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THE INTERPLAY OF CROSS-LINGUISTIC DIFFERENCES AND CONTEXT IN L2 IDIOM COMPREHENSION

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Abstract
The present study investigates to what extent the effect of cross-linguistic differences on L2 idiom comprehension is modulated by the presence of a context. Sixty students of German as a foreign language (L1 French) completed a comprehension test consisting of metaphorical idioms in the L2 that differed from their L1 equivalents conceptually and formally and were presented with or without context. The results show that an increasing degree of conceptual and formal distance as well as the absence of context are generally associated with lower performance in the idiom comprehension test. However, the analysis of interactions shows that the presence of the context was especially supportive for conceptually different items, whereas the facilitative effect of formal similarity considerably diminished with increasing conceptual distance.

Keywords: idioms, metaphoric competence, cross-linguistic differences

1. Introduction

Since Lakoff and Johnson (1980) describe metaphors as mappings of conceptual content from a source domain onto a target domain that are essential for the everyday reasoning and conceptualization of the world, research into the role of metaphors has been gaining momentum in the context of foreign language learning. As a matter of fact, a significant and growing body of research exists on the acquisition of metaphoric competence, referred to as the ability to deal with metaphors and encode conceptual information in a culturally adequate way (Littlemore et al., 2014; Danesi, 2008). This overarching competence has been found to have a positive impact on different aspects of language acquisition such as sociolinguistic, textual and illocutionary aspects, as well as vocabulary acquisition (Azuma, 2009; Littlemore and Low, 2006; Cameron and Low, 1999). Acknowledging the importance of metaphoric competence at different levels of L2 learning and the necessity of leveraging the treatments that address this competence in the classroom, the question arises as to how far the L1 cultural and linguistic background of learners influences L2 metaphor comprehension and thus the effectiveness of such treatments (Hoang, 2014). Although this question has been addressed in many studies (De Cock and Suñer, 2018; Türker, 2016; Chen and Lai, 2013; Yeganehjoo et al., 2012; Ferreira, 2008; Charteris-Black, 2002; Liontas, 2002; Irujo, 1986), the interaction effects between cross-linguistic

aspects and other key factors such as the context and frequency of use on L2 metaphor comprehension are still poorly understood. Therefore, further research needs to include more complex study designs in order to gain deeper insights into the interplay of those factors and thus provide a complete picture of the variability in L2 metaphor comprehension. Consequently, the present study aims to investigate how different degrees of conceptual and formal distance between metaphorical idioms in the L2 and their L1 equivalents interact with the presence or absence of contextual information. The findings of the present study may shed light on how metaphorical expressions can be effectively introduced to L2 learners and which cross-linguistic differences need to be taken into account (Hoang, 2014).

First, we will discuss the models of L2 idiom comprehension and give an overview of studies on factors affecting L2 idiom comprehension (section 2) as well as discuss in more depth the few studies that look at the variables under investigation in the present study (section 3). We will then present a study that tested the interaction effects of cross-linguistic differences and the presence or absence of a context on L2 idiom comprehension among French speaking learners of German (sections 4 and 5). Finally, we will discuss the findings against the backdrop of previous literature, present some directions for further research (section 6) as well as pedagogical implications for teaching metaphoric competence (section 7).

2. Approaches to L2 idiom comprehension

A question that has received considerable attention in the field of L2 metaphor comprehension concerns the differences between L1 speakers and L2 learners when accessing the literal and figurative meaning of metaphorical expressions (Türker, 2016; Cieślicka, 2010). Some authors pointed out the non-compositional character of idioms and stated that with increasing L2 proficiency L2 learners are more likely to access the figurative meaning in a direct way and subsequently generally bypass the literal meaning (Gibbs, 1986). This assumption centers on the idea that proficient L2 learners tend to retrieve the meaning in a manner similar to native speakers, namely by accessing the idiomatic expressions holistically. In other words, proficient L2 learners do not necessarily need to first access literal meaning in order to infer the figurative meaning. In contrast, Cieślicka's *Literal Salience Model* (2006), which is based on Giora's (1999) graded salience hypothesis, predicts that L2 learners tend to first draw their attention to the literal meaning of the idiomatic expression and then make use of contextual clues (see also Kecskes, 2000). In this context, Giora (2003; 1999) describes salience as the degree of frequency and conventionality of a meaning that allow it to be processed first and accessed automatically from the mental lexicon, independent of contextual clues. According to this view, L2 learners favour the full compositional processing strategy to interpret the idioms rather than holistic processing. Liontas

(2002) also underscores the salience of literal meaning, describing two different phases that underlie the process of idiom comprehension in the L2: in the first phase, learners formulate hypotheses without using the context and thus rely on the linguistic mechanism. This process can be facilitated when the L1 and the L2 have similar expressions. In the second phase, the learners test the different hypotheses against the contextual information provided and progressively verify or reject them. In this vein, the *Model of Dual Idiom Representation* (Abel, 2003) postulates that L2 idiom comprehension is mainly affected by the frequency and decomposability of different idioms. Those idioms that are hardly decomposable and occur relatively frequently in the L2 input are more likely to develop a separate lexical entry, allowing direct access to their figurative meaning. The opposite is true for those idioms that have a high degree of compositionality and are rarely encountered in the L2 input, which often triggers an analysis of their components.

A major drawback of both views (compositional vs. non-compositional) is the limited empirical evidence in the field of L2 idiom comprehension when compared to L1 idiom comprehension. Only a few psycholinguistic studies on L2 idiom comprehension have been conducted to date, but they are not conclusive about the explanatory potential of both views. On the one hand, some studies (Columbus, 2010; Conklin and Schmitt, 2008) showed that L2 learners processed literal expressions faster than figurative expressions, which is in line with the patterns found in native speakers (e.g. Durrant and Doherty, 2010). These findings seem to support the holistic retrieval of idioms postulated by non-compositional approaches (Gibbs, 1994, 1986; Bobrow and Bell, 1973). However, some other authors suggest that these results could be biased because the participants were in an immersion context and had a relatively high amount of exposure to an authentic and rich L2 input (Boers and Lindstromberg, 2012). On the other hand, there is also empirical evidence for the compositional view on idiom comprehension as well as the higher salience of literal meanings. For example,., a cross-modal priming study by Cieślicka (2006) showed that idiomatic expressions prime visual targets related to their literal interpretation, which in turn accounts for the prior activation of the literal meaning of the words before accessing the figurative meaning. In the same vein, Siyanova-Chanturia and Schmitt (2011) did not find any advantage to processing idioms over novel phrases by L2 learners, which contrasted with the pattern observed with native speakers in the same experiment (see also Cieślicka et al., 2014). The authors also found that L2 learners processed idioms faster when they were used literally than when used figuratively, suggesting that the literal meaning is also accessed when inferring the figurative meaning.

Taken together, previous research supports the idea that both views complement each other in that they account for different L2 idiom comprehension conditions and explain how different factors affect this process. Whereas the findings supporting the non-compositional view suggest that increased language proficiency and the exposure to L2 in immersion contexts trigger a direct

processing of the figurative meaning of idioms (Columbus, 2010; Conklin and Schmitt, 2008; Gibbs, 1994), the other findings reported here show that L2 learners with less exposure to authentic L2 input tend to process the literal meaning of the single words first and then infer the figurative meaning (Siyanova-Chanturia and Schmitt, 2011). In this regard, the decomposability of idioms plays a major role in L2 idiom comprehension, with decomposable idioms being generally easier to comprehend (Skoufaki, 2008, Boers and Demecheleer, 2001; but see also Libben and Titone, 2008; Sprenger et al., 2006). In this sense, the so called hybrid models (Caillies and Butcher, 2007; Titone and Connine, 1999) are best suited for explaining how idioms can be situated on a continuum between non-decomposable and decomposable and how they trigger different processing strategies according to their degree of decomposability. Overall, the findings reported here suggest that, with the increase of language proficiency (or sufficient exposure to the L2), a gradual shift takes place over time in L2 idiom comprehension from a full compositional processing strategy to a non-compositional one (Cieślicka, 2015), which is modulated by many factors.

The presence or absence of a supportive context has been considered to strongly affect L2 idiom comprehension (Cooper, 1999). More specifically, the context can help learners to balance cognitive effects and cognitive efforts and reach optimal results when inferring the meaning of idioms (cf. *Relevance Theory* by Sperber and Wilson, 1995). However, some other studies downplay the importance of the context for L2 idiom comprehension and argue that L2 learners often make use of a universal pattern based on embodied experiences (e.g. using the concept of physical motion to understand expressions of time), rather than using the contextual clues (Ferreira, 2008, see also Boers et al., 2007). Moreover, another group of studies is concerned with discerning to what extent the reliance on learners' L1 linguistic knowledge and culture affects idiom processing in the L2, showing that cross-linguistic similarity, in very broad terms, facilitates L2 idiom comprehension (Chen and Lai, 2013; Charteris-Black, 2002; Liontas, 2002; Irujo, 1986). The study by Charteris-Black (2002) reveals that L2 learners manifested better performance when metaphorical expressions were conceptually and linguistically similar to their L1 equivalents. The author also stressed the importance of the frequency of exposure to L2 figurative language and intra-lingual transfer as factors affecting metaphor comprehension (see also Boers, 2003).

Further, other studies observed that L2 learners frequently use guessing from context and L1 transfer to compensate for the lack of linguistic knowledge at all levels of language proficiency (cf. Azuma and Littlemore, 2010; Azuma, 2009; Liontas, 2002), but this strategy often leads to misinterpretations (cf. Boers, 2000). Thus, learners tend to adapt their strategies depending on the difficulties they encounter and the prior knowledge available. Although the interaction effects of the different variables are essential for an increased predictability of L2 idiom comprehension models, we still know very little about them. In what follows, we

will briefly discuss the previous research on the interaction of cross-linguistic and contextual effects in L2 idiom comprehension.

3. Cross-linguistic and contextual effects in L2 idiom comprehension

Thus far, previous studies have provided valuable insights into the different factors affecting idiom processing in the L2. Although they represent an important step forwards, they neglected to examine how the different factors interact with one another. To the best of our knowledge, only three studies have been conducted to date that are concerned with the interaction of cross-linguistic and contextual effects in L2 metaphor comprehension (De Cock and Suñer, 2018; Türker, 2016; Liontas, 2002).

The study by Liontas (2002) investigated to what extent the context and type of idiom affected L2 idiom comprehension and strategy use by different groups of L2 learners (Spanish, French and German). The items were divided into three different categories (*identical, similar* and *different*) depending on their syntactical, semantic and conceptual similarity to the L1 equivalents and were presented with and without context. The results revealed that the presentation of a context raised the rate of correct answers in all three idiom categories and all three foreign languages tested in the study, with the identical idioms being the easiest to comprehend and the different one more difficult, respectively. The findings thus support the idea that context has an overall facilitative effect on L2 idiom comprehension. However, the study suffered from a significant flaw in that no proper distinction was made between the lexical and the conceptual levels of similarity, which could have provided more fine-grained insight into how the cross-linguistic effects came about.

The study by De Cock and Suñer (2018) investigated to what extent processing metaphorical taboo expressions is impaired when the target expression (L2=Spanish) and its equivalent in the L1 (French) do not share the same conceptual and sociocultural content. The authors made the distinction between conceptual and sociocultural aspects on the basis of the different knowledge sources needed to infer the meaning of the taboo expressions extracted from the MadSex Corpus (Pizarro, 2013). For example, the authors assumed that for expressions such as *los huevos* (‘the eggs “=” the balls, the testicles’) L2 learners can guess the meaning by using conceptual knowledge arising from their embodied experiences. However, when coping with taboo expressions such as *los bebés vienen de Paris* (‘Newborn babies come from Paris’ = ‘babies are brought by the stork’; ‘sexual reproduction’), learners are expected to use very specific sociocultural knowledge that they often lack and thus are more likely to have difficulty processing metaphors. The study also looked at the availability of context as an additional factor and controlled for aspects regarding the linguistic biography of the participants (L2 proficiency level, stays abroad, etc.). The results showed that the conceptual and sociocultural distance between metaphorical taboo

expressions in the L1 and L2 do not directly affect comprehension. As to the role of context, the analysis showed that it only helps when interpreting metaphorical taboo expressions that are socioculturally different than the L1 equivalents. On the other hand, context was found to impair the comprehension of conceptually different taboo expressions. Accordingly, learners seem to use context as a source of knowledge only when they cannot use their more general conceptual knowledge. Furthermore, the authors found that some mistakes made by L2 learners when dealing with conceptually different items might be attributed to formal similarities between the target expression and other non-equivalent expressions in the L1 (e.g. the use of a reflexive verb). This suggests that formal similarity might also play a role in metaphor comprehension and should be taken into account in future research. Finally, the authors also pointed out that stays abroad and consequently better access to authentic language can facilitate processing metaphorical taboo expressions.

The study by Türker (2016) also looked at the influence of conceptual and linguistic differences, as well as the role of the contextual information in metaphor comprehension in the L2. In contrast to the study by De Cock and Suñer (2018), the author took into consideration the differences regarding both the linguistic (formal) realization of the metaphorical expression and its underlying conceptual metaphor, since two different languages sharing the same metaphor may realize it by means of different mappings (p. 31). For example, the conceptual metaphor HAPPINESS IS (DESIRED) HIDDEN OBJECT is present both in English and Korean, but the metaphorical expression *to hug/hold happiness* can only be found in Korean, even if it arises from the same conceptual metaphor as in English. The study also investigated the role of context by distinguishing different degrees of contextual information (no context – limited context – rich context) as well the influence of the frequency of the L1 equivalent expressions. The results showed that learners performed better when the L1 and the L2 were conceptually and linguistically similar. Interestingly, the descriptive statistics reveal that metaphor comprehension was generally much more affected by the linguistic distance between the L1 and L2 than by those that differed at a conceptual level. Furthermore, the context was found to facilitate comprehension only when figurative language in the L2 did not share any similarity with the L1, both at conceptual and linguistic levels. The author concluded that, in general, the influence of context declines with increasing similarity.

Although the findings from previous studies are only partially congruent with each other, the conclusions that can be drawn for further research are as follows: First, the role of context seems to vary depending on the sources of knowledge that learners can access when processing metaphorical expressions in the L2 (De Cock and Suñer, 2018; Türker, 2016; Ferreira, 2008), which stresses the explanatory potential of this factor for describing L2 idiom comprehension. Second, the linguistic distance between target expressions in the L2 and their L1 equivalents seems to play a more important role than the conceptual distance (De Cock and Suñer, 2018; Yeganehjoo et al., 2012). Consequently, further research

should explore the influence of this factor by providing a fine-grained analysis of the related dimensions. Third, the formal similarity between the target metaphorical expression and its L1 equivalent also seems to influence metaphor comprehension in the L2, since aspects such as the type of verb (reflexive, intransitive, etc.) led learners to false interpretations. Fourth, further evidence is needed to better understand to what extent other learner variables, such as exposure to authentic communication with a wide range of registers (e.g. through stays in the target countries) facilitate coping with metaphorical expressions in the L2. Against this backdrop, it is beyond doubt that further research on L2 idiom comprehension requires more complex study designs that allow an examination of the interaction between different factors. Consequently, the present study seeks to provide deeper insights into how the different degrees of linguistic similarity (e.g. conceptually identical, similar or different and formally similar or different) and the presence or absence of context interact with one another.

4. The study

4.1 Research questions

The present study aims to answer the following research questions:

1. To what extent does the conceptual and formal distance between L2 idiomatic expressions and their L1 equivalents affect comprehension?
2. To what extent does contextual information facilitate the comprehension of idiomatic expressions?
3. What is the relationship between different degrees of conceptual distance, formal distance and the presence or absence of context?

4.2 Participants

Sixty learners of German as a foreign language with French as L1 participated in the study (34 female, 26 male). They were recruited from the Catholic University of Louvain and the University of Mons, both in the French-speaking region of Belgium. The participants were students enrolled in the MA programs on modern languages or translation & interpreting. According to the internal tests and the participants' self-assessment, their proficiency level ranged from B2 to C1 according to the Common European Framework of Reference (CEFR). Over the course of the academic year, participants received an average of 30 hours of language instruction in addition to specialized courses (linguistics, literature, translation) that were also taught in the target language. With regard to the amount of exposure to authentic L2 input, 63.3% of the students (N=38) reported that they had spent at least three months in a German-speaking country, while 26.7% of the

students (*N* =16) did not have any experience living abroad (*N*=6 missing values, 10%).

4.3 Instruments

In order to investigate the effects of conceptual similarity, formal similarity and contextual information on metaphor comprehension in the L2, we created an idiom comprehension test consisting of 24 idiomatic expressions that were extracted from DWDS corpus (*Digitales Wörterbuch der deutschen Sprache*) as well as from authentic journalistic texts. The items were chosen according to the different dimensions represented in Table 1, so that every item could be assigned to the respective cell. The number of items was balanced across all categories: four idiomatic expressions in each of the three categories of *conceptual distance* (*identical*, *similar*, and *different*) for each of the categories of *formal distance* (*similar* and *different*). In order to account for the mode of presentation as a further variable (*with* and *without context*), we created two different versions of the test with the same 24 idiomatic expressions. In both test versions, 12 idiomatic expressions were presented with context and 12 idiomatic expressions without context. Those idiomatic expressions that were presented with context in the first version of the test were presented without context in the second version and vice versa. This allowed us to include the mode of presentation as a further variable without any decrease of the overall number of items for each category. Furthermore, the order of the items was fully randomized in both test versions with the aim of controlling for sources of potential measurement errors.

Table 1. Study design

	Formal difference	**Mode of presentation**	
		With context	Without context
conceptually identical (same concept)	similar	*C1SC*	*C1SN*
	different	*C1DC*	*C1DN*
conceptually similar (different concept, same domain)	similar	*C2SC*	*C2SN*
	different	*C2DC*	*C2DN*
conceptually different (different domain)	similar	*C3SC*	*C3SN*
	different	*C3DC*	*C3DN*

We distinguished three different degrees of conceptual distance between the target expressions and their L1 equivalents on the basis of Langacker's (1991: 547) definition of conceptual domain as "[a]ny coherent area of conceptualization relative to which semantic structures can be characterized (including any kind of experience, concept or knowledge system)". Accordingly, a first group of items consisted of those target expressions that used exactly the same concepts as their

L1 equivalents and were, thus conceptually identical. In a second group, we included idiomatic expressions that used concepts different from those contained in the L1 equivalents but were considered to share the same conceptual domain (e.g. body parts). This category was called conceptually similar. The third group contained idiomatic expressions that shared neither the concept nor the conceptual domain with their equivalents (conceptually different) and were assumed to be the most difficult to comprehend.

Furthermore, we made a distinction between target expressions that were formally similar to their L1 equivalents in their linguistic realization and those that were different. For example, the idiomatic expression *mit einem Fuß im Grabe stehen* ('to stand with one foot in the grave'*) and its equivalent in French *avoir un pied dans la tombe* ('to have one foot in the grave') use the same concepts, but they differ in that they are realized in the form of a transitive and an intransitive construction, respectively. In contrast, the idiomatic expression *auf die Tube drücken* ('to press the tube'* = 'to step on the gas') and the French equivalent *appuyer sur le champignon* ('to press on the champignon'*) are both realized by means of reflexive verbs and are thus formally (morphosyntactically) similar, whereas they use different concepts. Finally, all the items were presented with and without any context. Given the fact that the items with context were extracted from corpora and as such represent real usage events, the test met the claims made in previous research that metaphors should be presented in authentic language contexts rather than explanatory contexts (Boers, 2003).

Once the test was constructed, an independent rater was asked to judge if the assignment of the items to the different dimensions tested in the study was appropriate and aligned with the theory. This was the case for 95.6 % of the items. Disagreements were resolved by discussion until consensus was reached.

The participants were asked to indicate the meaning of the 24 items presented in the test and/or look for an equivalent idiomatic expression in their L1. For example, for the target expression *unter die Arme greifen* ('to give somebody a hand'), we accepted both the equivalent idiomatic expression in the L1 French (Fr. *donner un coup de main*) and the description of the concrete meaning (Fr. *aider, soutenir*='to help'). The following example with a sample solution was included at the beginning of the test in order to explain the task to the participants:

Que signifient les mots soulignés en français ? Connaissez-vous des expressions équivalentes en français ?
Par ex. : Den Nagel auf den Kopf treffen
=> Signifié : *dire vrai, deviner, faire mouche, mettre dans le mille*

What do the underlined words mean in French? Do you know equivalent expressions in French?
For example: To hit the nail (right) on the head
=> Meaning: *state the truth exactly, find exactly the right answer*.

In addition to the idiom comprehension test, the participants completed a questionnaire dealing with different aspects of their linguistic biography (e.g. proficiency level in German, stays abroad, knowledge of other foreign languages, etc.). According to previous research, these aspects are supposed to interact with the dimensions tested in the study and can therefore provide deeper insights into how L2 learners process metaphors.

4.4 Procedure

The participants were presented with both the test and the questionnaire and were asked to sign a consent form, which explained the purpose of the study and gave information about data collection and treatment as well guarantee of participants' anonymity and protection of personal data. In order to ensure that no external resources were used during the study, the test and the questionnaire were handed out in paper form. Although no time limit was set to complete the comprehension test and answer the questionnaire, carrying out the study took approximately 25 minutes.

4.5 Data analysis

The participants' answers were examined by two independent raters that were French native speakers with an advanced level of German. Every correct answer received 1 point, so that participants could receive up to 24 points for the entire test. For all items, we accepted several answers as correct, irrespective of whether they were equivalent expressions or a description of the meaning. The raters, who were trained in advance to ensure internal consistency of their judgments, agreed on 97% of the answers, which according to Cohen's Kappa (k=0.883, p<0.000) refers to "excellent agreement". In the case of disagreement, a discussion took place until consensus on coding for the final analysis was reached.

In order to analyse to what extent the main effects of the different categories and their interaction effects predict the likelihood that the participants answered correctly the items in the idiom comprehension test, a binary logistic regression with random effects (generalized linear mixed model) was conducted. The within-items factors were the different categories of conceptual distance (*identical*, *similar* and *different*), the formal similarity (*similar* vs. *different*) and the context (*with context* vs. *without context*). The individual responses in the idiom comprehension test were the dependent variable, which were coded by 0 (false) and 1 (correct). In order to control for within cluster similarity, we took the items of the test and the subjects as random effect parameters.

5. Results

The descriptive statistics of the idiom comprehension test (by-participants analysis) are shown in table 2 and expressed in mean scores. In what follows, we will first analyse the main effects of the variables and then go on to report on the two-way interaction effects.

Table 2. Results of the metaphor comprehension test by participant

Categories		Mean	SD	*N*	Mean (total)	*SD*
conceptual distance	*identical*	4.233	1.294	60	2.416	1.538
	similar	2.200	1.246	60	.	.
	different	0.817	0.813	60	.	.
formal distance	*similar*	4.650	1.505	60	3.625	1.537
	different	2.600	1.509	60		.
mode of presentation	*without context*	3.064	1.187	60	3.707	1.382
	with context	4.350	2.090	60	.	.

With regard to the influence of the conceptual distance between the L2 idioms and their L1 equivalents on idiom comprehension, the results show that the participants performed slightly better when the expressions were conceptually similar to their L1 equivalents. In fact, the highest total mean score was achieved for the items sharing the same concepts as their equivalents (M=4.233; SD=1.294), while the total mean score for the items only sharing the same domain (M=2.200; SD=1.246) and those using different conceptual domains (M=0.817; SD=0.813) were noticeably lower. As expected, the results of the binary logistic regression revealed a significant main effect of the variable *conceptual distance* on metaphor comprehension (F (2, 1281)=6.371, p=0.002). As to the different categories of the variable, the fixed coefficients for *conceptually similar* (β=−2.450, z=-2.019, p=0.044) and *conceptually different* (β=−5.125, z=-3.898, p<0.000) were significant, which indicates that the respective items were more likely to lead to false answers compared to the conceptually identical items.

Regarding the influence of the formal similarity between the L2 idiomatic expressions and their L1 equivalents on comprehension, we observed that the formally similar items were, in general, considerably easier to comprehend than their formally different counterparts. In fact, participants scored an average of M=4.650 (SD=1.505) for the *formally similar* items and M=2.600 (SD=1.509) for the *formally different* items. However, the binary logistic regression did not find any significant main effect of formal distance on metaphor comprehension (F (1, 1281)=2.501, p=0.114), which means that formally different items do not predict a reduced likelihood for correct answers. Despite this overall impairing effect of formal differences on idiom comprehension, a closer inspection of the individual mean scores reveals that this varies considerably across the different categories of conceptual distance (see Figure 1). When compared to the conceptually identical idiomatic expressions, the positive effect of formal similarity sharply declines for

the conceptually similar and different counterparts: For the conceptually similar expressions, the difference between the mean scores of formally similar and different items is approximately 0.2 points (formally similar *M*=0.283, *SD*=0.370; formally different *M*=0.107, *SD*=0.174), whereas for the conceptually different items there is practically no difference between the mean scores (formally similar *M*=0.043, *SD*=0.076; formally different *M*=0.051, *SD*=0.090). However, the two-way interaction effect *conceptual distance * formal distance* was not significant (F (2, 1281)=1.042, p=0.353), which means that conceptual differences are not associated with a significantly lower proportion of correct answers for formally different items when compared to their formally similar counterparts. In other words, formal similarity facilitates L2 idiom comprehension especially when the items are conceptually identical.

As far as the effect of contextual information on L2 idiom comprehension is concerned, the results consistently show that the presence of a context facilitates comprehension. In fact, the total mean score for the items *without context* (*M*=3.064, *SD*=1.187) is not as high as the total mean score for the items *with context* (*M*=4.350, *SD*=2.090), which suggests that presenting items with context generally facilitates idiom comprehension. As expected, the binary logistic regression found a significant main fixed effect of the variable *context* on idiom comprehension (F (1, 1281)=36.530, p<0.000). Furthermore, the analysis of the effect of the context across the different categories of conceptual distance showed that the context was very helpful, especially for the conceptually similar items when compared to their counterparts without context (see Figure 2), the mean score difference increasing by 0.2 points (with context *M*=0.300, *SD*=0.363; without context *M*=0.100, *SD*=0.156). Although to a lesser degree, the presence of a context was also found to facilitate comprehension of conceptually different idioms, the mean score for the items with context improving by approximately just above 0.1 points, compared to those items without context (with context *M*=0.136, *SD*=0.204; without context *M*=0.015, *SD*=0.027). In contrast, the context did not seem to affect the conceptually identical items the same way. In fact, the results show that the presence of a context leads to a mean score difference of less than 0.1 points compared to the items without any contextual information (with context *M*=0.565, *SD*=0.425; without context *M*=0.467, *SD*=0.431). As expected, the binary logistic regression reveals that the two-way interaction effect *conceptual distance * context* was significant (F (2, 1281)= 6.976, p=0.001). The analysis of the fixed coefficients shows that the presence of a context is associated with a significantly higher proportion of correct responses in the categories *conceptually similar* (β=0.959, z=2.451, p=0.014) and *conceptually different* (β=1.930, z=3.422, p=0.001). Thus, we can conclude that the context facilitates idiom comprehension, especially when the expressions are not conceptually identical. With regard to the interaction between the formal distance and the contextual information, the analysis showed that the presence of a context is not associated with a higher proportion of correct answers for *formally*

different items compared to the *formally similar* counterparts (F (1, 1281)=0.829, p=0.363).

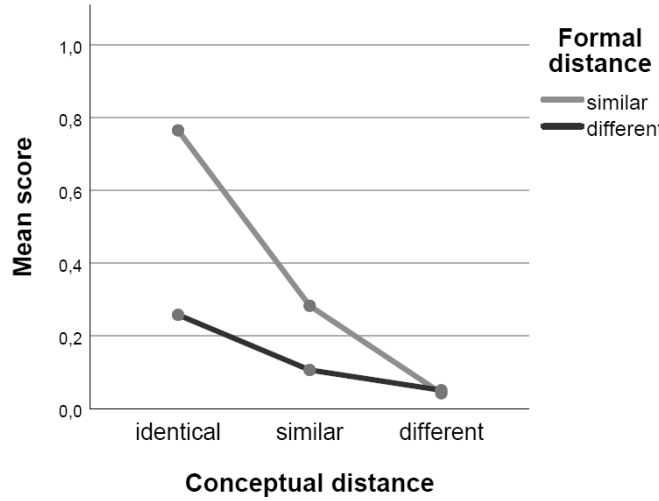

Figure 1. Results of the idiom comprehension test by categories of conceptual distance and formal similarity (by-item analysis)

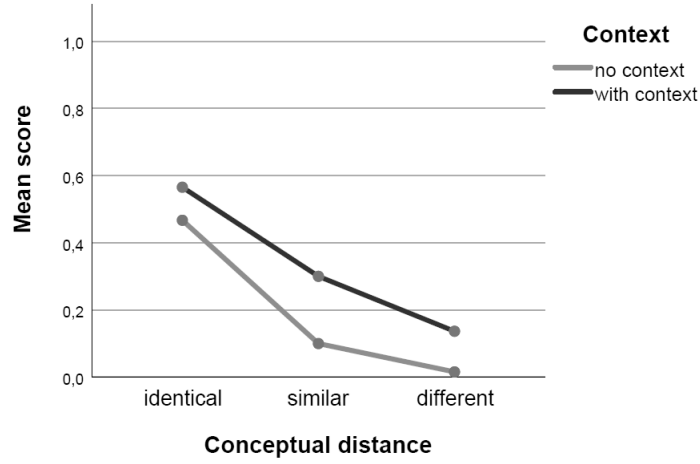

Figure 2. Results of the metaphor comprehension test by categories of conceptual distance and context (by-item analysis)

Finally, we looked at whether the performance on the idiom comprehension test can be better explained by other factors representing the participants' linguistic biography. The by-item analysis of the mean scores showed that the participants *without a stay abroad* (N=16) outperformed those *with a stay abroad* (N=38) (stay abroad, M=0.180, SD=0.245; no stay abroad M=0.188, SD=0.225). However, the

results of the binary logistic regression reveal that a stay abroad is not associated with a lower likelihood that participants answered correctly (F (1, 1281)=0.050, p=0.823). Yet, the two-way interaction effect *context * stay abroad* was not significant (F (1, 1281)=0.007, p=0.931), which means that the presence of a context does not predict correct answers by participants with a stay abroad better than for those without a stay abroad. In contrast, we found that a higher proficiency level is associated with an increased likelihood that the participants answered correctly when compared to those with a lower proficiency level (F (1, 1281)=7.924, p=0.005). In sum, the results suggest that L2 idiom comprehension is more likely to be affected by the linguistic knowledge acquired in formal learning contexts rather than by the exposure to authentic communication during a stay in the target country.

6. Discussion

We addressed three questions in our study. The first question asked to what extent the conceptual distance between L2 idioms and their L1 equivalents affects comprehension. The results showed that an increasing conceptual distance goes along with a decreasing performance in idiom comprehension. The fact that each category of conceptual distance was associated with a significantly lower proportion of correct responses in the idiom comprehension test stresses the importance of considering different levels of conceptual distance in order to gain a more fine-grained insight into its effect on L2 idiom comprehension. Interestingly, a closer examination of the wrong answers reveals that when faced with conceptually different items participants often relied on their general embodied experiences to infer literal meaning and then map it onto more abstract domains (cf. Cieślicka, 2006), even if the target expressions were conceptually different. For example, the metaphorical meaning of the idiomatic expression *Jemandem etwas in die Schuhe schieben* ('to put something in someone's shoes'* = 'to lay the blame for sth. at the feet of somebody') was often described in French as *mettre des bâtons dans les roues* ('to put sticks in the wheels'). In general, these findings align well with previous research (Türker, 2016; Chen and Lai, 2013; Charteris-Black, 2002; Liontas, 2002; Irujo, 1986), but contrast with the results of the study by De Cock and Suñer (2018), which indicate that cross-linguistic conceptual differences do not automatically lead to an impaired comprehension of metaphorical taboo expressions. Thus, future research should focus on whether the different degrees of conceptual distance also apply to such specific topic domains. The first question also concerned the effect of formal similarity between the L2 idioms and their L1 equivalents on comprehension. The results obtained in the present study consistently show that an increasing formal difference corresponds to a decrease in idiom comprehension, which generally concurs with previous studies (Türker, 2016; Chen and Lai, 2013; Yeganehjoo et al., 2012; Charteris-Black, 2002). However, we should sound a note of caution with regard

to the consistency with previous results, since cross-linguistic formal differences have been defined in different ways: Whereas we used the term *formal distance* to refer to morphosyntactic differences between the L1 and the L2, other studies such as Türker (2016) used the term „linguistic distance“ to denominate both morphosyntactic and semantic differences in the linguistic realization of a conceptual metaphor. Thus, further work needs to be done to properly examine the effect of the different levels of formal distance on L2 idiom comprehension

Regarding the second question which concerned the facilitative effect of the context on L2 idiom comprehension, the results clearly show that the presentation of a context led to better performances. Even though these findings differ from some earlier studies (De Cock & Suñer, 2018; Ferreira, 2008; Boers, 2000), they are consistent with the studies by Cooper (1999), Liontas (2002) and Türker (2016). If we look at the answers of the participants, we can observe that participants often made use of the context, especially when similarities between the source and the target domain could not be identified (cf. Chen and Lai, 2013; Azuma, 2009; Liontas, 2002), but it seems that in some cases guessing from the context was not sufficiently effective as a strategy for L2 idiom comprehension (Boers, 2000). For example, the meaning of the expression *etwas auf den Kopf stellen* (‘To put something on the head’* = ‘to turn something upside down’) was described as *avoir quelque chose en tête* (‘to have something in mind’), which was plausible with the context about the consequences of having an in-house nursing care for an extended period, but did not match the intended meaning. At this point, the question arises as to what extent the different contexts presented in the comprehension test were equally useful or supportive to infer the meaning. In this sense, Türker (2016) demonstrated that differences in the length of the contextual information might play an important role. Thus, further work taking different aspects of the immediate context (length, informativity, etc.) into consideration will need to be undertaken.

The third question concerned the interaction effects between the different degrees of conceptual distance, formal distance and the presence or not of a context. On the one hand, we found that presenting idiomatic expressions with context was especially helpful when the expressions were not conceptually identical. Assuming that conceptual differences generally impair the metaphorical mapping, we could argue that participants made extensive use of the context, when they could not get access to the similarities between the source and target domain, which is consistent with the findings by Chen and Lai (2013). On the other hand, we found that participants benefited slightly more from formal similarity, when they were faced with conceptually identical or similar items. A possible explanation for these results may be that the formal similarity leads to a much stronger activation of the L1 equivalent and, therefore inhibits the use of other less efficient strategies such as guessing from the context or using the general embodied experiences to infer the literal meaning. Another explanation for this is that we did not control for the frequency of the L1 equivalents and this might have affected L2 idiom comprehension, being conceptually and formally items with

frequent L1 equivalents easier to comprehend that those with infrequent L1 equivalents. In this regard, some previous studies have observed that such an effect especially comes into play when idioms are presented without or with limited context (cf. Türker, 2016). Taken together, these findings support our claim that the influence of cross-linguistic differences on idiom comprehension is strongly modulated by the interactions effects between the factors.

We also looked at some other factors belonging to the linguistic biography of the participants. We found that whereas the general proficiency level was associated with better performance on the idiom comprehension test, the experience in the target country did not predict correct responses better. These findings contrast with previous research that stresses the importance of the exposure to authentic L2 input (e.g. through a stay abroad) as a factor positively influencing intra-lingual conceptual transfer and thus metaphoric competence (Siyanova-Chanturia and Schmitt, 2011; Boers and Lindstromberg, 2012; Boers, 2003; De Cock and Suñer, 2018). However, it must be mentioned that some of these studies used different methodologies (e.g. eye-tracking) and study designs (e.g. control group with native speakers), which makes a comparison of results extremely difficult. Furthermore, our study does not corroborate the findings by De Cock and Suñer (2018) who did not find any positive correlation between general proficiency level and the individual performance in the metaphor comprehension test. The reason for this rather contradictory result is still not entirely clear, but a possible explanation might be that metaphorical expressions from very specific topic domains such as taboo expressions mainly occur in informal speech, which is rarely treated in the formal L2 teaching context. Thus, the formal language proficiency level does not automatically yield a better mastery of this sort of metaphorical expressions.

Although the findings reported here add substantially to our understanding of how cross-linguistic differences and the presence or not of a context affect L2 idiom comprehension, the study has some limitations. Firstly, given that our findings are based on a limited number of idiomatic expressions (n=24), the results from such analyses could be biased by other item-related factors such as frequency or decomposability. Therefore, future work should include a higher number of items in order to balance against possible sources of unreliability. Secondly, acknowledging that translating between languages is rarely a one-way-process, it was difficult in some cases to determine which of the different L1 equivalents best matches the meaning of the respective target expressions. In fact, for some items, several options came into consideration that only partially covered the meaning of the target expression. As the choice of the L1 equivalent is essential to determine the cross-linguistic differences being tested in the experimental setting (not every potential L1 equivalent may differ conceptually and formally in the same way from the target expression), the results should be treated with considerable caution. Thirdly, it is worth mentioning that those participants that were enrolled in the master degree in translation studies might have taken advantage of their

more sophisticated translation skills in the idiom comprehension test when compared to the rest of the participants.

7. Conclusions

Overall, the present study aims to make a contribution to disentangling how the different levels of cross-linguistic differences affect L2 idiom comprehension and how they interact with the presence or absence of a context. Our findings suggest that a more differentiated treatment of idiomatic expressions, which takes into account potential difficulties for L2 learners, could help to leverage classroom interventions dealing with metaphoric competence. However, as the present study only focused on L2 idiom comprehension, further experimental investigation needs to be performed to establish whether idiom production is influenced by these factors, and thus pave the way for the elaboration of a comprehensive approach to teaching and learning idioms in the L2.

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