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A systematic review of applications, manipulations and manipulation checks of construal level theory in advertising

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A systematic review of applications, manipulations and manipulation checks of construal level theory in advertising

Abstract

Advertising research has increasingly applied construal level theory (CLT) to predict advertising effectiveness. This study systematically reviews and synthesises CLT-based advertising research by focusing on the theoretical tenets of CLT, construal-level manipulations, and construal-level manipulation checks applied in this research domain. This is the first systematic review of CLT-based advertising research involving psychological distance, which is the distance from self, here, and now. The review identified 86 relevant articles published in top-ranked journals between 2009-2023, retrieved from seven electronic academic databases. It found that CLT-based advertising studies are primarily anchored on the theoretical tenets of matching effect, categorisation effect, and psychological distance. It further identified and classified the construal-level manipulations used in CLT-based advertising research into three categories: psychological-distance dimensions, psychological manipulations, and marketing-related factors. Finally, this review highlights the critical gaps in existing research and offers avenues for future research.

Keywords: construal level theory, construal-level match, psychological distance, construal-level manipulation, advertising

A systematic review of applications, manipulations and manipulation checks of construal level theory in advertising

Introduction

As a key influential social-cognitive theory for the past two decades (Calderon et al., 2020), construal level theory (CLT) postulates that objects or events can be represented in an individual's mind at different levels of construal (Trope & Liberman, 2010). Construal level refers to the levels of abstraction at which the information is mentally represented (Williams et al., 2014). A high construal level is “schematic, decontextualized representations that extract the gist from the available information” (Trope et al., 2007, p. 83). In contrast, low-level construals are “relatively unstructured, contextualized representations that include subordinate and incidental features” (Trope et al., 2007, p. 83). Because of less emphasis on contextual details, objects with high construal-level are perceived as simpler, more prototypical, and less ambiguous than objects with low-level construal (Liberman et al., 2007). As such, how individuals perceive an object's construal level can influence their evaluation of the object. Consequently, CLT was extended from analysing psychological behaviours, e.g., self-control (Fujita, Trope, et al., 2006) and stereotyping (McCrea et al., 2012), to explaining consumer behaviour, e.g., consumer confidence (Tsai & McGill, 2011).

In marketing, CLT is mostly applied in the advertising domain (Adler & Sarstedt, 2021; Saeed et al., 2024). A key reason that CLT is often used to predict advertising effectiveness (Lee et al., 2021; Y. Wang et al., 2022; Hernandez et al., 2015;) can be explained by the notion that the core concept of CLT, psychological distance, is particularly relevant to the advertising context. CLT posits that the perception of psychological closeness or distance from an object evokes different levels of construal (Trope & Liberman, 2010; Trope et al., 2007). A far psychological distance would engender a high construal level, and

vice versa. Furthermore, psychological distance purportedly has four distinct dimensions: temporal, spatial, social, and hypothetical (Amit et al., 2009). Ad stimuli, such as framing benefits as imminent versus future (temporal distance) or presenting a product picture taken from a near vs far angle (spatial distance), convey different psychological distances (Jeong & Jang, 2015; K. Kim et al., 2019). This leads to ads and the advertised product being perceived at different levels of construal, consequently biasing their evaluation. Kulkarni and Yuan (2015) assert that psychological distance is relatively easy to implement in ads and readily actionable to enhance ad persuasiveness; thus advertising studies are often grounded on CLT.

Despite a substantial body of CLT-based advertising literature, a synthesised view of the application of CLT in this domain is still absent. By uncovering its unexplored or underexplored aspects, an integrative perspective is crucial for advancing knowledge of CLT in the advertising domain. This study therefore aims to systematically review advertising research that applies CLT, particularly focusing on three aspects: the underpinning theoretical tenets, the forms of construal-level manipulations, and the types of construal-level manipulation checks.

First, CLT-based advertising research has drawn on a diverse range of theoretical underpinnings, such as the construal-level matching effect (e.g., Kim & Song, 2019; Pounders et al., 2015; Yoon et al., 2021) and the categorisation effect (Xin et al., 2022). The matching effect refers to the greater effectiveness of stimuli (e.g., ad) when they match audience construal level (Liberman & Trope, 1998), whereas the categorisation effect purports that high-level (vs low-level) construal leads to more (vs less) perceived similarity between objects (Trope & Liberman, 2010). A systematic review would shed light on when and how the different CLT tenets are applied in advertising research. This knowledge would enhance the theoretical richness and guide the progress of CLT in this research domain.

Second, CLT-based advertising research has employed different forms of psychological distance (e.g., temporal, social) and other psychological techniques to manipulate construal-level. Advertising research has also developed and used several additional construal-level manipulations. The use of a diverse range of psychological distance dimensions and techniques for manipulating construal-level in advertising research necessitates a more holistic view of these manipulations to better guide and extend the application of CLT in future advertising research.

Third, since CLT-based advertising research typically manipulates construal-level through a variety of techniques, it is important to understand what manipulation checks the studies have employed. For example, the Behavioural Identification Form (BIF; Vallacher & Wegner, 1989), which attempts to identify patterns or outcomes associated with certain behaviours, is a common form of manipulation check. Another prominent construal-level manipulation check is thought abstraction (Semin & Fiedler, 1988), which categorises participants' listed thoughts in degrees of abstractness or concreteness. Understanding the types and prevalence of different construal-level manipulation checks would advance knowledge in CLT-based advertising studies. Yet, an integrative view of this topic is presently missing.

To sum up, arising from the aforementioned knowledge gaps, our systematic review aims to achieve the following research objectives:

1. Reveal how CLT has been applied in advertising research.
2. Identify the various construal-level manipulations used in advertising research.
3. Identify the different construal-level manipulation checks employed in advertising research.
4. Provide directions for future research based on the critical gaps identified in this review.

The remainder of this paper is organised as follows. The next two sections provide a review of CLT and describe the review methodology. Then, the key results and findings of the review are discussed, focusing on how CLT is applied in advertising research, construal-level manipulations, and manipulation checks considered in the advertising domain. Afterwards, we offer directions for future research and present an overall discussion. Lastly, the implications of our research are provided, followed by the limitations of our review.

Construal Level Theory

CLT posits that individuals mentally represent objects or events at different levels of construal (Trope & Liberman, 2010). A high-level construal contains abstract or general features of an object, whereas a low-level construal focuses on concrete or observable features (Bar-Anan et al., 2006; Trope & Liberman, 2010). Early construal-level studies suggested that the temporal distance (distance from now in time) determines the construal level of an event (Förster et al., 2004; Liberman et al., 2002; Liberman & Trope, 1998). Later research proposed three additional distances as determinants of construal level: spatial distance (distance from here in place) (Fujita, Henderson, et al., 2006), social distance (distance from the self) (Smith & Trope, 2006) and hypothetical distance (likelihood of happening) (Wakslak et al., 2006).

CLT predicts that far (near) psychological distance leads to high-level (low-level) construal (Trope & Liberman, 2010). It posits that the relationship between psychological distance and the knowledge of an event's construal-level information underlies this effect (Liberman et al., 2007; Trope et al., 2007). A psychologically far event purportedly lacks concrete information, leading people to focus on its abstract, central features (Rees et al., 2018). However, people form concrete or low-level representations of a psychologically near event due to the availability of more detailed information. This relationship between

psychological distance and construal level is so robust that a distal (proximal) psychological distance causes a high (low) construal level, regardless of the amount and type of information available (Liviatan et al., 2008).

Research has empirically established the impact of psychological distance on construal level. For example, Fujita, Henderson, et al. (2006, Study 2) demonstrated the impact of spatial distance on construal level by showing that participants' descriptions were more abstract when they were asked to describe what they saw in a 6-minute video, ostensibly filmed at a spatially far ("New York University's Study Abroad campus in Florence, Italy") vs near place ("New York University's Manhattan campus in New York"). Similarly, the effect of hypothetical distance on construal level was confirmed by showing that participants described a research assistant position more abstractly when they believed they had a low chance (e.g., 5%: high hypothetical distance) of getting the job, whereas those who believed they had a high chance (e.g., 95%: low hypothetical distance) described the position more concretely (Wakslak et al., 2006, Study 3). Other studies similarly showed the impact of temporal (Liberman et al., 2002) and social (Smith & Trope, 2006) on construal level.

The four psychological distance dimensions may also be positively interrelated (Fiedler et al., 2015; Wakslak & Trope, 2008). That is, an object or event that is distant (near) on one dimension of psychological distance (e.g. temporal) can be perceived as distant (near) on other distance dimensions (i.e. spatial, social, hypothetical). This occurs because the distance dimensions have the same origin (i.e. here, now, self) and similarly affect the construal level (Trope & Liberman, 2010). This suggests the possibility that psychological distance dimensions are interchangeable in construal-level research.

A substantial number of advertising studies have applied CLT to predict advertising effectiveness (e.g., Hernandez et al., 2015; Septianto et al., 2023; White et al., 2011; Yang &

Hu, 2024). The wide application of CLT in advertising research is primarily due to the relevance of psychological distance to advertising (e.g., temporal: product's immediate vs long-term health benefits, social: typical endorser vs sports star), as well as the ability to represent various ad elements (e.g., ad appeal, ad framing, advertised brand) at different construal levels. By evoking an individual's construal level, psychological distance enhances the persuasive response to a construal-consistent stimulus (Trope & Liberman, 2010).

Consistently, advertising studies that apply CLT mainly employ one or more dimensions of psychological distance or analogous marketing-related factors to induce a specific construal level and then match it with the construal level of other ad stimuli (Kim & Song, 2019; F. Wang et al., 2022; Yoon et al., 2021). For example, He et al. (2021) showed that high- vs low-level construal ad message (why vs how message) is more persuasive when matched with the construal level evoked by the psychological distance associated with servant vs partner brand roles (e.g., *servant role*: "Hello Zhuren, I am Cuppy! It's a pleasure to work for you!" vs *partner role*: "Hello Qin, I am Cuppy! It's a pleasure to work for you!"). The current study conducts a systematic review to critically review and synthesise CLT-based advertising research to identify how CLT is applied and various construal-level manipulations and manipulation checks. The following section describes the methodology used in our review.

Methodology

This study conducted a systematic review, defined as a "process for assembling, arranging, and assessing existing literature in a research domain" (Paul & Barari, 2022, p. 2).

Considering the study's objectives outlined in the Introduction section, a systematic review was suitable since it facilitates a deeper understanding of a research area and helps identify gaps (Paul & Barari, 2022; Paul & Criado, 2020). A quantitative review (e.g., meta-analysis)

was not appropriate here because, rather than an in-depth analysis and comprehensive review, it focuses on the empirical relationships among target variables (Littell, 2008). Likewise, due to a manageable number of articles (100 – 300 articles; $n = 86$ articles in our review) (Snyder, 2019), specific scope (CLT in advertising research), and the aim of summarising and synthesising construal-level advertising literature, a bibliometric review was also not appropriate (Donthu et al., 2021).

We followed the scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR) protocol developed by Paul et al. (2021). The SPAR-4-SLR protocol ensures rigorous, coherent, and transparent reviews by guiding the systematic conduct of reviews and providing well-defined rationales for the choices made (Paul et al., 2021; Rawat et al., 2022). Several recent systematic reviews in consumer research (not about CLT) have applied the SPAR-4-SLR protocol (e.g., Hassan et al., 2022; Jain et al., 2023; Kaur & Sharma, 2024). Following the protocol, we considered academic journals only. Similar to the arguments offered by other authors (Lim et al., 2021; Paul et al., 2021), we excluded books and book chapters since journal articles typically make substantive scholarly contributions by being cited more often. Likewise, we excluded grey literature (e.g., conference papers) due to a potentially less rigorous review process.

First, we identified seven widely used academic databases that contain advertising journals publishing CLT-based research: *Emerald*, *Elsevier (Science Direct)*, *Wiley Online Library*, *JSTOR*, *Taylor & Francis*, *Sage*, and *Springer*. These databases, often used in systematic reviews (e.g., Saeed et al., 2022; Vrontis et al., 2021), host leading journals that publish advertising articles (e.g., *Journal of Advertising*, *International Journal of Advertising*, *Journal of Consumer Research*, *Journal of Consumer Psychology*).

Based on a review of relevant literature and detailed deliberation among the authors, we identified two key terms (i.e., construal level and advertising) for sourcing relevant

articles. Consistent with the SPAR-4-SLR protocols, a Boolean character and a wildcard were used to develop a short search string “construal level” AND “advert*” (the search string for ScienceDirect contained the word ‘advertising’ since it does not permit the use of wildcards). The search string was executed in mid-May 2023 to retrieve articles mentioning these search terms anywhere in the article. The scope of the search was deliberately not restricted to the article’s field only (i.e., title, abstract and keywords) so that the initial search would not inadvertently omit articles that would have been relevant. This step yielded a total of 1,553 articles from all the databases (see *Table 1*).

Insert Table 1 here

Next, importing all the articles into CovidenceTM software found 105 duplicated articles. After removing these duplicates, the titles and abstracts of the remaining 1,448 articles were independently reviewed by two authors to assess their relevance to this systematic review topic based on the inclusion/exclusion criteria (i.e., advertising context, CLT is applied, at least one dimension of psychological distance is manipulated). We included the dimension of psychological distance in the inclusion/exclusion criteria because it is a central aspect of CLT. Furthermore, as discussed in the Introduction and Construal Level Theory sections, psychological distance typically serves as the basis for the application of CLT in advertising research. Disagreements between the two authors regarding the relevance of articles were resolved through discussion. This initial screening and conflict resolution led to 1,257 articles being excluded, with 191 articles remaining.

Next, like other systematic reviews (e.g., Lim et al., 2021; Srivastava et al., 2020), a quality filter sieved through A or A* ranked journals in the Australian Business Deans Council (ABDC) list (Hao et al., 2021), further reducing the sample to 148 full-text articles.

These remaining articles were then fully and independently reviewed by two authors, which further culled 62 articles based on the exclusion criteria (i.e., the context is not advertising, CLT is not applied, psychological distance is not manipulated, either of the ad or the participants). This yielded a final sample of 86 articles. Figure 1 illustrates the process flow described above, and *Appendix I* lists and summarises these 86 articles.

Insert Figure 1 here

In the final step, the authors read each article thoroughly and extracted information relevant to the objectives of this review. Specifically, we gathered details on the purpose of each article, the application of CLT, the type of psychological distance considered, the type of construal-level manipulation used, the manipulation checks applied, and the complete findings of each article. The information regarding the purpose, application of CLT, and complete findings from each article was summarised, while details about the dimensions of psychological distance, construal-level manipulations, and manipulation checks were coded (e.g., psychological distance: temporal, social; manipulations tasks: goal priming, exemplars/category; manipulations checks: BIF, categorisation). We also extracted other information from the articles, including the descriptions of construal-level manipulations and manipulation checks and the rationale behind construal-level manipulations discovered in advertising research. We used a standard Excel extraction sheet to minimise human error and ensure replicability and transparency (Tranfield et al., 2003). The extracted information was then analysed and integrated to present the results in the next section.

Analyses and Results

The Application of CLT in Advertising Research

This review found that the 86 articles applied three main theoretical tenets of CLT: the construal-level matching effect, the categorisation effect, and the psychological-distance-based argument. The *matching effect* tenet of CLT posits that the evaluation of a stimulus is more favourable when it matches individuals' construal level (Liberman & Trope, 1998). This occurs because a construal consistent stimulus fits with individuals' cognitive structure, thereby receiving a greater weight in the evaluation. For example, applying the matching effect, Roose et al. (2019) revealed that consumers evaluate an ad more positively and intend to receive free product samples when the consumer construal level evoked by the ad's visual horizon height (high vs low) is matched with that of the product's temporal benefit (immediate vs future benefits) in the ad. Tok et al. (2021) demonstrated that a construal-level match between the product location (far vs near) in the ad (i.e., spatial distance) and the ad message featuring desirable vs feasible product attributes leads to more favourable purchase intention and attitude towards the advertised product. It is noteworthy that some advertising studies assert that the matching effect occurs because matching enhances the subjective feeling of processing fluency (Kim et al., 2009; Lee et al., 2010; Ozkara & Dogan, 2020; Wright et al., 2012), which in turn leads to favourable judgement (Alter & Oppenheimer, 2009; Chae & Hoegg, 2013; Lee & Aaker, 2004; Leonhardt et al., 2015). The vast majority (n = 78) of the reviewed articles leaned on the matching effect tenet for support (see *column 6* of the table in *Appendix I*). The high number of articles that relied on the matching effect tenet makes sense as the approach fits advertising practice and research. *Column 7* of the table in *Appendix I* mentions specific factors that were matched in terms of construal level in relevant articles.

However, our review found some inconsistent findings regarding the matching effect in advertising research. Some studies revealed that the matching effect only worked when the construal levels of both the ad stimulus and participants were high (e.g., Kim et al., 2021;

Kulkarni & Yuan, 2015; Tan & Wang, 2021), whereas others found the effectiveness only when both construal conditions were low (e.g., Bauer, 2023; Denizci Guillet et al., 2022; Huang & Liu, 2022). Our review found the same number of instances (i.e., 13) where each high-high and low-low construal match failed to produce the superior effect (see the *last column of Appendix I* table for relevant articles and details). There were also two instances where construal-level match did not yield better effects for both high-high and low-low matched conditions (Willems et al., 2017; Youn & Kim, 2019). The instances where the matching effect, either fully or partially, could not generate more favourable effects were identified in 25 articles (29% of the included articles).

The reasons proffered for the ineffective matching effect were specific to the context of the particular studies. For example, Choi et al. (2019) postulated that the low-low matching effect did not work in their study because the ad stimulus used to prime low construal level through temporal distance (a product would be available imminently) did not work as intended. Likewise, Yang et al. (2015) suggest that it might be due to the presence of confounding variables within the context of green consumption. Some studies also identified boundary conditions for the construal matching effect (Kim et al., 2018; Kim et al., 2009; Park & Morton, 2015). For example, Kim et al. (2018) demonstrated that the matching effect worked in the US context, but not in the Korean context. Park and Morton (2015) showed that the matching effect existed when involvement was low, but it disappeared in the high involvement condition. While existing research elucidates the conditions under which the construal level matching effect is effective or ineffective, future studies should explore additional boundary conditions for this effect. To this end, self-affirmation (Wakslak & Trope, 2009), self-control (Fujita, 2008), and fear & anxiety (Mayiwar & Björklund, 2023), among others, would be useful to consider, as these factors are associated with construal levels.

Our review found only one advertising article that built on the *categorisation effect* tenet of CLT, which states that a high-level construal leads to a more inclusive categorisation (Trope & Liberman, 2010). That is, a high-level construal makes people apply a broader classification scheme, which is manifested in the categorisation of objects into fewer groups. For example, Liberman et al. (2002) demonstrated that people classified 38 objects (e.g., for camping scenario: rope, soap, camera, tent) into fewer categories (i.e., applied a more inclusive categorisation) in far vs near temporal conditions (i.e., high-level vs low-level construal). This occurs because a high-level construal makes people focus on the context-invariant features of objects (Burgoon et al., 2013), making them consider a few overarching features connecting these objects (Henderson, 2013). By applying the categorisation effect, Xin et al. (2022) showed that the effectiveness of mixed-emotions ad appeal [(ads displaying opposite emotions (e.g., happiness and sadness)) for paradox brands (brands with opposing associations of brand personality) is attenuated when high-level construal due to heightened cognitive flexibility or broader categorisation.

Six of the remaining articles directly manipulated consumers' perceptions of *psychological distance* via the ad stimuli and predicted its effect by building arguments based on construal level. Construal-level research suggests that psychological distance can impact judgment and behaviour by altering the construal level of stimuli (Trope & Liberman, 2010). For example, psychologically proximal (distal) objects are construed more concretely (abstractly), which leads individuals to use context dependent (context independent) information for evaluations (Ledgerwood et al., 2010). Similarly, the visual image of a message is more vivid when consumer is physically close to the message (proximal psychological distance), which enhances the perceived validity of message implications (Jia et al., 2017). Individuals are also more likely to forgive transgressions in psychologically distant (vs near) situations, as the high construal level of transgressions due to far

psychological distance reduces contextual detail, making transgressions seem less severe (Rizvi & Bobocel, 2016).

Likewise, six advertising articles built on the psychological distance concept of CLT to predict ad effectiveness. For example, semantically framing charitable giving as a gift (rather than a donation) decreases donors' perceived social distance from beneficiaries, which increases charitable contribution (Wang et al., 2023). Baek et al. (2022) similarly show that individuals feel socially closer to a smiling humanlike, rather than the robotic, artificial agent, in donation advertising, they exhibit a greater willingness to donate. Steinhart et al. (2013) demonstrated that when ads announced products with potentially harmful side effects (cigarettes or artificial sweeteners) to be available at a later date (far temporal distance), consumers were less concerned about the side effects and were more likely to buy the products. One article applied the psychological-distance argument in one experiment and the matching effect in another experiment (Togawa et al., 2023).

Construal-level Manipulations in Advertising Research

The construal-level manipulations used in the 86 studies could be classified into three broad categories: dimensions of psychological distance, psychological manipulations, and marketing-related factors. *Figure 2* shows these broad categories of construal-level manipulations together with their sub-categories.

Insert Figure 2 here

Dimensions of Psychological Distance. Early construal-level studies in psychology suggested that the dimensions of psychological distance are key factors in evoking construal level (Förster et al., 2004; Liberman et al., 2002). Accordingly, consumer research, including

advertising, have used the four dimensions of psychological distance — temporal, spatial, social and hypothetical (Trope et al., 2007) — to manipulate construal level. *Table 2* lists the number of advertising articles included in our review that considered particular dimension(s) of psychological distance, along with examples.

Insert Table 2 here

Temporal distance was the most widely used dimension of psychological distance ($n = 32$) to prime construal level in advertising articles that considered only one dimension. Temporal distance also appeared in 22 other articles, where it was used in conjunction with other dimensions of psychological distance. A possible reason for the most common use of temporal distance in advertising is that the psychological distance was originally conceptualised as the temporal distance in the seminal construal level paper (Liberman & Trope, 1998). The other three dimensions of psychological distance came later (Trope & Liberman, 2010). Another possible reason may be its greater relevance in the advertising and consumer context. For example, different forms of temporal distance, such as time restriction (e.g., discount offer expiring in near vs far future) (Kim et al., 2022) and portraying health risks (e.g., immediate vs long-term health risks) (Kees, 2011) are highly relevant to advertising context.

Social distance is the next most widely applied distance dimension ($n = 18$), followed by spatial distance ($n = 6$). Critically, only three studies manipulated hypothetical distance. A reason for this low number of studies using hypothetical distance may be gleaned from a recent study (Calderon et al., 2020) that warned against considering hypothetical distance as a predictor of construal. This study failed to replicate two of the seven studies in the seminal paper by Wakslak et al. (2006) regarding the impact of hypothetical distance on construal

level. Drawing on Tversky and Kahneman (2002), Calderon et al. (2020) reasoned that individuals are often poor at making probabilistic judgments, and thus it would be difficult to manipulate subjective likelihood successfully in experiments, such as those in CLT studies.

Twenty-seven articles involved two distance dimensions. However, thirteen of these studies tested the two psychological distances in separate experiments (see *column 5* in the table in *Appendix I*). For example, the article by Choi et al. (2019) comprised two experiments, one involving temporal distance (when to move house) and the other involving spatial distance (location of a retail store). Theodorakis and Painesis (2018) considered social and spatial distances separate experiments. In this sense, these articles are similar to the ones that involved only one distance dimension.

Thirteen articles considered two distance dimensions within a single study/experiment. These articles either tested the interactions between, or independent effects of, the two distance dimensions on outcome variables (Huang & Liu, 2022; Kim & Childs, 2021; Liu & Mair, 2023). For example, Tsang et al. (2022) found that a far social distance (benefiting others] vs a close social distance (benefiting oneself) led to higher purchase intention of supporting tourism products when the temporal distance was distal (six weeks to depart) vs proximal (one day to depart). Loebnitz et al. (2022) demonstrated that ads displaying animals (high social distance) and emphasising the future-focused advantages of supporting organic products (high temporal distance) lead to higher purchase intention than the ads featuring humans (low social distance) and highlighting the current disadvantages of supporting conventional products (low temporal distance). There was one article that used two distance dimensions both together and separate in two different experiments (Salnikova et al., 2022)

Psychological Construal-level Manipulations. *Table 3* lists the articles that applied different psychological construal-level manipulations to prime construal level in order to examine its effect on advertising effectiveness. Our review found three psychological construal-level manipulations used in advertising research. The goal priming (why/how) task (Freitas et al., 2004) emerged as the most widely used manipulation ($n = 7$). This task was first applied by Freitas et al. (2004) in the psychology domain to test the impact of construal level on predicting and guiding the self-regulatory efforts of others. In the goal priming task, participants are asked to describe why (how) they might achieve a target goal (e.g., improve and maintain health) in the first blank box from the bottom (top) of a set of four vertically organised blank boxes. Then, participants explain in the next box why (how) they want to achieve what they mentioned in the second box. This process continues until the last box is filled. The main logic behind this manipulation is that making people focus on progressively higher-order (why) goals vs low-order (how) goals primes them to think at a high vs low-level construal. For example, White et al. (2011) used why (“reasons for recycling”) and how messages (“ways of recycling”) in recycling ads to evoke high- and low-level construal.

The next most widely used psychological manipulation of construal level ($n = 2$) is the exemplar vs category task (Fujita, Trope, et al., 2006), which was first considered in psychology research to investigate the impact of construal level on self-control. This task uses a series of 40 objects or entities (e.g., dogs) and asks participants to name either a superordinate category (e.g., animals) or a subordinate exemplar (e.g., poodles) to prime high-level or low-level construal, respectively. Lastly, the painting viewing task (McCrea et al., 2008) as a construal-level manipulation appeared in only one article. This task primes high- vs low-level construal by directing participants’ attention to the desired effects (global-focused) vs specific technique (local-focused) used in a painting. See *Appendix II* for further details on these three psychological construal-level manipulations.

Insert Table 3 here

Marketing-related Construal Evoking Factors. Our review revealed that advertising research has also used marketing-related factors to manipulate consumer construal levels. We termed them as marketing-related construal evoking factors because, unlike the other two types of construal-level manipulations discussed above (i.e., psychological distance dimensions and psychological manipulations) that are rooted in psychology theories, these factors are context-restricted, and primarily applicable to marketing only. For example, the marketing-related factors, such as the consumer stage in the buying process (information search vs actual purchase) (Humphreys et al., 2021), brand role (servant vs partner) (He et al., 2021), and type of endorser in the ad (sports star vs typical person) (Chang & Chen, 2022) have been shown to engender construal level.

Table 4 lists the 21 construal-evoking marketing-related factors identified in our review, together with a summary of the rationale provided by researchers regarding their effect on construal level. We grouped them into four broad categories: ad related, brand/product related, consumer related, and others. Most of these factors ($n = 10$) are ad related (e.g., message framing, image proximity, endorser type), two are brand/product related (e.g., brand role), two are consumer related (e.g., self-construal), and the remaining seven are termed as others (e.g., stage in buying, type of gift).

Insert Table 4 here

Notably, the effects of these marketing-related factors on construal level have been confirmed using construal-level manipulation checks (see *column 3* in *Table 4*). For example, Humphreys et al. (2021) confirmed the effect of consumer stages in the buying process (informational vs transactional/purchase) on construal level (high-construal vs low-construal) using linguistic categorisation task (LCM). He et al. (2021) used the Behavioural Identification Form (BIF) to show that brand roles (servant vs partner) evoke construal levels (high-construal vs low-construal). These marketing-related factors provided bases for sound research ideas and theoretical rationales for applying CLT as well as served as construal-level manipulations in advertising research. Thus, a review of these marketing-related factors would be beneficial for future CLT-based advertising research.

In addition to manipulating the construal level, we identified four studies that measured construal level as dispositional difference using BIF (see detail of BIF detail in the next section) (e.g., Hernandez et al., 2015; Kim & Youn, 2019; Yang et al., 2011; Youn & Kim, 2019). For example, Hernandez et al. (2015; Study 2) showed that consumers with chronic high-level construal hold a more favourable attitude towards benefit ad appeal than attribute ad appeal. Youn and Kim (2019; Study/Experiment 1) revealed that chronically low-level construal consumers show a more positive attitude and higher purchase intention when the ad is framed as near-future rather than far-future.

Construal-level Manipulation Checks in Advertising Research

Our review indicated that the vast majority of articles ($n = 58$ out of 86) did not perform a direct manipulation check to determine whether their manipulation of psychological distance was successful in evoking the required construal level (e.g., Connors et al., 2021; K. Kim et al., 2019; Yao & Chen, 2014). Instead of using a direct measure of construal level, these articles checked construal level manipulation success through dimension(s) of psychological

distance, which is a determinant of construal level. This omission is critical because not using a direct measure/check may overlook potential confounds, thus rendering the findings less valid or reliable (Laczniak & Muehling, 1993; Perdue & Summers, 1986). That is, it would remain unclear whether the manipulations used in the studies had led to the intended and noticeable impacts on the relationships being tested in the experiments. However, some authors have argued that manipulation checks may not always be necessary if they add little further information to theory testing or may even wrongly enhance confidence in validity (Fayant et al., 2017; Sawyer, 1975).

For the studies that carried out manipulation checks, the Behavioural Identification Form (BIF; Vallacher & Wegner, 1989) was the most widely used ($n = 17$ studies). The original BIF was developed to measure the level at which individuals identify their behaviour (Vallacher & Wegner, 1989). BIF presents 25 behaviours (e.g., “greeting someone”) along with its two possible descriptions: lower level (e.g., “saying hello”) and higher level (e.g., “showing friendliness”). However, our review found that many advertising articles have also used shorter versions of the BIF scale, with 13-item (e.g., Theodorakis & Painesis, 2018, 2022), 10-item (e.g., Bandyopadhyay et al., 2023; He et al., 2021), or 8-item (Kulkarni & Yuan, 2015). Using a shorter version of the BIF may be suitable for advertising research because some behaviours included in the original BIF (e.g., “joining the Army,” “chopping down a tree”) may be uncommon for individuals or were based on normative responses collected in the 1980s (Nguyen et al., 2023).

The second prominent construal-level manipulation check is thought abstraction ($n = 7$). For example, Humphreys et al. (2021) applied the Linguistic Categorisation Model (LCM; Semin & Fiedler, 1988) to categorise participants’ listed thoughts as more abstract or concrete. The LCM relies on the linguistic features of a description or listed thoughts to identify the construal level. Specifically, it determines the construal level based on four

classes of words: descriptive action verbs, interpretive action verbs, state verbs, and adjectives. The descriptive action verbs (e.g., drink, call) are the most concrete words, whereas adjectives (e.g., generous, cooperative) are the most abstract words. Ma et al. (2023) also checked construal level manipulation using thought abstraction, but instead of using the LCM, they rated participants' thoughts as abstract or concrete on a single-item scale (1 = 'very concrete', 7 = 'very abstract'). Lastly, rather than categorising thoughts as abstract vs concrete, Zhang et al. (2022) adopted Hamilton and Thompson's (2007) procedure to categorise participants' thoughts into 'why' vs 'how' to confirm the construal-level manipulation.

The next most frequently used construal-level manipulation check in advertising research is the categorisation task (Liberman et al., 2002) that appeared in five articles (e.g., Theodorakis & Painesis, 2018, 2022; Yao & Chen, 2014). This task asks participants to group similar items (e.g., tent, soap, blanket, rope, camera) to confirm construal-level manipulation. Instead of categorising items, Roose et al. (2019) used a categorisation measure developed by Slepian et al. (2015) to confirm construal-level manipulation. This measure asks participants to rate items (e.g., van, car) in terms of their belongingness to a category (e.g., vehicle).

Lastly, based on the findings that construal level can affect psychological distance (Trope & Liberman, 2010), some studies ($n = 12$) considered dimensions of psychological distance as a construal-level manipulation check. For example, Allard and Griffin (2017) and Lee et al. (2021) confirmed construal-level manipulation by showing its effect on four dimensions of psychological distance. Kim et al. (2021) used social and hypothetical dimensions of psychological distance to confirm construal-level manipulation. In addition to BIF and categorisation task as construal-level manipulation checks, Spassova and Lee (2013) considered temporal distance as a manipulation check to show the impact of self-view on

construal level. A detailed description of all direct and psychological-distance-based construal-level manipulation checks discussed in this section is provided in *Appendix II*.

Discussion and Future Research Directions

This review systematically synthesised extant advertising research that applied construal level theory (CLT). Specifically, it focused on uncovering how CLT is applied in advertising research and identifying construal-level manipulations and manipulation checks. Based on a thorough review of 86 relevant articles, this study found that advertising researchers built on the matching effect, categorisation effect, and psychological distance when applying CLT. Furthermore, it revealed three broad categories of construal-level manipulations used in advertising research: dimensions of psychological distance, psychological manipulations, and marketing-related factors. Lastly, the review identified behavioural identification form (BIF), thought abstraction (e.g., linguistic categorisation model or LCM), categorisation tasks, and psychological distance as key construal-level manipulation checks used in advertising research. Despite the wider application of CLT in advertising research, there are still potential gaps that warrant attention by future research. We provide valuable directions for future research regarding the application of CLT, construal-level manipulations, and manipulation checks.

Application of CLT in Advertising Research

Our review demonstrated that advertising research mainly built on the matching effect of CLT to explain ad effectiveness. Specifically, CLT-based advertising research matches the construal level of or evoked by different factors related to the ad, brand/product, and/or consumer to enhance ad effectiveness. This finding is unsurprising since it is relatively straightforward to match the construal levels of two objects. Indeed, past advertising research

has examined the interactive effects of many consumer-side factors based on the matching effect, such as the need for cognition (Allard & Griffin, 2017; Youn & Kim, 2019) and consumer involvement (Connors et al., 2021; Park & Morton, 2015). Future research should investigate additional factors associated with construal level, such as self-control (Fujita, 2008), fear & anxiety (Mayiwar & Björklund, 2023), and self-affirmation (Wakslak & Trope, 2009), because these have not been considered in CLT-based advertising research.

The matching effect phenomenon can also apply to other areas of communication beyond advertising, where the focal factors are associated with or evoke specific construal levels. For instance, matching the ideologies and values of speakers and audiences (Trope & Liberman, 2010) can be effective in political pitches. Similarly, considering the construal levels of different cultures (e.g., East vs West) (Kim et al., 2018) would aid communication effectiveness in journalistic writing depending on the target audience. It thus attests to the robustness of CLT across different areas of communication beyond advertising.

Another potential avenue for future research is to explore the underlying mechanisms of the construal-level matching effect in advertising research. Prior advertising research has identified some underlying mechanisms, such as consumer engagement (e.g., Yao & Chen, 2014). However, most of the advertising articles did not examine any underlying mechanism. Uncovering the underlying effects would determine the generalisability of CLT beyond advertising to other areas of communications. For example, while processing fluency is asserted to underpin the matching effect in advertising (e.g., Roose et al., 2019), it may also apply to public-relation events or even visual forms of communication such as photography.

Our review found that only one advertising article had applied the categorisation effect. This oversight is critical since the categorisation effect of CLT seems relevant to some advertising contexts. For example, CLT's categorisation effect may be relevant when predicting the effectiveness of advertising promoting multiple products/brands (Nguyen et al.,

2018), local and international celebrity-endorsed ads (Centeno & Wang, 2020), and advertisements involving dissociative groups or products linked to dissociative groups (e.g., online gamers for undergraduate students; Berger and Rand (2008), Canadians for Americans (McGowan et al., 2020)). This is because the categorisation effect of CLT may impact the perception of similarity among multiple products, local/international celebrities, and dissociative groups or products associated with dissociative groups.

As discussed in our review, psychological distance is central to CLT and highly relevant to advertising. However, only six studies have used the spatial distance dimension of psychological distance to predict advertising effectiveness. Future research should expand CLT's application in advertising by considering spatial distance. For this, advertisements highlighting the country of origin, brand heritage, luxury lifestyle, and historical events or places may be considered, as these elements involve spatial distance. Some other contexts where advertising involves spatial and other psychological distance dimensions include banking, health insurance, air travel, international health providers, and international educational institutions.

Psychological distance may also apply to other areas of communication. For example, political campaigns near or far from the election/voting date may have different psychological (i.e., temporal) distances, and the campaigns may receive different evaluations even if the contents are identical. Lastly, it would be interesting to investigate whether psychological distance and construal level distinctively influence affective advertising messages. Consumer research shows that psychological distance increases (decreases) the favourable evaluations of negative (positive) experiences by reducing the intensity of negative (positive) affect (Williams et al., 2014). In contrast, a high-level construal improves the evaluations of both positive and negative experiences since it promotes positivity.

Construal-level Manipulations in Advertising Research

Our review revealed that advertising research mostly used the temporal distance to manipulate construal level, whereas the other dimensions received less attention. This is critical since all four dimensions are highly relevant to consumer research (Zhang & Wang, 2009). As shown in *Table 2*, the spatial and hypothetical psychological dimensions were used much less often than the other two dimensions (i.e., temporal and social). Therefore, future advertising studies should consider these under-applied dimensions of psychological distance in advertising research.

Spatial distance may be useful to provide CLT-based theoretical justification in different advertising research areas. For example, advertising displaying country of origin cues (e.g., Bartsch & Zeugner-Roth, 2021; Hornikx & van Meurs, 2017) may evoke consumer's perception of spatial distance. Spatial distance can also be relevant to outdoor advertising (e.g., billboard advertising) because consumers can see these ads from a far vs near. Other spatial distance-related factors, such as height (Aggarwal & Zhao, 2015), look up vs down (Van Kerckhove et al., 2015), and vertical vs horizontal orientation (Slepian et al., 2015), would also be relevant to advertising research.

Expanding the use of hypothetical distance in advertising research can help progress CLT-based advertising research. There are certain advertising contexts where hypothetical distance is relevant. For example, since live-odds gambling advertising (Zhang & Wang, 2009) and uncertainty in pre-release advertising (Schroll & Grohs, 2019) involve chance, hypothetical distance may be relevant in these areas. Furthermore, hypothetical distance may provide basis for the application of CLT in advertising involving probability markers. Probability markers are words or phrases that signal the probability of the truthfulness of a claim or argument (Bušljeta Banks & De Pelsmacker, 2014). Words or markers that indicate the probable truth of the claim (e.g., possibly, may, about, "9 out of 10") are called hedges,

whereas words or markers that indicate absolute truth (e.g., definitely, guarantee, “have been proven to”) are called pledges (Berney-Reddish & Areni, 2005). By definition, hedges and pledges represent high and low hypothetical distance, respectively. Probability markers can be relevant to health communication, such as “cigarettes cause cancer” (near hypothetical distance) vs “cigarettes may cause cancer” (far hypothetical distance) (Katz et al., 2020). However, since Calderon et al. (2020) failed to replicate two of the seven studies from the seminal paper (i.e., Wakslak et al., 2006) on the effect of hypothetical distance on construal level, future research should approach this distance dimension with caution. It would be worthwhile to investigate whether the lack of generalisability arises from weak or inconsistent operationalisation or due to other reasons.

Another critical issue regarding the application of psychological distance dimensions in advertising research is that most studies (72 out of 86) examined a single psychological distance dimension independent of others. Only fourteen studies involved interactions between two dimensions (Huang & Liu, 2022; Kim & Childs, 2021; Liu & Mair, 2023). The lack of research investigating the interactive effects of dimensions of psychological distance is critical since consumer behaviour may be concurrently influenced by multiple psychological distance dimensions (Zhang & Wang, 2009).

Additionally, there were inconsistent findings regarding the relationship among psychological distance dimensions. Construal-level research shows that psychological distance dimensions are positively related, which means priming one distance dimension would affect judgments on other dimensions (Fiedler et al., 2012). However, Zhang and Wang (2009) found an asymmetric relationship between spatial distance and the other three dimensions. They found that priming spatial distance influenced judgments along temporal, social, and hypothetical dimensions but the reverse does not hold. Therefore, future advertising research should shed more light on this issue.

Our review also found that advertising research used three types of psychological manipulations; goal priming task (Freitas et al., 2004), exemplars vs category task (Fujita, Trope, et al., 2006), and painting viewing task (McCrea et al., 2008). There are some other psychological construal-level manipulations that future CLT-based advertising research can employ. These manipulations include Navon letters task or hierarchical letters (Navon, 1977), Kimchi–Palmer figures (Kimchi & Palmer, 1982), map task (Förster, 2009) and comparison of alignable vs nonalignable attributes (Malkoc et al., 2010). See details of these psychological manipulations in *Appendix II*. Rather than manipulating construal level, future research should also examine its role in advertising effectiveness by measuring it through scale (e.g., BIF), as only four experiments in existing research did that.

Next, our review identified several marketing-related factors that had successfully manipulated construal level. Importantly, advertising research has used well-established manipulation checks (e.g., BIF, categorisation task) to confirm the effect of marketing-related factors on construal level (see *Table 4*). Thus, these factors can serve as construal-level manipulations in future CLT-based advertising research. CLT can guide future research aiming to test different combinations of these ad-, brand-, and consumer-related factors associated with construal level. For example, future research can examine how endorser type and product-endorser distance could influence advertising effectiveness. These factors can also be combined with different ad appeals associated with construal level, such as promotion vs prevention appeals, and symbolic vs functional appeals. Lee (2019) has highlighted the need to combine different construal-level associated message components in advertising research. Several other construal-level factors, identified in psychological and consumer literature, can also be combined with marketing factors uncovered in our review. This research stream will continue to grow as additional construal-level factors emerge in future

research in psychological and consumer domains. Thus, it is an important stream of research that could ensure the continuous progress of CLT in advertising research.

Construal-level Manipulation Checks in Advertising Research

Our review identified three direct construal-level manipulation checks applied in advertising research, including Behavioural Identification Form (BIF; Vallacher & Wegner, 1989), thought abstraction, and categorisation task (Liberman et al., 2002). Of these three, BIF was the most frequently used, possibly because it is the only scale available for measuring construal-level manipulation. However, as BIF was developed in the US, some of its items are less applicable to other countries, especially Asian countries. Consequently, scholars have used shorter versions by disregarding items less relevant to their target participants or contexts. Therefore, there is a critical need to develop a more generalised scale to measure the construal level and check its manipulation in advertising research.

Furthermore, rather than a direct manipulation check, some studies used psychological distance dimensions as an indirect construal-level manipulation check (e.g., Allard & Griffin, 2017; Loebnitz et al., 2020). While there exists empirical evidence regarding the bidirectional relationship between psychological distance and construal level, psychological distance dimensions should not be considered as a confirmation of construal level, especially when it is unrealistically small. For example, Tok et al. (2021) used product-model distance in ad to evoke consumer construal level. However, instead of checking its impact on consumer construal level, they only confirmed consumer perception of the product-model distance. Since a product-model distance in an ad is very tiny compared to spatial distance (e.g., between two countries or cities) used in psychological and consumer studies (e.g., Fujita, Henderson, et al., 2006; Henderson et al., 2006), it is critical to check if such a small distance actually evokes construal level using direct construal-level

manipulation checks. This is important because psychological distance has been argued to have its own effect separate from the construal level (Maglio, 2020).

A critical omission in the majority of reviewed studies ($n = 58$ or 68% articles) is that they did not perform direct manipulation checks to see if construal-level manipulations successfully evoke the intended construal level (e.g., Connors et al., 2021; K. Kim et al., 2019; Yao & Chen, 2014). This omission would lead to potential confounds being unaccounted for, thus rendering the findings less valid or reliable (Laczniak & Muehling, 1993; Perdue & Summers, 1986). Thus, it is imperative that future research includes manipulation checks to add robustness and confidence to the findings.

Implications

Academic implications

Our review makes several contributions to CLT-based advertising research. Firstly, it is the first review that synthesises construal-level advertising research involving psychological distance. This is an important and timely endeavour because CLT-based advertising has spanned almost one and a half decades, and yet no prior systematic literature review has existed. Our review critically assesses and documents the existing diverse body of construal-level advertising literature and suggests avenues for future research. Thus, our review facilitates the progress of CLT in advertising research (Palmatier et al., 2018). As CLT has predominantly been used in social-cognitive research for the past two decades (Calderon et al., 2020; Trope & Liberman, 2010), an important theoretical implication of this systematic review is demonstrating that CLT can apply beyond these traditional domains.

Secondly, our review revealed how CLT is applied in advertising research. We found that the matching effect, categorisation effect, and psychological distance provided bases for applying CLT in advertising research. The matching effect emerged as the dominant basis for

the application of CLT in advertising research, whereas only one advertising article was built on the categorisation effect. This finding regarding the three theoretical tenets of CLT supports the robustness of applying CLT to advertising research. It demonstrates that different theoretical viewpoints can explain the effectiveness of particular ad messages. Additionally, the list of construal-level factors (*column 7* of the table in *Appendix I*) can further advance the application of CLT in this domain. This can be achieved through cross-fertilisation and the examination of new construal factors. By highlighting the conflicting findings regarding the construal-level matching effect (the *last column* of the table in *Appendix I*), this research can also encourage testing the boundary conditions of the construal-level matching effect, thereby advancing both advertising research and CLT.

Thirdly, our review presented different construal-level manipulations employed in advertising research. This is a significant contribution since a wide variety of construal-level manipulations have been used in advertising research. Notably, we identified some marketing-related factors used to manipulate construal level in advertising research. These marketing-related construal-level manipulations can promote the application of CLT in advertising research by stimulating ideas arising from various combinations of these marketing-related factors. Thus, it can help bring disparate marketing factors together in CLT-based advertising research. Presenting a systematic summary of the different manipulations reveals the current boundary and lays the groundwork for exploring other possible manipulations.

Fourthly, we showed that most CLT-based advertising articles did not apply a direct construal-level manipulation check. This means it cannot be confirmed if the desired or expected construal level was actually evoked in those advertising articles. To advance the stream of CLT-based advertising research, it is critical that studies are able to demonstrate a clear and direct link between the ad message and the manipulated construal level. This will

give confidence not only to academic researchers, but also to practitioners for designing effective ads.

Overall, by synthesising construal-level manipulations and manipulation checks, our review has valuable implications for the methodology of advertising studies that apply CLT. This review highlights the most widely and successfully used and thus rigorous construal-level manipulations. It also identifies critical issues in existing construal-level advertising studies when checking these manipulations and suggests other suitable techniques. Thus, our review can help future construal-level advertising research apply more rigorous methods.

Practical implications

From a managerial perspective, the finding that ad effectiveness can be explained by the three distinct theoretical tenets of CLT means that marketers have broader options when crafting different creative messages. The availability of multiple options for designing creative ad messages is important because of the nuances of many advertising contexts (e.g., social, commercial, B2B etc.; see Donovan, 2011). However, while previous consumer research has employed various psychological construal-level manipulations, marketers may find it practically less feasible to implement them in a real advertising context. Future studies should specifically consider more practical construal-evoking factors in CLT-based advertising research. In this regard, our review has identified a wide variety of factors related to the ad, brand, product, and even consumers, that brand managers can apply to induce the desired construal level and generate more favourable advertising outcomes. These include visual images (Roose et al., 2019) and differentially framed ad messages (Park & Morton, 2015), among others. Brand managers can draw on this knowledge to target consumers based on construal level to increase advertising effectiveness.

In conclusion, over the last decade and a half, a large body of advertising research has built on CLT to predict advertising effectiveness. This systematic review serves as a timely summary of the state of the research and identifies areas for future research to ensure its continued progress. Our review highlights critical gaps and provides insightful future research directions, as discussed below, to add rigor and expand the application of CLT in advertising research.

Limitations

We acknowledge a few limitations in our study. This systematic review specifically concerns advertising research, and there are other forms of mass communication besides advertising (Bittner, 1977; Buijzen et al., 2010; Hornik & Yanovitzky, 2003). While focusing on a particular type of communication (i.e., advertising) allows for an in-depth analysis of the application of CLT, the findings might have differed if a broader communication context had been considered. Second, our use of specific inclusion/exclusion criteria and a quality filter ensured a manageable sample size and a minimum quality threshold, but this restricts our findings to articles that meet these criteria, rather than the entire construal-level advertising research. Lastly, we qualitatively synthesised construal-level advertising research, uncovering CLT tenets, construal-level manipulations, and construal-level manipulation checks considered in the domain. A quantitative synthesis, such as a meta-analysis, would provide further generalisability and resolve any conflicting findings regarding the effectiveness of high-high and low-low construal matches identified in our review. Overall, we believe our systematic review provides useful insights that can fuel new construal-level advertising research.

Disclosure statement

The authors declare that there is no conflict of interest.

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Figure 1. Flow diagram of final article selection process (adapted from Saeed et al. (2024))

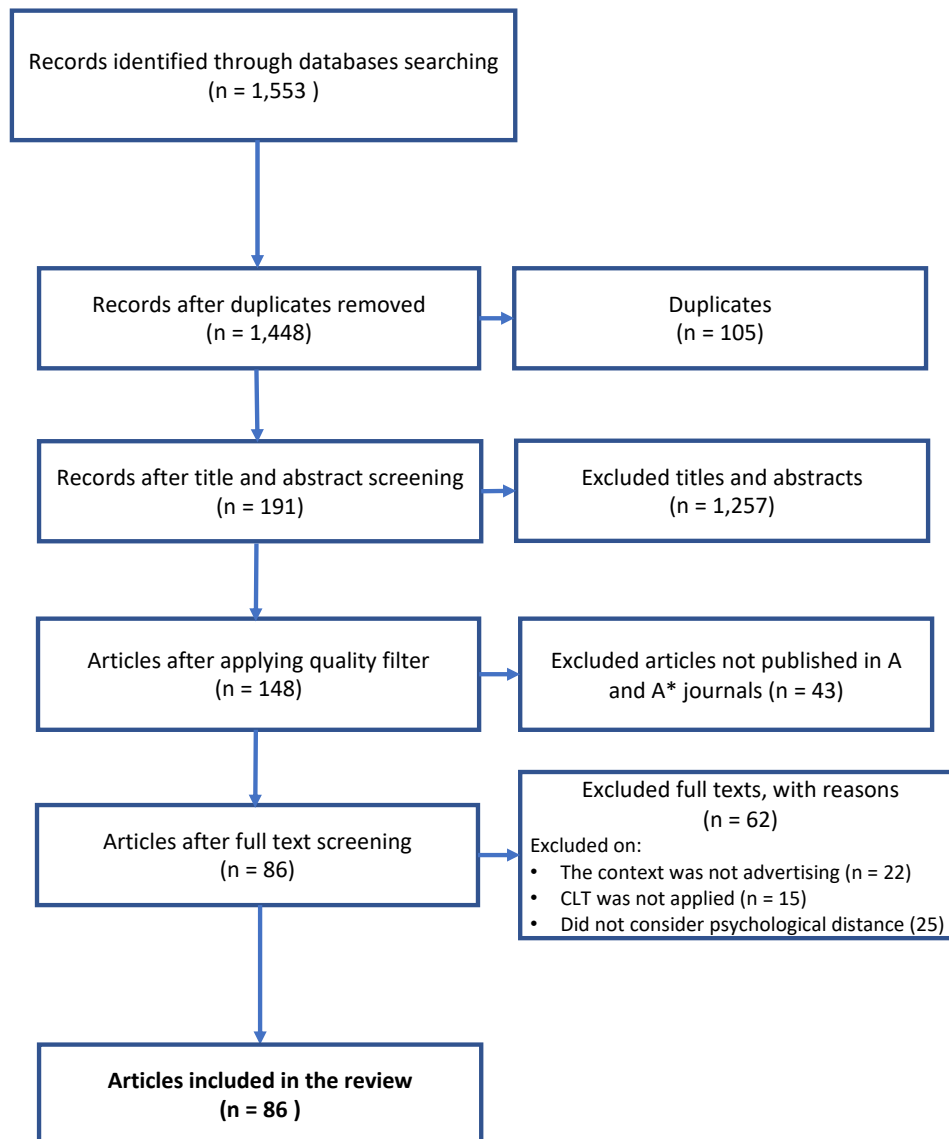


Figure 2. Construal-level manipulations in advertising research

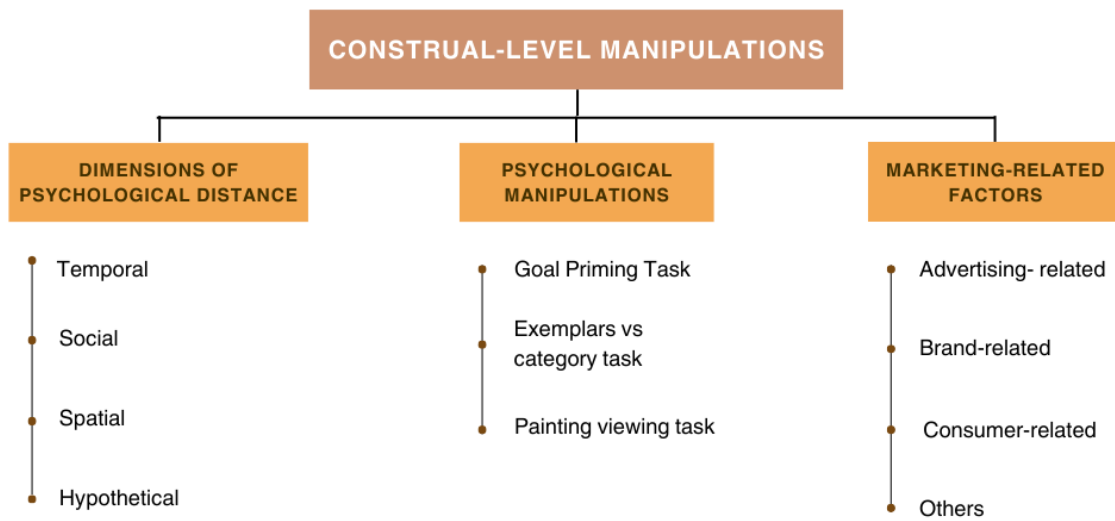


Table 1. Initial number of articles retrieved from seven identified databases (adopted from Saeed et al. (2024))

	Database	No. of articles
1	Emerald	375
2	Elsevier	277
3	Sage	174
4	Wiley Online	237
5	JSTOR	192
6	Springer	114
7	Taylor & Francis	184
	Total articles	1,553

Table 2. Dimensions of psychological distance as construal-level manipulations

Psychological distance	No. of articles	Examples
Temporal	32	• Travelling tomorrow vs next year (Wang & Lehto, 2020) • Immediate vs long-term health risks (Kees, 2011)
Social	18	• Image of animal vs human (Loebnitz et al., 2022) • Self vs other benefits (Yang et al., 2015)
Spatial	06	• Close-up vs long shot of product image (Kim et al., 2019) • Near vs far tourist destination (Wang et al., 2022)
Hypothetical	03	• High vs low certainty in going on a trip (Choi & Choi, 2023) • Certain vs uncertain events (van Horen et al., 2024)
Temporal & Spatial	12	• Moving house now or later; proximal location of store (Choi et al., 2019) • Far or close to reaching to goals; charity based locally or overseas (Chen, 2020)
Social & Temporal	09	• (Tsang et al., 2022) • (Chen, 2016)
Social & Spatial	04	• Experienced self vs others; experienced nearby or further (Theodorakis & Painesis, 2018) • Same vs different occupation; near vs far college location (Kulkarni & Yuan, 2015)
Temporal & Hypothetical	1	• Travelling sooner vs later under conditions of varying uncertainties (Liu & Mair, 2023).
Spatial & Hypothetical	1	• Near vs far distance of message source under conditions of uncertainties of events (Huang & Liu, 2022)

Table 3. Psychological construal-level manipulations

Construal-level manipulation	No. of articles	Relevant articles
Goal priming task (Freitas et al., 2004)	07	e.g., Chen (2016); White et al. (2011); Yang et al. (2011)
Exemplars vs category task (Fujita et al., 2006)	02	Kulkarni and Yuan (2015); Youn and Kim (2019)
Painting viewing task (McCrea et al., 2008)	01	Silvera et al. (2014)

Table 4. Marketing-related construal evoking factors

Construal-level manipulations	Rationale provided for the influence of relevant factor on construal-level	Construal-level manipulation check
Ad-related factors		
Motion speed (Yoon et al., 2021)	Slow (fast) moving objects increase (decrease) the distance from the observers' perspective. Consequently, slow (fast) moving objects induce high-level (low-level) construal.	BIF
Framing consequences of gambling (Orazi et al., 2015)	The social (material) consequences of gambling are construed at high-level (low-level) construal as they are psychologically distant (near), i.e., uncertain (certain), unfamiliar (familiar), and occur in the distant (immediate) gambling environment (e.g., casino, bar).	Psychological distance
Sound frequency (Sunaga, 2018)	As low (high) frequency sounds create perception of far (near) distance, low-frequency (vs high-frequency) music evokes high-level (low-level) construal.	Psychological distance
Horizon height (Roose et al., 2019)	A low (high) horizon in an ad's panoramic picture makes individuals imagine looking up (down), cuing distance (proximity). Therefore, low (high) horizon evokes high-level (low-level) construal.	Slepian et al. (2015) categorisation measure
Image proximity (Kim et al., 2019)	The long-shot (close-up) image in an ad appears psychologically far (close), thereby it generates a high-level (low-level) construal.	Scale of abstractness
Animal vs human image (Loebnitz et al., 2020)	Because of low (high) similarity, featuring animals (humans) in antipoaching ads creates perception of far (near) social distance. Therefore, displaying animals (humans) in such ads evokes high-level (low-level) construal.	Psychological distance
Donation request phrasing (Gu & Chen, 2021)	In fundraising ads, donation requests phrased as a particular amount of money with designated usage (e.g., ten-dollar for poor children's food) induces low-level construal. This is because such monetary phrasing brings concrete images regarding the use of money in individuals' minds. In contrast, donation requests phrased as just a specific amount of money (e.g., ten dollars) brings a general concept of money in memory without a specific usage scenario, thereby evoking a high-level construal.	BIF
Product-model spatial distance (Tok et al., 2021)	A distal (proximal) spatial distance between product and model in ad induces high-level (low-level) construal.	Psychological distance
Anthropomorphised artificial agent (AI) (Baek et al., 2022)	A smiling humanlike (machinelike) AI agent induces low-level (high-level) construal because of psychological closeness or relatedness.	Psychological distance
Endorser type (Chang & Chen, 2022)	Consumers are engaged in high-level (low-level) construal when exposed to sports star celebrity (typical person endorser) because they are perceived as more dissimilar (similar) due to their expertise and achievements (lack of incredible skills or achievements).	Social distance

Brand/product-related factors

Self-brand connection (Kim et al., 2021; Lee et al., 2021)	A brand with weak (strong) connection with consumers is construed at high-level (low-level) construal because consumers feel psychologically far from (close to) such brand.	Psychological distance
Brand role (He et al., 2021)	Consumers construe partner (servant) brands at high-level (low-level) construal because they feel psychologically far from (close to) partner (servant) brands.	BIF

Consumer-related factors

Self-construal (Spassova & Lee, 2013)	As individuals with independent (interdependent) self-view place greater importance on self-reliance and autonomy (harmony and interconnectedness), they perceive themselves psychologically far (close) to others, which induces high-level (low-level) construal.	Psychological distance, BIF, Categorisation Task
Busyness (Yang & Hu, 2024)	Individuals with high (vs low) perceived busyness construe information at high-level construal because they are more task-oriented and focus more on the feasibility of means (e.g., efficient use of time) instead of the desirability of the outcome.	BIF

Other factors

Type of gift received (Yao & Chen, 2014)	The recipients of gifted cash vs gift card are at the predecisional vs postdecisional stage of the buying process (deciding whether to buy vs deciding what to buy). This far (near) psychological distance from purchase leads to high- vs low-level construal.	Categorisation Task
Dining value (Jeong & Jang, 2015)	The hedonic vs utilitarian dining values evoke high- vs low-level construal since these values cause idealised vs pragmatic self, which are associated with high- vs low-level construal.	BIF
Stage in consumer journey (Humphreys et al., 2021)	The informational (transactional) stage in consumer decision journey induces high-level (low-level) because consumers feel their purchase goal psychologically far (near) at informational (transactional) stage in their decision journey.	LCM
Stage in buying (Ma et al., 2023)	In purchase decision making process, consumers feel distal vs closer from a purchase at buying stage 1 (motivation formation stage) vs stage 2 (decision making stage), leading them to construe a purchase at high- vs low-level at stage 1 vs stage 2.	Thoughts abstraction
Comparative price (Allard & Griffin, 2017)	The comparative price (expensive vs affordable) leads to psychological distance (far vs near) which in turn affects construal-level (high-level vs low-level).	Psychological distance
Time restriction (Kim et al., 2022)	Consumers who see a promotional offer with time restriction feel psychologically close to the ending of the promotional offer, thereby construing information at low-level construal.	BIF
Country vs product image (Septianto et al., 2022)	Country image associated with a product (product image) evokes high-level (low-level) construal because it leads consumers to focus on global (local) aspects of the product.	BIF

Note: LCM = Linguistic Categorisation Model; BIF = Behavioral Identification Form

Appendix I: Summary of all 86 articles included in this systematic review

No	Authors	Title	Main aims	Distance Dimension (Used in the same or separate experiments in case of two/more distance dimensions)	CLT application (M = matching effect C = categorization effect PD = psychological-distance-based argument)	What were matched in terms of construal? (For only those studies that applied the matching effect)	Any inconsistency in findings where the matching effect was applied (HC = high construal LC = low construal)
1	Allard & Griffin (2017)	Comparative Price and the Design of Effective Product Communications	Determines how perceived expensiveness, through comparative pricing, shapes consumers' response to abstract and concrete ad appeals.	Spatial	M	Comparative price level (expensive vs inexpensive) AND Ad message (abstract vs concrete)	
2	Baek et al. (2022)	Smiling AI agents: How anthropomorphism and broad smiles increase charitable giving	Tests the effectiveness of anthropomorphised AI agents for charity donations.	Social	PD	N/A	N/A
3	Bandyopadhyay et al. (2023)	Emotional Cues' Effects on Grotesque Advertising	Determines how construal level influences the effectiveness of grotesque advertising (curiosity vs boredom).	Temporal	M	Grotesque ad (boredom cue vs curiosity cue) AND Temporal distance (low vs high)	
4	Barnwell et al. (2022)	Nostalgia and Forestalgia: Insights, Evaluation, and Implications for Advertising and Product Typology	Examines the usefulness of nostalgia and forestalgia in ads for utilitarian and hedonic products.	Temporal	M	Product type (utilitarian vs hedonic) AND Ad appeal (near- and far-past nostalgia & near- and far-future forestalgia)	
5	Bauer (2023)	Strong versus weak consumer-brand relationships: Matching psychological sense of brand community and type of advertising appeal	Determines the role of psychological distance from brand community in concrete vs abstract ad messages effectiveness.	Social	M	Psychological sense of brand community (PSBC; far vs near) AND Ad appeals (symbolic vs utilitarian)	HC-HC congruency (far PSBC & symbolic appeals) had no superior effect.
6	Breves & Schramm (2021)	Bridging psychological distance: The impact of immersive media on distant and proximal environmental issues	Examines the role of immersive media in environmental issues.	Temporal & Spatial (same experiment)	M	Immersive media AND Communication of distant environmental problems	
7	Chang & Chen (2022)	Let the sports endorser speak: Combination of endorser type, color, and copy	Studies the interaction of endorser type, ad colors, and copy style to promote ad effectiveness.	Social & Temporal (same experiment)	M	Endorser type (sport star vs typical person) AND Ad color (black-and-white vs color ad); Ad copy (outcome- vs process-focused)	
8	Chang et al. (2015)	Message framing in green advertising: the effect of construal level and consumer environmental concern	Examines the interactive effect of temporal distance and message framing on consumer ad responses.	Temporal	M	Temporal orientation (future vs present) AND Goal framing (gain vs loss framing)	Study 1: HC-HC congruency (far temporal distance & gain appeal) had no superior effect on purchase intention. LC-LC congruency (near temporal distance & loss appeal) had no superior effect on brand attitude.

9	Chen (2016)	Consumer response to health product communication: The role of perceived product efficacy	Investigates the persuasive effects of self-construal and message framing.	Social & Temporal (same experiment)	M	Self-construal (independent vs interdependent) AND Ad framing (gain vs loss)	
10	Chen (2020)	Portraying product or cause in charity advertising: how execution style and appeal type affects prosocial attitudes by enhancing perceived personal roles	Determines what combination of charity appeal and executional style (image of product vs cause) are more effective.	Temporal & Spatial (separate experiments)	M	Charities distance from accomplishing goals (far vs near) AND Ad focus (cause vs product)	
11	Chen & Chiu (2016)	Go green: how to influence the perceived effectiveness of a green product?	Tests the role of environmental consciousness in driving the effectiveness of temporal framed ad and ad appeal (abstract vs concrete).	Temporal	M	Environmental consciousness (high vs low) AND Ad appeal (why vs how); Temporal framing (far vs near)	
12	Chen & Hu (2023)	Seize the Time! How Perceived Busyness Influences Tourists' Preferences for Destination Advertising Messages	Examines how perceived busyness affects destination advertising effectiveness.	Temporal	M	Perception of busyness (low vs high) AND Ad appeal (high vs low construal)	
13	Choi & Choi (2022)	Effective Airbnb advertising during COVID-19 pandemic: Message format and hypothetical distance	Investigates the effectiveness of ad appeals (abstract vs concrete) across varying levels of uncertainty.	Hypothetical	M	Hypothetical distance (high vs low uncertainty) AND Ad message (abstract vs concrete)	
14	Choi et al. (2017)	E-WOM messaging on social media: Social ties, temporal distance, and message concreteness	Studies the interactive effect of temporal distance, executional ad elements (i.e., text vs picture) and ad appeal on electronic word-of-mouth.	Temporal	M	Temporal distance (high vs low) AND Ad message (textual vs pictorial); Ad appeal (abstract vs concrete)	
15	Choi et al. (2023)	Attractiveness or expertise? Which is more effective in beauty product endorsement? Moderating role of social distance	Examines the joint effect of social distance and endorser type on ad outcomes.	Social	M	Social distance (far vs close) AND Endorser characteristics (expert vs attractive)	
16	Choia et al. (2019)	Text versus pictures in advertising: effects of psychological distance and product type	Determines the joint effects of textual vs pictorial message, durable vs nondurable products, and spatial distance on consumer evaluations.	Temporal & Spatial (separate experiments)	M	Temporal distance (far vs near); Spatial distance (far vs near) AND Ad message (textual vs pictorial)	Studies 1 & 1B: LC-LC congruency (low distance & pictorial ad) had no superior effect.
17	Connors et al. (2021)	They're Just Not That into You: How to Leverage Existing Consumer-Brand Relationships Through Social Psychological Distance	Tests the role of consumer-brand relationship in the effectiveness of concrete vs abstract messages.	Social	M	Consumer-brand relationship (far vs close) AND Ad appeal (why vs how; abstract vs concrete)	
18	Ding & Keh (2017)	Consumer reliance on intangible versus tangible attributes in service evaluation: the role of construal level	Examines the effect of construal level on tangible vs intangible product attributes.	Temporal & Spatial (separate experiments)	M	Temporal & spatial distance (high vs low) AND Ad type (tangible and intangible)	
19	Gu & Chen (2021)	How does money phrasing influence intention to donate: The role of construal level and fit	Tests the interactive effects of donation request framing and charitable cause description (abstract vs concrete).	Temporal	M	Framing of monetary donation request (specific amount of money with specific usage vs no specific usage) AND Cause description (abstract vs concrete)	

20	Guillet et al. (2022)	The joint influence of the timing and framing of an online upselling message on consumer perceptions: the roles of construal level and reactance	Investigates the persuasiveness of abstract vs concrete upselling ad when the trip is temporally distant vs close.	Temporal	M	Temporal framing (promotion when trip is temporally far vs near) AND Ad appeal (abstract vs concrete)	HC-HC congruency (far distance & abstract ad) had no superior effect.
21	He et al. (2021)	The matching effect of anthropomorphized brand roles and product messaging on product attitude	Investigates consumer responses to the combination of anthropomorphised brand roles and ad message.	Social	M	Anthropomorphised brand role (servant vs partner) AND Ad message (why vs how)	
22	Hernandez et al. (2015)	Attributes Versus Benefits: The Role of Construal Levels and Appeal Type on the Persuasiveness of Marketing Messages	Demonstrates how construal level makes benefits vs attributes ad appeal more effective.	Temporal	M	Ad appeal (benefits vs attributes) AND Temporal distance (far vs low); Construal-level mindset (high vs low)	LC-LC (low distance/construal & concrete) had no superior effect for temporal distance and measured construal level. However, both HC-HC and LC-LC congruencies showed superior effects when construal-level mindset was primed.
23	Hong & Sternthal (2010)	The Effects of Consumer Prior Knowledge and Processing Strategies on Judgments	Examines the effect of prior knowledge on ad appeals.	Temporal	M	Prior product category knowledge (extensive vs limited) AND Ad message (why/how); Temporal framing (far vs near future)	
24	Huang & Liu (2022)	Promoting COVID-19 Vaccination: The Interplay of Message Framing, Psychological Uncertainty, and Public Agency as a Message Source	Tests how psychological uncertainty and agency type affects persuasiveness of health-related ad.	Spatial & Hypothetical (same experiment)	M	Levels of uncertainty (high vs low) AND Distance of communicating agency (national vs local)	HC-HC congruency (high uncertainty & national agency) had no superior effect.
25	Humphreys et al. (2021)	Construal Matching in Online Search: Applying Text Analysis to Illuminate the Consumer Decision Journey	Determines how consumer stage in decision journey affects effectiveness of ads.	Temporal	M	Buying stage (informational vs transactional) AND Ad appeal (abstract vs concrete)	
26	Jeong & Jang (2015)	Healthy menu promotions: A match between dining value and temporal distance	Determines the effect of menu promoting far vs near healthy benefits.	Temporal	M	Message framing (long-term vs immediate benefits) AND Consumption value (hedonic vs utilitarian)	
27	Jiang & Doodoo (2021)	Promoting Mask-Wearing in COVID-19 Brand Communications: Effects of Gain-Loss Frames, Self- or Other-Interest Appeals, and Perceived Risks	Investigates what ad frame is more effective (gain vs loss) for self- vs other-interest appeals.	Social	M	Type of benefits (for community vs family-and-friends) AND Goal framing (gain vs loss)	HC-HC congruency (community benefits and gain framing) had no superior effect.
28	Kees (2011)	Advertising Framing Effects and Consideration of Future Consequences	Explores the joint effects of temporal framing and temporal orientation.	Temporal	M	Time orientation (future vs present) AND Temporal framing (far vs near future)	
29	Kim & Childs (2021)	Passion for the past: Effect of charity appeals and nostalgia on clothing donation intentions	Examines how nostalgia drives effectiveness of different charity appeals.	Social & Temporal (same experiment)	M	High nostalgia AND Ad appeal (other-benefit vs self-benefit)	

30	Kim & Youn (2019)	Consumers as time travelers: the moderating effects of risk perception and construal level on consumers' responses to temporal framing	Studies the interplay of construal level and temporal framing for driving favorable consumer responses.	Temporal	M	Temporal framing (far vs near future benefits) AND Construal level (high vs low)	HC-HC congruency (far temporal distance & high-construal) had no superior effect.
31	Kim et al. (2009)	It's Time to Vote: The Effect of Matching Message Orientation and Temporal Frame on Political Persuasion	Tests the persuasiveness of abstract vs concrete political ad when voting is temporally distal vs near.	Temporal	M	Temporal distance (far vs near) AND Ad appeal (abstract vs concrete)	
32	Kim et al. (2016)	Application of Construal-Level Theory to Promotional Strategies in the Hotel Industry	Explores the effectiveness of ad appeals across temporal and spatial distances.	Temporal & Spatial (separate experiments)	M	Temporal (far vs near); Spatial (distant vs proximal) AND Ad appeal (abstract vs concrete)	Study 1: LC-LC congruency (near distance & concrete ad) had no superior effect for temporal distance. Study 2: HC-HC congruency (far distance & abstract ad) had no superior effect for spatial distance.
33	Kim et al. (2018)	'Where I come from' determines, 'how I construe my future': the fit effect of culture, temporal distance, and construal level	Examines how the joint effect of construal level and temporal distance in ad vary across culture.	Temporal	M	Culture (US vs Korean) AND Temporal distance (far vs near); Ad message (desirability vs feasibility)	No construal congruency effect for Korean consumers.
34	Kim et al. (2019)	Image proximity in advertising appeals: Spatial distance and product types	Tests how image proximity in ad impacts persuasiveness of ad appeals for various product types.	Spatial	M	Distance of ad image (long shot vs close up) AND Ad appeal (emotional vs rational)	
35	Kim et al. (2021)	How do self-brand connections affect ad responses among South Korean consumers? The roles of reference groups and message construals	Explores how self-brand connection influences persuasiveness of different construal-level ads.	Social	M	Self-brand connection (weak vs strong) AND Ad construal (high vs low)	LC-LC congruency (strong self-brand connection & concrete ad) had no superior effect
36	Kim et al. (2022)	Understanding the role of construal level in time-restriction	Studies how time-restrictions impacts persuasiveness of ad appeals (e.g., collectivistic vs individualistic, guilt vs shame).	Temporal	M	Time-restriction (low-construal) AND Collectivistic ad (we vs I); Message quality (high quality); Ad appeal (guilt vs shame)	
37	Kulkarni & Yuan (2015)	Effect of Ad-Irrelevant Distance Cues on Persuasiveness of Message Framing	Determines how the persuasiveness of ad framing depends on psychological distance.	Social & Spatial (separate experiments)	M	Social distance (far vs near); Spatial distance (distant vs proximal) AND Ad framing (positive vs negative)	LC-LC (low distance and negative framing) congruency had no superior effect.
38	Lee et al. (2021)	Distance matters: the effects of self-brand connections and construal levels on ad responses	Shows the impact of self-brand connection on construal-level and how it affects abstract and concrete ads persuasiveness.	Social & spatial (same experiment)	M	Self-brand connection (weak vs strong) AND Ad message (abstract vs concrete)	LC-LC congruency (strong self-brand connection & concrete ad) had no superior effect.
39	Liu & Mair (2023)	The impact of uncertainty on tourists' controllability, mood state and the persuasiveness of message framing in the pandemic era	Examines the joint effect of uncertainty and message framing on consumer travel intention.	Temporal & Hypothetical (same experiment)	M	Uncertainty (low vs high) AND Message framing (gain vs loss)	
40	Loebnitz et al. (2020)	The impact of marketing campaigns deterring the supply and demand of endangered wildlife in Kenya and China	Examines how social (human vs animal in ad) and temporal distances jointly affect	Social & Temporal (same experiment)	M	Social distance (image of animal vs human) AND Temporal distance	The authors proposed and confirmed the opposite effect of LC-LC congruency

			wildlife poaching and consumer purchase behavior.			(future/positive vs current/negative state)	(image of human & current/negative state) in poaching context based on reactance theory.
41	Loebnitz et al. (2022)	Stairway to organic heaven: The impact of social and temporal distance in print ads	Examines how social distance (animal vs human) and temporal distance (future vs present) jointly drive consumer responses.	Social & Temporal (same experiment)	M	Social distance (image of animal vs human) AND Temporal distance (future/positive vs current/negative state)	The authors proposed and confirmed the opposite effect of LC-LC congruency (image of human & current/negative state) in organic food context based on reactance theory.
42	Ma et al. (2023)	Dynamic Luxury Advertising: Using Lifestyle versus Functional Advertisements in Different Purchase Stages	Studies how consumer stage in buying process drives effectiveness of lifestyle vs functional ads.	Temporal	M	Buying stage (motivation formation vs purchase) AND Ad appeal (lifestyle vs functional)	
43	Martin et al. (2009)	Temporal construal in advertising: The Moderating Role of Temporal Orientation and Attribute Importance in Consumer Evaluations	Studies how future vs present orientation of consumers, temporal distance, and product attribute jointly influences ad effectiveness.	Temporal	M	Temporal orientation (future- vs present-oriented) AND Temporal framing (distant vs near future); Product attributes in ad (primary vs secondary)	Study 2: HC-HC congruency (future-orientation & far distance) had no superior effect for attitude towards ad and purchase intention, but not for brand attitude.
44	Nan (2007)	Social Distance, Framing, and Judgment: A Construal Level Perspective	Examines how social distance affects persuasiveness of various ad frames (e.g., gain vs loss; societal vs individual).	Social	M	Social distance (others vs selves) AND Message framing (gain vs loss; societal vs individual)	LC-LC congruency (Self & loss or individual benefits framing) had no superior effect.
45	Nenkov (2012)	It's all in the mindset: Effects of varying psychological distance in persuasive messages	Investigates how consumer stage in decision journey impacts the persuasiveness of temporal framing and social distance.	Temporal & Spatial (separate experiments)	M	Buying stage (predecisional vs postdecisional) AND Temporal framing (future vs present); Social distance (targeting a distant vs close other)	
46	Orazi et al. (2015)	The nature and framing of gambling consequences in advertising	Investigates how gambling consequences framing and gain vs loss framing drive advertising effectiveness.	Social	M	Gambling consequences (social vs material) AND Message framing (loss vs gain)	
47	Park & Morton (2015)	The Role of Regulatory Focus, Social Distance, and Involvement in Anti-High-Risk Drinking Advertising: A Construal-Level Theory Perspective	Examines how regulatory focus framed ad, social distance, and consumer involvement jointly affect ad effectiveness.	Social	M	Social distance (distant vs close entities) AND Message regulatory focus (Promotion- vs Prevention-focused)	LC-LC congruency (close entities & prevention-focused ad) had no superior effect.
48	Pounders et al. (2015)	Matching Temporal Frame, Self-View, and Message Frame Valence: Improving Persuasiveness in Health Communications	Tests the interactive effect of temporal framing and self-view on ad outcomes.	Temporal	M	Self-construal (Independent vs interdependent) AND Temporal framing (distal vs proximal)	
49	Quach et al. (2021)	Mixed emotional appeal enhances positive word-of-mouth: The moderating role of narrative person	Examines the effectiveness of mixed emotion ad appeal across third- vs first-person narration.	Social	M	Type of narration (third-person vs first-person) AND Ad appeal [mixed]	

						emotional vs a positive (happy)].	
50	Ren et al. (2023)	The effects of influencer type, regulatory focus, and perceived authenticity on consumers' purchase intention	Tests the interactive effect of regulatory focused ads and celebrity type on consumer responses.	Social	M	Social distance (far: celebrity influencer vs close: non-celebrity influencer) AND Ad appeal (promotion- vs prevention-focused)	HC-HC congruency (celebrity endorser & promotion-focused ad) had no superior effect (the same was hypothesised).
51	Roose et al. (2019)	A Match Made in Heaven or Down Under? The Effectiveness of Matching Visual and Verbal Horizons in Advertising	Test the effect of horizon height in ad and verbal construal on consumer construal.	Temporal & Spatial (same experiment)	M	Horizon height (high vs low) AND Temporal framing (immediate vs future product benefits)	
52	Ryoo et al. (2017)	The Effect of Descriptive Norms and Construal Level on Consumers' Sustainable Behaviors	Examines how different descriptive norms and construal-level messages together drive consumer responses.	Spatial	M	Norms in ads (general vs provincial) AND Ad message (why vs how)	HC-HC congruency (general norms & why message) had no superior effect.
53	Salnikova et al. (2022)	Engaging Consumers with Environmental Sustainability Initiatives: Consumer Global–Local Identity and Global Brand Messaging	Explores how consumer orientation (global vs local) influences effectiveness of various construal-level ad framing (e.g., spatial framing, temporal framing).	Temporal & Spatial (together & separately)	M	Consumer orientation (global vs local) AND Spatial framing (distant world vs local community); Temporal framing (far vs near future); Regulatory appeals (promotion- vs prevention-focused)	
54	Septianto et al. (2023)	Awe in Advertising: The Mediating Role of an Abstract Mindset	Tests how awe in ad drives effectiveness of construal level ads (e.g., desirability ad appeal, temporal framing).	Temporal	M	Feeling of awe AND Temporal framing (product available in far vs near future); Ad message (desirability vs feasibility features of product)	
55	Septianto et al. (2022)	The Effects of Competence and Warmth Appeals on Luxury and Sustainable Brand Advertising: The Moderating Role of Construal Level	Investigates the interplay among brand type (luxury vs sustainable), construal level and ad appeal (competence vs warmth).	Temporal & Spatial (separate experiments)	M	Temporal framing (far vs near) AND Ad appeal (competence vs warmth)	
56	Septianto et al. (2022)	The interaction effect of country-of-origin positioning and cultural distance on international advertising effectiveness: a construal level perspective	Investigates how ads highlighting country vs product image vary in effectiveness for different cultural distances.	Social	M	Image emphasised in the ad (country vs product) AND Cultural distance (far vs near: Indian vs US consumers for Australian brand)	
57	Shao et al. (2020)	Mr. Potato Head fights food waste: The effect of anthropomorphism in promoting ugly food	Investigates the effect of interplay among product anthropomorphism, temporal framing, and gain vs loss framing on consumer responses to ugly food.	Social & Temporal (same experiment)	M	Temporal framing (far vs near) AND Message framing (gain vs loss)	
58	Shen et al. (2022)	The interaction effects of congruence type, assessment perspective and social distance on visit intention	Explores the interactive effect of social distance, and assessment perspective (internal vs external) on consumer responses.	Social	M	Social distance between consumers and their companions (far vs close) AND Perspective in ad message (external vs internal perspective-oriented)	

59	Silvera et al. (2014)	Using imagine instructions to induce consumers to generate ad-supporting content	Tests how imagination instructions drive effectiveness of construal-level ads.	Hypothetical	M	Ads with instructions to imagine AND Construal level (high vs low)	
60	Spasspova & Lee (2013)	Looking into the Future: A Match between Self-View and Temporal Distance	Examines the impact of self-construal on construal-level/temporal distance and then its impact on temporally framed ad effectiveness.	Social & Temporal (separate experiments)	M	Self-construal (independent vs interdependent) AND Temporal framing (far vs near future benefits)	
61	Steinhart et al. (2013)	Warnings of Adverse Side Effects Can Backfire Over Time	Examines the efficacy of warning of side effects across far vs close temporal distance.	Temporal	PD	N/A	N/A
62	Sunaga (2018)	How the sound frequency of background music influences consumers' perceptions and decision making	Tests how a construal match between music frequency and ad appeal (e.g., spatial distance) enhances consumer favorable responses.	Spatial	M	Music frequency (low vs high) AND Spatial distance (far vs near distance, e.g., "Have a special night, unlike ordinary days" vs "Get a good sleep like you do at home")	
63	Sung et al. (2020)	Restaurant chain's corporate social responsibility messages on social networking sites: The role of social distance	Explores how message construal level and social distance together consumer ad responses.	Social	M	Social distance AND Ad message (abstract vs concrete)	
64	Tan & Wang (2021)	The application of information values and construal level theory for examining low-cost carrier advertisements	Tests how the effectiveness of ad (price- vs destination-focused) depends on temporal framing.	Temporal	M	Temporal distance (far vs near) AND Ad focus (price-focused vs destination-focused)	LC-LC congruency (near temporal distance & destination-focused ad) had no superior effect.
65	Tangari et al. (2010)	The moderating influence of consumers' temporal orientation on the framing of societal needs and corporate responses in cause-related marketing campaigns	Examines the joint effect of consumer temporal orientation and temporal framing on consumer responses to cause-related marketing ads.	Temporal	M	Temporal orientation (future vs present oriented) AND Temporal framing (far vs near, e.g., one month vs five years to raise funds)	Study 1: HC-HC congruency (future-orientation & far temporal framing) had no superior effect.
66	Theodorakis & Painesis (2018)	The Impact of Psychological Distance and Construal Level on Consumers' Responses to Taboos in Advertising	Examines the joint effects of taboos in ads and psychological distance on consumers' responses.	Social & Spatial (separate experiments)	PD	N/A	N/A
67	Theodorakis & Painesis (2022)	Ad eroticism from a psychological distance perspective: Investigating its effects in light of consumers' sex, ethical judgments, and moral attentiveness	Examines how erotic ads and psychological distance jointly affect consumer responses.	Temporal & Social (separate experiments)	PD	N/A	N/A
68	Thorbjørnsen et al. (2016)	The Effect of New Product Preannouncements on the Evaluation of Other Brand Products	Investigates how new product announcement impacts brand's other products evaluations.	Temporal	PD	N/A	N/A
69	Togawa et al. (2023)	The temperature of newness: How vision-temperature correspondence in advertising influences newness perception and product evaluation	Tests the interactive effect of background ad imagery and temporal framing on product newness.	Social & Spatial (same experiment)	PD & M	Background ad imagery (associated with coldness vs warmth) AND Temporal framing (distant vs near)	
70	Tok et al. (2021)	"I Want It! Can I Get It?" How product-model spatial distance and ad appeal affect product evaluations	Examines how the horizontal distance between product and a model in ad affects persuasiveness of ad appeal.	Spatial	M	Product-model distance in ad (distal vs proximal) AND Ad appeal (desirability vs feasibility)	

71	Tsang et al. (2022)	Rural tourism product promotion: a comparison of message framing techniques	Investigates the interactive effect of temporal framing and ad construal-level on tourists' evaluations of products.	Social & Temporal (same experiment)	M	Temporal distance (far vs near) AND Ad message (other- vs self-benefit); Message construal level (high vs low)	
72	van Horen et al. (2023)	When it pays to be clear: the appeal of concrete communication under uncertainty	Demonstrates the persuasiveness of ad appeals across different levels certainty.	Hypothetical	M	Consumer feeling of certainty vs uncertainty AND Product description in ad (abstractly vs concrete)	HC-HC congruency (feeling of certainty & abstract ad) had no superior effect: whereas there was no difference when feeling certain (high construal situation).
73	Wang & Lehto (2020)	The Interplay of Travelers' Psychological Distance, Language Abstraction, and Message Appeal Type in Social Media Advertising	Explores the impact of psychological distance (e.g., social) and ads associated with construal-level (e.g., abstract, benefits-based) on consumer responses.	Temporal & Spatial (separate experiments)	M	Temporal (far vs near); Social distance (distant vs close) AND Ad appeal (abstract and concrete); Ad type (benefits and attributes)	
74	Wang et al. (2022)	Inspiring desirability or ensuring feasibility: Destination image and psychological distance	Studies how a construal-level match between destination image and ad framing influences consumer responses.	Temporal & Spatial (separate experiments)	M	Temporal distance (travel schedule in far vs near future); Spatial distance (far vs near tourism destination) AND Ad appeals (affective vs cognitive)	LC-LC congruency (near spatial distance & cognitive ad) had no superior effect for spatial distance.
75	Wang et al. (2023)	Gift or Donation? Increase the Effectiveness of Charitable Solicitation Through Framing Charitable Giving as a Gift	Demonstrates the effectiveness of framing charity as gift or donation.	Social	PD	N/A	N/A
76	White et al. (2011)	It's the Mind-Set That Matters: The Role of Construal Level and Message Framing in Influencing Consumer Efficacy and Conservation Behaviors	Elucidates how consumer recycling behavior in response to ad framing differs across construal-level evoked by ads.	Temporal	M	Temporal framing (far vs near future); Ad framing (loss vs gain) AND Ad appeal (why vs how)	
77	Willems et al. (2017)	In-store proximity marketing: experimenting with digital point-of-sales communication	Tests how the effectiveness of different display ad appeals depends on distance from the display screen.	Temporal	M	Distance from display screen (entrance: far from purchase vs register: close to purchase) AND Ad appeal (abstract vs concrete)	The construal congruence was effective for purchase intention, but it had no effect on noticing digital screen, displayed ad, product recall, and actual purchase.
78	Xin et al. (2022)	The effects of mixed emotional appeals in leveraging paradox brands	Investigates the effectiveness of emotional appeals (mixed vs positive) for paradox brands.	Temporal	C	N/A	N/A
79	Yang et al. (2011)	The Construal (In)compatibility Effect: The Moderating Role of a Creative Mind-Set	Studies how persuasiveness of congruence between construal-level and ad appeals (abstract vs concrete) is altered by consumer creative mind-set.	Temporal	M	Construal level (high vs low); Temporal distance (far vs near) AND Ad appeal (abstract vs concrete)	
80	Yang et al. (2015)	Going green: How different advertising appeals impact green consumption behavior	Examines how message framing (other vs self-benefit) affects persuasiveness of abstract vs concrete appeals.	Social	M	Message framing (other vs self benefit) AND Ad	LC-LC congruency (self-benefit framing and concrete ad) had no superior effect.

						appeal (abstract vs concrete)	
81	Yao & Chen (2014)	Gift Cards and Gifted Cash: The Impact of Fit between Gift Type and Message Construal	Determines how gift card vs gift cash affects effectiveness of construal-level ads.	Spatial	M	Gift card vs cash funds AND Product description (high- vs low-level construal)	
82	Yoon et al. (2021)	Slow versus fast: how speed-induced construal affects perceptions of advertising messages	Tests the effect of speed of objects movement on construal level and ad appeals.	Temporal	M	Speed of movement of objects featured in ad (slow vs fast) AND Ad appeal (benefits vs attribute; desirability vs feasibility; emphasising quality vs price)	LC-LC congruency (fast-moving objects & attribute ad, feasibility ad, price-focused ad) had no superior effect.
83	Youn & Kim (2019)	Effects of construal level and need for cognition on consumers' responses to temporally framed benefits	Explores how construal level and need for cognition influences effectiveness of temporally framed messages.	Temporal	M	Construal level (high vs low); Temporal distance (far vs near) AND Ad appeal (abstract vs concrete)	Study 1: HC-HC congruency (far temporal distance or high-construal & abstract ad) had no superior effect Study 2: No effect of construal level match on purchase intention
84	Younghwa et al. (2023)	Close your eyes and open your mind: how closed eyes affect evaluations of utilitarian and hedonic advertising appeals	Demonstrates the effect of closed vs open eyes on construal level and subsequently construal level ad appeals (e.g., utilitarian vs hedonic)	Temporal	M	Closing vs opened eyes AND Ad appeal (utilitarian vs hedonic)	
85	Zhang et al. (2022)	I implement, they deliberate: The matching effects of point of view and mindset on consumer attitudes	Examines the joint effect of consumer deliberative vs implemental mindset and first-person vs third-person point of view on consumer responses.	Social	M	Mindset (deliberative vs implemental) AND Point of view (POV) in ad (third-person POV vs first-person POV)	
86	Zhu et al. (2017)	It's the thought that counts: The effects of construal level priming and donation proximity on consumer response to donation framing	Studies the effectiveness of CSR donation framing across construal levels/psychological distance.	Temporal & Spatial (separate experiments)	M	Construal level (high vs low), Time orientation (future vs present), Charity foundation (local vs international) AND Ad appeal (effort-oriented vs ability-oriented)	

Appendix II: Construal-level manipulations and manipulation checks

1. Psychological construal-level manipulations used in CLT-based advertising research

1.1 Goal priming task (Freitas et al., 2004)

This task is used to manipulate high- vs low-level construal by asking participants to describe why (how) they might like to achieve the target goal (e.g., improve and maintain health) in the first blank box from the bottom (top) of a set of four vertically organised blank boxes. Then, participants explain in the next box why (how) they might want to achieve what they mentioned in the second box. This process continues until the last box is filled. Some modified versions of this manipulation do not require response laddering (e.g., Chen, 2020; Williams et al., 2014).

1.2 Exemplars vs category task (Fujita et al., 2006)

This task primes high- vs low-level construal by presenting a series of 40 objects or entities (e.g., dog), and then asking participants to name superordinate category (e.g., animal) vs subordinate exemplars (e.g., poodle).

1.3 Painting viewing task (McCrea et al., 2008)

This task primes construal level by drawing participants' attention to different aspects of the La Parade painting (1889) by Georges Seurat. Specifically, participants' attention is drawn to the technique of pointillism (local-focused) to prime low-level construal, whereas participants' attention is drawn to the desired effects of the painting (global-focused) to induce high-level construal.

2. Additional psychological construal-level manipulations for future CLT-based advertising research

2.1 Navon letters task or hierarchical letters (Navon, 1977)

This task involves presenting participants with a series of single, large letters that consist of many small letters, for example, a big H consisting of numerous small Fs or a big F consisting of numerous small Ls (see Figure 1). A total of eight large letters (i.e. Fs in a T, Fs in an H, Hs in an L, Ts in an F, Hs in an F, Ls in an H, Ls in a T and Ts in an L) are usually used to prime construal level (Aggarwal & Zhao, 2015). Participants are asked to name the large letters to induce high-level construal whereas low-level construal is induced by asking them to name the small letters.

F		F		L	L	L	L
F		F		L			
F	F	F	F	L	L	L	
F		F		L			
F		F		L			

Figure 1: Example of hierarchy letters

2.2 Kimchi–Palmer figures (Kimchi & Palmer, 1982)

This construal level manipulation exposes participants to a large geometric shape target figure (e.g. a triangle), which is composed of different smaller, geometric shapes (e.g. squares; see top left quadrant in Figure 2). Then, participants see two more figures underneath the target figure: one that has a concrete or local (e.g. squares) element that matches the concrete element of the target figure (e.g. squares) and the other that has a concrete or local element (e.g. triangles) that matches the abstract element of the target figure (e.g. triangles; see Figure 2). Participants in the high-level construal condition are asked to select one of the two images whose local elements match the global shape of the target figure whereas participants in the low-level construal condition are instructed to select one of the two images whose local elements match the local elements of the target figure. This technique has been used as a construal-level manipulation measure (Steidle et al., 2011) as well as manipulation check (Wakslak & Trope, 2009).

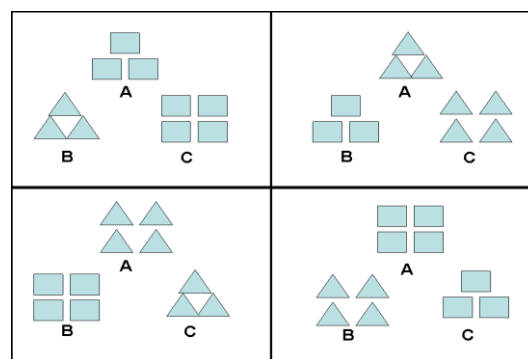


Figure 3: Sample Kimchi–Palmer figures

2.3 Map task (Förster, 2009)

This manipulation requires participants to focus on a map to answer subsequent questions about it. In the abstract construal condition (global processing), participants are instructed to

examine the map as a whole to answer the following questions about the overall shape and look of the map. Participants are informed to not worry about the specific details and to focus on the overall shape. However, participants in the concrete construal level condition are asked to pay close attention to the map to gather as many details as possible (e.g. cities, states). They are also informed that later they will be asked questions about particular locations on the map.

2.4 Comparison of alignable and non-alignable attributes (Malkoc et al., 2010)

This task involves priming high- vs low-level construal by asking individuals to compare two products with non-alignable (information about different attributes) vs alignable attributes (information about the same attributes).

3. Psychological construal-level manipulation checks used in CLT-based advertising research

3.1 Behavioral Identification Form (BIF; Vallacher & Wegner, 1989)

BIF contains 25 items, where each item represents a neutral action (e.g., “greeting someone”) along with its two possible descriptions: lower level (e.g., “saying hello”) and higher level (e.g., “showing friendliness”). Participants in high- vs low-level construal condition are expected to choose more higher-level descriptions of actions.

3.2 Thought abstraction: Linguistic Category Model (LCM; Semin & Fiedler, 1988)

The LCM provides a systematic way to distinguish between abstract and concrete descriptions in language (Wang & Lehto, 2020). It focuses on the linguistic features (i.e., verbs and adjectives) of a description to identify its level of abstraction. The LCM identifies four classes of words based on their level of abstraction. These classes of words are descriptive action verbs (DAVs), interpretive action verbs (IAVs), state verbs (SVs), and adjectives. DAVs are the most concrete words as they describe a specific event or behaviour in a non-interpretive manner (e.g., drink, call). IAVs represent the next level of abstraction as they contain more general descriptions of specific behaviours and thus offer more room for interpretation (e.g., help, cheat). At the third level, SVs describe enduring unobservable states (i.e., admire, envy). Lastly, the most abstract words are adjectives (i.e., cooperative, generous).

3.2 Categorisation task (Liberman et al., 2002)

This task requires participants to imagine that they are going on a family camping trip and thinking about the items to take. They are then shown a list of items (e.g., tent, soap, blanket, rope, camera) and are asked to categorise all items into non-overlapping groups. The basic idea behind this manipulation check is that a high-level construal will lead to more inclusive categorisation than the low-level construal, resulting in creation of fewer groups.

3.4 Measure of categorisation (Slepian et al., 2015)

This measure asks consumers to rate the extent to which three typical (e.g., car), three atypical (e.g., tank), and three neither typical nor atypical exemplars (e.g., boat) belong to a category (i.e., furniture, vehicles) on a 10-point semantic differential scale (1 = “The item definitely does not belong to the category”, 10 = “The item definitely belongs to the category”).

4. Psychological-distance-based measures used as manipulation checks in CLT-based advertising research

4.1 All four dimensions of psychological distance as a construal-level manipulation check

Allard and Griffin (2017) used a scale measuring all four distance dimensions to check construal-level manipulation. It consisted of 12 pairs of descriptors encompassing the four dimensions of psychological distance. These 12 pairs are: “near”/“far”, “tomorrow”/“a year”, “friend”/“enemy”, “we”/“they”, “sure”/“unsure”, “certainly”/“possibly”, “real”/“abstract”, “close”/“distant”, “self”/“others”, “likely”/“unlikely”, “here”/“there”, and “now”/“future”. For each pair, participants were asked to select the word that best fits their frame of mind right now. Next, a code of ‘0’ was used for a psychologically near descriptor (e.g., tomorrow, self), whereas code ‘1’ was assigned to a far psychologically distance descriptor (e.g., a year, others). Finally, a sum of codes of all 12 pairs of descriptors was obtained for each participant to calculate the overall construal-level score.

Lee et al. (2021) also used all four dimensions of psychological distance to check construal-level manipulation. The exact description of this psychological-distance-based measure is as follow.

Temporal distance: “Recently, Nike/Adidas announced that the brand will open a new store in your residential area soon. Please estimate the approximate time when the new Nike/Adidas

store will open from now. It could be in a few days or even a few months. ex) Your answer can be like “5 days later from now” or “1 month later from now”.”

Spatial distance: “If the new Nike/Adidas store opens near your home, how far the store is from your home? Please estimate the approximate miles from your home to the new store.”

Social distance: (1) “I will introduce the new Nike/Adidas store to an acquaintance”. (2) “I will recommend the new Nike/Adidas store to an acquaintance [1 = not close people, 7 = very close people (e.g. family)]”

Hypothetical distance [101-point probability scale (0-100)]: “The likelihood that they would go shopping in the new Nike/Adidas store regularly. The chance that they would become a regular customer of the new Nike/Adidas store.”

4.2 Social distance as a construal-level manipulation check

Loebnitz et al. (2020) adapted Van Boven et al.’s (2010) three-item, seven-point semantic differential scale (“indirect/direct”, “emotionally faraway/emotionally close”, “strange/familiar”) to measure the perceived social distance of the stimuli (e.g., images of animals and humans).

Baek et al. (2022) also measured the social distance using a three-item, seven-point semantic differential scale (i.e., “dissimilar to me/similar to me”, “socially far/socially close”, “like an out-group/like an in-group”) adapted from Liviatan et al. (2008).

To confirm construal-level manipulation, Chang and Chen (2022) measured social distance using two items adapted from Liviatan et al. (2008).

1. “Do you think the person in the picture is “dissimilar – similar”.
2. “Do you think the person in the picture is distant– close”.

4.3 Spatial distance as a construal-level manipulation check

In Kim et al. (2019) research, the spatial distance of the ad was measured using a single-item, seven-point bipolar scale (1 = “near”, 7 = “far”).

Similarly, Sunaga (2018) used a single-item, seven-point scale (“Indicate how far away they thought the sound was recorded from the sound source using”, 1 = “very near”; 7 = “very far”) to measure spatial distance of sound.

4.4 Temporal distance as a construal-level manipulation check

Hong and Lee (2010) employed temporal distance to check construal-level manipulation. Specifically, they first asked participants to imagine that they had decided to purchase a Watson photo frame. They then asked them to indicate when they would buy the frame on a 13-point scale (1 = “today”, 13 = “in 6 months”).

4.5 Social and hypothetical distances as a construal-level manipulation check

Kim et al. (2021) employed measures of both social and hypothetical distances to assess psychological distance. The following measures were used:

Measures of social distance:

“I will introduce the new Reebok store to an acquaintance.”

“I will recommend the new Reebok store to an acquaintance.”

Response format: A seven-point semantic differential scale, i.e., 1 = “not close people”, 7 = “very close people”.

Measures of hypothetical distance:

1. Indicate “the likelihood that they would go shopping in the new Reebok store regularly”.

2. Indicate “the chance that they would become a regular customer of the new Reebok store”.

Response format: A slider from “0” (not at all) to “100”.