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Typography and Visual Design in Television Production Graphics: Effects on Viewer Comprehension, Preferences, and Programme Recognition

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Abstract: This study examines the role of typography and visual design in Television Production Graphics (TVPG) and their impact on viewer comprehension, programme, and brand recognition. A mixed-methods approach was used, combining qualitative visual analysis of broadcasts from Slovenia's POP TV (*24UR* and *Zvezde plešejo*) with a quantitative survey of 114 viewers. The results indicate that a strong majority of viewers (74–77%) find TVPG helpful for following and understanding content across both informative and entertainment genres. Additionally, a consistent graphic identity proved highly effective for branding, with 92% of respondents correctly identifying the news programme *24UR* based solely on its visual style. The study also highlights key design trade-offs., as viewer preferences for text size were evenly divided, reflecting the balance between legibility and unobstructed viewing. High colour contrast and moderate information density were consistently associated with better readability and perceived clarity. While prominent call-to-action graphics increased visibility and engagement, promotional overlays were often perceived as intrusive, indicating the need for careful implementation. Overall, the findings confirm that TVPG are essential components of television communication: when designed with attention to legibility, visual hierarchy, and genre-appropriate execution. they enhance comprehension and brand recognition, whereas intrusive or poorly designed graphics may negatively affect the viewing experience.

Keywords: broadcast design; information comprehension; television production graphics (TVPG); typography; viewer perception.

1. Introduction

Television remains one of the most influential media forms, offering a combined audio-visual experience that engages both sight and hearing. Unlike print or radio, this dual-channel communication creates a more immersive environment, as viewers typically rely on both visual and auditory cues to follow the content. In this context, Television Production Graphics (TVPG), including lower-third titles (Figure 1), full-screen information displays, studio wall graphics, and virtual elements, have become an essential part of modern broadcasting.

The primary function of TVPG is to enhance viewer comprehension by presenting information visually, complementing the audio track and reducing cognitive effort. Cognitive science research supports this, showing that when information is processed through both visual and verbal channels, viewers can integrate and retain it more effectively than when relying on a single channel [1, 2]. This principle, known as dual-coding theory, explains why graphics are more than just decorative additions.

However, the effectiveness of TVPG also depends on the viewer's limited ability to process information, as described by the

limited capacity model of mediated message processing [3]. When graphics are poorly designed, they can overwhelm this capacity and hinder, rather than support, comprehension.

Figure 1. Example of a telop (lower-third title) in the informative programme *24UR*.

Television imposes specific technical constraints on typography and layout. Unlike print or digital media, television graphics must remain legible from varying distances (the "10-foot rule", approximately 305 cm), on displays with lower effective resolution, and within strict time limits, often appearing for only a few seconds. This creates a hybrid communication environment in which linear content (the programme) and non-linear elements (graphics) compete for viewer attention [4]. Font selection, size, colour contrast, and information density therefore play a key role in determining whether a graphic supports the content or becomes a distraction [5, 6].

Graphic design must also adapt to the programme genre. Informative content requires clarity, credibility, and restraint, while entertainment programming allows for more elaborate and dynamic visual expression. Despite these differences, both genres share fundamental requirements for legibility and efficient communication.

Despite the growing importance of television graphics, relatively little empirical research has examined how specific typographic and visual design elements affect viewer comprehension and preferences in real broadcast contexts.

This study examines how Slovenian viewers perceive TVPG, focusing on the typographic and design elements that influence comprehension. It combines a visual analysis of broadcasts from POP TV with a viewer survey to explore several key questions: which types of graphics appear in informative versus entertainment programmes; whether viewers find TVPG helpful for following and understanding content; which design elements (such as text size, colour, information density, and layout) most influence viewer preferences; and how viewers respond to promotional graphics during broadcasts. The findings provide practical, evidence-based insights for broadcast designers and producers.

2. Methods

2.1. Research Design

This study uses a mixed-methods approach, combining qualitative visual analysis of television broadcasts with a quantitative online survey [7]. This approach enables systematic documentation of current TVPG practices and offers a more comprehensive understanding of viewer perceptions of their effectiveness by integrating descriptive and evaluative perspectives.

2.2. Visual Analysis of Television Broadcasts

2.2.1. Sample Selection

TVPGs were analysed across two programme genres broadcast on POP TV, Slovenia's leading commercial broadcaster.

Figure 2. Comparative examples of telops from an informative (up) and an entertainment programme (down).

The informative programme *24UR* (*24Hours*; daily news) and the entertainment programme *Zvezde plešejo* (*Dancing with the stars*; dance competition show) were selected as representative cases (Figure 2). Both programmes are produced by the same media company (Pro Plus, d. o. o.), allowing direct comparison of graphic approaches across genres while maintaining a consistent production context.

These programmes were selected for their high viewership, recognisable visual identity, and clear genre differentiation, making them suitable for comparative analysis of informative versus entertainment TVPG design.

2.2.2. Data Collection

Screenshots of TVPG were captured from episodes available on the VOYO streaming platform (also owned by Pro Plus, d. o. o.), allowing detailed examination of how these elements appear during actual broadcasts. The collected material included opening titles, telops (lower-third titles), full-screen graphics, duplex screens (split-screen presentations), studio wall displays, virtual reality elements, ambient studio visuals, animated transitions, closing credits, and promotional content.

Only clearly visible and representative graphic instances were included in the analysis to ensure the consistency and relevance of the dataset.

2.2.3. Analysis Framework

The collected screenshots were analysed across several dimensions: graphic type and function within the programme; placement within the frame and its relationship to primary visual content (e.g., presenters, contestants); typographic characteristics (typeface, size, weight, case); colour scheme and contrast; information density (amount of text and data elements); and animation style (where applicable).

Graphics from both informative and entertainment programmes were systematically compared to identify genre-specific patterns and shared design principles.

The analysis used a structured comparative approach, enabling the identification of recurring design conventions and genre-dependent variations in TVPG implementation.

2.3. Online Survey

2.3.1. Instrument Development

A structured questionnaire was developed using the 1KA online survey application. It comprised four sections, progressing from general demographic questions to more specific evaluations of TVPG examples.

Section 1: Demographics

Respondents indicated their gender, age, education level, and professional or educational field.

Section 2: Television Viewing Habits

Questions addressed the frequency of television viewing, preferences for domestic or foreign programmes, and preferred programme genres. Respondents who reported never watching television or only watching foreign programmes were excluded from subsequent sections, as their responses to questions about Slovenian TVPG would not be meaningful.

Section 3: Perception of TVPG Utility

Using screenshots from *24UR* and *Zvezde plešejo*, respondents were asked whether TVPG helped them follow and understand the programme content. They were also asked to identify the programmes based solely on graphic style, thereby assessing brand recognition.

Section 4: Evaluation of Specific Design Elements

This section presented pairs or sets of graphics that differed in specific design characteristics:

- Text size (larger versus smaller titles);
- Colour combinations (red-white versus red-blue);
- Information density and layout organisation (four full-screen graphics requiring ranking);
- Call-to-action prominence (subtle versus eye-catching voting prompts);
- Presentation mode (wall-mounted versus floating/virtual weather graphics);
- Awareness and perception of promotional graphics appearing during programmes.

Open-ended questions invited respondents to justify their preferences, providing qualitative data on the reasons for their design choices.

2.3.2. Participants

The survey was distributed via convenience sampling, primarily targeting university students and their extended networks. Data collection took place over 14 days. A total of 139 individuals participated, with 114 completing the full questionnaire. The final sample comprised 114 respondents, 68% women and 32% men, with an age range of 18–74 years (M = 28.3, SD = 8.7). As expected given the sampling approach, the majority (62%) were current university students or held a university degree, while the remainder represented a range of educational and professional backgrounds.

2.3.3. Data Analysis

Quantitative data were analysed using descriptive statistics (frequencies, percentages), while responses to open-ended questions were examined thematically to identify recurring reasons for design preferences, including references to legibility, colour contrast, information density, and aesthetic appeal. This combined analytical approach enabled triangulation of findings, increasing the robustness of the results by integrating quantitative trends and qualitative insights.

2.3.4. Ethical Considerations

Participation was anonymous and voluntary, and respondents were informed about the purpose of the research and the use of their data in the survey introduction. No personally identifying information was collected. The study was conducted in accordance with standard ethical guidelines for social research, ensuring informed consent and the confidentiality of participant data.

3. Results and Discussion

The study combines visual analysis of TVPG from POP TV broadcasts with survey data from 139 respondents, 114 of whom completed the questionnaire in full. The results are organised around four main themes: the characterisation of TVPG types across programme genres; viewer perceptions of their usefulness for comprehension; preferences regarding specific design elements; and responses to promotional graphics. This integrated structure enables a direct connection between observed design practices and audience responses, enhancing the interpretative value of the findings.

3.1. Characterisation of TVPG in Informative and Entertainment Programmes

Visual analysis of *24UR* (informative programme) and *Zvezde plešejo* (entertainment programme) revealed distinct graphic profiles for each genre, while also showing that both rely on a common set of graphic types. These include opening titles, telops (lower-third titles), full-screen graphics, duplex screens (Figure 3), studio wall displays (Figure 4), virtual reality elements (Figure 5), ambient graphics (Figure 6), animated transitions, closing credits, and promotional graphics. This indicates that genre differentiation depends not on the presence of graphic elements, but on their stylistic execution and communicative function.

Figure 3. Duplex (split-screen) graphics in informative (left) and entertainment programmes (right).

Figure 4. Studio wall graphics in informative programmes.

Figure 5. Virtual reality graphics in informative (left) and entertainment programmes (right).

Figure 6. Ambient graphics creating studio atmosphere in informative (left) and entertainment programmes (right).

3.1.1. 24UR – Informative Programme

Graphics in the news programme featured a clean, restrained design with clear information hierarchies. The colour palette primarily used red, white, blue, and black, consistent with the programme's brand identity. Typography employed a sans-serif font with sufficient x-height and weight to ensure visibility and legibility from a distance, which is critical given established findings on on-screen word recognition [8].

Telops appeared in the lower third of the screen, positioned to avoid obscuring the anchor or key visual elements. Full-screen graphics (infographics) presented statistical data, maps, and comparisons with minimal decorative elements. Studio wall graphics changed daily to reflect each news story's content, providing visual support for anchor commentary. Virtual reality elements were used sparingly, typically for weather presentations or to illustrate complex spatial relationships.

Overall, the design approach prioritises clarity and informational efficiency, aligning with the communicative requirements of news broadcasts.

3.1.2. Zvezde plešejo – Entertainment Programme

Graphics in the dance competition show featured more elaborate and dynamic visual treatments. Animated transitions linked programme segments and were accompanied by music consistent with the opening titles. Colour schemes were more varied and saturated.

Telops appeared in various positions depending on their function, including contestant identification, voting instructions, and sponsor acknowledgements. Full-screen graphics presented voting results, contestant scores, and promotional content for upcoming episodes. Virtual elements were used more frequently, with floating score displays and augmented reality effects enhancing the overall spectacle. Ambient graphics across multiple studio screens contributed to immersive environments tailored to each performance.

While both programmes used the same types of graphics, their execution differed systematically. Informative graphics prioritised clarity, credibility, and minimal distraction, whereas entertainment graphics emphasised spectacle, emotional engagement, and brand reinforcement. These differences reflect the distinct communicative purposes of each genre: informing citizens versus entertaining audiences. This contrast highlights the importance of context-sensitive design strategies in television production.

3.2. Viewer Perceptions of TVPG Utility

3.2.1. Following and Understanding Content

When shown examples of *24UR* graphics, 74% of respondents agreed that *"with titling I can follow the content more easily*". Only 1% considered such graphics unnecessary. A further 13% reported that graphics sometimes help, while 10% do not pay attention to them. These results strongly support the thesis that TVPG fulfil their intended function of aiding programme navigation and comprehension.

For understanding content (rather than simply following), results were even stronger: 76% reported that full-screen graphics with more information help them understand what is being discussed. Only 4% felt they understood content well without graphics, and 13% reported occasional benefit. This distinction suggests that TVPG play an especially important role in deepening comprehension, rather than merely supporting orientation within the programme structure. The slight increase from 74% to 76% suggests that while some viewers may not need graphics to follow the programme's structure, they still benefit from the additional information graphics provide for deeper comprehension. This aligns with research on how viewers scan and learn from on-screen enhancements [9].

Contrary to expectations that graphics might be less critical for entertainment content, 77% of respondents reported that TVPG help them understand what is being discussed in *Zvezde plešejo* (marginally higher than for informative programme). This finding indicates reinforces the notion that informational support remains relevant even in entertainment contexts, particularly when programmes involve structured elements such as scoring or voting.

The 6% of respondents who could not answer because they do not watch entertainment programmes highlight the importance of genre-specific audience targeting in graphic design.

3.2.2. Brand Recognition

When asked to identify the programme based solely on graphic style, 92% of respondents correctly identified *24UR*. Only 2% incorrectly selected *Preverjeno!* (another informative programme), and 6% did not know. This exceptionally high recognition rate demonstrates that a consistent graphic identity across broadcasts effectively builds brand recognition.

Viewers do not need to see a programme logo; the distinctive colour palette, typography, and layout style are sufficient for identification. This finding aligns with brand equity theory, which posits that a consistent visual identity fosters cumulative brand recognition and loyalty [10].

For *Zvezde plešejo*, 85% correctly identified the programme based on graphics alone. 3% mistakenly identified it as *Slovenija ima talent* (another entertainment programme), and 12% did not know. Although slightly lower, this still represents a stronger level of recognition, suggesting that even more visually diverse entertainment formats can maintain coherent brand identity.

Notably, respondents who had previously reported not watching Pro Plus channels still showed some ability to identify programmes, suggesting that graphic identity extends beyond active viewers to create broader cultural recognition. This implies that TVPG contributes not only to programme-level

branding but also to wider media visibility, audience loyalty and revenue [11].

3.3. Preferences Regarding Specific Design Elements

3.3.1. Information Recall

Respondents viewed two telops from *Zvezde plešejo* with different messages (prize game participation and behind-the-scenes content). When later asked to recall what each graphic communicated, 63% correctly identified the first message and 65% the second. Approximately 9% responded *"do not know"* in both cases, while 17% and 14% respectively selected incorrect options.

These recall rates, while not particularly high, are notable given that respondents viewed the graphics only once, briefly, and without prior warning that recall would be tested. The results suggest that about two-thirds of viewers process and retain information presented through TVPG, even under incidental viewing conditions. This performance under incidental learning conditions aligns with dual-coding theory, which suggests that the visual presentation of information creates an additional memory trace that supports later recall, even without conscious effort to memorise [2]. This suggests that even minimal exposure to well-designed TVPG can produce measurable cognitive effects.

3.3.2. Text Size

When presented with two versions of a telop featuring different text sizes (Figure 7), respondents were almost evenly split: 61 preferred the smaller text, while 62 preferred the larger text. This near-equal preference was unexpected; we had anticipated a stronger preference for smaller text to avoid obscuring programme content. Open-ended responses revealed the underlying tension.

3.3.2.1. Preference for Larger Text

Respondents who preferred larger text emphasised legibility, especially from a distance. One commented: "*I watch television from the sofa, not right in front of the screen; larger text means I don't have to squint*." Others stated that if information is worth presenting, it should be easily readable.

3.3.2.2. Preference for Smaller Text

Those who preferred smaller text prioritised unobstructed viewing of programme content: *"The graphic shouldn't take over the screen; I want to see the people and what's happening behind."* Several noted that smaller text feels *"more professional"* and *"less intrusive"*.

This division suggests that optimal text size involves trade-offs that cannot satisfy all viewers simultaneously. Designers must balance legibility against screen coverage, potentially prioritising according to the graphic's purpose: critical information may justify larger text, while secondary information may be better presented more discreetly. This trade-off is a direct consequence of the "10-foot rule" and the fixed viewing distances in a living room environment [5].

Figure 7. Telops with varying text sizes used in the survey.

3.3.3. Colour Combinations

When comparing red-white and red-blue telop combinations (Figure 8), 62% preferred red-white, while 38% chose red-blue. Open-ended responses indicated that contrast influenced this preference: *"White on red really stands out, I can read it immediately without effort."* Several respondents explicitly noted that

the blue text was *"harder to see"* or *"blurred into the background".*

Figure 8. Telops with red-white (higher contrast) and red-blue (lower contrast) colour combinations.

This finding is consistent with established legibility research: higher luminance contrast between text and background generally improves reading performance [6]. The red-white combination offers approximately 80% luminance contrast, while red-blue provides significantly less. For television viewed from a distance, where visual acuity is reduced, maximising contrast becomes particularly important.

3.3.4. Information Density and Layout Organisation

Respondents ranked four full-screen informative graphics (Figure 9) from most to least clear and readable. Results showed clear differentiation:

- Graphic 3 (balanced layout, moderate information, white background): 338 points
- Graphic 4: 295 points
- Graphic 2: 293 points
- Graphic 1 (dense information, cluttered layout): 254 points.

Open-ended justifications identified the criteria respondents used: colour contrast, information quantity, layout symmetry, and text size. Graphic 3 was praised for being *"clean", "not too busy",* and *"easy to scan quickly".* Graphic 1 was criticised for *"too much information at once"* and *"everything competing for attention".*

These results support cognitive load theory as applied to television graphics: when viewers must process information within seconds, excessive density overwhelms processing capacity [5]. Effective graphics present limited information, organised hierarchically with clear visual separation between elements. Recent eye-tracking research confirms that cluttered screens significantly affect visual attention allocation among TV news viewers [12], and that full-screen infographics can impose greater cognitive load than simpler lower-third presentations [13].

1.

2.

3.

4.

Figure 9. Full-screen graphics varying in information density, layout organisation, and colour contrast.

These findings further emphasise the importance of visual hierarchy in time-constrained viewing contexts.

3.3.5. Voting Prompt Effectiveness

When shown two voting prompts, subtle versus prominent (Figure 10), 68% preferred the larger, more colourful version for encouraging participation. Open-ended responses emphasised visibility: *"I might actually notice this one"; "It catches your eye immediately."* Those preferring the subtler version (32%) valued discretion: *"It doesn't interrupt the show"; "Feels more like a reminder than a demand."*

Figure 10. Subtle (up) versus prominent (down) voting prompt.

Several respondents noted that their preference might depend on viewing context: "*If I'm really into the show and might vote anyway, the subtle one is fine. But if I'm half-watching, I need the big one to notice*." This suggests that multiple graphic approaches may serve complementary functions: prominent prompts for initial engagement, subtler reminders for ongoing reinforcement. Research on how infographics capture viewer attention supports the effectiveness of prominent design for eliciting orienting responses [14]. This highlights the role of visual salience in driving user engagement.

3.3.6. Presentation Mode: Wall-Mounted Versus Virtual Graphics

Weather information presentation allowed a direct comparison between traditional (wall-mounted screen) and modern (virtual/floating) graphic modes (Figure 11). 63% preferred the wall-mounted version, while 37% preferred the virtual.

Figure 11. Traditional wall-mounted (up) versus modern virtual/floating presentation modes (down).

The results suggest a tension between innovation and usability, where aesthetic novelty must be balanced with perceptual clarity.

3.3.6.1. Reasons for Preferring Wall-Mounted Graphics

Respondents emphasised clarity and familiarity: *"Clearer and easier to read"; "I'm used to this format"; "No distracting background."* Several explicitly noted that the virtual graphic's transparency and floating quality made it harder to read: *"The background shows through the numbers – it's confusing".* Five respondents humorously noted they preferred the wall version *"because there's a woman standing next to it."*

This preference for a familiar, high-contrast, and stable presentation reflects findings from studies on reading from screens, where static text on a stable background generally leads to

faster and more accurate reading than text overlaid on dynamic video [15].

3.3.6.2. Reasons for Preferring Virtual Graphics

Those who preferred the virtual version valued its modernity and visual appeal: "*Looks more modern and exciting*"; "*It's different from what we always see*". Some appreciated the depth and spatial organisation: "*The days are arranged in space, left to right, makes sense*." Several noted that, if designed with sufficient opacity and contrast, virtual graphics could combine modernity with legibility.

These divided preferences highlight the challenge of introducing innovative presentation modes while maintaining the comfort of traditional viewers. The finding that a substantial minority (37%) actively prefers the newer format suggests that gradual adoption of virtual elements may succeed if visibility and legibility are prioritised. Eye-tracking studies of television news graphics layout could provide valuable guidance for optimising such hybrid presentations [16].

3.4. Responses to Promotional Graphics

Awareness of promotional graphics (Figure 12), which announce upcoming programmes during current broadcasts, was extremely high: 82% of respondents had noticed such graphics. Among these respondents, reactions were mixed:

- 30% were not bothered by promotional graphics;
- 44% were sometimes bothered;
- 26% were always bothered.

Open-ended justifications from those who were bothered revealed several themes.

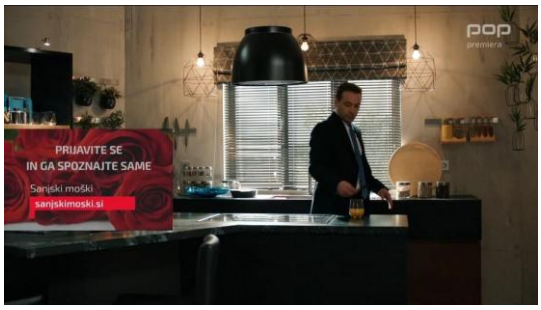

Figure 12. Promotional graphic announcing upcoming programming, appearing during regular broadcast content.

These responses indicate that viewer tolerance for promotional content is highly dependent on context.

3.4.1. Distraction and Interference

The most common complaint was that promotional graphics distract from the current programme: "*I'm trying to follow the show and suddenly there's something moving in the corner, I look at it automatically and miss what's happening*." Several noted interference with subtitles: "*They often cover the subtitles, and if I've missed something spoken, I can't read it*."

3.4.2. Perceived Redundancy

Some respondents questioned the need for on-screen promotion given existing advertising breaks: "*We already have commercials every 15 minutes, why do they need to clutter the screen during the show too?*" Another noted: "*It feels greedy, like they're squeezing in extra advertising*." This perception aligns with research on the residual impact of avoided television advertising, which suggests that viewers may develop negative attitudes towards excessive or intrusive promotions [17].

3.4.3. Content Obstruction

Respondents reported frustration when promotional graphics covered faces, action, or critical information: *"During a competition, they covered the score with a promo, I couldn't see who was winning."*

The 44% who reported occasional annoyance suggest that tolerance depends on context: graphic size, placement, duration, and relevance to current content all influence whether viewers accept or reject the intrusion.

Notably, even some respondents who were not bothered acknowledged the commercial logic: *"I understand they need to promote their other shows, it doesn't really bother me as long as it's not covering anything important."* This pragmatic acceptance suggests that well-designed promotional graphics – appropriately sized, placed at screen edges, and appearing during natural lulls – may minimise negative reactions. Recent industry research on connected TV advertising indicates that well-executed on-screen promotions can achieve significant attention and recall rates [18].

3.5. Synthesis and Implications

3.5.1. The Essential Role of TVPG

The finding that approximately three-quarters of viewers find TVPG helpful for comprehension across genres confirms the central thesis: television graphics are not merely decorative but serve as functional tools that enhance the viewer experience. This utility appears robust across demographic groups and viewing habits, suggesting that investment in quality graphic design benefits broadcasters by improving audience engagement and satisfaction.

3.5.2. Brand Building Through Graphic Consistency

The extremely high brand recognition rates (92% for *24UR*, 85% for *Zvezde plešejo*) demonstrate that a consistent graphic identity effectively builds programme awareness. This finding validates broadcasters' investment in comprehensive graphic systems that maintain "red thread" coherence across opening titles, telops, full-screen graphics, and studio environments. Graphic consistency transforms individual design elements into cumulative brand equity [10].

3.5.3. Design Trade-offs and Viewer Diversity

The varying preferences for text size, colour, and presentation mode show that viewers are not a homogeneous group with uniform needs. However, the open-ended justifications provide clear guidance for managing these trade-offs: legibility is the primary concern across all preference groups. This indicates that although stylistic preferences differ, the fundamental requirement for clear communication commands broad consensus.

This reinforces the principle that functional clarity takes priority over stylistic variation in broadcast design.

Table 1: Summary of key findings.

Dimension	Key Results	Implication
TVPG utility for comprehension	74–77% find graphics helpful	Graphics are functional tools, not decoration
Brand recognition	85–92% identify programmes from graphics	Consistent design builds brand equity
Text size preference	50/50 split	Legibility vs. screen coverage trade-off
Colour preference	62% prefer high-contrast (red-white)	Maximise luminance contrast
Information density	Clear preference for moderate, organised content	Avoid cognitive overload
Voting prompts	68% prefer prominent, colourful graphics	Call-to-action requires visibility
Presentation mode	63% prefer traditional; 37% prefer virtual	Innovation must maintain legibility
Promotional graphics	26% always bothered; 44% sometimes bothered	Use sparingly and thoughtfully

3.5.4. The Challenge of Promotional Graphics

A significant minority (26% always bothered, 44% sometimes bothered) are troubled by promotional graphics, presenting a challenge for broadcasters who rely on cross-promotion. Open-ended responses suggest possible mitigations: reducing the size, placing them at the edge of the screen, avoiding critical content areas (such as faces, action, or subtitles), and timing them during natural breaks rather than mid-sentence or mid-action. Broadcasters who ignore viewer irritation risk alienating the very audience they aim to retain [19].

This underscores the importance of user-centred design, even in commercially driven content.

3.5.5. Genre-Appropriate Design

The systematic differences between informative and entertainment graphics demonstrate appropriate sensitivity to genre requirements (Table 1).

News audiences seek efficient information acquisition and trust in institutional credibility, which are supported by clean, restrained design. Entertainment audiences seek engagement, excitement, and emotional connection, which are supported by more elaborate, dynamic graphics. The fact that both genres achieve high viewer satisfaction with their respective approaches confirms that design must be context-sensitive rather than universally applied.

This confirms that effective TVPG design must be adaptive rather than universal.

4. Conclusions

This study examined the role and perception of TVPG among Slovenian viewers, combining visual analysis of POP TV broadcasts with survey data from 114 respondents. The findings provide empirical support for the central thesis that TVPG are essential tools for viewer comprehension and programme branding, while also revealing important nuances regarding design preferences and the potential for viewer irritation. Overall, the results show that the effectiveness of TVPG depends not only on their presence but also on how carefully they are designed, positioned, and integrated into the viewing experience.

4.1. Summary of Principal Findings

4.1.1. TVPG Enhances Comprehension Across Genres

The findings confirm that TVPG are essential functional tools, with approximately three-quarters of viewers reporting that graphics improve their ability to follow and understand content in both informative and entertainment genres. This challenges the assumption that graphics are less important for non-informative content and demonstrates that visual support is valuable whenever viewers need to process structured, time-sensitive or rapidly changing information.

4.1.2. Consistent Graphic Identity Builds Strong Brand Recognition

The study provides strong evidence that a consistent graphic identity builds significant brand equity, as shown by the exceptionally high rates of programme recognition from graphics alone. This confirms that repeated exposure to coherent visual systems enhances programme memorability and strengthens the relationship between visual design and audience recognition.

4.1.3. Legibility Depends on Specific Design Choices

Several design dimensions significantly influenced viewer preferences and comprehension. Colour contrast was a critical factor, with 62% of respondents preferring high-contrast combinations (red-white) over lower-contrast alternatives (red-blue). Open-ended justifications consistently cited visibility and ease of reading as key factors.

Information density strongly affected perceived clarity. Graphics with a balanced layout, moderate information load, and clear visual hierarchy received substantially higher ratings than dense, cluttered alternatives. This supports cognitive load theory as applied to television: when viewers must process information within seconds, excessive density overwhelms processing capacity.

Text size revealed an inherent trade-off. Respondents were evenly divided between preferring larger text (for legibility) and smaller text (to avoid obscuring programme content). This suggests that optimal text size depends on the graphic's purpose: critical information may justify a larger display, while secondary information may be better presented more discreetly.

Presentation mode generated divided preferences, with 63% favouring traditional wall-mounted weather graphics and 37% preferring newer virtual or floating presentations. While the majority preference remains with familiar formats, the substantial minority attracted to innovation suggests that gradual adoption of virtual elements may succeed if executed with attention to legibility and perceptual stability.

Call-to-action graphics benefit from prominence. When shown voting prompts, 68% preferred larger, more colourful versions that *"catch your eye immediately".* This has practical implications for broadcasters seeking viewer engagement and the revenue participation generates.

Promotional graphics risk viewer irritation. While 82% of respondents had noticed promotional graphics appearing during programmes, reactions were mixed: 30% were not bothered, 44% were sometimes bothered, and 26% were always bothered. Open-ended responses identified distraction, interference with subtitles, perceived redundancy given existing advertising breaks, and obstruction of content as primary concerns. These findings suggest that broadcasters should use promotional graphics sparingly and thoughtfully, with careful attention to size, placement, duration, and timing.

Taken together, these findings indicate that legibility, hierarchy, contrast, and contextual appropriateness are the key design principles determining whether TVPG supports or disrupts the viewing experience.

4.2. Theoretical Implications

This study contributes to the literature on television aesthetics, information design, and visual communication in several ways. First, it provides empirical validation for cognitive theories of dual-channel processing in the specific context of television viewing. The finding that viewers consistently report better comprehension with graphics supports the proposition that information presented through both visual and verbal channels is integrated more effectively than information presented through a single channel.

Second, the results extend understanding of typographic legibility from print and digital media to the television environment. The importance of luminance contrast, adequate x-heights, and appropriate information density – principles well-established in other media – are confirmed for television, while the unique constraints of viewing distance and time pressure are shown to amplify their significance.

Third, the divided preferences across multiple design dimensions reveal that viewers are not homogeneous in their visual capabilities, viewing environments, or aesthetic preferences. This diversity presents both challenges and opportunities for designers, who must navigate trade-offs while maintaining the fundamental requirement of clear communication. In this respect, the study reinforces the need to understand broadcast design as a visual and cognitive communication practice.

4.3. Practical Recommendations for Broadcast Designers and Producers

Based on the findings, we offer the following evidence-based recommendations.

a) Prioritise legibility above all

Regardless of stylistic preferences, viewers consistently value graphics they can read easily. Maximise luminance contrast between text and background; avoid low-contrast combinations even if aesthetically pleasing. Use sans-serif typefaces with adequate x-heights and weight; avoid fine serifs and thin strokes that flicker or break down on interlaced displays.

b) Match graphic design to programme genre

Informative content requires clean, restrained design with clear information hierarchies. Entertainment content allows for more elaborate and dynamic treatments. The systematic differences observed between *24UR* and *Zvezde plešejo* reflect appropriate genre sensitivity which should guide future design decisions.

c) Limit information density

Graphics typically appear for only a few seconds. Include only essential information, presented as simply as possible. Organise content hierarchically with clear visual separation between elements. When in doubt, less information is preferable to more.

d) Design for the "10-foot rule"

Television is viewed from a distance. Text must be substantially larger than for print or digital media. Test graphics on actual television displays at typical viewing distances before broadcast.

e) Use promotional graphics sparingly and thoughtfully

Given the high levels of viewer irritation, minimise the use of promotional overlays. When used, ensure they are appropriately sized, placed at screen edges, positioned to avoid covering faces, action, or subtitles, and timed to appear during natural lulls rather than mid-sentence or mid-action.

f) Consider multiple graphic approaches for engagement

For call-to-action graphics such as voting prompts, consider complementary approaches:

prominent graphics for initial engagement, subtler reminders for ongoing reinforcement. The 68% preference for prominent voting prompts suggests that visibility is particularly important for participation-based content.

g) Introduce innovation gradually

While a 37% preference for virtual weather graphics demonstrates openness to modern presentation modes, the 63% majority preference for traditional formats suggests that abrupt changes may alienate viewers. Introduce new techniques gradually, ensuring they maintain legibility and clarity.

h) Maintain consistent brand identity

The exceptionally high programme recognition rates demonstrate the value of consistent graphic systems. Maintain "red thread" coherence across all graphic elements (opening titles, telops, full-screen displays, studio environments) to build cumulative brand recognition.

i) Test graphics in context

Before finalising a graphic package, view it on a reference monitor in a living-room-like setting. Test it over representative video content to ensure text does not clash with moving backgrounds and that animated graphics do not cause discomfort or disorientation. This is especially critical for virtual and augmented reality elements.

4.4. Limitations and Future Research

Several limitations of this study suggest directions for future research. First, the sample was limited to viewers of Slovenian television, specifically programmes from a single broadcaster (Pro Plus, d. o. o.). Cross-cultural comparisons could reveal whether preferences for design elements differ across national contexts or television cultures.

Second, the survey relied on self-reported preferences and recall rather than objective measures of comprehension or eye-tracking data. Future studies using eye-tracking methodology could provide a more precise understanding of how viewers allocate attention between programme content and graphics, and how design variations influence visual processing.

Third, the study examined static graphics through screenshots rather than animated graphics in motion. As most television graphics are animated, research investigating how motion affects legibility and viewer attention would complement the present findings.

Fourth, the sample included relatively few older viewers (65+ years), despite this demographic being heavy television consumers. Given age-related changes in visual acuity, research specifically addressing older viewers' needs and preferences would be valuable for inclusive design.

Fifth, the study did not systematically examine differences between high-definition and standard-definition viewing, or across display technologies (LED, OLED, plasma). As display technology continues to evolve, research should explore how these variables interact with graphic design.

Finally, longitudinal research investigating how viewer preferences change as new presentation technologies (augmented reality, virtual studios) become more widespread would help broadcasters anticipate, rather than react to, changing audience expectations.

Future research could also examine how TVPG are perceived across different viewing contexts, including mobile devices, streaming platforms, and second-screen environments, where screen size, attention patterns, and user control differ significantly from traditional television viewing.

4.5. Concluding Remarks

Television remains a central medium in many people's lives, despite competition from digital platforms. As this study demonstrates, the graphics accompanying television content are not superficial additions but essential tools that help viewers navigate, understand, and engage with the content. When designed well – with attention to legibility, appropriate information density, genre-appropriate style, and respect for the viewer experience – TVPG enhance comprehension and build valuable brand recognition. When designed poorly or used intrusively, they risk alienating the audiences that broadcasters seek to retain.

The divided preferences revealed in this study remind us that viewers are diverse in their needs and tastes. No single design solution will satisfy everyone. However, the consistent emphasis on legibility and clarity across preference groups suggests that design decisions prioritising these fundamental qualities will serve the widest possible

audience. As broadcast technology continues to evolve, maintaining focus on these basic principles while thoughtfully incorporating innovation offers the surest path to effective television communication.

This study contributes to the field of graphic communication by providing empirical, viewer-based evidence on how typographic and visual design principles operate within the specific temporal, spatial, and perceptual constraints of television production graphics.

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