

**Lost in translation? Exploring the effects of  
multilingual packaging and foreign language  
communication on consumer behavior**

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**Content overview**

List of figures.....	VI
List of tables.....	VII
List of abbreviations .....	VIII
1 Introduction.....	1
2 Lost in translation? How multilingual packaging influences product evaluations by impeding consumers' processing fluency.....	19
3 Do good and talk about it (in the right language) – How foreign language processing attenuates the affective response to (im)moral firm behavior .....	64
4 How providing public COVID-19 mitigation instructions in a foreign language can increase people's sense of control .....	79
5 General discussion .....	103
Full list of references .....	121

---

**Table of content**

List of figures.....	VI
List of tables.....	VII
List of abbreviations .....	VIII
1 Introduction.....	1
1.1 Research motivation .....	1
1.2 Research objectives and main research questions .....	6
1.2.1 Multilingual product packaging .....	6
1.2.2 The foreign language effect .....	10
1.2.3 Overview of the research procedure .....	14
1.3 Research papers and structure of the dissertation .....	15
2 Lost in translation? How multilingual packaging influences product evaluations by impeding consumers' processing fluency.....	19
2.1 Introduction .....	21
2.2 Conceptual background.....	25
2.2.1 The influence of multilingual packaging on consumer evaluations .....	25
2.2.2 The role of processing fluency.....	26
2.2.3 Visual complexity .....	27
2.2.4 Stimulus familiarity .....	28
2.2.5 The moderating role of product type .....	30
2.3 Empirical studies .....	31
2.3.1 Study 1 .....	31
2.3.2 Study 2 .....	34
2.3.3 Study 3 .....	42
2.4 General discussion.....	47
2.5 Appendix .....	54
2.6 References .....	57
3 Do good and talk about it (in the right language) – How foreign language processing attenuates the affective response to (im)moral firm behavior .....	64
3.1 Introduction .....	65
3.2 Conceptual background.....	65

---

3.2.1 The moral foreign language effect .....	65
3.2.2 The role of emotions in moral judgments .....	66
3.3 Empirical studies .....	67
3.3.1 Study 1 .....	67
3.3.2 Study 2 .....	71
3.4 Discussion .....	74
3.5 References .....	75
4 How providing public COVID-19 mitigation instructions in a foreign language can increase people's sense of control .....	79
4.1 Introduction .....	80
4.2 Conceptual background .....	82
4.2.1 Foreign language processing .....	82
4.2.2 Predictions .....	84
4.3 Methods .....	85
4.3.1 Experimental design and stimuli .....	85
4.3.2 Participants .....	86
4.3.3 Procedure .....	87
4.3.4 Measures .....	88
4.3.5 Statistical analyses .....	89
4.4 Results .....	90
4.4.1 Direct effect of language .....	90
4.4.2 Mediation of sense of control on cognitive evaluation and behavioral intention .....	90
4.4.3 Additional analysis .....	91
4.5 Discussion .....	92
4.5.1 Foreign language response to pandemic mitigation instructions .....	92
4.5.2 Theoretical contributions .....	92
4.5.3 Relevance and implications .....	95
4.5.4 Limitations and future research directions .....	96
4.6 References .....	97
5 General discussion .....	103
5.1 Summary of findings .....	103

---

5.2 Theoretical contributions, limitations, and future research directions .....	107
5.2.1 Multilingual product packaging .....	107
5.2.2 The foreign language effect .....	110
5.3 Managerial implications .....	114
5.3.1 Multilingual product packaging .....	115
5.3.2 Foreign language communication .....	118
5.4 Conclusion.....	120
Full list of references .....	121

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**List of figures**

Figure 1-1: Examples of foreign language presence and foreign language processing....	2
Figure 1-2: Real-world example of multilingual packaging (#1). .....	3
Figure 1-3: News articles in German and English covering child labor lawsuits.....	4
Figure 1-4: Social media posts in German and English promoting vaccinations. ....	5
Figure 1-5: Real-world examples of multilingual packaging (#2). .....	6
Figure 2-1: Real-world examples of multilingual packaging (#3). .....	22
Figure 2-2: Results of mediation analyses (Study 1). .....	33
Figure 2-3: Overview of the stimulus product categories (Study 2).....	35
Figure 2-4: Results of moderated mediation analyses (Study 2). .....	39
Figure 2-5: Results of mediation analyses (Study 3). .....	45
Figure 2-6: Examples of the stimulus materials used (Studies 1-3). .....	55
Figure 3-1: Results of moderated mediation analyses (Study 1). .....	71
Figure 3-2: Results of moderated mediation analyses (Study 2). .....	74
Figure 4-1: Self-Assessment Manikin used to measure sense of control. ....	88
Figure 4-2: Results of mediation analyses. ....	91
Figure 5-1: Real-world examples of multilingual packaging (#4). .....	116



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**List of tables**

Table 1-1: Overview of the research papers included in this dissertation. ....	14
Table 2-1: Overview of mean values (Studies 1-3). ....	38
Table 2-2: Results of parallel mediation analyses (Study 3). ....	46
Table 2-3: Results of a field study on the use of multilingual packaging in Germany. .	54
Table 2-4: Sample characteristics (Studies 1-3). ....	54
Table 2-5: Results of a pretest on consumers' familiarity with foreign languages. ....	56
Table 2-6: Results of mediation analyses (Study 3). ....	56
Table 3-1: Sample characteristics (Studies 1 and 2). ....	68
Table 3-2: Questionnaire items (Studies 1 and 2). ....	69
Table 3-3: Results of mean value comparisons (Study 1). ....	70
Table 3-4: Results of mean value comparisons (Study 2). ....	73
Table 4-1: COVID-19 mitigation instructions used as stimuli. ....	85
Table 4-2: Sample characteristics. ....	87
Table 4-3: Partial results of moderated mediation analyses. ....	92
Table 5-1: Findings, contributions to literature, and practical implications. ....	106

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**List of abbreviations**

ANOVA	Analysis of variance
Boot	Bootstrapping
CI	Confidence interval
COVID-19	Corona virus disease 2019
CSR	Corporate social responsibility
EMAC	European Marketing Academy Conference
FL	Foreign language
H	Hypothesis
ICORIA	International Conference on Research in Advertising
IE	Indirect effect
IMM	Index of moderated mediation
Int	Interaction
M	Mean value
MNC	Mouth-nose-cover
NL	Native language
NS	Not significant
PA	Product attitude
PI	Purchase intention
PQ	Perceived quality
RQ	Research question
SD	Standard deviation
SE	Standard error
VIF	Variance inflation factor

# 1 Introduction

## 1.1 Research motivation


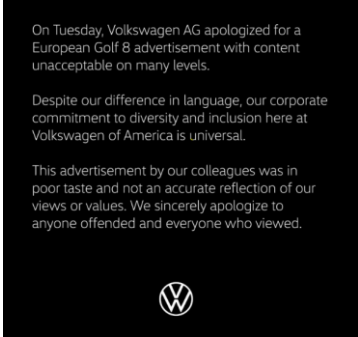
In their daily lives, people are exposed to a vast amount of information from a multitude of sources, including advertisements, social media posts, news articles, and product packaging. This information is processed and interpreted to inform decisions across various aspects of life, including product choices. It is intuitive to assume that purchase decisions are solely based on consumers' needs and the information available to them. However, human decision-making is influenced not only by the content of information but also by the manner in which it is communicated and received. Language is a fundamental medium of human communication and is crucial in enabling the exchange of information. Therefore, it plays a central role in marketing and communication, shaping how persuasive messages and product information are received, processed, and interpreted by target audiences.

However, globalization has drastically affected the role of language in the marketplace. Specifically, contemporary consumers are increasingly exposed to advertisements and product packages that provide information in foreign languages, rather than (solely) in their native language. The prevalence of foreign language use in the marketplace is a consequence of global consumption, which refers to the presence of products from all over the world in consumers' daily lives, "whether through actual purchases or through unfulfilled desires evoked by global advertising" (Scholte 2008, p. 1487). To illustrate, while shopping at a supermarket, a German consumer encounters product packages that provide information not only in German but also in English, French, Italian, and other foreign languages. Upon arriving home, the consumer finds that the packaging of their latest online purchase is labeled in Chinese and Japanese, with German product information displayed in small print on the back. Later, while reading online about the brand associated with their newly purchased product, the consumer sees an English language news article and comments from buyers around the world.

The ubiquity of foreign languages in people's lives raises the question of how they influence consumer behavior. A variety of potential effects may be considered. For example, the presence of translations on a packaging may be interpreted as a signal that a product is being successfully sold in other countries. At the same time, consumers may be overwhelmed by the amount of text, deterring them from purchasing the product (see Figure 1-1, example 1). A public apology issued in English via a brand's global social

media account may be understood by non-native English speakers, but does it elicit the same cognitive and emotional response as a post in their native language (see Figure 1-1, example 2)? Given the important role of language in communication, marketers must understand how foreign languages influence the effectiveness of their marketing efforts, the image of their brand, and ultimately, the prospective sales of their products.

**Figure 1-1: Examples of foreign language presence and foreign language processing.**

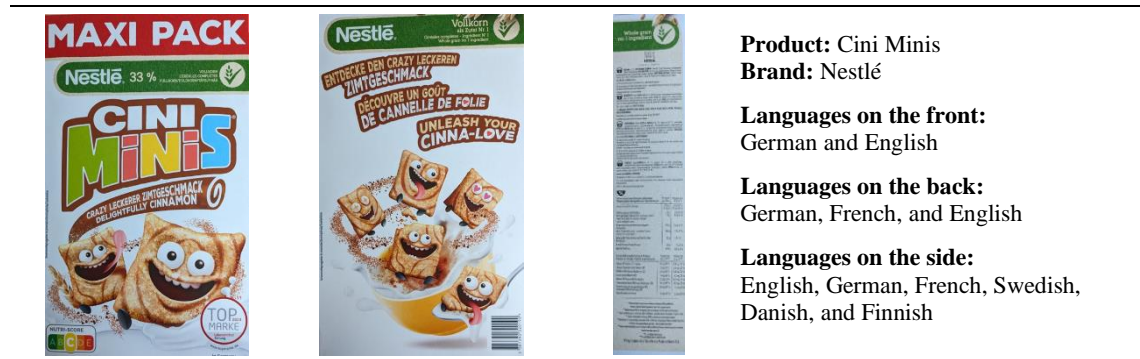
Foreign language presence	Foreign language processing
	
<p><b>Example 1:</b> Multilingual packaging distributed in Germany, displaying product information in English, German, French, Spanish, Italian, Chinese, and Russian.</p>	<p><b>Example 2:</b> English language social media post shared on the global social media account of Volkswagen.</p>
<p><b>Image source:</b> <i>ComputerBase</i></p>	<p><b>Image source:</b> <i>Volkswagen</i></p>

As illustrated by the preceding examples, the many ways in which consumers encounter foreign language information in the marketplace differ, and this is likely to affect how such information is perceived and processed. In this dissertation, a distinction is made between two aspects of foreign language communication: the mere presence of foreign language information and situations where the recipient actively processes information in a foreign language. *Foreign language presence* is used to describe stimuli that provide foreign language translations *in addition* to the information in the native language of the target audience. Thus, when consumers encounter such stimuli, they can access all the necessary information in their native language. In contrast, *foreign language processing* becomes relevant for stimuli that provide information *solely* in a language other than the native language of the recipients. Therefore, foreign language stimuli require consumers to read and process content in a learned foreign language, most commonly in English due to its role as a global lingua franca. Figure 1-1 provides examples for stimuli characterized by the *presence* of foreign languages (example 1) and the need to *process* information in a foreign language (example 2).

Foreign language presence can be further divided into two categories: bilingual stimuli, which provide information in two languages, and multilingual stimuli, which

provide information in three or more languages. Research on bilingual marketing stimuli has examined how the presence of *individual* foreign languages on advertisements and packages is used to address language minorities (e.g., Gopinath, Glassman, and Nyer 2013; Koslow, Shamdasani, and Touchstone 1994) or to invoke desired country associations (e.g., Hornikx, van Meurs, and Hof 2013; Huettl-Maack and Schwenk 2016). However, the findings of this research are not applicable to multilingual stimuli, as the presence of *multiple* foreign languages elicits global rather than country-specific associations (Gopinath, Glassman, and Nyer 2013). Therefore, the impact of information in multiple foreign languages, most commonly found on multilingual product packaging, on consumer behavior remains unclear.

**Figure 1-2: Real-world example of multilingual packaging (#1).**

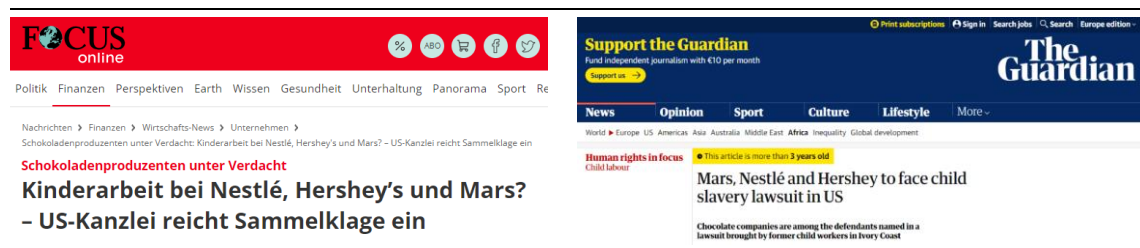


The use of multilingual packaging is a common practice in international distribution strategies, whereby companies label their packaging in three or more languages to reduce costs by distributing the same packaging in multiple countries. Figure 1-2 displays a typical example of multilingual packaging used by Nestlé to distribute a cereal product in Germany. The package provides a product slogan in three languages and product information in six languages. Multilingual packaging is used for many different product categories, ranging from fast-moving consumer goods (e.g., cereal, see Figure 1-2) to consumer electronics (e.g., headphones, see Figure 1-1). As part of this dissertation, an exploratory field study was conducted to investigate the presence of foreign languages on product packages in Germany. Out of  $N = 269$  product packages observed, only 35.7% were labeled exclusively in German, while 50.2% were identified as multilingual (for details, see section 2.1). Despite the widespread use of multilingual packaging, its consequences on consumer behavior have not been investigated. Multilingual packaging provides users with information in their native language. However, it also confronts them with large amounts of text that they may be unable to understand. This may have adverse

effects on the way consumers access and process product information. Especially in situations where numerous similar offerings are on display, consumers may be deterred by multilingual packaging, instead opting for a product package that facilitates straightforward and effortless processing. Consequently, it is uncertain whether the cost savings generated through multilingual packaging are offset by lost sales.

Whereas bilingual and multilingual stimuli provide information in the target audience's native language, consumers also frequently receive information that they must process in a learned foreign language. For instance, non-native English speakers may encounter English-language advertisements on global social media accounts or read press articles by international news organizations. Literature in linguistics and psychology has established that judgments and decisions vary when information is processed in a learned foreign language compared to an individual's native language (e.g., Hayakawa et al. 2016). This effect is particularly robust when it comes to judgments about morality (e.g., Circi et al. 2021). Articles from news outlets around the world regularly report on unethical corporate behavior, such as the exploitation of child labor (for example, see Figure 1-3). Millions of people read these reports in a non-native language and discuss them on global social networks. Similarly, companies themselves address scandals and misconduct in apology advertisements. Facebook, for instance, launched a globally visible multi-stage apology campaign in an effort to regain trust following the discovery of a major data breach in 2018 (Hall 2020). Therefore, the question arises whether judgments about the "right or wrong" of corporate conduct differ when information is processed in a learned foreign language and how this affects purchase decisions.

**Figure 1-3: News articles in German and English covering child labor lawsuits.**



Source: Focus Online 2015

Source: The Guardian 2021 (online)

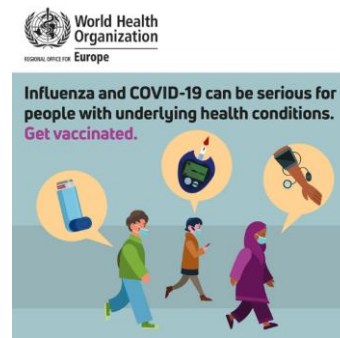
Moreover, foreign language processing has been shown to influence how individuals evaluate unpleasant stimuli, such as hazards (Hadjichristidis, Geipel, and Savadori 2015) or crimes (Woumans, van der Cruyssen, and Duyck 2020). Professionals in the field of (public) communication frequently have to convey unwelcome messages.

Such instances include brands informing customers about price increases or public institutions issuing behavioral recommendations during a health crisis (see Figure 1-4). Given the growing significance of English-dominated (social) media, these messages are increasingly reaching their target audiences in a non-native language. This is exemplified by the second image in Figure 1-4, which shows an English-language social media post by the World Health Organization. The post was published on an account that specifically addresses a European audience, which includes a large proportion of non-native English speakers. Based on these considerations, it is important to understand how foreign language processing affects the recipients' evaluations of and reactions toward such uncomfortable appeals.

**Figure 1-4: Social media posts in German and English promoting vaccinations.**



**Image source:** German Federal Ministry of Health



**Image source:** World Health Organization

The overall objective of this dissertation was to examine the different ways in which consumers encounter and are influenced by foreign languages. First, multilingual packaging, in which companies provide product information in multiple languages for distribution to different countries, was investigated. While multilingual packaging is a practice widely used in retail, it may deter consumers from making a purchase due to the presence of large amounts of text that they do not understand. Consequently, the aim was to provide decision-makers with insights on how to effectively use multilingual packaging while mitigating potential downsides to the consumer experience and prospective sales. Second, an examination was conducted of how processing information in a learned foreign language affects judgments. The role of foreign language communication has grown increasingly important, partly due to the rising significance of English-dominated (social) media. Therefore, there is a need for practitioners to gain a deeper understanding of how foreign language processing affects their target audiences' responses to marketing and communication efforts.

## 1.2 Research objectives and main research questions

This section introduces *multilingual product packaging* and the *foreign language effect* as the two main concepts examined throughout this dissertation. The research objectives for the dissertation are derived based on prior research and practical relevance.

### 1.2.1 Multilingual product packaging

As consumers browse through product packages, for example of packaged food, household goods, or consumer electronics, they encounter different forms of (foreign) language use. In a German supermarket, for example, consumers will encounter monolingual packaging, which displays product information solely in German. Such packaging is considered prototypical and addresses the language majority in the country. Furthermore, they will find product packages that display information in German and another language, such as French. Such bilingual packaging is used by companies to reach language minorities within a country market (e.g., Gopinath and Glassman 2008) or to evoke desired country associations through the presence of a single foreign language (e.g., Hornikx, van Meurs, and Starren 2007). Finally, and most importantly in the context of this dissertation, consumers will also encounter a large proportion of product packages that provide information not only in the majority's native language, German, but also through translations into several foreign languages, such as English, Italian, and Spanish. Such multilingual product packaging is characterized by the presence of product information in three or more languages and is commonly used by companies as a cost-effective method of distributing the same packaging across multiple country markets (Huettl-Maack and Schwenk 2016).

**Figure 1-5: Real-world examples of multilingual packaging (#2).**



**Product:** Energising Shower Gel  
**Brand:** Weleda

**Languages on the front:**  
German, French, and English

**Languages on the back:**  
German, French, English, Dutch,  
Spanish, Italian, Swedish, Finnish,  
Danish, and Norwegian



Examples of multilingual packaging can be found in many different product categories. For instance, the packaging of a shower gel sold in Germany by the Switzerland-based brand Weleda conveys information in 10 languages, with three of the languages being immediately visible on the front (see Figure 1-5). Multilingual packaging is commonly used in countries with more than one official language, such as Belgium or Canada. However, as the examples from Germany illustrate, it is also a widespread practice in countries with a single official or dominant language. In the US, for example, it is not uncommon to find packaging that provides information in Spanish and French alongside English. It is important to note that multilingual communication is not limited to packaging but is also used for other communication materials, such as product manuals.

Although multilingual communication is widely used in practice, it has received little attention from marketing scholars. Instead, research has focused on bilingual stimuli that displayed text in a single foreign language in addition to the target audience's native language (e.g., orange juice sold in Germany with a product label in German and Spanish). Within this domain, one stream of research has studied languages as a means of transporting country associations. Researchers have established that the presence of an individual foreign language can result in improved product evaluations and that this effect is largely dependent on whether consumers consider the language to be congruent with the examined product category (e.g., Huettl-Maack and Schwenk 2016; Wagner and Charinsarn 2021). For example, Dutch consumers reported a higher purchase intention for wine when it was advertised with a French slogan as opposed to a German slogan (Hornikx, van Meurs, and Hof 2013). Other scholars have studied how the addition of a single foreign language affects product evaluations in countries with substantial language minorities. In this context, it was found that Hispanic consumers in the US respond more favorably to advertisements that provide product information in both English and Spanish (Koslow, Shamdasani, and Touchstone 1994). However, Gopinath and Glassman (2008) suggest that unfavorable associations with the minority can negatively influence product evaluations by members of the majority. Importantly, a follow-up study revealed that the addition of a third language (i.e., a second foreign language) weakened the reference to the minority and instead signaled that the product was intended for a broader, more international target audience (Gopinath, Glassman, and Nyer 2013). This finding is particularly relevant to this dissertation, as it indicates that research results using bilingual stimuli cannot be readily transferred to the topic of multilingual product packaging.

Product packaging in general, and multilingual packaging in particular, are highly relevant topics for retail practitioners and brand managers. Product packaging plays a special role as a marketing tool due to its presence at the point of sale where the final purchase decision is made (e.g., Peters 1994). Therefore, it is important to critically evaluate all aspects of a product's packaging with regard to its impact on consumer purchasing behavior. The inclusion of foreign language translations leads to inevitable visual changes in the packaging. More specifically, the addition of translations exposes consumers to a greater volume of text and to languages with which they may be more or less familiar. Although there is no need for consumers to read and process these foreign language translations, the question arises as to how the consumers' overall processing of the product is affected by their presence. This is of particular importance, as research has established that the subjective processing experience significantly influences consumer judgments (e.g., Schwarz et al. 2021). Assuming that multilingual packaging negatively affects the consumers' processing experience due to the presence of additional text in foreign languages, this may result in detrimental effects on purchase intentions. In many product categories, consumers are presented with a large number of competing product choices. Thus, even a minor deterioration in their processing experience may lead consumers to select an alternative product. Consequently, marketers must ensure that multilingual packaging does not negatively impact the sales potential of their products.

Due to the outlined scarcity of applicable research, it remains largely unclear whether and how multilingual product communication—and multilingual packaging in particular—influences the consumer response. From a practical standpoint, companies that use multilingual packaging as a cost-cutting method need to be aware of potential adverse effects that might harm consumers' product evaluations and consequently lead to reduced sales. From a theoretical perspective, there is a clear gap in our understanding of how the presence of multiple foreign languages influences an individual's response to stimuli. Based on these considerations, the following research question was derived:

***RQ 1-1** Does multilingual product packaging—that is, packaging displaying information in three or more languages—influence consumers' product evaluations? If so, what is the underlying mechanism?*

The distribution of standardized packaging across multiple markets offers cost benefits to companies. However, negative effects on consumers' shopping experiences may result in reduced sales. Therefore, companies need to adapt multilingual packaging

in such a way that potentially harmful effects are mitigated. This would also benefit consumers for whom multilingual packaging appears as a more complex stimulus due to the increased amount of text and the presence of unfamiliar elements in the form of foreign languages. Therefore, the question arises as to how multilingual packaging can be modified to achieve the most beneficial outcome for both the company and consumer.

To address this question, two major characteristics of multilingual packaging need to be considered: the number of displayed translations and the consumers' (un)familiarity with the foreign languages. The number of translations depends on the number of markets in which the company wants to distribute their standardized packaging. Familiarity, in this context, refers to the prior exposure that the targeted consumers have had to the displayed foreign languages. Importantly, the two characteristics correspond closely to two factors that have previously been shown to influence consumers' processing experience: visual complexity, which relates to the quantity of visible elements (Orth and Crouch 2014), and familiarity, which is based on prior exposure to a stimulus (Jacoby, Woloshyn, and Kelley 1989). Therefore, it is reasonable to assume that changes to these two characteristics would affect how consumers evaluate and respond to multilingual packaging. As a consequence, the following research question was formulated:

***RQ 1-2** How do two major characteristics of multilingual packaging, the number of translations and the consumers' unfamiliarity with the foreign languages, impact the processing experience and product evaluations?*

Multilingual product packaging is used for many different types of products. This widespread use of multilingual packaging leads to the question of whether potential effects depend on the examined product category. The aforementioned considerations regarding consumers' processing experience support this assumption. Research has shown that subjective processing experiences are influenced by prior expectations (e.g., Landwehr, Labroo, and Herrmann 2011; Whittlesea and Williams 1998; Winkielman et al. 2003). This means that individuals experience a mental process as easy (difficult) when they had previously expected it to be more (less) complex. Multilingual packaging is used for a wide range of product categories that consumers associate with different levels of complexity. For example, consumers are likely to expect a rather complex processing experience when dealing with a technical product with many options and features, such as a new smartphone. Conversely, they would likely expect a fast and effortless processing experience for a regularly bought fast-moving consumer good, such as a cereal

bar. Since prior expectations of the processing experience influence how consumers respond to complex stimuli, the effects of multilingual packaging may vary across product categories. These considerations led to the following research question:

***RQ 1-3** Are the effects of multilingual packaging on the consumer's processing experiences and product evaluations dependent on the product category?*

### **1.2.2 The foreign language effect**

As outlined in the previous chapter, there is reason to assume that consumer behavior is influenced by the *additional* presence of foreign languages on marketing materials. However, consumers also frequently encounter information presented in a foreign language *instead* of their native language. Billions of people around the world speak more than just their native languages. In 2016, 64.6% of the working population in the European Union reported that they were able to use at least one foreign language. Of these foreign language speakers, more than half (55.1%) reported that they had at least a good command of their best-known foreign language (Eurostat 2016). It is not uncommon for such individuals to process information in a non-native language. This can occur in their private lives, for example during vacations or while reading international news, and in their professional lives, for example when communicating with colleagues from different countries. With regard to consumer behavior, the widespread use of foreign languages raises the question whether individuals make the same purchase decisions when processing information about a product or brand in a non-native language.

Researchers from the fields of linguistics and psychology have taken considerable interest in the consequences of foreign language use by multilanguage users, which Butler (2012) defines as individuals who have obtained “communicative competence” in more than one language. One prominent stream of research has focused on the foreign language effect, which describes the phenomenon that people make different judgments and decisions when processing in a learned foreign language (FL) rather than their native language (NL; for a review, see Hadjichristidis, Geipel, and Keysar 2019; for a meta-analysis, see Circi et al. 2021). Early research in this domain was conducted by applied linguists, who observed that individuals perceive highly emotional phrases, such as “I love you” or “Shame on you!”, as less emotional when they are presented in a learned foreign language (e.g., Dewaele 2008; Harris, Ayçiçeği, and Gleason 2003). In consumer behavior research, Puntoni, De Langhe, and van Osselaer (2009) observed the same effect

when using emotional marketing slogans as stimuli. Scholars have built on these findings by examining how foreign language processing influences judgment and decision-making processes. Confronting participants with choice scenarios and monetary bets found that foreign language processing reduces biases (e.g., framing effects and loss aversion), ultimately leading to more rational decisions (Keysar, Hayakawa, and An 2012). Effects on the judgment of risks and benefits were also found when participants evaluated hazards (e.g., climate change) in a foreign language (Hadjichristidis, Geipel, and Savadori 2015).

With regard to the underlying explanation for the foreign language effect, several different explanatory accounts have been proposed. Some scholars posit that the observed effects are largely grounded in reduced emotional resonance (e.g., Puntoni, De Langhe, and van Osselaer 2009). This *reduced emotionality hypothesis* rests on the assumption that the native language is typically learned in a more emotional context than foreign languages, causing it to be more closely linked with past emotional experiences (Caldwell-Harris 2015). An alternative explanatory account is the *increased deliberation hypothesis*, which posits that individuals interpret the increased complexity associated with foreign language processing as a signal that promotes the necessity for more effortful elaboration (e.g., Costa, Vives, and Corey 2017).

A portion of the literature on the foreign language effect has focused on its impact on moral decision-making. In this context, it has been established that foreign language processing of moral dilemmas can cause a shift between the desire of individuals to make utilitarian decisions and their desire to adhere to moral rules (e.g., Circi et al. 2021). In an initial study on the so-called moral foreign language effect, Costa et al. (2014b) confronted participants with the footbridge dilemma, in which they were asked whether they would push a man in front of an oncoming train to prevent the train from running over five people. It was found that participants who received the dilemma in a learned foreign language were more inclined toward selecting the utilitarian option, meaning that they were more likely to sacrifice a person in order to save five lives. Later studies confirmed this effect using different language combinations (e.g., Cipolletti, McFarlane, and Weissglass 2016; Hayakawa et al. 2017; Kyriakou, Foucart, and Mavrou 2022) and scenarios (e.g., Brouwer 2021; Geipel, Hadjichristidis, and Surian 2015b), further indicating that moral decision-making is not independent of language.

Research has taken an interest in how moral considerations influence consumer decisions. Scholars have studied how consumers respond to information about ethical and unethical corporate actions, mainly with regard to environmental sustainability (e.g., Kim

and Park 2020; Xie, Bagozzi, and Grønhaug 2015) and labor practices (e.g., Brunk and Boer 2020; Folkes and Kamins 1999). Concerning the question of how morality impacts consumption decisions, researchers have argued for rationalist and intuitionist accounts. Rationalist accounts argue that moral reasoning is the basis for how individuals decide which consumption decisions are morally acceptable, meaning that those decisions are ultimately based on deliberative mental processes (e.g., Sonenshein 2007; Zollo 2021). In contrast, intuitionist accounts argue that moral judgments are largely based on consumers' emotional responses toward moral issues (e.g., Haidt 2001; Zollo 2021).

Consumption decisions regularly involve moral considerations about the “right or wrong” of purchasing a certain product or endorsing a certain brand. Such considerations may be related to concerns about the ecological consequences of a product or the working conditions involved in its production. In 2023, 62% of German consumers reported that they have previously boycotted a brand. Notably, the most cited reasons for a brand boycott were not related to the quality of the brand's products or services. Instead, consumers withdrew support due to corporate scandals, problematic corporate culture, and environmental damage caused by the company (YouGov 2023). Given the apparent influence of moral considerations on brand and product choice, it is crucial for marketers to comprehend how information about corporate actions is communicated, processed, and interpreted by consumers.

Every day, millions of people receive and process information in a learned foreign language, for example, because they reside in a foreign country, because they use social media, or because they actively seek out international news articles. Based on this information, consumption decisions are made. As outlined, consumption decisions are influenced by moral judgments, which have been shown to be affected by foreign language processing. This raises the question of how consumer responses to unethical and ethical company behavior would differ in a foreign language context. As outlined previously, both the foreign language effect and ethical decision-making have been explained using competing accounts based on reasoning and emotions. By examining how these two concepts are connected, further insights could be gained into the manner in which foreign language processing influences judgments and the processes by which ethical consumption decisions are formed. Based on these considerations, the following research question was formulated:

***RQ 2-1** Does the communication of unethical and ethical firm behavior in a foreign language influence the consumer response? If so, what is the underlying mechanism?*

A number of studies have demonstrated that foreign language processing can lead to a more positive evaluation of stimuli that are typically perceived in a negative way. In a consumer behavior context, Geipel, Hadjichristidis, and Klesse (2018) presented study participants with sustainable food products that typically induce feelings of disgust in consumers, such as recycled water or food made from insects. They found that foreign language descriptions of the products led to lower levels of disgust, which increased the participants' willingness to try the products. Other studies have found that individuals perceive crimes (Woumans, van der Cruyssen, and Duyck 2020) and medical conditions (Hayakawa, Pan, and Marian 2022) as less severe and hazards as less risky (Hadjichristidis, Geipel, and Savadori 2015) when they are communicated to them in a learned foreign language. An attenuation of the emotional response has been argued to be the primary driver of these effects (e.g., Hadjichristidis, Geipel, and Savadori 2015; Woumans, van der Cruyssen, and Duyck 2020).

The reduction in perceived negativity through foreign language processing has mainly been demonstrated for stimuli that elicit a rather strong response. Research so far has largely utilized extreme stimuli (e.g., crimes) or stimuli that individuals encounter infrequently (e.g., medical conditions). However, many people process information in a learned foreign language on a daily basis and utilize this information to inform both minor and major decisions in their private and professional lives. It is therefore necessary to examine whether foreign language processing affects the evaluation of unpleasant stimuli encountered in everyday life, and whether it influences subsequent behavioral intentions.

Potential implications for the fields of marketing and communications can be derived from a reduction of perceived negativity through foreign language processing. It is not uncommon for private or public organizations to communicate uncomfortable messages or even restrictive appeals to their audiences. For example, brands regularly inform consumers about unpopular decisions such as product recalls or price increases. Corporations release press statements to announce downsizing plans that threaten the job security of their employees. Government agencies disseminate information to the public regarding travel warnings and behavioral recommendations designed to prevent health crises. Many such organizations operate on a global scale and therefore communicate

across country borders using English as the global lingua franca. This raises the question of how foreign language processing influences the target audiences' response to uncomfortable messages and restrictive appeals. Specifically, global communication professionals must understand whether recipients evaluate unpleasant messages more or less favorably, and whether foreign language processing influences their behavioral intentions toward given recommendations. For the reasons outlined above, the following research question was formulated and addressed in the context of virus mitigation instructions during the coronavirus pandemic:

***RQ 2-2** Does the communication of restrictive messages in a foreign language influence the recipients' responses? If so, what is the underlying mechanism?*

### **1.2.3 Overview of the research procedure**

The overall objective of this dissertation was to analyze how the use of foreign languages in product communication impacts consumer behavior. More specifically, it aimed to investigate two distinct ways in which individuals encounter foreign languages in a consumer behavior context. First, the role of multilingual product communication was examined, in which consumers encountered marketing stimuli (e.g., product packaging) that provided information in their native language and at least two additional languages. Second, an investigation was conducted into whether individuals respond differently to (marketing) stimuli communicated in a foreign language in which they have obtained communicative competence. Taken together, this research aims to provide practitioners with insights into the use of foreign languages in marketing, which has become increasingly prevalent due to global commerce and communication. To this end, one field investigation, one pretest, and six experimental studies have been conducted, which are described in the following research papers, along with theoretical considerations. While the first paper focuses on the topic of multilingual product packaging, the other papers describe studies of how foreign language communication of (un)ethical firm behavior (second paper) and restrictive messages (third paper) influences judgments.



### 1.3 Research papers and structure of the dissertation

The present dissertation is comprised of five chapters. The first and last chapters provide a common framework for the research, whereas Chapters 2–4 contain research articles on the topics of multilingual packaging and the foreign language effect. This first chapter provides an introduction to the main topics of the dissertation, outlining the motivation for the research, as well as key research questions.

The second chapter presents the paper, “Lost in translation? How multilingual packaging influences product evaluations by impeding consumers’ processing fluency,” written by Prof. Dr. Verena Hüttl-Maack and myself. This paper examines multilingual packaging, a common practice whereby companies label their products in three or more languages in order to distribute the packaging in multiple countries. Prior research in this field has identified that the presence of a single foreign language can positively influence product evaluations by triggering beneficial country associations (e.g., Hornikx, van Meurs, and Starren 2007). However, evidence from research also suggests that such associations are activated only by individual foreign languages (Gopinath, Glassman, and Nyer 2013). This indicates a research gap, as prior insights from the field do not apply to multilingual packaging. In this paper, it is argued that the presence of multiple foreign languages increases visual complexity and presents consumers with unfamiliar stimuli, therefore impeding their mental processing experience, operationalized as processing fluency. It is further assumed that this has negative downstream consequences on product evaluations and purchase intentions. This paper describes an initial exploratory field study conducted to obtain an overview of the prevalence of multilingual packaging in Germany. It then presents three empirical studies conducted to investigate the impact of multilingual packaging on consumer behavior. In the first study, the number of languages and the consumers’ familiarity with the foreign languages on a product packaging were manipulated. The second study built upon the initial study design and tested the results across six different product categories using a large population representative sample. The third study was conducted to test alternative explanatory accounts. Both the second and third study were preregistered. For practitioners, this paper offers insights into multilingual packaging, its drawbacks, and how to mitigate them. It contributes to the literature streams on processing fluency, packaging design, and the use of foreign languages in marketing.

Chapter 3 consists of the paper, “Do good and talk about it (in the right language) – How foreign language processing attenuates the affective response to (im)moral firm behavior,” written by myself as the sole author. In recent years, a growing body of literature has established that individuals’ moral judgments differ depending on the language in which they process a stimulus (e.g., Cipolletti, McFarlane, and Weissglass 2016; Hayakawa et al. 2017). This effect has been attributed to an increase in effortful elaboration (e.g., Costa, Vives, and Corey 2017) and a decrease in emotional resonance (e.g., Caldwell-Harris 2015), both of which are thought to be caused by processing in a learned foreign language. Against this background, the paper explores whether and how the consumer response to information about ethical and unethical corporate behavior is dependent on the language in which the information is communicated. The basic assumption is that foreign language processing attenuates the consumers’ emotionality, ultimately leading to a less positive response to ethical firm behavior and a less negative response to unethical firm behavior. Two empirical studies were conducted to test this assumption. In both studies, participants were presented with information about a company acting in a way that is typically considered morally reprehensible (e.g., exploiting child labor) or morally desirable (e.g., offering safe and fair employment opportunities in areas affected by natural disasters). The scenarios were presented either in the participants’ native language or in a foreign language in which they had achieved a high level of communicative competence. Questionnaires were used to assess the participants’ evaluations of the firm, behavioral intentions, affective responses, and cognitive processes. The paper contributes to research streams on the moral foreign language effect and ethical consumption. Practitioners can glean insights on how to effectively communicate firm behavior and on how to predict the recipients’ reactions to foreign language communication.

Chapter 4 presents the paper, “How providing public COVID-19 mitigation instructions in a foreign language can increase people’s sense of control,” authored by Katharina Saile, myself, and Prof. Dr. Verena Hüttl-Maack. Like the previous article, this paper is centered on the foreign language effect. Specifically, it explores the effect in the context of the coronavirus pandemic by examining whether and how people respond differently to the communication of virus mitigation instructions (e.g., “Keep a distance of at least 1.5 meters to other people”) in a learned foreign language. In doing so, the paper follows in the footsteps of a number of previous research articles that examined the foreign language effect on the evaluation of stimuli with obvious negative characteristics,

such as crimes (Woumans, van der Cruyssen, and Duyck 2020) or medical conditions (Hayakawa, Pan, and Marian 2022). During the coronavirus pandemic, people in Germany, where the study for this paper was conducted, were regularly confronted with behavioral instructions issued to slow the spread of the virus. Due to the global nature of the pandemic, such instructions were regularly encountered in English, for example, on social media. This provided a unique opportunity to study how people respond to everyday stimuli with negative characteristics in a learned foreign language. In a large-scale empirical study, participants were presented with nine virus mitigation instructions in either German (their native language) or English (a foreign language in which they were highly proficient). Individuals assessed each instruction via an online questionnaire, evaluating their perceived sense of control, the perceived effectiveness of the measures, and their intention to follow each instruction. The paper contributes to research on the foreign language effect and to the literature on public communication by examining the link between foreign language processing and individuals' sense of control.

Chapter 5 presents a concise summary of the findings, followed by theoretical contributions, limitations, and future research opportunities. Afterwards, the managerial implications are discussed. The dissertation concludes with final remarks on the topic of foreign language use in marketing. Table 1-1 provides a brief overview of the papers, the research questions addressed, and the methodology used.

**Table 1-1: Overview of the research papers included in this dissertation.**

<b>Research paper</b>	<b>Current status<sup>1</sup></b>	<b>Methodology and data</b>	<b>Key assumptions and research questions</b>
Lost in translation? How multilingual packaging influences product evaluations by impeding consumers' processing fluency	Submitted to the <i>Journal of Retailing</i> <sup>2</sup> after invitation to revise and resubmit (2 <sup>nd</sup> round)	1 Exploratory field investigation ( $N = 269$ ) 1 Pretest ( $N = 99$ ) 3 Experimental studies ( $N = 3,010$ )	Multilingual packaging is assumed to influence product evaluations by impeding the processing experience ( <i>RQ 1-1</i> ). This effect is assumed to be driven by the number of translations and consumers' familiarity with the languages ( <i>RQ 1-2</i> ). Effects of multilingual packaging are assumed to be dependent on the product category ( <i>RQ 1-3</i> ).
Do good and talk about it (in the right language) – How foreign language processing attenuates the affective response to (im)moral firm behavior	Published in the conference proceedings of <i>ICORIA 2023</i>	2 Experimental studies ( $N = 356$ )	Foreign language processing of (un)ethical firm behavior is assumed to result in an attenuated emotional response. This is assumed to result in less (more) favorable behavioral intentions toward the company acting in an (un)ethical manner ( <i>RQ 2-1</i> ).
How providing public COVID-19 mitigation instructions in a foreign language can increase people's sense of control	Published in <i>PLoS ONE</i> <sup>3</sup>	1 Experimental study ( $N = 605$ )	Foreign language processing is assumed to alter the recipients' response toward restrictive messages ( <i>RQ 2-2</i> ).

<sup>1</sup> Status at the time of the submission of the dissertation.

<sup>2</sup> Earlier versions of this paper were presented at *ICORIA 2021* and *EMAC 2022*.

<sup>3</sup> An earlier version of this paper was presented at *ICORIA 2021*.

## 2 Lost in translation? How multilingual packaging influences product evaluations by impeding consumers' processing fluency<sup>1</sup>

**Authors** (in order stated): Verena Hüttl-Maack, Rafael Munz

**Abstract:** Owing to the global nature of today's marketplace, companies commonly use standardized packaging to distribute their products in multiple countries. Hence, consumers are regularly confronted with packaging that presents product information in their native language and in multiple foreign languages. However, how this impacts consumers has rarely been studied. In three experimental studies ( $N = 3,010$ ), we identify processing fluency as an important driver of the consumer-sided consequences of multilingual packaging. Our research finds that the presence of foreign languages with which consumers are only weakly familiar impedes their mental processing of the product, resulting in less favorable product evaluations. Furthermore, a high number of translations printed on packaging also decreases processing fluency. Although multilingual packaging might be seen as a purely distributional cost-cutting method, the results of this research suggest that companies need to carefully consider how many and which languages are placed on packaging to realize their products' full sales potential. Theoretical contributions, implications for packaging design, and directions for further research are discussed.

**Keywords:** multilingual packaging, processing fluency, foreign language, international retailing

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<sup>1</sup> Please note that the language, formatting, and citation style of the three research papers have been slightly adjusted for the sake of consistency.

**Further information:** Earlier versions of this paper were presented at the International Conference on Research in Advertising (ICORIA) 2021 online and at the European Marketing Academy Conference (EMAC) 2022 in Budapest. At the time of dissertation submission, this paper was under review as part of the second round of a revise-and-resubmit process at the *Journal of Retailing*. A revised version was published in the *Journal of Retailing* as follows:

Hüttl-Maack, Verena and Rafael Munz (2025), “Lost in translation? How multilingual packaging influences product evaluations by impeding consumers’ processing fluency,” *Journal of Retailing*, 101 (1), 68–85.

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## 2.1 Introduction

In many purchasing situations, packaging conveys the first impression consumers have of a product, and there is a growing body of research illuminating the important role that product packaging plays in consumer decision-making. Studies have investigated several different packaging features and how they impact consumers' impressions and beliefs about a product. Among these features are the packaging shape (e.g., Chen et al. 2020), sensory characteristics (e.g., Krishna, Cian, and Aydınoğlu 2017), visual design elements (e.g., Togawa et al. 2019), color (e.g., Mai, Symmank, and Seeberg-Elverfeldt 2016), packaging materials (e.g., Sokolova, Krishna, and Döring 2023), and the overall holistic appearance of the packaging (Orth and Malkewitz 2008). Importantly, packaging not only plays a role in physical store environments as part of consumers' retail experiences (Grewal and Roggeveen 2020), it can also have substantial effects on consumers' perceptions and future purchase intentions in the post-purchase phase when consumers unpack items delivered to their homes (Moreau 2020). The importance of packaging design is also underlined by the finding that information on packaging has a stronger persuasive effect than the same information presented in advertising (Fajardo and Townsend 2016).

Against this background, it is surprising that the language used on the packaging has not yet received special attention in research, although it has become increasingly common for consumers to be exposed to multilingual packaging. Companies frequently duplicate some product information in additional languages on their packaging, thereby creating and distributing products with either bilingual or multilingual packaging.

The benefits of multilingual packaging can be seen in retail distribution. Using standardized packaging featuring several language translations can reduce costs by avoiding modifications for distribution in various national markets. In addition, language minorities within markets can be addressed (e.g., Gopinath, Glassman, and Nyer 2013), increasing the number of potential customers.

The use of multilingual packaging can be observed in various regions around the globe. For example, in the US, Spanish or French can often be found next to English. In the European Union, this practice is also ubiquitous, not only in multilingual countries, such as Switzerland or Belgium, but also in countries with only one official language, such as Germany or Italy. To provide more detailed insights into the prevalence of multilingual packaging, we conducted an exploratory field observation study in leading

retail outlets in Germany. We covered six product categories representing the common retail categories of food (cereals and juice), household goods (shower gel and dishwashing liquid), and technical products (Bluetooth speaker and coffee machine), and examined the offerings at leading supermarkets (e.g., EDEKA), drugstores (e.g., dm-drogerie markt), and electronics stores (e.g., MediaMarkt).<sup>2</sup> Of the 269 product packages examined, 50.2% displayed at least three languages and were classified as multilingual (with some packages displaying only basic information, such as ingredients in several languages, and others providing translations of all or most information). Multilingual packaging was most common for technical products (speaker: 90.0%; coffee machine: 97.7%) but was also commonly found for shower gel (60.0%) and cereals (38.9%). Dishwashing liquid was the only product category in which no multilingual packaging was found. When multilingual packaging was used, the companies displayed an average of 7.64 languages. Multilingual packaging was used by both German and non-German brands and the most extreme example of multilingual packaging was a coffee machine of the “Melitta” brand, for which thirty-one languages were displayed. Figure 2-1 depicts examples of multilingual packaging found in the study.

**Figure 2-1: Real-world examples of multilingual packaging (#3).**



Now imagine consumers navigating retail displays, trying to make good purchase decisions. It is likely that they will find it more difficult to evaluate a product with a high number of translations on the packaging. The presence of multiple languages increases visual complexity, making it more challenging to quickly and efficiently locate desired

<sup>2</sup> A total of three research assistants visited pre-selected stores (July–August 2022) and systematically screened and categorized all displayed products from the selected categories with regard to the languages displayed on the packaging. More details of the results of this pilot investigation can be found in Appendix Table 2-3 (see section 2.5).



information as it imposes a higher cognitive load. In addition, the product may appear more alien and less familiar, especially when different scripts and characters are present. This could result in consumers excluding a particular product from their consideration set. Alternatively, let us imagine a consumer unpacking a delivered product at home. Unveiling an item with information in eight different languages on the packaging may induce information overload, compromising the unpacking experience and contradicting initial expectations (which may lead to a higher tendency to return the product).

Based on these examples, together with the insights of our field observation study, we assume that two central characteristics of multilingual packaging may play an important role in consumer evaluations: the number of translations in different languages and consumers' familiarity with these languages. Furthermore, we propose that processing fluency, that is, the individually perceived ease of processing information (Alter and Oppenheimer 2009; Labroo and Lee 2006), will provide a suitable theoretical framework when studying the effects of these packaging characteristics. Against this background, this work aims to answer the following research questions:

1. How does multilingual packaging (i.e., the display of information in several foreign languages in addition to the information in the consumers' native language) impact product evaluations and purchase intentions. More specifically, what effects do the number of translations and the consumers' familiarity with the foreign languages have?
2. Can decreased levels of individually perceived processing fluency explain the effects of multilingual packaging on consumers? (mediator analysis)
3. Do the effects differ depending on the product category? (moderator analysis)
4. What mechanisms other than processing fluency play a role in explaining the impact of multilingual packaging on consumer evaluations, and to what extent do these mechanisms challenge the primacy of the fluency explanation?

With our study, we contribute to the literature in several ways. We provide a comprehensive examination of how the ubiquitous practice of using standardized multilingual packaging to distribute products across multinational markets can affect consumer evaluations. Our research identifies the conditions under which the presence of multiple translations negatively impacts consumer judgments and provides a theoretical explanation for them. These insights extend prior research that has only looked at very

specific cases of foreign language use on packaging. These cases include the deliberate use of a particular language to trigger specific country associations, which can be beneficial for a certain product category (e.g., Hornikx, van Meurs, and Starren 2007; Huettl-Maack and Schwenk 2016; Wagner and Charinsarn 2021), or to target a language minority within a country, such as using Spanish to address Hispanic consumers within the US market (Gopinath and Glassman 2008). Beyond these more specific applications of language use, multilingual packaging has not been systematically assessed.

Furthermore, the finding that multilingual packaging can impair consumer responses through a reduction in processing fluency is novel. This results not only in important contributions to the research on multilingual marketing stimuli, but also to fluency theory. By investigating potential alternative mediating effects, such as the image and associations elicited by foreign languages, we provide comprehensive insights into multilingual packaging.

In addition, we complement the literature on consumer responses to different packaging features, which has investigated a multitude of aspects, from eye-catching features such as shape and color (e.g., Chen et al. 2020), to more subtle aspects such as the placement of the logo (Sundar and Noseworthy 2014). Providing insights into the effects of the presence of multiple languages as a packaging feature closes a gap in the research on product packaging. Our study underlines the important role of the metacognitive experience of processing fluency when evaluating packaging design.

In this article, we first illustrate how multilingual packaging may influence consumer evaluations from a theoretical perspective. In doing so, we discuss the consequences of multiple languages on consumers' processing experiences based on processing fluency theory. We present hypotheses regarding the impact of the number of foreign language translations and consumers' familiarity with the languages, which were tested in three experimental studies. Study 1 provides the first evidence regarding the expected effects. Study 2 extends the experimental design by considering six different consumer products based on a preregistered survey using a representative consumer sample. Study 3, which was also preregistered, replicates the results while ruling out alternative explanations. The article closes with a discussion of the findings, their implications, contributions to existing literature, and the limitations of the research. We also provide recommendations for retailers, managers of global and international brands, and packaging designers.

## 2.2 Conceptual background

### 2.2.1 The influence of multilingual packaging on consumer evaluations

With regard to the presence (or absence) of foreign languages on product packaging, we can differentiate among three types: monolingual packaging, where only one language is used; bilingual packaging, on which two languages are depicted; and multilingual packaging, on which three or more languages can be found. While monolingual packaging is generally used to distribute a product to the language majority within a market, there may be different use cases for bilingual and multilingual packaging. Bilingual packaging is often used to address language minorities within a market (Gopinath and Glassman 2008) or to link products with desired country associations, such as pasta with Italy (e.g., Hornikx, van Meurs, and Starren 2007; Huettl-Maack and Schwenk 2016). Multilingual packaging is typically used because it enables companies to distribute the same packaging in multinational markets. To date, marketing research has largely neglected the specific effects of multilingual packaging.

Multilingual packaging varies with regard to the types of information provided in multiple translations. It may range from the presence of all available information in several translations to very subtle and barely visible translations of only a small part of the information (e.g., ingredient lists). In this research, we focused on cases in which all or most of the information related to the *product* is provided in multiple languages. This information typically includes the generic product category name, such as “orange juice” or “headphones,” information on product attributes or benefits (e.g., all natural ingredients, waterproof), in some cases tag lines (e.g., “Vibrantly Fresh, Naturally Sweet”), and, if applicable, ingredient information or cooking instructions. It is important to note that we did not investigate foreign language brand names. Although foreign brand names have been shown to influence consumer responses (e.g., Leclerc, Schmitt, and Dubé 1994), they are typically not provided in multiple languages at the same time, and thus, were not considered by us as typical examples of multilingual information provided on packaging.

When considering the cases presented here in terms of the type of multilingual information, multilingual packaging can be systematically characterized by two major factors: first, the number of translations that are displayed, and second, the level of perceived familiarity the consumer has with the presented foreign languages.

The number of languages in which brands display product information and marketing messages largely depends on the international distribution approach (i.e., in which markets the packaging is to be utilized). From a consumer's perspective, a higher number of translations is associated with more text, which increases visual complexity.

The degree to which consumers are familiar with the foreign languages largely depends on how often they have encountered them in their daily lives (Kelly-Holmes 2005). For example, foreign languages from neighboring countries are likely perceived as more familiar than languages from distant countries due to more frequent visits to the nearby country, more experience with native speakers of the language, and more frequent exposure to the language through marketing cues (e.g., found on packaging). Both visual complexity and familiarity with a stimulus have been shown to impact processing fluency.

### **2.2.2 The role of processing fluency**

Human judgments and decisions are influenced not only by the mere content of the thoughts but also by subjective experiences that accompany each mental action (Schwarz 2004). Perhaps the most notable of these metacognitive experiences is processing fluency, which describes the subjective ease experienced during information processing (Alter and Oppenheimer 2009). The presence of multiple foreign language translations on product packaging is likely to impact the subjective processing experience of consumers, even though the presented information has not changed content-wise. Hence, fluency theory provides an appropriate lens through which the effects of multilingual packaging can be studied. The underlying assumption of this theory is that people monitor the effort expended on their mental operations and experience a feeling of (dis)fluency when the ease or difficulty of a mental process does not align with their expectations (e.g., Landwehr, Labroo, and Herrmann 2011; Whittlesea and Williams 1998; Winkielman et al. 2003). In general, it can be expected that the presence of foreign language translations decreases perceived fluency. However, in the subsequent subsections, we outline that the extent to which this occurs depends on the specific features characterizing the foreign language presence.

Importantly, processing fluency is generally assumed to be positively valenced, resulting in more positive evaluations of fluently processed stimuli (Reber, Winkielman, and Schwarz 1998). The underlying process has been shown to follow feelings-as-information theory and has been referred to as the hedonic fluency model. Facilitation of

mental processing results in positive affect, which in turn improves evaluations of a target stimulus (e.g., Schwarz 2012; Winkielman and Cacioppo 2001).

Given the relevance of these evaluative consequences for marketing and consumer research, the impact of fluency on consumer evaluations has captured the interest of scholars. They have documented several positive effects on product choice (Novemsky et al. 2007), product attitude (Leonhardt, Catlin, and Pirouz 2015), and even actual spending (Herrmann et al. 2013). Examples of more specific consequences include positive effects on the perceived trustworthiness of private product sellers (Silva et al. 2017) and the perceived safety of pharmaceutical drugs (Dohle and Siegrist 2014). In line with these positive effects on perceived safety and trustworthiness, and with the feelings-as-information theory outlined above, fluency has also been shown to positively influence perceived product quality (Chang 2013). Importantly, although research has uncovered different forms of fluency, such as perceptual, conceptual, and linguistic fluency, the consequences of (dis)fluency are remarkably similar, regardless of its source (Alter and Oppenheimer 2009).

With regard to packaging features that result from the addition of foreign language translations on packaging, two well-established sources of processing fluency appear to be of particular importance: visual complexity, due to an increase in the amount of visible text, and stimulus familiarity, due to differences in the consumers' previous exposure to different languages. These two sources are addressed in the following sections.

### **2.2.3 Visual complexity**

Although visual complexity is considered one of the most impactful drivers of (dis)fluency (Orth and Crouch 2014), the literature has not yet established a common definition. Instead, researchers have used general definitions of complexity. Berlyne (1960), for example, viewed complexity as a stimulus characteristic that is increased by the number of visible elements and the dissimilarity between elements. We focus on subjective complexity, which describes the degree of complexity experienced by the consumers themselves, and which is presumably responsible for the perception of processing fluency. Perceived complexity has been found to be increased by the quantity of elements visible to the individual (e.g., Keller 1991) and the distinctiveness of these elements (Pieters, Wedel, and Zhang 2007). In an analysis of advertisements, Pieters, Wedel, and Batra (2010) contend that complexity rises with the inclusion of numerous images and text blocks.

It is generally understood that an inverse relationship exists between (visual) complexity and processing fluency. Visually complex stimuli are cognitively demanding (Reber, Schwarz, and Winkielman 2004) and thus cause lower levels of fluency (Orth and Wirtz 2014). Based on the previously outlined hedonic fluency model (Winkielman and Cacioppo 2001), a negative effect of visual complexity can be expected on evaluative judgments. In line with this expectation, research in the retailing domain has documented negative effects of the visual complexity of the shopping or service context on processing fluency and, consequently, on downstream effects (Kahn 2017; Orth and Crouch 2014; Orth and Wirtz 2014).

Based on the previously outlined relationship among the quantity of visible objects, visual complexity, and processing fluency, we propose that an increase in the number of foreign language translations present on product packaging leads to a decrease in processing fluency (i.e., a negative effect). Following the hedonic fluency model (Winkielman and Cacioppo 2001), we expect reduced fluency to negatively impact consumer evaluations of the product. Consumer evaluation is captured by the attitudes consumers have toward the product and their intention to purchase the product. In addition, we build on the findings that reduced processing fluency may also compromise safety and trustworthiness judgments (Dohle and Siegrist 2014; Silva et al. 2017), which, in turn, have been linked to perceived quality (Wu et al. 2021). In addition, there is also empirical evidence of a direct link between fluency and perceived quality (Chang 2013). When these findings are combined with the predictions of the affect-based hedonic-fluency model, a negative effect of the number of translations on perceived quality is expected. Therefore, we hypothesized the following:

***H1.*** Processing fluency mediates the negative effect of the number of translations (low vs. high) on (a) product attitude, (b) perceived quality, and (c) purchase intention.

#### **2.2.4 Stimulus familiarity**

The human preference for familiar stimuli is well documented. Among other outcomes, research has shown that we judge previously encountered stimuli to be more attractive (Zajonc 1968), more famous (Jacoby, Woloshyn, and Kelley 1989), and more truthful (Dechêne et al. 2010). The impact of simple repeated exposure to a stimulus, referred to as the mere-exposure effect (Bornstein and D'Agostino 1992), has also been

demonstrated in consumer behavior research. Studies have shown that consumers evaluate brand names and packaging more favorably (Janiszewski 1993) and consider marketing claims to be more truthful (Hawkins and Hoch 1992) when they have previously been exposed to the stimulus. The prevailing explanation for these effects is based on enhanced processing fluency (e.g., Jacoby, Woloshyn, and Kelley 1989; Schwarz 2004).

With regard to the processing of multilingual packaging, it is important to note that individuals do not have to be consciously aware of the exposure for these effects to occur (e.g., Hansen and Wänke 2009). This finding is relevant because written translations in foreign languages are often encountered in a situation in which consumers' conscious attention is drawn to the native language text. Moreover, the positive evaluative effects of familiarity are not limited to the actual stimulus but can also carry over to other stimuli present at the point of re-exposure (e.g., Cho and Schwarz 2010). This observation supports the notion that the degree of perceived familiarity with the foreign languages on product packaging could influence the evaluation of a secondary stimulus, such as the product itself.

Building on this body of research, we propose that the consumers' perceived degree of familiarity with the foreign languages affects their processing fluency, which, in turn, impacts their evaluation of the product and their purchase intention. More specifically, we expect a negative effect on processing fluency to occur when unfamiliar foreign languages are present on product packaging, as opposed to familiar languages. This assumption is supported by Zajonc's (1968) early work on the mere-exposure effect, in which he presented study participants with nonsense words disguised as foreign language words, and Chinese characters at varying frequencies. These early studies demonstrated that participants assigned more positive meanings to more frequently seen words and characters. Regarding the evaluative consequences, we expect the same chain of effects that has already been described for *HI*, in which fluency drives subsequent effects. We hypothesize:

- H2.** Processing fluency mediates the negative effect of unfamiliar (in contrast to familiar) foreign languages on (a) product attitude, (b) perceived quality, and (c) purchase intention.

### **2.2.5 The moderating role of product type**

Previous literature has established that the experience of processing fluency is dependent on an individual's processing expectations (e.g., Landwehr, Labroo, and Herrmann 2011; Whittlesea and Williams 1998; Winkielman et al. 2003). This means that people have a feeling of high fluency especially in situations where their processing experience is faster and easier than anticipated and of low fluency when the actual experience is poorer than expected. Studies have shown this effect by introducing variations in the presentation of a series of stimuli, thereby creating a discrepancy between the expectations formed from a previous experience and the subsequent fluency experience (e.g., Hansen, Dechêne, and Wänke 2008). In addition to prior experience, expectations may also be influenced by the situation in which the processing takes place (Graf and Landwehr 2015).

Based on these insights, we expected that the processing fluency experienced while reading a product package would also be dependent on consumers' processing expectations, such that the negative consequences of multilingual packaging on processing fluency would not arise when consumers already expect the processing to be difficult. In this study, we examined different product categories based on the reasoning that multilingual packaging is used for a variety of products associated with different degrees of complexity (i.e., groceries, non-food consumer packaged goods, and consumer electronics). Because the purchase of technical products demands not only the processing of a larger volume but also of more complex product information (Gardner et al. 2000), we assume that consumers' fluency expectations for technical products are lower than for less complex products, such as groceries or drugstore articles. Consequently, multilingual packaging would not cause a processing discrepancy, and processing fluency would not be decreased by multilingual packaging. It should be added that the present study uses technical products to represent more complex products, as they provide an obvious example, and they also frequently employ multilingual packaging. However, the same effects could be expected for other product categories characterized by a higher level of complexity, such as dietary supplements, more complicated cosmetic treatments, or hair dyes. An exception to the expected effects may occur when individuals possess extensive expertise in a complex product category and therefore do not expect a difficult processing situation. Based on the characteristics outlined above, our hypothesis regarding the moderating effect of different product types is as follows:



**H3.** Product type (non-technical vs. technical products) moderates the effects of (a) the number of translations, and (b) the consumers' familiarity with the foreign languages on processing fluency. Negative indirect effects through processing fluency occur for non-technical products but not for technical products.

## 2.3 Empirical studies

### 2.3.1 Study 1

The main objective of Study 1 was to obtain initial evidence for the existence of the hypothesized effects of multilingual product packaging using a single product category. The study included a comprehensive pre-test to identify the familiarity of the target population with a large selection of different foreign languages.

#### *Method*

*Experimental design and sample.* The empirical study followed a 2 (number of translations: two, four) x 2 (language unfamiliarity: low, high) between-subjects design with an additional German-only (de) control condition. We collected data via paper-and-pencil questionnaires from 657 native German speakers ( $M_{\text{age}} = 45.76$ ,  $SD = 17.63$ ; 51.6% female). Student researchers approached individuals within their personal networks and in public places to recruit them for the survey. To achieve an adequate representation of the population, a predefined gender distribution and age brackets were regarded while recruiting the participants (see Table 2-4 in the Appendix section 2.5 for details).

*Stimuli.* We created five versions of product packaging for a fictitious cereal bar brand. A cereal bar was chosen as the test product because it is not strongly linked to particular country associations and it was relevant for many participants of the main study ("I like cereal bars,"  $M = 4.23$ ,  $SD = 2.00$ , 1 = "not at all agree" and 7 = "fully agree"). All versions of the packaging featured the same product information in German but also displayed translations in different foreign languages. The translated text included the product name ("cereal bar"), product information (i.e., "natural ingredients"), and product flavor (i.e., "blueberry and white chocolate"). The stimulus images are depicted in Figure 2-6 in the Appendix (see section 2.5). Respondents were shown printed images and then completed a questionnaire.

*Pretest.* To select the languages for the low and high unfamiliarity conditions, we conducted a pretest among 99 native German speakers ( $M_{\text{age}} = 37.54$ ,  $SD = 11.95$ ; 40.4%

female). The participants viewed translations of a text passage and rated their degree of familiarity with each language (“How familiar are you with this language?” and “How often do you encounter this language?”;  $r = .81$ , seven-point scales) without being told which language it was. Based on the results, we chose languages from Western Europe for the low unfamiliarity condition [French (fr), Italian (it), Spanish (es), Dutch (nl)] and languages from Eastern Europe for the high unfamiliarity condition [Polish (pl), Czech (cs), Hungarian (hu), Russian (ru)]. English was not included due to its special role as an international language (Piller 2003). Hence, the five conditions in the main study were configured as follows: control (de), low unfamiliarity and two translations (de, fr, it), low unfamiliarity and four translations (de, fr, it, es, nl), high unfamiliarity and two translations (de, pl, cs), and high unfamiliarity and four translations (de, pl, cs, hu, ru). Detailed results of the pretest are depicted in Appendix Table 2-5 (see section 2.5).

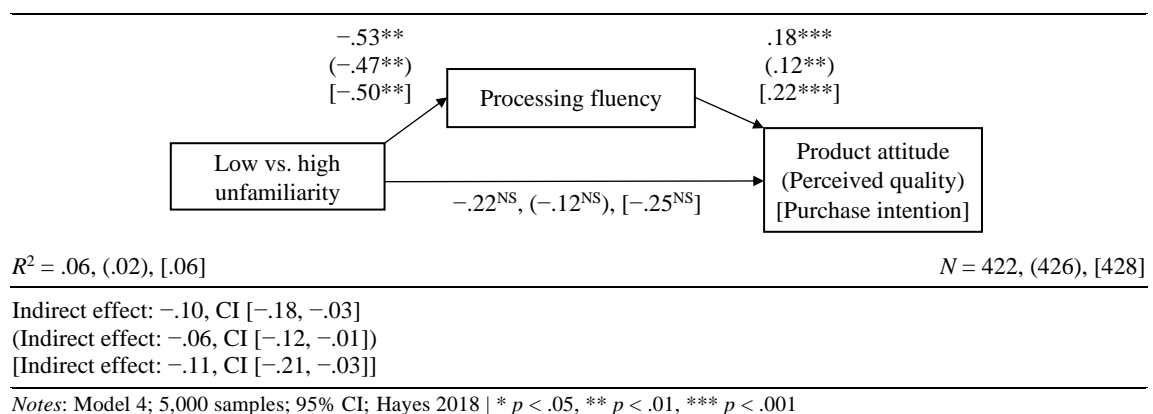
*Measures.* Product attitude was measured using four bipolar items (e.g., dislike/like,  $\alpha = .94$ ). The level of agreement with the item “If necessary, I could imagine buying the product” was used to measure purchase intention. Perceived product quality was assessed using two items adopted from Miyazaki, Grewal, and Goodstein (2005;  $r = .89$ ; e.g., “The product appears to be of good quality”). Following Graf, Mayer, and Landwehr (2018), respondents were asked to rate their processing fluency on a single-item measure (difficult/easy). All measures used seven-point scales with high values representing high or positive ratings.

### *Results*

To gain insights into the effects of the number of translations (0 = two, 1 = four) and consumers’ unfamiliarity with the languages (0 = low, 1 = high) on processing fluency, we performed a two-way ANOVA based on our experimental design. Please note that here and in all subsequent studies, we did not include the monolingual control condition in the analyses unless explicitly stated. Unexpectedly, the presence of four (compared to two) translations did not have a negative influence on fluency ( $M_{\text{two}} = 4.85$  vs.  $M_{\text{four}} = 4.75$ ,  $F_{1,427} = .24$ ,  $p = .63$ ). Consequently, the first hypothesis was rejected. As expected, high (as opposed to low) unfamiliarity with the foreign languages reduced participants’ processing fluency ( $M_{\text{low}} = 5.04$  vs.  $M_{\text{high}} = 4.54$ ,  $F_{1,427} = 8.88$ ,  $p < .01$ ). There was no significant interaction effect ( $F_{1,427} = .04$ ,  $p = .85$ ). The mean values of processing fluency can be found in Table 2-1 (section 2.3.2).

To test the second hypothesis, we conducted mediation analyses using Hayes' (2018) PROCESS macro. Three separate mediation models were calculated for the three dependent variables, with unfamiliarity of the foreign languages as the independent variable and processing fluency as the mediator (PROCESS Model 4; 5,000 samples; 95% CI; Hayes 2018). As predicted, high unfamiliarity with the foreign languages led to lower levels of processing fluency. In support of hypotheses *H2a–H2c*, this reduction in processing fluency fully mediated negative indirect effects on product attitude ( $b = -.10$ , CI  $[-.18, -.03]$ ), perceived product quality ( $b = -.06$ , CI  $[-.12, -.01]$ ), and purchase intention ( $b = -.11$ , CI  $[-.21, -.03]$ ; see Figure 2-2). Additional ANOVAs showed that unfamiliarity with the foreign languages had significant negative total effects on product attitude ( $M_{low} = 4.18$  vs.  $M_{high} = 3.85$ ,  $F_{1,422} = 5.12$ ,  $p < .05$ ), and purchase intention ( $M_{low} = 4.20$  vs.  $M_{high} = 3.84$ ,  $F_{1,428} = 4.31$ ,  $p < .05$ ), but not on perceived quality ( $M_{low} = 4.60$  vs.  $M_{high} = 4.42$ ,  $F_{1,426} = 1.50$ ,  $p = .22$ ).

**Figure 2-2: Results of mediation analyses (Study 1).**



### Discussion

Study 1 was designed with the goal of obtaining the first evidence on the consequences of foreign language presence on product packaging. As expected, the data supported the assumption that foreign languages with which consumers were only weakly familiar impeded the mental processing of the product and led to negative downstream consequences. Unexpectedly, the number of foreign languages did not influence processing fluency. However, Study 1 has some limitations that are addressed in the subsequent studies. First, the question remains as to whether the manipulation of the number of translations was sufficient. While the highest number of foreign languages on the mock packaging was four, product packages in the real world often include even more translations. Second, the question remained as to whether the effects of foreign language

presence depend on the product category and, specifically, whether technical products are unaffected by the negative consequences of multilingual packaging, as proposed in *H3*. In addition, other mediating effects may play a role, such as the fit between the languages and the product category.

### 2.3.2 Study 2

The primary objectives of Study 2 were to gain more comprehensive evidence of the effects observed in Study 1 and to address the mentioned limitations. The study investigated whether the results held for a diverse set of product categories. It expanded the manipulation of the number of foreign languages to include a six-translation condition. Furthermore, the influence of a potential alternative explanation for the effects of foreign languages was analyzed; we included the fit between the product(s) and the foreign languages in our investigation. As an alternative moderator to the product type (technical vs. non-technical), we considered category involvement. Additionally, we analyzed the impact of perceived brand globalness, as it may be influenced by the presence of foreign languages and is widely discussed in the literature. Finally, Study 2 also improved upon the first study in a methodological sense by employing a large-scale representative sample, using preregistration and more comprehensive stimuli, and measuring processing fluency on a multifaceted scale.

#### *Method*

*Experimental design and sample.* This second empirical study followed a 3 (number of translations: two, four, six) x 2 (language unfamiliarity: low, high) x 6 (product category: cereal, orange juice, dishwashing detergent, shower gel, coffee machine, Bluetooth speaker) between-subjects design with an additional German-only control condition. The study was preregistered via the platform OSF Registries,<sup>3</sup> data were collected via an online questionnaire, and a sample of  $N = 2,103$  was generated through a consumer access panel. Each of the 42 between-subjects conditions consisted of an average of 50 participants ( $n = 45\text{--}56$ ). A prerequisite for participation was that the participants spoke German as their only native language. The sample was representative of the German population between 18 and 70 years of age ( $M_{\text{age}} = 45.31$ ,  $SD = 14.96$ ) and with regard to gender (49.5% female). After providing informed consent, participants

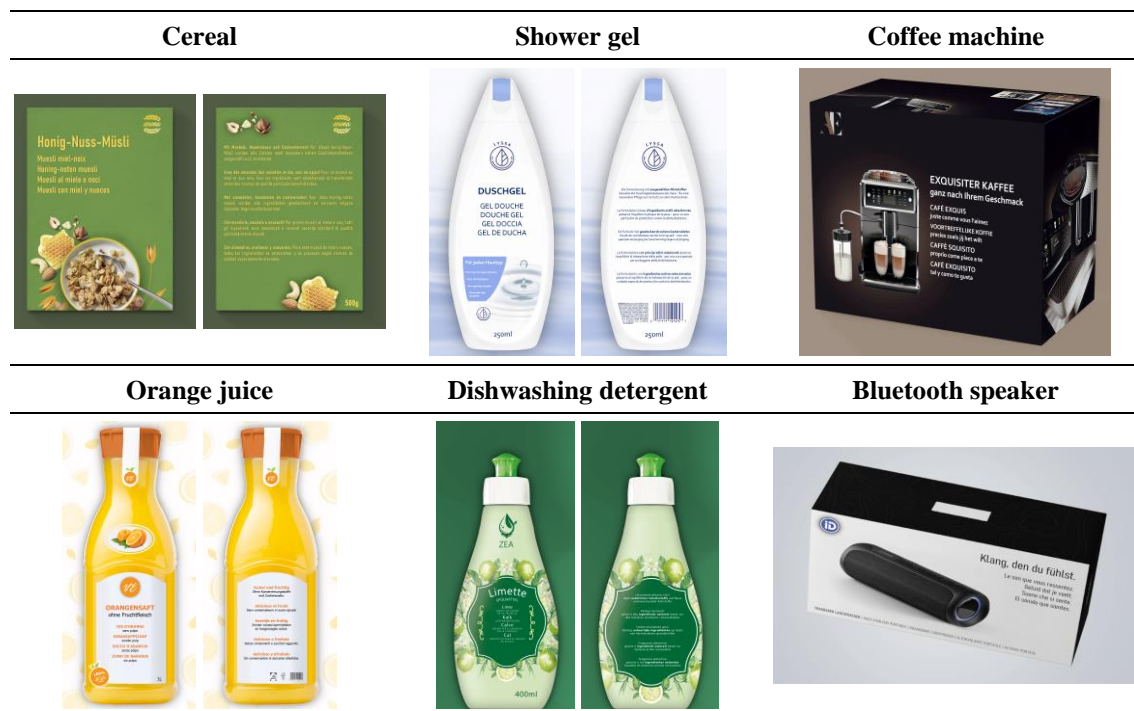
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<sup>3</sup> Link to preregistration: [https://osf.io/3vkfs/?view\\_only=493cd3c9518d485999c300a6fcba5f8b](https://osf.io/3vkfs/?view_only=493cd3c9518d485999c300a6fcba5f8b)

were assigned to one of six product category conditions via quota sampling and then randomly assigned to one of seven experimental conditions (Table 2-4 in the Appendix section 2.5 provides an overview of the sample characteristics).

*Stimuli.* A heterogeneous set of product categories was selected with respect to important product characteristics, such as price range and purchase frequency. We chose two products from each of the three domains of food (cereal, orange juice), household goods (dishwashing detergent, shower gel), and technical products (coffee machine, Bluetooth speaker). For each of the six products, fictional product packaging was designed (see Figure 2-3). The packaging was presented to the study participants via images in the online questionnaire. To increase the realism of the stimuli, each package was shown from multiple perspectives, including three-dimensional and close-up views.

**Figure 2-3: Overview of the stimulus product categories (Study 2).**



*Note:* The full stimulus material included additional views of the products (e.g., close-up views).

Based on the experimental conditions, seven versions of each stimulus product were created, each varying with regard to the foreign languages displayed on the packaging. While the control version of each stimulus provided the information in German only, the additional versions included translations in two, four, or six foreign languages. Figure 2-6 in the Appendix (see section 2.5) provides an overview of the multilingual stimuli for the shower gel as a representative example. Depending on the product condition, the translated texts consisted of product names (i.e., “orange juice”), tag lines (i.e., “Tasty

and Fruity”), product information (i.e., “without preservatives and added sugar”), and key ingredients (i.e., “100% juice,” “without pulp”). Notably, within each product category condition, each packaging provided the same information, and each packaging featured the German product information at the top to avoid problems due to differences in information content or a lack of understanding.

The manipulation of language unfamiliarity was based on the results of the pre-test presented as part of Study 1. The foreign languages used in the low unfamiliarity conditions were French, Dutch, Danish, Italian, Spanish, and Portuguese, whereas Polish, Czech, Hungarian, Japanese, Chinese, and Korean were used in the high unfamiliarity conditions. Two manipulation check items indicated that participants’ were less familiar with the languages in the high unfamiliarity condition ( $M_{low} = 3.36$  vs.  $M_{high} = 2.17$ ,  $F_{1,1812} = 210.30$ ,  $p < .001$ ; “How familiar are you with the foreign languages on the packaging?”; 1 = “not at all familiar,” 7 = “very familiar”) and that they encountered them less often ( $M_{low} = 4.28$  vs.  $M_{high} = 3.51$ ,  $F_{1,1812} = 78.38$ ,  $p < .001$ ; “How often do you encounter the foreign languages on the packaging in everyday life?”; 1 = “never,” 7 = “often”).

*Measures.* A five-item scale by Graf, Mayer, and Landwehr (2018) was used to measure processing fluency ( $\alpha = .96$ ; “The process of studying the product shown was...”; e.g., difficult/easy, effortful/effortless). Participants rated their product attitude on a four-item measure adapted from Chae and Hoegg (2013;  $\alpha = .94$ ; e.g., “very bad”/“very good”) and their purchase intention on two items adapted from Dodds, Monroe, and Grewal (1991;  $r = .95$ ; e.g., “My willingness to buy the product is...”; “very low”/“very high”). Perceived product quality was assessed using the same items as in Study 1 ( $r = .94$ ). Product–language fit was measured by three items ( $\alpha = .93$ ): Two were adapted from Taylor and Bearden (2002; e.g., “The languages shown on the packaging... fit with the product category”), and one was adapted from Kalamas et al. (2006; “...stand in relation to the product category”). To control for other effects, a three-item measure of brand globalness (Steenkamp, Batra, and Alden 2003;  $\alpha = .74$ ; e.g., 1 = “To me, this is a global brand,” 7 = “To me, this is a local brand”) and a two-item measure of category involvement (Zaichkowsky 1985;  $r = .91$ ; e.g., “The product category is very important to me”) were included. All measures used seven-point scales.

*Hypothesis testing*

Based on our research design, we conducted a three-way ANOVA to explore how processing fluency is influenced by the interplay between the number of translations, unfamiliarity with the foreign languages, and product type. To do so, we first separated the six product categories into non-technical (cereal, orange juice, dishwashing detergent, shower gel) and technical (coffee machine, Bluetooth speaker) products. A direct effect of the number of translations on processing fluency was found ( $M_{\text{two}} = 5.30$  vs.  $M_{\text{four}} = 5.20$  vs.  $M_{\text{six}} = 5.04$ ,  $F_{2,1802} = 3.80$ ,  $p < .05$ ). Pairwise comparisons indicate that fluency was significantly lower in the six-translation condition than in the two-translation condition. High unfamiliarity with the foreign languages caused a reduction of consumers' processing fluency ( $M_{\text{low}} = 5.44$  vs.  $M_{\text{high}} = 4.92$ ,  $F_{1,1802} = 30.67$ ,  $p < .001$ ). A marginally significant main effect was found for the product type factor ( $M_{\text{non-tech}} = 5.14$  vs.  $M_{\text{tech}} = 5.27$ ,  $F_{1,1802} = 2.80$ ,  $p = .09$ ), and, as expected, a single significant interaction effect between unfamiliarity and product type was also found ( $F_{1,1802} = 6.45$ ,  $p < .05$ ). Table 2-1 provides an overview of the mean values of fluency.

*Effect of the number of translations.* Because it was found in Study 1 that fluency is not negatively influenced by the presence of only four (compared to two) translations, we took the six-translation condition as a manipulation for a high number of translations and compared it with the two-translation condition. Based on *H3*, which predicted that the influence of foreign language presence on fluency would only occur for non-technical products, we included product type (0 = non-technical, 1 = technical) as a moderator in the mediation models (PROCESS Model 7; 5,000 samples; 95% CI; Hayes 2018). The results indicate that the presence of a high number of translations reduces fluency ( $b = -.24$ ,  $p < .05$ ) for non-technical products. In support of *H1*, the indirect effects show that this reduction of fluency fully mediated a negative influence on the dependent variables: product attitude ( $b = -.11$ , CI  $[-.22, -.01]$ ; direct effect:  $b = .09$ ,  $p = .23$ ), perceived quality ( $b = -.11$ , CI  $[-.21, -.01]$ ; direct effect:  $b = .07$ ,  $p = .37$ ), and purchase intention ( $b = -.12$ , CI  $[-.23, -.01]$ ; direct effect:  $b = .10$ ,  $p = .31$ ).

**Table 2-1: Overview of mean values (Studies 1-3).**

<b>Study 1</b>										
	Control (n = 218-224)	Low unfamiliarity				High unfamiliarity				Overall (n = 643-655)
		Two (n = 116-118)	Four (n = 103-106)	-	Total (n = 219-224)	Two (n = 100)	Four (n = 105-107)	-	Total (n = 205-207)	
Processing fluency	4.97 (1.80)	5.07 (1.58)	5.02 (1.68)	-	5.04 (1.63)	4.60 (1.71)	4.49 (1.97)	-	4.54 (1.85)	4.86 (1.77)
Product attitude	3.91 (1.69)	4.00 (1.53)	4.39 (1.47)	-	4.18 (1.51)	3.85 (1.32)	3.86 (1.62)	-	3.85 (1.48)	3.98 (1.57)
Perceived quality	4.33 (1.56)	4.52 (1.56)	4.69 (1.54)	-	4.60 (1.55)	4.46 (1.45)	4.38 (1.66)	-	4.42 (1.56)	4.45 (1.56)
Purchase intention	3.80 (1.89)	4.18 (1.86)	4.23 (1.72)	-	4.20 (1.79)	3.82 (1.75)	3.86 (1.88)	-	3.84 (1.81)	3.95 (1.84)

<b>Study 2, non-technical products</b>										
	Control (n = 190)	Low unfamiliarity				High unfamiliarity				Overall (n = 1402)
		Two (n = 198)	Four (n = 212)	Six (n = 195)	Total (n = 605)	Two (n = 205)	Four (n = 201)	Six (n = 201)	Total (n = 507)	
Processing fluency	5.66 (1.46)	5.69 (1.37)	5.40 (1.62)	5.29 (1.53)	5.46 (1.52)	4.83 (1.71)	4.87 (1.76)	4.74 (1.72)	4.81 (1.73)	5.21 (1.64)
Product attitude	4.82 (1.52)	4.90 (1.45)	4.82 (1.38)	4.86 (1.41)	4.86 (1.41)	4.39 (1.51)	4.37 (1.61)	4.26 (1.56)	4.34 (1.56)	4.63 (1.51)
Perceived quality	4.79 (1.48)	4.85 (1.51)	4.71 (1.42)	4.75 (1.44)	4.77 (1.45)	4.16 (1.57)	4.15 (1.72)	4.07 (1.65)	4.13 (1.64)	4.49 (1.57)
Purchase intention	3.99 (1.78)	3.88 (1.90)	3.73 (1.86)	3.86 (1.82)	3.82 (1.86)	3.36 (1.83)	3.38 (1.86)	3.24 (1.85)	3.33 (1.84)	3.63 (1.86)

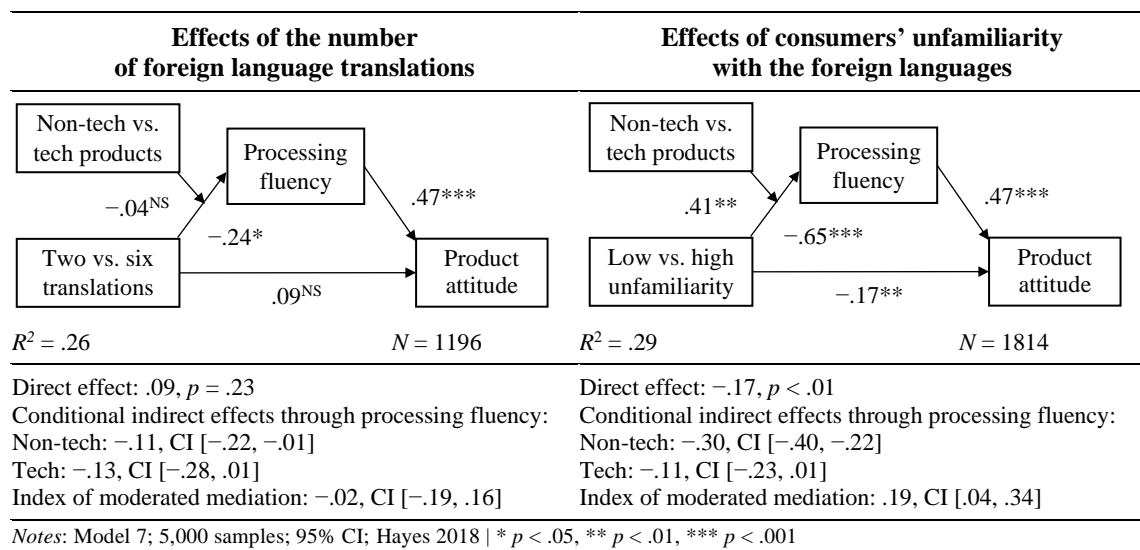
<b>Study 2, technical products</b>										
	Control (n = 99)	Low unfamiliarity				High unfamiliarity				Overall (n = 701)
		Two (n = 98)	Four (n = 102)	Six (n = 106)	Total (n = 306)	Two (n = 99)	Four (n = 103)	Six (n = 94)	Total (n = 296)	
Processing fluency	5.57 (1.55)	5.43 (1.60)	5.48 (1.44)	5.26 (1.49)	5.39 (1.50)	5.36 (1.61)	5.15 (1.61)	4.94 (1.67)	5.15 (1.63)	5.32 (1.57)
Product attitude	5.11 (1.28)	4.96 (1.35)	5.12 (1.14)	4.98 (1.30)	5.02 (1.26)	4.69 (1.44)	5.04 (1.39)	4.81 (1.45)	4.85 (1.43)	4.96 (1.34)
Perceived quality	4.96 (1.29)	4.92 (1.50)	5.12 (1.22)	4.99 (1.21)	5.01 (1.31)	4.37 (1.53)	4.69 (1.61)	4.42 (1.59)	4.50 (1.58)	4.79 (1.45)
Purchase intention	3.67 (1.70)	3.45 (1.72)	3.42 (1.60)	3.32 (1.73)	3.39 (1.68)	3.02 (1.79)	3.47 (1.83)	3.29 (1.88)	3.26 (1.84)	3.38 (1.75)

<b>Study 3</b>										
	Control (n = 49)	Low unfamiliarity				High unfamiliarity				Overall (n = 250)
		Two (n = 51)	-	Six (n = 50)	Total (n = 101)	Two (n = 51)	-	Six (n = 49)	Total (n = 100)	
Processing fluency	5.78 (1.25)	5.62 (1.42)	-	4.78 (1.69)	5.20 (1.61)	5.09 (1.63)	-	4.01 (1.68)	4.56 (1.73)	5.06 (1.66)
Product attitude	4.72 (1.23)	5.14 (1.20)	-	4.26 (1.45)	4.70 (1.39)	4.23 (1.24)	-	3.78 (1.42)	4.01 (1.34)	4.43 (1.38)
Perceived quality	4.35 (1.37)	4.83 (1.26)	-	4.05 (1.46)	4.45 (1.41)	4.01 (1.30)	-	3.66 (1.55)	3.84 (1.43)	4.18 (1.43)
Purchase intention	3.91 (1.47)	4.26 (1.32)	-	3.29 (1.71)	3.78 (1.59)	3.20 (1.58)	-	3.00 (1.64)	3.10 (1.61)	3.53 (1.61)

Notes: Standard deviations in parentheses; all items measured on seven-point scales.



**Figure 2-4: Results of moderated mediation analyses (Study 2).**

*Effect of language unfamiliarity.* Mediation models were used to test the hypothesized effects of language unfamiliarity. Again, we included product type (0 = non-technical, 1 = technical) as the moderator (PROCESS Model 7; 5,000 samples; 95% CI; Hayes 2018). For non-technical products, high unfamiliarity with the foreign languages had a negative effect on processing fluency ( $b = -.65, p < .001$ ). In accordance with  $H2$ , this reduction of fluency resulted in negative conditional indirect effects on product attitude ( $b = -.30, CI [-.40, -.22]$ ; partial mediation with a direct effect of  $b = -.17, p < .01$ ; see Figure 2-4), perceived quality ( $b = -.28, CI [-.37, -.20]$ ; partial mediation with a direct effect of  $b = -.38, p < .001$ ), and purchase intention ( $b = -.30, CI [-.40, -.22]$ ; full mediation with a direct effect of  $b = -.13, p = .09$ ). The model indicated only a marginally significant negative effect on processing fluency for technical products ( $b = -.24, p = .07$ ), which did not result in significant indirect effects. In line with  $H3b$ , the moderating effect of product type was confirmed by significant indices of moderated mediation: product attitude (IMM:  $.19, CI [.05, .34]$ ), perceived quality (IMM:  $.18, CI [.05, .31]$ ), and purchase intention (IMM:  $.19, CI [.05, .34]$ ).

To inspect the main effects, ANOVAs were calculated, which confirmed that for non-technical products, high unfamiliarity with the foreign languages significantly reduced product attitude ( $M_{low} = 4.86$  vs.  $M_{high} = 4.34, F_{1,1210} = 36.72, p < .001$ ), perceived quality ( $M_{low} = 4.77$  vs.  $M_{high} = 4.13, F_{1,1210} = 51.77, p < .001$ ), and purchase intention ( $M_{low} = 3.82$  vs.  $M_{high} = 3.33, F_{1,1210} = 21.70, p < .001$ ). For technical products, we did not observe these effects with one exception: perceived quality was reduced when highly unfamiliar languages were present ( $M_{low} = 5.01$  vs.  $M_{high} = 4.50, F_{1,600} = 18.83, p < .001$ ).

Finally, we performed an overall comparison between all multilingual conditions and the monolingual control condition, revealing an overall negative influence of multilingual packaging on processing fluency ( $M_{\text{mono}} = 5.63$  vs.  $M_{\text{multi}} = 5.18$ ,  $F_{1,2101} = 19.01$ ,  $p < .001$ ).

#### *Tests of alternative explanations*

*Examining the effect of category involvement as an alternative moderator.* An alternative explanation for the moderation effect postulated in *H3* could lie in product category involvement. According to Petty and Cacioppo (1986), consumers rely more strongly on peripheral cues under low involvement and on argument quality under high involvement. For technical products, higher levels of involvement could be assumed (e.g., due to higher risk or less frequent purchases). This could explain why technical products are largely unaffected by foreign language translations, which may have effects similar to peripheral advertising cues. To test this assumption, we calculated a moderated mediation model for the effect of the number of translations through processing fluency on product attitude. We used the measured category involvement as the moderator and found no significant moderation (IMM:  $-.04$ , CI  $[-.09, .01]$ ). We also included category involvement in the moderated mediation model, comparing the low-unfamiliarity and high-unfamiliarity conditions. Again, no significant moderation of the indirect effect was found (IMM:  $-.02$ , CI  $[-.06, .03]$ ). Consequently, we can conclude that the mediating effect of fluency occurs independently of category involvement.

*Examining the role of perceived fit between language and category.* Theoretical considerations and empirical evidence (e.g., Hornikx, van Meurs, and Starren 2007; Huettl-Maack and Schwenk 2016) have shown that the fit between foreign language and product category can impact consumer evaluations. In addition, fit perceptions can positively influence processing fluency (Chae and Hoegg 2013; Graf, Mayer, and Landwehr 2018). Therefore, we aimed to rule out that the effect on processing fluency was merely based on the difference in the perceived fit between the product and the foreign languages, instead of consumers' familiarity with the languages. We calculated another set of mediation models (PROCESS Model 4; 5,000 samples; 95% CI; Hayes 2018) with language unfamiliarity as the independent variable and processing fluency and product–language fit as parallel mediators (the correlation between the two mediators was only moderate,  $r = .42$ ). Unsurprisingly, the results indicate that an indirect effect through product–language fit exists for all three dependent variables (product attitude:  $b = -.28$ ,

CI [-.34, -.22]; perceived quality:  $b = -.29$ , CI [-.35, -.22]; purchase intention:  $b = -.34$ , CI [-.42, -.27]). As expected, however, the indirect effects through processing fluency were still present, thereby suggesting that differing levels of product–language fit do not provide a sufficient explanation of why the foreign languages in the high unfamiliarity condition led to less favorable product evaluations.

*Examining the role of perceived brand globalness as an alternative explanation.*

The marketing literature has established that consumer preferences are strongly influenced by the perception of whether a brand is global or local (e.g., Steenkamp, Batra, and Alden 2003). Related to this is the suggestion that multiple foreign languages on product packaging elicit associations of globalness (Gopinath, Glassman, and Nyer 2013). Therefore, we tested processing fluency and perceived brand globalness as parallel mediators in mediation models based on the number of translations and language unfamiliarity (PROCESS Model 4; 5,000 samples; 95% CI; Hayes 2018). The number of translations (two vs. six) did not impact perceived brand globalness ( $b = .11$ ,  $p = .15$ ), and consequently, no significant indirect effects resulted. As expected, the indirect effects through processing fluency held for all dependent variables, and full mediation was observed. A comparison between the low and the high language unfamiliarity conditions showed that the consumers' unfamiliarity with the foreign languages had a positive impact on perceived brand globalness ( $b = .24$ ,  $p < .001$ ). Consequently, significant indirect effects were observed (product attitude:  $b = .05$ , CI [.03, .08]; perceived quality:  $b = .06$ , CI [.03, .09]; purchase intention:  $b = .06$ , CI [.03, .10]). As expected, however, the negative indirect effects through processing fluency remained significant for all dependent variables.

*Discussion*

The second study expanded upon the methodology used in Study 1 and replicated the research design across six product categories. Through the inclusion of a six-translation condition, the effect of the number of foreign languages on processing fluency was observed, which was not visible in the first study (where only a maximum number of four translations was investigated). Specifically, the product packages with six foreign languages led to lower processing fluency than those with only two translations. As predicted, this influence resulted in less favorable product evaluations. With regard to the impact of language unfamiliarity, Study 2 replicated the findings of Study 1. However, it was shown that not all product categories are similarly affected by the negative influences

of multilingual packaging. For technical products, we found only weak effects of the number of translations and language unfamiliarity on processing fluency, and these influences did not result in indirect effects.

### 2.3.3 Study 3

We conducted Study 3 with the objective of replicating the hypothesized fluency-based effects while ruling out further alternative explanations. Study 2 previously showed that, in addition to processing fluency, multilingual packaging influences the perceived product–language fit and perceived globalness of a brand. Study 3 delves into three additional potential explanations based on consumers’ language attitudes, the associations evoked by the languages (specifically, the image they convey), and the potential role of multilingual packaging as a signal that a brand is well established.

*Examining the role of language attitudes as an alternative explanation.* Researchers across several disciplines have examined the role of language attitudes, which can be broadly defined as all “evaluative reactions to language” (Dragojevic et al. 2021, p. 61). While they have mostly been researched for spoken language variations, the construct also applies to languages in their written form (Dragojevic et al. 2021). In our studies, the respondents were exposed to different foreign languages, depending on the research condition. Hence, there was a need for an examination as to whether differences in attitudes toward the languages were present and, if so, whether they influence the dependent variables and whether they interfere with the hypothesized effects.

*Examining the role of product-related language image as an alternative explanation.* Prior literature has established that the presence of a foreign language can transport country image associations onto a brand or a product (e.g., Hornikx, van Meurs, and Starren 2007; Huettl-Maack and Schwenk 2016). Marketing research has primarily focused on product–country image, that is, the perceived characteristics based on the country’s role as the origin of products (Josiassen et al. 2013), which has been shown to predict quality perceptions (Andéhn, Nordin, and Nilsson 2016) and brand performance evaluations (Baldauf et al. 2009). Although prior literature suggests that the presence of two or more foreign languages conveys global associations rather than country-specific ones (Gopinath, Glassman, and Nyer 2013), it is nevertheless possible that consumers form an image from the combination of depicted languages and their associated countries, which may influence product evaluations. To test this, we measured the product-related images conveyed by the depicted languages.

*Examining multilingual packaging as a signal of a brand's well-established presence.* It seems reasonable to assume that multilingual packaging influences the extent to which consumers perceive a brand as established or rather new. The literature has demonstrated that older brands are often associated with positive consequences, such as higher credibility, quality, and purchase intention (Pecot et al. 2018). It is therefore prudent to assess whether multilingual packaging affects consumers' perceptions of a brand as established (or new) and whether this affects their evaluative judgments.

### *Method*

*Experimental design, sample, and stimuli.* Study 3 followed a 2 (number of translations: two, six) x 2 (language unfamiliarity: low, high) between-subjects design with an additional German-only control condition. The participants were randomly assigned to one of the conditions. The procedure for this study was preregistered on the AsPredicted website.<sup>4</sup> We collected data from  $N = 250$  study participants with German as their only native language on the Prolific platform ( $M_{\text{age}} = 34.25$ ,  $SD = 11.15$ ; 42.4% female). The stimulus material used was identical to that used in the "shower gel" condition in Study 2 (see Appendix Figure 2-6 in section 2.5). The translated text included the product name ("shower gel") and product information (i.e., "for every skin type," "maintains the skin's moisture balance"). A manipulation check confirmed that participants in the high-unfamiliarity condition were less familiar with the languages ( $M_{\text{low}} = 4.03$  vs.  $M_{\text{high}} = 2.59$ ,  $F_{1,199} = 40.08$ ,  $p < .001$ ; 1 = "not at all familiar," 7 = "very familiar") and encountered them less frequently in their daily lives ( $M_{\text{low}} = 4.14$  vs.  $M_{\text{high}} = 3.13$ ,  $F_{1,199} = 18.12$ ,  $p < .001$ ; 1 = "never encounter them," 7 = "often encounter them").

*Measures.* After being shown the stimulus, the participants were given time to note their thoughts about the product. This aimed to gauge the extent to which their evaluations of multilingual packaging were shaped by considerations of the presence of foreign languages in general and by associations related to specific foreign languages. Processing fluency ( $\alpha = .96$ ), attitude toward the product ( $\alpha = .93$ ), purchase intention ( $r = .92$ ), perceived product quality ( $r = .94$ ), perceived product-language fit ( $\alpha = .92$ ), and perceived brand globalness ( $\alpha = .80$ ) were measured using scales from Study 2. In addition, a single item measured the degree to which participants considered the fictitious brand to be new or established (Robinson and Wood 2018; 1 = "new on the market," 7 =

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<sup>4</sup> Link to preregistration: [https://aspredicted.org/MGL\\_CCM](https://aspredicted.org/MGL_CCM)

“established on the market”). Toward the end of the questionnaire, the participants were again shown the back side of the packaging and a close-up view of the displayed text and translations. They were then asked to provide their attitudes toward the depicted languages (Chae and Hoegg 2013;  $\alpha = .93$ ; e.g., “The languages shown on the product packaging ...”; 1 = “do not appeal to me,” 7 = “do appeal to me”). In order to measure the product-related language image, we adapted five items used to measure the product-related image of the country of origin (Josiassen et al. 2013) and assessed the degree to which the languages (as a whole) indicate high quality, excellent workmanship, prestige, reliability, and technological advancement ( $\alpha = .95$ ). All measures were specified in the preregistration and were assessed on seven-point scales.

### Results

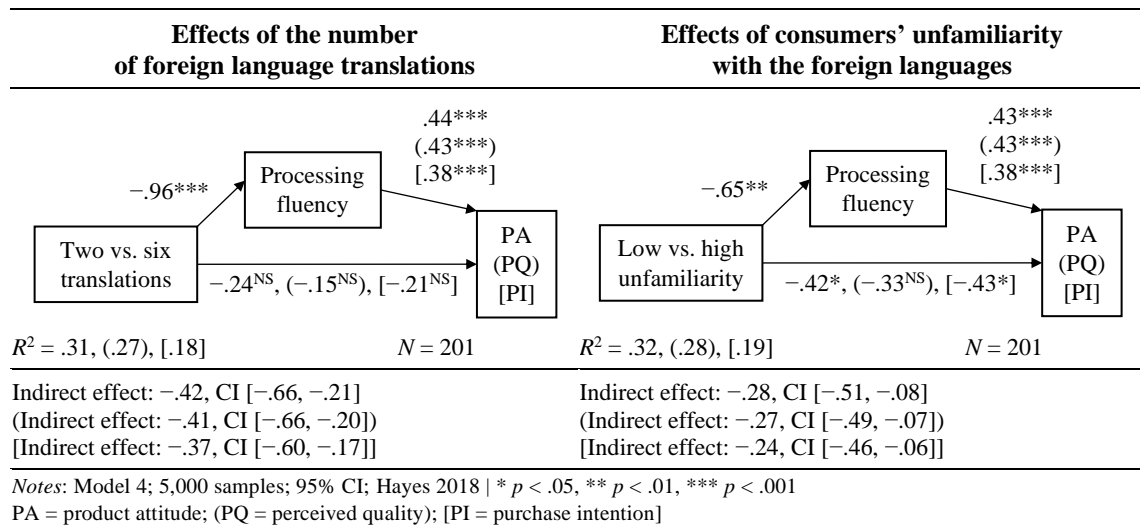
The results of a two-way ANOVA confirmed the previously observed effects on processing fluency. The presence of six (compared to two) translations impeded the participants’ subjective processing experience ( $M_{\text{two}} = 5.35$  vs.  $M_{\text{six}} = 4.40$ ,  $F_{1,197} = 18.04$ ,  $p < .001$ ). Similarly, unfamiliarity with the foreign languages also had a direct negative effect on processing fluency ( $M_{\text{low}} = 5.20$  vs.  $M_{\text{high}} = 4.56$ ,  $F_{1,197} = 8.29$ ,  $p < .01$ ). There was no interaction between the two variables ( $F_{1,197} = .26$ ,  $p = .61$ ).

*Effect of the number of translations.* We calculated single mediation models (PROCESS Model 4; 5,000 samples; 95% CI; Hayes 2018) to assess the indirect effects of the number of translations through processing fluency. In support of *H1*, the results confirmed a reduction of processing fluency ( $b = -.96$ ,  $p < .001$ ), which fully mediated the negative indirect effects on the three dependent variables: product attitude ( $b = -.42$ , CI  $[-.66, -.21]$ ), perceived product quality ( $b = -.41$ , CI  $[-.66, -.20]$ ), and purchase intention ( $b = -.37$ , CI  $[-.60, -.17]$ ). One-way ANOVAs confirmed significant negative effects of the number of translations on all three dependent variables: product attitude ( $M_{\text{two}} = 4.68$  vs.  $M_{\text{six}} = 4.02$ ,  $F_{1,199} = 11.64$ ,  $p < .001$ ), perceived quality ( $M_{\text{two}} = 4.42$  vs.  $M_{\text{six}} = 3.86$ ,  $F_{1,199} = 7.85$ ,  $p < .01$ ), and purchase intention ( $M_{\text{two}} = 3.73$  vs.  $M_{\text{six}} = 3.15$ ,  $F_{1,199} = 6.61$ ,  $p < .05$ ).

*Effect of language unfamiliarity.* In support of *H2*, the results of the single mediation models (Hayes’ PROCESS; Model 4; 5,000 samples; 95% CI) confirmed a negative effect of language unfamiliarity on fluency ( $b = -.65$ ,  $p < .01$ ), which translates into negative indirect effects on the dependent variables: product attitude ( $b = -.28$ , CI  $[-.51, -.08]$ ), perceived product quality ( $b = -.27$ , CI  $[-.49, -.07]$ ; full mediation), and

purchase intention ( $b = -.24$ , CI  $[-.47, -.06]$ ). One-way ANOVA results confirmed that unfamiliarity with the depicted foreign languages led to significantly lower levels of product attitude ( $M_{\text{low}} = 4.70$  vs.  $M_{\text{high}} = 4.01$ ,  $F_{1,199} = 13.06$ ,  $p < .001$ ), perceived quality ( $M_{\text{low}} = 4.45$  vs.  $M_{\text{high}} = 3.84$ ,  $F_{1,199} = 9.14$ ,  $p < .01$ ), and purchase intention ( $M_{\text{low}} = 3.78$  vs.  $M_{\text{high}} = 3.10$ ,  $F_{1,199} = 9.13$ ,  $p < .01$ ). Figure 2-5 shows the results of the six mediation models calculated to analyze indirect effects through processing fluency.

**Figure 2-5: Results of mediation analyses (Study 3).**



Finally, an additional comparison between all multilingual conditions and the monolingual control condition indicated an overall negative influence of multilingual packaging on processing fluency ( $M_{\text{mono}} = 5.78$  vs.  $M_{\text{multi}} = 4.88$ ,  $F_{1,248} = 12.05$ ,  $p < .001$ ).

*Examining the role of processing fluency in relation to alternative explanations.* The six competing parallel mediators of processing fluency, product–language fit, perceived brand globalness (which were both already included in Study 2), consumers' language attitude, product-related language image, and perceived well-established status of the brand were included in multiple mediation models. Collinearity diagnostics showed an average variance inflation factor of 1.45, with the highest VIF being 1.97, indicating that multicollinearity did not pose a problem. We conducted a mediation analysis (PROCESS Model 4; 5,000 samples; 95% CI; Hayes 2018) to test the effect of the number of foreign language translations (two versus six translations) on product attitude while including the six mediators described above. The strongest indirect effect runs through processing fluency ( $b = -.22$ , CI  $[-.39, -.09]$ ), followed by the indirect effects through product–language image ( $b = -.15$ , CI  $[-.29, -.03]$ ) and product–language fit ( $b = -.09$ ,

CI  $[-.21, -.01]$ ). No further significant mediation effects emerged, and the remaining direct effect of the number of languages was not significant ( $b = -.13, p = .36$ ).

Next, the same mediation analysis was conducted using language unfamiliarity as the independent variable. The results indicate that the two strongest indirect effects run through product–language fit ( $b = -.22, CI [-.40, -.07]$ ) and processing fluency ( $b = -.15, CI [-.31, -.04]$ ), supporting the insights gained from Study 2. The product–language image and the perceived well-established status also mediated the indirect effects on product attitude. No effects were found based on language attitude and perceived brand globalness, and no direct effect of language unfamiliarity remained ( $b = .02, p = .88$ ). See Table 2-2 for all indirect effects and Appendix Table 2-6 (see section 2.5) for the complete mediation models. Note that the indirect effects through processing fluency also hold when calculating the mediation models for the dependent variables of perceived quality and purchase intention.

**Table 2-2: Results of parallel mediation analyses (Study 3).**

	Number of translations (0 = two, 1 = six)			Unfamiliarity (0 = low, 1 = high)		
	Indirect effect	Boot SE	Boot 95% CI	Indirect effect	Boot SE	Boot 95% CI
<b>Processing fluency</b>	<b>-.22</b>	<b>.08</b>	<b>[-.39, -.09]</b>	<b>-.15</b>	<b>.07</b>	<b>[-.31, -.04]</b>
Product–language fit	-.09	.05	[-.21, -.01]	-.22	.09	[-.40, -.07]
Perceived brand globalness	-.00	.02	[-.05, .04]	-.00	.01	[-.03, .03]
Language attitude	-.07	.05	[-.18, .01]	-.11	.07	[-.27, .01]
Product–language image	-.15	.07	[-.29, -.03]	-.12	.06	[-.26, -.01]
New vs. established brand	.00	.04	[-.07, .08]	-.12	.05	[-.22, -.04]

Notes:  $N = 201$ ; Model 4; 5,000 samples; 95% CI; Hayes 2018 | \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

*Analysis of the thought-listing task.* To determine the extent to which the consumers' evaluation of multilingual packaging is influenced by their associations with the depicted foreign languages, we additionally analyzed participants' reported thoughts about the packaging. The answers to this open-ended question were coded by two independent individuals who were unaware of the research objective. The coders determined whether participants had provided thoughts related to the presence of multiple languages (e.g., "I don't think it's nice to see several languages on the packaging," "Apparently not only available in Germany but also abroad"; Intercoder reliability: .96) and/or related to specific foreign languages depicted on the packaging (e.g., "Apparently it is also sold in Poland and China"; Intercoder reliability: .98). Disagreements between



the coders were resolved through discussion. Of the participants who had been shown multilingual packaging, 46.77% provided thoughts related to the presence of multiple foreign languages. However, only 12.44% stated thoughts related to specific foreign languages. These results are consistent with our previous findings insofar as consumers are more likely to notice the overall presence of multiple foreign languages instead of focusing on specific languages. This finding is also consistent with Gopinath, Glassman, and Nyer's (2013) assumption that the presence of multiple foreign languages (in contrast to single languages) leads to associations of globality rather than country-specific associations.

### *Discussion*

The primary objective of Study 3 was to conduct a comprehensive analysis of the effects of multilingual packaging while considering multiple explanatory approaches. The results confirmed the hypothesized effects of the number of translations and language unfamiliarity. As anticipated, the theorized mediation of processing fluency remains present and is among the strongest consequences of multilingual packaging, even when other parallel mediators are included in the analyses. In addition, a thought-listing task supported the view that the consequences of multilingual packaging depend on the consumers' overall impression of the foreign language presence rather than language-specific images and associations.

## **2.4 General discussion**

The use of multilingual packaging is a widespread practice in today's globalized retail environment because retailers and manufacturers benefit from standardization advantages and reduced costs by creating packaging that can be distributed unchanged across multiple countries. However, the present research demonstrates that this practice has its drawbacks. It uncovers that, through an impairment of consumers' processing fluency, multilingual packaging negatively affects consumers' product evaluations under certain conditions. We have identified these conditions and explained how retailers can avoid detrimental effects.

Based on three experimental studies following a two-factorial research design, we found that two factors—the number of translations of product information and the consumers' level of unfamiliarity with the foreign languages—had negative effects on processing fluency, which led to an impairment of product attitudes, quality perceptions,

and purchase intentions. Interestingly, the level of unfamiliarity had a more pronounced effect (i.e., the presence of unfamiliar languages was especially harmful to consumers' processing experience) compared to the number of translations. While consumers seem to tolerate packaging that includes translations into up to four foreign languages without experiencing any fluency impairment, negative effects were observed for the presence of six additional foreign languages.

Based on Study 2, we identified product type as a boundary condition. For technical products, the negative effects of a large number of translations and high unfamiliarity with the languages did not (or only marginally) occur. We attribute this moderating effect to differences in fluency expectations due to the higher complexity of technical products—the data did not support an alternative account based on varying levels of category involvement.

Given that multilingual packaging is posited to influence not only processing fluency but also initiate other effects, such as the signaling effect of languages (in terms of prestige, globalness, or other associations; e.g., Gopinath, Glassman, and Nyer 2013; Hornikx, van Meurs, and Starren 2007) or effects related to language-category fit (e.g., Hornikx, van Meurs, and Hof 2013; Huettl-Maack and Schwenk 2016), Studies 2 and 3 delved into various alternative explanations. The results show that processing fluency remains among the strongest effects when the alternative mediating variables are included in the analyses. In addition, they identify the image associated with the languages and the fit between language and category as impactful parallel drivers of consumer's responses to multilingual packaging.

*Theoretical contributions.* Our most significant theoretical contribution lies in offering new insights into processing fluency theory. The present research identifies the presence of foreign language translations as a source of disfluency, which can compromise consumers' processing experiences of marketing stimuli, such as product packaging. We relate the established effects to two explanatory mechanisms grounded in fluency research. The first mechanism, stimulus familiarity, has been linked to the processing of foreign language codes in early research on the mere-exposure effect (Zajonc 1968). The second mechanism is visual complexity, which results from the presence of additional text blocks. This complements prior research regarding the processing experience of foreign languages, which has largely revolved around the comprehensibility of accented speakers (e.g., Dragojevic et al. 2021). We demonstrated that the mere presence of written foreign language translations can influence the

processing fluency associated with a stimulus. A remarkable aspect of these findings is that the presence of additional translations should, in fact, be irrelevant to the processing of the information. In our studies, the translations were present in addition to the native language text, which appeared in the first position before the listed translations. Intuitively, this supplementary information should not make any difference in the consumers' evaluation. However, our results show changes in processing fluency and product judgments even though the actual message to be processed remains unaffected. This complements extant research, which has typically demonstrated a text-related impairment of fluency in cases where the actual message was more difficult to process, for instance, due to poor text-background contrast or because the font was challenging to read (e.g., Thompson and Ince 2013).

Furthermore, our study demonstrates how important people's expectations of the experience are for the actual perception of the processing experience. If people are mentally "prepared" for a difficult task, such as the examination of a complex product, they can deal well with further processing impairments, such as the presence of unfamiliar foreign languages. This relates to and further supports the literature on discrepant fluency (e.g., Whittlesea and Williams 1998; Wilcox and Song 2011). In addition, our study further establishes a positive relationship between processing fluency and perceived quality, for which there has been little evidence in previous research (Chang 2013).

In addition, the current research adds new insights to the literature on multilingual marketing stimuli. The fact that multiple foreign language translations on packaging can have detrimental effects on consumer responses has not previously been considered. This literature has previously focused on the effects of individual foreign languages as a tool to address certain minorities (e.g., Koslow, Shamdasani, and Touchstone 1994) or to establish desired country associations of products (e.g., Hornikx, van Meurs, and Starren 2007). By studying multilingual packaging in its most common form as a tool that allows companies to distribute the same packaging across multinational markets, the present work fills a research gap.

Moreover, processing fluency as a major psychological mechanism driving the effects of multilingual stimuli has not been considered. Our study novelly identifies changes in the consumer's subjective processing experience as a consequence of the foreign language presence in marketing. Previous research has focused on other mechanisms, such as product-language fit, which has been identified as a key factor influencing consumer response (e.g., Hornikx, van Meurs, and Hof 2013; Huettl-Maack

and Schwenk 2016; Wagner and Charinsarn 2021) and the image and associations transferred by foreign languages. The present study not only confirms these findings but also shows the effects of further parallel mediators (e.g., the established status of a brand, brand globalness) and their relative influence in comparison to the fluency mechanism.

On a more general level, our study extends the knowledge of how packaging design affects consumers by explaining how foreign languages can change consumer perceptions and evaluations. Our results add to the findings of other studies that have investigated elements of packaging design, such as color (e.g., Mai, Symmank, and Seeberg-Elverfeldt 2016), shape (e.g., Chen et al. 2020), and material (e.g., Sokolova, Krishna, and Döring 2023).

*Managerial implications.* The findings of this research generate practical and actionable implications for retailers and manufacturers of consumer-packaged goods and consumer electronics. In these categories, companies frequently opt for multilingual packaging in today's globalized markets. This approach offers the advantage of distributing products in multiple countries without any modifications. Our study presents a nuanced picture of the expected effects, suggesting that a general warning against multilingual packaging would be unwarranted. However, our results reveal detrimental effects of this practice on consumers' responses by impairing their processing experience. In situations when consumers have to choose between different options, this can be a decisive difference as to whether or not a product is chosen.

Based on the results of this research, recommendations for the use and design of multilingual packaging can be derived. When deciding about the number of target markets, and thus the number of printed translations, for a product packaging, it is advisable to limit the number of foreign language translations to no more than four. Exceeding this number seems to increase the visual complexity of product packaging to a degree that is confusing for consumers. With regard to consumers' prior exposure to the depicted foreign languages, unfamiliar languages turned out to be the most detrimental to the consumers' processing experience. Hence, managers should avoid this case. In situations where the use of multiple languages on packaging appears necessary for operational reasons, such as to achieve cost benefits, managers might consider forming distribution regions. These regions could group countries and languages in a way that minimizes the degree of language unfamiliarity (e.g., Asian languages, Eastern European languages, Scandinavian languages, etc.).

These recommendations are particularly relevant for practitioners responsible for the packaging of everyday, easy-to-understand products where the presence of foreign languages showed consistent negative effects on processing fluency. In this case, the use of multilingual packaging should be critically evaluated, and managers should make conservative decisions concerning the displayed number and type of languages. However, for more complex products (i.e., technical products), the negative effects of multilingual packaging were considerably weaker. In these situations, consumers seem to anticipate more difficult processing and are therefore not as negatively affected by a discrepancy between their expectations and the actual processing experience.

Consequently, one key conclusion of our study is that the decision to print translations on packaging cannot simply be made based on a cost perspective while ignoring potentially reduced sales volumes due to the impairment of the consumers' assessment of the product. In addition, marketers should not only carefully design the information content that is transported by product packaging ("what is processed") but also consider the entire processing experience, which includes the meta-cognitive experience ("how it is processed").

To mitigate the potentially detrimental effects of multilingual packaging, marketers could take measures to reduce disfluency. For example, graphical design elements (e.g., pictures of flags corresponding to the respective languages) and a clear structure of the text elements placed on packaging could be used to reduce visual complexity, especially in cases where the use of a large number of (unfamiliar) languages can hardly be avoided.

Multilingual packaging can also have adverse effects from a consumer's perspective. Due to the impairment of processing fluency, consumers experience a higher cognitive load in processing product information. When cognitive capacities are depleted, consumers are more likely to make questionable consumption decisions, for example, by acting against long-term goals (Fedorikhin and Patrick 2010). Any changes made by companies to increase processing fluency associated with their packaging would therefore also benefit consumers.

Finally, our findings offer significant insights beyond the realm of packaging design. Multilingualism is frequently observed in various marketing materials. Moreover, the implications of these insights surpass the boundaries of retail and product marketing and encompass any context in which multilingual communication is used.

*Limitations and avenues for future research.* Naturally, the present research is not without limitations. One of them is that our study examines multilingual product

packaging from a European perspective; that is, we conducted the studies in Germany, sampled German native speakers, and used other European languages as familiar languages. However, we argue that our findings provide insights into general psychological mechanisms regarding the perceived processing experience that are likely to generalize irrespective of the consumer's country. Nevertheless, we need to mention this limitation, as the overall consumer response to multilingual packaging may be different in other parts of the world. Further influencing factors might include the relationships between countries in a geographical region and the cultural distance between different countries and regions (e.g., Grewal and Roggeveen 2020; Hoppner and Griffith 2015; Shavitt and Barnes 2020).

Moreover, we based our investigation in a country with a single predominant language. In such countries, multilingual packaging is less frequent than in multilingual countries, such as Belgium or Canada, where legal requirements often mandate the inclusion of information in various official languages. It can be speculated that, in a multilingual country, the effects may be less pronounced because consumers are more accustomed to multilingual stimuli. Nevertheless, additional unfamiliar languages could still have detrimental effects on consumers' processing experiences. Exploring the boundary conditions related to a country's multilingualism presents a compelling direction for future research.

We deliberately did not include product information in the English language in our studies. Due to its nature as a global lingua franca, the English language plays a special role in communication and marketing (Piller 2003). Unlike other languages, it can be considered a nonnational language that is mainly associated with globalization. However, future studies may wish to include English to increase the generalizability of the results.

Furthermore, in our studies, the native language information was consistently placed above the foreign language translations. For most of the product packaging stimuli, this information was even printed in a slightly larger font size, indicating that it was the primary language. This was done to make the fictional products seem real to the study participants, as multilingual packaging in Germany often features German as the first, or one of the first languages. We suspect that this led to a more conservative manipulation of multilingual packaging because the study participants did not have to search for the product information in their native language. However, further studies may benefit from randomizing the order of languages to capture the full range of consumer responses to multilingual packaging.

Finally, future research should more thoroughly investigate the moderating effect of product complexity. Given the frequent association of multilingual packaging with technical products, we used them as an example of complex products. Nevertheless, an examination of what role the amount of information to be processed plays with regard to the effects of multilingual packaging could be pursued. In addition, in cases of high consumer expertise, product complexity might play only a subordinate role. These facets should be addressed in future research endeavors.

## 2.5 Appendix

**Table 2-3: Results of a field study on the use of multilingual packaging in Germany.**

	Product categories						Overall
	Cereals	Fruit juice	Shower gel	Dish-washing liquid	Bluetooth speaker	Coffee machine	
No. of inspected products <sup>1</sup>	54	36	50	46	40	43	<i>N</i> = 269
Multilingual packaging in %	38.9%	16.7%	60%	0%	90%	97.7%	50.2%
Average number of languages <sup>2</sup>	7.10	7.83	6.30	-	7.31	9.12	7.64

Notes: <sup>1</sup> Products were inspected at outlets of major German retail chains (e.g., EDEKA, dm-drogerie markt, MediaMarkt);

<sup>2</sup> On multilingual product packaging.

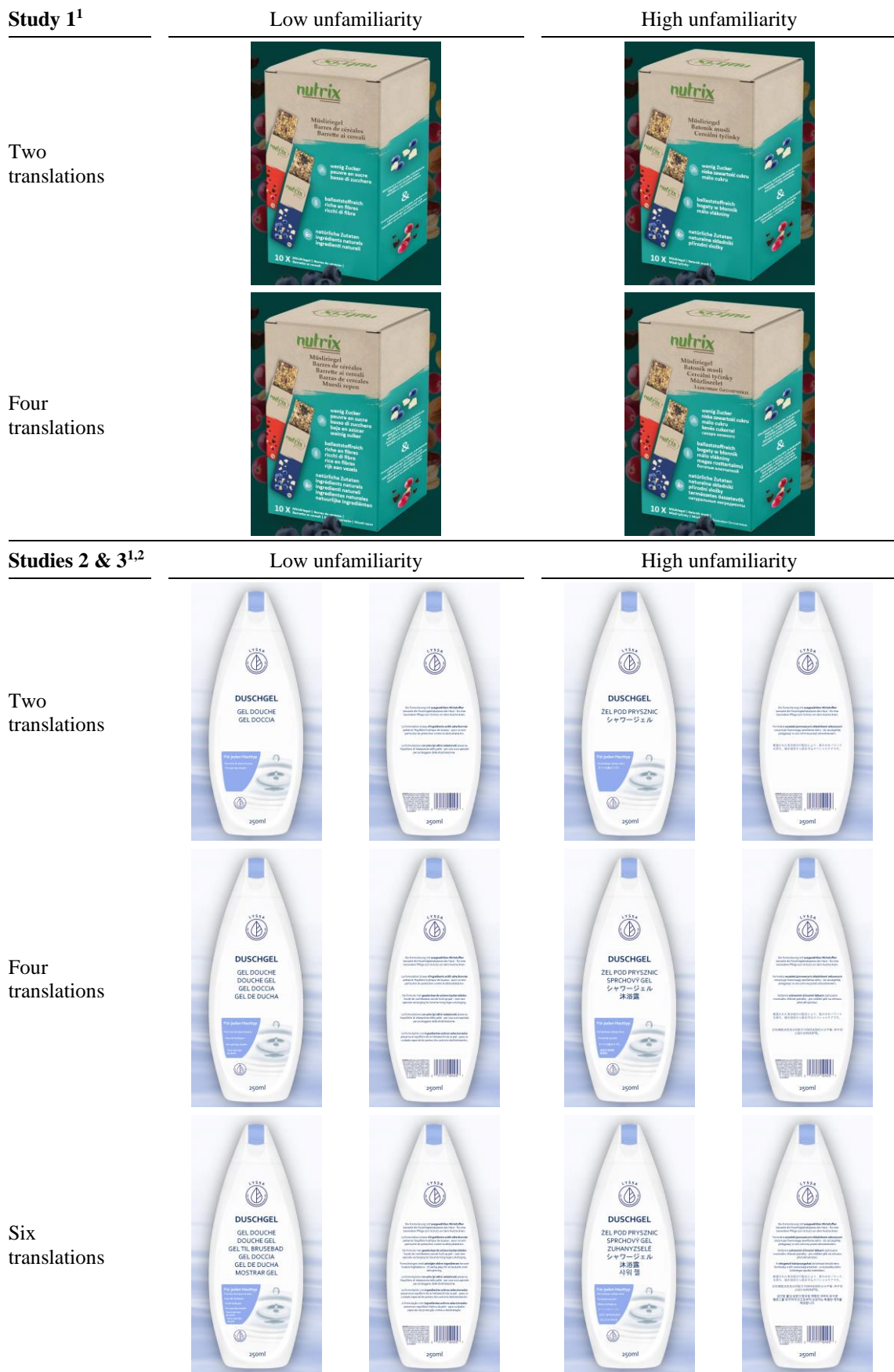
**Table 2-4: Sample characteristics (Studies 1-3).**

Characteristic	Study 1 ( <i>N</i> = 657)	Study 2 ( <i>N</i> = 2103)	Study 3 ( <i>N</i> = 250)
	Convenience sample based on age and gender requirements.	Population representative sample recruited through a panel provider.	Sample recruited via Prolific.
<b>Gender</b>			
Female	48.4%	49.5%	42.4%
Male	51.6%	50.5%	56.0% <sup>1</sup>
<b>Age (mean)</b>	45.76 ( <i>SD</i> = 17.63)	45.31 ( <i>SD</i> = 14.96)	34.25 ( <i>SD</i> = 11.15)
<b>Age brackets</b>			
18–29 years	27.2%	19.8%	41.6%
30–39 years	12.6%	18.8%	32.4%
40–49 years	14%	17.7%	15.2%
50–59 years	18%	23.4%	6.4%
60–70 years	21%	20.3%	3.6%
71–90 years	7.2%	-	.8%
<b>Highest educational level</b>			
Low	12.8%	46.7%	13.6%
Medium	38.2%	24.8%	28.0%
High	46.3%	28.5%	58.4%
Other	2.7%	-	-
<b>Nationality</b>			
German	96.96%	99.33%	98.8%
German and other	.91%	.29%	.8%
Not German	2.13%	.38%	.4%
<b>Native language</b>			
German	93.91%	100%	100%
German and other	6.09%	-	-

Notes: Due to rounding, some columns do not add up to 100%; <sup>1</sup> Other: 1.6%



**Figure 2-6: Examples of the stimulus materials used (Studies 1-3).**



Notes: <sup>1</sup> Not depicted: monolingual control condition;  
<sup>2</sup> Not depicted: monolingual control condition, magnified view of the back, 3D images.

**Table 2-5: Results of a pretest on consumers' familiarity with foreign languages.**

Language	Familiarity <sup>1</sup> (N = 99)	Frequency <sup>2</sup> (N = 99)	Language	Familiarity <sup>1</sup> (N = 99)	Frequency <sup>2</sup> (N = 99)
English	5.95 (1.49)	6.01 (1.61)	Turkish	1.49 (.83)	2.31 (1.46)
French	3.28 (1.82)	3.25 (1.48)	Greek	1.48 (1.02)	1.78 (1.17)
Spanish	2.80 (1.74)	2.85 (1.55)	Arabic	1.39 (.93)	2.10 (1.38)
Dutch	2.66 (1.52)	2.92 (1.39)	Hungarian	1.30 (.66)	1.61 (.90)
Italian	2.30 (1.45)	2.47 (1.26)	Finnish	1.29 (.61)	1.53 (.80)
Portuguese	2.16 (1.19)	2.26 (1.09)	Japanese	1.25 (.75)	1.82 (1.14)
Russian	2.00 (1.62)	2.15 (1.41)	Chinese	1.24 (.88)	1.79 (1.20)
Swedish	1.70 (1.04)	1.90 (.92)	Hindi	1.12 (.48)	1.34 (.74)
Polish	1.64 (1.15)	2.18 (1.34)			

Notes: <sup>1</sup>“How familiar are you with this language?” (1 = “not at all familiar,” 7 = “very familiar”).

<sup>2</sup>“How often do you encounter this language?” (1 = “never encounter it,” 7 = “often encounter it”).

**Table 2-6: Results of mediation analyses (Study 3).**

	<i>Effects on mediators</i>			<i>Effect on DV</i>			<i>Indirect effects</i>		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	IE	Boot SE	Boot 95% CI
<b>Mediator model: Number of translations (0 = two, 1 = six) on product attitude</b>									
Number of translations	-	-	-	-.13	.15	.36	-	-	-
<b>Processing fluency</b>	<b>-.96</b>	<b>.23</b>	<b>&lt; .001</b>	<b>.23</b>	<b>.05</b>	<b>&lt; .001</b>	<b>-.22</b>	<b>.08</b>	<b>[-.39, -.09]</b>
Product–language fit	-.49	.21	< .05	.19	.06	< .01	-.09	.05	[-.21, -.01]
Perceived brand globalness	.35	.23	.13	-.01	.04	.89	-.00	.02	[-.05, .04]
Language attitude	-.53	.16	< .001	.13	.08	.11	-.07	.05	[-.18, .01]
Language image	-.52	.18	< .01	.28	.07	< .001	-.15	.07	[-.29, -.03]
New vs. established brand	.01	.22	.97	.15	.04	< .001	.00	.04	[-.07, .08]
<b>Mediator model: Unfamiliarity (0 = low, 1 = high) on product attitude</b>									
Familiarity	-	-	-	.02	.16	.88	-	-	-
<b>Processing fluency</b>	<b>-.64</b>	<b>.24</b>	<b>&lt; .01</b>	<b>.24</b>	<b>.05</b>	<b>&lt; .001</b>	<b>-.15</b>	<b>.07</b>	<b>[-.31, -.04]</b>
Product–language fit	-1.16	.20	< .001	.19	.06	< .01	-.22	.09	[-.40, -.07]
Perceived brand globalness	.13	.23	.58	-.01	.04	.80	-.00	.01	[-.03, .02]
Language attitude	-.81	.15	< .001	.14	.08	.09	-.11	.07	[-.28, .01]
Language image	-.42	.19	< .05	.28	.07	< .001	-.12	.06	[-.25, -.01]
New vs. established brand	-.80	.22	< .001	.15	.05	< .01	-.12	.05	[-.21, -.04]

Notes: N = 201. | Model 4; 5,000 samples; 95% CI; Hayes 2018.

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### **3 Do good and talk about it (in the right language) – How foreign language processing attenuates the affective response to (im)moral firm behavior**

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**Abstract:** Prior research has established that individuals' moral judgments are influenced when stimuli are processed in a learned foreign language rather than their native tongue. It remains unclear whether such effects hold in a marketing context where the consumer response to a company's (im)moral behavior can have major implications for its image and future sales. In two experimental studies among German native speakers with high English language proficiency ( $N = 356$ ), it was found that individuals report an attenuated affective response toward both immoral and moral firm behavior when they read about it in a foreign language. By attenuating negative and positive emotions, foreign language processing led to more (less) favorable indirect effects on behavioral intentions toward the company whose actions are considered immoral (moral). The results contribute to literature on the moral foreign language effect and on ethical consumption, and provide implications for practitioners in marketing and public relations.

**Keywords:** foreign language, ethical consumption, emotions

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### **3.1 Introduction**

Across the globe, billions of people are able to speak more than just their native language. The English language alone is spoken by over one billion non-native English speakers (Eberhard, Simons, and Fennig 2024). The significance of foreign language use is reflected in the way people consume news. In a recent study among fluent bilinguals from different language backgrounds, Ling, Steichen, and Figueira (2020) found that more than 50% of participants read business news in a foreign language. Business news regularly includes coverage of moral or immoral firm behavior, which is why the consumer response to such stories has received attention in research on ethical consumption (e.g., Jago and Pfeffer 2019). The widespread use of foreign languages, particularly for news consumption, raises the question of whether foreign language information about firm behavior is evaluated differently than the same information in the native language.

In recent years, a growing body of research articles has demonstrated that the moral judgment of individuals is influenced by the language in which they process stimuli. This phenomenon has come to be known as the “moral foreign language effect” (Cipolletti, McFarlane, and Weissglass 2016). Although it has been found to be rather robust across a variety of different dilemmas and language combinations (Hayakawa et al. 2017), there is no consensus about its underlying mechanism. Furthermore, few studies have investigated the moral foreign language effect using close-to-life stimuli.

The objective of the present work is to determine whether foreign language processing of immoral and moral firm behavior leads to different consumer-sided consequences than the same behavior processed in the consumers’ native language. Furthermore, it aims to investigate the underlying mechanism of the moral foreign language effect, and more specifically, whether differences in the consumer response toward (im)moral firm behavior are based on affective or cognitive processes.

### **3.2 Conceptual background**

#### **3.2.1 The moral foreign language effect**

It is intuitive to assume that a person’s decision-making is based solely on their character and the information available to them. However, research has demonstrated that people are also influenced by the language, in which they process choice-situations (see Circi et al. 2021 for a meta-analysis). In the context of moral decision-making, individuals

show a preference for utilitarian over deontological decisions (e.g., Kyriakou, Foucart, and Mavrou 2022), suggesting that they prioritize optimal decisions over the adherence to moral rules (Greene 2008). This effect on moral decision-making was originally identified using the footbridge dilemma, in which a choice must be made between the sacrifice of one person or the death of five people. Participants in the foreign language condition were more likely to make the utilitarian choice of sacrificing a person (Costa et al. 2014b). Subsequent studies replicated this result for various dilemmas and language combinations (e.g., Geipel, Hadjichristidis, and Surian 2015b; Hayakawa et al. 2017). Foreign language processing has also been linked to (dis)honest behavioral tendencies (e.g., Bereby-Meyer et al. 2020; Gai and Puntoni 2021) and to more lenient judgments for immoral behavior (Geipel, Hadjichristidis, and Surian 2015a), further demonstrating that ethical behavior is not independent of language.

Research has not yet reached a consensus on the origin of the foreign language effect. Available explanations can be broadly divided into those based on cognitive processes and those based on affective response. With regard to cognitive processing, it has been argued that the difficulty associated with the use of a foreign language serves as a signal that promotes controlled and analytical elaboration (e.g., Costa, Vives, and Corey 2017). Further, foreign language processing might increase psychological distance, which is associated with a higher construal level and more abstract mental representations (e.g., Braida, Rodríguez-Ferreiro, and Hernández 2023; e.g., Hayakawa et al. 2016). Regarding the affective response, researchers have argued for a *reduced emotionality hypothesis*, which posits that stimuli in a foreign language elicit a weakened emotional resonance (e.g., Caldwell-Harris 2015; Puntoni, De Langhe, and van Osselaer 2009). This is based on the assumption that words and phrases are imbued with emotion when they are acquired, with the majority of people learning their native language in a more emotional context than any additional foreign languages (Harris, Gleason, and Aycicegi 2006).

### **3.2.2 The role of emotions in moral judgments**

To examine a potential effect of foreign language processing on the response toward (im)moral firm behavior, one must first establish how moral judgments are formed. Such considerations were traditionally explained using rationalist models that focus on reasoning (Zollo 2021). However, a growing body of research has since emphasized the influence of emotions on moral judgment (e.g., Winterich, Morales, and Mittal 2015). Haidt's (2001) intuitionist theory, for instance, argues that non-rational

components such as moral emotions are the drivers of moral reasoning. The significance of moral emotions has also been established in the consumer behavior literature: Studies have shown that company actions can evoke positive and negative emotions which consequently influence consumers' response to the company (e.g., Xie, Bagozzi, and Grønhaug 2015; Xu, Bolton, and Winterich 2021).

In this manuscript, I argue that the processing of (im)moral firm behavior in a learned foreign language, rather than the native tongue, elicits a weaker emotional resonance. I suggest that this attenuation of affect influences the consumers' behavioral intentions, to the benefit of companies that act immorally and the detriment of companies that act morally. These assumptions are based on the established role of emotions in the formation of moral judgments (e.g., Haidt 2001) and the *reduced emotionality hypothesis*, which describes the capacity of foreign language use to attenuate the affective response (e.g., Caldwell-Harris 2015). Thus, I propose:

- H1.** Foreign language processing of immoral firm behavior elicits (a) less negative emotions, resulting in (b) a more favorable purchase intention and (c) less negative word-of-mouth.
- H2.** Foreign language processing of moral firm behavior elicits (a) less positive emotions, resulting in (b) a less favorable purchase intention.

### 3.3 Empirical studies

Two studies were conducted to test these hypotheses. Consistent with research on the moral foreign language effect, which has focused on stimuli with negative associations (i.e., moral transgressions), the first study focused on the emotional response to immoral firm behavior. The second study replicated the research design for a different scenario and also considered the positive emotional response to moral firm behavior.

#### 3.3.1 Study 1

*Experimental design and sample.* The empirical study followed a 2 (language: native vs. foreign language) x 2 (firm behavior: immoral vs. moral) between-subjects design. Data was collected via an online questionnaire using a student sample of 199 native German speakers ( $M_{\text{age}} = 24.54$ ,  $SD = 3.11$ ; 63.8% female). Several steps were taken to ensure that the results were not influenced by insufficient English language proficiency or differences between the experimental groups. First, students could only

participate in the study if they reported to have at least moderate English language proficiency. Second, statistical tests were conducted to ensure that the four groups did not differ in terms of English education and current use of English. Sample characteristics, including details on the foreign language background, are presented in Table 3-1.

**Table 3-1: Sample characteristics (Studies 1 and 2).**

Characteristic	Study 1 (N = 199)	Study 2 (N = 157)
	Student sample	Convenience sample
<b>Gender</b>		
Female	63.8%	52.9%
Male	36.2%	46.5%
Diverse	0%	.6%
<b>Age (Mean)</b>	24.54 (SD = 3.11)	29.81 (SD = 9.41)
<b>Native language</b>		
German	100%	98.1%
German and other	0%	1.9%
<b>Begin of English education</b>	8.37 (SD = 2.81)	10.06 (SD = 4.54)
<b>Context of English education</b>		
Primarily instructed	85.4%	82.8%
Primarily English-speaking	14.6%	17.2%
<b>Current use of English<sup>1</sup></b>		
In a private context	4.11 (SD = 1.68)	4.71 (SD = 1.85)
In a business context	4.12 (SD = 1.76)	4.85 (SD = 1.93)

Notes: <sup>1</sup> 1 = “never,” 7 = “very often”; All participants self-assessed their English language proficiency as four or higher on a seven-point scale from 1 = “very bad” to 7 = “very good”.

*Stimuli.* The firm behavior manipulation was implemented through two separate scenarios adapted from a manipulation employed by Folkes and Kamins (1999). They describe a fictitious tablet PC company engaging in two different types of hiring behavior: In the moral firm behavior condition, the company is known for offering safe and fair employment opportunities in areas affected by natural disasters. In the immoral firm behavior condition, the firm manufactures its components using child labor. The English and German scenarios were created by bilinguals using translation and back-translation to ensure that they contain the same information.

*Measures.* Purchase intentions were measured using an item by Folkes and Kamins (1999; “If you needed to purchase a tablet PC, would you consider the company your friend told you about?”). Two items by Grappi, Romani, and Bagozzi (2013) were used to measure negative word-of-mouth, that is, consumers’ intentions to speak unfavorably about the company (e.g., “I would discredit the company with my friends, relatives, or other people,”  $r = .92$ ). Following Geipel, Hadjichristidis, and Surian (2015b), the emotions “upset,” “worried,” and “sad” ( $\alpha = .88$ ) were used to measure the affective

response. I included measures of psychological distance and cognitive elaboration to test explanations of the foreign language effect that are based on cognitive processes. All measures are shown in Table 3-2. All items were measured on seven-point scales.

**Table 3-2: Questionnaire items (Studies 1 and 2).**

Constructs	Measures	Reliability
<i>Study 1</i>		
Purchase intention (Folkes and Kamins 1999)	If you needed to purchase a tablet PC, would you consider the company your friend told you about? (1 = definitely would not, 7 = definitely would)	-
Negative word-of-mouth (Grappi, Romani, and Bagozzi 2013)	I would say negative things about this company to friends, relatives, and other people. (1 = do not agree at all, 7 = totally agree) I would discredit the company with my friends, relatives, or other people. (1 = do not agree at all, 7 = totally agree)	$r = .92$
Negative emotions (Geipel, Hadjichristidis, and Surian 2015b)	Thinking about the scenario I just read, I felt ... upset/worried/sad. (1 = not at all, 7 = very much)	$\alpha = .88$
Psychological distance (Van Boven et al. 2010)	The scenario described seems ... (1=very close, 7=very distant)	-
Cognitive elaboration (Fitzsimons and Shiv 2001)	To which extent have you thought about the company's behavior as described? (1 = very low extent, 7 = very high extent) How much time did you spend thinking about the company's behavior as described? (1 = very short time, 7 = very long time) How much attention did you pay to the company's behavior as described? (1 = very little attention, 7 = very much attention)	$\alpha = .80$
<i>Study 2</i>		
Purchase intention (Dodds, Monroe, and Grewal 1991)	My willingness to buy the product is ... (1 = very low, 7 = very high) The probability that I would consider buying the product is ... (1 = very low, 7 = very high)	$r = .94$
Negative emotions (Escadas, Jalali, and Farhangmehr 2020)	Based on the information presented in the scenario, I feel ... guilty/remorseful/uncomfortable/sad.	$\alpha = .94$
Positive emotions (Escadas, Jalali, and Farhangmehr 2020)	Based on the information presented in the scenario, I feel ... happy/proud/satisfied/confident.	$\alpha = .80$
Construal level (Williams, Stein, and Galguera 2014)	When thinking about the behavior of the company, ... ... I focused on the details/I focused on the big picture. ... I thought about the scenario on a low level/high level.	$r = .51$
Cognitive elaboration (Sela, Wheeler, and Sarial-Abi 2012)	How carefully have you thought about the information contained in the scenario? (1 = not carefully at all, 7 = very carefully) How much effort did you put into thinking about the manufacturer? (1 = very little effort, 7 = a lot of effort)	$r = .76$

Self-importance of moral identity (Aquino and Reed 2002)	Look at the following characteristics and answer the statements about them: honest, fair, hardworking, friendly, caring, helpful, generous, kind.	
	It would make me feel good to be a person who has these characteristics. (1 = do not agree at all, 7 = totally agree)	
	Being someone who has these characteristics is an important part of who I am. (1 = do not agree at all, 7 = totally agree)	$\alpha = .78$
	I would be ashamed to be a person who has these characteristics. (1 = do not agree at all, 7 = totally agree)	
	Having these characteristics is not really important to me. (1 = do not agree at all, 7 = totally agree)	
Product category involvement (Zaichkowsky 1985)	I strongly desire to have these characteristics. (1 = do not agree at all, 7 = totally agree)	
	The product category is very important to me. (1 = do not agree at all, 7 = fully agree)	$r = .94$
	The product category means a lot to me. (1 = do not agree at all, 7 = fully agree)	

*Results – Hypothesis 1.* It was hypothesized that consumers who process immoral firm behavior in a learned foreign language would experience lower levels of negative emotions. A two-way ANOVA between language and firm behavior revealed an interaction effect on negative emotions ( $F_{1,195} = 6.40, p < .05$ ). In support of *H1a*, planned contrasts indicated that immoral behavior elicited less negative emotions in the foreign language ( $M_{\text{native/immoral}} = 5.43$  vs.  $M_{\text{foreign/immoral}} = 4.78, T_{195} = -2.39, p < .01$ ). No changes could be observed for the moral behavior. There were also significant interaction effects for purchase intention ( $F_{1,195} = 9.18, p < .001$ ) and negative word-of-mouth ( $F_{1,195} = 4.44, p < .05$ ). For immoral firm behavior, foreign language processing led to higher purchase intention ( $M_{\text{native/immoral}} = 1.72$  vs.  $M_{\text{foreign/immoral}} = 2.96, T_{66.2} = 4.39, p < .001$ ) and lower negative word-of-mouth ( $M_{\text{native/immoral}} = 5.44$  vs.  $M_{\text{foreign/immoral}} = 4.81, T_{195} = -2.25, p < .05$ ). Results of the mean-value comparisons are shown in Table 3-3.

**Table 3-3: Results of mean value comparisons (Study 1).**

	Immoral behavior		Moral behavior		ANOVA
	German ( $n = 50$ )	English ( $n = 48$ )	German ( $n = 50$ )	English ( $n = 51$ )	
Negative emotions	5.43 (1.25)	4.78 (1.43)	2.85 <sub>a</sub> (1.25)	3.16 <sub>a</sub> (1.44)	Model: $F(3,195) = 43.11, p < .001$ Int.: $F(1,195) = 6.40, p < .05$
Purchase intention	1.72 (.83)	2.96 (1.77)	5.32 <sub>a</sub> (1.39)	5.43 <sub>a</sub> (1.08)	Model: $F(3,195) = 97.00, p < .001^*$ Int.: $F(1,195) = 9.18, p < .001$
Negative WOM	5.44 (1.56)	4.81 (1.57)	1.93 <sub>a</sub> (1.22)	2.13 <sub>a</sub> (1.12)	Model: $F(3,195) = 85.64, p < .001$ Int.: $F(1,195) = 4.40, p < .05$

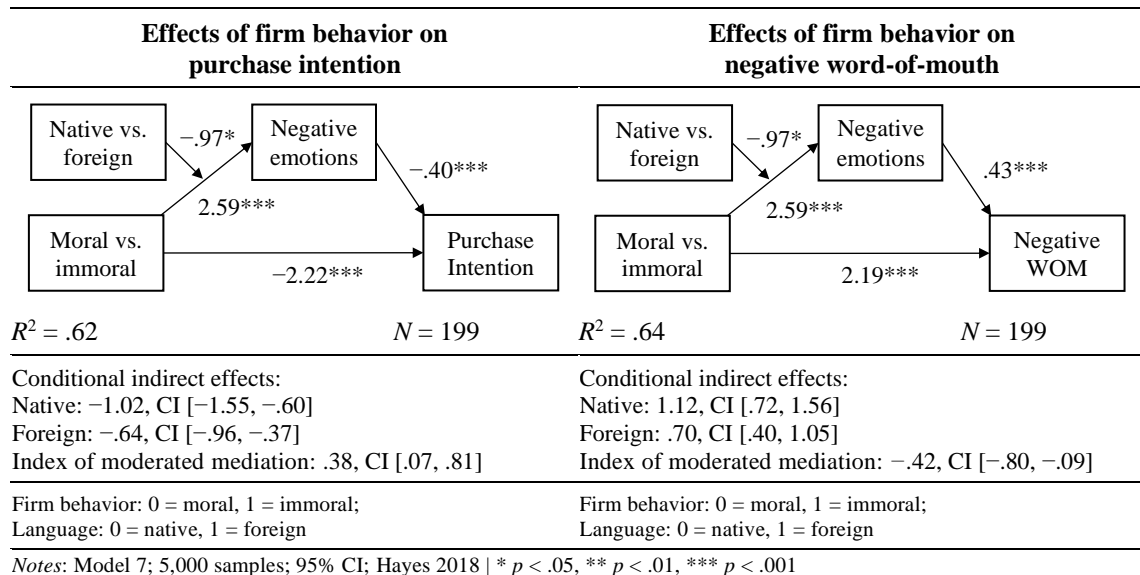
*Notes:* Standard deviations in parentheses; all items measured on seven-point scales. \*Unequal variances.

Within each row, values with the same subscript are *not* significantly different ( $p > .05$  based on planned contrasts).



I further argued that foreign language processing would attenuate the negative emotions elicited by immoral firm behavior, leading to more favorable indirect effects on behavioral intentions. Two moderated mediation models were calculated to test whether language moderates the indirect effect through negative emotions (Model 7; 5,000 samples; 95% CI; Hayes 2018; see Figure 3-1). In both language conditions, negative emotions mediated the effect of immoral firm behavior. The indices of moderated mediation (IMM) revealed significant differences between the indirect effects depending on language. As expected, participants who processed immoral firm behavior in a foreign language experienced less negative emotions, resulting in a more positive indirect effect on purchase intention (IMM: .38, CI [.07, .81]) and a more negative indirect effect on negative word-of-mouth (IMM:  $-.42$ , CI [ $-.80$ ,  $-.09$ ]).

**Figure 3-1: Results of moderated mediation analyses (Study 1).**



To examine whether the foreign language stimuli affected participants' cognitive processing, I repeated the moderated mediation analyses with psychological distance and cognitive elaboration as the mediators. No indirect effects on purchase intention or negative word-of-mouth were observed.

### 3.3.2 Study 2

*Experimental design and sample.* The second study followed the same experimental design used in Study 1. Data was collected from 157 native German speakers ( $M_{age} = 29.81$ ,  $SD = 9.41$ ; 46.5% female; see Table 3-1 in section 3.3.1) via an online questionnaire. Sufficient English language proficiency and similar foreign language

learning and usage backgrounds were ensured using the same methods and criteria as in Study 1, with participants also having to pass a short language comprehension quiz (Hayakawa et al. 2017). Five items from the self-importance of moral identity scale, developed by Aquino and Reed (2002), were used to ensure that the study results would not be confounded by differences between the experimental groups in terms of moral characteristics (2002, e.g., “I strongly desire to have these characteristics: caring, compassionate, fair, friendly, generous, helpful, hardworking, honest, kind,”  $\alpha = .78$ ). The self-importance of moral identity did not differ across the four research groups ( $F_{3,153} = 1.95, p = .125$ ).

*Stimuli.* Mirroring Study 1, the stimuli consisted of two scenarios describing immoral or moral firm behavior. This time, participants were informed about a coffee brand known for providing poor (excellent) working conditions and low (high) wages to their farmers. Coffee was used as the test product because it has different characteristics compared to the expensive technological product used in Study 1, and because the working conditions of coffee farmers are a topic regularly covered in the media. Both, product category involvement ( $M = 4.11, SD = 1.96; F_{3,153} = .15, p = .93$ ) and frequency of use ( $M = 4.69, SD = 2.21; F_{3,153} = .46, p = .71$ ) did not differ between experimental groups. There was an additional deviation from the scenarios used in Study 1: Participants in the immoral condition were informed that they could easily buy the product at a regular store, whereas participants in the moral condition would have to buy it at a specialized store. This was done to increase the realism of the scenario, as ethical consumer choices are often associated with certain downsides (i.e., higher price, lower accessibility).

*Measures.* Purchase intention was measured using items by Dodds, Monroe, and Grewal (1991; e.g., “My willingness to buy the product is... very low/very high,”  $r = .94$ ). Measures for negative (guilty, remorseful, uncomfortable, sad,  $\alpha = .94$ ) and positive (happy, proud, satisfied, confident,  $\alpha = .94$ ) emotions were adapted from research on the role of emotions in ethical consumer decision-making (Escadas, Jalali, and Farhangmehr 2020). For additional analyses on the consumers’ cognitive processes, measures of construal level and cognitive elaboration were included. All items are shown in Table 3-2 of section 3.3.1.

*Results – Hypothesis 1.* A two-way ANOVA was conducted to test the effects of language and firm behavior on negative emotions. As in Study 1, a significant interaction was observed ( $F_{1,153} = 6.76, p = .01 < .05$ ). In line with *H1a*, planned contrasts showed that foreign language processing led to less negative emotions in the immoral firm

behavior condition ( $M_{\text{native/immoral}} = 4.92$  vs.  $M_{\text{foreign/immoral}} = 4.20$ ,  $T_{76} = -2.02$ ,  $p < .05$ ). No significant differences were observed in the moral condition. Using moderated mediation analysis (Model 7; 5,000 samples; 95% CI; Hayes 2018), it was confirmed that immoral firm behavior resulted in a weaker indirect effect through negative emotions on purchase intention when processed in a foreign ( $b = -1.10$ , CI  $[-1.54, -.73]$ ) rather than the native language ( $b = -1.60$ , CI  $[-2.18, -1.09]$ ; IMM: .50, CI  $[.11, .94]$ ).

**Table 3-4: Results of mean value comparisons (Study 2).**

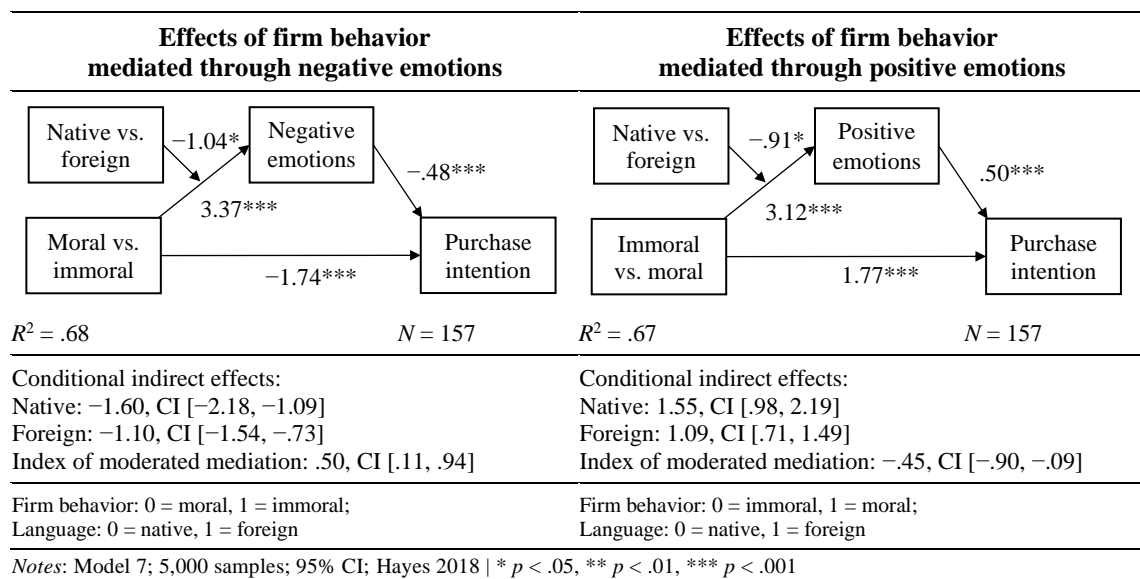
	Immoral behavior		Moral behavior		ANOVA
	German ( <i>n</i> = 40)	English ( <i>n</i> = 38)	German ( <i>n</i> = 39)	English ( <i>n</i> = 40)	
Negative emotions	4.92 (1.60)	4.20 (1.52)	1.55 <sub>a</sub> (.82)	1.88 <sub>a</sub> (.89)	Model: $F(3,153) = 69.72$ , $p < .001^*$ Int.: $F(1,153) = 6.76$ , $p = .01 < .05$
Positive emotions	1.76 <sub>a</sub> (.97)	1.70 <sub>a</sub> (.69)	4.87 (1.47)	3.90 (1.21)	Model: $F(3,153) = 77.93$ , $p < .001^*$ Int.: $F(1,153) = 6.48$ , $p = .012 < .05$
Purchase intention	1.96 <sub>a</sub> (1.09)	2.51 <sub>a</sub> (1.33)	5.86 (.91)	4.80 (1.52)	Model: $F(3,153) = 87.78$ , $p < .001^*$ Int.: $F(1,153) = 16.59$ , $p < .001$

Notes: Standard deviations in parentheses; all items measured on seven-point scales. \*Unequal variances.

Within each row, values with the same subscript are *not* significantly different ( $p > .05$  based on planned contrasts).

*Results – Hypothesis 2.* To test whether foreign language processing could also influence the positive affective response of consumers, another two-way ANOVA was calculated. As expected, an interaction effect between language and firm behavior was found ( $F_{1,153} = 6.48$ ,  $p = .01 < .05$ ). A direct effect indicated that positive emotions were generally lower in the foreign language ( $M_{\text{native}} = 3.29$  vs.  $M_{\text{foreign}} = 2.83$ ,  $F_{1,153} = 8.26$ ,  $p < .01$ ). In support of *H2a*, planned contrasts showed that foreign language processing led to lower positive emotions in the moral firm behavior condition ( $M_{\text{native/moral}} = 4.87$  vs.  $M_{\text{foreign/moral}} = 3.90$ ,  $T_{73.57} = -3.85$ ,  $p < .001$ ), while no differences were observed in the immoral condition. A moderated mediation model (Model 7; 5,000 samples; 95% CI; Hayes 2018) showed that moral firm behavior led to an indirect effect through positive emotions on purchase intention. In line with *H2b*, this indirect effect was weaker in the foreign language ( $b = 1.09$ , CI  $[.71, 1.49]$ ) than in the native language condition ( $b = 1.55$ , CI  $[.98, 2.19]$ ; IMM:  $-.45$ , CI  $[-.90, -.09]$ ). Mean-value comparisons and mediation models for Study 2 can be found in Table 3-4 and Figure 3-2.

As in Study 1, I calculated additional moderated mediation models to test whether foreign language use caused changes in cognitive processing. In line with expectations, firm behavior did not cause an indirect effect through construal level or cognitive elaboration in either the native or the foreign language condition.

**Figure 3-2: Results of moderated mediation analyses (Study 2).**

### 3.4 Discussion

In two empirical studies, this research finds evidence for an effect of foreign language processing on the consumer response to (im)moral firm behavior. In Study 1, participants in the foreign language condition experienced lower levels of negative emotions, which led to more favorable indirect effects on behavioral intentions toward the company acting immorally. Study 2 expanded upon these findings by including measures for positive and negative emotions. Again, participants who read the immoral firm behavior scenario in a foreign language reported lower levels of negative affect. Furthermore, foreign language processing also led to attenuated positive affect elicited by moral firm behavior. Language moderated the indirect effects through negative and positive emotions. Through changes in the affective response, foreign language processing led to a more favorable consumer response to immoral firm behavior, but a less favorable response to moral firm behavior.

This research is relevant to public relations and marketing decision makers. The results suggests that the communication of admirable company actions, for example through press releases or corporate social responsibility (CSR) advertisements, should occur in the consumers' native language. Misdeeds, on the other hand, should be communicated in a foreign language whenever possible to reduce the negative emotional resonance. Furthermore, insights gained from this work can help practitioners to better anticipate the consumer response to negative press related to immoral firm behavior.

The present study contributes to research on the moral foreign language effect by demonstrating that foreign language processing influences judgments in the context of ethical consumption decisions. Concerning the lingering questions about the mechanisms underlying the moral foreign language effect, this study provides support for an explanation based on attenuated affect (e.g., Costa et al. 2014b). Conversely, the data did not support explanations based on increased elaboration or greater psychological distance. Within the literature on ethical consumption, this work is the first to suggest language as a predictor of the consumer response toward (im)moral firm behavior.

Future research could increase the practical applicability of the results by using company-issued messages as stimuli, such as press releases or apology advertisements. Furthermore, the integration of more varied measures of emotion, such as facial expression recognition technology, could enrich this research and literature on the foreign language effect in general.

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## 4 How providing public COVID-19 mitigation instructions in a foreign language can increase people's sense of control

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**Abstract:** Processing information in a learned foreign language can alter one's judgment or cognitive evaluation of stimuli. Documented consequences include a reduction in perceived negativity and perceived severity of crime or diseases. The global COVID-19 pandemic has offered a unique opportunity to investigate this phenomenon in a real-life public health communication context. The aim of this study is to investigate how foreign language processing influences people's reaction towards freedom-restrictive messages. In our experimental study ( $N = 605$ ), we presented participants with pandemic mitigation instructions in their native language versus a learned foreign language and assessed their perceived sense of control, cognitive evaluation of the instructions, and the intention to adhere to them. The results indicated that the use of a foreign language influenced people's perceived sense of control in a way that might intuitively be surprising: foreign language use enhanced sense of control. This positively influenced the cognitive evaluation of the instructions' effectiveness and the intention to comply with them. The present research demonstrates that foreign language processing influences individuals' responses to specific, real-life instructions. Our results provide important contributions to the literature on foreign language effects and public communication and enable practitioners to more accurately predict recipient responses to global crisis communications.

**Keywords:** foreign language, sense of control, crisis communication

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## 4.1 Introduction

When navigating the coronavirus pandemic (COVID-19) after its outbreak in 2019, governments, institutions, brands, and service providers have frequently issued new pandemic mitigation instructions. These public actors have aimed to convince citizens to adhere to the new rules in order to ensure public safety. However, this was not always a given: press reports have documented examples from many countries, indicating that countless people have criticized and defied public health instructions (e.g., Carothers and Press 2020; Wiest 2020). Scholarly research shows that these public health messages are perceived and reacted to in different ways by individuals. It has been posited that people want to receive clear instructions on how to act to protect themselves and others when faced with threats (Gray et al. 2012). However, recent studies have also shown that such freedom-threatening messages can elicit negative reactions in recipients, leading, for example, to a lower intention to behave in a socially responsible manner and greater psychological reactance (Shoenberger, Kim, and Sun 2021). Similarly, public health messages perceived as threatening can elicit highly negative emotional reactions (Heffner, Vives, and FeldmanHall 2021).

When looking beyond messages, the pandemic, with all its consequences, has negatively affected the well-being of many people. Poorer sleep quality (Franceschini et al. 2020) and increased suicidal thoughts during lockdowns (Killgore et al. 2020) are clear indicators of this development. Crisis hotline calls have spiked during the COVID-19 pandemic, even more so, when new mitigation instructions have been communicated (Arendt et al. 2020). The COVID-19 pandemic and its accompanying restrictions on peoples' lives is the epitome of the type of situation in which many people experience feelings of a lack of personal control (Wnuk, Oleksy, and Maison 2020). One key reason is that the measures taken to mitigate the pandemic are very intrusive regarding people's personal lives. For instance, the citizens of many countries have experienced the need to reduce social contacts and adhere to lockdown regulations. In line with this, it has been proposed that especially, but not only, adolescents have experienced a strong loss of autonomy and freedom due to restrictions during the pandemic (Zhu et al. 2020). If individuals cannot behave as they wish, their sense of control over their environment and behavior is threatened (Mühlberger, Jonas, and Sittenthaler 2016). However, the maintenance and pursuit of personal control is one of humankind's central motivations (Kay et al. 2009). This sense of control is sometimes framed as a feeling of dominance,

which relates to feeling influential and in control over one's own environment, in contrast to experiencing a total lack of control (Lang 1980; Russell and Mehrabian 1977). Due to the importance of people experiencing control over their own lives for their well-being and motivation for action (e.g., Bandura 1977; Fiske and Taylor 1991), studying how a sense of control can be influenced seems essential.

Our study aimed to use knowledge of how foreign languages affect human perception and judgment to better understand people's reactions to restrictive public health messages and instructions that affect people's sense of control. Based on findings from foreign language research, we assume that using a foreign language can reduce feelings of a lack of control. Empirical evidence shows that processing stimuli in a foreign language can lead to a reduction in perceived negativity, such as less severe judgments of medical conditions (Hayakawa, Pan, and Marian 2022) or crimes (Woumans, van der Cruyssen, and Duyck 2020). Most recently, one study even investigated the negativity-reducing influence of foreign language on COVID-19 vaccine attitudes (Geipel, Grant, and Keysar 2022). The results of this study indicate that by increasing trust, foreign language reduces hesitancy against corona virus vaccination. Against this background, the research question of this study was whether people react differently to public health messages in a foreign language compared to their native language. More specifically, we investigated whether processing restrictive pandemic mitigation instructions in a foreign language (vs. a native language) could lead to a higher sense of control. In addition, we examined whether this enhanced sense of control can improve the cognitive evaluation of the effectiveness of the instructions and the motivation to comply with them.

Due to increased globalization and migration, this issue is of utmost relevance. Through the pandemic as a global crisis, individuals have been exposed to COVID-19-related content in English as a world language, for example, through social media. Importantly, this includes people from all over the world for whom English is not their native language. Additionally, with increasing migration, many people are confronted with public communication in a language that is foreign to them.

In the following section, we provide a theoretical background grounded in foreign language research and close with our predictions regarding expected effects. We then present an empirical study in which these predictions were tested and discuss our results. Finally, we outline how this research contributes to the extant literature, how practitioners can make use of our findings, and the existing limitations of our study.

## 4.2 Conceptual background

### 4.2.1 Foreign language processing

Research on foreign language processing has been conducted in a variety of contexts. Until now, prior research has often investigated the influence of foreign versus native language on cognitive evaluations and decision-making. This research has mostly studied rather abstract and hypothetical scenarios, such as the trolley dilemma (Geipel, Hadjichristidis, and Surian 2015b), fiction book excerpts (Dylman and Bjärtå 2019), the Asian disease problem (Keysar, Hayakawa, and An 2012), and bad luck/superstition scenarios (Hadjichristidis, Geipel, and Surian 2019). Only a few studies have applied a more realistic context to foreign language research (e.g., Champoux-Larsson and Knežević Cvelbar 2021; Geipel, Grant, and Keysar 2022; Geipel, Hadjichristidis, and Klesse 2018; Hayakawa, Pan, and Marian 2022). To the best of our knowledge, no studies have investigated foreign language use in the context of public health communication.

Research results regarding the influence of foreign language on information processing, judgments, and behavior are diverse and inconsistent. So far, it is known that the use of a foreign language influences a variety of cognitive responses, such as decision-making or judgments, which lead to different outcomes compared to the use of a native language. However, the underlying mechanism of these differences has not yet been conclusively clarified in research.

Early research provided initial evidence that foreign language use might decrease the emotional intensity of a stimulus (e.g., Dewaele 2004; Hadjichristidis, Geipel, and Savadori 2015; Puntoni, De Langhe, and van Osselaer 2009). It has been suggested that using a foreign language might promote increased analytical thinking, which could lead to the attenuation of emotions (e.g., Costa et al. 2014a; Keysar, Hayakawa, and An 2012). However, recent research has cast some doubt on the explanatory approaches of attenuated emotions or increased deliberation: For example, contrary to their hypothesis, Geipel, Hadjichristidis, and Surian (2015b) found in their study that the attenuation of emotions did not drive the foreign language effect on moral judgment. As for the proposed increase in analytical thinking, Białek et al. (2020) found evidence in the context of syllogistic reasoning that people who are reasoning in a foreign language compared to their native language even perform worse. The authors assume that these findings can be attributed to perceived difficulties identifying conflicts between competing intuitions in

a foreign language. Additionally, Mækelæ and Pfuhl (2019) did not find evidence that foreign language influences deliberate reasoning for an emotionally neutral task.

When specifically considering people's reactions to pandemic mitigation instructions in a foreign language, we can draw assumptions from previous foreign language research in close-to-reality context studies. It turns out that foreign language use can change the evaluation of a stimulus or situation, in that it reduces the perceived negativity of the subject. Woumans, van der Cruyssen, and Duyck (2020) found that crimes are evaluated as less severe in a foreign language than in a native language. The same holds for medical judgments: Hayakawa, Pan, and Marian (2022) found that the use of a foreign language influences medical judgments. Medical conditions were perceived as less severe in a foreign language; in other words, they were judged as easier to cure, less physically painful, or less emotionally distressing. Geipel, Hadjichristidis, and Klesse (2018) showed that the use of a foreign language increases consumers' willingness to consume aversive products (e.g., recycled water, insect-based food) by reducing disgust. The perceived negativity of the products seems to be attenuated. Furthermore, the use of a foreign language has been shown to reduce the perceived negativity of the coronavirus vaccination in particular; in their study, Geipel, Grant, and Keysar (2022) found that the use of a foreign language reduces vaccination hesitancy by increasing trust.

In addition to a reduction of negativity, the use of a foreign language can also change the cognitive evaluation of the consequences of certain behaviors. This is shown by the results reported by Geipel, Hadjichristidis, and Surian (2016), who found that foreign language use shifts a person's evaluation perspective from intention to outcome, which means that the consequences of a decision are considered more important than the measures taken to achieve those consequences. The authors presented participants with actions that had positive outcomes but dubious intentions in one study and actions with negative outcomes but positive intentions in the second study. Participants in the foreign language conditions reported more positive moral evaluations for the positive outcome scenario and more negative moral evaluations for the positive intentions scenario.

Results from Champoux-Larsson and Knežević Cvelbar (2021) indicated first evidence in another field that people seem likelier to accept inconvenient consequences for themselves when presented in a foreign language. They investigated the influence of the use of a foreign language on a tourism-specific decision-making task. According to their results, the perceived negative personal consequences of a community-oriented yet personally inconvenient choice seem to be reduced. Participants in their study chose a

utilitarian (environmentally friendly) option significantly more in a foreign language, while they chose a selfish and more convenient (less environmentally friendly) option more in their native language. Consumers may have found it easier to deal with the choice that was inconvenient for them when it was presented as such. The overall outcome of the inconvenient eco-friendly behavior may be more important than the selfish, convenient behavior itself.

#### **4.2.2 Predictions**

Due to the confrontation with restrictive pandemic mitigation instructions, people seem to be experiencing multiple negative consequences (e.g., Franceschini et al. 2020; Killgore et al. 2020). In particular, the innate need to exert personal control, which is central for people's well-being, is severely threatened and reduced by the pandemic (Wnuk, Oleksy, and Maison 2020). The preceding considerations suggest that the use of a foreign language can, in fact, reduce the perceived negativity of a stimulus (e.g., Geipel, Grant, and Keysar 2022; Geipel, Hadjichristidis, and Klesse 2018; Hayakawa, Pan, and Marian 2022; Woumans, van der Cruyssen, and Duyck 2020) and induce a cognitive focus towards the outcome of behaviors (Geipel, Hadjichristidis, and Surian 2016), both of which is likely to increase individuals' sense of control. We apply this reasoning to the pandemic as a negatively valenced and threatening situation. Therefore, we propose that reading pandemic mitigation instructions in a foreign language will lead to a higher perceived sense of control compared to the native language.

When looking at the downstream consequences, we argue that a sense of control influences the cognitive evaluation and intention to comply with pandemic mitigation instructions. Sense of control is known to be a major driver of intention to behave in a certain way (e.g., Ajzen 2002). Furthermore, a sense of control can increase a person's capability to withstand distressing or aversive states (Leyro, Zvolensky, and Bernstein 2010), such as adhering to freedom-threatening pandemic mitigation instructions. Xu, Kwan, and Zhou (2020) suggest that a high sense of control can enable people to manage the demands elicited by distressing situations. In their study, they showed that a high sense of control leads to higher motivation for charitable behavior. In other words, people seem to be willing to accept personal disadvantages in order to achieve a greater good. This can be transferred to the pandemic context, where people have to adhere to freedom-restricting mitigation instructions in order to achieve society's overall well-being. This could be attributed to the fact that a high sense of control is often related to self-efficacy

(e.g., Folkman 1984). Self-efficacy refers to the belief that one can perform certain actions that are required to achieve desirable outcomes (Bandura 1977; Rogers 1983). It seems likely that a higher sense of control motivates people to comply with instructions that are inconvenient and threatening yet good for society. We therefore hypothesize that sense of control positively mediates the relationship between language and cognitive appraisal in terms of the effectiveness of the instructions and the intention to comply with them.

## 4.3 Methods

### 4.3.1 Experimental design and stimuli

The study employed a between-subjects design with two conditions: native language (German) versus foreign language (English). All participants were presented with nine mitigation instructions related to the COVID-19 pandemic (see Table 4-1) in one of the two languages. Seven instructions represented actual measures being communicated to the German public at the time of data collection (e.g., “distance: Keep a distance of at least 1.5 meters to other people”), while two reflected public discourse regarding future measures (“compulsory vaccination” and “quarantine”). The instructions addressed aspects of daily life (e.g., “hygiene”) and specific situations (e.g., “holiday restriction”) and covered different levels of restriction. The English counterparts of the German instructions were created by a process of translation and back-translation.

**Table 4-1: COVID-19 mitigation instructions used as stimuli.**

	English (foreign language)	German (native language)
Distance	Keep a distance of at least 1.5 meters to other people.	Halten Sie mindestens 1,5 Meter Abstand zu anderen Personen.
MNC in public	Wear a mouth-nose-cover on public transport and when shopping.	Tragen Sie eine Mund-Nasen-Bedeckung in öffentlichen Verkehrsmitteln und beim Einkaufen.
Hygiene	Follow the rules of hygiene when sneezing, coughing and washing your hands.	Befolgen Sie die Hygieneregeln beim Niesen, Husten und Händewaschen.
MNC in restaurants	Wear a mouth-nose-cover when entering and leaving restaurants and bars.	Tragen Sie eine Mund-Nasen-Bedeckung beim Betreten und Verlassen von Restaurants und Bars.
COVID-19-app	Install the free-of-charge corona-app of the German government on your smartphone.	Installieren Sie die kostenfreie Corona-App der Bundesregierung auf Ihrem Smartphone.
Restriction of leisure activities	Avoid leisure activities in groups over ten people.	Vermeiden Sie Freizeitbeschäftigungen in Gruppen über zehn Personen.

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Holiday restriction	Avoid holiday trips outside of Germany.	Vermeiden Sie Urlaubsreisen außerhalb Deutschlands.
Compulsory vaccination	To be able to participate fully in public life, you must get vaccinated against the coronavirus. Otherwise, you may be banned from attending events and places with large crowds.	Um uneingeschränkt am öffentlichen Leben teilnehmen zu können, müssen Sie sich gegen das Coronavirus impfen lassen. Andernfalls kann Ihnen der Besuch von Veranstaltungen und Orten mit großen Menschenansammlungen untersagt werden.
Quarantine	Since the number of coronavirus infections in your area is increasing rapidly, you will have to go into home quarantine for two weeks.	Da die Anzahl der Coronavirus Erkrankungen in ihrer Gegend schnell ansteigt, müssen Sie sich für zwei Wochen in häusliche Quarantäne begeben.

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### 4.3.2 Participants

Because human participants were involved in the study, additional measures were taken to ensure appropriate conduct. Upon clicking on the link to the online survey, respondents were informed that participation was voluntary and that they could stop the questionnaire at any time. They were informed that the survey was about getting their opinions on various pandemic mitigation instructions. Respondents were made aware that no personal data would be collected. By clicking the start button of the survey, participants consented to their participation. Our study was approved by the ethics committee of the university the authors are affiliated with. The study participants were recruited via an online microwork platform, and consistent with prior research on foreign language processing (e.g., Geipel, Hadjichristidis, and Surian 2015a), a student sample was used. This seemed appropriate because young people are likely to be active on social media, where much of the discourse on global events and crises is in English, which is a foreign language for many individuals (Clark and Araki 2011). In addition, a student sample represents a relatively homogenous group with similar life backgrounds and presumably largely similar attitudes and belief systems, which makes possible biases due to different perceptions of the pandemic less likely. This assumption is supported by the results of a large-scale study amongst German university students, which found that during the time frame of our study, a vast majority (85%) of students supported the governmental lockdown measures (Kohls et al. 2021). In addition, the respondents were native German speakers with a high proficiency in English to avoid confounding effects due to language comprehension. The participants were screened via self-evaluation of their English skills and a text comprehension quiz (Hayakawa et al. 2017). Before being able to enter the main part of the survey, respondents who did not rate their English



language proficiency with five or higher on a 7-point scale were screened out (1 = “no knowledge at all,” 7 = “very good knowledge”). This ensured that the messages were clear and understandable to participants in both language conditions. The questionnaire was completed by 631 respondents, of which 26 were removed because German was not their native language, they were not students, or they had performed poorly on the comprehension quiz. Therefore, the final sample consisted of 605 participants ( $M_{age} = 25.78$ ,  $SD = 4.43$ ; 47.3% female). On average, participants started learning the English language at the age of 9.36 and there was no significant difference regarding the age of acquisition between the respondents in the two conditions ( $M_{NL} = 9.20$  vs.  $M_{FL} = 9.57$ ,  $F_{1,603} = 1.701$ ,  $p = .193$ ). Table 4-2 provides an overview of the participant demographics.

**Table 4-2: Sample characteristics.**

Characteristic	Survey respondents ( $n = 605$ )
<b>Gender</b>	
Female	47.27%
Male	52.07%
Diverse	0.66%
<b>Age (Mean)</b>	25.78 ( $SD = 4.43$ )
<b>Highest education</b>	
Secondary school diploma	44.46%
Bachelor’s degree	41.32%
Master’s degree	10.25%
Other	3.97%
<b>Current occupation: student</b>	100%
<b>Nationality</b>	
German	98.68%
German and other	.33%
Not German	.99%
<b>Native language</b>	
German	98.84%
German & other	1.16%

Note: Due to rounding, some columns do not add up to 100%.

### 4.3.3 Procedure

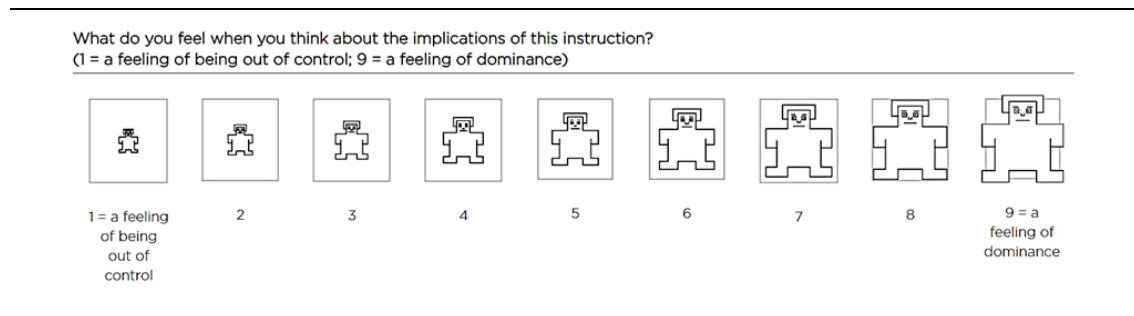
The online survey took place between July and October 2020. During this period, various behavioral recommendations, for example, regarding hygiene rules or travel restrictions, were regularly issued by the German government. After being randomly assigned to one of the two language conditions, the participants provided demographic data and language skill information. Next, each participant evaluated the nine instructions in randomized order—either in English or German, depending on their assignment to the

experimental condition. Finally, the participants provided additional information about their English proficiency. Following prior research, the entire questionnaire was presented either in German (native language) or in English (foreign language).

#### 4.3.4 Measures

To measure sense of control, we used a nine-point bipolar scale (“What do you feel when you think about the implications of this instruction?” 1 = “a feeling of being out of control,” 9 = “a feeling of dominance”) proposed by Lang (1980). Originally, this construct was named dominance. However, the terminology used in the items is that people are asked for their agreement as to how much in control they feel. We decided to use this scale because it was supplemented with images from the Self-Assessment Manikin (Lang 1980), which has been used previously in research on foreign language processing (Hadjichristidis, Geipel, and Surian 2019). The presence of emoticons is an important benefit of this scale because it mitigates a potential anchor contraction effect, which describes the tendency to report more intense emotions on rating scales in a foreign language that can bias the results (De Langhe et al. 2011). The exact scale used in the questionnaire is depicted in Figure 4-1.

**Figure 4-1: Self-Assessment Manikin used to measure sense of control.**



We assessed the participants’ cognitive evaluation of the effectiveness of the pandemic mitigation measures using two items proposed by Peck and Childers (2003; “How confident are you that this measure contributes to the containment of the coronavirus?”, 1 = “not very sure,” 9 = “very sure” and 1 = “not very confident,” 9 = “very confident”;  $r = .94$ ). Behavioral intentions to adhere to the instruction were measured using two items rated on nine-point Likert scales (“It is very likely that I will follow this instruction” and “I think it makes sense to follow this instruction”; 1 = “strongly disagree,” 9 = “strongly agree”;  $r = .88$ ). All measures were assessed after each instruction individually.

In addition, demographics and some control variables were assessed (e.g., gender, age, native language, nationality, and self-evaluation of all language skills of the individual). Because some studies reported the attenuation of emotions to be a driver of differences in foreign language processing (Dewaele 2004; Puntoni, De Langhe, and van Osselaer 2009), we included emotional intensity (“How emotional is this instruction?”, 1 = not emotional, 7 = emotional) and arousal (emoticon supplemented scale by Lang (1980); 1 = “very calm,” 7 = “very aroused”) as additional measures.

#### **4.3.5 Statistical analyses**

All study data was analyzed using the software IBM SPSS Statistics 27. Initially, descriptive analyses were used to describe the sample characteristics. Then, two repeated measure ANOVAs were conducted to compare sense of control, arousal, and perceived emotional intensity between the two language conditions. The nine instructions were included as the within-subjects factor while language, i.e., native (NL) versus foreign (FL), served as the between-subjects factor. Subsequently, mediation analyses were conducted using Hayes’ PROCESS macro (Version 4.1) which employs a bootstrapping method to estimate a confidence interval (Hayes 2018). The indirect effect through the mediator is established if the 95% bootstrap interval does not include 0. First, PROCESS Model 4 was used to calculate two single mediation models with language condition (0 = native language, 1 = foreign language) as the independent variable, sense of control as the mediator and cognitive evaluation of the instructions’ effectiveness and the behavioral intention as the respective dependent variables. As part of additional analyses, PROCESS Model 7 was used to explore the conditional indirect effects of the language condition through sense of control for each individual instruction. In addition to the previously mentioned variables, Model 7 includes a moderator for the relationship between the independent variable and the mediator. Here, a variable classifying the nine individual instructions was used to estimate nine conditional indirect effects. All mediation analyses were run using 5,000 bootstrap samples

## 4.4 Results

### 4.4.1 Direct effect of language

Our first prediction was that processing pandemic mitigation instructions in a foreign language would cause higher levels of sense of control. To test this assumption, we compared the two language conditions—native language (NL) versus foreign language (FL)—across the nine instructions. A one-way repeated measure ANOVA with language as a between-subject factor and nine measures per person for the dependent variable (one for each of the instructions) revealed a significantly higher sense of control ( $M_{NL} = 4.46$  vs.  $M_{FL} = 4.72$ ,  $F_{1,603} = 7.334$ ,  $p = .007$ , partial  $\eta^2 = .012$ ) in the foreign language condition. The effect size was consistent with previous studies on foreign language processing (e.g., Circi et al. 2021; Hayakawa, Pan, and Marian 2022).

This effect does not seem to be driven by an attenuation of emotions. We additionally compared the arousal elicited by the instructions and their perceived emotional intensity across the language conditions using the same type of ANOVAs as described above. The results revealed no differences, neither in terms of arousal ( $M_{NL} = 4.06$  vs.  $M_{FL} = 3.94$ ,  $F_{1,603} = 1.183$ ,  $p = .277$ , partial  $\eta^2 = .002$ ) nor in terms of emotional intensity ( $M_{NL} = 4.60$  vs.  $M_{FL} = 4.70$ ,  $F_{1,603} = .825$ ,  $p = .364$ , partial  $\eta^2 = .001$ ).

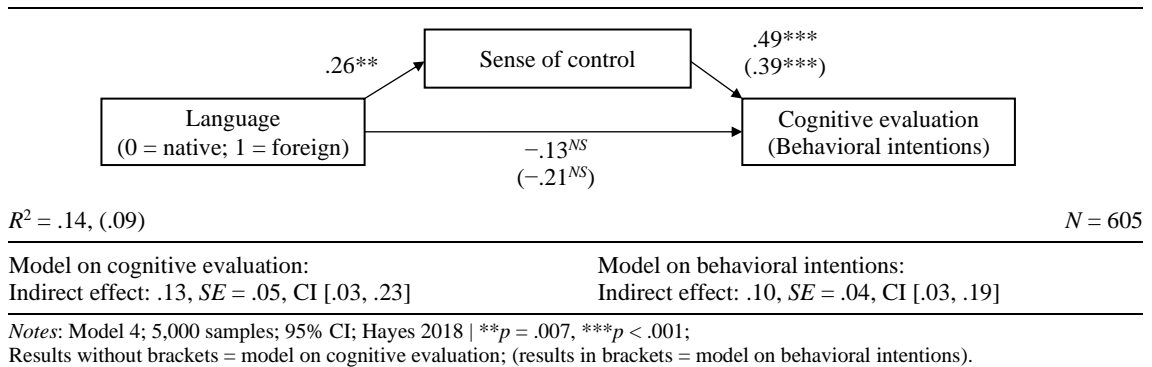
### 4.4.2 Mediation of sense of control on cognitive evaluation and behavioral intention

Moreover, sense of control was expected to mediate the effect of foreign language processing on the cognitive evaluation of the instructions' effectiveness and the behavioral intention to comply with them. To test this assumption, we used bootstrapping to run two mediation models (Model 4; 5,000 samples; 95% CI; Hayes 2018; 0 = native language, 1 = foreign language). To test the model across all instructions, the values for sense of control, cognitive evaluation and behavioral intention were averaged. Consistent with our expectations, sense of control mediated the relationship between language and cognitive evaluation ( $b = .13$ , 95% CI [.03, .23]) of the instructions.

Following the same rationale as for cognitive evaluation, we posited that sense of control will mediate the effect of foreign language processing on behavioral intentions. In line with our assumptions, sense of control mediated the relationship between language and behavioral intentions ( $b = .10$ , 95% CI [.03, .19]). While the predicted mediations through sense of control could be observed, there was no significant main effect of foreign

language processing on cognitive evaluation and behavioral intentions. Both mediation models are depicted in Figure 4-2.

**Figure 4-2: Results of mediation analyses.**



### 4.4.3 Additional analysis

To learn which instructions mainly drive the observed effect, we calculated an additional mediation model in which the nine instructions were included as a moderating factor for the effect of language on sense of control (Model 7; 5,000 samples; 95% CI; Hayes 2018; 0 = native language, 1 = foreign language). The use of a moderated mediation model allowed us to determine for which of the individual instructions the observed mediation occurs. The results showed that foreign language processing led to an increased sense of control for the instructions “restriction of leisure activities,” “holiday restriction,” “compulsory vaccination,” and “quarantine,” and also led to the significant effect across all aggregated instructions. The detailed results for these instructions can be inspected in Table 4-3. No significant results were found for the remaining instructions covering “distance,” “mouth-nose cover in public,” “hygiene,” “mouth-nose cover in restaurants,” and “COVID-19-app.”

The same four instructions – “restriction of leisure activities,” “holiday restriction,” “compulsory vaccination,” and “quarantine” – showed significant conditional indirect effects on both cognitive evaluation and behavioral intention. No significant mediations were found for “distance,” “mouth-nose cover in public,” “hygiene,” “mouth-nose cover in restaurants,” and “COVID-19-app.” Additional analyses showed that the four instructions for which significant mean-value differences and mediations were found were associated with higher levels of emotional intensity than the remaining five instructions ( $M = 3.78$  vs.  $M = 5.71, t_{1,604} = -29.81, p < .001$ ).

**Table 4-3: Partial results of moderated mediation analyses.**

	<b>Conditional effect on sense of control</b>	<b>Conditional IE on cognitive evaluation</b>	<b>Conditional IE on behavioral intentions</b>
Restriction of leisure activities	$b = .41, p = .0103 < .05$ 95% CI [.10, .72]	$b = .13$ 95% CI [.04, .22]	$b = .16$ 95% CI [.05, .28]
Holiday restriction	$b = .38, p = .0174 < .05$ 95% CI [.07, .69]	$b = .12$ 95% CI [.02, .21]	$b = .15$ 95% CI [.03, .26]
Compulsory vaccination	$b = .46, p < .01$ 95% CI [.15, .77]	$b = .14$ 95% CI [.03, .26]	$b = .18$ 95% CI [.04, .33]
Quarantine	$b = .61, p < .001$ 95% CI [.30, .92]	$b = .19$ 95% CI [.08, .30]	$b = .24$ 95% CI [.11, .37]

Notes: Model 7; 5,000 samples; 95% CI; Hayes 2018 | The instructions “distance”, “MNC in public”, “hygiene”, “MNC in restaurants”, and “COVID-19-app” were not included in this table as the respective results were not significant.

## 4.5 Discussion

### 4.5.1 Foreign language response to pandemic mitigation instructions

Our results suggest a higher sense of control when confronted with pandemic mitigation instructions in a foreign language as opposed to the recipient’s native language. Furthermore, we found that the effect of the foreign language on the recipient’s sense of control positively mediated not only behavioral intentions but also shifted the cognitive assessment of a given situation toward a higher confidence in the effectiveness of the instructions. As a result of higher sense of control, compliance with instructions that are freedom-restrictive to a comparatively high degree is considered more useful and purposeful by the recipients.

### 4.5.2 Theoretical contributions

First, we contribute to the literature on crisis communication by showing that the mere usage of a different language changed the response to instructions that were to be obeyed, even though the content was translated to convey the same meaning in both languages. We observed a change in perceived control, which led to an improved belief in the effectiveness of freedom-threatening public health instructions and a higher intention of complying with them. This is a new finding in the health and crisis communication literature that had not been previously documented. It is consistent, though, with the proposed outcomes in Schroeder and Chen's (2021) literature analysis. These authors suggest that using a foreign language decreases fear and anxiety when processing health- and disease-related information, as well as increases rational decision-making.

Moreover, our results show that the described effects were mainly observed for instructions communicating more extreme restrictions or actions (e.g., “compulsory vaccination” and “quarantine”), whereas less extreme measures or regulations (e.g., “distance” and “mouth-nose cover”) are not affected by the difference in processing due to the foreign language. These results imply that the effect only shows for instructions that pose a greater threat to personal freedom: a compulsory vaccination or living in quarantine is far more intrusive into one’s personal life than wearing a mouth-nose cover in public or keeping distance from other people. It should be taken into account that the study was conducted at an early stage of the pandemic when compulsory vaccinations seemed very unlikely and extreme for a majority of people. This seems, however, consistent with foreign language research in other real-world contexts, where differences have been observed in studies with similarly “extreme” stimuli, such as vaccinations (Geipel, Grant, and Keysar 2022), insect-based food (Geipel, Hadjichristidis, and Klesse 2018), crimes (Woumans, van der Cruyssen, and Duyck 2020), or medical conditions (Hayakawa, Pan, and Marian 2022).

On a more general level, it seems that using a foreign language makes people feel more capable when faced with freedom-restricting and potentially threatening messages and situations. People seem to show a different evaluation of their own selves, associated with higher levels of confidence. This finding appears to be related to recent foreign language research in the COVID-19 context. Geipel, Grant, and Keysar (2022) showed that hesitancy in being vaccinated against the coronavirus can be reduced by using a foreign language through increased trust in the vaccine. Our new finding of an enhanced sense of control in a foreign language seems to complement this. Both trust and a sense of control could be considered signals of security for individuals confronted with uncertain circumstances (e.g., Spadaro et al. 2020; Zhu et al. 2020).

Furthermore, we offer several contributions to the literature on foreign language use. Previous foreign language research has largely used hypothetical or abstract scenarios (e.g., Dylman and Bjärtå 2019; Hadjichristidis, Geipel, and Surian 2019). In a currently relevant, real-life context that mirrors a freedom-restricting situation, we find that foreign language processing leads to differences in the perceived sense of control that carries over to people’s cognitive and conative responses. More specifically, higher levels of control translate into more positive cognitive evaluations of the pandemic mitigation instructions and a higher intention to comply with them. Furthermore, we add to the

literature by demonstrating the influence of foreign language in an instructional context, in other words, for messages that directly address people to act in a certain way.

Moreover, we identified sense of control as a mediator between foreign language and both cognitive evaluation and behavioral intention. In the literature to date, there are differing interpretations of the consequences of foreign language processing, with some papers describing an attenuation of the emotional reaction (e.g., Costa et al. 2014a; Keysar, Hayakawa, and An 2012) and others describing a shift toward a more positive reaction (e.g., Geipel, Hadjichristidis, and Klesse 2018; Hadjichristidis, Geipel, and Savadori 2015; Woumans, van der Cruyssen, and Duyck 2020). Our results support the latter understanding by additionally showing that the experienced arousal—that is, the activating potential of the affective response—and the emotional intensity of the instructions were not significantly diminished in a foreign language, but there was still a difference in perceived control. Based on these results, we can cautiously suggest that the difference in perceived control does not merely stem from an attenuation of emotions but involves changes in the evaluation that include cognitive aspects. However, although not driving the effect, affective components seem to play a contextual role, because the effect occurs for those four instructions that are higher in their emotional intensity, such as “compulsory vaccination” and “quarantine” (emotional intensity:  $M = 5.71$ ,  $SD = 1.63$ ), compared to the five instructions lower in emotional intensity ( $M = 3.78$ ,  $SD = 1.58$ ).

Another point to be mentioned here is that sense of control may involve cognitive aspects (e.g., Keeton, Perry-Jenkins, and Sayer 2008) as well as affective components (e.g., Perloff 1983). More generally, to substantiate the assumption that the changes in evaluative judgments encompass both cognitive and affective components, we may refer to the organization of human memory. Schema and categorization theories assume that in the mental representation of semantic and episodic knowledge, affective tags are attached, representing positive or negative associations derived from prior experiences (e.g., Fiske and Pavelchak 1986; Fiske et al. 1987). Possibly, in a foreign language, the way people access and use this knowledge stored in memory, including its affective tags, might be different (for example, less automatic). This may explain why changes in evaluations might involve affective components, although we did not measure differences in the immediate, situational experience of affect in our experiment. In addition, research on mental imagery may also contribute to this discussion. Mental imagery has been shown to be less vivid in a foreign language compared to the native language and seems to be dependent on both access to emotions via episodic memory (Hayakawa and Keysar 2018;



Tulving 1985), but also cognitive capabilities such as recall, flexible recombination or reconstruction of memories (e.g., Schacter, Addis, and Buckner 2007).

### **4.5.3 Relevance and implications**

Our findings show practical relevance in the context of global crises. They also seem highly relevant against the background of recent findings showing that a sense of control can serve as a protective mechanism for mental health during a global crisis (Xiong et al. 2021). A high sense of control has been linked to a high perceived ability to avoid uncertainty in a pandemic (Peluso and Pichierri 2021). With our study, we expand upon the findings from Geipel, Grant, and Keysar (2022). The use of a foreign language not only influences the decision to become vaccinated against the coronavirus (Geipel, Grant, and Keysar 2022); it can also change the way individuals react to other publicly communicated pandemic mitigation measures.

From a managerial point of view, this study is highly relevant for all entities responsible for communicating (uncomfortable) appeals to the public. This may include, but is not limited to, policy makers, public institutions and offices, global employers, brands, and news agents. Our findings may help all entities that communicate freedom-threatening instructions better understand and predict the reactions of their recipients. Against the background of increasing amounts of content consumed in a foreign language, for example, in social media, this is of high importance. With global issues such as pandemics, environmental and economic crises, and increasing migration and globalization, the number of situations in which people are confronted with such freedom-threatening messages in a foreign language may increase. Importantly, our sample shows the effectiveness of foreign language communication in a target group that is very likely to be confronted with foreign language content on a regular basis: young people with excellent English skills. Generations Y and Z are increasingly communicating via global English-dominated platforms, such as TikTok and Instagram, especially in times of social distancing (Bowden-Green, Hinds, and Joinson 2021).

Finally, it should be noted that the effects elicited by the use of a foreign language presuppose that the content conveyed is clearly understood. This implies that not all health-related communication to all audiences should be delivered in a foreign language because it cannot be guaranteed that people have broad knowledge of a foreign language. Nevertheless, our study does serve as a recommendation for sporadic and targeted foreign language communication in public health matters.

#### 4.5.4 Limitations and future research directions

Finally, this study is not without limitations. We measured behavioral intentions to assess whether recipients are more or less inclined to follow pandemic mitigation instructions in a foreign language. However, these self-reported measures cannot fully predict actual behavior. Thus, it remains to be verified whether changes in the perceived sense of control caused by foreign language processing lead to more compliant behavior. Furthermore, our results are based on a single sample of native German speakers. We used English, presumably representing one of the most practically relevant foreign languages in the context of current crisis communication. However, future studies should examine whether the effects occur regardless of the recipients' native language (beyond the German in the current study). In addition, a possible bias due to prior opinions about the pandemic cannot be fully ruled out, although we reduced the risk to a minimum by using a large and homogenous sample of German students, which have been shown to hold a similar stance towards COVID-19 related governmental restrictions (Kohls et al. 2021). As previously noted, even though there was a positive mediation effect through sense of control, foreign language processing did not cause a significant main effect on cognitive evaluation and behavioral intentions. This suggests that parallel mediations related to native vs. foreign language processing additionally influence individual's reactions toward instructions. It can be speculated that the respondents' familiarity with the concrete instructions may play a role. The participants likely were more familiar with the native language instructions as they had already been extensively discussed in the media and in public discourse, potentially leading to a more favorable stance toward them. This may be one possible explanation why participants in the native language condition did not report a poorer cognitive evaluation and lower behavioral intentions, despite having a lower sense of control. Future research could address this issue.

Our results provide suggestions for future research directions. They suggest that people do not feel more secure in their native language when confronted with pandemic mitigation instructions. Our finding of a heightened sense of control with regard to a specific situation might point to a foreign language's potential to increase people's general perceived self-efficacy (Schwarzer and Warner 2013). Another aspect is that the overall less threatening perception of messages in a foreign language could be due to the fact that, although proficiency in the foreign language is high, not as many layers of meaning of foreign words or phrases may unfold compared to native language processing

(i.e., not as many semantic associations are drawn compared to native language processing). The richness or quantity of associations may not be completely accessed, as was previously suggested in the literature (Hayakawa, Pan, and Marian 2022; Caldwell-Harris 2014). People could have more access to the actual scope of restriction by instructions in their native language. Therefore, future research should investigate the relationship between the number of activated semantic associations in a native language and a foreign language.

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## 5 General discussion

The objective of this dissertation was to examine different ways in which consumer behavior is influenced by the presence of foreign languages or the processing of information in a foreign language. Specifically, this work focused on the topics of *multilingual product packaging* (first paper) and the *foreign language effect* (second and third papers). To this end, three research papers analyzed the focal topics from a theoretical perspective and generated new insights by presenting the results of empirical studies. The following section provides a brief overview of the main results of this dissertation. In the subsequent sections, contributions to theory, limitations, future research directions, and managerial implications are presented.

### 5.1 Summary of findings

Based on the three papers in this dissertation, several effects were identified that result from the use of foreign languages in (product) communication. The following paragraph presents the principal findings in relation to the research questions proposed in Chapter 1. Thereafter, a more detailed summary of the findings of the three research papers is provided.

Three research questions were posed regarding the impact of foreign language presence on the consumer response toward product packaging. It was demonstrated that multilingual packaging can result in adverse effects on product evaluations. A deterioration of the consumers' processing fluency was identified as the underlying mechanism of the negative effects (*RQ 1-1*). Specifically, the processing experience was impaired by the presence of a large number of translations and the presence of foreign languages with which consumers were unfamiliar (*RQ 1-2*). The product type was identified as a moderating variable. In particular, the negative effects of multilingual packaging on processing fluency were significantly weaker for technical products. Consequently, product evaluations for technical products were not affected by multilingual packaging (*RQ 1-3*). The impact of foreign language processing was the subject of two research questions. It was determined that foreign language processing leads to a more positive consumer response toward unethical firm behavior and a more negative consumer response toward ethical firm behavior. These effects were found to be rooted in an attenuation of the emotional response caused by foreign language processing (*RQ 2-1*). Finally, it was demonstrated that individuals experience a greater sense of

control when they are faced with highly incisive behavioral instructions in a learned foreign language, rather than in their native language. This resulted in positive indirect effects on the recipients' response toward the restrictions, specifically their cognitive evaluations and behavioral intentions (*RQ 2-2*).

The first research paper described an examination of how multilingual packaging, which provides information in the consumers' native language and other languages, influences product evaluations. Specifically, it was examined how multilingual information affects the subjective ease that consumers perceive when mentally processing a product—a metacognitive experience called processing fluency. Multilingual packaging was shown to affect the processing experience of consumers in two ways. First, the display of a large number of translations significantly reduces processing fluency. While fluency was not impaired by the display of up to four translations, a reduction was observed when six foreign languages were present on the packaging. Second, consumers' unfamiliarity with the foreign languages was identified as an additional driver of disfluency. The negative effects on processing fluency led to unfavorable downstream consequences on product attitude, perceived quality, and purchase intention. Product type was identified as a boundary condition for the effects of multilingual packaging on processing fluency. Specifically, the negative effects of multilingual packaging were significantly less pronounced for technical products than for non-technical products. This moderating effect was attributed to consumers having lower fluency expectations for technical products, which are typically considered to be more complex than non-technical products. Based on prior literature, other potential effects of foreign language presence were investigated. As expected, it was confirmed that multilingual packaging influences consumer evaluations through the perceived product–language fit and the image associated with the languages. These effects occurred in parallel with the newly identified influence through processing fluency.

The second paper examined the moral foreign language effect in the context of consumer behavior. Specifically, it investigated how processing in a learned foreign language changes the consumer response toward ethical and unethical firm behavior. Two empirical studies demonstrated that foreign language processing dampens the emotional response. Consequently, two outcomes emerged. First, participants who read stories about unethical company practices, such as the use of child labor, in a foreign language experienced lower levels of negative emotions. As a result, the negative impact on consumers' behavioral intentions toward the company, as measured by their purchase

intentions and willingness to spread negative word-of-mouth, was weakened. Second, participants who read stories about ethical company practices in a foreign language experienced lower levels of positive emotions. This, in turn, reduced the positive impact on purchase intentions toward the company. With regard to the underlying mechanism, alternative explanations for the reduced emotionality hypothesis were considered. However, measures of the participants' levels of cognitive elaboration or their psychological distance revealed no differences between the language conditions.

The third paper revisited the foreign language effect as its main focus. In this study, the influence of foreign language processing on responses to freedom-restricting messages was examined. Specifically, it was investigated whether recipients' evaluations and behavioral intentions toward virus mitigation instructions differed depending on whether they encountered them in their native language or a learned foreign language. A large-scale empirical study revealed that foreign language processing of such messages has a positive effect on perceived sense of control, indicating that participants felt more capable of managing the situation with which they were confronted. This led to a positive effect on the evaluation of the effectiveness of the virus mitigation measures and the recipients' willingness to follow the respective instructions. Table 5-1 provides an overview of the key findings, contributions to literature, and practical implications concerning the topics of foreign language presence and foreign language processing.

**Table 5-1: Findings, contributions to literature, and practical implications.**

	<b>Foreign language presence</b>	<b>Foreign language processing</b>
<b>Findings</b>	<ul style="list-style-type: none"> <li>▪ Processing fluency is reduced by a large number of translations and by unfamiliar languages.</li> <li>▪ Fluency mediates negative effects of multilingual packaging on product evaluations and purchase intentions.</li> <li>▪ The observed effects on the processing experience are weaker for technical products.</li> <li>▪ Product-language-fit and language image mediate effects of multilingual packaging alongside processing fluency.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Foreign language processing attenuates the emotional response to (un)ethical corporate conduct.</li> <li>▪ Emotions mediate effects of (un)ethical conduct on word-of-mouth and purchase intentions.</li> <li>▪ Foreign language communication of incisive behavioral restrictions leads to a higher sense of control.</li> <li>▪ Sense of control mediates the positive effect on the cognitive and behavioral response to virus mitigation instructions.</li> </ul>
<b>Contributions to literature</b>	<ul style="list-style-type: none"> <li>▪ Foreign language presence is introduced as a factor impacting the effectiveness of product packaging.</li> <li>▪ Foreign language presence is introduced as a factor influencing individuals' processing experience.</li> <li>▪ The processing experience is shown to influence quality perceptions.</li> <li>▪ It is suggested that the product category influences fluency expectations and thus, the processing experience.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Foreign language processing is shown to affect judgments in the areas of consumer behavior and communication.</li> <li>▪ Foreign language processing is shown to impact the response to close-to-life stimuli.</li> <li>▪ Language is introduced as a predictor of (un)ethical consumer behavior.</li> <li>▪ Foreign language processing is introduced as a predictor of the response toward behavioral instructions.</li> <li>▪ Support for the reduced emotionality hypothesis is found, but only for stimuli involving moral considerations.</li> </ul>
<b>Practical implications</b>	<ul style="list-style-type: none"> <li>▪ Multilingual packaging can harm the consumers' processing experience and the products' sales potential.</li> <li>▪ The display of a large number of translations and of unfamiliar languages should, in most cases, be avoided.</li> <li>▪ Graphical design elements (e.g., flags) and a clear structure should be used to reduce visual complexity.</li> <li>▪ Sensible distribution regions should be formed to minimize the consumers' exposure to unfamiliar languages.</li> <li>▪ For products associated with higher complexity (e.g., technical products), multilingual packaging can be used without significant drawbacks.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The communication of information about ethical (unethical) corporate conduct is more effective in a native (foreign) language.</li> <li>▪ Foreign (native) language communication concerning issues of morality should rely more heavily on rational (emotional) appeals.</li> <li>▪ The communication of restrictive appeals to multilanguage speakers is more effective in a foreign language.</li> </ul>

## **5.2 Theoretical contributions, limitations, and future research directions**

This dissertation contributes to several different literature streams. Through an examination of multilingual packaging, it addresses a major research gap concerning the consumer-side effects of the presence of multiple foreign languages (Gopinath, Glassman, and Nyer 2013) and introduces foreign language presence as a new factor determining the consumer response to product packaging. Regarding the theoretical background, it makes several contributions to the literature on fluency theory. With regard to foreign language processing, the dissertation makes contributions to the literature on the (moral) foreign language effect. By demonstrating that foreign language processing affects consumer perceptions of (un)ethical corporate behavior, this research extends understanding of the moral foreign language effect to the field of consumer behavior. Furthermore, it contributes to the ongoing debate about the source of the foreign language effect. Moreover, this work is the first to demonstrate that foreign language processing can positively influence the perceived sense of control of multilanguage users. The following sections discuss the scientific contributions and new avenues for further research in detail. In addition, the limitations of the conducted studies are addressed.

### **5.2.1 Multilingual product packaging**

To the best of the author's knowledge, this work offers the first comprehensive examination of multilingual packaging, a commonly used distributional practice. In doing so, it contributes to the literature in the areas of packaging design, multilingual marketing, and processing fluency. Overall, this research concludes that certain forms of multilingual packaging, particularly those with numerous translations and unfamiliar foreign languages, impede consumers' processing fluency, ultimately leading to negative effects on product attitude, perceived quality, and purchase intention.

At a fundamental level, this work contributes to the literature on packaging design by demonstrating that the presence of multiple foreign languages on product packaging has an impact on consumers' metacognitive experience and their product evaluations. Several characteristics of product packaging have previously received attention from marketing scholars, including color (e.g., Mai, Symmank, and Seeberg-Elverfeldt 2016), shape (e.g., Chen et al. 2020), and material (e.g., Ye, Morrin, and Kampfer 2020). This paper adds foreign language presence—particularly the presence of multiple foreign languages—to the list of important characteristics of product packaging. More

specifically, it is the first research to identify the number of translations and consumers' familiarity with the foreign languages as key factors that need to be taken into account when developing and designing multilingual packaging.

Moreover, this dissertation contributes to the literature on the role of foreign languages in marketing, where prior research has largely focused on bilingual stimuli (e.g., Hornikx, van Meurs, and Starren 2007; Koslow, Shamdasani, and Touchstone 1994). Scholars have identified a research gap based on the observation that consumers draw different inferences from a single foreign language than from multiple foreign languages (Gopinath, Glassman, and Nyer 2013). The first paper within this dissertation addresses this gap and demonstrates that the presence of foreign languages not only influences consumers through perceptions of the product–language fit (e.g., Hornikx, van Meurs, and Hof 2013; Wagner and Charinsarn 2021) or through the emergence of associations (e.g., Gopinath and Glassman 2008). Instead, it establishes changes in the metacognitive experience, specifically in processing fluency, as an important consequence of multilingual communication.

This dissertation makes several contributions to the literature on fluency theory. Research on the relationship between foreign languages and fluency has focused on the comprehensibility of accents (e.g., Dragojevic and Giles 2016). This work establishes the presence of written foreign language translations as a driver of disfluency. It is notable that prior research on the fluency of text-based stimuli has largely focused on altering the focal stimuli, for instance, by using hard-to-read fonts (e.g., Thompson and Ince 2013). In the present research, however, the relevant information (i.e., product information in German) remained unchanged. Therefore, it contributes to the literature by demonstrating that translations can be employed as a means of manipulating processing fluency without any alterations to the focal stimulus. Prior literature has suggested that fluency effects result from a discrepancy between individuals' fluency expectations and their actual processing experience. To manipulate expectations, researchers have employed stepwise study procedures with varying levels of fluency (e.g., Hansen, Dechêne, and Wänke 2008) and instructions used to prime the degree of difficulty of a task (e.g., Wilcox and Song 2011). The results of this work provide support for the relationship between fluency expectations and experience. Moreover, they indicate that consumers form fluency expectations in the context of the specific processing situation based on the product category that is to be evaluated. Finally, this research provides evidence for an influence of processing fluency on perceived quality. In doing so, it contributes to the literature on

fluency, where effects on judgments of quality have received little attention (Chang 2013).

Naturally, this research is not without limitations. First, it is based on studies conducted in Germany with native German speakers. Therefore, the results reflect a European perspective on multilingual packaging. While it seems reasonable to assume that the psychological effects based on impaired fluency occur regardless of the region in which multilingual packaging is used, other factors may come into play, such as the degree to which consumers are accustomed to foreign language presence in their shopping environment. Second, multilingual packaging comes in a variety of forms, not all of which were examined in the paper. For instance, all the stimulus materials showed the participants' native tongue as the first language on the packaging, followed by translations. While this closely resembles how multilingual packaging is mainly used in Germany and constitutes a conservative manipulation, the results may vary if the native language is not placed in the prominently visible first position.

Several avenues for further research on multilingual stimuli can be derived from the conducted studies. First, there is room for a more in-depth exploration of how different forms of fluency are affected by foreign language presence. Among other forms, the literature distinguishes between perceptual fluency, which refers to the ease associated with the processing of the visual features of a stimulus, and conceptual fluency, which relates to the processing of meanings associated with a stimulus (Lee and Labroo 2004). By determining how multilingual stimuli affect specific forms of fluency, future research could provide additional insights on how to develop and design effective multilingual (marketing) communication. Second, processing fluency was operationalized using a self-report scale, thus measuring the participants' subjective feelings of fluency. Research has shown that "felt fluency" is the main driver of fluency-based effects on evaluations such as liking (Forster, Leder, and Ansorge 2013). However, future studies may want to analyze how multilingual packaging affects objective measures of fluency, such as the speed with which consumers process the product information on a package. Third, future studies should determine whether there may be product categories for which multilingual packaging results in improved consumer evaluations. In this dissertation, it was found that the negative effects of multilingual packaging were considerably weaker for technical products. This relates to prior literature indicating that disfluency can increase the perceived effectiveness of an information security product, because consumers interpret processing difficulty as a signal for technical complexity (Park, Herr, and Kim 2016).

This effect may not have been strong enough to result in a positive product evaluation of the relatively basic technical products used in this research (coffee machine and Bluetooth speaker). However, these insights suggest that processing difficulties resulting from foreign language presence may have positive consequences on the evaluation of products that are based on innovative and complex technologies (e.g., virtual reality headsets). Finally, future research may wish to examine whether the observed effects hold for other use cases of multilingual communication, such as multilingual product manuals or multilingual public communication materials.

### **5.2.2 The foreign language effect**

By examining how foreign language processing affects the response of multilanguage users to (marketing) communication, this dissertation contributes to the literature on the foreign language effect. The consequences of processing in a learned foreign language were investigated for two use cases, namely, the communication of (un)ethical corporate behavior (second paper) and the communication of public instructions related to crisis control (third paper). In both contexts, it was demonstrated that foreign language communication affects recipients' evaluations of written stimuli. The results showed that foreign language communication led to a reduction in affect, which resulted in a less favorable response toward "good" firm behavior. In line with research on the evaluation of personal moral transgressions (Geipel, Hadjichristidis, and Surian 2015a), foreign language processing also led to a less negative response toward unethical firm behavior. In addition, this research demonstrated a positive influence of foreign language processing on the recipients' responses toward freedom-threatening pandemic mitigation instructions. This finding is consistent with prior research that reported positive influences of foreign language processing on the evaluations of stimuli with negative associations, such as crimes (Woumans, van der Cruyssen, and Duyck 2020) or medical conditions (Hayakawa, Pan, and Marian 2022). By examining the consequences of foreign language processing, this dissertation makes several contributions to the literature on the foreign language effect and its implications for the daily lives of multilanguage users. The following paragraphs present a discussion of these contributions, with a focus on insights concerning the underlying mechanism of the foreign language effect. Thereafter, new avenues for research and limitations of the studies are discussed.



Previous research on the foreign language effect has largely focused on the recipients' responses to rather abstract stimuli, including fiction book excerpts (e.g., Dylman and Bjärtå 2019), hypothetical moral dilemmas (e.g., Cipolletti, McFarlane, and Weissglass 2016; Costa et al. 2014b; Hayakawa et al. 2017), or extreme moral transgressions (Geipel, Hadjichristidis, and Surian 2015a). The present work contributes to this literature by demonstrating that foreign language processing influences the responses to realistic stimuli that recipients encounter in their everyday lives. Furthermore, it enriches the literature on the foreign language effect by introducing sense of control as a new mediator that is positively influenced by foreign language processing. Participants who were presented with virus mitigation instructions in a learned foreign language felt more in control of their environment and situation. This is a novel finding in the literature and complements a number of research articles that have concluded that foreign language processing can cause a shift toward more positive evaluations (e.g., Geipel, Hadjichristidis, and Klesse 2018; Woumans, van der Cruyssen, and Duyck 2020). Moreover, this dissertation adds to the limited number of research articles that have examined the foreign language effect in the context of consumer behavior (e.g., Geipel, Hadjichristidis, and Klesse 2018; Puntoni, De Langhe, and van Osselaer 2009). More specifically, it is the first work to indicate that foreign language processing influences moral considerations related to consumption decisions. With regard to the literature on ethical and unethical corporate conduct (e.g., Xie, Bagozzi, and Grønhaug 2015; Folkes and Kamins 1999), this work is the first to propose language as a predictor of the consumers' affective response and their behavioral intentions. In the context of medical judgments, prior research has found a positive effect of foreign language processing on individuals' trust in vaccines (Geipel, Grant, and Keysar 2022). The present work supports and extends this research by demonstrating that foreign language processing can positively influence the response to other virus mitigation measures by increasing the recipients' sense of control. By introducing language as a predictor of the effectiveness of virus mitigation instructions, this work also enriches the scientific literature on public health and crisis communication.

Regarding the lingering questions about the underlying mechanisms of the foreign language effect, this work provides insights pertaining to the validity of two explanatory accounts: the *reduced emotionality hypothesis* and the *increased deliberation hypothesis*. With regard to moral considerations, this research found that individuals experience attenuated affect when processing information about ethical and unethical corporate

actions, thereby supporting the *reduced emotionality hypothesis* proposed in several extant research articles (e.g., Caldwell-Harris 2014; Puntoni, De Langhe, and van Osselaer 2009). No effects were found on variables related to the cognitive responses of the recipients, such as the extent of their cognitive elaboration, casting doubt on explanatory accounts based on increased deliberation (e.g., Costa, Vives, and Corey 2017; Keysar, Hayakawa, and An 2012). Following these observations, one would expect that foreign language processing also attenuates the emotional response to incisive virus mitigation instructions. However, this expectation was not confirmed. Recipients experienced similar levels of arousal when reading such instructions in their native or a learned foreign language. Instead, it was observed that an increase in the participants' sense of control occurs only for stimuli associated with high emotional intensity. The following paragraph discusses these findings and alternative explanations for the foreign language effect.

The findings of this dissertation indicate that the role of affect may vary depending on the context in which individuals process information in a foreign language, and specifically, depending on whether or not moral considerations are involved. The results support extant research articles which have argued that individuals experience an attenuated response when issues of morality are processed in a learned foreign language (e.g., Dewaele et al. 2024; Hayakawa et al. 2017). However, the same effect does not seem to occur for stimuli that do not immediately prompt moral considerations, as evident in the case of virus mitigation instructions. For such cases, alternative explanations must be considered. Researchers have argued that foreign language words are linked to a smaller volume of associations than their native language counterparts (e.g., Caldwell-Harris 2014; Hayakawa, Pan, and Marian 2022). Based on this assumption, it could be argued that restrictive messages elicit fewer thoughts about the tangible ways in which recipients' lives might be negatively affected. To illustrate, a German native speaker may connect fewer associations with the English word "holiday" than with the German word "Urlaub," which is strongly grounded in personal memories. Consequently, they may experience a greater sense of control when a holiday restriction is communicated to them in English, because the constraint imposed upon them is not perceived to be quite as severe. This may also explain why foreign language processing did not affect the evaluation of smaller, less intrusive restrictions (e.g., concerning the use of the corona-app). The quantity of associations activated by such a restriction is likely to be rather low, and thus would not differ significantly between the native and a learned foreign language.

In conclusion, the findings of this dissertation suggest that research on the foreign language effect should differentiate between stimuli that prompt moral considerations and those that do not. Furthermore, the above discussion indicates that future research on the foreign language effect should consider how the linguistic context affects the activation of semantic associations.

Several avenues for further research on the effects of foreign language processing emerge from this dissertation. With regard to the consumer response to (un)ethical corporate conduct, studies could examine whether the demonstrated effects also exist for communication issued by the company itself. Brands regularly communicate good and bad deeds to their stakeholders, for example, in the form of press releases or apology advertisements. Practitioners could benefit by gaining a better understanding of how the language of their communication affects consumer responses. Researchers could glean insights into whether the effects of foreign language processing hold in situations in which consumers are deliberately addressed in a foreign language by the actor responsible for the (un)ethical action. In addition, it may be interesting to examine whether the observed effects hold true for evaluations of consumers' own behaviors. Would foreign language processing also lead to a more favorable stance toward a consumer's recent purchase of a product manufactured under terrible working conditions? Or is the effect limited to moral considerations about the actions of others? Studies investigating these questions could lead to a more detailed understanding of the consumer behavior of multilanguage users. Finally, the observation that individuals experience a heightened sense of control indicates that foreign language processing may affect how multilanguage speakers perceive and evaluate themselves. Consistent with this notion, Gai and Puntoni (2021) found that individuals consider their own behavior to be less diagnostic of their character when processing in a learned foreign language. Whereas previous studies have largely focused on the influence of foreign language processing on the evaluation of external stimuli, future studies may want to take a more inward-looking perspective.

Naturally, the studies exploring the foreign language effect are not without limitations. The effects of foreign language processing were analyzed based on a single combination of native (German) and learned foreign language (English). There were two main reasons for this approach. First, prior research on the foreign language effect has used a variety of language combinations to show influences on decision-making (e.g., Circi et al. 2021). Therefore, it is generally assumed that effects on information processing occur for every non-native language in which individuals have acquired

communicative competence. Second, the choice of English as the examined foreign language made practical sense due to its high relevance as a global lingua franca. Nevertheless, it must be noted that the present research may suffer from limited generalizability, as it only demonstrates the newly found effects in a sample of German native speakers with high communicative competence in English. Future studies could build on this research by investigating whether the effects hold for other language combinations. A second limitation of this research lies in the use of self-report measures. Although established items and scales were used in all the conducted studies, the use of self-report measures still comes with known weaknesses, most notably when measuring participants' emotional responses and behavioral intentions. When rating their emotional response to a stimulus, individuals are required to make a conscious assessment of their feelings, meaning that their answers are a product of a cognitive, not an affective, process. Measures of emotion may be further biased due to the "anchor contraction effect," which refers to a tendency to overreport emotions in non-native language questionnaires (De Langhe et al. 2011). Therefore, the accuracy of self-report measures of emotions is in question. Nevertheless, previous studies have found evidence for a reduction in affect in a learned foreign language using other methods, for example, by measuring skin conductance response (e.g., Harris, Ayçiçeği, and Gleason 2003) or pupillary response (e.g., García-Palacios et al. 2018). Because self-report measures of behavioral intentions cannot fully predict actual behavior, future studies could benefit from measurements that more accurately show whether foreign language processing changes how individuals act when confronted with (un)ethical behavior or crisis communication messages.

### **5.3 Managerial implications**

This research provides practitioners with insights into the effective use of multilingual packaging and foreign language communication. Its findings demonstrate that the choice of language(s) in which target groups are addressed can have a measurable impact on the recipients' responses. Consequently, organizations must incorporate a well-considered approach to foreign language use as part of their international marketing and distribution strategies.

### 5.3.1 Multilingual product packaging

For marketers of internationally operating brands, this research provides insight into the advantages and disadvantages associated with the distribution of multilingual product packaging. On a fundamental level, this research demonstrates that foreign language presence influences consumers' mental processing experiences and, consequently, product evaluations and purchase intentions. It follows that decisions about the use of multilingual packaging cannot be made exclusively on the basis of considerations about a reduction in distributional costs. Instead, marketers must consider how multilingual packaging affects consumer responses and the prospective sales of their products. To realize the cost-saving potential of multilingual packaging, brands need to adapt their packaging to minimize any negative effects on the mental processing experience of consumers. Many product types for which multilingual packaging is commonly used, such as packaged foods or household goods, are also characterized by the availability of numerous similar product alternatives. Therefore, comparatively minor factors, such as a disfluent processing experience, may be enough to dissuade consumers from purchasing a product, which could ultimately result in declining sales. Thus, the findings of this research are relevant to practitioners responsible for the conceptualization and design of international marketing and communication materials, including multilingual packaging, instruction manuals, and warning notices.

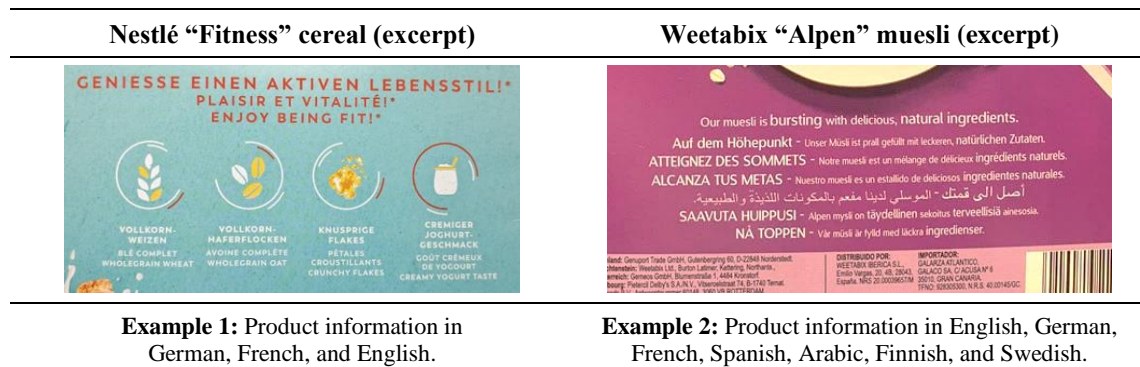
Multilingual packaging negatively affects the consumer experience when a large number of foreign languages are displayed. This effect is assumed to be caused by the visual complexity resulting from the additional text. It follows that practitioners should limit the translations displayed on marketing materials. To ensure that the number of translations remains below the threshold where a reduction in processing fluency occurs, marketing professionals should conduct consumer research studies when developing multilingual packaging. In cases where companies may be unwilling or unable to decide against the display of a large number of translations for distributional reasons, marketers should consider ways of reducing the visual complexity of their product packaging. One such method might be the display of visual cues (such as flags) that enable consumers to quickly find information in their preferred language, thus reducing the negative effects of a large number of translations.

Moreover, a significant negative effect of consumers' unfamiliarity with the displayed foreign languages was identified. In other words, the presence of unfamiliar

foreign languages, which consumers do not encounter regularly, results in a more challenging processing experience. Two implications can be derived from these results. First, when devising international distribution strategies and designing multilingual product packaging, marketers should ensure that consumers do not encounter highly unfamiliar foreign languages. To achieve this, companies may choose to conduct market research to determine familiar and unfamiliar foreign languages within their targeted country markets. Subsequently, they can group countries and languages in a manner that minimizes the degree of unfamiliarity of the target consumers. Second, it was demonstrated that the consumer response to packaging displaying familiar foreign languages does not differ significantly from the response to monolingual packaging. This suggests that marketers can effectively leverage the cost-saving potential of multilingual packaging without encountering any drawbacks, provided that the display of unfamiliar foreign languages is avoided.

The present research demonstrated that consumers' processing experience impacts their judgments. Specifically, it was shown that a negative effect on processing fluency resulting from a large number of translations or low familiarity with the languages has unfavorable downstream consequences on product evaluations and purchase intentions. This finding underscores the need for practitioners to consider and, ideally, quantify the impact of multilingual packaging on the perception of their products and on prospective sales. This further suggests that multilingual packaging not only impedes the shopping experience but may also deter customers from making a purchase. Consequently, marketers must weigh the potential cost savings against any potential loss of sales when deciding about the use of multilingual packaging.

**Figure 5-1: Real-world examples of multilingual packaging (#4).**



The previously outlined practical implications can be illustrated using the two real-world examples of multilingual packaging displayed in Figure 5-1. Both images show excerpts of a cereal product packaging sold in grocery stores in Germany. The packaging on the left (example 1) provides consumers with product information in three languages, all of which are highly familiar to consumers in Germany. The findings of the present research suggest that a multilingual packaging with these characteristics, a low number of translations and familiar foreign languages, can be employed without adverse effects on product evaluations or prospective sales. In contrast, the packaging on the right (example 2) conveys product information in seven languages, including languages that German consumers encounter rarely, such as Arabic. Based on the results of this dissertation, the use of this form of multilingual packaging is not recommended. The findings indicate that the presence of many translations and of unfamiliar languages would impede consumers' processing fluency, ultimately leading to a less favorable product evaluation and reduced purchase intentions. Particularly in the context of a product category like breakfast cereals, where consumers can choose between many similar alternatives, a poorly conceptualized multilingual package may result in consumers opting for a different product.

It is important to note that the observed effects of multilingual packaging depend on the product category. For technical products, the negative effects on processing fluency were considerably weaker, and no effects on product evaluations or purchase intentions were observed. Given the inherent complexity of technical products, consumers are "prepared" to engage in more effortful processing. Consequently, it is assumed that the presence of foreign languages does not further diminish processing fluency. For more complex products, the distributional savings associated with multilingual packaging can therefore be realized without notable drawbacks.

Finally, while the present research has focused on the newly established effects on the consumers' metacognitive experience, practitioners must be aware of other ways in which multilingual packaging can affect consumer behavior. In particular, the present research reaffirmed product–language fit and the image of the languages as relevant factors. This further emphasizes the importance of consumer research studies, which enable marketers to select the most appropriate languages for multilingual packaging based on product fit, language image, and consumers' familiarity with the languages.

### 5.3.2 Foreign language communication

Globalization has led to the growing importance of international trade and communication. At the same time, the number of multilanguage users, especially non-native English speakers, has steadily increased. Currently, over one billion people speak English as a non-native language (Eberhard, Simons, and Fennig 2024). Prior research has demonstrated that foreign language processing can influence the perception of marketing stimuli (e.g., Puntoni, De Langhe, and van Osselaer 2009). Therefore, practitioners need to consider the most appropriate language in which to communicate with their audiences. The findings of this research are relevant for practitioners responsible for the (international) communication of information about corporate actions, be that in the form of news articles, press releases, apology advertisements, or CSR campaigns. Furthermore, they are of interest to communication professionals in companies or public institutions who are responsible for conveying unpleasant messages (e.g., information about layoffs) or even restrictive appeals (e.g., behavioral recommendations during a health crisis) to their audiences. The provided insights enable them to select the most appropriate language and to accurately predict their audiences' responses to foreign language communication.

This work demonstrated that communication in a foreign language can result in an attenuation of emotions when individuals are faced with moral considerations. This resulted in weaker affective responses to information about unethical and ethical corporate behavior. The implications of this finding are twofold. On one hand, organizations may find benefit in the use of a foreign language when communicating actions that their audience would likely consider morally questionable. Organizations of all kinds regularly have to publicly acknowledge responsibility for past actions, whether in the form of press releases or apology advertisements. For instance, the automobile manufacturer Volkswagen ran print and TV advertisements to apologize for their 2015 emissions scandal. This research indicates that such communication efforts would be more effective when received in a non-native language. This is because foreign language processing weakens the negative emotional impact of the corporate misconduct, allowing for greater focus on the apology and potential measures of restitution. To achieve this, brands could utilize global social media accounts, which typically communicate in English to a worldwide audience. On the other hand, the communication of commendable conduct, such as CSR initiatives, should take place in the audiences' native language to



evoke more positive emotions. Finally, the present research allows for recommendations regarding the tone in which information about (un)ethical behavior should be conveyed. When communicating in the audience's native language, practitioners should use emotional appeals in order to evoke a positive affective response. Conversely, foreign language communication should rely more heavily on rational appeals.

Furthermore, the impact of foreign language communication in the context of virus mitigation instructions was investigated. The results demonstrated that recipients felt more in control of their situation when invasive instructions were communicated to them in a learned foreign language. Importantly, this higher sense of control led to positive effects on the willingness to comply with the instructions. On an individual level, this finding is important because a person's sense of control is an important predictor of their overall well-being. Feelings of control have been shown to enhance the ability to cope with distressing situations, even when the sense of control was evoked by an unrelated action (Xu, Kwan, and Zhou 2020). Thus, the results of the present research suggest that foreign language processing may have a positive impact on an individual's well-being, especially in the face of adversity. In a managerial context, these findings are relevant for organizations that are required to communicate restrictive appeals to their audiences. Public institutions could leverage foreign language communication to improve the recipients' behavioral response to crisis communication. Brands could benefit from a more favorable consumer response when communicating unpleasant information, such as product recalls or price increases, to their audience in a non-native language. Beyond the communication of unpleasant and restrictive messages, brands may also be able to leverage the positive effect of foreign language processing on consumers' sense of control to their advantage in certain marketing contexts. Research has shown that feelings of personal control influence consumer behavior by, for example, improving consumer acceptance of low-fit brand extensions (Cutright, Bettman, and Fitzsimons 2013) and by encouraging risk-taking (Jami 2019). Thus, by increasing sense of control through the communication of marketing messages in a learned foreign language, marketers may be able to promote the purchase of low-fit brand extensions and of high-risk products. At a time when a significant proportion of the population, particularly younger individuals, obtain news and information through English-dominated platforms, this research provides insights on how to accurately predict the recipients' response to foreign language information. This knowledge enables marketing and communication practitioners to choose the appropriate language and tone when communicating to multilanguage users.

## **5.4 Conclusion**

In summary, this dissertation examined the role of foreign languages in the lives of consumers. Specifically, it investigated the consumer-side consequences of multilingual packaging and foreign language processing. In doing so, this dissertation contributes new insights into the understanding of how foreign language presence and foreign language processing influence consumer behavior. The research conducted on multilingual packaging is the first to comprehensively analyze how individuals are affected by the presence of multiple foreign languages. The key findings revealed a negative effect of foreign language presence on the consumers' metacognitive processing experience. The presence of many, especially unfamiliar foreign languages, led to more difficult and effortful processing, resulting in less favorable product evaluations and purchase intentions. The studies on foreign language processing yielded two key findings. First, foreign language processing was found to result in an attenuated emotional response toward unethical and ethical corporate actions. Second, the use of a learned foreign language increased the sense of control of individuals when they were faced with highly restrictive virus mitigation instructions. This dissertation makes several contributions and proposes new avenues for research, particularly within literature streams on international marketing, processing fluency, and the foreign language effect. Moreover, it offers practical insights into the advantages and risks associated with multilingual packaging and foreign language communication. In conclusion, this dissertation can serve as a helpful resource on the subject of foreign languages in marketing, providing researchers and practitioners alike with guidance on how not to get lost in translation.

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