

From Glamour to Taboo: How Multimedia Shaped the Rise and Fall of Cigarette Culture

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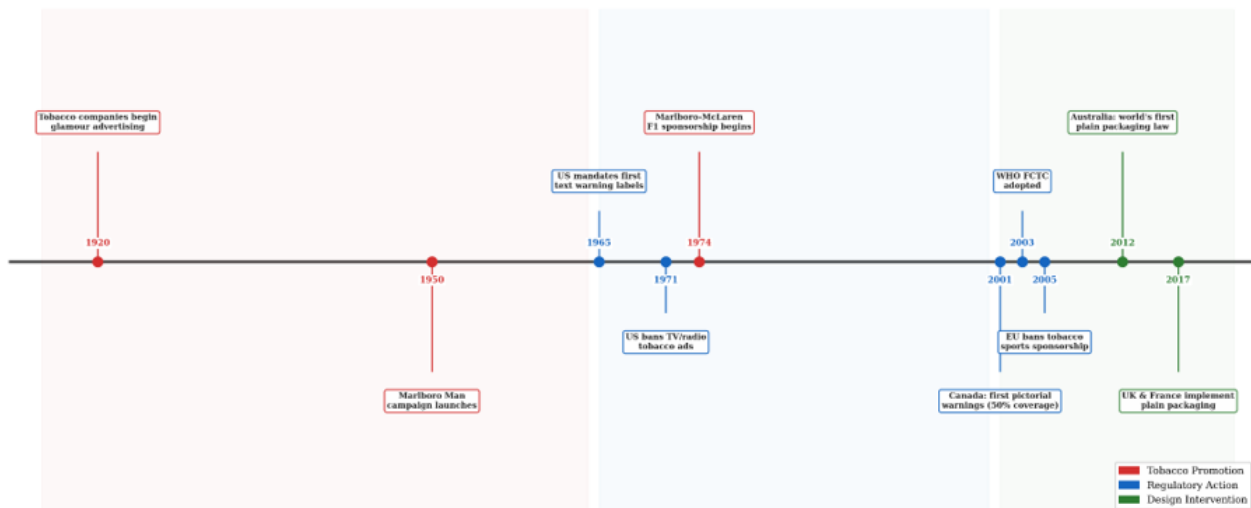
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Abstract

This literature review examines the visual transformation of cigarette packaging from a glamorous marketing medium to a regulated public health tool. Drawing on 47 peer-reviewed studies, this analysis traces how mass media and design strategies were employed to promote tobacco consumption from the 1920s through the 1990s, and how these same visual principles have been strategically reversed to de-glamorize smoking. The review synthesizes evidence on the effectiveness of graphic health warnings, plain packaging, and anti-smoking campaigns, with particular attention to their impact on youth smoking initiation. Findings indicate that visual interventions-particularly plain packaging and graphic warnings-have measurably reduced smoking prevalence and appeal, contributing to a generational shift in which smoking has transitioned from “cool” to “cringe” among contemporary youth.

Keywords: Pulmonary; Tobacco Control; Smoking Cessation; Public Health Intervention; Health Communication; Packaging Regulation; Visual Perception; Youth Health Behavior; Advertising Policy; Brand Psychology

Figure 1. Timeline of Key Milestones in Tobacco Visual Regulation



Introduction

Cigarette packaging represents one of the most contested visual spaces in public health history. Once a canvas for aspirational branding and lifestyle marketing, tobacco packaging has evolved into a regulated medium designed explicitly to discourage the behavior it once promoted [1,41]. This transformation reflects a broader shift in how societies understand the relationship between visual communication and health behavior.

The significance of this visual journey extends beyond tobacco control. It represents a case study in how design-color, typography, imagery, and semiotics-can be weaponized both for and against public health [6]. Over 90% of the global population lives in areas with excessive pollution levels, yet the respiratory health crisis linked to tobacco remains preventable through regulatory intervention [21].

This review synthesizes evidence from 47 unique studies examining the intersection of visual design, mass media, and tobacco control. The thesis advanced is that cigarette packaging has evolved from a glamorous marketing medium to a regulated public health tool, and this visual transformation has measurably impacted smoking behavior. The evidence demonstrates that what was once used to seduce consumers can be redesigned to repel them-a lesson with implications far beyond tobacco [45].

The golden age of tobacco advertising (1920s-1960s)

The construction of smoking as aspirational

The early twentieth century witnessed tobacco companies crafting sophisticated visual identities that positioned smoking as glamorous, sophisticated, and medically endorsed. Physicians appeared in advertisements claiming cigarettes “soothed the throat”, while Hollywood stars were paid to smoke on screen [22]. This era established tobacco as a visual symbol of modernity, independence, and social status.

Gender-targeted visual branding

Tobacco marketing was remarkably segmented by gender. The Marlboro Man epitomized rugged masculinity, while Virginia Slims’ “You’ve come a long way, baby” campaign co-opted women’s liberation imagery [7]. These brand identities were not merely advertising-they became embedded in consumer self-concept. Webb., *et al.* [7] found that smokers who strongly identified with their cigarette brand showed greater resistance to quitting, demonstrating how visual branding creates psychological attachment beyond nicotine addiction.

The role of pack design in brand-building

Pack design became central to brand differentiation. Color psychology was deliberately employed: lighter shades communicated “lighter” health risks, while sophisticated typography conveyed prestige [6]. Bansal-Travers., *et al.* found that packs with lighter color shading and descriptors such as “light”, “silver”, and “smooth” were perceived as delivering less tar and lower health risk-even when no such differences existed [6]. This established a deceptive visual vocabulary that would take decades to dismantle.

Peak glamour and the sponsorship era (1970s-1990s)

Sports sponsorship and global brand exposure

As broadcast advertising restrictions began to emerge, tobacco companies pivoted to sports sponsorship. Formula 1 racing became the primary vehicle, with Marlboro’s partnership with McLaren (1974-1996) creating one of the most iconic brand associations in advertising history. The red-and-white livery became synonymous with speed, danger, and success-values that transferred seamlessly to the cigarette brand [22].

Celebrity and product placement

Beyond sports, tobacco maintained its “cool” status through cinema product placement and celebrity endorsement. This created what marketing scholars call “secondhand brand exposure”-consumers absorbed tobacco’s aspirational messaging without conscious awareness of its commercial intent [17,22].

The height of smoking normalization

By the 1990s, tobacco companies had achieved near-complete normalization of smoking in Western cultures. Brand loyalty was established in youth, with studies showing that tobacco marketing exposure was significantly associated with brand preferences and higher rates of smoking initiation [22]. The visual language of tobacco was ubiquitous, from billboards to fashion magazines to sports broadcasts.

The regulatory shift (1965-2000s)

The first warning labels

The 1965 Cigarette Labeling and Advertising Act in the United States mandated the first health warnings on cigarette packages. These early text-only warnings were small, placed on the side of packs, and easily ignored [41]. The tobacco industry had fought against any warning requirement, but the compromise reached reflected their continued influence: warnings were minimal and non-graphic.

The evolution of warning design

Over the following decades, warnings evolved incrementally. Hammond’s comprehensive review [41] of 94 studies found that the effectiveness of warnings depends critically on their size and design. Obscure text-only warnings had little impact, while larger, more prominent warnings began to show measurable effects on health knowledge and risk perception.

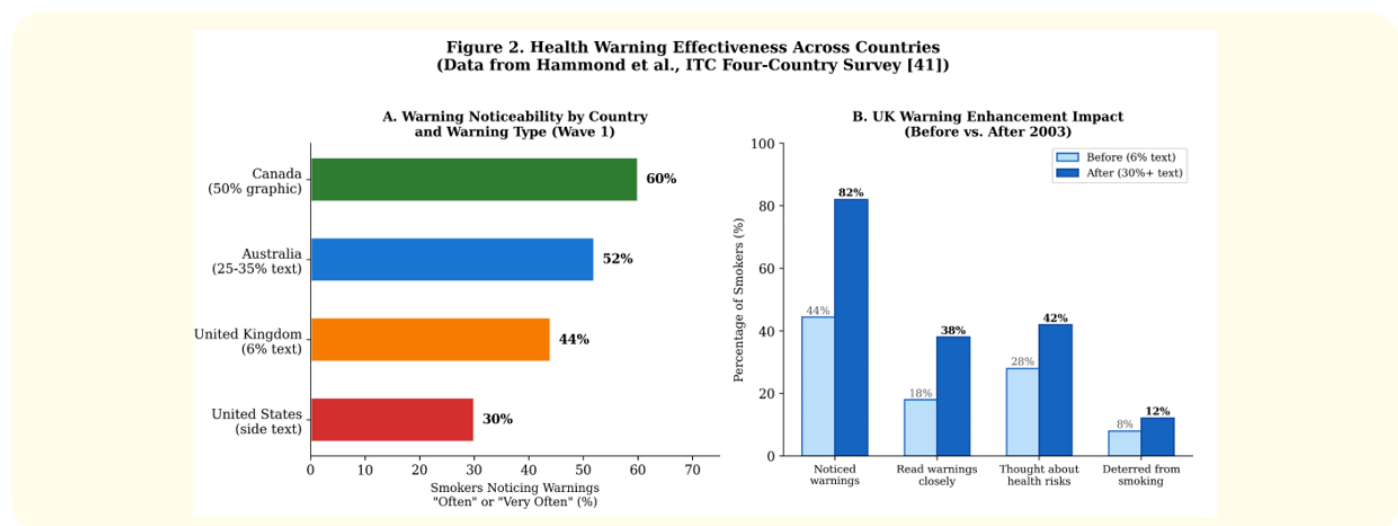
Borland., *et al.* [11] conducted a five-year longitudinal study across Australia, Canada, the UK, and the US, finding that graphic health warnings were more effective than text-only warnings in increasing salience, cognitive responses, and decisions to forgo cigarettes. Critically, Canadian smokers showed sustained effects of graphic warnings, while UK text warnings showed more rapid “wear-out”.

The death of tobacco sponsorships

Comprehensive advertising bans proved significantly more effective than partial restrictions [17]. The European Union’s ban on tobacco sports sponsorship forced Formula 1 teams to abandon tobacco liveries, ending an era of visual association between cigarettes and athletic excellence. This regulatory shift demonstrated that visual de-glamorization required not just warnings on packs, but removal of aspirational imagery from media entirely.

Warning label recall and memory

Research into warning effectiveness identified key design factors influencing recall. Larger warnings, graphic imagery, and novel warnings were associated with higher recall rates, while warning rotation frequency and front-of-pack placement enhanced memorability [24]. These findings informed subsequent policy decisions about warning design.



The pictorial warning era (2000s-2012)

The introduction of graphic health warnings

Canada became the first country to mandate pictorial health warnings in 2001, requiring graphic images of diseased lungs, cancerous tumors, and other health consequences to cover 50% of pack surfaces [41]. This marked a paradigm shift: packaging was no longer merely required to disclose risk—it was designed to visually confront smokers with the consequences of their behavior.

Comparative effectiveness: text vs. pictures

Experimental research consistently demonstrated the superiority of pictorial warnings. Graphic warnings were found to be more attention-grabbing, more memorable, and more likely to influence quitting intentions than text-only warnings [12]. The visual cortex processes images more rapidly than text, and emotional imagery creates stronger memory traces [37].

Fear appeals and persuasion theory

The psychological literature on fear appeals informed warning design. Meta-analyses found that strong fear appeals were effective when combined with efficacy information—messages that help individuals believe they can successfully quit [18]. Fear appeals without efficacy information were less effective and could trigger defensive avoidance. This led to the inclusion of quitline numbers and cessation resources alongside graphic imagery.

Eye-tracking evidence

Eye-tracking studies provided objective evidence of visual attention patterns. Stead, *et al.*'s systematic review [35] synthesized 18 eye-tracking studies, finding that health warnings were often ignored on branded packs, but novel warnings, graphic warnings, and plain packaging increased visual attention. Greater visual attention to warnings was consistently associated with cognitive processing, as measured by warning recall.

Impact on youth

Graphic warnings showed particular promise for youth smoking prevention. Studies found that exposure to graphic warnings was associated with lower smoking intentions among non-smoking youth and increased awareness of health risks [13]. Youth who regularly noticed graphic warnings were less likely to experiment with cigarettes, suggesting that visual confrontation with consequences could interrupt the initiation pathway.

Perceptual responses and social risk

Qualitative research with young adult smokers revealed that traditional health warnings were often dismissed as “improbable” or “irrelevant” [29]. However, warnings presenting immediate social risks—such as bad breath or social rejection—were found to be more salient and harder to rationalize. This suggested that effective warning design must address not only physical health consequences but also the social dimensions of smoking.

Plain packaging: design as intervention (2012-present)

Australia's world-first policy

Australia implemented the world's first plain packaging law in December 2012, requiring all tobacco products to be sold in standardized drab brown packs with uniform typography and no brand imagery [1,2]. Only the brand name in standard font and graphic health warnings covering 75% of the front and 90% of the back remained. This represented the complete reversal of packaging's original purpose: from attracting consumers to repelling them.

The semiotics of anti-branding

Plain packaging operates through what design theorists call “anti-branding”-the systematic removal of visual elements that create appeal [7,34]. By eliminating color differentiation, logos, and distinctive typography, plain packaging strips cigarettes of their symbolic value. The chosen drab brown (Pantone 448C, described as “the world’s ugliest color”) was specifically selected to minimize appeal.

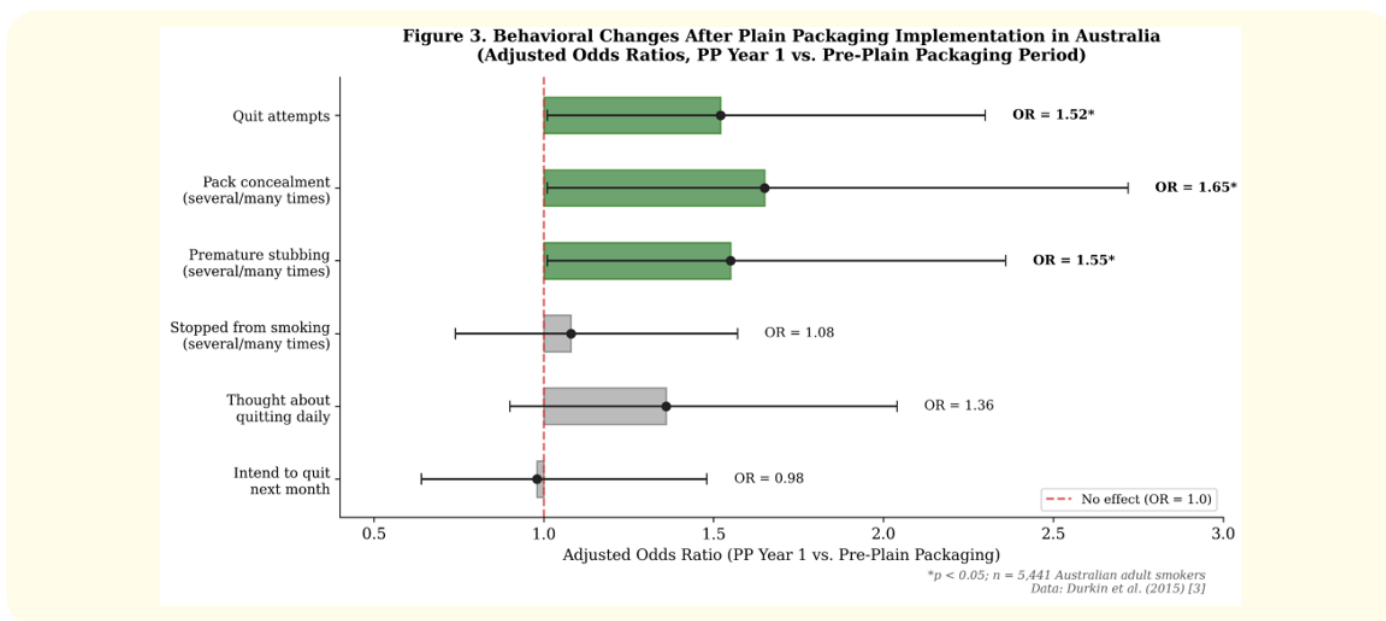
Meta-analysis confirmed the effect: plain packs were rated significantly less attractive than branded packs, with a standardized effect size of $d = -0.59$ [34]. This represents a substantial reduction in appeal through visual design alone.

Cross-sectional evidence from Australia

Wakefield., *et al.* [2] conducted cross-sectional surveys during Australia’s roll-out period, finding that smokers using plain packs perceived their cigarettes as lower quality, were more likely to have thought about quitting in the past week, and rated quitting as a higher priority. Support for the policy was higher among those already using plain packs.

Cohort evidence on quitting behavior

Durkin., *et al.* [3] provided the strongest evidence from a national cohort study of 5,441 Australian adult smokers. Compared to the pre-plain packaging period, smokers in the transition period showed significantly greater increases in quit attempt rates. During the first year of plain packaging, smokers showed higher levels of pack concealment, more premature stubbing out of cigarettes, and higher quit attempt rates. This behavioral evidence demonstrated that visual de-glamorization translated into reduced consumption.



The social identity mechanism

Webb., *et al.* [7] tested a social identity mechanism for plain packaging effectiveness. Australian smokers rated their identification with fellow smokers of their brand before and after the policy change. Smokers-especially those who initially identified strongly with their brand-experienced significant decreases in brand identity following plain packaging, which was associated with lower smoking behaviors and increased intentions to quit. This quantitative evidence supports the hypothesis that brand identities maintain smoking behavior, and their removal facilitates cessation.

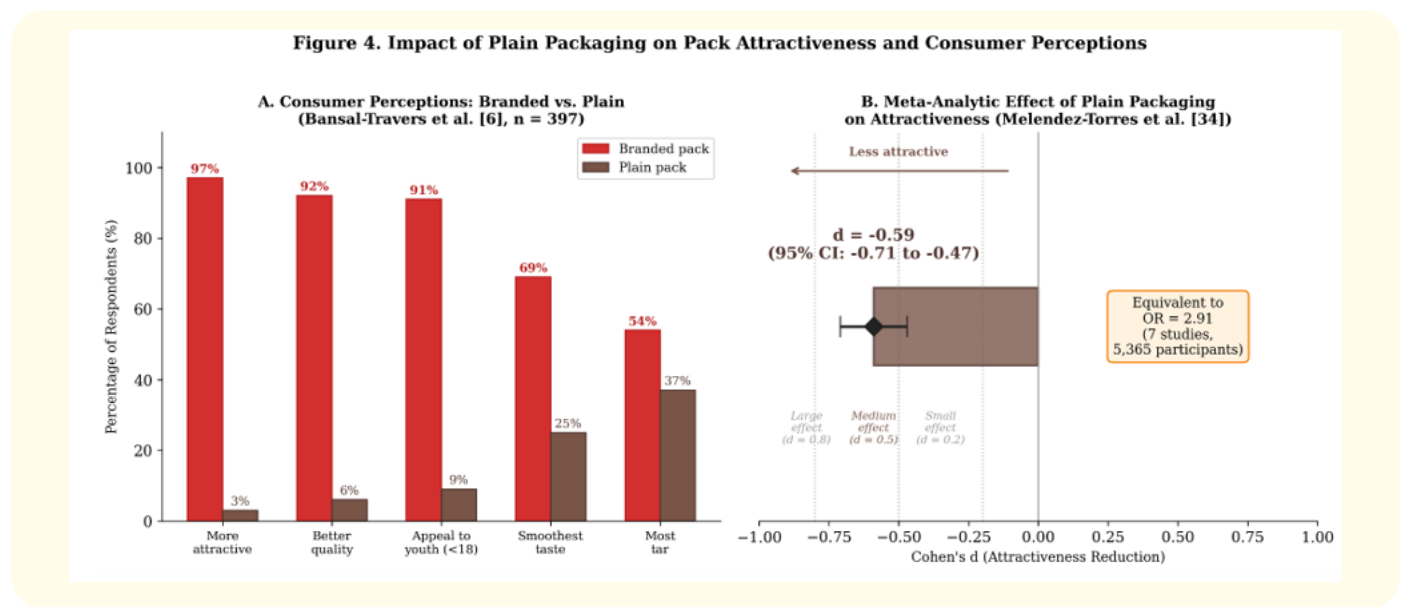
UK and European implementation

The United Kingdom implemented standardized packaging in 2017, providing additional evidence. Moodi, *et al.* [5] surveyed 1,865 UK smokers during the transition, finding that those using standardized packs were more likely to have noticed warnings, read them closely, thought about health risks, and thought about quitting. These findings replicated Australian evidence in a different cultural context.

France implemented plain packaging in 2017, and studies of French adolescents found significant changes: youth were more likely to fear smoking consequences, less likely to report that friends and family accepted smoking, and smoking initiation significantly decreased [42]. Brand attachment among young smokers also declined.

Eye-tracking and neural evidence

Shankleman, *et al.* [10] used eye-tracking to demonstrate that standardized packaging increased the proportion of time spent gazing at warning labels among never-smokers. This effect was consistent across different warning types (text, color text, and graphic images).



At the neural level, fMRI research found higher activation in the visual cortex for plain packaging compared to branded packaging when accounting for attention to health warnings [37]. This suggests that health warnings are more visually salient on plain packs, supporting plain packaging as an effective strategy for increasing warning processing.

Addressing industry concerns

The tobacco industry predicted that plain packaging would increase illicit tobacco use. Scollo, *et al.* [9] tested this claim using national surveys of 8,679 Australian smokers, finding no significant increases in use of contraband cigarettes, purchases from informal sellers, or use of unbranded tobacco. The illicit trade argument was not supported by evidence.

Industry-funded research claimed no effect on youth smoking. Diethelm and Farley [8] re-analyzed the same data using more appropriate methods, finding a 52% relative reduction in youth smoking prevalence over 13 years, with a 12.1% relative reduction when plain packaging was introduced. The industry-funded analysis was methodologically flawed and misleading.

Effectiveness and outcomes

Population-level evidence

The Cochrane systematic review by McNeill, *et al.* [1] represents the gold-standard synthesis, including 51 studies with approximately 800,000 participants. The evidence suggests that standardised packaging may reduce smoking prevalence, with one large Australian observational study showing a 0.5 percentage point drop after implementation. While modest, this translates to tens of thousands of prevented deaths given population scale.

Youth prevention impact

Youth outcomes are particularly significant given that nearly all smokers initiate before age 25. Attitudes towards plain packaging among Australian adolescents (12 - 24 years) showed significant increases in support across all smoking statuses [40]. Post-implementation, 16% of never-smokers reported plain packaging made them less likely to smoke, while 34% of smokers reported quitting-related responses.

Behavioral observation

Observational studies provide ecological validity beyond self-report. Zacher, *et al.* [44] observed tobacco pack display and smoking at outdoor venues over three years, finding sustained reductions in visible tobacco products and smoking in public, especially where children were present. Brennan, *et al.* [4] found these effects persisted two years post-implementation at venues with children.

Synthesis and effect sizes

The most recent systematic review [45] identified 35 longitudinal studies evaluating graphic health warning formats. Perceived harms and quit intentions were increased by graphic warnings, though wear-out effects were observed regardless of format. Alternative formats such as package inserts were recommended as complementary approaches. Graphics exceeding 50% of pack surfaces were most common and effective.

The generational shift: From cool to cringe

Gen Z and the de-glamorization of smoking

Contemporary youth have grown up in an environment saturated with anti-smoking messaging, plain packaging, and smoking bans. Smoking rates among youth are at historic lows, and qualitative research suggests a fundamental shift in perception: smoking has transitioned from rebellious to “trashy” [30]. Canadian youth (11 - 19 years) increasingly view smoking as “not cool” and unhealthy, with non-smokers actively influencing friends to quit through “reverse peer influence”.

The truth® campaign

The truth® anti-smoking campaign represents the most evaluated counter-marketing intervention. Longitudinal studies found that recall of truth® was associated with increased anti-smoking beliefs, decreased smoking intentions, and lower rates of initiation [23,27]. The campaign’s industry manipulation messaging resonated with youth who value authenticity.

Critically, the industry-sponsored “Think. Don’t Smoke” campaign showed no protective effect and was associated with increased intentions to smoke [27]. This demonstrated that not all anti-smoking campaigns are equal—those funded by tobacco companies may actually undermine prevention efforts.

The Florida “truth” campaign showed that youth with higher exposure were less likely to initiate smoking, with effects consistent across age, sex, and parental smoking status [28].

Social media and tobacco exposure

Social media has emerged as a critical battleground. Longitudinal research found that exposure to tobacco-related social media content was significantly associated with increased odds of e-cigarette, cigar, and hookah use one year later [31]. Posting tobacco-related content was associated with e-cigarette and combustible product use among youth [32].

Nearly half of youth and young adults reported exposure to menthol and flavored e-cigarette advertisements, primarily on social media [33]. This highlights the need for platform-specific interventions as marketing has migrated from traditional media to digital spaces.

Peer and family influence

Peer influence remains a strong predictor of smoking behavior, but the direction of influence has shifted. Non-smoking peers increasingly exert protective influence through social modeling and pressure [16,30]. Parental disapproval and open family communication serve as protective factors even when parents smoke [20].

School-based prevention

Systematic reviews of school-based smoking prevention found that programs combining social influences and social competence approaches showed the strongest evidence of effectiveness [19]. Multi-component programs addressing community and family factors alongside school interventions were most successful, suggesting that visual interventions operate within broader social contexts.

Multimedia and design theory

Visual design as behavior change

The tobacco control evidence demonstrates that visual design can serve as a public health intervention. Pack design influences risk perception through multiple mechanisms: color shading communicates product strength, descriptors create false impressions of reduced harm, and branded elements build emotional attachment [6].

The science of visual attention

Eye-tracking research has quantified how visual attention operates in tobacco contexts [35,38]. Warnings on branded packs are frequently ignored because brand elements compete for attention. Plain packaging removes this competition, forcing visual attention to warning content [10]. This attention shift predicts cognitive processing and behavioral outcomes, particularly among youth [43].

Neural evidence for design effects

fMRI studies have extended the evidence beyond behavior to brain activation [37]. The visual cortex shows differential activation for plain versus branded packaging, providing biological evidence that design manipulations affect cognitive processing at a fundamental level.

Cross-category applications

The principles established in tobacco control have applications beyond cigarettes. Eye-tracking research on sugar-sweetened beverage warning labels found that warnings reduced attention to marketing elements and increased correct recall [39]. This suggests that visual public health interventions can be applied to other health behaviors, from nutrition to alcohol consumption.

Attractiveness as a measurable outcome

Meta-analysis has quantified the attractiveness differential between plain and branded packs, finding a substantial standardized effect ($d = -0.59$) [34]. This demonstrates that subjective appeal can be systematically reduced through design intervention—a finding with implications for product regulation more broadly.

Emerging challenges: E-cigarettes and heated tobacco

The new “cool” factor

While cigarette smoking has declined, e-cigarettes have emerged as the new aspirational tobacco product. E-cigarette advertising exposure is associated with increased susceptibility to both e-cigarette and conventional cigarette use among youth [25]. The visual vocabulary of e-cigarette marketing—sleek designs, technology aesthetics, and flavor variety—represents a new form of the glamorization that plain packaging was designed to counter.

IQOS and heated tobacco products

Eye-tracking research on IQOS (heated tobacco product) advertising found that promotional content attracted significantly more attention than health warnings [36]. For ever-vapers, attention to promotional content was associated with more favorable attitudes and higher intention to use. This suggests that vaping may serve as a gateway to heated tobacco products, and that visual attention patterns established in cigarette research apply to novel products.

Adapting counter-marketing

The truth® campaign has begun adapting its strategy to address e-cigarettes, recognizing that traditional messaging may not resonate with youth who perceive vaping as fundamentally different from smoking [26]. Combining the campaign’s relatable approach with health information may be necessary for effectiveness.

Conclusion: Summary of Evidence

This review has traced the visual transformation of cigarette packaging from aspirational marketing to regulated public health intervention. The evidence demonstrates that:

1. Visual design was deliberately used to create and maintain smoking behavior through brand identity, color psychology, and aspirational imagery [6,7,22].
2. Graphic health warnings are more effective than text warnings in increasing attention, recall, and quitting intentions, particularly among youth [11,12,41,45].
3. Plain packaging significantly reduces appeal and is associated with increased quitting cognitions and behaviors [1,2,3,7,34].
4. Counter-marketing campaigns like truth® can shift youth attitudes and reduce initiation when they employ authentic messaging that resonates with adolescent values [23,27,28].
5. A generational shift has occurred in which smoking has lost its cultural cachet among contemporary youth, facilitated by comprehensive visual interventions [30,42].

Future Directions

The emergence of e-cigarettes and heated tobacco products presents new challenges for visual tobacco control [25,36]. Social media has become a primary vector for tobacco marketing exposure among youth [31,32,33], requiring platform-specific interventions.

Future research should examine:

- Extension of plain packaging to e-cigarettes and heated tobacco products.
- Social media monitoring and intervention strategies.
- Novel warning formats that address wear-out effects [45].
- Cross-cultural adaptation of effective visual interventions.

Implications for Public Health Policy

The evidence reviewed supports comprehensive visual tobacco control policies including large graphic health warnings, plain packaging, and well-funded counter-marketing campaigns. The tobacco case demonstrates that visual design can be systematically employed to change population health behavior—a lesson applicable to emerging public health challenges from ultra-processed foods to digital addiction.

The transformation from glamour to taboo represents one of public health's greatest success stories. The visual strategies that once sold cigarettes have been inverted to discourage their use, demonstrating that the same psychological principles that create desire can be redesigned to extinguish it.

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