# The Impact of Individual Differences in Holistic-Analytic Thinking Style and Product Incongruencies on Word of Mouth

6,946 words

**Abstract**

Individuals are regularly exposed to incongruencies in their product or brand encounters (e.g., Moschino Cheap and Chic or Neutrogena Deep Clean Gentle). This research examines how individuals' reactions toward such incongruencies may differ based on their inherent thinking styles. Across two studies, we demonstrated that holistic (vs. analytic) thinkers exhibited greater willingness to engage in positive word-of-mouth for products with incongruent (vs. congruent) elements. Prior research mainly explored the effect of thinking styles on individuals' evaluations of incongruent information comprised of both positive and negative characteristics. This research shows that even similarly positive but conceptually incongruent characteristics may cause different reactions based on individuals' thinking styles.

**Keywords:** individual differences, holistic-analytic thinking, evaluation, incongruence, word of mouth

Individuals are regularly exposed to brands and products that contain incongruent characteristics, either in terms of product attributes or how the brand behaves. Even though prior research has shown that people do not tolerate incongruencies well (Festinger, 1957; Harmon-Jones et al., 2009; Harmon-Jones & Mills, 1999, for reviews), advertisements that use incongruent characteristics of a product are becoming increasingly popular (De Mooij, 2018; Noseworthy et al., 2011; Noseworthy & Trudel, 2011). For example, it is not uncommon to see an advertisement for a new moisturizer that claims to be both strong and gentle, or a shaving cream that argues that is both soft and dense. Further, individuals may encounter incongruency either in a brand name that holds contradictory adjectives (e.g., Moschino Cheap and Chic or Neutrogena Deep Clean Gentle), or in a brand's behavior (e.g., organic oranges marketed as eco-friendly that are sold in plastic bags). Although a great deal of research has examined how people respond to incongruency both in themselves and in others (Germelmann et al., 2016; Harmon-Jones et al., 2009; McDaniel & Grice, 2008; Yoon, 2013), comparatively little is known about how individuals respond to inconsistencies that appear within objects, such as product-related incongruencies (see Azhari & Afiff, 2015; Gvili et al., 2018; Tran & Paparoidamis, 2020, for notable exceptions). Thus, in this research, we examined how individuals might react to information in which a product is described as possessing incongruent characteristics (from now on referred to as incongruent product) and whether chronic thinking styles of individuals might influence their reactions.

## Theoretical Foundations

Research has established that individuals process incongruencies differently, and that their thinking style is a key factor influencing this process. Holistic and analytic thinking styles have been widely documented as two distinct approaches to processing contradictions (Peng & Nisbett, 1999; for other conceptualizations of thinking styles, see Caballero et al., 2022). Specifically, holistic thinkers have a greater tendency to view the bigger picture and consider the overall complexity of a situation, rather than focusing on individual details. As a

result, they are more likely to observe and accept contradictions and are able to reconcile opposing propositions by finding a "middle way" (Choi et al., 2003; Ji et al., 2000). As opposed to holistic thinkers, analytic thinkers tend to focus on details and are more likely to attend to the object and its category. Their beliefs are guided by the "law of non-contradiction," which leads them to reject one proposition if two opposing propositions exist (Nisbett et al., 2001). This is because analytic thinkers have a lower tolerance for contradictions than holistic thinkers and experience more cognitive dissonance when they encounter incongruencies (Choi & Nisbett, 2000; Ma-Kellams, 2017). In recent research on attribution, holistic individuals tended to attribute more causality to a cause when it produced two consequences of different valences (e.g., one positive and one negative consequence) compared to when that cause produced two consequences of the same valence (e.g., two negative consequences). This result was found regardless of whether the holistic-analytic thinking style was measured or manipulated (Santos et al., 2023). In sum, analytic thinkers tend to believe that there is only one correct point of view, while holistic thinkers accept the coexistence and interpenetration of two parts of a contradiction and are more tolerant to discrepant information (see Spencer-Rodgers et al., 2010, for a review).

For instance, Peng and Nisbett (1999), in one of their studies, exposed participants to two superficially contradictory research findings and asked them to report how plausible they found each one. The results showed that holistic thinkers tended to consider both statements more plausible when compared to analytic thinkers. In other words, holistic thinkers resolved the apparent contradiction by recognizing the truth in each position (see also Santos et al., 2021, for a replication of this effect using an individual-differences approach). Another study by Peng and Nisbett (1999) revealed that, in contrast to analytic thinkers, holistic thinkers preferred proverbs that contained paradoxical or contradictory information (e.g., "beware of your friends, not your enemies;" see Friedman et al., 2006, for similar results).

Prior research has predominantly examined thinking styles (holistic and analytic) in a cross-cultural context, often comparing Western cultures (North American individuals) with Eastern cultures (e.g., Korean or Chinese individuals), characterized as more analytic and holistic respectively (Nisbett, 2003; Shavitt & Barnes, 2020; Triandis, 1995; Wong et al., 2021). Although holistic-analytic thinking style is conceptualized as a construct that influences information processing across cultures, it has been also suggested as a system that helps elucidate the variations in thoughts, feelings, and behaviors of members within cultures (Oyserman et al., 2009). In an attempt to reliably distinguish holistic from analytic thinkers, both between and within cultures, Choi and colleagues (2007) developed a measure known as the Analysis-Holism Scale (AHS). In this work, they found that the AHS not only discriminated the thinking style between two different cultural groups, but also distinguished two subgroups within a single culture. This suggests that although the AHS scores of individuals from the same culture generally tend toward a similar thinking style (either holistic or analytic), there are still differences on how intensely the thinking style is adopted. For example, among individuals who tend to have a holistic thinking style, there are those who are highly holistic and those who are less holistic (see also Uskul et al., 2008; Santos et al., 2021; Zhou et al., 2021; for examples of within-culture individual differences in thinking styles). This is the approach that we follow in the present research.

**Thinking Style and Product Incongruencies**

The effect of thinking style has been widely examined in consumer behavior. Several studies have explored how differences in holistic-analytic thinking style influenced consumer perceptions on certain contradictions such as brand extensions, brand knowledge structures, price-quality relationships, and mental accounting in promotions and discounts (Allman et al., 2019; Hossain, 2018; Monga & Williams, 2016). For example, DeMotta and colleagues (2016; see also Wang et al., 2016) found that individuals high in dialectical thinking (associated with holistic thinking) reacted more favorably towards contradictory advertising

information comprised of both positive and negative characteristics than individuals low in dialectical thinking (associated with analytic thinking). The authors proposed that because high dialectical thinkers were more open to suggestions and more likely to expect contradiction in any piece of information (Peng & Nisbett, 1999), they would process opposing perspectives better than low dialectical thinkers. As such, high dialectical thinkers might also process contradictory product information, such as product reviews containing both positive and negative information, more easily (see also Koo et al., 2020, for other example on contradictory experiences).

Similarly, Monga and John (2008) found that holistic thinkers were less susceptible to negative publicity information than analytic thinkers. In their research, participants were exposed to negative information about a brand to which they originally had positive attitudes (creating the contradiction). The data revealed that participants with a holistic thinking style were better able to accommodate the contradictory information. Thus, their attitudes toward the product were less influenced by the new negative information. On the contrary, participants with an analytic thinking style were more affected by the new negative information, thus readjusted their initial attitudes toward the brand to a greater extent to avoid the contradiction (see also, Monga & John, 2010).

Song et al. (2015) further demonstrated how consumers responded to mixed quality services, which consisted of services with high- and low-quality attributes (therefore involving contradicting elements). Their results showed that analytic thinkers relied more on the low quality service attributes than holistic thinkers, who paid more attention to the entire configuration of service. This led analytic thinkers to have a more negative reaction to the mixed quality service in terms of satisfaction as compared to their holistic counterparts. Moreover, Aggarwal et al. (2013) found that analytic thinkers experienced higher discomfort when they were presented with inconsistent information regarding a product (i.e., positive and negative reviews of a car) compared to holistic thinkers.

An open question is whether the effect would hold for incongruencies that involve equally positive but conceptually incongruent attributes of an object. We propose that holistic thinkers can consider the amalgam of incongruent attributes (even when they involve equally positive) as an integrated whole when forming their overall evaluations, while analytic thinkers tend to decontextualize or separate attributes from their context and focus on discrepancies. Thus, holistic thinkers will evaluate products with conceptually incongruent attributes more favorably compared to analytic thinkers. If this holds true, the present work extends previous research by showing that holistic thinkers also tolerate better incongruencies that are not necessarily created by opposing elements of different valence. Furthermore, unlike the previous studies mentioned above which evaluated this effect on variables such as attitudes, purchase intention or consumer satisfaction (Aggarwal et al. 2013; DeMotta et al., 2016; Monga & John, 2008; 2010; Song et al., 2015), we used another relevant construct for consumer behavior that we describe in the next section, which is word-of-mouth (WOM).

**Conceptual Model and Hypothesis**

Our research is different from the previous work in two critical ways. In previous research, the focus has been mainly on comparing the reactions of holistic versus analytic thinkers to positive versus negative characteristics of a product/service (i.e., Aggarwal et al. 2013; DeMotta et al., 2016; Monga & John, 2008; 2010; Song et al., 2015). However, our research takes a different approach by arguing that incongruency can be evoked by attributes that are equally positive but conceptually discrepant. While prior studies have mostly focused on positive and negative product attributes, our research is first to examine how thinking styles influence consumer reactions when individuals are exposed to product-related conceptual incongruencies that are equally positive. We argue that if valence-incongruency is a necessary condition to produce incongruencies, then one would expect the effect to only happen when the characteristics of the product are of opposite valence. However, if valence-incongruency is just one way to produce the incongruencies but not the only one, then one

would expect the effect to happen even when the characteristics are incongruent but of the same valence. Thus, our study aims to extend the effect beyond valence-incongruency to other incongruencies that keep valence constant. Secondly, we explore the effect of thinking style on WOM rather than consumer attitudes, purchase intention or customer satisfaction (as predominantly studied in previous research). To the best of our knowledge, this is the first research to show an interaction effect of thinking style and product incongruency on WOM. Therefore, this research explored how individuals' holistic-analytic thinking style might affect their willingness to engage in WOM for products with incongruent (vs. congruent) characteristics.

Formally, we hypothesize that:

H: Holistic (vs. analytic) thinkers would exhibit greater willingness to engage in positive word of mouth WOM for a product with incongruent (vs. congruent) characteristics.

## Study 1

### Method

### Participants and Design

One hundred ninety-nine undergraduate students (Spaniards) participated (176 females, $M_{age}$ = 19.23, $SD$ = 1.48) in the study. All participants were native Spanish speakers enrolled in different introductory courses within a psychology program at a large public university located in Madrid, Spain. Thus, all materials were designed and implemented in Spanish. Participants completed the study on Qualtrics using separate cubicles in the laboratory. Participation was voluntary, and students were compensated with course credit. We used a two-way between-subjects design with two product conditions (congruent vs. incongruent) and a measure of holistic-analytic thinking style (continuous measure). As no prior research has examined whether thinking style moderates WOM, we were not able to rely on previous work to obtain an estimated effect size for the predicted interaction.

Therefore, we adhered to the conventionally accepted rule of thumb that recommends collecting at least 50 participants per cell (Van Voorhis & Morgan, 2007). Our final sample contained $N = 199$ participants, which was nearly identical to the conventionally recommended sample size. Our data is available on the Open Science Framework site (DOI 10.17605/OSF.IO/KRXTS). All measures, manipulations, and exclusions in the study have been disclosed.

**Procedure**

Upon arrival at the laboratory, each participant was assigned to a computer. As a cover story, participants first read a passage that informed them that they were going to participate in a brand perception study. Then, participants were randomly assigned to read either a congruent or an incongruent description of a fictitious product. After the product congruency manipulation, participants completed the Locus of Attention subscale from the AHS (Choi et al., 2007). Next, they reported their willingness to engage in WOM for the product by responding to one item: "How much would you be willing to recommend this product to a friend?" Finally, participants responded to several socio-demographic (age, gender and nationality) questions and were debriefed about the purpose of the study. Based on informal interviews at the end of the study, none of the participants guessed the real purpose of the study. The Research Ethics Board at [CONCEALED INFORMATION] approved this research protocol (IERC-04/2020-2021).

**Independent Variables**

**Type of product.** Participants were randomly assigned to read a product description about a notebook. The product was described as possessing either congruent or incongruent characteristics. In the incongruent condition, the product was described as natural and artificial. Specifically, participants read the following information: "The ASLOE work agendas are made from *artificial* materials along with *natural* components." In the congruent condition, the product was described as natural and ecological. Specifically, participants read

the following information: "The ASLOE work agendas are made from *ecological* materials along with *natural* components." The congruent and incongruent words used in the product descriptions were selected based on their classification by Merriam-Webster's collegiate dictionary (2019) as either antonyms (in the incongruent condition) or synonyms (in the congruent condition).

**Thinking style.** Participants' thinking style was measured using the 6-item Locus of Attention subscale from the AHS (Choi et al., 2007). We chose this subscale over the other three for two reasons. First, because locus of attention has been described as the most important element for differentiating holistic from analytic thinking style (Miyamoto, 2013). Second, because this subscale captured the differential ability of thinking style to integrate incongruent characteristics of an object into a cohesive whole. Participants indicated their level of agreement with statements such as "The whole, rather than its parts, should be considered in order to understand a phenomenon," and "It is more important to pay attention to the whole than its parts" on a 7-point Likert-type scale anchored by 1 ("Strongly disagree") to 7 ("Strongly agree"). Higher scores indicated a more holistic thinking style, whereas lower scores indicated a more analytic thinking style. Values ranged from 2.17 to 7.00 ($M$ = 4.42, $SD$ = 1.02). Reliability of the scale was appropriate ($\alpha$ = .78), so we averaged the items to create a composite measure of thinking style. Thinking style scores did not differ as a function of Type of Product ($t$[197] = -0.054, $p$ = .957).

## Dependent Variable

**Word of mouth (WOM).** Participants' WOM was measured using a single item on a 7-point Likert-type scale anchored by 1 ("Not at all") to 7 ("To a great extent"): "How much would you be willing to recommend this product to a friend?" (adapted from Herr et al., 1991).

## Results

The dependent variable was submitted to a multiple regression analysis. Type of product (contrast coded), thinking style (continuous variable), and the interaction term (e.g., type of product × thinking style) were entered as predictors. This key two-way interaction was tested by using the PROCESS add-on for SPSS (model 1; Hayes, 2013). The continuous variable (i.e., thinking style) was mean-centered to reduce multi-collinearity concerns when computing interaction terms. The dependent variable (i.e., WOM) was regressed onto the predictors (type of product and thinking style), as well as their interaction term, using a hierarchical regression (i.e., main effects in the first step, followed by the two-way interaction in the second step). Following Cohen and Cohen (1983), main effects and interactions were interpreted in the first block in which they appeared in the regression analyses. In this study, a main effect of type of product emerged, $B$ = -1.037, $t(195)$ = -4.714, $p < .001$, 95% CI: -1.471, -0.603, suggesting that participants were more willing to recommend the congruent product ($M$ = 4.76, $SD$ = 1.70) than the incongruent product ($M$ = 3.73, $SD$ = 1.30). However, no main effect of thinking style was found, $B$ = 0.104, $t(195)$ = .968, $p$ = .334, 95% CI: -0.108, 0.315.

Importantly, we found a significant interaction between the type of product and thinking style, $B$ = 0.544, $t(195)$ = 2.473, $p$ = .014, 95% CI: 0.110, 0.978, Cohen's $f^2$ = .032. As illustrated in Figure 1, this interaction showed that for the incongruent product, individuals with a holistic thinking style (analyzed one standard deviation above the mean) were more willing to recommend the product (i.e., engage in WOM) compared to individuals with an analytic thinking style (analyzed one standard deviation below the mean), $B$ = 0.451, $t(195)$ = 2.565, $p$ = .011, 95% CI: 0.104, 0.797. However, for the congruent product, no significant difference in WOM emerged between individuals with holistic (vs. analytic) thinking style, $B$ = 1.094, $t(195)$ = -0.707, $p$ = .480, 95% CI: -0.355, 0.168.

[Insert Figure 1 about here]

Described differently, for those participants with higher levels of holistic thinking (+1SD), there was no significant difference in WOM between those assigned to the incongruent product description condition and those assigned to the congruent product description condition, $B$ = -0.481, $t$(195) = -1.539, $p$ = .125, 95% CI: -1.097, 0.135. However, for those participants with higher levels of analytic thinking (-1SD), those assigned to the incongruent product description condition were significantly less willing to engage in WOM for the product than those assigned to the congruent product description condition, $B$ = -1.594, $t$(195) = -5.095, $p$ < .001, 95% CI: -2.210, -0.977.

**Discussion**

The results of study 1 revealed that in the incongruent product description condition, individuals with higher levels of holistic thinking style engaged in WOM for the product more than individuals with higher levels of analytic thinking style. However, within the congruent product description condition, individuals with holistic thinking style did not differ from individuals with analytic thinking style in their willingness to engage in WOM. This finding is consistent with previous research that demonstrates that holistic thinkers show a greater tolerance for contradictions than analytic thinkers (Monga & John, 2008; Santos et al., 2021; Peng & Nisbett, 1999).

Study 1 had some limitations. First, the dependent variable was measured using a single item scale. Therefore, the reliability of this measure could be increased via a multi-item scale, which we included in the next study. Additionally, the two characteristics chosen for the incongruent product description might have been perceived differently in terms of their valence. The product with natural components might have been perceived more positively compared to the product with artificial components. To control for this potential confound, Study 2 used a product with equally positive characteristics for both congruent and incongruent product description conditions. Furthermore, we used a different population (Americans) to increase the generalizability of the results.

## Study 2

### Method

### Participants and Design

Three hundred forty-nine (349) individuals participated voluntarily (138 females and two missing data, $M_{age}$ = 34.65, *SD* = 11.17) via MTurk. All participants were residents in the United States. Previous research has shown that Mturkers tend to be a good representation in terms of sociodemographic and other background variables of the U.S. population (Behrend et al., 2011; Mason & Suri, 2012). We used a two-way between-subjects design with two product conditions (congruent vs. incongruent) and a measure of holistic-analytic thinking style (continuous measure). We conducted an *a priori* power analysis using G*Power in order to determine the optimal sample size for study 2 (Faul et al., 2009). We were interested in replicating the interaction found in study 1, whose effect size was Cohen's $f^2$ = .032.[1] Results of a G*Power analysis indicated that the desired sample size for a regression with an effect size of $f^2$ = .032, for a two-tailed test (α = .05) with .80 power, was *N* = 248. We recruited more participants to allow for possible data exclusions. We did not exclude any data.

### Procedure

The procedure was similar to study 1. Participants were recruited from Amazon Mechanical Turk (MTurk, a crowdsourcing website) in exchange for monetary compensation ($0.40).

### Independent Variables

**Type of product.** Participants were randomly assigned to read a description about a product (a watch), in which the product was described as possessing either congruent or incongruent characteristics. In the incongruent condition, participants read the following description: “The RIBO watch holds *traditional* and *innovative* elements.” In the congruent

[1] We computed this average by taking the partial $R^2$ associated with the interaction in study 1, submitting that value to a Fisher's *z* transformation, computing a z, transforming the z back to an *R* and subsequently computing Cohen's $f^2$ from the R-value.

condition, participants read the following description: "The RIBO watch holds *modern* and *innovative* elements." The congruent and incongruent words used in the product descriptions were selected based on their classification by Merriam-Webster's collegiate dictionary (2019), either as antonyms or synonyms. A pilot test was conducted on 58 participants. Participants rated the valence of product characteristics for the watch (traditional, modern, and innovative) on a 7-point scale (1 = "Very negative" to 7 = "Very positive"). A repeated measures ANOVA using the three adjectives as a within-subjects variable yielded no significant differences between them in how positive they were perceived, $F(2, 56) = 1.398$, $p = .256$ ($M_{traditional} = 4.67$, $SD_{traditional} = 2.09$; $M_{modern} = 5.10$, $SD_{modern} = 1.85$; $M_{innovative} = 5.21$, $SD_{innovative} = 1.58$). We also conducted a post-test to examine whether participants perceived the products used in studies 1 and 2 to have congruent or incongruent characteristics depending on the assigned condition. We collected 130 participants using Amazon Mturk (43.7% females, $M_{age} = 33.84$, $SD = 12.67$). Participants were randomly assigned to receive either a congruent or incongruent description of the two fictitious products (i.e., the agenda and the watch). After participants were exposed to the product manipulations, they were asked "To what extent do you consider that the ASLOE work agenda has consistent/coherent characteristics?" and "To what extent do you consider that the RIBO watch has consistent/coherent characteristics?" for both products: the agenda (study 1) and the watch (study 2).

Our results indicated that participants perceived the ASLOE work agenda to have more consistent/coherent characteristics when the product description included congruent descriptions ($M = 5.48$, $SD = 0.98$) than when the product description included incongruent descriptions ($M = 4.72$, $SD = 1.29$, $t[128] = 3.788$, $p < .001$, 95% CI: 0.362, 1.152). Similarly, participants perceived the RIBO watch to have more consistent/coherent characteristics when the product was described with congruent descriptions ($M = 5.49$, $SD = 1.05$) than when the product was described with incongruent descriptions ($M = 4.64$, $SD = 1.24$, $t[128] = 4.247$, $p$

< .001, 95% CI: 0.456, 1.251). Therefore, this post-test confirmed the effectiveness of our product manipulations.

**Thinking style**. Participants' thinking style was measured using the same scale as in study 1. Values ranged from 1.83 to 7.00 ($M$ = 5.10, $SD$ = 0.94). Reliability of the scale was high ($\alpha$ = .81), so we averaged the items to create a composite measure of thinking style, whereby higher numbers represented more holistic (vs. analytic) thinking. Thinking style scores did not differ as a function of the product manipulation ($t$[347] = 0.517, $p$ = .605).

**Dependent Variable**

**Word of mouth (WOM).** Participants' WOM was measured with three items that were adapted from previous consumer research (Herr et al., 1991; see also Huete-Alcocer, 2017, for a review on WOM): "To what extent would you be willing to recommend this product to a friend?", "To what extent do you think that people will share this product with friends on social networks?" and "To what extent do you think that this product will receive "LIKEs" on social networks?" Participants responded to the items on a 7-point Likert-type scale anchored by 1 ("Not at all") to 7 ("To a large extent"). The three items were intercorrelated ($\alpha$ = .75), thus were averaged to compute a single index of WOM.

**Results**

Results of a hierarchical regression analysis revealed a main effect of type of product, $B$ = 0.210, $t$(346) = 2.109, $p$ = .036, 95% CI: 0.014, 0.406, indicating that the incongruent product ($M$ = 4.94, $SD$ = 1.23) was recommended more than the congruent product ($M$ = 4.76, $SD$=.99). Furthermore, our results revealed a main effect of thinking style, $B$ = 0.620, $t$(346) = 11.736, $p$ < .001, 95% CI: 0.516, 0.724, indicating that higher holistic thinking scores led to more product recommendations.

Importantly, these main effects were qualified by a significant two-way interaction between type of product and thinking style, $B$ = 0.299, $t$(346) = 2.853, $p$ = .005, 95% CI:

0.093, 0.504, Cohen's $f^2$ = .024[2]. As illustrated in Figure 2, this interaction showed that for the incongruent product, a significant difference emerged between individuals with a holistic thinking style and individuals with an analytic thinking style, $B$ = 0.762, $t$(346) = 10.540, $p$ < .001, 95% CI: 0.620, 0.905, such that higher holistic thinkers (+1SD) engaged in more WOM compared to higher analytic thinkers (-1SD). Similarly, for the congruent product, a significant difference in WOM also emerged between individuals with a holistic thinking style and individuals with an analytic thinking style, with the same pattern, but a smaller difference, $B$ = 0.464, $t$(346) = 6.135, $p$ < .001, 95% CI: 0.315, 0.613.

[Insert Figure 2 about here]

Put differently, among participants with higher levels of analytic thinking style (-1SD), the effect of the type of product (congruent vs. incongruent) on WOM was not significant, $B$ = -0.072, $t$(346) = -.516, $p$ = .606, 95% CI: -0.346, 0.202. However, and interestingly, among participants with higher holistic thinking (+1SD), those assigned to the incongruent product description exhibited more WOM than those assigned to the congruent product description, $B$ = 0.491, $t$(346) = 3.525, $p$ < .001, 95% CI: 0.217, 0.766.

**Discussion**

Our findings were consistent with those observed in study 1 and extended the results to a different type of contradiction that did not contain characteristics that were opposite in valence (e.g., positive and negative information about a product, Monga & John, 2008). Once again, we found that participants' style of thinking affected how much they were willing to engage in WOM for a product.

## General Discussion

The current research showed that people with a holistic thinking style engaged in more WOM for incongruent products than people with an analytic thinking style.

[2] When the item of study 1 ("To what extent would you be willing to recommend this product to a friend?") was used alone, the two-way interaction was significant, $B$ = 0.390, $t$(346) = 2.859, $p$ = .004.

Interestingly, this effect was found in both collectivistic (study 1; Spaniards) and individualistic (study 2; Americans) cultures. Our results suggest that even though holistic-analytic thinking style is culturally embedded, it can be used as an individual-difference variable to distinguish between holistic and analytic thinkers within a culture. Our research captured this idea using a well-validated measure of holistic-analytic thinking style, which increased the ecological validity of the studies (Choi et al., 2007).

Importantly, this research disentangled the potential differential effects of valence and incongruence of product characteristics on WOM, and demonstrated that incongruent characteristics did not necessarily possess opposite valence (as usually studied in prior literature) to facilitate the effect. Specifically, study 2 used a pilot-tested manipulation of incongruence that kept valence constant. All characteristics (i.e., modern, innovative, traditional) that were used to describe the product were perceived as equally positive. This is an important difference from previous research that has shown the effect of thinking style on the evaluation of positive and negative information (Monga & John, 2008; 2010). In this research, we have demonstrated that incongruence in a product description can be created by merely incorporating two positive product characteristics that have opposite meanings. We think that this finding generalized the effect to other incongruence-eliciting conditions.

A potential psychological mechanism for this effect could be that holistic thinkers feel less discomfort when they encounter incongruent products than analytic thinkers (Choi & Nisbett, 2000; Peng & Nisbett, 1999). However, there could be other explanations for the effect (e.g., attention, concentration, mood, or mixed emotions, see Alden et al., 2000; Dahlén et al., 2005; Santos et al., 2021). Therefore, future research should include measures of psychological discomfort, attention, concentration, mood, and mixed emotions to evaluate whether these constructs might account for the relationship between thinking style and WOM.

The methodological approach used in these two studies allowed us to measure the effect of dispositional thinking style on the willingness to engage in WOM for a product with congruent or incongruent characteristics. Nevertheless, because participants' thinking style was measured, it is possible that other unmeasured factors may have been confounded with reported thinking style, thus affected the results. Future research might benefit from manipulating the thinking style to isolate the causal effect of this variable.

There are both situational and individual-level variables that may indirectly influence the effects demonstrated in this research. For example, an individual's motivation might affect their response to incongruencies. More specifically, if a person is motivated to consume a product to satisfy their sensation-seeking need, then a product with discrepant characteristics could be perceived as more attractive than another with consistent features, regardless of thinking style. Future research may extend our findings by using different purchase motivations. Another potential moderator of the present findings could be a person's occupation, which may affect whether that individual has a holistic or analytic thinking style (see Uskul et al., 2008). Previous research has shown that the degree of power or leadership that a person exerts in a position may influence their thinking styles (Guinote, 2007; Smith & Trope, 2006). Accordingly, powerful individuals have greater attentional flexibility than powerless individuals, and high power is associated with more abstract thinking relative to low power. Thus, people with power in an organization (e.g., a CEO) might have a more holistic thinking style that allows them to better tolerate inconsistencies.

Finally, individuals may differ in their certainty about their own traits (Horcajo et al., 2021; Paredes et al., 2020; Santos et al., 2019; Shoots-Reinhard et al., 2015). Research suggests that people with different certainty levels about their thinking style may demonstrate different reactions toward incongruencies. For example, people with higher certainty about their holistic thinking style may demonstrate greater tolerance toward incongruencies. In contrast, those who doubt about whether they have holistic or analytic thinking style may

show an attenuated pattern. Therefore, applied researchers may benefit from including certainty measures to increase the predictive validity of holistic-analytic thinking style regarding the effects of incongruencies on WOM. Similarly, if people believe that their holistic tendencies are internally generated rather than externally, they will act on those tendencies to a greater extent (Gascó et al., 2018).

This research has important implications for practitioners. Our findings may help marketers and advertisers understand potential consumer responses and tailor their products and communication campaigns for different audiences from various cultures. For instance, advertising products with incongruent characteristics may be a good strategy when targeting markets in which a higher proportion of the population has a holistic mindset, such as Asian markets. However, for Western markets, where individuals tend to be more analytic thinkers, this strategy may be less successful (see Teeny et al., 2021 for a review).

In conclusion, the current research provides an essential extension to prior work on thinking style and individuals reactions toward product incongruencies. Specifically, this research contributes to the literature in two critical ways. First, our studies demonstrated that the perception of incongruency is not dependent upon a product possessing two characteristics of opposing valence. Our results revealed that a product can be described by two characteristics of the same valence, yet yield perceptions of incongruency. Secondly, we established that holistic-analytic thinking style moderates the effect of product incongruency on WOM. When taken together, we have demonstrated our predictions using a variety of products (e.g., a watch, an agenda), populations (e.g., Spaniards and Americans), and measures (e.g., single-item WOM, multiple-item WOM).

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Figure 1. Study 1. Word of Mouth (WOM) as a Function of Type of Product (Incongruent vs. Congruent) and Thinking Style (Analytic vs. Holistic).

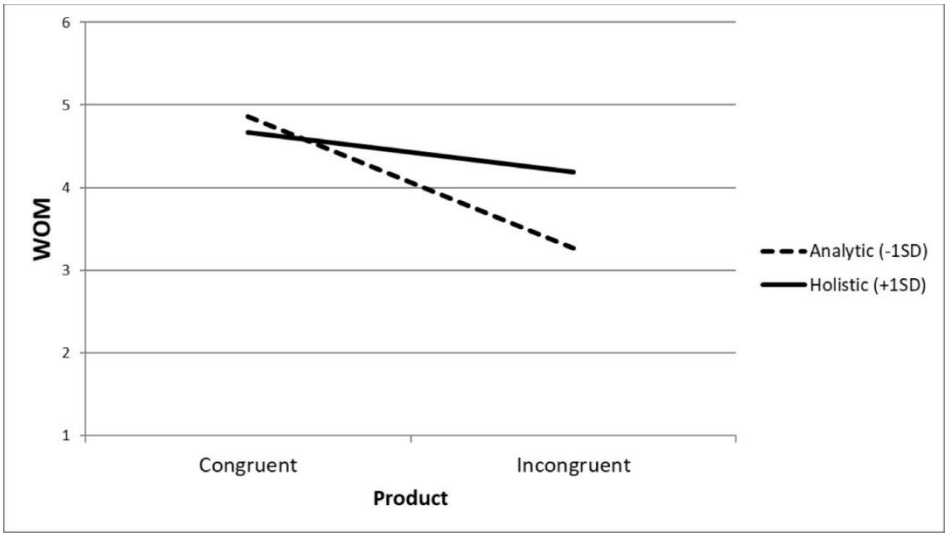

Figure 2. Study 2. Word of Mouth (WOM) as a Function of Type of Product (Incongruent vs. Congruent) and Thinking Style (Analytic vs. Holistic).