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Making Sense of Idioms: Decomposability and Syntactic Flexibility in Hebrew Idiomatic Phrases

M.A. thesis submitted by

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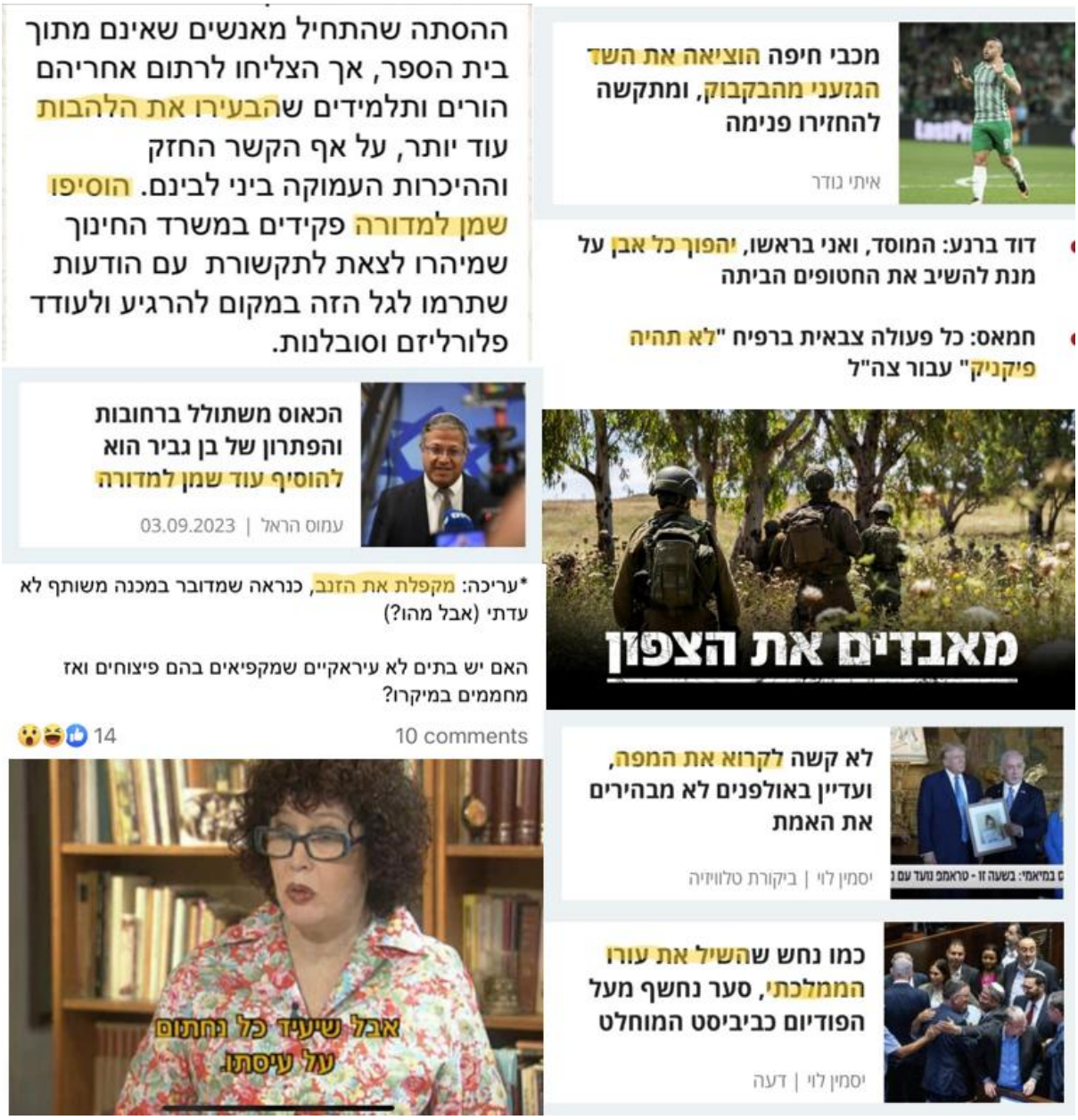
"Like the sound of the hackneyed tree falling axed by old saws in the proverbial forest."

- The Unabridged Journals of Sylvia Plath



Examples of idiom usage collected from Israeli news and social media outlets throughout the past year.

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Abstract

Idioms seem to be restricted in their syntactic flexibility compared to literal phrases, but at the same time also differ from one another along this metric. This phenomenon, taken to be characteristic of the fact that idioms combine properties of both lexical items and syntactically productive structures, has been widely discussed in the linguistic literature. One of the most prominent accounts is provided by Nunberg et al. (1994), who suggest that it is *semantic decomposability*, i.e. the ability to distribute the figurative meaning of idioms over their parts, which determines their syntactic flexibility. Later authors have built upon this theory, arguing that the difference in the behavior of the two classes of idioms should not be accounted for through positing entities of a fundamentally different type, but rather through the general semantic restrictions imposed on their constituents by various syntactic operations, which non-decomposable idioms violate.

In the current study, we examine the applicability of these theories to Hebrew idioms through a series of three experiments carried out on a set of 16 VP-idioms, 8 decomposable and 8 non-decomposable, while addressing various methodological issues raised by previous studies. Each of the three experiments examined the acceptability of these VP-idioms under a different syntactic manipulation: (1) *Pronominalization*, (2) *Fronting*, and (3) *Adjectival Modification*, as compared to in their canonical form. To control for possible restrictions on syntactic flexibility unrelated to figurative meaning, only idioms which support both a literal and a figurative reading were selected. In each experiment, a set of four sentences was constructed for each VP-idiom, with the idiom appearing once in its canonical form and once under the relevant syntactic manipulation, once in a literal context and once in an idiomatic context. Decomposable and non-decomposable idioms were paired, resulting in a Latin square design consisting of eight sets of experimental sentences per experiment, assessing the effects of three factors: Type of Idiom (decomposable vs. non-decomposable), Type of Meaning (literal vs. idiomatic), and Type of Structure (baseline vs. modified), and the interactions between them.

While non-decomposable idioms were found to be significantly less acceptable overall than decomposable idioms, our results did not support the claim that non-decomposable are less syntactically flexible than decomposable idioms – that is, the gap in acceptability between decomposable and non-decomposable idioms was not found to be significantly larger under syntactic manipulation than it was in canonical form. Potential implications of this on idiom storage, interpretation and representation are addressed.

1. Introduction

Idiomatic phrases are multi-word expressions whose figurative meaning is conventionalized as a unit, and yet whose properties are at the same time indicative of internal syntactic structure. This duality, which raises fundamental questions for a compositional framework of grammar, is reflected, among others, in their patterns of syntactic flexibility – on the one hand, idiomatic phrases have been shown to be less syntactically flexible than non-idiomatic phrases; on the other hand, idioms exhibit syntactic flexibility, albeit to varying degrees.

This research aims to carry out a systematic examination of the syntactic flexibility of a subset of Hebrew idioms, in order to try and shed further light on the underlying factors informing it. Specifically, it focuses on the semantic distinction, originally suggested by Nunberg et al. (1994), between what are commonly termed *decomposable idioms* – idioms whose figurative meaning can be distributed over their parts – and *non-decomposable idioms* – idioms whose figurative meaning can only be ascribed to the phrase as a whole – with the former expected, all things being equal, to be more syntactically flexible than the latter.

Previous studies that have investigated the relationship between idiom decomposability and syntactic flexibility in languages such as English, Italian and German have found mixed results. Here, we put Hebrew idioms to the syntactic flexibility test for the first time, incorporating several modifications to our experimental setup in order to address methodological issues raised by previous studies, including a revised decomposability classification task, and the use of idioms allowing for both a literal and a figurative reading in order to control for possible restrictions on syntactic flexibility unrelated to figurative meaning.

1.1 What we talk about when we talk about idioms

"Idiom" is a pre-theoretic notion, the meaning of which native speakers normally have some intuitive sense of, yet it is hard to pin down a single theory-neutral definition of what constitutes an idiom. Prototypical idioms exhibit certain basic properties, but the question of whether these should be considered defining properties of idioms, and the related demarcational question of what sorts of phrases should count as idioms, are subject to debate.

For example, the meaning of idioms is generally understood to involve a figurative element, yet some authors argue that (non-literal) idioms and (literal) collocations should be treated as one class (e.g., Bruening 2020); meanwhile, non-literal idioms themselves often consist of

literal parts (e.g. *miss the boat* ~ 'miss an opportunity'[1]). Idioms are generally thought of as multi-word expressions, yet some authors argue that words can also constitute phrasal idioms (e.g., Marantz 1996). Idioms are generally thought of as lexically fixed units, yet some idioms allow at least partial lexical substitution (e.g. *grasp/clutch/seize at straws*). Idioms have also historically been thought of as non-compositional, yet the idiomatic meaning of some idioms (i.e., decomposable idioms) can be distributed over their parts, and in that sense is compositional.

Thus, any theoretical investigation of idioms requires postulating a working definition of idioms. In this research, I will treat idioms as multilexemic expressions of which at least some part is non-literal (following Bruening 2020), and whose meaning is conventional, i.e., compositionally unpredictable based on the *literal* meanings of its constituents (following Nediger 2017, Horvath & Siloni 2019), but which can be *idiomatically* compositional. Idiomatic phrases with substitutable parts, or "idiom families", are treated as part of the set of idioms.

1.2 The theoretical study of idioms in Generative Linguistics

The apparent dual nature of idiomatic phrases, namely that they behave in some senses like lexical items and in other senses like syntactically complex phrases, has rendered them a subject of interest for generative linguists throughout the years.

Most notably, a common assumption since the early days of generative grammar (e.g., Bach 1974) was that idiom parts must form a contiguous constituent at some stage of the derivation in order to allow for their semantic interpretation. This rendered them a useful diagnostic for movement and syntactic structure (e.g., for distinguishing between subject control and raising constructions in Chomsky 1981, and between ECM and object control constructions in Postal 2004; for relative clause analysis in Vergnaud 1974 and Donati & Cecchetto 2011; and for dative construction analysis in Larson 1988 and Harley 2002, among others), though this view has since been challenged by various studies arguing that idioms do not in fact have to form contiguous lexically-fixed constituents (e.g., Bresnan 1982; Napoli 1992; O'Grady 1998), can receive interpretation through non-movement dependencies (e.g., Bruening 2015), and can involve open slots as part of their internal structure (e.g., Mishani-Uval & Siloni 2017).

[1] Tildes are used instead of equal signs for idiom paraphrases, as we adopt previous authors' assertion that "no exact paraphrases of these expressions exist" (Nunberg et al. 1994) and that "idioms cannot be paraphrased without loss" (Vega-Moreno 2002).

Other studies have examined the question of whether idioms are subject to certain locality constraints. Specifically, some authors have argued that idioms cannot cross phase boundaries, namely vP (and in turn, CP), accounting for the so-called "non-agentivity" of idioms (e.g., Marantz 1997, Svenonius 2005). Other authors refute this claim, arguing that the scarcity of agentive idioms is the result of semantic constraints, namely human entities tending not to take part in the description of abstract situations typical of idioms, rather than syntactic ones (e.g., Horvath & Siloni 2016). The fact that idioms can arguably include functional material such as modals, tense and negation, as well as entire embedded clauses, as part of their fixed material, has served as further argumentation against locality constraints (e.g., Bruening 2017), with some authors opting to divide idioms into distinct categories along this dimension (e.g., Horvath & Siloni 2019).

The dual nature of idioms has also posed challenges to classical assumptions regarding the lexicon-syntax interface, and has led to various accounts of how idiom entries are stored and interact with the syntax. Some theories assume idioms to be stored as one lexical unit, thus introducing more complex entities into the lexical inventory. These differ in their conceptualization of what information is encoded in idiom entries: that is, whether their idiomatic meaning is associated with a string (e.g., Katz & Postal 1966, Fraser 1970), a purely semantic representation (e.g., Chafe 1968), or a combination of syntactic structure and phonological information (e.g., Jackendoff 1997, Nediger 2017). Other theories assume idiomatic meaning to be associated not with the entire idiomatic phrase, but rather with each of its components (e.g., Everaert 2010, Bargmann & Sailer 2018) or with its head (e.g., Horvath & Siloni 2019, Kay & Sag 2014), with co-occurrence or selectional restrictions specifying the context under which idiomatic interpretation can be achieved.

Proponents of "full idiom storage" argue that specifying co-occurrence or selectional restrictions for each idiom part leads to unnecessary redundancy (e.g., Jackendoff 1997, Nediger 2017). Proponents of "componential idiom storage", on the other hand, claim to receive support, among others, from the fact that idioms carry over the aspectual properties of their literal-phrase counterparts (e.g., McGinnis 2002), but the systematicity of such claims has been disputed by some authors (e.g., Glasbey 2007). Meanwhile, there are also theories that propose different storage methods for different types of idioms, depending on their behavior (e.g., Nunberg et al. 1994 for decomposable and non-decomposable idioms; Horvath & Siloni 2019 for phrasal and clausal idioms).

As for the interpretation of idioms, theories which argue in favor of componential idiom storage generally assume the interpretation mechanisms of idioms to be no different than that of non-idiomatic structures (e.g., Everaert 2010, Nunberg et al. 1994 for decomposable idioms). Meanwhile, theories which argue in favor of full idiom storage differ in terms of the mechanisms by which they conceive idioms to be interpreted (e.g., Semantic Mutation in Chafe 1968; Unification in Jackendoff 1997; Matching in Nediger 2017), as well as the stage at which they conceive interpretation to take place, depending on the framework (e.g., at the phase level, under Minimalist assumptions). Within non-lexicalist frameworks, such as Distributed Morphology, all lexical interpretation, including that below the word level, is conceived of as idiosyncratic and contextual, and is achieved post-syntactically in the Encyclopedia, where idiosyncratic information can be stored for units of different sizes (e.g., Marantz 1997).

1.3 Idioms and Syntactic Flexibility

As aforementioned, the dual nature of idioms also seems to be reflected in their patterns of syntactic flexibility. On the one hand, idioms have been observed to be less syntactically flexible on average than non-idioms (e.g., Fraser 1970, Nunberg et al. 1994, Wierzba et al. 2023a). On the other hand, idioms undoubtedly exhibit some level of syntactic flexibility – yet they seem to differ from one another in the types of syntactic modifications they allow.

Preliminary accounts of the variability of idiom flexibility were of a rather stipulative nature. Wèinreich (1969), for example, suggested specifying the "transformational properties" of each idiom (i.e., which transformations it can undergo) as part of its lexical entry, rendering the variability in idiom flexibility entirely idiosyncratic. Fraser (1970) suggested a slightly more systematic account, according to which idioms are arranged along a "frozenness hierarchy", with each level of the hierarchy representing a class of transformations, and each idiom assigned to a certain level and able to undergo any transformation lower on the hierarchy. The lack of reasoning behind the ordering of transformations, as well as behind the assignment of idioms to levels, however, left much to be desired in terms of explanatory power.

In an attempt to provide a more principled account, Nunberg et al. (1994) suggested a distinction between semantically decomposable idioms (which they termed "idiomatically combining expressions") and semantically non-decomposable idioms (which they termed "idiomatic phrases"). The former are defined as "idioms whose parts carry identifiable parts of their idiomatic meanings"(496), and the latter as idioms "whose idiomatic interpretations cannot be distributed over their parts"(497). For (a prototypical) example, the idiom *spill the*

beans is said to be decomposable, as its idiomatic meaning 'divulge a secret' can be distributed over its parts (where *spill* ~ 'divulge' and *beans* ~ 'secret'), whereas the idiom *kick the bucket* is said to be non-decomposable, as its idiomatic meaning 'die' cannot be distributed over its parts.

Nunberg et al. suggest a strong correlation between decomposability and syntactic flexibility, with decomposable idioms generally able to undergo syntactic operations to a far greater extent than their non-decomposable counterparts (e.g., under passivization, "the beans were spilled" is idiomatically acceptable, but not so "the bucket was kicked"). This, they claim, warrants fundamentally different representations for the two type of idioms – while the idiomatic meaning of decomposable idioms is argued to be componentially stored and standardly composed, non-decomposable idioms are argued to enter the lexicon as entire phrasal constructions, explaining their lack of flexibility. Furthermore, Nunberg et al. argue that the syntactic flexibility of various idioms is in fact evidence of their decomposability, as many syntactic operations should have been semantically blocked had the parts of the idiom not carried individual meaning (specifically, they address passivization, pronominalization, topicalization, quantification, relativization and adjectival modification[2] as examples of such operations in English).

While Nunberg et al.'s representation of non-decomposable idioms seems to predict they should not exhibit any syntactic flexibility whatsoever (other than for operations which target the entire construction rather than its parts), the fact that their analysis also points to a natural correlation between syntactic flexibility and semantic restrictions imposed on idiom constituents has led several authors (e.g. Nediger 2017, Bargmann & Sailer 2018, Wierzba et al. 2023b) to suggest that the inflexibility of non-decomposable idioms could follow independently from the general semantic restrictions imposed by various syntactic operations, such as topicalization, passivization, pronominalization and adjectival modification. This line of thought, which is appealing because it circumvents the need to stipulate a special mode of storage for non-decomposable idioms, has several implications. First, it could allow non-decomposable idioms possible flexibility under certain constraints – namely, provided the syntactic operation in question can be argued to not impose semantic restrictions on idiom constituents (as hinted at by Nunberg et al. themselves when confronted with counterexamples

[2] Following Ernst (1981), they distinguish between internal modification, where the adjective semantically modifies the DP to which it syntactically attaches; and external modification, where the adjective semantically modifies the entire idiom despite being syntactically attached to the DP. Only the former type is expected to be restricted if idiom parts do not carry individual meaning (more on this in Experiment 3).

from German in which non-decomposable idioms are shown to allow for object fronting and verb-second); and second, as the semantic restrictions imposed by syntactic operations are thought to be general and thus could apply not only to idioms but also to non-idioms, it suggests that non-idiomatic factors should be controlled for if one is looking to examine the difference in behavior between idiom types based on their patterns of figurative meaning association.

2. Previous Studies

While various non-experimental studies have argued syntactic flexibility to be linked to decomposability (e.g., McClure 2011, Hladnik, 2017, Corver et al. 2019), our focus here is on experimental studies which have examined these effects in a measurable way. Corpus analyses, which often claim non-decomposable idioms (and idioms in general) to be more flexible than previously suggested by experimental studies (e.g., Fellbaum 2019, Sheinfux et al. 2019) are also not detailed here, as the reliability of (often sporadic) attested uses in (often internet) corpuses as a measure of acceptability have been questioned by generative linguists on grounds that they can often involve wordplay, and would not necessarily pass a more methodical psycholinguistic examination. Meanwhile, experiments on the processing behavior of idioms have reported differences between decomposable and non-decomposable idioms (e.g., Gibbs & Gonzales 1985, Gibbs et al. 1989), but we focus here specifically on experiments which have a bearing on our current research, namely those that examine the relationship between idiom decomposability and syntactic flexibility in terms of acceptability. These have found varying degrees of correlation between the two properties across several languages.

2.1 Previous Experiments

Gibbs & Nayak (1989) tested the effect of decomposability on syntactic flexibility for several syntactic operations (present participle, adjectival modification, adverbial modification, passivization, and action nominalization) in English, and found significant effects for both Idiom Type and Syntactic Operation, as well as a significant interaction between the two factors. In their experiment, participants were asked to judge on a 7-point Likert scale how similar in terms of meaning a syntactically modified V+DP idiom was to a paraphrase of the idiom presented under the same structure. A similar experiment was then conducted for pronominalization, yielding similar significant effects. Idioms were classified as decomposable

or not through a pretest[3], in which participants were presented with idiom-paraphrase pairs and asked to judge whether the individual components of the idiom made a unique contribution to the paraphrase or not. Gibbs & Nayak reported that the vast majority of idioms were judged to belong to a specific idiom type by at least 75% of subjects, with high agreement rates.

Tabossi et al. (2008) attempted to replicate Gibbs & Nayak's experiment in Italian. Present participle and action nominalization, which could not be maintained in Italian, were replaced by left dislocation. No effect of decomposability on syntactic flexibility was found for any syntactic operation other than adverbial modification (which was also found to be more acceptable overall than other operations). As for decomposability classification, the rate of intersubject agreement was found to be much lower than that observed by Gibbs and Nayak, with consistent intuitions about the distinction between decomposable and non-decomposable idioms only evident for a restricted set of phrases. A subsequent study by Tabossi et al. (2011) conducted on 245 Italian idiomatic expressions replicated the low intersubject agreement regarding decomposability classification, but found a significant correlation between decomposability and overall syntactic flexibility (averaging across the ratings of the different syntactic operations).

Nediger (2017) examined the effect of decomposability on the syntactic flexibility of VP-idioms in English for three syntactic operations (passivization, pronominalization, and cleft), opting for an acceptability rating task in place of idiom-paraphrase similarity judgements. The study found a significant (though weak) effect of decomposability on overall rate of flexibility (averaging across the ratings of the different syntactic operations). Decomposability classification was conducted on the same subjects prior to the experiment using idiom-paraphrase pairs, akin to the setup of Gibbs & Nayak (1989) and Tabossi et al. (2011). A significant (though not very stark) difference in mean ratings between idioms argued in the literature to be decomposable and those argued to be non-decomposable was found.

Wierzba et al. (2023a) investigated the effect of decomposability on the syntactic flexibility of VP-idioms for several operations in German (fronting, left dislocation, scrambling, pronominalization, passivization, nominalization, which-question) and in English (passivization, pronominalization, cleft, nominalization). Contra the other studies mentioned, they also examined the effect of decomposability on the acceptability of the idiom in its

[3] It should be noted that Gibbs & Nayak employed a further distinction between "normally" and "abnormally" decomposable idioms, depending on type of relationship between the literal and figurative parts of decomposable idioms, but as it is irrelevant to our current study, we gloss over it here.

canonical form (Nediger included such a condition but did not use it as a baseline in his analysis). While a significant effect of decomposability on syntactic flexibility was found in German (that is, decomposable and non-decomposable idioms were found to differ significantly when syntactically modified, but not when in canonical form), only a simple effect of decomposability was found in English (that is, a similar gap was found between decomposable and non-decomposable idioms both under syntactic manipulation and in canonical form, such that the effect could not be attributed to syntactic flexibility). Wierzba et al. also included non-idioms in their experiment in order to account for possible restrictions on syntactic manipulations that did not have to do with idiomatic interpretation. In both English and German, decomposable idioms were not found to differ from non-idioms under most syntactic operations (other than which-questions in German and cleft-like constructions in English). The decomposability classification task they employed was based on Gibbs & Nayak's (1989) setup for English, and on their own intuitions for German.

Wierzba et al. (2023b) later went on to replicate the study using an adjusted decomposability classification method, where idioms were deemed decomposable or not categorically, and without recourse to idiom-paraphrase pairs. The proportion of responses categorizing a given idiom as decomposable were subsequently used as a linear decomposability measure. Similarly to Nediger (2017), the same subjects who later went on to rate the acceptability of idioms under various syntactic manipulations were first asked to classify their decomposability (with a gap introduced between the two parts of the experiment). A significant effect of decomposability on syntactic flexibility was found in German for all syntactic modifications excluding passivization and nominalization. Meanwhile, idioms were found to differ in their behavior from non-idioms for all syntactic modifications excluding passivization and scrambling. As for English, again, a larger positive effect of decomposability under syntactic modification than in canonical form was not attested in any of the examined structures, though a simple effect of decomposability (as well as of idiomaticity) was found.

All in all, these results seem to suggest that decomposability may be a relevant property informing the syntactic flexibility of idioms, but that other factors may also be at play. The results also suggest that the choice of experimental setup could have a strong bearing on experimental results and their interpretation, pointing to the need for careful consideration in this regard. In the next section, we turn to a close analysis of the methodological issues raised by previous studies and suggest ways to address them.

2.2 Issues Raised by Previous Experiments

2.2.1 Decomposability Classification

The methods of decomposability classification employed in previous studies raise several issues. First, basing the classification on the intuitions of a given researcher is clearly problematic, as attested by the fact that intersubject agreement was found to be rather low in several experiments which sought out cross-speaker validation.

The use of idiom-paraphrase pairs has also been previously argued against, as the form of the paraphrase could have an effect on the idiom's perceived decomposability. Maher (2013), for example, notes that in Gibbs & Nayak's (1989) experiment, the more the structure of the provided paraphrase deviated from that of the idiom, the more the idiom was deemed non-decomposable. Considering that any given idiom can arguably be paraphrased in multiple ways which are more or less structurally similar to the idiom itself, the use of idiom-paraphrase pairs seems to allow for the possibility of forcing an interpretation upon experiment participants, which could in turn influence classification. Furthermore, the idea that idioms can be paraphrased "without loss" is itself contentious, as they have been argued to encode more information than their literal paraphrase would seem to suggest (e.g., Vega-Moreno 2002).

As for conducting a decomposability classification pretest on experiment participants themselves, though sometimes aimed at accounting for possible subjectivity in classification (e.g., Wierzba et al. 2023b), there is reason to assume that it could affect participants' judgments in the experiment proper. That is to say, if we are to collect participants' intuitive judgments on the acceptability of idioms under various syntactic manipulations, it may not be advisable to have them inquire into the idiom's meaning structure prior to doing so. The fact that deciding on the classification of an idiom inevitably requires some recourse to paraphrasing, whether overtly suggested by the experimenter or not, may unwittingly lead participants to utilize this newfound conceptualization in their acceptability judgements.

Finally, the reliance on speakers with no prior linguistic education for decomposability classification, a recurrent feature of previous studies, could also be problematic, as they may not have direct access to the type of linguistic knowledge necessary to make the required (and often nontrivial) categorization, as argued, for example, by Titone & Connine (1994). If indeed decomposability classification is conducted on subjects other than experiment participants (as advocated for above), it would seem wise to carry it out on subjects to whom the understanding of basic linguistic concepts (e.g. phrase constituents, compositionality, form-meaning

association) would be more readily available. Contra acceptability judgments, where linguistic students' prior exposure to linguistic theory is arguably a hindrance, here it seems to be an advantage, as the task is an inherently linguistic one.

In order to address all these issues, we chose to conduct our decomposability classification pretest on students of linguistics (who will not take part in the experiment proper), to whom the notion of decomposability and non-decomposability will presumably be more easily explained and more accurately understood, without recourse to idiom-paraphrase pairs.

2.2.2 Assessing the Syntactic Flexibility of Idioms

The methods of syntactic flexibility assessment employed in previous studies also raise several issues. First, the use of idiom-paraphrase pairs to assess the syntactic flexibility of idioms, as employed, e.g., by Gibbs & Nayak (1989) and Tabossi et al. (2008), has already been criticized by Maher (2013) and Wierzba et al. (2023a,b), who argue that such similarity judgments can depend not only on the idiom's ability to undergo the syntactic manipulation in question, but also on that of the selected paraphrase; again, as idioms can arguably be matched to different paraphrases, any given choice of paraphrase may have an effect on the results. Hence, we opted for an acceptability rating task akin to that employed by Nediger (2017) and Wierzba et al. (2023b), rather than a similarity judgement task, to assess the syntactic flexibility of idioms.

Second, most of the studies mentioned did not incorporate in their experimental materials sentences in which the idiom appears in its canonical form. As exemplified by Wierzba et al. (2023b), a canonical baseline can help quantify the extent to which observed differences in the behavior of decomposable and non-decomposable idioms can be attributed to syntactic flexibility. The importance of this is born out in their results for English, where, as aforementioned, a simple effect was found for decomposability, but no interaction was found between decomposability and syntactic modification. Thus, we too chose to include a canonical baseline for all of our idioms, against which the differences in the syntactically marked constructions can be assessed.

Third, most of the studies mentioned did not include a comparison between the behavior of idioms and non-idioms under syntactic modification. As noted by Wierzba et al. (2023a), under the hypothesis that semantic restrictedness may generally underpin limits on syntactic flexibility, "it is crucial to employ a method that allows to quantify as exactly as possible whether a certain structure is less acceptable with idioms in comparison to non-idioms" (441). While the current research does not actively seek out instances where non-idioms are expected

to be restricted (as carried out, for example, in Wierzba et al. (2023b) for definiteness), we opted to include non-idioms as another baseline in order to control for the possibility of non-idiomatic factors hindering syntactic flexibility and thus confounding the manipulated factors we are trying to assess (e.g., certain inalienable possessions, such as body parts, which appear in some of our experimental sets, may not allow modification in certain restrictive contexts). However, the non-idiomatic phrases used by Wierzba et al. (2023b) were only similar to the tested idioms in that they consisted of a verb and a direct object. As noted by one of their reviewers, constructing pairs that are more directly matched with respect to verb and DP properties would be preferable. Thus, in order to allow for as close a comparison as possible between idioms and non-idioms, we elected to use phrases that allow for both a literal and a figurative reading, and have them undergo the same syntactic operations in both literal and idiomatic contexts.

Fourth, some of the studies mentioned did not use minimal pairs or sets of items as part of their experimental setup. This may hinder the interpretation of results, as noted by Wierzba et al. (2023a), as the lack of minimal pairs does not allow to control for differences in acceptability judgments which could be attributed to confounding factors, such as the complexity of the constructed sentences, and could make it difficult to tease apart evidence for syntactic flexibility from instances more akin to wordplay. Thus, in the current study, we opted to use a Latin square design, whereby decomposable and non-decomposable idioms are paired and appear in syntactically identical constructions, in both canonical form and under syntactic manipulation, as well as in both literal and idiomatic contexts.

Another issue raised by some of the studies mentioned is that of appropriate context. Tabossi et al. (2009) compared the acceptability of syntactically modified idiomatic sentences placed in what they call a "minimal context" (a very short context, normally incorporated within the sentence in which the idiom itself appears, as employed, e.g., by Gibbs & Nayak 1989) and in a "discourse context" (a one or two sentence long paragraph aimed at establishing a pragmatically appropriate context for the idiom and operation) and found that discourse contexts significantly improved acceptability ratings (except when some general formal requirement was violated, such as Italian bare nouns being barred from appearing in preverbal subject position). Meanwhile, Wierzba et al. (2023a) found acceptability ratings to vary depending on the type of discourse context provided (specifically, they found polarity contexts to be more acceptable than broad focus contexts for certain syntactic constructions), suggesting that adequate context is necessary to ensure that a sentence is not rejected due to lack of

pragmatic motivation for the use of a given construction, as well as to avoid underestimation of how acceptable certain idioms are under syntactic manipulation. In the current research, providing a suitable discourse context is even more crucial, as comparing idioms and non-idioms through the use of phrases that allow for both a literal and a figurative reading requires that it be very clear which reading is intended in each case. This necessity is even more pronounced when taking into account the *idiom superiority effect*, according to which idiomatic interpretations are thought to be produced automatically and only suppressed in non-felicitous (including literal) contexts, as attested in their high processing speeds (Noveck et al. 2023). This effect was in fact flagged in a context-less "dry run" of our experiment, where participants noted difficulties in attaining the required literal readings without having the idiomatic interpretation "pop up" of its own accord. Using a preceding discourse context also allows us to keep the experimental items themselves as simple as possible, and thus construct the type of structurally similar experimental sets we are seeking for systematic comparison of the manipulated factors, with possibly confounding differences relegated to the domain of the context. To ensure that the contexts themselves were as suitable as possible, we often referred to *heTenTen 2014* (Baroni et al. 2009), a billion-token web-crawled Hebrew corpus available on Sketch Engine (Kilgarriff et al. 2004), to identify contexts in which the idioms in question have been attested to appear.

As for how to best measure the effect of decomposability on syntactic flexibility, it should be noted that assessing the correlation between decomposability and *overall* syntactic flexibility – namely, averaging across the ratings of different syntactic operations, as performed in Tabossi et al. (2008) and Nediger (2017) – could be undesirable. If we assume syntactic flexibility to be dependent on the specific semantic restrictions imposed by various syntactic operations, averaging across them could lead to loss of relevant information. Hence, in the current research, we chose to assess the effects of decomposability on syntactic flexibility separately for each syntactic manipulation. As our experimental setup is already quite complex and includes multiple conditions, with each experimental set consisting of both literal and figurative readings for both decomposable and non-decomposable idioms in both canonical and syntactically modified form, we chose not to incorporate all syntactic manipulations within the same experiment, as done in some other studies, but rather to conduct a separate experiment for each syntactic manipulation. While this may be somewhat to the detriment of our ability to compare the results of different syntactic operations, it enables us to avoid our experiments being too lengthy and their analysis being too complex to yield meaningful results. It also

ensures that subjects only encounter each idiom once during their trial, avoiding the possibility that repeated exposure to an idiom could influence their judgement and render it less intuitive.

Finally, previous studies have highlighted the need to control for factors other than decomposability which may influence the syntactic flexibility of idioms. Nunberg et al. (1994) themselves note that decomposability can only partially account for the variable distribution of idiomatic interpretation. Other than controlling for the structure of the idioms (in testing only VP-idioms with a definite object) and of the experimental sentences (through use of the aforementioned Latin square design), another factor which may need to be taken into account is familiarity. Wierzba et al. (2023b), for example, in an attempt to explain the somewhat surprising results of their English experiment, speculated that familiarity, which they did not control for, may have played a role. Hence, we also opted to conduct a familiarity assessment prior to the experiment to ensure that all tested idioms were familiar to a similar and sufficient extent.

3. The Current Research

The current study aims to experimentally examine the effects of decomposability on the syntactic flexibility of idioms as compared to non-idioms in Hebrew. 16 VP-idioms taking a definite complement, 8 decomposable and 8 non-decomposable, which support both a literal and a figurative reading, were selected for the experiment following decomposability and familiarity pretests. Three separate experiments were then run on the same 16 idioms, each examining a different syntactic manipulation. **Experiment 1** tested the effect of decomposability on *Pronominalization*, namely the ability of idiom chunks to serve as antecedents for pronouns. **Experiment 2** tested the effect of decomposability on *Fronting*, namely the ability to move idiom chunks to the left periphery. **Experiment 3** tested the effect of decomposability on *Adjectival Modification*, namely the ability to modify idiom chunks through use of an adjective. These three specific syntactic operations were chosen with a view to assessing the effect of decomposability on as broad a range of operations as possible. Thus, the chosen operations differ in terms of the mechanisms through which they syntactically modify phrases: pronominalization involves interpretation of idiom constituents through co-reference relations; fronting involves what is standardly assumed to be movement of idiom constituents; and adjectival modification involves lexical insertion within idiom structure. The three chosen syntactic operations were also selected to ensure that the mechanisms which could potentially impose semantic restrictions on idioms did not overlap; thus, operations like left

dislocation, which arguably involve both fronting and pronominalization, or which-questions, which arguably involve both fronting and insertion, were avoided. Passivization, a valence-changing operation which was also of interest to us, was eventually opted against, as not all Hebrew verbs (and specifically, not all the verbs in our experimental set) have a passive form. There are of course many other syntactic operations of interest which were not included in the current study due to its scope, but will hopefully be examined in future research.

In all three experiments, each idiom appeared once in its canonical form and once under the relevant syntactic manipulation, once in a literal context and once in an idiomatic context, such that each experiment tested the effects of three factors: Type of Idiom (decomposable vs. non-decomposable), Type of Meaning (literal vs. figurative), and Type of Structure (baseline vs. modified), and the interactions between them.

In systematically assessing the correlation between decomposability and syntactic flexibility, the current study aims to contribute to our understanding of the nature of idioms as compared to non-idioms. The extent to which decomposable and non-decomposable idioms form distinct categories, and the extent to which the differences between them, and between them and non-idioms, can be explained on the basis of general semantic restrictions, carry implications for our conception of idiom storage and interpretation, as well as our overall conception of the lexicon and its interaction with the syntax and semantics.

If non-decomposable idioms are indeed generally inflexible entities, as suggested by Nunberg et al. (and hence warrant a fundamentally different mode of storage than decomposable idioms), or alternatively, if their syntactic inflexibility is the result of semantic restrictions imposed on idiom chunks by various syntactic operations, we would expect to find a three way interaction in all three experiments: that is, we would expect non-decomposable idioms to be rated significantly less acceptable than decomposable idioms when syntactically modified (as compared to in canonical form) in idiomatic contexts (as compared to the same phrase in literal contexts). More generally, if non-decomposable idioms are fundamentally inflexible, we would expect their acceptability ratings under syntactic manipulation to be rather low across the board.

3.1 Pretests

Two pretests were carried out in order to select the idioms to be included in the experiment: a decomposability classification pretest, where idioms were classified by participants as either

decomposable or non-decomposable; and a familiarity pretest, where participants were asked to judge how common they believed each idiom to be.

3.1.1 Decomposability Classification Pretest

A decomposability classification pretest was conducted on 22 linguistics students from Tel Aviv University who at the very least had completed their bachelor's degree. First, participants were explained the notion of decomposability, with decomposable idioms defined as "idioms whose figurative meaning can be distributed among their parts (that is, it is natural to associate parts of the idiom's figurative meaning with parts of the idiom)," and non-decomposable idioms defined as "idioms whose figurative meaning cannot be distributed among their parts (that is, it is not natural to associate parts of the idiom's figurative meaning with parts of the idiom, but only with the entire phrase)." Two examples of decomposable idioms were provided: *nitla be-ilan gavoha* (lit. 'hang on a tall tree', fig. 'rely on (the words or deeds of) a great personality'), where arguably 'hang' ~ 'rely' and 'tall tree' ~ 'great personality'; and *šixrer kitor* (lit. 'let off steam', fig. 'release pent up emotions'), where arguably 'let off' ~ 'release' and 'steam' ~ 'pent-up emotions'. Two examples of non-decomposable idioms were also provided: *hafax šulxanot* (lit. 'flip over tables', fig. 'act aggressively in order to achieve something') and *herim yada'im* (lit. 'raise arms', fig. 'give up'), where arguably the figurative meaning can only be attributed to the phrase as a whole. Participants were encouraged to ask questions and ensure that they understood the distinction in principle, though they were made aware that it would not always be a trivial one to make.

Participants were then provided with a link to the pretest, uploaded on Google Forms, where they were asked to classify 30 VP-idioms (half of which were presumed to belong to each category) as either decomposable (D) or non-decomposable (ND). The idioms were presented in pseudo-randomized order, alongside an example of their canonical use, in order to ensure that participants understood the intended interpretation. No time limit was imposed on the pretest, and participants were encouraged to take their time and take breaks if needed. Participants also had the option of selecting "I'm unsure" (X) in the event that they were unable to come to a clear-cut decision. Responses to the decomposability classification pretest are presented in **Figure 1**. Following the classification task, participants were also asked, if possible, to explain the meaning of each idiom in their own words; we included this part mainly to try and gauge, albeit very broadly, how uniform the understanding of each idiom's interpretation was as reflected in participants' suggested paraphrases.

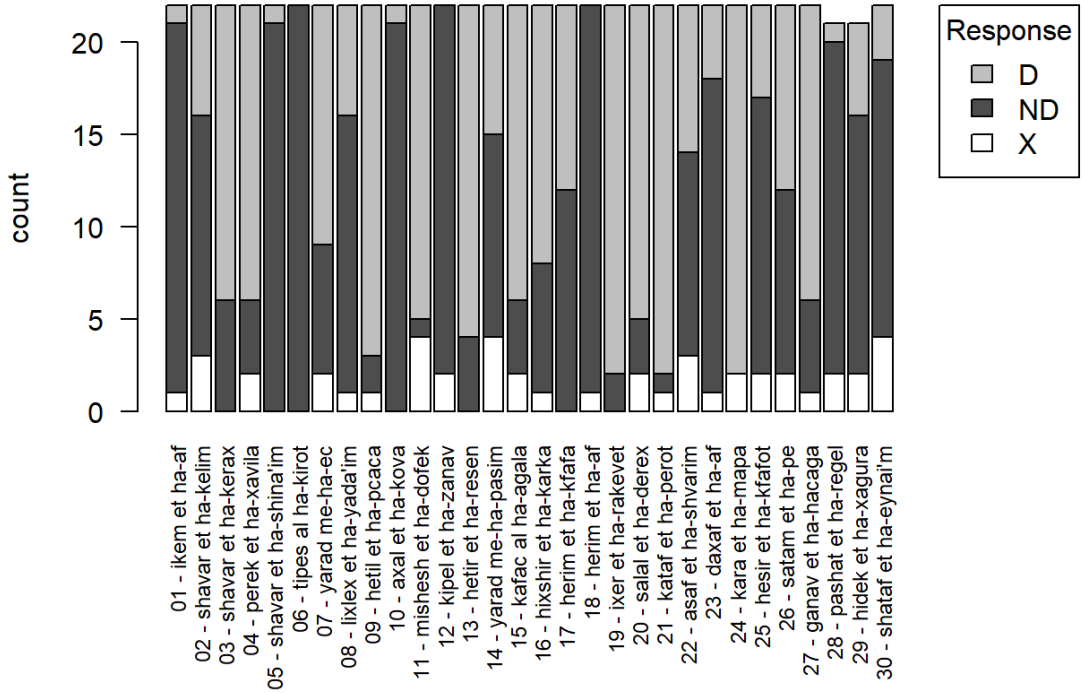


Figure 1: Classification of 30 VP-idioms as decomposable (D) or non-decomposable (ND) by advanced students of linguistics from TAU.

3.1.2 Familiarity Pretest

A familiarity pretest was subsequently conducted on the same 30 VP-idioms, with 33 participants with no prior linguistic background taking part. As only idioms that were thought to be relatively familiar were preselected, 10 further VP-idioms presumed to be less familiar were also included in the pretest to allow for a wider range of familiarity ratings. Participants were asked to judge on a 5-point Likert scale how common they thought each idiom was – that is, how often they felt they encountered each idiom relative to other phrases (with 1 indicating 'never' and 5 indicating 'very often'). As in the decomposability classification pretest, the idioms were presented in pseudo-randomized order alongside an example of their canonical use. Results of the familiarity pretest for the 30 VP-idioms in question are shown in **Figure 2** (the ratings of the 10 "filler" VP-idioms are not detailed here, but were indeed found to have lower mean familiarity ratings than the 30 VP-idioms in question).

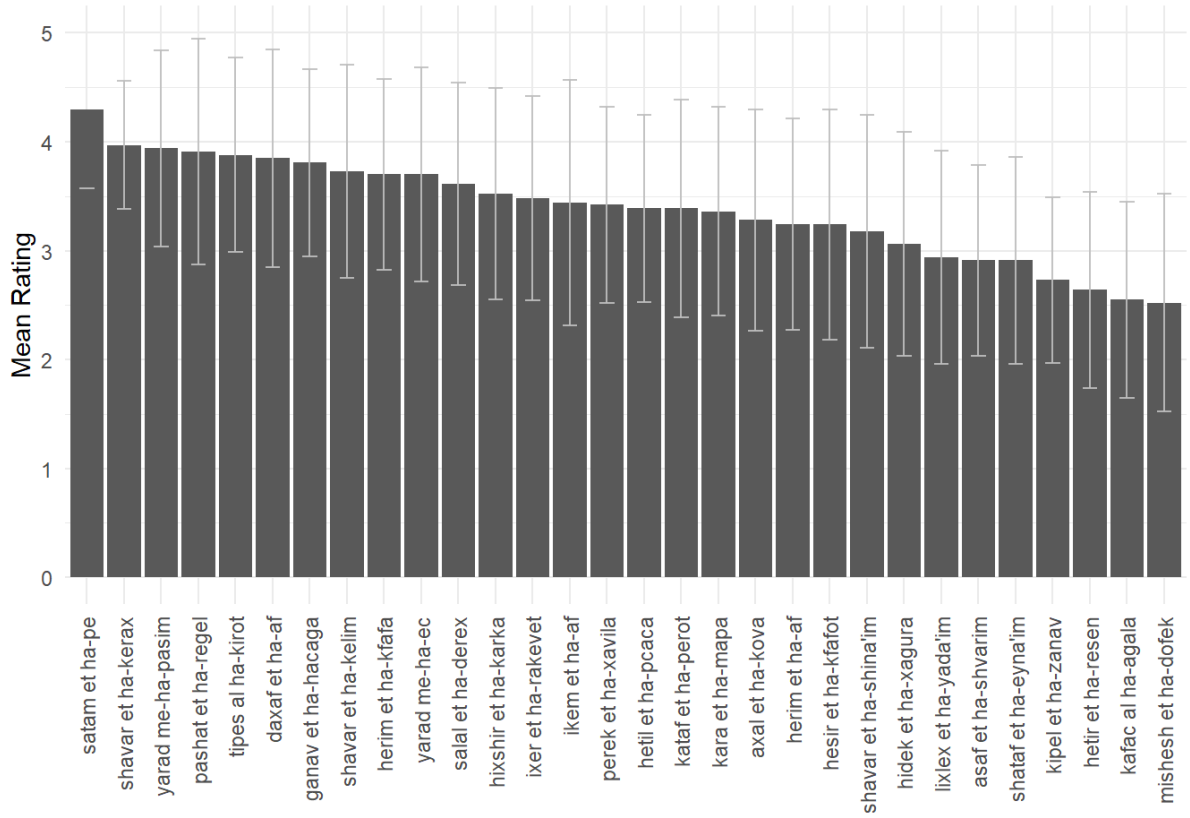


Figure 2: Mean familiarity ratings of the 30 VP-idioms previously included in the decomposability classification pretest.

3.1.3 Idiom Selection

Of the 30 VP-idioms tested, the 8 idioms which were classified as decomposable with the highest level of intersubject agreement and the 8 idioms which were classified as non-decomposable with the highest level of intersubject agreement were selected for the experiment, with several caveats. First, the original set of 30 VP-idioms included 4 idioms in which the verb took a prepositional phrase complement; we eventually opted to exclude these and include only idioms in which the verb took a direct object complement for uniformity's sake. Second, the idiom *mišeš et ha-dofek* (lit. 'feel the pulse, fig. 'assess the situation') was excluded despite its high decomposability rating due to the relatively low familiarity rating it received. And third, the idiom *ikem et ha-af* (lit. 'bend the nose', fig 'show dissatisfaction') was also excluded due to difficulties formulating literal contexts that were deemed natural enough by native Hebrew speakers, as well as to avoid the recurrence of the noun *af* ('nose') in several of our idioms.

All decomposable and non-decomposable idioms selected for the experiments were deemed to belong to their respective categories by at least two thirds of pretest participants, with mean

agreement rates standing at 82.95% (SD=7.97%) for decomposable idioms and 84.41% (SD=12.19%) for non-decomposable idioms. As for familiarity, all selected idioms received a mean familiarity rating of above average (over 3 on the 5-point Likert scale), bar one decomposable idiom and one non-decomposable idiom: *hetir et ha-resen* (lit. 'loosen the bridle', fig. 'give free rein') and *kipel et ha-zanav* (lit. 'fold the tail', fig. 'back down'), respectively. These were selected as the best remaining options with a high enough decomposability classification rating (the median familiarity rating of all selected idioms stood nonetheless at 3 or higher). Ultimately, the overall mean familiarity rating of the 8 selected decomposable idioms stood at 3.41 (SD=0.61), while the overall mean familiarity rating of the 8 selected non-decomposable idioms stood at 3.31 (SD=0.73). For a complete list of idioms selected for the experiments, see Appendix A.

3.2 Experiment 1: Pronominalization

Experiment 1 tested the effects of decomposability on *Pronominalization*. Nunberg et al. (1994), and others consequently (e.g. Nediger 2017), have argued that for idiom chunks to be able to serve as antecedents for pronouns, they must refer to something implicit or explicit in the discourse – that is, they must have an individual interpretation or reference, and hence, only decomposable idioms should be able to undergo pronominalization. If this is indeed the case, we would expect to find a three-way interaction between Type of Idiom, Type of Meaning and Type of Structure: that is, while all experimental phrases are expected to behave similarly in literal contexts (as the difference between them is presumably only related to their idiomatic interpretation), in idiomatic contexts non-decomposable idioms are expected to be rated as significantly less acceptable than decomposable idioms – but only under pronominalization (presumably, in canonical form, no semantic restrictions should be imposed on idiom chunks).

3.2.1 Design and Materials

The 8 decomposable idioms and 8 non-decomposable idioms selected in the pretests were paired, resulting in 8 sets. For each set, eight sentences were constructed involving three factors: (1) Type of Idiom: **D**ecomposable or **N**on-**D**ecomposable; (2) Type of Meaning: **L**iteral or **I**diomatic; and (3) Type of Structure: **B**aseline or **M**odified (Pronominalized). The sentences in each set were constructed so as to be as structurally similar as possible in order to minimize effects other than those of the manipulated factors. This resulted in eight conditions per set, divided into a Decomposable Subset: (a) DLB, (b) DLM, (c) DIB, (d) DIM; and a Non-Decomposable Subset: (e) NDLB, (f) NDLM, (g) NDIB, (h) NDIM. Pragmatically suitable literal and idiomatic contexts (specifically polarity contexts, as advised by Wierzba et al. for

pronominalization) were constructed for each idiom to support the appropriate reading of each sentence in the set.

One such set is illustrated below, consisting of the paired decomposable idiom *kataf et ha-perot* (lit. 'pick the fruits', fig. 'reap the rewards') and non-decomposable idiom *axal et ha-kova* (lit. 'eat the hat', fig. 'admit one's mistake').

(1)

Decomposable Subset	**kataf et ha-perot** (lit. 'pick the fruits', fig. 'reap the rewards')
context	*kše-higati la-mata huftati legalot še-kol* when-arrived.1SG to.the-orchard surprised.PASS.1SG discover.INF that-all *ha-perot adayin al ha-ecim.* the-fruits still on the-trees. 'When I arrived at the orchard I was surprised to discover that all the fruits were still on the trees'
a. literal baseline	*hayiti batu'ax še-ha-oved* ***yiktof et ha-perot***. was.1SG sure that-the-worker pick.FUT ACC the-fruits. 'I was sure the worker would pick the fruits.'
b. literal modified	*hayiti batu'ax še-ha-oved* ***yiktof et ha-perot*** *aval le-hafta'ati hu lo* ***kataf otam***. was.1SG sure that-the-worker pick.FUT ACC the-fruits but to-surprise.GEN.1SG he NEG pick.PST them. 'I was sure the worker would pick the fruits but to my surprise he didn't pick them.'
context	*kše-pagašti et ha-yazam huftati legalot* when-met.1SG ACC the-entrepreneur surprised.PASS.1SG discover.INF *še-ha-proyekt še-hu hiški'a bo kol-kax harbe nixšal.* that-the-project that-he invested.1SG in.it so much failed. 'When I met the entrepreneur I was surprised to discover that the project he had invested so much in failed.'
c. idiomatic baseline	*hayiti batu'ax še-ha-yazam* ***yiktof et ha-perot***. was.1SG sure that-the-entrepreneur pick.FUT ACC the-fruits. 'I was sure the entrepreneur would reap the rewards.'
d. idiomatic modified	*hayiti batu'ax še-ha-yazam* ***yiktof et ha-perot*** *aval le-hafta'ati hu lo* ***kataf otam***. was.1SG sure that-the-entrepreneur pick.FUT ACC the-fruits but to-surprise.GEN.1SG he NEG pick.PST them. 'I was sure the entrepreneur would reap the rewards but to my surprise he didn't reap them.'
Non-Decomposable Subset	**axal et ha-kova** (lit. 'eat the hat', fig. 'admit one's mistake')

context	*piniti et ha-aron biglal be'ayat aš aval šaxaxti* cleared.1SG ACC the-closet because problem.GEN moth but forgot.1SG *be-toxo et ha-kova.* in-it ACC the-hat. 'I cleared the closet because of a moth problem but I forgot the hat inside it.'
e. literal baseline	*hayiti batu'ax še-ha-aš* ***yoxal et ha-kova****.* was.1SG sure that-the-moth eat.FUT ACC the-hat. 'I was sure the moth would eat the hat.'
f. literal modified	*hayiti batu'ax še-ha-aš* ***yoxal et ha-kova*** *aval* was.1SG sure that-the-moth eat.FUT ACC the-hat.PL but *le-hafta'ati hu lo* ***axal oto****.* to-surprise.GEN.1SG he NEG eat.PST it. 'I was sure the moth would eat the hat but to my surprise he didn't eat it.'
context	*etmol pagašti et exad ha-maški'im še baxar be-zmano lo* yesterday met.1SG ACC one the-investors that chose at-time.GEN NEG *lehaški'a ba-startap ha-muclax šelanu.* invest.INF in.the-startup the-successful of.us. 'Yesterday I met one of the investors who previously chose not to invest in our successful start-up.'
g. idiomatic baseline	*hayiti batu'ax še-ha- maški'a* ***yoxal et ha-kova****.* was.1SG sure that-the-investor eat.FUT ACC the-hat. 'I was sure the investor would eat his hat.'
h. idiomatic modified	*hayiti batu'ax še-ha-maški'a* ***yoxal et ha-kova*** *aval* was.1SG sure that-the-investor eat.FUT ACC the-hat.PL but *le-hafta'ati hu lo* ***axal oto****.* to-surprise.GEN.1SG he NEG eat.PST it. 'I was sure the investor would eat his hat but to my surprise he didn't eat it.'

The experimental items were distributed into four lists, with participants evenly assigned to lists. Each list included a total of 48 sentences: 16 experimental items, and 32 filler items of parallel length. The experimental items consisted of two parallel items per set, one from the Decomposable Subset (a-d) and one from the Non-Decomposable Subset (e-h). All in all, each participant saw two items for each experimental condition (a-h). The sentences were presented in pseudo-randomized order.

The structures of the fillers were selected to incorporate acceptability violations of a generally similar nature to that of the experimental items, as well as to afford a wide enough range of ratings. Thus, 8 fillers consisted of direct object resumptive pronouns (shown to be less

acceptable than gaps in Hebrew), 4 fillers consisted of subject resumptive pronouns (known to be rather unacceptable in Hebrew), 4 fillers consisted of wh-islands (a more syntactic violation, but one that is known to be relatively weak in Hebrew), 8 fillers consisted of VP-idioms other than those used in the experiment with a fronted direct object (whose acceptability is in question), and 8 fillers consisted of acceptable sentences. Idiomatic phrases were also introduced into the filler items in order to mirror their distribution in the experimental set and avoid having the latter stand out in this regard. For a complete list of experimental sets and fillers used in Experiment 1, see Appendix B.

3.2.2 Participants and Procedure

The experiment was set up using the Ibex Farm web platform (Zehr & Schwarz 2018). Participants who were found eligible were sent a link to the questionnaire. In the experiment, participants were presented with sentences and a preceding context, one at a time, and asked to rate how acceptable each sentence sounded to them on a scale of 1 ("unacceptable") to 7 ("acceptable"). It was made clear to participants that the preceding context was only provided to describe the circumstance under which the sentence was uttered, and that they were not asked to rate the plausibility of the scenario described, but only how natural or acceptable the sentence sounded in Hebrew. Participants were encouraged to answer intuitively and use the full range of the scale. On average, the experiment took about 15 minutes to complete.

63 native speakers of Hebrew took part in the experiment. 37 of them were recruited via prolific.co and received £3 for participation. Pre-screening filters were set to only include participants aged 18-35 whose first language was Hebrew, and who were situated in Israel.

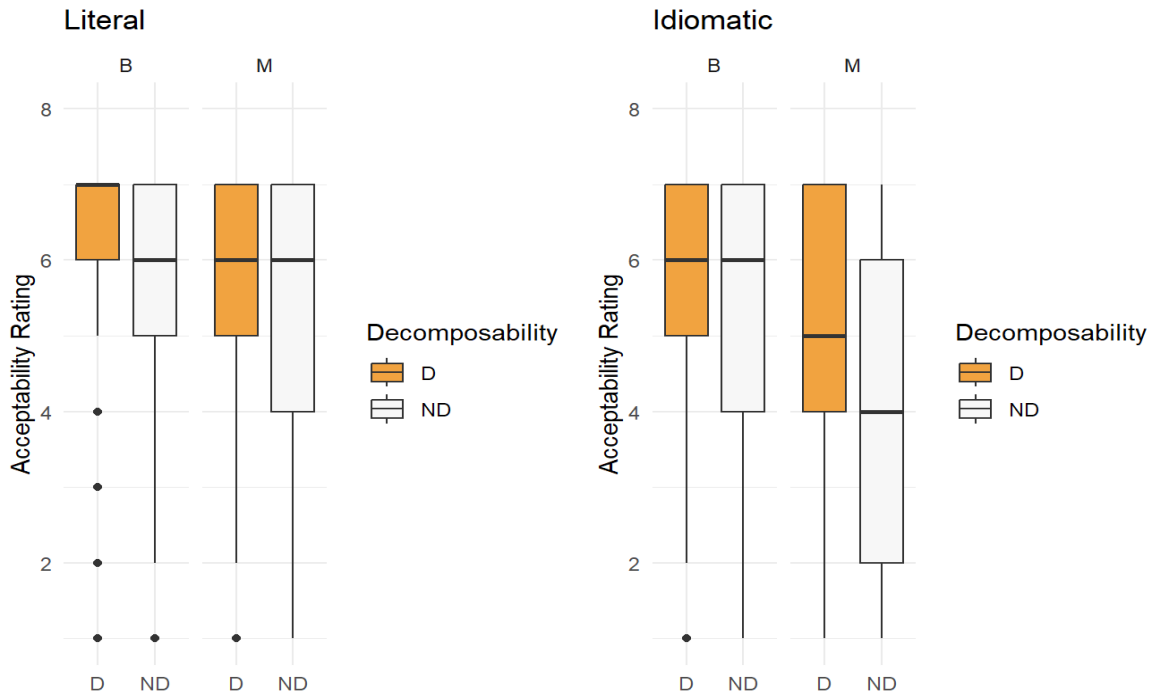
3.2.3 Results

We opted to run Cumulative Link Mixed Models (CLMMs) for statistical analysis rather than Linear Mixed Models (LMMs), as the latter have been shown to increase Type I and Type II errors and impact effect size estimates when applied to ordinal rating data (Liddell & Kruschke 2018, Veríssimo 2021). All three manipulated factors, namely Type of Idiom (decomposable vs. non-decomposable), Type of Meaning (literal vs. idiomatic) and Type of Structure (baseline vs. modified), were sum-coded in order to treat the levels of each factor symmetrically. Participants whose ratings for the three best or three worst filler items deviated significantly from the overall mean of these items across participants (either on average, or on more than one occasion) were excluded from the study. Overall, 3 participants were excluded, resulting in a total of 60 participants.

According to the CLMM fit, a main effect was found for all three factors: Type of Idiom, Type of Meaning, and Type of Structure. That is, decomposable idioms were judged to be significantly more acceptable overall than non-decomposable idioms ($p<0.001$); literal phrases were judged to be significantly more acceptable overall than idiomatic phrases ($p<0.001$); and phrases in canonical structure were judged to be significantly more acceptable overall than pronominalized phrases ($p<0.001$). However, no significant interaction was found between any of the factors, as can be seen in **Table 1**. The results are also illustrated in **Figure 3**.

Contrast	β	SE	z	*p*
TypeOfIdiom	0.43	0.12	3.63	<0.001***
TypeOfMeaning	0.51	0.12	4.31	<0.001***
TypeOfStructure	0.51	0.12	4.32	<0.001***
TypeOfIdiom:TypeOfMeaning	-0.08	0.12	-0.72	0.47
TypeOfIdiom:TypeOfStructure	0.06	0.12	0.55	0.59
TypeOfMeaning:TypeOfStructure	-0.09	0.12	-0.74	0.46
TypeOfIdiom:TypeOfMeaning:TypeOfStructure	0.09	0.12	0.75	0.45

Table 1: Summary of cumulative link mixed model statistical results for Experiment 1.



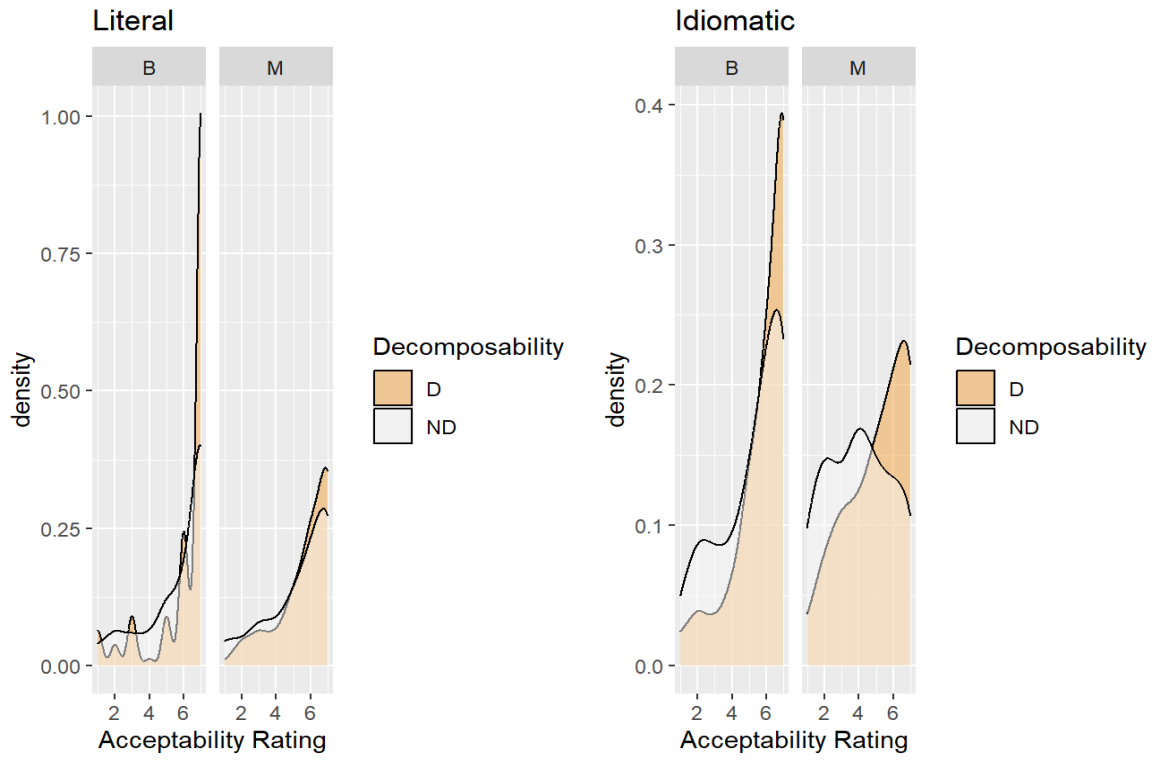


Figure 3: Box plots and density plots portraying the acceptability results of Experiment 1, split by Type of Meaning (literal vs. idiomatic), Type of Idiom (decomposable vs. non-decomposable), and Type of Structure (baseline vs. modified).

To ensure that the ratings of the phrases in literal contexts did not somehow confound our results, we also examined the idiomatic contexts in isolation (i.e., Type of Meaning = Idiomatic), but still found no significant interaction between Type of Idiom (decomposable vs. non-decomposable) and Type of Structure (baseline vs. modified), as can be seen in **Table 2**.

Contrast	β	SE	z	*p*
TypeOfIdiom	0.53	0.14	3.85	<0.001***
TypeOfStructure	0.61	0.14	4.37	<0.001***
TypeOfIdiom:TypeOfStructure	-0.02	0.14	-0.16	1.74

Table 2: Summary of cumulative link mixed model statistical results for Experiment 1 for idiomatic contexts only.

3.2.4 Discussion

As can be seen in **Tables 1 & 2** and in **Figure 3**, the effect of Type of Idiom (decomposable vs. non-decomposable) was not found to be significantly larger under pronominalization than in baseline structure, such that the effect could not be attributed to the syntactic inflexibility of non-decomposable idioms (i.e., to their difficulty to undergo pronominalization) as compared to decomposable idioms. Thus, this experiment did not provide evidence that non-

decomposable idioms are less inclined to pronominalization than decomposable idioms, but only that they are judged as less acceptable overall.

The effect of Type of Meaning (literal vs. idiomatic) was also not found to be significantly larger under pronominalization than in baseline structure, such that it could not be attributed to the syntactic inflexibility of idioms (i.e., to their difficulty to undergo pronominalization) as compared to non-idioms. Thus, this experiment did not provide evidence that idioms are less inclined to undergo pronominalization than literal phrases, but only that they are judged as less acceptable overall.

Finally, and perhaps most surprisingly, the effect of Type of Idiom (decomposable vs. non-decomposable) was not found to be significantly larger in idiomatic contexts than in literal contexts; that is, non-decomposable idioms were found to be less acceptable than decomposable idioms across the board, i.e. in literal contexts as well as in idiomatic contexts.

3.3 Experiment 2: Fronting

Experiment 2 tested the effects of decomposability on *Fronting*. Various constraints on the fronting (or topicalization) of DP constituents have been argued for (mostly in English), such as the requirement that fronted constituents be either definite or generic (Fellbaum 1980), anaphoric or generic (Kuno 1972), referential and specific (Kiss 2002), or referential or generic (Nediger 2017). Under these assumptions, which somewhat overlap (e.g., definite DPs are generally thought to be specific and referential; referential DPs are generally thought to showcase anaphoric potential), non-decomposable idioms, whose DP constituents are presumably neither referential, specific or generic (as they carry no independent interpretation) are not expected to allow fronting.

Assuming Hebrew fronting imposes similar constraints on DP constituents, we would expect to find a three-way interaction between Type of Idiom, Type of Meaning, and Type of Structure: while all experimental phrases are expected to behave similarly in literal contexts (we selected only idioms with definite objects, i.e. referential ones, which should not be problematic to front), in idiomatic contexts non-decomposable idioms are expected to be rated less acceptable than decomposable idioms when undergoing fronting, as opposed to in canonical form (where no semantic restrictions are expected to be imposed on idiom chunks).

Meanwhile, topicalized constituents have also been argued to typically require a contrastive interpretation (e.g., Nediger 2017), and contrastive contexts have been argued to facilitate the interpretation of otherwise unfavored topicalized constituents (e.g., Kiss 2002). The contrast

can presumably be either between different instances of whatever the object refers to (2a), or between different situations altogether (2b):

(2) a. *natali omnam fisfesa et ha-**rakevet ha-mukdemet** aval **la-rakevet ha-meuxeret***
nataly indeed missed.F ACC the-train the-early but to.the-train the-late
hi hespika.
she managed.F.
'Nataly may have missed the early train but the late train she managed to make.'

b. *natali omnam hit'orera be-ixur aval **et ha-rakevet** hi lo fisfesa.*
nataly indeed woke.up.F in-delay but ACC the-train she NEG missed.1SG.F
'Nataly may have woken up late but the train she didn't miss.'

Seeing as in the current study we made an effort to ensure that the syntactic operations examined in the different experiments did not overlap with one another, we elected to construct sentences with contrastive contexts of the type in (2b), considering those of the type in (2a) require the modification of idiom constituents in addition to fronting, which could impose separate semantic restrictions (to be assessed in isolation in Experiment 3).

3.3.1 Design and Materials

As in Experiment 1, the 8 decomposable idioms and 8 non-decomposable idioms selected in the pretests were paired, resulting in 8 sets. Since the task of constructing similarly structured sentences for two given idioms across conditions and contexts proved to be a non-trivial one, we opted to allow for the alteration of pairings in each experiment in favor of doing so in as natural a way as possible. For each set, eight sentences were constructed involving three factors: (1) Type of Idiom: **D**ecomposable or **N**on-**D**ecomposable; (2) Type of Meaning: **L**iteral or **I**diomatic; and (3) Type of Structure: **B**aseline or **M**odified (Fronted), resulting again in eight conditions per set: (a) DLB, (b) DLM, (c) DIB, (d) DIM, (e) NDLB, (f) NDLM, (g) NDIB, and (h) NDIM. As in Experiment 1, pragmatically suitable literal and idiomatic contexts were constructed for each idiom to support the appropriate reading of each sentence in the set.

One such set is illustrated below, for the same paired decomposable and non-decomposable idioms, *kataf et ha-perot* (lit. 'pick the fruits', fig. 'enjoy one's achievements') and *axal et ha-kova* (lit. 'eat the hat', fig. 'admit one's mistake'), which were used for illustration in Experiment 1.

(3)

Decomp. Subset	**kataf et ha-perot** (lit. 'pick the fruits', fig. 'reap the rewards')
context	*be-ikvot ha-macav hegi'u mitnadvim lesaye'a la-xakla'im* in-traces the-situation arrived volunteers help.INF to.the-farmers *ba-avodot ba-mata.* in.the-works in.the-orchard. 'In light of the situation, volunteers came to help the farmers with their work at the orchard.'
(a) literal baseline	*ha-mitnadvim asu et rov ha-avodot ba-mata aval hem lo* The-volunteers did ACC most the-works in.the-orchard but they NEG ***katfu et ha-perot.*** picked ACC the-fruits. 'The volunteers did most of the work in the orchard, but they didn't pick the fruits.'
(b) literal modified	*ha-mitnadvim asu et rov ha-avodot ba-mata aval* ***et ha-perot*** The-volunteers did ACC most the-works in.the-orchard but ACC the-fruits *hem lo* ***katfu****.* they NEG picked. 'The volunteers did most of the work in the orchard, but the fruits they didn't pick.'
context	*ha-proyekt ha-xadaš šel xevrat ha-haytek hitgala ke-haclaxa* the-project the-new of company.GEN the-high.tech revealed.PASS as-succcess *ve-ha-menahalim zaxu le-švaxim.* and-the-managers won to-praise.PL. 'The high tech company's new project turned out to be a success and the managers garnered praise.'
(c) idiomatic baseline	*ha-metaxnetim asu et rov ha-avoda ba-proyekt aval hem lo* ***katfu*** The-programmers did ACC most the-work in.the-project but they NEG picked ***et ha-perot****.* ACC the-fruits. 'The programmers did most of the work on the project, but they didn't reap the rewards.'
(d) idiomatic modified	*ha-metaxnetim asu et rov ha-avoda ba-proyekt aval* ***et*** The-programmers did ACC most the-work in.the-project but ACC ***ha-perot*** *hem lo* ***katfu****.* the-fruits they NEG picked. 'The programmers did most of the work on the project but the rewards they didn't reap.'

Non-Decomp. Subset	**axal et ha-kova** (lit. 'eat the hat', fig. 'admit one's mistake')
context	*kše-giliti še-ašim hištaltu li al ha-aron paxadeti* when-discovered.1SG that-moths took.over to.me on the-closet feared.1SG *yoter mi-kol še-hem yaharsu li et ha-kova ha-xadaš.* more than-all that-they ruin.FUT to.me ACC the-hat the-new. 'When I found out that moths took over my closet, I feared more than anything that they would ruin my new hat.'
(e) literal baseline	*ha-ašim harsu et rov ha-bgadim ba-aron aval hem lo* ***axlu*** The-moths ruined ACC most the-clothes in.the-closet but they NEG ate ***et ha-kova***. ACC the-hat. 'The moths ruined most of the clothes in my closet, but they didn't eat the hat.'
(f) literal modified	*ha-ašim harsu et rov ha-bgadim ba-aron aval* ***et ha-kova*** The-moths ruined ACC most the-clothes in.the-closet but ACC the-hat *hem lo* ***axlu***. they NEG ate. 'The moths ruined most of the clothes in my closet but the hat they didn't eat.'
context	*lifney ha-mitkafa va'ada šel mumxim pirsema dox še-ta'an* before the-attack committee of experts published report that-claimed *še-le-israel lo niškefet šum sakana mi-cafon.* that-to-israel NEG foreseen any danger from.the-north. 'Before the attack, a committee of experts published a report that claimed no danger is threatening Israel from the north.'
(g) idiomatic baseline	*Ha-mumxim ta'u legabey rov ha-taxaziyot ba-dox aval hem lo* The-experts wrong.PST about most the-forecasts in.the-report but they NEG ***axlu et ha-kova***. ate ACC the-hat. 'The experts were wrong about most of the forecasts in the report but they didn't eat their hats.'
(h) idiomatic modified	*Ha-mumxim ta'u legabey rov ha-taxaziyot ba-dox aval* ***et*** The-experts wrong.PST about most the-forecasts in.the-report but ACC ***ha-kova*** *hem lo* ***axlu*** the-hat they NEG ate. 'The experts were wrong about most of the forecasts in the report but their hats they didn't eat.'

The experimental items were distributed into four lists in a manner similar to that described for Experiment 1, with each list including a total of 48 sentences: 16 experimental items, and 32 filler items of parallel length. Seeing as Experiment 2 examined fronting as a syntactic

operation, the 8 fillers from Experiment 1 consisting of VP-idioms with a fronted object needed changing. We chose to replace them with fillers consisting of relative clauses, which similarly to fronting, include an element appearing in the left periphery that is thematically related to a clause-internal position (often analyzed as involving movement). 4 of these fillers consisted of a relative clause with a fronted resumptive pronoun (known to be rather unacceptable in Hebrew when appearing without the complementizer *še-*, specifically when the fronted element involves coordination), and 4 of them consisted of a relative clause lacking a prepositional resumptive pronoun (which is obligatory in Hebrew, though sometimes omitted in colloquial speech). Idiomatic phrases were also incorporated in the new filler items so as to maintain an idiom distribution in fillers akin to that in the experimental items. For a complete list of experimental sets and fillers used in Experiment 2, see Appendix C.

3.3.2 Participants and Procedure

The experiment was set up in a similar manner to that described for Experiment 1. All in all, 64 native speakers of Hebrew took part in the experiment, 38 of which were recruited via prolific.co and received £3 for participation, and 23 of which were recruited via Facebook and received ₪15 for participation. Pre-screening filters were again set to only include participants aged 18-35 whose first language was Hebrew, and who were situated in Israel.

3.3.3 Results

As in Experiment 1, we ran Cumulative Link Mixed Models (CLMMs) for statistical analysis, sum-coding across all three manipulated factors (Type of Idiom, Type of Meaning, and Type of Structure). 4 participants whose ratings for the three best or three worst filler items deviated significantly from the overall mean of these items across participants (either on average, or on more than one occasion) were excluded from the study, resulting in a total of 60 participants, as in Experiment 1.

According to the CLMM fit, a main effect was found for all three factors: Type of Idiom, Type of Meaning, and Type of Structure. That is, decomposable idioms were judged to be significantly more acceptable overall than non-decomposable idioms ($p=0.0098$); literal phrases were judged to be significantly more acceptable overall than idiomatic phrases ($p<0.001$); and phrases in canonical form were judged to be significantly more acceptable overall than phrases with fronted objects ($p<0.001$).

In addition, and contra Experiment 1, a significant interaction was found between Type of Idiom and Type of Meaning ($p=0.02$), such that non-decomposable idioms were judged to be

significantly less acceptable than decomposable idioms in idiomatic contexts, but not so in literal contexts, as illustrated in **Figure 4**.

No other significant interaction was found between the factors, as can be seen in **Table 3**. The results are also illustrated in **Figure 5**.

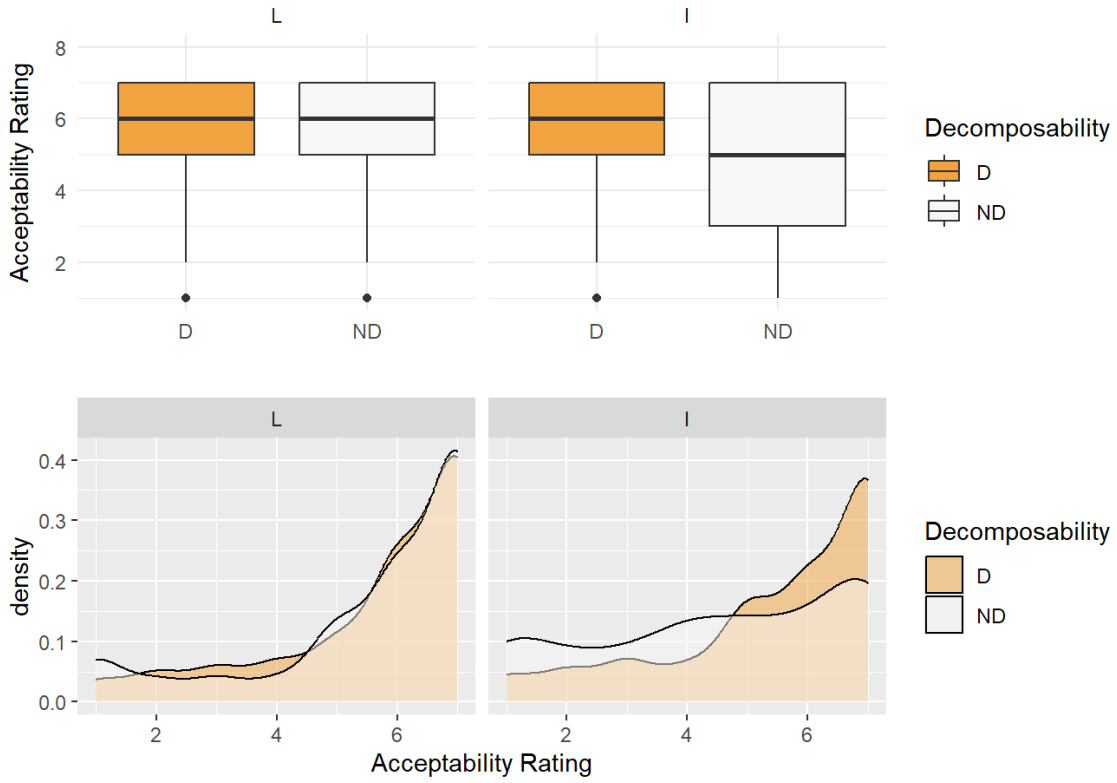


Figure 4: Box plots and density plots portraying the interaction between Type of Idiom (decomposable vs. non-decomposable) and Type of Meaning (literal vs. idiomatic) in Experiment 2.

Contrast	β	SE	z	*p*
TypeOfIdiom	0.29	0.11	2.58	0.009788**
TypeOfMeaning	0.41	0.11	3.63	<0.001***
TypeOfStructure	0.51	0.11	4.49	<0.001***
TypeOfIdiom:TypeOfMeaning	-0.08	0.11	-2.32	0.020398*
TypeOfIdiom:TypeOfStructure	0.06	0.11	0.11	0.91
TypeOfMeaning:TypeOfStructure	-0.09	0.11	-0.68	0.50
TypeOfIdiom:TypeOfMeaning:TypeOfStructure	0.09	0.11	0.43	0.67

Table 3: Summary of cumulative link mixed model statistical results for Experiment 2.

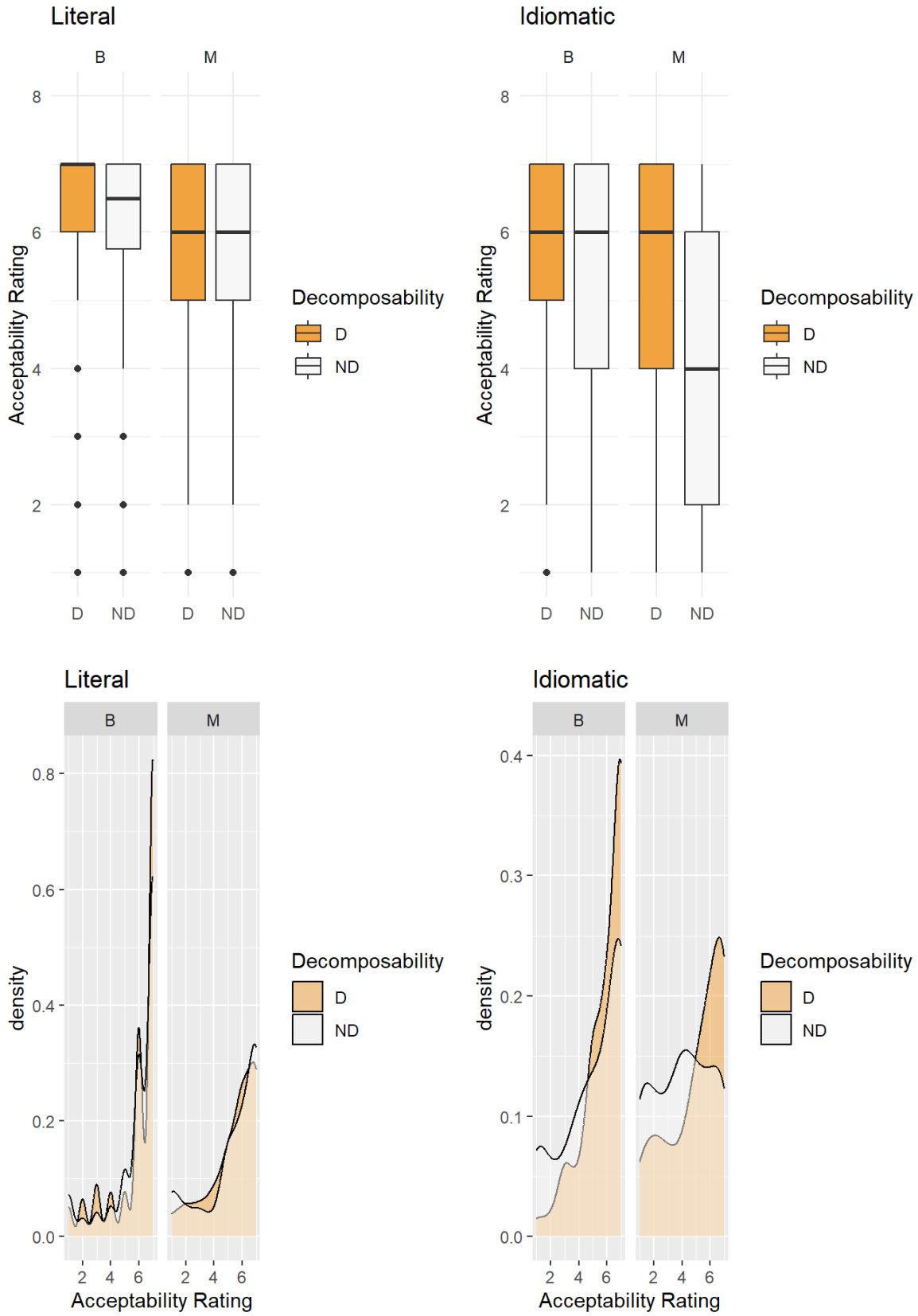


Figure 5: Box plots and density plots portraying the acceptability results of Experiment 2, split by the three experimental factors: Type of Meaning (literal vs. idiomatic), Type of Idiom (decomposable vs. non-decomposable), and Type of Structure (baseline vs. modified).

To ensure that the ratings of the phrases in literal contexts did not somehow confound our results, we also examined the idiomatic contexts in isolation (i.e., Type of Meaning = Idiomatic), but still found no significant interaction between Type of Idiom (decomposable vs. non-decomposable) and Type of Structure (baseline vs. modified), as can be seen in **Table 4**.

Contrast	β	SE	z	*p*
TypeOfIdiom	0.57	0.16	3.63	<0.001***
TypeOfStructure	0.59	0.16	3.79	<0.001***
TypeOfIdiom:TypeOfStructure	-0.03	0.15	-0.23	1.64

Table 4: Summary of cumulative link mixed model statistical results for Experiment 2 for idiomatic contexts only.

3.3.4 Discussion

As can be seen in **Tables 3 & 4** and in **Figure 5**, the effect of Type of Idiom (decomposable vs. non-decomposable) was not found to be significantly larger under fronting than in baseline structure, such that the effect could not be attributed to the syntactic inflexibility of non-decomposable idioms (i.e. to their difficulty to undergo fronting) as compared to decomposable idioms. Thus, this experiment did not provide evidence that non-decomposable idioms are less inclined to undergo fronting than decomposable idioms, but only that they are judged as less acceptable overall.

The effect of Type of Meaning (literal vs. idiomatic) was also not found to be significantly larger under fronting than in baseline structure, such that it could not be attributed to the syntactic inflexibility of idioms (i.e., to their difficulty to undergo fronting) as compared to non-idioms. Thus, this experiment did not provide evidence that idioms are less inclined to undergo fronting than literal phrases in Hebrew, but only that they are judged as less acceptable overall.

These results largely mirror those of Experiment 1 for pronominalization, except for the interaction between Type of Idiom and Type of Meaning, which was found to be significant here, but not in Experiment 1.

3.4 Experiment 3: Adjectival Modification

Experiment 3 tested the effects of decomposability and idiomaticity on *Adjectival Modification*. In an early and influential paper, Ernst (1981) distinguishes between three types of adjectival modification: *internal*, *external*, and *conjunction*. In internal modification, the adjective which syntactically attaches to the idiom-internal noun phrase also semantically modifies its idiomatic denotation. For example, for the idiom *spill the beans* (fig. ~ ‘divulge

the secret'), one can arguably "spill the *political* beans", with *political* semantically modifying the idiomatic denotation of *beans*, such that the meaning of the expression can be roughly understood as 'divulge the political secret'. In external modification, on the other hand, while the adjective syntactically attaches to the idiom-internal noun phrase, it does not modify its idiomatic denotation, but rather that of the entire phrase. For example, for the idiom *kick the bucket* (fig. ~ 'die'), one can arguably "kick the *political* bucket", but *political* does not semantically modify the idiomatic denotation of *bucket* (which does not exist), but rather that of the phrase as a whole, such that the phrase can be paraphrased as "politically, kick the bucket". In conjunction modification, as in internal modification, the adjective semantically modifies the denotation of the noun to which it syntactically attaches, but under its literal interpretation rather than its idiomatic one. For example, for the idiom *bite one's tongue* (fig. ~ 'hold back from saying something'), someone on the verge of dehydration can be said to "bite his *thirst-swollen* tongue", with *thirst-swollen* modifying the literal tongue of the party in question (rather than any idiomatic denotation which it could potentially hold). In order to account for the semantic computation of these different types of modification, Ernst argues in favor of a two-level semantic representation of idioms, consisting of a literal and an idiomatic level with links between them, and adjectives able to "raise" from the literal to the idiomatic level when necessary.

For the purposes of our current research, we focus on internal and external modification, rather than on conjunction modification, as the distinction between decomposable and non-decomposable idioms is to do with the difference in their pattern of idiomatic association. Generally speaking, non-decomposable idioms should not be able to undergo internal modification, as an idiom chunk must carry individual idiomatic meaning for it to be semantically modified at the idiomatic level – as argued, e.g., by Nunberg et al. (1994) and McClure (2011). Nediger (2017) similarly notes that if the idiom chunk in question has no idiomatic reference, it cannot denote a set with which the set denoted by a restrictive adjective can intersect. Non-decomposable idioms could however generally be able to undergo external modification, as such modification semantically targets the phrase as a whole, and the entire non-decomposable phrase has an idiomatic denotation. As our aim was to distinguish between the behavior of decomposable and non-decomposable idioms in terms of syntactic flexibility, we opted to construct experimental sentences which consisted of internal modification (i.e., we tried to ensure that the adjectival modification employed was not adverbially paraphrasable,

particularly for non-decomposable idioms) in order to examine whether decomposable idioms do in fact allow for such modification and non-decomposable idioms do not, as predicted.

In light of all this, we would expect to find a three-way interaction between Type of Idiom, Type of Meaning, and Type of Structure: while all experimental phrases are expected to behave similarly in literal contexts (modifying literal phrase chunks should not be problematic), in idiomatic contexts non-decomposable idioms are expected to be rated less acceptable than decomposable idioms when modified, as opposed to in canonical form (where no semantic restrictions are expected to be imposed on idiom chunks).

The final point we wish to address here is, that while any given idiom may generally allow for a specific type of modification, this does not mean that just any adjective will do. As noted by Ernst (1981), the selected modifier must also fit into the metaphor denoted by the idiom. Nediger (2017) illustrates this in more detail, arguing that the fact that one can "open a *big* can of worms" but not "spill the *big* beans" (despite the idiomatic denotation of beans, ~'secret', allowing for modification by 'big') may be due to the latter idiom's metaphorical association schema: the magnitude of the secret may be metaphorically associated with the number of beans, rather than their size[4]. Ernst and Nediger both argue that such ruling out of modifiers is made on pragmatic grounds rather than semantic ones – that is, while modification may be generally licensed semantically (e.g., a certain idiom may allow internal modification in principle), certain modifiers may be ruled out pragmatically (i.e., may not fit into the metaphor denoted by the idiom). As we are interested in assessing the semantic acceptability of adjectivally modifying decomposable and non-decomposable idioms, we made effort to carefully select our modifiers so as to ensure that they are not ruled out on pragmatic grounds. Hence, we consulted again with the billion-token Hebrew corpus *heTenTen 2014* to find adjectives with at least some attested uses in modifying the relevant idiom (rare as they may be), and when this was not possible (some non-decomposable idioms yielded zero modified results), we consulted with other native speakers of Hebrew to select as pragmatically plausible adjectives as possible.

3.4.1 Design and Materials

As in Experiments 1 and 2, eight sets of eight sentences each were constructed involving three factors: (1) Type of Idiom: **D**ecomposable or **N**on-**D**ecomposable; (2) Type of Meaning:

[4] We note that the difference in number between the literal chunk and its idiomatic interpretation could potentially play a part in this discrepancy. The fact that the two compared idioms differ in definiteness could also potentially be a factor.

Literal or **I**diomatic; and (3) Type of Structure: **B**aseline or **M**odified (Adjectivally Modified), resulting again in eight conditions per set: (a) DLB, (b) DLM, (c) DIB, (d) DIM, (e) NDLB, (f) NDLM, (g) NDIB, and (h) NDIM. Again, pragmatically suitable literal and idiomatic contexts were constructed for each idiom to support the appropriate reading of each sentence in the set.

One such set is illustrated below, for the same paired decomposable and non-decomposable idioms, *kataf et ha-perot* (lit. 'pick the fruits', fig. 'enjoy one's achievements') and *axal et ha-kova* (lit. 'eat the hat', fig. 'admit one's mistake'), which were used for illustration in Experiments 1 and 2.

(4)

Decomp. Subset	**kataf et ha-perot** (lit. 'pick the fruits', fig. 'reap the rewards')
context	*biglal ha-šitfonot lo nitan haya lekayem ha-šana katif mexani.* because.of the-floods NEG possible was conduct.INF the-year fruit.harvest mechanical. 'Because of the floods, it was impossible to conduct a mechanical fruit harvest this year.'
(a) literal baseline	*ha-po'el ne'elac* ***liktof et ha-perot****.* The-worker forced.UNACC pick.INF ACC the-fruits. *'*The worker was forced to pick the fruits.'
(b) literal modified	*ha-po'el ne'elac* ***liktof et ha-perot*** *ha-bšelim.* The-worker forced.UNACC pick.INF ACC the-fruits the-ripe. *'*The worker was forced to pick the ripe fruits.'
context	*nesi rusya haya ha-marvi'ax ha-ikari me-ha-hitarvut ha-cvait be-surya.* president.GEN russia was the-beneficiary the-main from-the-intervention the-military in-syria. 'The Russian president was the main beneficiary of the military intervention in Syria.'
(c) idiomatic baseline	*putin heskil* ***liktof et ha-perot****.* putin wizened pick.INF ACC the-fruits. 'Putin managed to reap the rewards.'
(d) idiomatic modified	*putin heskil* ***liktof et ha-perot*** *ha-mediniyim.* putin wizened pick.INF ACC the-fruits the-political. 'Putin managed to reap the political rewards.'

Non-Decomp. Subset	**axal et ha-kova** (lit. 'eat the hat', fig. 'admit one's mistake')
context	*kiviti še-ha-tarsis neged ašim yacil et ha-kova ha-yarok šeli* hoped.1SG that-the-spray against moths save.FUT ACC the-hat the-green of.1SG *aval le-ca'ari hu lo asa et ha-avoda.* but to-sorrow.GEN.1SG it NEG did ACC the-job. 'I hoped the anti-moth spray would save my green hat but sadly it didn't do the job.'
(e) literal baseline	*ha-aš hespik **le'exol et ha-kova**.* The-moth made.it eat.INF ACC the-hat. 'The moth managed to eat the hat.'
(f) literal modified	*ha-aš hespik **le'exol et ha-kova** ha-yarok.* The-moth made.it eat.INF ACC the-hat the-green. 'The moth managed to eat the green hat.'
context	*havtaxoteha šel ha-xevra lefate'ax rexev otonomi laxalutin* promises.GEN of the-company develop.INF vehicle autonomous completely *ad sof 2022 hitbadu.* by end 2022 disprove.PASS. 'The company's promises to develop a completely autonomous vehicle by the end of 2022 proved false.'
(g) idiomatic baseline	*ha-xevra ne'elca **le'exol et ha-kova**.* The-company forced.UNACC eat.INF ACC the-hat. 'The company was forced to eat its hat.'
(h) idiomatic modified	*ha-xevra ne'elca **le'exol et ha-kova ha-texnologi**.* The-company forced.UNACC eat.INF ACC the-hat the-technological. 'The company was forced to eat its technological hat.'[5]

The experimental items were distributed into four lists in a manner similar to that described for Experiment 1 and 2, with each list including a total of 48 sentences: 16 experimental items, and 32 filler items of parallel length. Some of the fillers from the previous experiments were altered in order to incorporate acceptability violations of a nature more similar to that of the adjectival modification in question. Thus, the 8 fillers consisting of relative clauses from Experiment 2, as well as 4 of the fillers consisting of direct object resumptive pronouns, were replaced by 4 fillers involving possessive datives with an intransitive verb (argued to be impossible in Hebrew), 4 fillers involving a strict reading of an anaphor in ellipsis constructions

[5] Note that the modification here can indeed not be paraphrased as 'technologically, eat its hat'.

(argued to be less salient than the sloppy reading and only weakly acceptable), and 4 fillers involving unnatural ordering of adjectives in Hebrew (as shown by Trainin & Shetreet 2021). The length of all filler sentences and contexts was also altered in order to mirror those of the experimental items, which proved to be shorter in Experiment 3 (as adjectival modification did not necessitate a polarity context, as opposed to pronominalization and fronting). The distribution of idiomatic phrases in fillers was again maintained in order to match that of the experimental items. For a complete list of experimental sets and fillers used in Experiment 3, see Appendix D.

3.4.2 Participants and Procedure

The experiment was set up in a similar manner to that described for Experiments 1 and 2. All in all, 67 native speakers of Hebrew took part in the experiment, 65 of which were recruited via Facebook and received ₪15 for participation. Pre-screening filters were again set to only include participants aged 18-35 whose first language was Hebrew, and who were situated in Israel.

3.4.3 Results

As in Experiments 1 and 2, we ran Cumulative Link Mixed Models (CLMMs) for statistical analysis, sum-coding across all three manipulated factors (Type of Idiom, Type of Meaning, and Type of Structure). 7 participants whose ratings for the three best or three worst filler items deviated significantly from the overall mean of these items across participants (either on average, or on more than one occasion) were excluded from the study, resulting in a total of 60 participants, as in Experiments 1 and 2.

According to the CLMM fit, a main effect was found for two of the three factors: Type of Idiom, and Type of Meaning. That is, decomposable idioms were judged to be significantly more acceptable overall than non-decomposable idioms ($p<0.001$), and literal phrases were judged to be significantly more acceptable overall than idiomatic phrases ($p<0.001$).

In addition, a significant interaction was found between Type of Meaning and Type of Structure ($p=0.0377$), such that modified phrases were judged to be significantly less acceptable than phrases in their canonical form in idiomatic contexts, but not so in literal contexts, as illustrated in **Figure 6**. Thus, this experiment provides evidence that idiom chunks are less inclined to undergo adjectival modification than are literal nouns in Hebrew.

No other significant interaction was found between the factors, as shown in **Table 5**. The results are also illustrated in **Figure 7**.

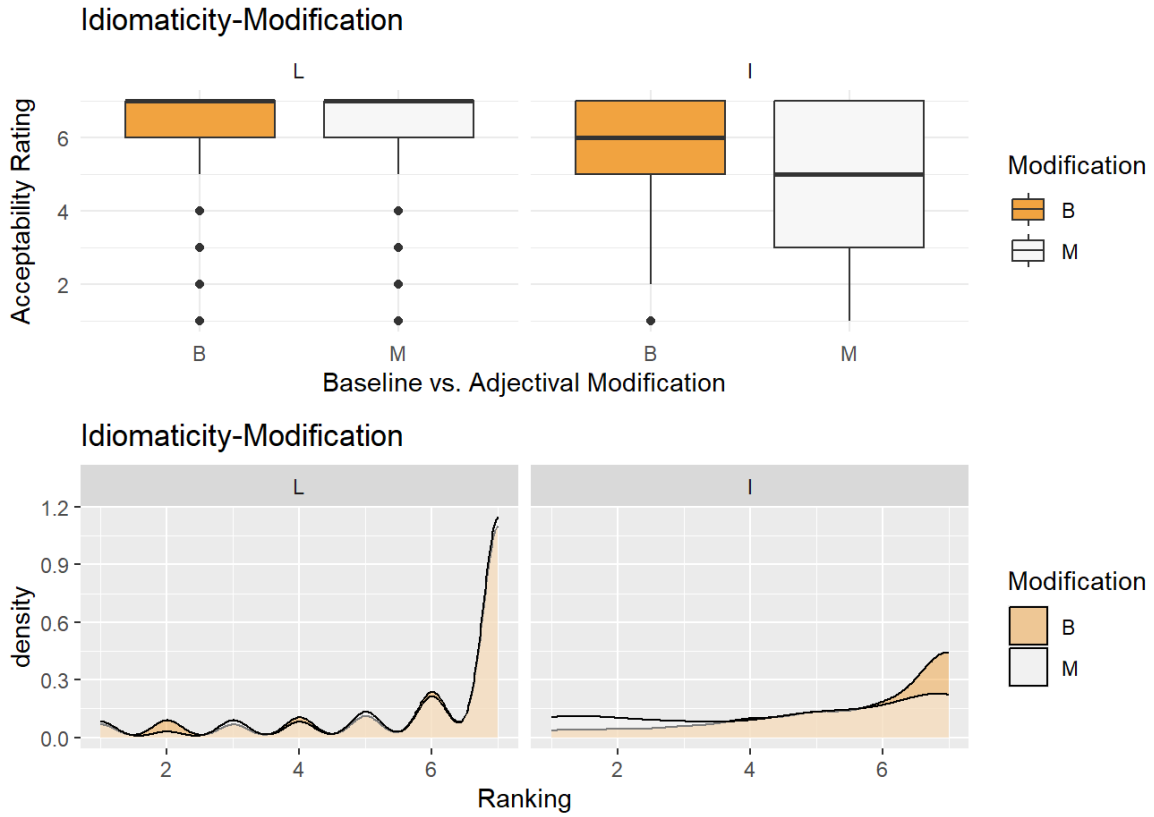


Figure 6: Box plots and density plots portraying the interaction between Type of Meaning (literal vs. idiomatic) and Type of Structure (baseline vs. modified) in Experiment 3.

Contrast	β	SE	z	*p*
TypeOfIdiom	0.59	0.13	4.58	<0.001***
TypeOfMeaning	0.60	0.13	4.64	<0.001***
TypeOfStructure	0.22	0.13	1.71	0.0881
TypeOfIdiom:TypeOfMeaning	-0.11	0.13	-0.82	0.4139
TypeOfIdiom:TypeOfStructure	-0.087	0.13	-0.68	0.4994
TypeOfMeaning:TypeOfStructure	-0.27	0.13	-2.08	0.0377*
TypeOfIdiom:TypeOfMeaning:TypeOfStructure	0.12	0.13	0.97	0.3333

Table 5: Summary of cumulative link mixed model statistical results for Experiment 3.

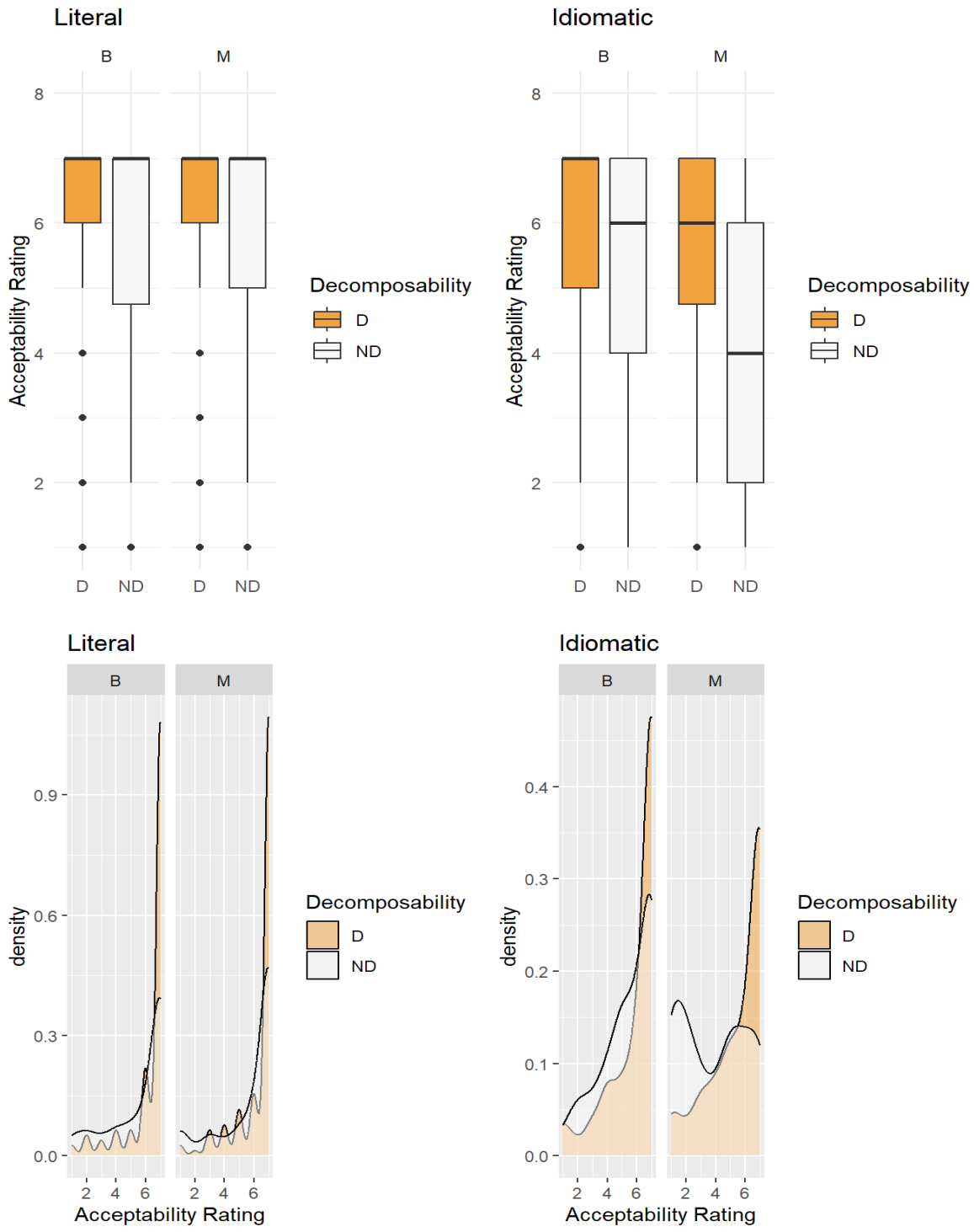


Figure 7: Box plots and density plots portraying the acceptability results of Experiment 3, split by the three experimental factors: Type of Meaning (literal vs. idiomatic), Type of Idiom (decomposable vs. non-decomposable), and Type of Structure (baseline vs. modified).

To ensure that the ratings of the phrases in literal contexts did not somehow confound our results, we also examined the idiomatic contexts in isolation (i.e., Type of Meaning = Idiomatic), but still found no significant interaction between Type of Idiom (decomposable vs. non-decomposable) and Type of Structure (baseline vs. modified), as can be seen in **Table 6**.

Contrast	β	SE	z	*p*
TypeOfIdiom	0.70	0.16	4.41	<0.001***
TypeOfStructure	0.50	0.16	3.17	0.0015**
TypeOfIdiom:TypeOfStructure	-0.21	0.16	-1.36	0.34

Table 6: Summary of cumulative link mixed model statistical results for Experiment 3 for idiomatic contexts only.

3.4.4 Discussion

As can be seen in **Tables 5 & 6** and in **Figure 7**, the effect of Type of Idiom (decomposable vs. non-decomposable) was not found to be significantly larger under adjectival modification than in baseline structure, such that the effect could not be attributed to the syntactic inflexibility of non-decomposable idioms (i.e. to their difficulty to undergo adjectival modification) as compared to decomposable idioms. Thus, this experiment did not provide evidence that non-decomposable idioms are less inclined to adjectival modification than decomposable idioms, but only that they are judged as less acceptable overall

As in Experiment 1 (and contra Experiment 2), the effect of Type of Idiom (decomposable vs. non-decomposable) was not found to be significantly larger in idiomatic contexts than in literal contexts; that is, non-decomposable idioms were found to be less acceptable than decomposable idioms not only in idiomatic contexts, but also in literal ones.

These results largely mirror those of the previous two experiments (pronominalization and fronting), except for the significant interaction between Type of Meaning and Type of Structure, which was not found in either of the two previous experiments.

4. General Discussion

4.1 Summary of Experimental Findings

Experiments 1-3 tested the effects of decomposability and idiomaticity on three different syntactic operations: Pronominalization, Fronting, and Adjectival Modification. The results of these experiments were as follows:

(i) In all three experiments, **idiomatic phrases were judged to be significantly less acceptable overall than literal phrases**.

(ii) In all three experiments, **non-decomposable idioms were judged to be significantly less acceptable overall than decomposable idioms**.

(iii) The difference in acceptability between decomposable and non-decomposable idioms was not found to be significantly larger under any of the syntactic operations as compared to in

canonical form, that is, **none of the experiments provided evidence that non-decomposable idioms are less syntactically flexible than decomposable idioms in Hebrew**, but only that they are less acceptable overall. This pattern persisted when examining only idiomatic contexts in isolation, ensuring that possible issues with our literal experimental sentences were not the cause of this lack of interaction.

(iv) The difference in acceptability between idioms and literal phrases was found to be significantly larger under adjectival modification than in canonical form (though the effect was relatively weak), but this was not the case for pronominalization or fronting; that is, **our experiments provided evidence that idioms are less syntactically flexible than literal phrases in Hebrew in terms of adjectival modification, but not in terms of pronominalization or fronting**.

(vi) In Experiments 1 and 3, the difference in acceptability between decomposable and non-decomposable idioms was not found to be significantly larger in idiomatic contexts than in literal contexts, that is, **phrases whose idiomatic meaning is non-decomposable were found to be less acceptable than phrases whose idiomatic meaning is decomposable not only in idiomatic contexts, but also in literal contexts**. In Experiment 2, this was found to be the case only in idiomatic contexts, as expected.

4.2 Discussion and Interpretation

We start with the more general implications of our experimental results. First, our results strongly reinforce the importance of assessing the syntactic flexibility of idioms against a canonical baseline, as well as against a literal baseline. Had such baselines not been included in our study, we could have inferred that idioms are significantly less syntactically flexible than non-idioms, and that non-decomposable idioms are significantly less syntactically flexible than decomposable idioms in Hebrew, across all tested operations. Including these baselines allowed us to detect that the drop in acceptability between idioms and non-idioms for two of the tested operations, and between decomposable and non-decomposable idioms for all of the tested operations, was present regardless of syntactic modification, and thus should not so readily be attributed to syntactic inflexibility. These findings cast some doubt on the results of previous experiments which did not include such baselines, or at least on their interpretation, and suggest that they should perhaps be revisited.

Second, while we did not find decomposability to be significantly correlated to syntactic flexibility as predicted, it is also not the case that the distinction between decomposable and

non-decomposable idioms was found to be irrelevant. Our improved decomposability classification task showed that it is generally possible to classify at least a subsection of idioms according to their decomposability (or lack thereof), and our experimental results showed that this classification is relevant to overall acceptability. As for idioms which were not straightforwardly classified into either category, their behavior might be a subject of interest for future research.

Third, our results seem to reinforce the notion, put forth by Tabossi et al. (2009) and Wierzba et al. (2023a), that providing a suitable pragmatic context for idioms can improve their acceptability (both generally, and specifically under modification) and ensure that it is not underestimated due to lack of pragmatic motivation for the use of a given idiom or syntactic structure. This is reflected in the relatively high overall acceptability ratings received by both decomposable and non-decomposable idioms in both baseline and pronominalized constructions, across all three tested operations – as can be seen in **Table 4**. That being said, we did not compare our experimental sentences, which included a discourse context, to ones with a minimal context (as in Tabossi et al. 2009), nor did we compare different types of discourse contexts (as in Wierzba et al. 2023a), and hence this only a rather general observation. Assuming however that suitable discourse contexts are part and parcel of natural language use and comprehension, this may imply that previous experiments which did not provide sufficient contexts could have potentially overstated the effects of idiomaticity and syntactic flexibility (as for decomposability, we see no reason to believe that decomposable idioms and non-decomposable idioms should be dissimilarly affected in this regard).

Condition	Experiment 1		Experiment 2		Experiment 3	
	M	**SD**	**M**	**SD**	**M**	**SD**
DLB	6.06	1.66	5.76	1.80	6.28	1.42
DLM	5.70	1.52	5.35	1.79	6.29	1.36
DIB	5.72	1.64	5.85	1.44	5.94	1.65
DIM	5.06	1.78	5.05	1.99	5.53	1.85
NDLB	5.59	1.83	5.82	1.69	5.60	1.94
NDLM	5.37	1.80	5.31	2.00	5.78	1.90
NDIB	5.03	1.90	5.09	2.06	5.35	1.76
NDIM	4.02	1.90	4.15	2.06	3.85	2.23

Table 4: Means and Standard Deviations by Condition for each of the three experiments, with conditions split into D=Decomposable and ND=Non-Decomposable, L=Literal and I=Idiomatic, and B=Baseline and M=Modified.

In addition to these general implications, our experimental results also give rise to several questions, which we will try to address in order:

(i) Why are idiomatic phrases less acceptable than literal phrases in general, that is, not only under syntactic manipulation, but also in canonical form?

One possible answer is that it is not their syntactic inflexibility, but rather some other characteristic property of idioms, that renders them generally less acceptable than literal phrases. Informality, for example – that is, the fact that idioms are normally associated with more colloquial registers (as noted, e.g., by Nunberg et al. 1994) – could potentially hinder the perception of their acceptability by experiment participants. Alternatively, the more specific and nuanced nature of idiomatic expressions as compared to literal phrases may render it more difficult to provide them with fully suitable pragmatic contexts within the framework of a structured experiment (despite our efforts to construct as appropriate discourse contexts as possible). Vega-Moreno (2002), for example, attributes the deficiency of idiom paraphrases to the fact that idioms often encode more complex information (such as manner, attitude, etc.) which their so-called literal parallels do not. This notion received some support in the last part of our decomposability classification task, where participants were asked to explain the meaning of idioms in their own words. Their aggregated responses suggest that idioms do in fact incorporate rather specific implications, to do with their proverbiality and their affective stance. For example, the decomposable idiom *salal et ha-derex* (lit. 'pave the way', fig. 'create the conditions') was argued to entail not just that conditions are created for something, but also that the act of creating is a pioneering one ("the first to do so") and that the conditions created are of a positive nature; meanwhile, the non-decomposable idiom *kipel et ha-zanav* (lit. 'fold the tail', fig. 'back down') was argued to entail not just retreat, but such that necessarily involves fear, humiliation and shame.

(ii) Why are non-decomposable idioms less acceptable than decomposable idioms in general, that is, not only under syntactic manipulation, but also in canonical form?

Though the experimental setup was slightly different, a significant effect of decomposability in canonical baseline was also found by Wierzba et al. (2023b) for English. When speculating on the reasons behind the emergence of such an effect, Wierzba et al. suggest that it may have been the result of differences in the familiarity of the decomposable and non-decomposable idioms examined. However, as in the current study we controlled for the familiarity of the two idiom groups, this explanation is called into question. An alternative explanation could be that the non-compositional nature of non-decomposable idioms renders them less acceptable than decomposable idioms in some fundamental way – that is, perhaps because linguistic computation is by and large compositional, non-compositional phrases could be deemed less

acceptable because they do not follow the "standard" process of interpretation. Nunberg et al. note that "to the extent that compositional semantic analysis of an idiomatic expression is possible, a lexical analysis, i.e. an analysis that posits interpretationally independent words combining by general syntactic principles, is to be preferred"(508). The slower processing times of non-decomposable idioms as compared to decomposable idioms (as found, e.g., by Gibbs & Nayak 1989) could perhaps be another indicator of this fundamental difference (though processing speed and acceptability do not necessarily have to be correlated).

(iii) Why were non-decomposable idioms not found to be less syntactically flexible than decomposable idioms for any of the tested operations?

As aforementioned, one of the reasons for this lack of interaction was that non-decomposable idioms were found to be less acceptable than decomposable idioms not only under syntactic manipulation, but also in canonical form. However, even if non-decomposable idioms are for some reason generally less acceptable than decomposable idioms, one would still expect syntactic modification to have a further effect on acceptability which is significantly larger for non-decomposable idioms than for decomposable idioms, assuming that the syntactic modifications in question impose semantic restrictions on idiom constituents, and that non-decomposable idioms violate these restrictions, as their constituents have no independent reference.

The first possible explanation is, of course, that the absence of an effect could be down to methodological limitations in our study leading to a Type II error; that is, that we were unable to detect the effect of decomposability on syntactic flexibility despite its existence. The fact that the gap between idioms in baseline and modified form was in fact found to be larger for non-decomposable idioms than for decomposable idioms across all three operations, just not in a statistically significant way, could perhaps point in this direction. In order to assess this possibility, further research is necessary which would either provide greater statistical power[6], or improve on the experimental setup (e.g., by attempting to homogenize the set of examined idioms along further dimensions, such as informality or transparency; by pretesting discourse context effects; etc.). However, the fact that the absence of an effect was also found in previous experiments in other languages (e.g., Wierzba et al. 2023a,b for English; Tabossi et al. 2008

[6] A significant (though weak) three-way interaction was in fact found in a post-hoc analysis of all three experiments combined. For details on these results and their tentative implications, see https://doi.org/10.16995/glossa.23489 (footnote added December 2025).

for Italian) suggests that perhaps the syntactic inflexibility of non-decomposable idioms is a less robust cross-linguistic finding than predicted.

Assuming then that our results do indicate that non-decomposable idioms are not significantly less syntactically flexible than decomposable idioms (or at the very least are far more syntactically flexible than predicted by the theories under examination), the question of how it is possible for non-decomposable idioms to be interpreted under syntactic modification needs to be addressed.

One possible answer is that the syntactic operations we examined are not as semantically restrictive on idioms as we predicted. Certain languages, for example, have been argued to allow for a form of object fronting termed *pars pro toto fronting*, where though only a chunk of the phrase is syntactically fronted, it is in fact the entire phrase that is semantically topicalized or emphasized (e.g., Fanselow 2004 for German). Such fronting may be expected to be compatible with non-decomposable idioms, as the fronted constituent fulfills no discourse-semantic function in and of itself, and thus no semantic restrictions are expected to apply to it. If it can be shown that Hebrew allows for pars pro toto fronting in general, that is, that other non-referential constituents can be fronted in the same manner, it could potentially explain why non-decomposable idioms are able to undergo fronting. Alternatively, it could perhaps be the case that non-decomposable idioms are able to "coerce" a pars pro toto fronting reading by virtue of their phrasal meaning – that is, the fact that a fronted non-decomposable idiom chunk is not an individually meaningful yet non-referential constituent, but rather an individually meaningless constituent which can only be interpreted as part of a verb phrase, may facilitate a pars pro toto reading of fronting as a sort of last resort interpretation mechanism.

Similarly, for adjectival modification, while we attempted to construct experimental sentences which involved internal modification (ruling out the possibility of external modification by avoiding adverbial paraphrasability), and thus expected non-decomposable idioms to be significantly less acceptable than decomposable ones, it is possible that some form of external modification could still be achieved. Ernst (1981), though he adverbially paraphrases the external modifiers he lists in his paper, in practice defines external modification more broadly as "domain delimitation", that is, modification that specifies the domain to which the idiom is to apply. To take an example from our experimental set, for the non-decomposable idiom *axal et ha-kova* (lit. 'eat the hat', fig. 'admit one's mistake'), if a company's forecasts were proven wrong and it is said to "eat the technological hat", while this cannot be paraphrased as

"technologically, eat the hat", it can still potentially have the interpretation "in the technological domain, eat the hat". Such a definition of external modification is, however, overwhelmingly broad, and imposes virtually no restrictions on idiom modification (Ernst himself concedes that "almost anything can be put in the position modifying the noun if, in context, it defines a domain" (62)). Moreover, while external modification which is adverbially paraphrasable is also found in non-idiomatic contexts (e.g., 'an occasional sailor passed by' ~ 'occasionally, a sailor passed by', 'drink a quick cup of coffee' ~ 'quickly, drink a cup of coffee'), more general domain delimitation, if applicable, seems to be unique to idioms (or alternatively redundant, as argued by Ernst, as it is often "cognitively synonymous" with internal modification in cases where the latter is possible).

As for pronominalization, pronouns by definition must receive their interpretation from a relevant DP antecedent. The question then is, how can non-decomposable idiom chunks serve as antecedents for pronouns, considering they have no independent reference or meaning? One possible answer is that the figurative level of meaning, which exists for idioms but not for literal phrases, could potentially facilitate idiom interpretation despite semantic restrictions on constituents seemingly not being met. That is, one could conceive of the following stages of semantic computation: first, co-reference between an antecedent idiom chunk and the relevant pronoun is determined, as it is for literal phrases (e.g., under identity). For a non-referential antecedent, co-reference with the pronoun should result in a semantic mismatch, as the pronoun requires its denotation to be referential. For a literal chunk, there is no way to resolve this mismatch, as all interpretation mechanisms have been exhausted; but for a non-decomposable idiom chunk, the semantic mismatch could potentially be circumvented by the overall figurative meaning of the idiom – that is, the co-occurrence of idiom chunks in the proper configuration (albeit one of them through co-reference) could nonetheless allow for the interpretation of the full non-decomposable idiom meaning to emerge. If this is indeed the case, it would perhaps be interesting to try and compare in future research pronominalization of the kind we assessed here, where the relevant pronoun is found within the environment of its neighboring idiom chunks (e.g. 'He thought he'd missed the boat, but he didn't miss it') with pronominalization where it is not (e.g. 'After missing the boat again, he decided to give it up completely').

Regardless, our results seem to point in the direction that non-decomposable idioms should not be treated as frozen or inflexible entities, and that any representation of both decomposable and

non-decomposable idioms should generally allow for their syntactic flexibility. We return to the implications of this on idiom storage and representation in the following section.

(iv) Why were idiomatic phrases not deemed less syntactically flexible than literal phrases for pronominalization and fronting, but were for adjectival modification?

The fact that for two of the syntactic modifications we assessed, idioms were not found to be significantly less syntactically flexible than literal phrases, seems to suggest, again, that idioms should generally be afforded syntactic flexibility. These results also largely mirror those of Wierzba et al. (2023b) for English, who only found a larger contrast between idioms and non-idioms than in canonical form for a few of their tested operations (excluding pronominalization, for example).

The fact that idioms were found to be less syntactically flexible than literal phrases for adjectival modification specifically could perhaps suggest that lexical insertion-type modifications are more restrictive for idioms – potentially because, contra co-reference or movement-type operations, they intervene between idiom constituents upon entering the derivation (assuming adjectives are not introduced counter-cyclically via Adjoin-like operations), which could potentially complicate their interpretation both under componential storage assumptions (interfering with co-occurrence relations) and under full idiom storage assumptions (as the adjective is not present in the idiom's lexical entry).

(vi) Why were non-decomposable idioms found to be less acceptable than decomposable idioms not only in idiomatic contexts, but also in literal contexts?

There are several possible explanations for this rather puzzling finding. First, there was a specific non-decomposable idiom, namely *pašat et ha-regel* (lit. 'stretch the leg', fig. 'go bankrupt'), which consistently received low ratings in literal contexts, most likely due to the fact that its literal use is of a rather high register, which was deemed unnatural by some experiment participants. Exclusion of the two relevant experimental items from our analysis did in fact render the gap between decomposable and non-decomposable idioms much smaller in literal contexts, though the interaction between idiomaticity and decomposability remained insignificant (despite a much improved p-value). Future research which opts to utilize idioms with a literal reading might thus consider controlling for the naturality of literal uses.

Second, because the majority of the non-decomposable idioms in our experimental set involved direct objects which are inalienable possessions (i.e., body parts), these may have been less amenable to certain syntactic operations than to others. Thus, for example, for a phrase like

daxaf et ha-af (lit. 'push the nose', fig. 'interfere'), the fact that one has only one nose may make it more difficult to modify it through use of a restrictive adjective (though effort was made to construct contexts where such restriction was nonetheless plausible). Similarly, the fact that one's nose is an inalienable possession may make it less natural to refer to it using a pronoun in contrastive contexts where two separate entities are juxtaposed (e.g., 'X didn't push the nose, Y pushed it'); while this was not the case in most of our experimental sets, 3 of the 8 sets did include such contexts, which we originally deemed acceptable. Removing the three relevant items, in addition to the items involving *pašat et ha-regel*, rendered the interaction between idiomaticity and decomposability significant. Fronting, on the other hand, may not raise any special issues for inalienable possession DPs – which could explain why non-decomposable idioms were not judged less acceptable than decomposable idioms in literal contexts in Experiment 2, but were in Experiments 1 and 3.

4.3 Implications for Idiom Storage and Representation

While it is beyond the scope of this paper to go into the finer details of the various theories of idiom storage and representation that have been suggested throughout the linguistic years within generative grammar, these can generally be classified into several groups, which we will try to broadly address in terms of their overall compatibility with our results. As briefly outlined in the introduction, these differ along the dimensions of componential vs. full idiom storage, as well as pre-syntactic vs. post-syntactic lexical insertion.

First, as our results support the notion that idioms in general, and non-decomposable idioms in particular, should not be treated as syntactically inflexible entities, what seems to be clear from the offset is that representing idioms as units or constructions which enter the syntactic derivation with their parts inaccessible is not advisable. Thus, for example, representational theories like that put forth by Nunberg et al., which suggest that decomposable idioms and non-decomposable idioms warrant fundamentally different modes of storage – the former consisting of separate lexical items which combine like standard compositional phrases, and the latter consisting of holistic constructions which enter the derivation – do not seem justified. Such a representation is meant to explain "the strong correlation between semantic analyzability and 'transformational productivity'"(508), and this correlation does not seem to be borne out to the extent suggested.

As for theories which purport that all idioms (or at least all phrasal idioms, as in Horvath & Siloni 2019) should be componentially stored, these seem better equipped to account for the

general syntactic flexibility of non-decomposable idioms (and of idioms in general) supported by our study. Under such theories, idiomatic meaning is argued to be listed under the parts of the idiom for non-decomposable idioms, as well as for decomposable idioms. An example of one such possible formulation (taken from Everaert 2010) for the non-decomposable idiom *kick the bucket* is shown in (5), according to which *kick* can be associated with the figurative meaning 'die', provided *bucket* serves as its object under a null interpretation, and vice versa. Without going into the argument of whether the co-occurrence restrictions necessitated by such theories should involve semantic, syntactic or lexical selection, the fact that the parts of non-decomposable idioms are generally accessible for syntactic manipulation (and thus can in theory be moved, referred to, or modified by an adjective, all things being equal) seems to be more in line with our experimental results.

(5)
a. *kick*$_1$ MEANING: 'kick'
SYNTAX: [- (NP)]
b. *kick*$_2$ MEANING: 'die'
SYNTAX: [- *the bucket*$_2$]
a. *bucket*$_1$ MEANING: 'bucket'
SYNTAX: -
b. *bucket*$_2$ MEANING: -
SYNTAX: [*kick*$_2$ -]

As for explaining why non-decomposable idioms were found to be generally less acceptable than decomposable idioms, it could potentially be argued under such theories that the composition of a verb with a null-meaning object (or with a redundant object, as in Bargmann & Sailer 2016) is unnatural (as noted by Everaert 2010) and hence less acceptable. This is in effect another way of saying that non-decomposable idioms could be generally less acceptable than decomposable idioms because their non-compositional nature is in some ways deviant. As for why idioms should be generally less acceptable than literal phrases, these theories do not seem to provide any further natural explanation, as figurative subsenses are listed on a par with literal subsenses, and thus do not seem to differ from them in any fundamental way (unless listed meanings are somehow ordered).

The fact that associations between the literal and figurative levels of meaning of idioms do not seem to be directly encoded in such theories could also potentially raise some issues with regards to operations which presumably involve both levels. Conjunction modification, for example, requires access to both the literal denotation of the modified chunk as well as the

idiomatic denotation of the entire phrase (as briefly outlined in section 3.4). Though we did not examine such modification in the current study, the fact that it could have implications for idiom representation might warrant assessing its acceptability in future research. Similarly, determining whether a certain adjective fits into the metaphorical association schema of an idiom could also require access to both the literal and figurative meanings of idiom constituents; to return to the example briefly outlined in section 3.4, in order to determine that "spill the *big* beans" is unacceptable, it is presumably not enough to assess only the idiomatic denotation of *beans* (as 'secret' can in fact be modified by 'big'), but also its literal denotation and the relation between the two denotations (though this could arguably be treated pragmatically rather than semantically). Componential storage theories may still be able to deal with such issues, though it may warrant a more complex representation of the way meaning is encoded in lexical items than merely listing literal and figurative meanings on a par.

So far we have addressed lexicalist approaches, that is, approaches where lexical insertion is thought to be pre-syntactic (i.e., lexical items, which encode, among others, semantic information, serve as input to the derivation). Non-lexicalist theories, such as Distributed Morphology (e.g., Marantz 1997, Harley 2014), on the other hand, assume late insertion – that is, what enters the derivation are not lexical items, but rather 'roots', which encode morphosyntactic features but not semantic (or phonological) information. These roots receive their semantic interpretation post-syntactically via what is termed the Encyclopedia, which lists the conventional (or "non-compositional") meanings of roots relative to their syntactic context. As all meaning interpretation is argued to be conventional and contextual, and as the meaning of units which span the sub-word, word and phrase levels are interpreted in a similar fashion (thus blurring the bifurcation between words and phrases), such theories are often argued to be especially suitable for accounting for idioms and their behavior.

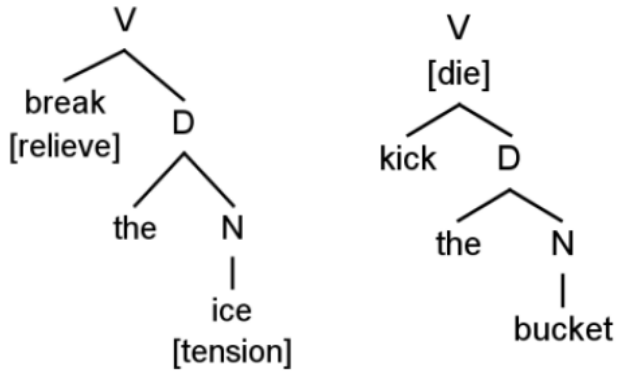
Setting aside the fundamental theoretical arguments between lexicalist and non-lexicalist frameworks, Distributed Morphology also seems to be generally equipped to account for the general syntactic flexibility of idioms (and specifically non-decomposable idioms), as all phrases are built derivationally (albeit by roots) and hence their parts are generally accessible for syntactic operations. Post-syntactically, DM theories must also specify the context under which idiom parts receive their figurative interpretation (which can be achieved in a way that is not fundamentally different from the co-occurrence restrictions detailed in (5), through what is often termed "contextual allosemy"). Thus, as in lexicalist componential-storage theories of idioms, so long as the parts making up the idiom can be found in the relevant context at LF,

the figurative interpretation of idioms should generally be accessible regardless of syntactic manipulation; meanwhile, additional semantic restrictions on idiom chunks in specific configurations could be similarly imposed and assessed at the interfaces.

Seeing however as all meaning is argued to be conventional and contextual, such theories do not provide any further natural explanation as to what should render idioms generally less acceptable than literal phrases, as there is in essence no fundamental difference between literal and figurative meaning; or what, for that matter, should render non-decomposable idioms generally less acceptable than decomposable idioms, considering all information listed in the Encyclopedia is "non-compositional". Finally, as DM theories too do not seem to encode the association between literal and figurative meaning levels in any direct way, they may also run into issues regarding operations which target both levels and the relation between them.

The final theory of idiom storage and representation we would like to address is that put forth by Nediger (2017), which is in many ways a hybrid theory: while it adopts the basic assumptions of lexicalism under a minimalist framework, it incorporates elements of late insertion specifically for idiomatic phrases. According to the proposed architecture, idioms are first built derivationally (using standard minimalist operations), as are literal phrases. The figurative meaning of idioms, however, is not listed under the lexical items which make them up, but rather is stored as separate lexical entries, which cannot serve as input to merge. These constitute syntactic structures (which also encode phonological and semantic information) that are matched post-syntactically with the derivationally built structure through an "identity-like" mechanism to allow for idiomatic interpretation (in addition to the literal interpretation attained through standard composition). As for decomposable and non-decomposable idioms, these do not fundamentally differ in terms of their modes of storage, but only in the way their figurative meaning is associated with the structure – for the former it is associated with the parts of the structure, whereas for the latter it is associated with the structure as a whole, as shown in (6) for the decomposable idiom *break the ice* and the non-decomposable idiom *kick the bucket*.

(6)



As no fundamental distinction between decomposable and non-decomposable idiom storage is assumed, and as the parts of idioms are generally accessible to syntactic manipulation in light of the fact that idioms are first built derivationally, Nediger's architecture also seems to be generally compatible with our experimental results regarding the general flexibility of idioms and non-decomposable idioms in particular (so long as figurative meaning can be matched at Spell-Out).

Meanwhile, while the previous two theories discussed list figurative meanings on a par with literal meanings (whether pre- or post-syntactically), Nediger's theory posits a fundamental difference between literal and idiomatic meaning interpretation (albeit at the price of enriching the lexicon with another type of lexical entity). This could potentially afford an explanation as to the general difference between idiomatic phrases and literal phrases, as well as account for operations which target both levels of meaning or the relation between them (seeing as both levels "co-exist"). The theory does not however provide any natural explanation as to why non-decomposable idioms should be generally less acceptable than decomposable idioms, seeing as both idiom types are composed derivationally in a similar manner, and attain figurative meaning through the same matching mechanism (that is, no irregular form of composition is employed for non-decomposable idioms as compared to decomposable idioms).

5. Conclusion

The current study aimed to carry out a systematic examination of the relationship between the decomposability and the syntactic flexibility of Hebrew idioms, building on previous studies in other languages. A set of 16 Hebrew VP-idioms which allow for both a literal and figurative reading, 8 decomposable and 8 non-decomposable, were selected following an improved decomposability classification task. In a series of three acceptability rating experiments, the effect of decomposability on three operations involving different mechanisms of syntactic

modification, namely Pronominalization, Fronting, and Adjectival Modification, was assessed. In each experiment, decomposable and non-decomposable idioms were paired and arranged into experimental sets in which each idiom appeared once in its canonical form and once under the relevant syntactic manipulation, once in a literal context and once in an idiomatic context. In order to control for possible confounding factors, effort was made to ensure that the sentences in each set were identically structured, with a preceding discourse context detailing the intended interpretation (literal/figurative), as well as ensuring that the use of the relevant idiom and syntactic operation were pragmatically warranted.

The results of our experiments showed that while non-decomposable were in fact deemed to be significantly less acceptable than decomposable idioms overall, this effect could not be attributed to their syntactic inflexibility – that is, non-decomposable idioms were found to be less acceptable than decomposable idioms not only under syntactic manipulation but also in canonical form, and the gap in the former was not found to be significantly larger than in the latter. Similarly, while idiomatic phrases were deemed to be significantly less acceptable than literal phrases overall, the effect could not be attributed to the syntactic inflexibility of idioms – that is, idioms were found to be less acceptable than literal phrases not only under syntactic manipulation, but also in canonical form – except for adjectival modification, for which idioms were found to be less acceptable than literal phrases only when syntactically modified.

These results, we argued, do not support the claim that non-decomposable idioms should be represented as fundamentally inflexible phrasal entities, whereas decomposable idioms should be represented as normally compositional phrases (as suggested by Nunberg et al. 1994). As for the claim that what accounts for the syntactic inflexibility of non-decomposable idioms is semantic restrictions imposed on its constituents, our results suggest that either said restrictions are not as constraining as predicted (at least in Hebrew), or that non-decomposable idioms are somehow able to "circumvent" these restrictions by virtue of their phrasal meaning. These results, we argued, could potentially be compatible with both lexicalist theories that claim idiomatic meaning to be componentially stored for all idioms, late insertion theories which claim all lexical interpretation to be post-syntactic and contextual, and hybrid theories which claim literal meaning to be derivational and compositional and idiomatic meaning to be post-syntactically matched. The latter theories, we argued, may be better equipped at handling phenomena which target both literal and figurative meaning levels, albeit at the price of enriching the lexicon. The fact that they stipulate fundamentally different modes of interpretation for literal and idiomatic phrases could also potentially have the advantage of

explaining why idioms differ from literal phrases in general, though other, more general idiom properties, such as informality and nuanced meaning, were suggested as alternative explanations.

The current study offers several directions for future research. First, and perhaps most evidently, it would be valuable to expand the list of syntactic operations assessed in order to see if the findings of our experiments (namely, that the reduced acceptability of non-decomposable idioms cannot be easily attributed to their syntactic inflexibility) holds for other syntactic operations as well. This could potentially include operations such as passivization (provided only idioms consisting of verbs with a passive form are selected), nominalization (which arguably involves a different mechanism of modification than the ones assessed), adverbial modification (which may potentially target the entire verb phrase), and relativization. Comparing pronominalization in which the pronoun is found in the environment of its neighboring idiom chunks with pronominalization where it is not may also be of value in order to assess if and how non-decomposable idioms are able to bypass semantic restrictions presumably imposed by pronominalization, as argued in section 4.2; meanwhile, assessing the acceptability of idioms under conjunction modification may also be worthwhile, as it could potentially have implications for idiom storage and representation by virtue of its access to both literal and figurative meaning levels, as argued in section 4.3.

Second, the set of idioms assessed could itself be expanded to include more complex structures other than VP-idioms including a definite direct object – whether to VP-idioms including indefinite direct objects, prepositional complements, or more than one complement; or to clausal idioms, which have been argued to be stored as holistic units on independent grounds (Horvath & Siloni 2019), and hence may be predicted to exhibit significantly less syntactic flexibility.

Third, the results of our study, when compared to those of Wierzba et al. 2023b (methodological differences aside), seem to suggest that Hebrew may pattern more similarly to English (in terms of non-decomposable idioms being less acceptable than decomposable idioms in canonical form as well as under syntactic manipulation) than to German (where this was found to be the case only under syntactic manipulation). Some authors, such as Bargmann & Sailer (2018), have argued that the semantic restrictions imposed by various syntactic operations are highly language specific. Thus, future research, whether it be theoretical or experimental, may wish to assess this notion more directly, either through more thorough

examination of the semantic restrictions imposed by certain syntactic operations in a specific language and their relation to syntactic flexibility, or through comparison of the behavior of parallel idioms in different languages thought to also differ in terms of the semantic restrictions imposed in them.

Fourth, there are many other properties relevant to idioms which could either be controlled for in future research, or assessed as possible factors affecting the behavior of idioms. These include informality, which we have argued could potentially explain why idioms are deemed generally less acceptable than literal phrases; transparency (namely, how evident the relationship between an idiom's literal and figurative meaning is), which some authors (e.g. Sheinfux et al. 2019) have argued could be an alternative property relevant to syntactic flexibility (though most of our idioms, both decomposable and non-decomposable, were arguably transparent); and more methodical pretesting of discourse contexts.

Finally, it may be interesting to try and compare the behavior of VP-idioms to that of verb phrases in which the verb receives metaphorical interpretation in context, but which are not thought to constitute phrasal idioms (e.g., "kill an afternoon", "drink him with her eyes"), in order to try and dissect the different ways in which figurative meaning can be associated with literal constituents (presumably, contextual accommodation vs. listing) and its implications, beyond the decomposable/non-decomposable distinction.

Appendix

A: List of idioms used in the experiments

	Verb Phrase	Literal Meaning	Figurative Meaning
Idioms classified as Decomposable			
1.	kataf et ha-perot	'pick the fruits'	~'reap the rewards'
2.	ixer et ha-rakevet	'miss the train'	~'miss the opportunity'
3.	hetil et ha-pcaca	'drop the bomb'	~'announce something shocking'
4.	šavar et ha-kerax	'break the ice'	~'mitigate the tension'
5.	pirek et ha-xavila	'dismantle the package'	~'end the relationship'
6.	hetir et ha-resen	'loosen the bridle'	~'give free rein'
7.	kara et ha-mapa	'read the map'	~'understand the situation'
8.	salal et ha-derex	'pave the way'	~'create the conditions'
Idioms classified as Non-Decomposable			
1.	axal et ha-kova	'eat the hat'	~'admit one's mistake'
2.	hesir et ha-kfafot	'remove the gloves'	~'prepare to fight'
3.	kipel et ha-zanav	'fold the tail'	~'back down'
4.	hidek et ha-xagura	'tighten the belt'	~'cut down on expenses'
5.	pašat et ha-regel	'stretch the leg'	~'go bankrupt'
6.	herim et ha-af	'lift the nose'	~'condescend'
7.	daxaf et ha-af	'push the nose'	~'interfere'
8.	šavar et ha-šinayim	'break the teeth'	~'struggle to speak' (in foreign lang.)

B: Experiment 1 - Materials

Experimental sets:

(1)

Decomposable	kataf et ha-perot (lit. 'pick the fruits', fig. 'reap the rewards')
context	*כשהגעתי למטע הופתעתי לגלות שכל הפירות עדיין על העצים.*
a. lit. baseline	הייתי בטוח שהעובד יקטוף את הפירות.
b. lit. modified	הייתי בטוח שהעובד יקטוף את הפירות אבל להפתעתי הוא לא קטף אותם.
context	*כשפגשתי את היזם הופתעתי לגלות שהפרויקט שהוא השקיע בו כל כך הרבה נכשל.*
c. id. baseline	הייתי בטוח שהיזם יקטוף את הפירות.
d. id. modified	הייתי בטוח שהיזם יקטוף את הפירות אבל להפתעתי הוא לא קטף אותם.
Non-Decomp.	axal et ha-kova (lit. 'eat the hat', fig. 'admit one's mistake')
context	*פיניתי את הארון בגלל בעיית עש אבל שכחתי בתוכו את הכובע.*
e. lit. baseline	הייתי בטוח שהעש יאכל את הכובע.
f. lit. modified	הייתי בטוח שהעש יאכל את הכובע אבל להפתעתי הוא לא אכל אותו.
context	*אתמול פגשתי את אחד המשקיעים שבחר בזמנו לא להשקיע בסטארט-אפ המוצלח שלנו.*
g. id. baseline	הייתי בטוח שהמשקיע יאכל את הכובע.
h. id. modified	הייתי בטוח שהמשקיע יאכל את הכובע אבל להפתעתי הוא לא אכל אותו.

(2)

Decomposable	ixer et ha-rakevet (lit. 'miss the train', fig. 'miss the opportunity')
context	*רוני שכח לשים שעון מעורר והרכבת שלו עמדה לצאת תוך חצי שעה.*
a. lit. baseline	הייתי בטוח שרוני יאחר את הרכבת.
b. lit. modified	הייתי בטוח שרוני יאחר את הרכבת אבל בסוף הוא לא איחר אותה.
context	*רשימת המועמדים עמדה להיסגר ומושקוביץ טרם הכריז על מועמדותו.*
c. id. baseline	הייתי בטוח שמושקוביץ יאחר את הרכבת.
d. id. modified	הייתי בטוח שמושקוביץ יאחר את הרכבת אבל בסוף הוא לא איחר אותה.
Non-Decomp.	herim et ha-af (lit. 'lift the nose', fig. 'condescend')
context	*ישבתי על המזח עם דג קטן ביד וחיכיתי להופעתו של הדולפין.*
e. lit. baseline	הייתי בטוח שהדולפין ירים את האף.
f. lit. modified	הייתי בטוח שהדולפין ירים את האף אבל בסוף הוא לא הרים אותו.
context	*פחדתי לבקש חתימה מהשחקן המפורסם.*
g. id. baseline	הייתי בטוח שהשחקן המפורסם ירים את האף.
h. id. modified	הייתי בטוח שהשחקן המפורסם ירים את האף אבל בסוף הוא לא הרים אותו.

(3)

Decomposable	hetil et ha-pcaca (lit. ‘drop the bomb’, fig. ‘announce smthng. shocking’)
context	*ארצות הברית הכריזה על השלמת פיתוחה של פצצה גרעינית חדשה בשם ארמגדון.*
a. lit. baseline	הרוסים חששו שארצות הברית עומדת להטיל את הפצצה.
b. lit. modified	הרוסים חששו שארצות הברית עומדת להטיל את הפצצה אבל בסוף היא לא הטילה אותה.
context	*נפוצו שמועות שראש הממשלה מתכונן להודיע על פרישתו בישיבת הממשלה הקרובה.*
c. id. baseline	השרים חששו שראש הממשלה עומד להטיל את הפצצה.
d. id. modified	השרים חששו שראש הממשלה עומד להטיל את הפצצה אבל בסוף הוא לא הטיל אותה.
Non-Decomp.	šavar et ha-šinayim (lit. ‘break the teeth’, fig. ‘struggle to speak’)
context	*לא היה לנערים פותחן אז עמית אמר שהוא יפתח את בקבוק הבירה עם הפה.*
e. lit. baseline	הנערים חששו שעמית עומד לשבור את השיניים.
f. lit. modified	הנערים חששו שעמית עומד לשבור את השיניים אבל בסוף הוא לא שבר אותן.
context	*לעמית היתה בחינה בעל-פה ברוסית והוא לא התכונן אליה.*
g. id. baseline	התלמידים חששו שעמית עומד לשבור את השיניים.
h. id. modified	התלמידים חששו שעמית עומד לשבור את השיניים אבל בסוף הוא לא שבר אותן.

(4)

Decomposable	hetir et ha-resen (lit. ‘loosen the bridle’, fig. ‘give free rein’)
context	*הסוס השתחרר מהכרכרה.*
a. lit. baseline	בעלי החווה טענו שהמשרתת התירה את הרסן.
b. lit. modified	בעלי החווה טענו שהמשרתת התירה את הרסן אבל מי שהתיר אותו זה הסייס.
context	*אנרכיה פשתה בממלכה.*
c. id. baseline	האזרחים טענו שהמלכה התירה את הרסן.
d. id. modified	האזרחים טענו שהמלכה התירה את הרסן אבל מי שהתיר אותו זה המושל.
Non-Decomp.	kipel et ha-zanav (lit. ‘fold the tail’, fig. ‘back down’)
context	*בתחרות הכלבים נדרשו הכלבים להישאר בזנב מורם.*
e. lit. baseline	השופטים טענו שכלבת הלברדור קיפלה את הזנב.
f. lit. modified	השופטים טענו שכלבת הלברדור קיפלה את הזנב אבל מי שקיפלה אותו זו כלבת הגולדן.
context	*המלחמה נגמרה בתבוסה.*
g. id. baseline	הפרשנים טענו שסין קיפלה את הזנב.
h. id. modified	הפרשנים טענו שסין קיפלה את הזנב אבל מי שקיפלה אותו זו רוסיה.

(5)

Decomposable	šavar et ha-kerax (lit. ‘break the ice’, fig. ‘mitigate the tension’)
context	*במהלך הסערה נערם קרח בכניסה לבית הספר.*
a. lit. baseline	אב הבית ניסה לשבור את הקרח עם גרזן.
b. lit. modified	אב הבית ניסה לשבור את הקרח עם גרזן אבל להפתעתו הוא לא הצליח לשבור אותו.
context	*המרואיין היה מלא ביטחון עצמי לקראת הריאיון הראשון שלו.*
c. id. baseline	המרואיין ניסה לשבור את הקרח עם בדיחה.
d. id. modified	המרואיין ניסה לשבור את הקרח עם בדיחה אבל להפתעתו הוא לא הצליח לשבור אותו.
Non-Decomp.	pašat et ha-regel (lit. ‘stretch the leg’, fig. ‘go bankrupt’)
context	*הפיזיותרפיסט ביקש מהמטופל לנסות להניע את הרגל.*
e. lit. baseline	המטופל ניסה לפשוט את הרגל לפנים.
f. lit. modified	המטופל ניסה לפשוט את הרגל לפנים אבל להפתעתו הוא לא הצליח לפשוט אותה.
context	*ההשקעות של היזם התגלו ככישלון.*
g. id. baseline	היזם פחד לפשוט את הרגל בבושת פנים.
h. id. modified	היזם פחד לפשוט את הרגל בבושת פנים אבל להפתעתו הוא לא נדרש לפשוט אותה.

(6)

Decomposable	kara et ha-mapa (lit. ‘read the map’, fig. ‘understand the situation’)
context	*מסע הניווט עבר בהצלחה.*
a. lit. baseline	הטירונים היטיבו לקרוא את המפה.
b. lit. modified	הטירונים לא היטיבו לקרוא את המפה – מי שהיטיבו לקרוא אותה זה המפקדים.
context	*הסוגייה המרכזית שהעסיקה את הציבור האמריקאי היתה המצב הכלכלי.*
c. id. baseline	הדמוקרטים היטיבו לקרוא את המפה.
d. id. modified	הדמוקרטים לא היטיבו לקרוא את המפה – מי שהיטיבו לקרוא אותה זה הרפובליקנים.
Non-Decomp.	hesir et ha-kfafot (lit. ‘remove the gloves’, fig. ‘prepare to fight’)
context	*הסעודה המלכותית עמדה להתחיל והמלכה והנסיכה החלו בהכנות.*
e. lit. baseline	המלכה מיהרה להסיר את הכפפות.
f. lit. modified	המלכה לא מיהרה להסיר את הכפפות – מי שמיהרה להסיר אותן זו הנסיכה.
context	*המאבק במגזר החרדי הלך והחריף.*
g. id. baseline	החסידים מיהרו להסיר את הכפפות.
h. id. modified	החסידים לא מיהרו להסיר את הכפפות – מי שמיהרו להסיר אותן זה הליטאים.

(7)

Decomposable	pirek et ha-xavila (lit. ‘dismantle the package’, fig. ‘end the relationship’)
context	*שכחתי במרפסת ליד הכלבלבים את חבילת הספרים שקניתי אתמול.*
a. lit. baseline	הייתי בטוח שבלילה הכלבלבים יפרקו את החבילה.
b. lit. modified	הייתי בטוח שבלילה הכלבלבים יפרקו את החבילה אבל להפתעתי הם לא פירקו אותה.
context	*הבעל נתפס על חם בפרשיית בגידה.*
c. id. baseline	הייתי בטוח שעכשיו בני הזוג יפרקו את החבילה.
d. id. modified	הייתי בטוח שעכשיו בני הזוג יפרקו את החבילה אבל להפתעתי הם לא פירקו אותה.
Non-Decomp.	hidek et ha-xagura (lit. ‘tighten the belt’, fig. ‘cut down on expenses’)
context	*החגורה של המנהל היתה רפויה וכבר פעם שנייה שהמכנסיים כמעט נפלו לו.*
e. lit. baseline	הייתי בטוח שעכשיו המנהל יהדק את החגורה.
f. lit. modified	הייתי בטוח שעכשיו המנהל יהדק את החגורה אבל להפתעתי הוא לא הידק אותה.
context	*אחיין שלי שוב בזבז את כל החסכונות שלו ונקלע לצרות.*
g. id. baseline	הייתי בטוח שעכשיו אחיין שלי יהדק את החגורה.
h. id. modified	הייתי בטוח שעכשיו אחיין שלי יהדק את החגורה אבל להפתעתי הוא לא הידק אותה.

(8)

Decomposable	salal et ha-derex (lit. ‘pave the way’, fig. ‘create the conditions’)
context	*אחרי שנים ארוכות של מאבק הוקם סוף סוף כביש גישה לכפר.*
a. lit. baseline	העירייה טענה שהפועלים סללו את הדרך לכפר.
b. lit. modified	העירייה טענה שהפועלים סללו את הדרך לכפר אבל מי שסללו אותה הם אנשי הכפר עצמו.
context	*אחרי שנים ארוכות של מאבק הושגה פשרה בין המדינה לרשויות המקומיות.*
c. id. baseline	המדינה טענה שחברי הכנסת סללו את הדרך לפשרה.
d. id. modified	המדינה טענה שחברי הכנסת סללו את הדרך לפשרה אבל מי שסללו אותה הם ראשי הרשויות.
Non-Decomp.	daxaf et ha-af (lit. ‘push the nose’, fig. ‘interfere’)
context	*הבוקר שוב מצאנו זבל מפוזר מתחת לבניין.*
e. lit. baseline	השכנים טענו שחזירי הבר דחפו את האף לפח.
f. lit. modified	השכנים טענו שחזירי הבר דחפו את האף לפח אבל מי שדחפו אותו זה התנים.
context	*בסוגיות ביטחוניות לרוב הדרג הצבאי מכריע.*
g. id. baseline	המפקדים טענו שהשרים דחפו את האף לענייניים שלהם.
h. id. modified	המפקדים טענו שהשרים דחפו את האף לענייניים שלהם אבל מי שדחפו אותו זה המתנחלים.

Fillers:

Direct object resumptive pronouns	
context	*ניצן חשב שהוא מצא את המעיל שאיבדתי אבל מדובר היה במעיל אחר.*
1. filler	זה לא היה המעיל שאיבדתי אותו – המעיל שלי היה בצבע אחר.
context	*הצייר שפגשתי היה מאוד מוכשר בעיניי.*
2. filler	הייתי בטוח שהציורים שהצייר הראה לי אותם יימכרו כמו לחמניות חמות.
context	*הממשלה החלה ליישם את תוכניתה לגירוש מבקשי מקלט למדינה שלישית.*
3. filler	מבקשי המקלט שממשלת ישראל גירשה אותם הגישו בקשה למעמד בדנמרק אבל הבקשה טרם אושרה.
context	*הסטודנטים קיבלו הודעה שציוני הבחינה פורסמו ומופיעים באתר.*
4. filler	הסטודנט שציון הבחינה אכזב אותו ביקש לראות את מחברת הבחינה שלו אבל להפתעתו המחברות עוד לא נסרקו.
context	*אחד הילדים שמח במיוחד מהמתנות שקניתי.*
5. filler	הבת שלי טענה שהיא מכירה את הילד שהמתנה שימחה אותו.
context	*המרצה סיפר בדיחה קצת שוביניסטית.*
6. filler	הסטודנטית שהבדיחה של המרצה העליבה אותה חשבה לדווח עליו לנציבות אבל בסוף היא נמלכה בדעתה.
context	*המשבר הקואליציוני הלך והחריף.*
7. filler	השר שראש הממשלה הוציא אותו מדעתו איים לפרוש מהקואליציה אבל בסוף שכנענו אותו להישאר.
context	*התקציב החדש היה מכת מוות עבורנו.*
8. filler	חששתי שהתוכניות שהתקציב החדש הוריד אותן לטמיון ייגנזו אבל בסוף הצלחנו למצוא להן מימון חיצוני.
Subject resumptive pronouns	
context	*כשראיתי את דני בקצה המסדרון באספת ההורים ברחתי לשירותים.*
9. filler	זה הנער שהוא היה צוחק עלי מול כל הכיתה ומציק לי בהפסקות.
context	*הסטודנט היה זקוק לחולצה חדשה אבל לא היה לו הרבה כסף.*
10. filler	המתנדב שהוא אמר שיעזור לסטודנט לא הסכים לעזור לו בסוף.
context	*במסגרת הכנס נתבקשנו לארח סטודנטים זרים.*
11. filler	הסטודנט שהוא הגיע מפריז התארח אצלי בבית.
context	*השוטרים שהגיעו לזירת התאונה ניסו לאתר את הנהג הפוגע.*
12. filler	עדי ראייה טענו שזה האיש שהוא נסע במרצדס האפורה.
Wh-islands	
context	*ראש הממשלה התלבט אבל לא ידעתי לגבי מה.*
13. filler	לא הייתי בטוח מה ראש הממשלה תוהה האם כדאי לו לעשות.

context	*המורה הזכירה משהו על הצגה ביום שני אבל לא שמעתי אותה טוב.*
14. filler	לא הצלחתי להבין מה המורה שאלה אם אנחנו מוכנים להציג.
context	*גיליתי שאני מועמד לפרס מחקר יוקרתי.*
15. filler	ידעתי שהוועדה בוחנת את המחקר שלי אבל לא הייתי בטוח על איזה נושא היא מתעניינת אם כתבתי.
context	*אבא שלי נראה עצבני.*
16. filler	ידעתי שאבא שלי כועס עליי אבל לא ידעתי איך הוא מצטער שהתנהגתי.
Fronted VP-idioms	
context	*המחאה הלכה והתעצמה והפוליטיקאים פעלו לטרפד אותה.*
17. filler	הפוליטיקאים הצליחו לתסכל את המעורבים במחאה אבל את העוקץ הם לא הצליחו להוציא ממנה.
context	*אין להקל ראש בחשיבותם של פעילי השלום ביצירת התנאים להסכם.*
18. filler	הפוליטיקאים הם אולי אלה שחתומים על ההסכם אבל את הקרקע הכשירו פעילי השלום.
context	*יצאנו מתוסכלים מהפגישה עם נציגי העירייה בנושא מצבם הגרוע של המקלטים בעיר.*
19. filler	העירייה הכירה בבעיה אבל את הכפפה היא לא היתה מוכנה להרים.
context	*אחרי שהנישואים שלי התפרקו לקח לי המון זמן להשתקם.*
20. filler	עשיתי מאמצים לחזור לשגרה אבל את השברים לא הצלחתי לאסוף.
context	*הסכסוך בינינו לבין הוועד המנהל הלך והחריף.*
21. filler	גם לנו היתה יד בהתפוררות היחסים אבל את הכלים לא אנחנו שברנו.
context	*אמרו ששחקן המשנה התעלה על השחקן הראשי בהופעתו.*
22. filler	שחקן המשנה אולי נתן הופעה מרשימה אבל את ההצגה הוא לא גנב.
context	*המנכל שגה בהערכתו אבל היה עקשן וסירב לחזור בו.*
23. filler	המנכל ידע שהוא טועה אבל מהעץ הוא לא היה מוכן לרדת.
context	*אתמול הוזמנו לארוחה אצל קולגה שלנו.*
24. filler	המארח שלנו היה מאוד נחמד אבל את הפה הוא לא סתם לרגע.
Acceptable sentences	
context	*התקשרתי למשרד אבל אמרו לי שהמנהל לא נמצא.*
25. filler	המנהל לקח יום חופש כדי לבלות זמן איכות עם המשפחה שלו.
context	*הטיפול הפסיכולוגי התגלה כמאוד משמעותי.*
26. filler	הפסיכולוג עזר למטופלת להתמודד עם דברים שהדחיקה שנים.
context	*הניסוי הפסיכולוגי כלל הקלטה של הנבדקים.*
27. filler	הנסיינית השמיעה לכל נבדק את ההקלטה שלו וביקשה ממנו לאמוד את תגובתו.
context	*עם השנים הלך הסב ואיבד את זכרונו.*

הנכדה שאלה את סבא שלה על הילדות שלו אבל הכול פרח מראשו.	28. filler
האירוע תועד במלואו.	*context*
הצלם טען שהתמונות כבר נשלחו לכל המשתתפים אבל אני את התמונות שלי עוד לא קיבלתי.	29. filler
האורחים הפקידו את המעילים שלהם בכניסה למתחם.	*context*
בסיום האירוע המארח יצא מגדרו להחזיר לכל האורחים את המעילים שלהם.	30. filler
משלחת של מכובדים פקדה את המסעדה.	*context*
המלצרית היא לא זו שהביאה לסועדים את המנות שלהם – מי שהביא אותן זה השף בכבודו ובעצמו.	31. filler
היו הרבה הזמנות הערב ובפיצרייה התעורר בלגן גדול.	*context*
פחדתי שלא נספיק להוציא את כל המשלוחים בזמן.	32. filler

Instructions:

ברוכים הבאים לניסוי

נבדק/ת יקר/ה שלום רב,

אני מודה לך על נכונותך והיענותך להשתתף בניסוי.

ניסוי זה הוא חלק ממחקר בחוג לבלשנות באוניברסיטת תל אביב. המחקר הנוכחי בוחן את רמת הטבעיות של משפטים מסוגים שונים בעברית.

<u>מספר דגשים כלליים</u>:

משך הניסוי הוא כ-20 דקות.

ההשתתפות בניסוי תתבצע דרך <u>מחשב בלבד</u>.

אנא ודאו כי הנכם/ן נמצאים/ות בחלל שקט וללא הפרעות וכי יש ברשותכם/כן את הזמן הדרוש לביצוע הניסוי ברצף.

מידע על הניסוי

בניסוי הנוכחי יוצגו משפטים שאותם תתבקשו לדרג על פי רמת הטבעיות שלהם בעברית.

עבור כל משפט, תצטרכו לקבוע **עד כמה המשפט נשמע לכם/ן טוב**, בסקאלה של 1 עד 7.

דירוג 7 מסמן משפט קביל לגמרי (משפט שנשמע טוב), ודירוג 1 מסמן משפט לא קביל (משפט שלא נשמע טוב כלל).

לפני כל משפט, יתואר ההקשר שבו נאמר המשפט.

<u>לדוגמה, המשפטים הבאים יכולים להיות מדורגים כך:</u>

<u>הקשר</u>: דן שוב לא קיבל החזר הוצאות בזמן.

<u>משפט</u>: חשבנו לשלוח מייל למנהלת שלו אבל בעצם זה נושא שנמצא באחריות מחלקת השכר. ← 7

<u>משפט</u>: חשבנו לשלוח מייל למנהלת שלו אבל בעצם זה צריך להתלונן עליו במחלקת השכר. ← 1

מספר דגשים לניסוי

שימו לב:

1. ההקשר נועד אך ורק לתאר את הנסיבות שבהן נאמר המשפט (כלומר המשפט לא חייב להוות המשך ישיר של ההקשר).

2. אינכם/ן מתבקשות/ים לדרג את מידת הסבירות של הרעיון המובע במשפט, או לקבוע עד כמה השפה בו שגורה או הביטויים בו נפוצים, אלא רק **לקבוע עד כמה המשפט הוא משפט קביל/טבעי בעברית**.

3. כל שנדרש הוא לקרוא את המשפטים ולענות באופן אינטואיטיבי עד כמה המשפט נשמע לכם/ן טוב. **תשובה נכונה היא זו המשקפת את תחושתכם/ן האישית בלבד**.

4. אל תהססו להשתמש בדירוגי הביניים. יש משפטים שלא יישמעו לכם/ן טבעיים לחלוטין, אבל גם לא בלתי-טבעיים לחלוטין. **השתמשו במספרים על הסקאלה כולה, לפי הרגשתכם/ן**.

ניתן לענות באמצעות העכבר. ניתן לקחת הפסקה קלה בין משפט למשפט במידת הצורך.

משפטי אימון

כעת נעבור לחלק קצר של אימון שבו נתרגל את שיטת הניסוי.

הנה משפט ניסיון:

הקשר: שנת הלימודים החלה היום.

משפט: דני ורוני הלכו לבית הספר אבל רותי אחותם שהיתה חולה נשארה בבית.

מאוד טבעי ○ ○ ○ ○ ○ ○ ○ לא טבעי בכלל
1 2 3 4 5 6 7

הנה משפט ניסיון נוסף:

הקשר: העובד שאל אם יש דרך לוודא שלא ישכח לשלוח את דוח השעות שלו בזמן

משפט: מנהלת כוח האדם הסבירה שתזכורות נשלחות לעצמך במייל לקראת מועד ההגשה

מאוד טבעי ○ ○ ○ ○ ○ ○ ○ לא טבעי בכלל
1 2 3 4 5 6 7

זהו סוף האימון. המשפטים הבאים הם כבר הניסוי עצמו. בהצלחה!

C: Experiment 2 - Materials

Experimental sets:

(1)

Decomposable	kataf et ha-perot (lit. 'pick the fruits', fig. 'reap the rewards')
context	*בעקבות המצב הגיעו מתנדבים לסייע לחקלאים בעבודות במטע.*
a. lit. baseline	המתנדבים עשו את רוב העבודה במטע אבל הם לא קטפו את הפירות.
b. lit. modified	המתנדבים עשו את רוב העבודה במטע אבל את הפירות הם לא קטפו.
context	*הפרויקט החדש של חברת ההיי-טק התגלה כהצלחה והמנהלים זכו לשבחים.*
c. id. baseline	המתכנתים עשו את רוב העבודה בפרויקט אבל הם לא קטפו את הפירות.
d. id. modified	המתכנתים עשו את רוב העבודה בפרויקט אבל את הפירות הם לא קטפו.
Non-Decomp.	axal et ha-kova (lit. 'eat the hat', fig. 'admit one's mistake')
context	*כשגיליתי שעשים השתלטו לי על הארון פחדתי יותר מכל שהם הרסו לי את הכובע החדש.*
e. lit. baseline	העשים הרסו את רוב הבגדים בארון אבל הם לא אכלו את הכובע.
f. lit. modified	העשים הרסו את רוב הבגדים בארון אבל את הכובע הם לא אכלו.
context	*לפני המתקפה ועדה של מומחים פרסמה דוח שטען שלישראל לא נשקפת שום סכנה מצפון.*
g. id. baseline	המומחים טעו לגבי רוב התחזיות בדוח אבל הם לא אכלו את הכובע.
h. id. modified	המומחים טעו לגבי רוב התחזיות בדוח אבל את הכובע הם לא אכלו.

(2)

Decomposable	ixer et ha-rakevet (lit. 'miss the train', fig. 'miss the opportunity')
context	*נטלי שכחה לשים שעון מעורר אבל התארגנה בזריזות והספיקה לרכבת ברגע האחרון.*
a. lit. baseline	נטלי התעוררה באיחור אבל היא לא איחרה את הרכבת.
b. lit. modified	נטלי התעוררה באיחור אבל את הרכבת היא לא איחרה.
context	*שנים נטלי לא היתה מרוצה בעבודה אבל רק בגיל 40 אזרה אומץ לעשות שינוי תעסוקתי.*
c. id. baseline	נטלי נזכרה באיחור אבל היא לא איחרה את הרכבת.
d. id. modified	נטלי נזכרה באיחור אבל את הרכבת היא לא איחרה.
Non-Decomp.	hesir et ha-kfafot (lit. 'remove the gloves', fig. 'prepare to fight')
context	*המנתחת מיהרה לצאת בסיום הניתוח אבל עדיין דאגה לשמור על כללי הסטריליות.*
e. lit. baseline	המנתחת התארגנה בזריזות אבל היא לא הסירה את הכפפות.
f. lit. modified	המנתחת התארגנה בזריזות אבל את הכפפות היא לא הסירה.
context	*תגובתה של ישראל להתגרויות בגבולה הצפוני היתה מתונה מן הצפוי.*
g. id. baseline	ישראל התבטאה בחריפות אבל היא לא הסירה את הכפפות.
h. id. modified	ישראל התבטאה בחריפות אבל את הכפפות היא לא הסירה.

(3)

Decomposable	hetil et ha-pcaca (lit. ‘drop the bomb’, fig. ‘announce smthng. shocking’)
context	*פצצת מצרר פגעה בבניין משרדים בטהרן וגרמה לנזק רב.*
a. lit. baseline	ארצות הברית אומנם תקפה באיראן אבל היא לא הטילה את הפצצה.
b. lit. modified	ארצות הברית אומנם תקפה באיראן אבל את הפצצה היא לא הטילה.
context	*הנוכחים נדהמו שיושב ראש הכנסת הודיע על פיזור הכנסת ולא ראש הממשלה.*
c. id. baseline	ראש הממשלה אומנם תמך במהלך אבל הוא לא הטיל את הפצצה.
d. id. modified	ראש הממשלה אומנם תמך במהלך אבל את הפצצה הוא לא הטיל.
Non-Decomp.	kipel et ha-zanav (lit. ‘fold the tail’, fig. ‘back down’)
context	*בתחרות הכלבים היה תרגיל שבמהלכו נדרשו הכלבים להישאר בזנב מורם.*
e. lit. baseline	כלבת הלברדור אומנם נכשלה בתרגיל אבל היא לא קיפלה את הזנב.
f. lit. modified	כלבת הלברדור אומנם נכשלה בתרגיל אבל את הזנב היא לא קיפלה.
context	*אחרי המלחמה מעצמות המרכז האשימו לשווא את הקיסרות הגרמנית בפחדנות.*
g. id. baseline	הקיסרות הגרמנית אומנם הפסידה במלחמה אבל היא לא קיפלה את הזנב.
h. id. modified	הקיסרות הגרמנית אומנם הפסידה במלחמה אבל את הזנב היא לא קיפלה.

(4)

Decomposable	šavar et ha-kerax (lit. ‘break the ice’, fig. ‘mitigate the tension’)
context	*אחרי הסופה הוזעקתי לחלץ קבוצת מטיילים שנכלאה בתוך מערה.*
a. lit. baseline	הצלחתי לחדור את שכבת הסלע אבל לא הצלחתי לשבור את הקרח.
b. lit. modified	הצלחתי לחדור את שכבת הסלע אבל את הקרח לא הצלחתי לשבור.
context	*עבודת הגישור התגלתה כמאתגרת במיוחד הפעם.*
c. id. baseline	הצלחתי להפגיש בין שני הצדדים אבל לא הצלחתי לשבור את הקרח.
d. id. modified	הצלחתי להפגיש בין שני הצדדים אבל את הקרח לא הצלחתי לשבור.
Non-Decomp.	hidek et ha-xagura (lit. ‘tighten the belt’, fig. ‘cut down on expenses’)
context	*הדיילים הנחו אותנו מה לעשות לקראת נחיתת החירום.*
e. lit. baseline	הצלחתי לנפח את אפוד ההצלה אבל לא הצלחתי להדק את החגורה.
f. lit. modified	הצלחתי לנפח את אפוד ההצלה אבל את החגורה לא הצלחתי להדק.
context	*התרגלתי לרמת חיים גבוהה ומאז הפיטורים התקשיתי להסתגל למצב החדש.*
g. id. baseline	הצלחתי למצוא עבודה זמנית אבל לא הצלחתי להדק את החגורה.
h. id. modified	הצלחתי למצוא עבודה זמנית אבל את החגורה לא הצלחתי להדק.

(5)

Decomposable	pirek et ha-xavila (lit. ‘dismantle the package’, fig. ‘end the relationship’)
context	*שכחתי במרפסת ליד הכלבה שלי את חבילת הספרים שקניתי אתמול.*
a. lit. baseline	הכלבה הצליחה לקרוע את העטיפה אבל היא לא הצליחה לפרק את החבילה.
b. lit. modified	הכלבה הצליחה לקרוע את העטיפה אבל את החבילה היא לא הצליחה לפרק.
context	*הבעל נתפס על חם בפרשיית בגידה.*
c. id. baseline	האישה רצתה להעניש את בעלה אבל היא לא רצתה לפרק את החבילה.
d. id. modified	האישה רצתה להעניש את בעלה אבל את החבילה היא לא רצתה לפרק.
Non-Decomp.	pašat et ha-regel (lit. ‘stretch the leg’, fig. ‘go bankrupt’)
context	*הפיזיותרפיסט ביקש מהמטופל לנסות להניע את רגלו.*
e. lit. baseline	המטופל הצליח לכופף את הברך אבל הוא לא הצליח לפשוט את הרגל.
f. lit. modified	המטופל הצליח לכופף את הברך אבל את הרגל הוא לא הצליח לפשוט.
context	*ההשקעות של היזם התגלו ככישלון.*
g. id. baseline	היזם נאלץ למכור את נכסיו אבל הוא לא נדרש לפשוט את הרגל.
h. id. modified	היזם נאלץ למכור את נכסיו אבל את הרגל הוא לא נדרש לפשוט.

(6)

Decomposable	hetir et ha-resen (lit. ‘loosen the bridle’, fig. ‘give free rein’)
context	*בעלי החווה כעסו על הסייס כי הוא לא סיים לטפל בסוס אחרי ששב מהמסע.*
a. lit. baseline	הסייס אומנם הוריד את האוכף אבל הוא לא התיר את הרסן.
b. lit. modified	הסייס אומנם הוריד את האוכף אבל את הרסן הוא לא התיר.
context	*בית הספר הדמוקרטי היה ידוע בחופש היחסי שהוא מעניק לתלמידים שלו.*
c. id. baseline	המנהל אומנם היה מתירני אבל הוא לא התיר את הרסן.
d. id. modified	המנהל אומנם היה מתירני אבל את הרסן הוא לא התיר.
Non-Decomp.	herim et ha-af (lit. ‘lift the nose’, fig. ‘condescend’)
context	*שבנו על המזח עם דג קטן ביד כמו שהמדריך הנחה אותנו וחיכינו להופעתו של הדולפין.*
e. lit. baseline	הדולפין אומנם שחה בקרבתנו אבל הוא לא הרים את האף.
f. lit. modified	הדולפין אומנם שחה בקרבתנו אבל את האף הוא לא הרים.
context	*בפסטיבל האחרון זכינו לביקור של אחד השחקנים הבכירים באירופה.*
g. id. baseline	השחקן אומנם היה מפורסם אבל הוא לא הרים את האף.
h. id. modified	השחקן אומנם היה מפורסם אבל את האף הוא לא הרים.

(7)

Decomposable	kara et ha-mapa (lit. ‘read the map’, fig. ‘understand the situation’)
context	*החייל נכשל במסע הניווט ונאלץ להישאר שבת.*
a. lit. baseline	החייל היה מנוסה אבל הוא לא הצליח לקרוא את המפה.
b. lit. modified	החייל היה מנוסה אבל את המפה הוא לא הצליח לקרוא.
context	*הכישלון המוחלט בבחירות הכה את הפוליטיקאי בתדהמה.*
c. id. baseline	הפוליטיקאי היה מנוסה אבל הוא לא הצליח לקרוא את המפה.
d. id. modified	הפוליטיקאי היה מנוסה אבל את המפה הוא לא הצליח לקרוא.
Non-Decomp.	daxaf et ha-af (lit. ‘push the nose’, fig. ‘interfere’)
context	*העירייה התקינה מנגנון נעילה על פתי האשפה וחזיר הבר התאמץ להשחיל את חוטמו פנימה.*
e. lit. baseline	החזיר היה עיקש אבל הוא לא הצליח לדחוף את האף.
f. lit. modified	החזיר היה עיקש אבל את האף הוא לא הצליח לדחוף.
context	*האורח חש במתח בין בני הזוג שאירחו אותו.*
g. id. baseline	האורח היה סקרן אבל הוא לא העז לדחוף את האף.
h. id. modified	האורח היה סקרן אבל את האף הוא לא העז לדחוף.

(8)

Decomposable	salal et ha-derex (lit. ‘pave the way’, fig. ‘create the conditions’)
context	*אחרי שנים ארוכות של מאבק החליטו התושבים להקים את כביש הגישה לכפר בעצמם.*
a. lit. baseline	משרד התחבורה אומנם פיקח על העבודות אבל הוא לא סלל הדרך.
b. lit. modified	משרד התחבורה אומנם פיקח על העבודות אבל את הדרך הוא לא סלל.
context	*אחרי שנים ארוכות של מאמצים נחתם הסכם שלום בין הצדדים.*
c. id. baseline	ראש הממשלה אומנם חתם על ההסכם אבל הוא לא סלל את הדרך.
d. id. modified	ראש הממשלה אומנם חתם על ההסכם אבל את הדרך הוא לא סלל.
Non-Decomp.	šavar et ha-šinayim (lit. ‘break the teeth’, fig. ‘struggle to speak’)
context	*הכרכרה נעצרה בפתאומיות והנוסע עף אל המדרכה עם הראש קדימה.*
e. lit. baseline	הנוסע אומנם פתח את השפה אבל הוא לא שבר את השיניים.
f. lit. modified	הנוסע אומנם פתח את השפה אבל את השיניים הוא לא שבר.
context	*חברי המשלחת הבריטית הופתעו לטובה מהאנגלית של המנכל הישראלי.*
g. id. baseline	המנכל אומנם דיבר עם מבטא אבל הוא לא שבר את השיניים.
h. id. modified	המנכל אומנם דיבר עם מבטא אבל את השיניים הוא לא שבר.

Fillers:

Direct object resumptive pronouns	
context	*ניצן חשב שהוא מצא את המעיל שאיבדתי אבל מדובר היה במעיל אחר.*
1. filler	זה לא היה המעיל שאיבדתי אותו – המעיל שלי היה בצבע אחר.
context	*הצייר שפגשתי היה מאוד מוכשר בעיניי.*
2. filler	הייתי בטוח שהציורים שהצייר הראה לי אותם יימכרו כמו לחמניות חמות.
context	*הממשלה החלה ליישם את תוכניתה לגירוש מבקשי מקלט למדינה שלישית.*
3. filler	מבקשי המקלט שממשלת ישראל גירשה אותם הגישו בקשה למעמד בדנמרק אבל הבקשה טרם אושרה.
context	*הסטודנטים קיבלו הודעה שציוני הבחינה פורסמו ומופיעים באתר.*
4. filler	הסטודנט שציון הבחינה אכזב אותו ביקש לראות את מחברת הבחינה שלו אבל להפתעתו המחברות עוד לא נסרקו.
context	*אחד הילדים שמח במיוחד מהמתנות שקניתי.*
5. filler	הבת שלי טענה שהיא מכירה את הילד שהמתנה שימחה אותו.
context	*המרצה סיפר בדיחה קצת שוביניסטית.*
6. filler	הסטודנטית שהבדיחה של המרצה העליבה אותה חשבה לדווח עליו לנציבות אבל בסוף היא נמלכה בדעתה.
context	*המשבר הקואליציוני הלך והחריף.*
7. filler	השר שראש הממשלה הוציא אותו מדעתו איים לפרוש מהקואליציה אבל בסוף שכנענו אותו להישאר.
context	*התקציב החדש היה מכת מוות עבורנו.*
8. filler	חששתי שהתוכניות שהתקציב החדש הוריד אותן לטמיון ייגנזו אבל בסוף הצלחנו למצוא להן מימון חיצוני.
Subject resumptive pronouns	
context	*כשראיתי את דני בקצה המסדרון באספת ההורים ברחתי לשירותים.*
9. filler	זה הנער שהוא היה צוחק עלי מול כל הכיתה ומציק לי בהפסקות.
context	*הסטודנט היה זקוק לחולצה חדשה אבל לא היה לו הרבה כסף.*
10. filler	המתנדב שהוא אמר שיעזור לסטודנט לא הסכים לעזור לו בסוף.
context	*במסגרת הכנס נתבקשנו לארח סטודנטים זרים.*
11. filler	הסטודנט שהוא הגיע מפריז התארח אצלי בבית.
context	*השוטרים שהגיעו לזירת התאונה ניסו לאתר את הנהג הפוגע.*
12. filler	עדי ראייה טענו שזה האיש שהוא נסע במרצדס האפורה.
Wh-islands	
context	*ראש הממשלה התלבט אבל לא ידעתי לגבי מה.*
13. filler	לא הייתי בטוח מה ראש הממשלה תוהה האם כדאי לו לעשות.
context	*המורה הזכירה משהו על הצגה ביום שני אבל לא שמעתי אותה טוב.*

14. filler	לא הצלחתי להבין מה המורה שאלה אם אנחנו מוכנים להציג.
context	*גיליתי שאני מועמד לפרס מחקר יוקרתי.*
15. filler	ידעתי שהוועדה בוחנת את המחקר שלי אבל לא הייתי בטוח על איזה נושא היא מתעניינת אם כתבתי.
context	*אבא שלי נראה עצבני.*
16. filler	ידעתי שאבא שלי כועס עליי אבל לא ידעתי איך הוא מצטער שהתנהגתי.
Relative clause with a fronted resumptive pronoun	
context	*כשיצאתי מהאוטו לא האמנתי למראה עיני.*
17. filler	נדהמתי לראות את השחקנית עליה דיברתי אתמול ניצבת מולי ברחוב.
context	*שר הביטחון לא עמד באף אחת מההבטחות שלו והציבור היה מאוכזב ממנו.*
18. filler	שר הביטחון הוא מסוג הפוליטיקאים עליו ועל שכמותו אסור לסמוך.
context	*הציונים בקורס פורסמו והסטודנט גילה שהוא קיבל 68.*
19. filler	הסטודנט עבר את הקורס אבל זה לא הציון אותו הוא קיווה לקבל.
context	*אתמול פגשתי זוג מקסים וקיוויתי שאתקל בהם שוב הערב במסיבה.*
20. filler	נתקלתי בהרבה מכרים במסיבה אבל לא ראיתי את האיש שאותו ואת אשתו פגשתי אתמול
Relative clause lacking a prepositional resumptive pronoun	
context	*איבדתי את הפלאפון שלי אתמול וחיפשתי אותו בנרות.*
21. filler	לצערי לא מצאתי שום דבר במקום שחשבתי ששכחתי את הפלאפון.
context	*העובד מצא את המפתחות שהמנהל אמר שישאיר לו אבל לא את הניירות.*
22. filler	המנהל אמר שהוא ישים את הניירות באותה מגירה שהוא שם את המפתחות אבל הם לא היו שם.
context	*הסטודנט לא הופתע כשהוא גילה שהוא נכשל בבחינה.*
23. filler	על שאלה אחת הסטודנט לא ענה בכלל ובשאלה שהוא כן ענה היו לו הרבה טעויות.
context	*אבי הכלה היה ידוע כאדם מאופק ולכן הרבה מהמוזמנים הופתעו מתגובתו.*
24. filler	האב לא היה אדם מאוד רגשן אבל הרגע שהוא ראה את הבת שלו צועדת לעבר החופה הביא דמעות לעיניו.
Acceptable sentences	
context	*התקשרתי למשרד אבל אמרו לי שהמנהל לא נמצא.*
25. filler	המנהל לקח יום חופש כדי לבלות זמן איכות עם המשפחה שלו.
context	*הטיפול הפסיכולוגי התגלה כמאוד משמעותי.*
26. filler	הפסיכולוג עזר למטופלת להתמודד עם דברים שהדחיקה שנים.
context	*הניסוי הפסיכולוגי כלל הקלטה של הנבדקים.*
27. filler	הנסיינית השמיעה לכל נבדק את ההקלטה שלו וביקשה ממנו לאמוד את תגובתו.
context	*עם השנים הלך הסב ואיבד את זכרונו.*

28. filler	הנכדה שאלה את סבא שלה על הילדות שלו אבל הכול פרח מראשו.
context	*האירוע תועד במלואו.*
29. filler	הצלם טען שהתמונות כבר נשלחו לכל המשתתפים אבל אני את התמונות שלי עוד לא קיבלתי.
context	*האורחים הפקידו את המעילים שלהם בכניסה למתחם.*
30. filler	בסיום האירוע המארח יצא מגדרו להחזיר לכל האורחים את המעילים שלהם.
context	*משלחת של מכובדים פקדה את המסעדה.*
31. filler	המלצרית היא לא זו שהביאה לסועדים את המנות שלהם – מי שהביא אותן זה השף בכבודו ובעצמו.
context	*היו הרבה הזמנות הערב ובפיצרייה התעורר בלגן גדול.*
32. filler	פחדתי שלא נספיק להוציא את כל המשלוחים בזמן.

Instructions: identical to Experiment 1.

D: Experiment 3 - Materials

Experimental sets:
(1)

Decomposable	kataf et ha-perot (lit. ‘pick the fruits’, fig. ‘reap the rewards’)
context	*בגלל השיטפונות לא ניתן היה לקיים השנה קטיף מכאני.*
a. lit. baseline	הפועל נאלץ לקטוף את הפירות.
b. lit. modified	הפועל נאלץ לקטוף את הפירות הבשלים.
context	*נשיא רוסיה היה המרוויח העיקרי מההתערבות הצבאית בסוריה.*
c. id. baseline	פוטין השכיל לקטוף את הפירות.
d. id. modified	פוטין השכיל לקטוף את הפירות המדיניים.
Non-Decomp.	axal et ha-kova (lit. ‘eat the hat’, fig. ‘admit one’s mistake’)
context	*קיוויתי שהתרסיס נגד עשים יציל את הכובע הירוק שלי אבל לצערי הוא לא עשה את העבודה.*
e. lit. baseline	העש הספיק לאכול את הכובע.
f. lit. modified	העש הספיק לאכול את הכובע הירוק.
context	*הבטחותיה של החברה לפתח רכב אוטונומי לחלוטין עד סוף 2022 התבדו.*
g. id. baseline	החברה נאלצה לאכול את הכובע.
h. id. modified	החברה נאלצה לאכול את הכובע הטכנולוגי.

(2)

Decomposable	ixer et ha-rakevet (lit. ‘miss the train’, fig. ‘miss the opportunity’)
context	*הסטודנט קיווה להספיק לרכבת הישירה למכללה אבל הוא לא התעורר בזמן.*
a. lit. baseline	הסטודנט איחר את הרכבת.
b. lit. modified	הסטודנט איחר את הרכבת הישירה.
context	*בזמן שהיזם התלבט אם להשקיע בחברה כל המניות שלה כבר נמכרו.*
c. id. baseline	היזם איחר את הרכבת.
d. id. modified	היזם איחר את הרכבת העסקית.
Non-Decomp.	hesir et ha-kfafot (lit. ‘remove the gloves’, fig. ‘prepare to fight’)
context	*הניתוח הסתיים והמנתחת החלה להתארגן ליציאה.*
e. lit. baseline	המנתחת הסירה את הכפפות.
f. lit. modified	המנתחת הסירה את הכפפות המלוכלכות.
context	*לאחר כישלון השיחות החליטה ערב הסעודית לנקוט בצעדים חריפים ולחמש את המורדים.*
g. id. baseline	ערב הסעודית הסירה את הכפפות.
h. id. modified	ערב הסעודית הסירה את הכפפות הדיפלומטיות.

(3)

Decomposable	hetil et ha-pcaca (lit. ‘drop the bomb’, fig. ‘announce smthng. shocking’)
context	*ארצות הברית ניסתה להכניע את יפן במבצע קרקעי לפני שהחליטה להשתמש בפצצת אטום.*
a. lit. baseline	ארצות הברית הטילה את הפצצה בסוף המלחמה.
b. lit. modified	ארצות הברית הטילה את הפצצה הגרעינית בסוף המלחמה.
context	*ראש הממשלה חיכה לסיום הריאיון הטלוויזיוני כדי להודיע על פרישתו.*
c. id. baseline	ראש הממשלה הטיל את הפצצה בסוף הריאיון.
d. id. modified	ראש הממשלה הטיל את הפצצה הפוליטית בסוף הריאיון.
Non-Decomp.	pašat et ha-regel (lit. ‘stretch the leg’, fig. ‘go bankrupt’)
context	*לאורך הבדיקה נדרשה המטופלת להחזיק את הרגל השמאלית שלה צמודה לגוף.*
e. lit. baseline	המטופלת פשטה את הרגל בסוף הבדיקה.
f. lit. modified	המטופלת פשטה את הרגל השמאלית בסוף הבדיקה.
context	*המלחמה שאליה נגררה דנמרק בתחילת המאה ה-19 גבתה ממנה מחיר כלכלי כבד.*
g. id. baseline	דנמרק פשטה את הרגל בסוף המלחמה.
h. id. modified	דנמרק פשטה את הרגל הממלכתית בסוף המלחמה.

(4)

Decomposable	šavar et ha-kerax (lit. ‘break the ice’, fig. ‘mitigate the tension’)
context	*הניסיון לחלץ קבוצת מטיילים שנכלאה בתוך מערת קרח התגלה כמורכב במיוחד.*
a. lit. baseline	המחלצים לא הצליחו לשבור את הקרח.
b. lit. modified	המחלצים לא הצליחו לשבור את הקרח העבה.
context	*לא הושגה שום התקדמות בשיחות הפיוס בין נציגי מפאי לפנתרים השחורים והצדדים נשארו עוינים זה לזה.*
c. id. baseline	המתווכים לא הצליחו לשבור את הקרח.
d. id. modified	המתווכים לא הצליחו לשבור את הקרח העדתי.
Non-Decomp.	hidek et ha-xagura (lit. ‘tighten the belt’, fig. ‘cut down on expenses’)
context	*שלט הידוק החגורות במטוס נדלק אבל משהו בחגורה של הנוסע היה דפוק.*
e. lit. baseline	הנוסע לא הצליח להדק את החגורה.
f. lit. modified	הנוסע לא הצליח להדק את החגורה התקולה.
context	*המשבר הכלכלי החריף אבל ההוצאות של הממשלה רק הלכו ותפחו.*
g. id. baseline	הממשלה לא הצליחה להדק את החגורה.
h. id. modified	הממשלה לא הצליחה להדק את החגורה התקציבית.

(5)

Decomposable	pirek et ha-xavila (lit. ‘dismantle the package’, fig. ‘end the relationship’)
context	*השארתי את חבילת הספרים שקניתי ליד הכלבה כי חשבתי שהעטיפה שלה קשיחה מספיק אבל זו היתה טעות.*
a. lit. baseline	הכלבה הצליחה לפרק את החבילה ולהרוס את הספרים.
b. lit. modified	הכלבה הצליחה לפרק את החבילה העטופה ולהרוס את הספרים.
context	*הבעל נתפס על חם בפרשיית בגידה.*
c. id. baseline	האישה שקלה לפרק את החבילה ולעזוב את הבית.
d. id. modified	האישה שקלה לפרק את החבילה המשפחתית ולעזוב את הבית.
Non-Decomp.	kipel et ha-zanav (lit. ‘fold the tail’, fig. ‘back down’)
context	*החתול תלש לשממית את הזנב אבל היא מיד הצמיחה אחד נוסף וניסתה לגונן עליו.*
e. lit. baseline	השממית הצליחה לקפל את הזנב ולהימלט מהזירה.
f. lit. modified	השממית הצליחה לקפל את הזנב החדש ולהימלט מהזירה.
context	*לפני האירוויזיון התעורר חשש גדול מהפגנות המוניות נגד ישראל.*
g. id. baseline	ישראל שקלה לקפל את הזנב ולפרוש מהתחרות.
h. id. modified	ישראל שקלה לקפל את הזנב הלאומי ולפרוש מהתחרות.

(6)

Decomposable	hetir et ha-resen (lit. ‘loosen the bridle’, fig. ‘give free rein’)
context	*כשהכרכרה חזרה מהמסע הסייס גילה שהרסן הדוק מדי ופוצע את הלסת של הסוס.*
a. lit. baseline	הסייס מיהר להתיר את הרסן.
b. lit. modified	הסייס מיהר להתיר את הרסן המכאיב.
context	*בעלי העסקים התלוננו שהרגולציה נוקשה מדי ופוגעת בצמיחת המשק.*
c. id. baseline	הממשלה מיהרה להתיר את הרסן.
d. id. modified	הממשלה מיהרה להתיר את הרסן הכלכלי.
Non-Decomp.	herim et ha-af (lit. ‘lift the nose’, fig. ‘condescend’)
context	*לאחר ההשתלה הרופאים ביקשו מהחולה להטות את אפו מעלה כדי לוודא את תפקודו התקין.*
e. lit. baseline	החולה ניסה להרים את האף.
f. lit. modified	החולה ניסה להרים את האף התותב.
context	*החוקר שהוזמן להרצות בפני צוות המורים של בית הספר התייחס לדבריהם בביטול.*
g. id. baseline	החוקר מיהר להרים את האף.
h. id. modified	החוקר מיהר להרים את האף הפדגוגי.

(7)

Decomposable	kara et ha-mapa (lit. ‘read the map’, fig. ‘understand the situation’)
context	*החייל נאלץ להישאר שבת לאחר שנכשל במסע הניווט בהרים.*
a. lit. baseline	החייל לא הצליח לקרוא את המפה.
b. lit. modified	החייל לא הצליח לקרוא את המפה הטופוגרפית.
context	*חרף אותות האזהרה הרבים הקבינט הבטחוני לא צפה את ממדי הסכנה.*
c. id. baseline	הקבינט לא הצליח לקרוא את המפה.
d. id. modified	הקבינט לא הצליח לקרוא את המפה המודיעינית.
Non-Decomp.	šavar et ha-šinayim (lit. ‘break the teeth’, fig. ‘struggle to speak’)
context	*אחרי מה שקרה בקרב הקודם המתאגרף החליט לעטות מגן פה.*
e. lit. baseline	המתאגרף לא רצה לשבור את השיניים.
f. lit. modified	המתאגרף לא רצה לשבור את השיניים הקדמיות.
context	*עורך הדין ביקש שיחליפו אותו בדיון באנגלית.*
g. id. baseline	עורך הדין לא רצה לשבור את השיניים.
h. id. modified	עורך הדין לא רצה לשבור את השיניים המשפטיות.

(8)

Decomposable	salal et ha-derex (lit. 'pave the way', fig. 'create the conditions')
context	*כבר שנים שהתושבים נכנסים ליישוב המרוחק בדרך עפר אבל עכשיו המצב עמד להשתנות.*
a. lit. baseline	המועצה הבטיחה לסלול את הדרך ליישוב המרוחק.
b. lit. modified	המועצה הבטיחה לסלול את הדרך הראשית ליישוב המרוחק.
context	*כל מאמצי המטפל הוכוונו לבניית החוסן הנפשי של המטופל.*
c. id. baseline	המטפל ניסה לסלול את הדרך להצלחת הטיפול.
d. id. modified	המטפל ניסה לסלול את הדרך הרגשית להצלחת הטיפול.
Non-Decomp.	daxaf et ha-af (lit. 'push the nose', fig. 'interfere')
context	*במבדק התפיסתי-מוטורי נדרש הפעוט להכניס איברי גוף בצבעים שונים לחורים בצבע תואם*
e. lit. baseline	הפעוט ניסה לדחוף את האף לחור הירוק.
f. lit. modified	הפעוט ניסה לדחוף את האף האדום לחור הירוק.
context	*הרמטכל דיבר על לבו של ראש הממשלה במטרה להשפיע על תנאי ההסכם.*
g. id. baseline	הרמטכל ניסה לדחוף את האף לסוגיות מדיניות.
h. id. modified	הרמטכל ניסה לדחוף את האף הבטחוני לסוגיות מדיניות.

Fillers:

Direct object resumptive pronouns	
context	*ניצן חשב שהוא מצא את המעיל שלי אבל מדובר היה במעיל אחר.*
1. filler	המעיל שאיבדתי אותו היה מעיל זמש.
context	*הצייר שפגשתי היה מאוד מוכשר בעיניי ולא היה לי ספק שהוא יצליח מאוד.*
2. filler	הציורים היפים שהצייר הראה לי אותם נחטפו.
context	*לכבוד טקס סיום השנה בבית ספר קניתי מתנות לכל הילדים בכיתה.*
3. filler	הילד שהמתנה שלי שימחה אותו הכיר לי תודה.
context	*לתקציב החדש שהממשלה העבירה אתמול היו השלכות מרחיקות לכת.*
4. filler	התוכניות שהתקציב החדש הוריד אותן לטמיון הן הפסד גדול.
Subject resumptive pronouns	
context	*כשראיתי את דני בקצה המסדרון באספת ההורים מיהרתי לברוח לשירותים.*
5. filler	זה הנער המרושע שהוא היה יורד עלי מול כל הכיתה.
context	*למרכז הסיוע הגיע איש חסר כול ואנחנו התחייבנו לעשות כמיטב יכולתנו לסייע לו.*
6. filler	המתנדב שהוא אמר שיעזור לאיש המסכן נעלם כלא היה.
context	*במסגרת הפסטיבל לסרטי סטודנטים נתבקשנו לארח סטודנטים זרים בביתנו.*
7. filler	הסטודנט שהוא הגיע מפריז התארח אצלי בבית.

context	*השוטרים שהגיעו לזירת התאונה ניסו לדלות כמה שיותר מידע כדי לאתר את הנהג הפוגע.*
8. filler	עדי ראייה טענו שזה האיש שהוא נסע במרצדס האפורה.
Wh-islands	
context	*היה נראה שהתלמיד נתון בלבטים קשים אבל לא הייתי בטוח לגבי מה.*
9. filler	לא ידעתי מה התלמיד ההססן חוכך בדעתו אם כדאי לו לעשות.
context	*המורה הזכירה משהו על הצגה ביום שני אבל לא הצלחתי לשמוע אותה היטב.*
10. filler	לא הבנתי מה המורה שאלה אם אנחנו מוכנים להציג.
context	*הגשתי מועמדות למענק מחקר אבל לא היה לי ברור מה הקריטריונים שמנחים את הוועדה.*
11. filler	לא ידעתי על איזה נושא הוועדה מתעניינת אם כתבתי.
context	*היה ברור שאבא שלי כועס עלי אבל לא הצלחתי להבין בדיוק על מה.*
12. filler	לא ידעתי איך אבא שלי מצטער שהתנהגתי.
Possessive dative with an intransitive verb	
context	*האישה הוציאה את הכלב אבל היתה לחוצה לחזור הביתה כדי להספיק לריאיון עבודה.*
13. filler	הכלב העקשן שכב לאישה באמצע הרחוב.
context	*הבחור הצעיר נתן לחתול שלו כדורי הרגעה כדי שיוכל לספר אותו אבל זה לא עזר.*
14. filler	החתול הבעייתי קם לבחור הצעיר באמצע התספורת.
context	*התלמידים בקורס רובוטיקה ניסו לבנות רובוט שיצלול ויביא חפץ מקרקעית הבריכה.*
15. filler	הרובוט צף לתלמידים המיואשים.
context	*החניך בקורס טייס התאמן בקדחתנות לקראת טיסת המבחן שלו אבל בסוף לא עמד בלחץ.*
16. filler	המטוס יצא לחניך משליטה ברגע האמת.
Strict reading of anaphor in ellipsis construction	
context	*המדריכה הוותיקה אמרה שבחוג ההעשרה רוני היה היחיד שצילם את עצמו אבל זה לא נכון.*
17. filler	גם התלמידים האחרים צילמו אותו.
context	*המנהל טעה כשחשב שמכל צוות הניהול דני הוא היחיד שמעריך את עצמו.*
18. filler	גם שאר חברי הצוות מחזיקים ממנו מאוד.
context	*בשיחות עם המטופלים הפסיכולוגית התרשמה שארז הוא היחיד שאוהב את עצמו.*
19. filler	הפסיכולוגית הופתעה כשגילתה שהרבה מטופלים אוהבים אותו.
context	*מבין התלמידים שהואשמו בוונדליזם יוסי הוא היחיד שניסה להצדיק את עצמו.*
20. filler	חבריו לדבר העבירה לא ניסו להצדיק אותו.
Unnatural ordering of adjectives	
context	*האם אמרה לילד שהוא יכול לקנות איזה בלון שהוא רוצה ליום ההולדת.*
21. filler	הילד בחר לקנות בלון גדול אדום.

context	*בבדיקת הראייה הוצגו לאיש המבוגר דימויים והוא התבקש לומר אם הוא מצליח לראות אותם או לא.*
22. filler	האיש המבוגר לא הצליח לראות משולש גדול חום.
context	*הדייר החדש רצה להחליף את הספה בדירה בספה טובה יותר אבל הוא התלבט באיזה צבע.*
23. filler	בסוף הדייר החליט להתחדש בספה טובה ירוקה.
context	*סוחר העתיקות קיווה לראות רווחים נאים במכירה הפומבית אבל בסוף הוא התאכזב.*
24.	בידו של הסוחר עלה למכור רק שידה יפה חומה.
Acceptable sentences	
context	*הייתי זקוק למנהל בדחיפות אבל כשהתקשרתי למשרד אמרו לי שהוא לא נמצא.*
25. filler	המנהל לקח יום חופש כדי לבלות עם המשפחה שלו.
context	*נעמה תמיד התנגדה לטיפול הפסיכולוגי אבל בדיעבד הוא התגלה כמאוד משמעותי.*
26. filler	הפסיכולוג הוותיק עזר למטופלת להתמודד עם דברים שהדחיקה שנים.
context	*הניסוי הפסיכולוגי ניסה לבחון כיצד נבדקים מגיבים לדברים שהם עצמם אמרו.*
27. filler	הנסיינית השמיעה לכל נבדק את הריאיון המוקלט איתו.
context	*הנכדה שאלה את סבא שלה על הילדות שלו אבל הכול פרח מראשו.*
28. filler	הסב הלך ואיבד את זכרונו עם השנים.
context	*בסיום האירוע הצלם טען שהתמונות כבר נשלחו לכל המשתתפים.*
29. filler	אני את התמונות שלי עוד לא קיבלתי.
context	*האורחים הפקידו את המעילים שלהם בכניסה למתחם אבל בסוף האירוע התעורר בלגן גדול.*
30. filler	המארח המסור יצא מגדרו להחזיר לכל אורח את המעיל שלו.
context	*משלחת של מכובדים פקדה את המסעדה והצוות עשה מאמצים להעניק להם יחס מיוחד.*
31. filler	מי שהביא לסועדים את המנות זה השף הראשי בכבודו ובעצמו.
context	*הרבה הזמנות הערב בגלל גמר המונדיאל ובפיצרייה התעורר בלגן גדול.*
32. filler	פחדתי שלא נספיק להוציא את כל המשלוחים בזמן.

Instructions: identical to Experiments 1 and 2.

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תקציר

נראה כי ניבים מוגבלים בגמישות התחבירית שלהם לעומת ביטויים מילוליים, אך במקביל הם גם נבדלים זה מזה מבחינת הגמישות התחבירית שהם מאפשרים. תופעה זו, המשקפת לכאורה את העובדה שניבים משלבים הן תכונות של פריטים לקסיקליים והן תכונות של מבנים תחביריים מורכבים, זכתה להתייחסות נרחבת בספרות הבלשנית. אחת התיאוריות המרכזיות בהקשר זה היא זו של נאנברג ושות' (1994), לפיה זוהי הפריקנות הסמנטית של ניבים, כלומר היכולת לייחס את המשמעות המטאפורית של ניבים לחלקיהם, שקובעת את מידת הגמישות התחבירית. חוקרים מאוחרים יותר, ממשיכי דרכם של נאנברג ושות', הוסיפו לטעון כי את ההבדל בהתנהגותן של שתי קבוצות הניבים הללו אין לייחס לייצוג שונה במהותו, כי אם למגבלות סמנטיות כלליות המושתות על חלקי הניב בידי אופרציות תחביריות שונות, שאותן מפירים ניבים בלתי-פריקים.

המחקר הנוכחי בוחן את מידת תקפותן של התיאוריות הללו דרך סדרה של שלושה ניסויים, הבוחנים את התנהגותם של 16 ניבים פועליים בעברית, 8 מהם פריקים ו-8 מהם בלתי-פריקים, תוך הידרשות לבעיות מתודולוגיות שעולות ממחקרים קודמים. כל אחד משלושת הניסויים בחן את מידת קבילותם של הניבים תחת אופרציה תחבירית אחרת: (1) *פרונומינליזציה*, (2) *מיקוד* (3) *איוך באמצעות שם תואר*, בהשוואה לצורתם הקנונית. כדי לשלוט במגבלות אפשריות על גמישות תחבירית שאינן קשורות למשמעות ניבית, נבחרו רק ביטויים המאפשרים הן קרי מילולי והן קרי מטאפורי. לכל ביטוי נבנו ארבע משפטים, כאשר הביטוי מופיע פעם בצורתו הקנונית ופעם תחת אופרציה תחבירית, פעם בהקשר מילולי ופעם בהקשר ניבי. ניבים פריקים ובלתי-פריקים זווגו ליצירת ריבוע לטיני, המורכב משמונה סטים של שמונה משפטים לכל ניסוי, אשר בוחנים את השפעתם של שלושה גורמים: סוג הניב (פריק/בלתי-פריק), סוג המשמעות (מילולית/מטאפורית), וסוג המבנה (קנוני/אופרציה תחבירית), והאינטראקציות ביניהם.

בעוד שנמצא כי ניבים בלתי-פריקים הם פחות קבילים באופן מובהק מניבים פריקים, התוצאות לא תמכו בהשערה שניבים בלתי-פריקים הם פחות גמישים מבחינה תחבירית מניבים פריקים – כלומר, ההבדל בקבילות של ניבים פריקים ובלתי-פריקים לא יצא גדול יותר באופן מובהק תחת אופרציות תחבירית מאשר בצורתם הקנונית. השלכות אפשריות של התוצאות הללו על אופן האחסון, הייצוג והפירוש של ניבים, נידונות.

אוניברסיטת תל אביב
הפקולטה למדעי הרוח ע״ש לסטר וסאלי אנטין
החוג לבלשנות

משחקי ניבים:

פריקות וגמישות תחבירית של ביטויים ניביים בעברית

חיבור זה הוגש כעבודת גמר לקראת התואר
״מוסמך אוניברסיטה״ - M.A. באוניברסיטת תל אביב
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תום דולב

תחת הנחייתה של

פרופ׳ טל סילוני

אוקטובר 2024