://doi.org/10.1108/20442081111129851
- R Core Team. (2023). *R: A language and environment for statistical computing.* (v4.3.0) [Software]. R Foundation for Statistical Computing. https://www.R-project.org/
- Reason, M. (2004). Theatre audiences and perceptions of 'Liveness' in performance. *Participations:*Journal of Audience and Reception Studies, 1(2). http://ray.yorksj.ac.uk/id/eprint/912/
- Sajjacholapunt, P., & Ball, L. J. (2014). The influence of banner advertisements on attention and memory: human faces with averted gaze can enhance advertising effectiveness. *Frontiers in Psychology*, *5*. https://doi.org/10.3389/fpsyg.2014.00166
- Santos, M. a. D., Moreno, F. C., & Hervás, J. C. (2019). Influence of perceived and effective congruence on recall and purchase intention in sponsored printed sports advertising. *International Journal of Sports Marketing & Sponsorship*, 20(4), 617–633. https://doi.org/10.1108/ijsms-10-2018-0099

Shin, H., Lee, S., & Perdue, R. R. (2018). The congruity effects of commercial brand sponsorship in a regional event. *Tourism Management*, *67*, 168–179. https://doi.org/10.1016/j.tourman.2018.01.016

- Tajtakova, M., & Arias-Aranda, D. (2008). Targeting university students in audience development strategies for opera and ballet. *Service Industries Journal*, *28*(2), 179–191. https://doi.org/10.1080/02642060701842191
- Tuten, J., Westcott, K., & White, W. (2020). Understanding gains from on-campus cultural events.

 Journal of Campus Activities Practice and Scholarship, 2(2), 55–66.

 https://doi.org/10.52499/2020012
- Van Den Berg, S. M. (2021). *Analysing data using linear models* (5th ed.). University of Twente. https://research.utwente.nl/en/publications/analysing-data-using-linear-models
- Van Den Broek, J., Jong, J., Koetsenruijter, W., & Smit, L. (2012). *Visual language: Perspectives for both makers and users*. Eleven International Publishing.
- Van Rompay, T. J. L., & Pruyn, A. T. (2011). When visual product features speak the same language:

 Effects of Shape-Typeface congruence on brand perception and price expectations. *Journal of Product Innovation Management*, 28(4), 599–610. https://doi.org/10.1111/j.1540-5885.2011.00828.x

Appendix A: Pre-Study

You are being invited to participate in a pre-study for a research study titled "Promotion of Cultural Performances among Students". This study is being done by Wouter Stoter from the Faculty of Behavioural, Management and Social Sciences at the University of Twente. Filling in this survey should cost about 2 - 4 mins.

The goal of this survey is to determine if the pictures planned to use in the actual research do properly represent our variables. You will be given multiple pictures and asked to rate them as static or dynamic.

Your participation in this study is entirely voluntary and you can withdraw at any time.

We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach is always possible. We minimize this risk by not asking for any personal data in this pre-study. This study was approved by the ethics committee of the University of Twente.

If you want more information about this study, you can contact the researcher at w.d.stoter@student.utwente.nl. You can use the same e-mail address to withdraw your participation from the study at any point. You don't need to give any reason for withdrawal.

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Secretary of the Ethics Committee/domain Humanities & Social Sciences of the Faculty of Behavioural, Management and Social Sciences at the University of Twente by ethicscommittee-hss@utwente.nl

\square I have read and understood the information above and agree to participate in this study
Please rate the following pictures as static or dynamic.
[Picture]
Static (no suggested movement)
 Dynamic (with suggested movement)
Question repeated for 5 more pictures

We thank you for your time spent taking this survey.

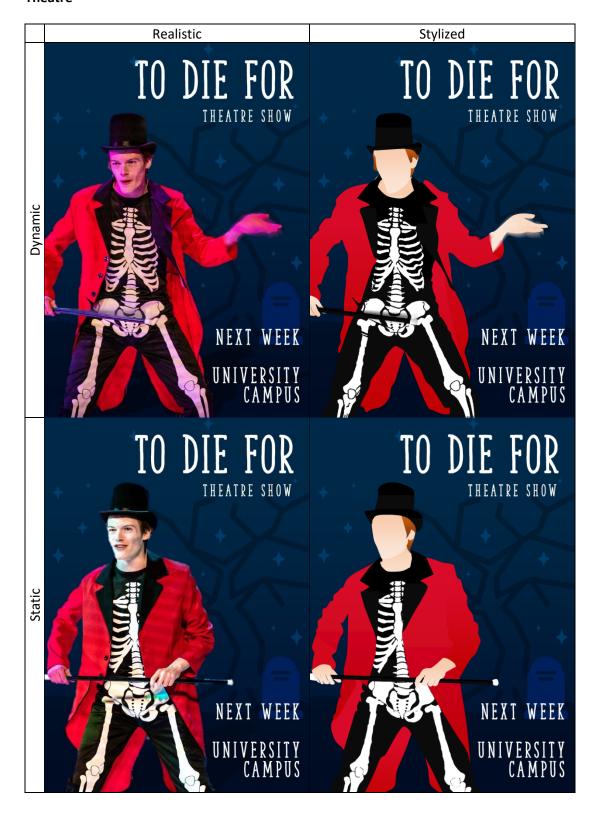
Your response has been recorded.

Appendix B: Stimuli

Dance



Theatre



Music



Appendix C: Survey

You are being invited to participate in a research study titled "Promotion of Cultural Performances among Students". This study is being done by Wouter Stoter from the Faculty of Behavioural, Management and Social Sciences at the University of Twente. Filling in this survey should cost about 5 mins.

The goal of this research study is to determine the effect of certain changes in the poster design for cultural performances marketed towards students. The data will be used for a Bachelor Thesis in the field of Communication Science. The results of this study can be used by cultural organizations to better target students and increase their audience.

Your participation in this study is entirely voluntary and you can withdraw at any time.

We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach is always possible. To the best of our ability your answers in this study will remain confidential. We will minimize any risks by only storing sensitive information on secure servers and by collecting only minimal personal data and anonymizing all data immediately after data collection has ended. This study was approved by the ethics committee of the University of Twente.

If you want more information about this study, you can contact the researcher at w.d.stoter@student.utwente.nl. You can use the same e-mail address to withdraw your participation from the study at any point. You don't need to give any reason for withdrawal.

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Secretary of the Ethics Committee/domain Humanities & Social Sciences of the Faculty of Behavioural, Management and Social Sciences at the University of Twente by ethicscommittee-hss@utwente.nl

☐ I have read and understood the information above and agree to participate in this study

Are you over 16 years old?

- Yes
- o No

Skip to: End of Survey

Are you currently a student?

If you're not sure which type your university is, pick 'Research University' if you get taught how to do scientific research. Otherwise, pick 'University of Applied Science'.

- Yes, at a University of Applied Science (HBO) Bachelor or equivalent
- o Yes, at a University of Applied Science (HBO) Master or equivalent
- Yes, at a Research University (WO) Bachelor or equivalent
- o Yes, at a Research University (WO) Master or equivalent
- o No

Skip to: End of Survey

Have you visited a performing arts performance (e.g. theatre, dance, orchestra etc.) at your university in the past year?

- o Yes
- o No

After this you will be shown a few promotional posters for cultural performances. You can look at these posters for a maximum of 7.5 seconds. After each posters, you will be asked a few questions about your attitude towards the performance.

After clicking next, the first poster will be shown immediatly.

A promotional poster for a performance of one of the following types:

- With photo with suggested movement
- With static photo
- With graphic with suggested movement
- With static graphic

Shown for max 7.5 seconds

Please rate the following statements. Please don't take personal limitations, like lack of time, into account.

Question order is randomized

			Somewh	Neither agree			
	Strongly disagree	Disagree	at disagree	nor disagree	Somewh at agree	Agree	Strongly agree
I intend to attend the performance	0	0	0	0	0	0	0
Attending this event is something I plan to do	0	0	0	0	0	O	0
I will try to attend the performance	О	O	O	O	0	0	0
I like the event	0	0	0	0	0	0	0
I am in favor of the event	О	O	O	O	0	0	0
The event is attractive	О	O	0	0	0	0	0
The event is good	0	0	0	0	0	0	0

Last 2 blocks get repeated for two more posters, of the same type as before, but for a different event. Event order is determined randomly

Which of these posters is most appealing to you?

- [Image] Poster with photo with suggested movement
- o [Image] Poster with static photo
- o [Image] Poster with graphic with suggested movement
- o [Image] Poster with static graphic

This question gets repeated for two more posters but for a different event

Below we'd like to ask some general demographic data, so we can make sure our sample is representative or if any of these variables have influence. You can skip any of the questions if you do not feel comfortable answering them.

What is your gender?

- o Male
- o Female
- Non-Binary
- o Other

What is your nationality?

- o Dutch
- o German

0	Other:	

Thank you for participating in this survey! Your response has been recorded.

In this study, we are researching the effect of suggested movement and the use of photos vs graphics in promotional posters for cultural events targeted at students. Therefore, you were randomly put into one of these categories, and were shown posters for different events, to measure your attitude and intention to visit. These results will be compared with the results from people from the other categories, to see what is most effective.

If you know anyone else that might want to fill in this survey, please share the link with them. Please don't share the information about the research variables above with potential participants, to avoid bias.

If you have any questions, would like to revoke your consent, want to know more about this research or receive the final results, contact the researcher at w.d.stoter@student.utwente.nl