

Article

Language Switching as an Emotional Distancing Mechanism and its Implication for Health Behaviors: A Systematic Review

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ABSTRACT

Objectives: The objectives of this study are to present the most relevant theoretical models on health behaviors, to analyze the influence of emotional distancing and the type of language—native or foreign—on decision making, and to identify the impact of changing from a native to a foreign language on health-related decisions and behaviors. **Methodology:** The first two objectives were addressed through a narrative review, while for the last one a systematic review was conducted using the PRISMA Protocol. A selection of studies in specialized databases resulted in seven studies being chosen. **Results:** Switching from a native language to a foreign language contributed to the improvement of people's health, as it correlated highly and positively with the intentionality of performing health behaviors through emotional distancing. One result was also found disproving the beneficial effect of switching to a foreign language on health. **Conclusions:** Future lines of research should focus on analyzing the impact of foreign languages on improving people's health in natural and everyday contexts.

El Cambio de Idioma como Mecanismo de Distanciamiento Emocional y su Implicación en las Conductas de Salud: una Revisión Sistemática

RESUMEN

Objetivos: El presente trabajo tiene como objetivos presentar los modelos teóricos más relevantes sobre las conductas de salud, analizar la influencia del distanciamiento emocional y el tipo de idioma —nativo o extranjero— en la toma de decisiones, e identificar el impacto que ejerce el cambio de un idioma nativo a uno extranjero sobre las decisiones y las conductas relacionadas con la salud. **Metodología:** Los dos primeros objetivos se abordaron a través de una revisión narrativa, mientras que para el último se realizó una revisión sistemática mediante el Protocolo PRISMA. Tras una selección de estudios en bases de datos especializadas, fueron siete los estudios seleccionados. **Resultados:** El cambio de una lengua nativa a una extranjera contribuyó a la mejora de la salud de las personas, pues correlacionó alta y positivamente con la intencionalidad de realizar conductas de salud a través del distanciamiento emocional. También se encontró un resultado en contra del efecto beneficioso del cambio a una lengua extranjera sobre la salud. **Conclusiones:** Futuras líneas de investigación deberían centrarse en analizar el impacto que ejercen las lenguas extranjeras sobre la mejora de la salud de las personas en contextos naturales y cotidianos.

Palabras clave

Cambio de idioma
Distanciamiento emocional
Lengua extranjera
Lengua nativa
Conductas de salud

In today's globalized and multicultural society, the existence, or rather, the coexistence of multiple languages is an undeniable reality. For a possible classification of the existing languages, we could divide them into two large groups: mother tongues, on the one hand, and foreign languages, on the other. Pavlenko (2012) understands a mother tongue as one that has been acquired after birth within the family, in a context of primary socialization (Berger & Luckmann, 1986). On the contrary, a foreign language is related to a different and less affective *context of acquisition*, i.e., those known as secondary socialization contexts, such as, for example, the academic context (Berger & Luckmann, 1986).

Along with globalization and multiculturalism, increasing migratory movements have also led to high exposure to foreign languages (Čavar & Tytus, 2017; Saile et al., 2022). Thus, the coexistence of different languages in multilingual territories and exposure to non-native languages has led people to function in more than one language.

Switching from a mother tongue to a foreign language has an impact on how people, whether they are bilingual (i.e., able to use two languages interchangeably) or multilingual (i.e., have the ability to express themselves in several languages) perceive reality and therefore think, make decisions, and act. Diverse research related to bilingualism and multilingualism shows how expressing oneself in a foreign language modifies perceptions (Woumans et al., 2020), reduces the emotional responses associated with situations that, for example, evoke fear or anxiety (Caldwell-Harris & Ayçiçeği-Dinn, 2009; Dylman & Bjärtå, 2019; Iacozza et al., 2017), and promotes a deliberate and rational decision-making process (Costa et al., 2014a; Keysar et al., 2012; Schroeder & Chen, 2021).

The processing of a foreign language and its influence on decision making is captured by the term “the foreign language effect” (hereafter, FLE), translated into Spanish as *el efecto de las lenguas extranjeras*, widely studied in moral dilemmas (Costa et al., 2014b; Hayakawa et al., 2017; Kyriakou et al., 2022) and in the field of gambling, as drivers of riskier decision making (Costa et al., 2014a; Hadjichristidis et al., 2015). While there is a large body of research relating to these two domains, decision making in medical and/or health contexts has been the subject of a great deal of interest in recent years. Due to Covid-19, there has been a need to invest and seek resources for health improvement from a holistic perspective that addresses not only the absence of disease, but also the pursuit of both physical and mental health for every individual.

In the present study, a systematic review was carried out to analyze the influence of switching from a native language to a foreign language on decision making and health behaviors, i.e., behaviors aimed at improving health. To this end, language switching is considered as a mechanism of emotional distancing, that is, a mechanism that reduces people's emotional responses. The term “emotional distancing”, refers to the emotional distancing hypothesis (Keysar et al., 2012), understood in this review as an integral part of a broader theoretical framework: dual process theory (hereafter, DPT) by Kahneman (2011). As postulated by DPT, people process information according to two types of thinking systems, known as system 1 and system 2. While the foreign language is subject to system 2, rational and

deliberate, the native language is more linked to system 1, intuitive and emotional. People's distorted perceptions, as well as superstitious beliefs regarding health (Schellack et al., 2022), are a consequence of cognitive biases originating in system 1. However, these perceptions that guide health behaviors (Janz & Becker, 1984; Prochaska & DiClemente, 1982), can be modified by reducing the emotional responses associated with a foreign language, according to the emotional distancing hypothesis (Keysar et al., 2012). Recent studies highlight the importance of the foreign language in choosing health-enhancing behaviors through: a) decreasing fear and anxiety responses originating from the presence of disease-related public messages (Schroeder & Chen, 2021); and b) increasing the level of individual control regarding health messages that constrain their individual freedom (Saile et al., 2022).

Study Objectives

Having introduced the key components to be studied, i.e., foreign and native languages, emotional distancing, and health behaviors, and taking into consideration their great relevance in human behavior, the main objectives of this work are: a) to present the most relevant theoretical models on health behaviors; b) to analyze the influence of emotional distancing and the type of language (native or foreign) on decision making; and c) to identify the impact of switching from a native to a foreign language on health-related decisions and behaviors. The first two objectives are addressed through a narrative review and, for the last one, we proceeded to a systematic review using the PRISMA Protocol (Page et al., 2021).

Theoretical Models of Health Behaviors

One of the lines of research with the greatest recognition and applicability in the field of health is the *Health Belief Model* (hereinafter, HBM) (Janz & Becker, 1984). According to this model, health behaviors are preventive behaviors acquired as a result of perceived benefits and costs. More specifically, people adopt disease prevention behaviors based on how beneficial or costly they perceive (and believe) it would be to engage in them. The perception of an illness as severe and having a high probability of suffering from it, together with personal beliefs about the benefits or costs of performing health behaviors to prevent illness, leads people to pay attention, to a greater or lesser extent, to the environmental cues that encourage the performance of health behaviors. The model understands that every person is exposed to environmental cues—such as, for example, preventive campaigns in the media or advice from professionals—that condition how threatening the illness is perceived to be and the importance of taking action.

In summary, the basic premise of this model is that the probability of people adopting health behaviors depends on their individual beliefs and/or perceptions. Firstly, on the belief (or perception) that the disease is threatening and serious. Secondly, on the belief (or perception) that the benefits outweigh in number and importance the costs associated with preventive actions or health behaviors. And, thirdly and lastly, the belief (or perception) that for preventive actions to be effective, it is

necessary to work on the *modifying factors*—psychological, cultural, social, etc.—that indirectly influence perceptions and beliefs regarding health so that the individual may be able to modify them.

Another model used for the realization of health behaviors is the *Stages of Change Model* (Prochaska & DiClemente, 1982). Like the previous model, this one is based on a cognitive perspective, but it is more structured. It is based on the assumption that people progressively go through the different stages until the new health behavior is acquired and becomes routine. Thus, health behaviors are conceived as an integral part of an action plan that involves the progressive implementation of health-enhancing behaviors. It consists of five distinct stages: *precontemplation*, *contemplation*, *determination*, *action*, and *maintenance*. In the *pre-contemplation stage*, the person is not aware of the need to make a change in his or her lifestyle and, therefore, does not contemplate any alternative. In the *contemplation stage*, when the person becomes aware of the importance of acquiring new healthy habits for their health, they begin to consider the possibility of changing their behavior. Later, in the *determination stage*, they create new action plans. It is in the *action stage* that they carry them out. And it is in the *maintenance stage* that they continue to carry them out. In this model, as in the HBM, importance is given to three fundamental components: 1) the person's perceptions of an unhealthy way of acting; 2) their identification with this behavior; and 3) the knowledge necessary to modify it and acquire a new behavior.

Emotional Distancing, Language Type, and Decision Making

Starting from the assumption that all human behavior—including health behaviors—derives from a prior decision-making process that is largely influenced by individual perceptions and beliefs, as described in the previous theoretical models, it is of vital importance to understand how such perceptions and beliefs can be modified by a very particular and much studied phenomenon in recent years: the FLE on the perception of reality and decision-making. This effect, mentioned in the introduction, has been widely studied in *contexts of gambling, and gains and losses*, where foreign language has been related to riskier decision making (Costa et al., 2014a; Hadjichristidis et al., 2015; Hayakawa et al., 2019; Keysar et al., 2012); in *moral dilemmas* (Corey et al., 2017; Costa et al., 2014b; Hayakawa et al., 2017; Keysar et al., 2012); and in the *judicial domain*, where non-native language plays an important role in the perception and evaluation of crimes as less severe (Woumans et al., 2020).

One of the most consensual theories with empirical evidence explaining the FLE on decision making is the *emotional distancing hypothesis* (Keysar et al., 2012), framed within DPT (Kahneman, 2011). According to the *emotional distancing hypothesis* (Keysar et al., 2012), thinking in a foreign language reduces the cognitive biases associated with the decision-making process—as in, for example, the *framing effect*—since it provides a greater distance from the emotional system (or *system 1*) than the mother tongue. If DPT (Kahneman, 2011) is taken as a reference, people's thinking is the result of the two aforementioned thinking systems; system 1,

automatic and intuitive, which is sometimes led by different cognitive biases or systematic errors; and system 2, slow, rational, and deliberate, which attempts to correct these cognitive biases. Unlike the native language, which seems to be much more rooted in the emotional system, the foreign language is *distanced* from that system, from system 1, exactly as the previous hypothesis proposes. Consequently, the systematic errors or biases that derive from the fast and intuitive processing of system 1 decrease when the foreign language intervenes.

In this particular work, the *emotional distancing hypothesis* (Keysar et al., 2012) is key to understanding how switching from a native language to a foreign language reduces emotional responses and, consequently, leads its speakers, on the one hand, to make more considered decisions and, on the other, to carry out health-enhancing behaviors. Thus, when we speak of language switching as a mechanism of *emotional distancing*, we are referring to a reduction in the emotional response and to the activation of a deliberate processing system or system 2, as a consequence of the switch from a native language to a subsequently learned one.

The *contexts of acquisition* and the *level of proficiency* of the languages (Pavlenko, 2012) have also been considered as tentative explanations for the existence of fewer emotional responses in the foreign language. Native languages are acquired in *contexts of primary socialization* (Berger & Luckmann, 1986), where affectivity and bonding with significant others prevail. In addition, the proficiency in the language is very high, since it is spoken from birth within the family (Pavlenko, 2012). And, therefore, the knowledge of this language for the understanding of any information, including that related to health, is high. On the other hand, foreign languages are acquired in *secondary socialization contexts* (Berger & Luckmann, 1986), characterized by relationships in formal settings—such as, for example, school and/or work—where the *level of proficiency* of the language can be variable and sometimes low, thus making comprehension difficult (Pavlenko, 2012).

All that has been mentioned above about FLE and the *Emotional Distancing Hypothesis* (Keysar et al., 2012) has recently begun to be analyzed in *health-related contexts*. Schroeder and Chen (2021) published a meta-analysis whose main objective was to analyze FLE in these contexts. Their three lines of investigation were 1) oral and written processing of health- and illness-related information in a foreign language and their influence on fear and anxiety responses; 2) decision making and reduced susceptibility toward cognitive biases through the use of a foreign language; and 3) comprehension of health-related information in a non-native language.

Firstly, the fear and anxiety responses that could be elicited by pandemics—including the current Covid-19 pandemic—were studied. Several studies (Caldwell-Harris & Ayçiçeği-Dinn, 2009; Dylman & Bjärtå, 2019; Iacozza et al., 2017) found evidence in favor of the reduction of fear and anxiety responses thanks to the processing of a foreign language. As mentioned by Schroeder and Chen (2021), not only could such a reduction in the emotional responses be useful during a massive outbreak of a disease (through the reduction of anxious thoughts and states), but it could also help to alleviate the psychological consequences it will have in the future, thus improving people's health. Covid-19 has negatively

affected people's health by bringing with it poorer sleep quality (Franceschini et al., 2020); increased suicidal thoughts during confinements (Killgore et al., 2020); and a decreased sense of control for people around the world regarding what is going on in their lives (Wnuk et al., 2020). Schroeder and Chen (2021) further added the important role that psychotherapy will play for many patients affected by Covid-19. Several studies consider switching from a native to a foreign language to be an easy and effective means of communicating experiences that have high emotional arousal associated with them (Gawinkowska et al., 2013). In the therapeutic consultation, patients decided to express themselves in their second or foreign language with the purpose of reducing emotional responses that could originate from reliving a traumatic experience in therapy (Dewaele & Costa, 2013).

Secondly, decision making in a non-native language and its impact on several health-related cognitive biases were investigated. On the one hand, the *framing effect*, where the decision-making process is influenced by how a given problem is presented, was analyzed through the famous Asian Disease problem of Kahneman and Tversky (1979, cited in Schroeder & Chen, 2021). Two versions of the same problem were presented, the only difference being that the first was oriented in terms of lives saved (based on gain framing) and the second in terms of lives lost (based on loss framing). Although the two versions were identical, the decisions made to solve the problem that impacted the health of 600 people were different depending on the framing. In the lives saved version, program B was chosen more often, which proposed that if program B was chosen, the probability that 600 people would be saved was 1/3 and the probability that no one would be saved was 2/3. Meanwhile, in terms of lives lost, the majority opted for program A, a program that implied a lower risk, since if it were chosen, 400—out of the 600— people would die. On the other hand, the *optimism bias* was also analyzed, which refers to the optimistic thought that a person may have of not contracting a disease. Due to this cognitive bias, the perception of the risk of contracting, for example, Covid-19, decreases, thus reducing the likelihood that a person will engage in preventive health behaviors (Park et al., 2021). According to Schroeder and Chen (2021), the two aforementioned biases were successfully reduced by switching from a native to a foreign language, thus promoting deliberate and beneficial decision making in health matters.

And, thirdly and finally, in relation to the comprehension of health-related information, it was observed that this decreased with the use of a foreign language. A person's low level of *proficiency* in a language prevented good comprehension of information crucial to people's health (Wilson et al., 2005). Similarly, as suggested by Schroeder and Chen (2021), poor understanding of information as a consequence of foreign language may have promoted misunderstandings or even noncompliance with Covid-19 prevention measures.

Foreign Language and Health Behaviors

Based on the contents mentioned so far, foreign languages seem to have an impact on people's decision making and behavior in a wide range of situations, from hypothetical to everyday situations. For this reason, the present systematic review using the PRISMA protocol aims to analyze whether, indeed, switching from a native

language to a foreign language could be related to the improvement of people's health. Taking into account that the foreign language is *distanced* from the emotional system (*emotional distancing hypothesis*) and, consequently, it undergoes a more deliberate and rational type of thought processing, previously mentioned as system 2 (DPT), it is predicted that the use of a non-native language will change people's misperception of information related to health issues. By changing their perceptions, sometimes distorted by cognitive biases, the health decisions and behaviors they make will be more thought out.

Method

Search Strategy

The literature search was performed following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) model (Page et al., 2021). The final search, conducted in May 2023, included the electronic databases Scopus and Web of Science. Limits were established for time (studies from the year 2000 onwards) and language (English). The search terms used were: "foreign language effect" or "foreign language" or "second language" or "learned language", "native language" or "first language", "language intervention", "emotion" or "emotions" or "emotional", "decision making" or "public health" or "health decisions" or "health behaviors", "health" and "Covid-19". The detailed search is shown in Tables 1 and 2.

Data Extraction

In order to carry out an exhaustive analysis of the selected studies, relevant data were extracted from each of them (see Table 3). The information summarized refers to the authorship of the publication, the native and foreign language used by the participants, their place of residence, the sample size, age of the study participants, health-related stimuli, instruments for the evaluation of language level(s), and most relevant results.

Study Selection and Eligibility Criteria

The first selection of publications was made on the basis of title, abstract, and keywords. Eligible articles were identified by selecting inclusion and exclusion criteria. The inclusion criteria used refer to studies that mention the foreign language phenomenon and its effects on decision making and health-related behaviors in adults (age 18 years and older), and articles published in English. Therefore, the exclusion criteria refer to publications in languages other than English; to full articles with restricted access; publications that are not related to either decision-making or health behaviors; or that analyze the FLE on the acquisition and extinction of fear (see Figure 1).

Results

The results obtained from the systematic review of the seven articles were diverse, perhaps due to the variety of objectives and goals of each study. Although all of them address the issue of switching from a native to a foreign language in health-related

Table 1

Description of Scopus Search Strategy (May 19, 2023)

Delimitation of the search	Results
TITLE-ABS-KEY ("foreign language" OR "foreign language effect" OR "learned language" OR "second language") AND TITLE-ABS-KEY ("native language" OR "first language") AND TITLE-ABS-KEY ("emotion" OR "emotions" OR "emotional") AND DOCTYPE ("ar") AND PUBYEAR > 1999	174
TITLE-ABS-KEY ("foreign language" OR "foreign language effect" OR "second language") AND TITLE-ABS-KEY ("native language" OR "first language") AND TITLE-ABS-KEY ("emotion" OR "emotions" OR "emotional") AND TITLE-ABS-KEY ("decision making" OR "health decisions" OR "health behaviors" OR "public health") AND DOCTYPE ("ar") AND PUBYEAR > 1999	28
TITLE-ABS-KEY ("language intervention" AND "foreign language" AND "COVID-19" AND "health") AND DOCTYPE ("ar") AND PUBYEAR > 1999	2

Table 3

Characteristics of Selected Studies and Results Found

Author(s)	Native and Foreign Language	Participants' Place of Residence	Sample Size	Age	Language Level Instruments	Stimuli Health	Results
Alkhamash et al. (2022)	NL: Arabic FL: English	Saudi Arabia	N=368 (students)	18-22	CEFR	Hypothetical	FL use = greater willingness to engage in health behaviors.
Azevedo et al. (2022)	NL: Mandarin FL: English	United States	N=78 (students)	+18	ELP self-assessment; ERVT-V3 (Ekstrom et al., 1976).	Hypothetical	Use of FL = increased sensitivity (to perceive the <i>objective risks</i> of contracting a disease + to perform prevention behaviors).
Geipel et al. (2022)	NL: Cantonese FL: English	Hong Kong	N=611	+18	Ad hoc questionnaire	Real	Communication of information in FL = increased confidence towards vaccination.
Hayakawa et al. (2021)	NL: Mandarin FL: English	United States	N=160	+18	LEAP-Q (Marian et al., 2007)	Hypothetical	Use of FL = increased risk sensitivity (on acceptance and/or rejection of treatments for disease prevention).
Hayakawa et al. (2022)	NL: Mandarin FL: English	United States	N=160	+18	LEAP-Q (Marian et al., 2007)	Hypothetical	Use of FL = decrease in perceived severity of medical conditions.
Saile et al. (2022)	NL: German FL: English	Germany	N=605 (students)	+18	Self-assessment questionnaire developed <i>ad hoc</i>	Real	FL use = increased sense of individual control + confidence toward Covid-19 prevention instructions.
Zhao et al. (2021)	NL: English FL: French	Quebec, Canada	N=314	18-81	LBQ	Hypothetical	Use of FL = anxiety responses in speakers of FL, hindering their access to quality health services.

Note. CEFR: Common European Framework of Reference for Languages; ELP: English Language Proficiency; ERVT-V3: Extended Range Vocabulary Test, Version 3; LEAP-Q: Language Experience and Proficiency Questionnaire; LBQ: Language Background Questionnaire.

contexts, the foci of interest and the study hypotheses are different.

A consistent finding among the selected studies is that, in most situations, the foreign language functions as a mechanism that promotes health behaviors, through *emotional distancing* (Azevedo et al., 2022; Hayakawa et al., 2021; Hayakawa et al., 2022); increased trust and confidence in the effectiveness of health tools, such as Covid-19 prevention instructions (Saile et al., 2022) or vaccination (Geipel et al., 2022); and an increased willingness to perform behaviors that improve one's own health and that of others (Alkhamash et al., 2022).

Another result that stands out from these studies is the FLE on stimulus and risk perception. In the studies by Hayakawa et al. (2021 and 2022) it was observed how, indeed, thanks to *emotional distancing*, processing health information in a foreign language was associated with decreased severity of 1) the symptoms of a particular disease, and 2) the side effects or possible complications arising from a given treatment. Together with a decrease in the perception that illnesses are serious or possible treatments are complicated, in

Table 2

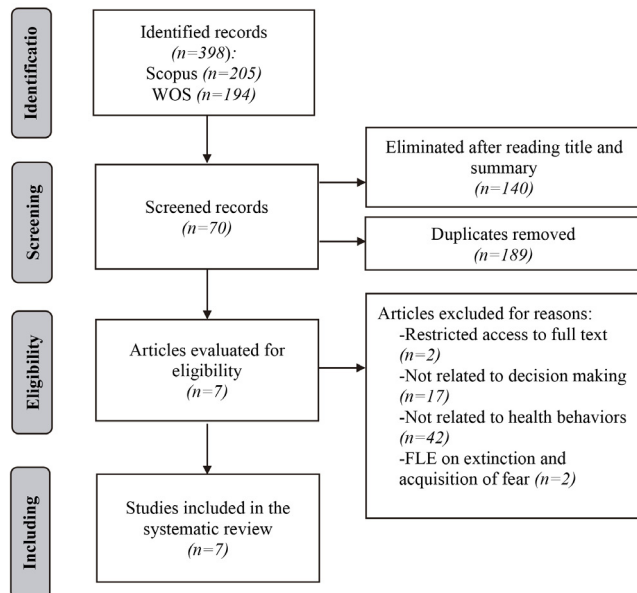
Description of Web of Science Search Strategy (May 19, 2023)

Delimitation of the search	Results
(TS= ("foreign language" OR "foreign language effect" OR "learned language" OR "second language") AND TS= ("native language" OR "first language") AND TS= ("emotion" OR "emotions" OR "emotional")) AND DT= ("ARTICLE") Time period: 2000-2023	166
(TS= ("foreign language" OR "foreign language effect" OR "second language") AND TS= ("native language" OR "first language") AND TS= ("emotion" OR "emotions" OR "emotional")) AND TS= ("decision making" OR "public health") AND DT= ("ARTICLE")) Time period: 2000-2023.	27
TS= ("language intervention" AND "foreign language" AND "Covid-19" AND "health") AND DT= ("ARTICLE") Time period: 2000-2023.	1

the study by Azevedo et al. (2022) the foreign language was associated with an increase in the perception of *objective risks*, i.e., dangerous or harmful events based on objective data or information. The increase in cholesterol (an objective fact) caused fictitious patients to perceive an increased risk of contracting cardiovascular disease. As a consequence, the foreign language correlated highly and positively with the intention to engage in preventive behaviors against these diseases.

As for studies addressing the communication of Covid-19-related information in a foreign language, a clear and powerful influence of the foreign language on individuals' perception of control was evident. Saile et al. (2022) observed how the communication of instructions used to mitigate the spread of Covid-19 in a foreign language was rated more positively. Also, the use of the non-native language in this situation was related to an increased level of individual control and a greater willingness to comply with the instructions received. In the study by Geipel et al. (2022), information related to Covid-19 vaccines and communicated in a foreign language increased people's confidence and willingness to be vaccinated.

Figure 1
Flowchart of Preferred Reporting Elements for Systematic Reviews and Meta-Analyses (PRISMA)



With the exception of most of the aforementioned studies, the study by Zhao et al. (2021) found that the use of a foreign language led to states of anxiety when a person was in a medical context where professional-patient communication was conducted in a non-native language. This anxiety associated with a foreign language in discordant medical contexts (the professional speaks in their native language and the patient in a foreign, learned language) hindered people's access to quality health care, with negative repercussions on their health. Thus, the switch to a foreign language, instead of being considered beneficial for the health of individuals, is considered in this study as a major obstacle for those minorities who do not have the necessary confidence or an adequate *level of proficiency* in the language to function in it.

Discussion

In today's globalized world, more and more people live in multilingual territories, where they have to communicate in more than one language. Thus, it is common for people in the same territory to communicate in different languages, in addition to their native language. In this systematic review, carried out using the PRISMA protocol, we have focused on language switching from a position close to the communication of health information. Just as languages are used to talk about oneself or exchange opinions on a particular subject, they are also used to contrast or learn information that can improve people's health. More specifically, the analysis in these pages has to do with how switching from a native language to a foreign one, when communicating health-related information, can have an impact on the perception of its listeners or speakers and, consequently, on their health.

First, there is a broad consensus that individual perceptions and beliefs influence, to a large extent, the way people think and act in relation to their health, as reflected in the HBM (Janz & Becker,

1984) and the Stages of Change Model (Prochaska & DiClemente, 1982). Perceiving an illness as serious and having a high probability of developing it, together with personal beliefs about the benefits or costs of performing health behaviors to prevent it, makes people reconsider the option of taking responsibility for their health (Janz & Becker, 1984).

In this sense, the foreign language has managed, according to the different studies analyzed, to change people's perceptions to the point of: 1) decreasing the degree of severity of both the symptoms—fever, pneumonia, and/or sore throat—of a specific illness (such as, for example, the flu) and of the side effects—respiratory difficulties, allergic reactions, and/or muscle weakness—derived from a preventive treatment (such as, for example, the flu vaccine) (Hayakawa et al., 2022); 2) making people able to perceive with greater sensitivity the *objective risks* associated with contracting a pathology and to accept or refuse a disease prevention treatment (Azevedo et al., 2022; Hayakawa et al., 2021); 3) increasing the perception of individual control together with the degree of trust and confidence in the effectiveness of health tools, such as Covid-19 prevention instructions (Saile et al., 2022) or vaccination (Geipel et al., 2022); and 4) promoting the willingness to engage in behaviors that improve one's own health and that of others (Alkhamash et al., 2022).

One of the most widely accepted explanations of perception, decision-making, and behavior in the FLE literature has been the *Emotional Distancing Hypothesis* (Keysar et al., 2012), which is in turn closely linked to DPT (Kahneman, 2011), both of which are mentioned throughout this paper. The foreign language is not governed by the emotional or intuitive processing (system 1) that is typical of native languages. Unlike native languages, the foreign language is subject to a more deliberate processing (system 2), hence the possibility that the foreign language leads people to make decisions and act more deliberately when it has to do with their health. Instead of being driven by emotions—such as, for example, fear and/or anger—they are guided by rationality and the *objective risks* that exist if they do not remedy their medical condition, if they have one or if they are likely to develop one.

One of the results that was not consistent with the beneficial effect of foreign language on health improvement was that obtained in the study by Zhao et al. (2021). In contrast to the other studies analyzed in this systematic review, this study found that foreign language was a major impediment to the health of minorities living in Quebec, since they lacked the confidence and knowledge necessary to manage in a non-native language. Understanding health information in a non-native language can be complicated when one does not have a medium to high level of proficiency in that language, to the point that the lack of comprehension can evoke states of anxiety. In order to prevent uncomfortable or unpleasant situations, it is common for people to decide not to go to healthcare centers, which can have a negative impact on their health.

As a limitation, it should be noted that the selected studies are scarce and at the same time very diverse, as they focus on different aspects of health. Based on the empirical evidence found, it can be concluded that the use of the foreign language to improve people's health in natural contexts has not been the main object of research. Most studies, with the exception of two (Geipel et al., 2022; Saile et al., 2022) are associated with hypothetical contexts,

hence the difficulty of extrapolating the results to everyday life. However, this trend could change as a consequence of the recent global health crisis. Health is a priority for the whole person, hence the importance of analyzing any tool—including language—that can contribute to its improvement from a holistic perspective. Future lines of research could further investigate the impact of language switching on the improvement of people's health in natural and everyday contexts.

Conflict of Interest

There is not conflict of interest.

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