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MAJOR ENGLISH EQUIVALENTS OF THE POLISH IMPERSONAL *-NO/-TO* CONSTRUCTION IN TRANSLATED ACADEMIC PROSE: A PARALLEL CORPUS-DRIVEN STUDY OF RESEARCH ARTICLE ABSTRACTS

Keywords: Polish *-no/-to* construction, constructional equivalence, corpus-based translation studies, academic discourse

Abstract

This study explores some of the factors underlying the choice from among the major English translation equivalents of the Polish impersonal construction with *-no/-to* verb forms in academic writing. Based on a parallel corpus of 487 Polish abstracts of research articles in linguistics and their English versions, Multiple Correspondence Analysis is deployed as an exploratory technique to identify potential associations among three types of constructions employed in the English target texts and four usage features related to the Polish source texts. Binary Logistic Regression is then used on a subset of the data with two most frequent constructions to determine the significance and strength of the correlations. The results indicate that while the agentless passive is the default structural equivalent of the Polish *-no/-to* construction, three factors may prompt the use of an active-voice structure with an inanimate subject, which was found to be the second major equivalent. These factors include: the presence of a locative adjunct referring to the study being summarized, the semantic type of the process denoted by the *-no/-to* verb, and the length of the NP functioning as the complement of the verb. The fourth usage feature under examination, namely the position of the complement in relation to the verb, seems to be less significantly correlated with the translation choice between the two major constructions in English.

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1. Introduction

The present study is concerned with typical English equivalents of the Polish impersonal construction with the *-no/-to* verb forms in research article abstracts. The research article (RA) and its abstract belong to those academic genres where "the linguistic expression of agenthood, especially if the agent is identical with the writer, is conventionally minimized" (Wanner 2009: 155). While the Polish impersonal construction generally tends to be employed in cases where the unexpressed, albeit implied, human agent excludes the speaker/writer (Siewierska 1988: 271), in academic texts it occurs in contexts both excluding and including the author(s), as illustrated by examples (1a) and (1b), respectively.

(1) a. *Podobne   rezultaty   **uzyskano***
         similar:PL.ACC   result:PL.ACC   obtain:IMPERS.PAST.PERFECTIVE

         w badaniach   amerykańskich…[1]
         in study:PL.LOC   American:PL.LOC

         'Similar results were obtained in American studies…'

     b. *Badania   **przeprowadzono***   *na próbie*
         study:PL.ACC   conduct:IMPERS.PAST.PERFECTIVE   on sample:SG.LOC

         443 respondentów.
         443 respondent:PL.GEN

         'The study was conducted on a sample of 443 respondents'

Beside the passive voice, the *-no/-to* construction thus represents one of the principal means of discourse objectivization through the suppression of authorial agency in Polish academic prose (Wiraszka 2021: 86–87; cf. Grzegorczykowa et al. 1999: 201; Bunčić 2019: 72).

The Polish *-no/-to* construction has attracted considerable attention in the linguistics literature, with the majority of scholarly work focusing on its morphosyntactic properties, often adopting a comparative, cross-linguistic perspective (e.g. Blevins 2003; Lavine 2005; 2017; Ruda 2014; Krzek 2017; Bunčić 2018; 2019). When it comes to investigating the Polish-English language pair in terms of correspondences between various "passive-like" constructions in the two languages, Kibort (2004) is a major contrastive study, which takes more of a theoretical (rather than empirical), generative grammar-based perspective and is not specifically concerned with academic discourse. However, despite the availability of different agent-demoting linguistic devices in English and, at the same time, lack of a direct morphosyntactic analogue of the *-no/-to* construction in the language, no study to date has explored its English translation equivalents with a view to determining some of the factors that can motivate translators to choose one structural equivalent over another.

While some of the usual "idiomatic English translations [of the Polish *-no/-to* construction] would often use paraphrases with the passive, *they*, *one*, etc."

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[1]   Both examples retrieved from the *National Corpus of Polish* (Przepiórkowski et al. 2012).

(Kościołek and Bunčić 2023: 5), constructions based on the personal pronoun *they* or the indefinite pronoun *one* are not highly typical of academic style, especially in research-reporting genres, which is why their use as equivalents of the Polish *-no/-to* construction is rather limited in translation of academic prose. As for the English agentless passive-voice construction, it naturally represents the most obvious structural equivalent, which can, to some extent, be backed up by empirical research on English-Polish translation, pointing to the Polish impersonal construction in question as the most frequent translation choice in place of the English passive (Kotowicz 2017). The same argument also follows from studies based on English-Polish comparable corpora of RA abstracts, reporting the passive and the impersonal *-no/-to* verb forms among the most common structures in English and Polish texts, respectively (Donesch-Jeżo 2016). Additionally, the agentless passive construction has generally been shown to have a high overall frequency in English RA abstracts, with a mean of ca. 17 tokens per 1,000 words (Wanner 2009).

Apart from agent demotion, the English passive construction can also have a "weight management" function (Biber et al. 1999: 935). As noted by Duszak (1998: 303), unlike Polish, the English language has a very low tolerance of long and complex thematic elements at the beginning of a sentence. With the usual SVO word order, having a very long subject would result in "top-heaviness", a structure that is highly marked in English and might even be difficult to understand (Duszak 1998: 303). In accordance with the principle of end weight (Quirk et al. 1985: 1361–1362; Biber et al. 1999: 898), therefore, using a passive-voice structure is one of the ways to avoid top-heaviness. However, employing the English passive as a structural equivalent of the Polish impersonal *-no/-to* construction involves expressing the complement of the Polish *-no/-to* verb in subject position in the target text, which is why longer complements in the source text could call for adopting of a different translation solution.

The agentless passive structure may thus be a typical or even the default equivalent of the impersonal *-no/-to* construction in Polish-English translations of RA's and their abstracts, but it is by no means the only one, as other English structures can be employed instead, sometimes more naturally. A major alternative is the use of the active voice with an inanimate subject introduced in place of a noun referring to the actual agent of the activity described by the verb, as illustrated in examples (2a–b).

(2) a. *Overall, then, **the analysis has identified** several structural barriers to…*[2]

   b. ***This paper examines** some issues associated with…*

Sometimes referred to as "abstract rhetors" (Halloran 1984), due to the typically abstract nature of the noun in subject position, such structures are particularly frequent in academic texts and are often used to report the key findings of a study in RA abstracts (Swales and Feak 2009: 18). The type of abstract rhetor illustrated in (2b), i.e. one with a text-denoting subject, also known as the "paper construction" (Wanner 2009: 179), can

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[2] Both examples retrieved from the academic section in the *Corpus of contemporary American English* (Davies 2008-).

be argued to be especially productive in RA abstracts, which by their very nature tend to include multiple references to the RA being summarized. Interestingly, the use of the paper construction has been shown to be limited in Polish, as compared with English, RA abstracts (Wiraszka 2023). It may therefore be hypothesized that the use of the abstract rhetor construction in English translations of Polish abstracts (at least partly) makes up for the equivalence gap related to the impersonal *-no/-to* construction.

It is interesting to note that the Polish impersonal *-no/-to* construction only allows (unexpressed) human agents (Sansò 2006: 255), which makes it semantically compatible with the abstract-rhetor structure in that the latter involves the use of an abstract noun as the subject of a verb denoting an action that normally presupposes a human agent. Verbs that typically occur in this construction are often categorized as activity verbs, communication verbs, and mental verbs (Biber et al. 1999: 378–380; Wanner 2009: 158). However, since the activity verbs employed in academic prose predominantly denote research-related activities, i.e. activities undertaken by researchers to carry out the research process (e.g. *apply, perform*, *use*), as do the mental verbs (e.g. *analyze, consider*, *prove*), the two groups of verbs can be subsumed under the more general semantic category of research-related verbs. These, in turn, stand in contrast with communication, or discourse-related, verbs (e.g. *claim, describe, discuss, present, suggest*), where the role of the human agent is more saliently that of an author than that of a researcher – after all such verbs describe activities that inherently involve the use of language.

Other potential English equivalents of the Polish construction in question include various types of nominalization (e.g. *the observation that…*), the existential construction (e.g. *there was a tendency…*), non-passive structures with a dummy *it* subject, a copular verb and an evaluative or modal adjective (e.g. *it was necessary/important…*), as well as other context-dependent forms of re-expression (cf. Hyland 2004: 94). Of course, in contexts where the agent of the reported action is known or can be determined from the context, Polish sentences with the impersonal *-no/-to* construction can also be translated into English with the use of active verbs with animate subjects referring to the actual agents, especially 1st-person structures with the personal pronouns *I/we*, and potentially also 3rd-person references with the noun *author(s)*. The latter strategy is, however, much less typical of English than Polish RA abstracts (Wiraszka 2023: 229).

In view of the issues raised in the introductory discussion above, this study addresses the following research questions: (1) What are the major English equivalents of the Polish impersonal *-no/-to* construction in RA abstracts? (2) What are the factors underlying their choice in Polish-English translation?

2. Material and methodology

The study is based on a parallel corpus consisting of Polish and English abstracts of RA's in linguistics from two highly ranked Polish peer-reviewed scholarly journals: *Język Polski* and *Prace Językoznawcze* (each awarded 100 points by the Polish Ministry of Science and Higher Education). The material comes from the websites of the two journals and includes RA abstracts from all the volumes and issues published

between 2019 and 2024. Importantly, however, the corpus was compiled only from abstracts of articles published in Polish,[3] which is connected with a fundamental assumption made in the present study, namely that authors first write the abstract in the language of the article and then translate it (or have it translated) into another language if required to provide abstracts in two languages. On this assumption, the English abstract of a Polish article is taken to be a translation of the Polish abstract, while the English abstract of an article written in English would most likely be a source text rather than a translation.

The Polish-English pairs of abstracts were first scanned with a view to identifying and excluding instances which could not be regarded as source and target texts on account of substantial differences in information content, defined as the lack of equivalence with regard to one whole sentence or more, which could not be argued to be a consequence of a motivated translation decision, i.e. one based on linguistic, cultural or pragmatic factors (cf. Levý 1967). As a result of this selection, 16 pairs of texts were rejected,[4] representing ca. 3% of the initial 503 pairs, with the remaining 487 pairs manifesting obvious similarity not only in conceptual content but also in terms of text structure, evidenced by the arrangement of equivalent sentences. The quantitative structure of the final corpus is summarized in Table 1.

Table 1. Corpus structure

Journal	Number of Pol-Eng abstract pairs	Character count (w/spaces) Polish | English	Word count Polish | English
Język Polski	205	166,509 | 175,275	20,593 | 27,879
Prace Językoznawcze	282	280,421 | 290,350	34,527 | 43,922
Total	487	446,930 | 465,625	55,120 | 71,801

In order to identify all instances of the *-no/-to* construction, the Polish subcorpus was searched for the character strings *no* and *to* followed by a space and the same character strings followed by a comma, the latter query covering examples with clausal complements, such as those introduced with the particles *że* 'that' or *czy* 'whether'. The results were first manually checked to eliminate irrelevant strings of text and then the English texts were examined for the equivalents of the Polish impersonal verb forms. The material thus obtained was entered into a spreadsheet, where the rows represented individual examples, consisting of a Polish passage with the *-no/-to* construction (in one column) and the corresponding English text (in another column). The examples were then manually inspected and coded for the syntactic

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[3]   Whereas *Język Polski* publishes in Polish only, *Prace Językoznawcze* also accepts texts written in English, German, Russian or Ukrainian, so abstracts of such articles were rejected from the study.

[4]   Some of the rejected English abstracts seemed to have been written de novo, independently of the Polish one, while others included either substantial additions or omissions.

structure employed in the English target text (passive vs abstract rhetor vs another structure) and four other variables describing the ST-related usage features that could be expected to have a bearing on the translator's decision in this regard, namely:

- the position of the complement vis-à-vis the *-no/-to* verb (pre-verbal vs post-verbal);
- the presence (in the source text) of an adjunct of place referring either to the RA (or its part) being summarized or to the reported research (or its element), given as the setting for the process described by the *-no/-to* verb;
- the semantic type of the process denoted by the *-no/-to* verb (discourse-related vs research-related);
- length of the *-no/-to* verb complement in the Polish text, operationalized as a count of words.

The columns corresponding to the five variables formed a data frame (with individual observations in rows) which was saved as a tab-delimited, raw text file suitable for statistical analyses with the R environment (R Core Team 2024). The statistical analysis involved two steps. First, Multiple Correspondence Analysis (MCA) was performed on the categorical variables in the data set in order to identify potential frequency-based associations among particular usage features. Then, Logistic Regression was used as a confirmatory tool to determine the strength and test the significance of the effect of particular independent variables on the choice of the English construction as the equivalent.

3. Results

The corpus material included 450 occurrences of impersonal *-no/to* verbs, with the average of 0.92 examples per abstract and 8.16 per 1,000 words. As can be seen below, in the printout of the summary of the data frame, the English passive was the most frequent (249 instances, ca. 55%) structural equivalent of the Polish impersonal construction in the corpus. The active-voice construction with an inanimate, text- or research-related subject (<AbstrRhet>) was the second most frequently used equivalent (150 observations, ca. 33%), while the other types of structures (<Other>) included 51 examples, representing only ca. 11% of all observations.

```
      STRUCT       COMPPOS      LOCATIVE    PROCESS        LENGTH
AbstrRhet:150    postV:375    loc  :141    dis:204    Min.   : 1.000
Other    : 51    preV : 75    noloc:309    res:246    1st Qu.: 4.000
Passive  :249                                         Median : 7.000
                                                      Mean   : 9.398
                                                      3rd Qu.:13.000
                                                      Max.   :61.000
```

In a vast majority of the cases (375, ca. 83%), the complement occurred after the verb in the Polish source text, while an adjunct of place referring to the summarized RA

or the reported research was introduced in about a third of all cases (141, ca. 31%). As for the semantic type of the process denoted by the *-no/-to* verb, 204 instances (ca. 45%) were classified as belonging to the category of discourse, while 246 instances (ca. 55%) involved the use of a verb describing a research-related activity. The length of the complements of the *-no/-to* verbs ranged from 1 to 61 words, with the median of 7 words and the mean of 9.398.

As a technique for identifying potential correlations among usage features, MCA was employed to determine whether any of the factors operationalized in the form of the four variables listed towards the end of the previous section tend to co-occur with any the three major types of structural equivalents of the Polish *-no/-to* construction. However, since MCA can only be used with categorical (nominal) variables, only three factors were subjected to analysis in the first step, namely: the presence of a locative adjunct referring to the study, the position of the complement and the semantic type of the process, while the length of the complement, being a quantitative (interval) variable, was omitted. Thus, along with the variable representing the syntactic structure chosen in the English target text, MCA was initially performed on a data frame that included 450 rows and 4 columns.

According to the results obtained with the Burt matrix method, the first two dimensions of the distance matrix for this data set account for ca. 78% of the variance, with the first dimension representing as much as 62.42% of inertia. While these scores are more than satisfactory, Greenacre's (2006) inertia adjustment was applied to correct for the MCA-inherent bias in estimating the percentage of explained variation (Glynn 2014: 136). The final score was >60% of variance explained cumulatively by dimensions 1 and 2, with 40.25% of inertia represented by dimension 1, as indicated by the Eigenvalues given below:

```
Eigenvalues
                     Dim.1   Dim.2   Dim.3   Dim.4    Dim.5
Variance             0.503   0.256   0.204   0.189    0.098
% of var.           40.252  20.474  16.342  15.083    7.848
Cumulative % of var. 40.252  60.727  77.069  92.152  100.000
```

Accounting for the largest amount of variance, the first dimension of the distance matrix seems to capture the distinction between the passive voice and the active-voice structure with an inanimate, research- or text-related subject. This can be seen in the MCA biplot in Figure 1, which visualizes potential correlations among the syntactic structure employed in the English text and the usage features covered by the three categorical variables.

The labels <Passive> and <AbstrRhet>, corresponding, respectively, to the passive and the abstract rhetor structures, are located on the opposite sides of the Y-axis, each forming a cluster with three usage features. In the left lower quadrant, the choice of the passive appears to be correlated with the pre-verbal position of the complement of a *-no/-to* verb in the Polish source text (<preV>), with a research-related process denoted by the verb (<res>) and with an absence of a locative adjunct referring to the study (<noloc>). By contrast, the label for the abstract rhetor structure is located in the vicinity of the categories corresponding to the presence of a locative adjunct
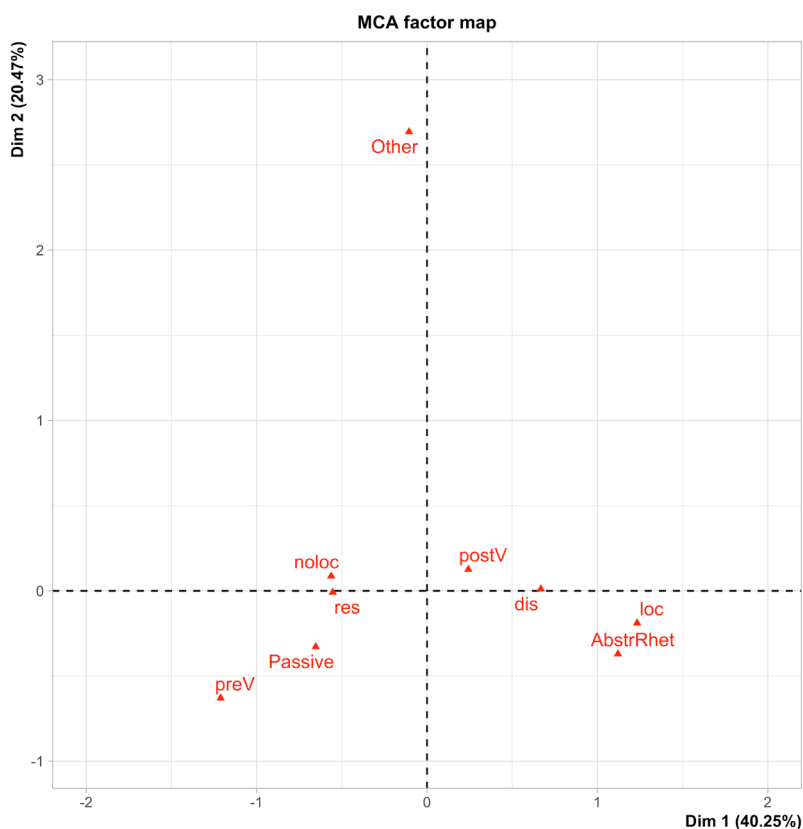
Figure 1. Associations among the categorical variables

in the source text (<loc>), processes in the domain of discourse (<dis>), and the post-verbal position of the complement of the *-no/-to* verb (<postV>). The location of the barycentre of the pre-verbal complement category to the left of and lower than the label <Passive> on the factor map suggests that the occurrence of the complement before the *-no/-to* verb in the Polish source text is uniquely associated with the use of the passive in the English target text, while the abstract rhetor structure seems to be most strongly correlated with the presence of a locative expression in the source text. Interestingly, the use of other syntactic structures in the English abstracts (<Other>) does not appear to favour either type of process, as the barycentres marked with the labels <res> and <dis> are equidistant from the barycentre of the category <Other>. On the other hand, the other types of structure seem to be slightly more correlated with the lack of a locative adjunct than with its presence and with post-verbal comple-ment positions rather than with a pre-verbal complement, though these differences are admittedly rather negligible.

Since these results do not cover the potential effect of the numerical variable, i.e. the length of the complement in the source text, a decision was made to perform

an approximate exploratory investigation based on all the variables in the data set, with the quantitative factor specially adjusted for MCA. In order to achieve this, the lengths of the *-no/-to* verb complements were converted into a three-level categorical variable, with the cut-off points based on the tertiles: 1 – 4 words = <SHORT> (148 observations), 5 – 10 words = <MEDIUM> (143 observations), and 11 – 38 words = <LONG> (159 observations). As a result, the number of dimensions covering all the variance increased from 5 to 7, with the amount of inertia explained by the first two of them (corrected with Greenacre's adjustment) having dropped from 60.73% to 48.18%, as indicated by the following Eigenvalues:

```
Eigenvalues
                       Dim.1   Dim.2   Dim.3   Dim.4   Dim.5   Dim.6   Dim.7
Variance               0.451   0.224   0.197   0.188   0.150   0.112   0.077
% of var.             32.186  15.990  14.105  13.424  10.740   8.031   5.523
Cumulative % of var.  32.186  48.177  62.282  75.706  86.446  94.477 100.000
```

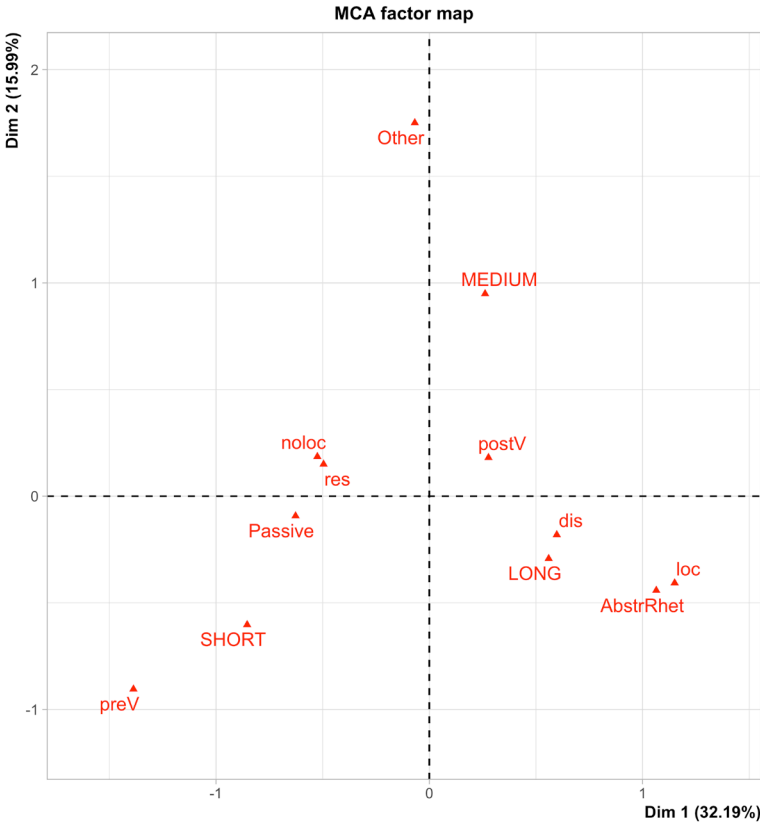Figure 2 shows a visualization of the MCA results with complement length as a categorical variable.

Figure 2. Associations among all the variables (with 3 levels of LENGTH)

It can be seen that the general configuration of the features in the plot is similar to the one yielded by the previous MCA. Importantly, the levels <SHORT> and <LONG> of the newly added variable seem to cluster neatly with the usage features associated with, respectively, the passive and the abstract rhetor constructions. It can be argued then that relatively short complements of the *-no/-to* verb in the Polish source text seem to be associated with the choice of the passive-voice structure in the English target text, while longer complements probably correlate with the abstract rhetor construction. Again, the first of the two structures seems to be uniquely associated with short complements (up to 4 words), as the barycentre of this category is located below and slightly to the left of the centre of the category <Passive>. It is also very likely that the feature SHORT is highly correlated with a pre-verbal position of the complement, whereby short complements tend to be put before *-no/-to* verbs in the Polish texts under examination. By contrast, medium-length complements are shown in the upper part of the plot and somewhat closer to the other types of syntactic structure, which may well be a consequence of the categories <SHORT> and <LONG> pushing the medium-length feature away rather than the category <Other> attracting it.

The next step in the analysis involved verifying the correlations suggested by the MCA with a logistic regression analysis, which represents a confirmatory, or hypothesis-testing, technique that has already shown its merit in translation studies (Gries and Wulff 2012). Since the two main clusters of usage features on the MCA maps in Figures 1 and 2 centred around the passive and abstract rhetor structures, a binary logistic regression was performed, focusing on the effects of four source text-based predictors on the choice of either <AbstrRhet> or <Passive>.[5] The data frame under examination included 399 observations (i.e. 450 minus the 51 cases of <Other>), giving the EPV[6] score of 45, which is more than enough for reliable logistic regression results, even by the conservative standards of medical research (Austin and Steyerberg 2017). Using the *lrm()* function in R, a binary logistic regression model was fitted with the English syntactic structure as the response variable, which yielded the following results:

```
Logistic Regression Model

lrm(formula = STRUCT ~ COMPPOS + LOCATIVE + PROCESS + LENGTH,
    data = df_binary)

                     Model likelihood    Discrimination  Rank Discrim.
                       Ratio Test              Indexes        Indexes
Obs          399   LR chi2      179.58   R2        0.494   C      0.852
 Passive     249   d.f.              4   R2(4,399)0.356   Dxy    0.704
 AbstrRhet   150   Pr(> chi2) <0.0001   R2(4,280.8)0.465  gamma  0.709
max |deriv| 4e-08                        Brier     0.137   tau-a  0.331
```

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[5]   Including 51 observations only, the category <Other> comprised a heterogenous group of structures, each with several instances only, and was therefore considered to be of lesser importance in the present study.

[6]   Events per Variable (EPV) is established by dividing the number of observations in the smaller category of the response variable (here: <Passive> = 180) by the number of predictors (4 in the model under examination).

```
              Coef    S.E.   Wald Z Pr(>|Z|)
Intercept     1.2430 0.3053   4.07  <0.0001
COMPPOS=preV -0.8684 0.5016  -1.73   0.0834
LOCATIVE=noloc -2.7151 0.2958 -9.18  <0.0001
PROCESS=res  -0.5709 0.2804  -2.04   0.0417
LENGTH        0.0387 0.0172   2.25   0.0243
```

As indicated by the high significance of the likelihood ratio test (< 0.0001) and the concordance index (C) of 0.852, the model is characterized by a very good overall fit and an excellent discriminatory power, while the Nagelkerke pseudo-R^2 index (R2 = 0.494) points to its capability of explaining 49.4% of the variance in the outcome. These characteristics imply a very high explanatory power of the model (cf. Glynn and Krawczak 2012: 95). As for the significance of individual predictors, the *p*-values indicate that three out of the four independent variables, namely LOCATIVE, PROCESS and LENGTH, have statistically significant effects on the dependent variable, while the effect of COMPPOS is not totally insignificant either – with the *p*-value of 0.0834, it can be argued to be marginally significant (cf. Gries 2013: 29).

The estimates (or coefficients) of effect size and direction calculated for the different predictors generally corroborate the findings of the MCA. When the log odds ratios are converted to simple odds ratios with the *exp()* function in *R* (Levshina 2015: 259), they can be interpreted as follows given that the reference category set for the response variable is <Passive>: the odds of choosing the abstract rhetor structure decrease by ca. 93.4% (log OR = -2.7151; OR = 0.0662) if there is no locative adjunct referring to the article or study; by ca. 58% (OR = 0.8684; OR = 0.4196) if the complement occurs before the verb; and by 43.5% (log OR = -0.5709; OR = 0.5650) if the *-no/-to* verb denotes a research-related activity; by contrast, the odds of choosing the same structure increase by ca. 4% (log OR = 0.0387; OR = 1.0395) as the LENGTH of the complement of the *-no/-to* verb increases by 1 unit (i.e. one word). The probability plot in Figure 3 visualizes the effect of the last predictor.

4. Discussion

The passive voice and the abstract rhetor structures represent the most frequent English equivalents of the Polish impersonal *-no/-to* construction in RA abstracts, at least based on the material examined in the present study. According to the results of the analyses reported above, the choice between the two structures is primarily guided by the presence or absence of a locative adjunct in the form of a prepositional phrase referring to the summarized article or the reported research, or their particular element. The occurrence of such a locative expression in the Polish source text, typically sentence-initially and in the form of a prepositional phrase with *w* ('in'), acts as a very potent factor underlying the translator's decision to use the English equivalent of the preposition's NP complement as the subject of an active verb in the target text, as in the following examples:
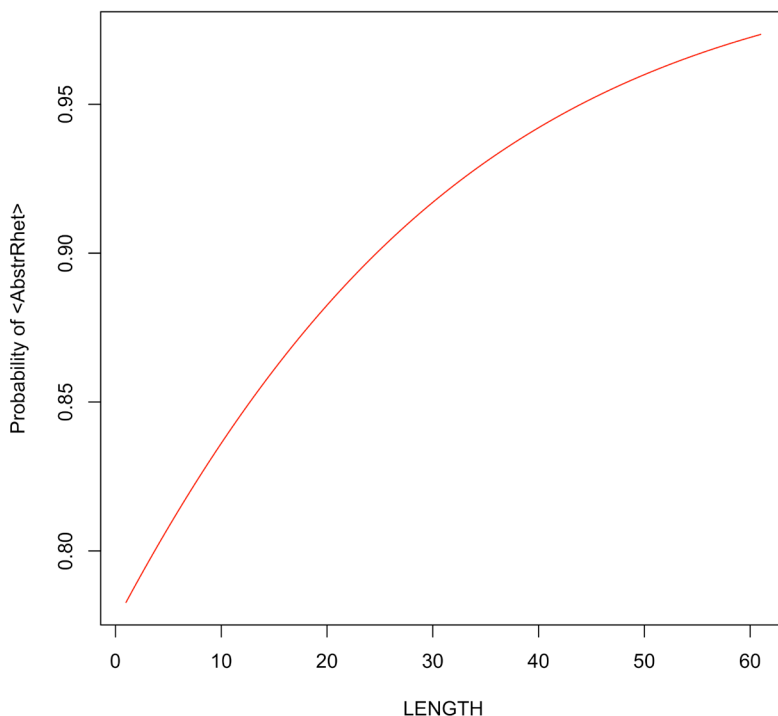
Effect of LENGTH on the probability of choosing <AbstrRhet>

Figure 3. Effect of the length (in words) of the -*no*/-*to* verb complement on the probability of choosing the abstract rhetor structure in the English text

(3)   **W artykule   przedstawiono**
      in article:MASC.SG.LOC   present:IMPERS.PAST.PERFECTIVE

      wstępną   koncepcję…
      preliminary:FEM.SG.ACC   conception:FEM.SG.ACC[7]

      The article presents *an initial concept…*[8]

(4)   **W części   empirycznej   zaprezentowano**
      in part:FEM.SG.LOC   empirical:FEM.SG.LOC   present:IMPERS.PAST.PERFECTIVE

      metodologię…
      methodology:FEM.SG.ACC

      The empirical part presents *the methodology…*[9]

(5)   **W analizie   uwzględniono   aspekt**
      in analysis:FEM.SG.LOC   consider:IMPERS.PAST.PERFECTIVE   aspect:MASC.SG.ACC

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[7]   Gloss translations are provided where necessary.
[8]   https://doi.org/10.31648/pj.10146 (bold added).
[9]   https://doi.org/10.31648/pj.10591 (bold added).

> *formalny,*   *semantyczny*   *i*   *funkcjonalny.*
> formal:MASC.SG.ACC semantic:MASC.SG.ACC and functional:MASC.SG.ACC
>
> **The analysis takes into account** *formal, semantic and functional aspects.*[10]

(6) **W rekonstrukcji**   **każdej**   **biografii**
in reconstruction:FEM.SG.LOC each:FEM.SG.GEN biography:FEM.SG.GEN

językowej   **wyodrębniono**   *poszczególne*
linguistic:FEM.SG.GEN distinguish:IMPERS.PAST.PERFECTIVE separate:PL.ACC

etapy   *życia…*
stages:PL.ACC life:GEN.NEUT.SG

The reconstruction of each language biography considers *different life stages…*[11]

By contrast, the absence of a locative adjunct referring to the study in the source text significantly reduces the possibility of employing the abstract rhetor structure in the English target text, as the source text does not present an obvious candidate for an inanimate, text- or research-related subject, and hence the passive construction tends to be employed in such cases instead, as in:

(7) *Imiesłowy*   **rozpatrzono**   *z*   *perspektywy*
participle:PL.ACC consider:IMPERS.PAST.PERFECTIVE from perspective:SG.GEN

kategorii   *czasu*   *i*   *strony.*
category:SG.GEN tense:SG.GEN and voice:SG.GEN

The participles are analysed *according to the categories of tense and voice.*[12]

(8) *Wyniki*   *analizy*   **przedstawiono**   *w*
result:PL.ACC analysis:SG.GEN present:IMPERS.PAST.PERFECTIVE in

formie   *eksplikacjijego*   *znaczenia.*
form:SG.LOC explication:SG.GEN its meaning:SG.GEN

The results of the analysis are presented *in the form of an explication of its meaning.*[13]

Another factor that has a significant, though somewhat weaker, effect on the choice of the syntactic structure in the English target text is the semantic type of the process described by the *-no/-to* verb in the Polish source text. Verbs of discourse generally increase the probability of selecting the active-voice structure with an inanimate, text-denoting noun in subject position in the English translation. A good case in point is the pair of synonymous verbs *zaprezentować* and *przedstawić* ('present'), which were the most frequent verbs of communication in the Polish subcorpus.[14]

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[10] https://doi.org/10.31286/JP.01006 (bold added).
[11] https://doi.org/10.31286/JP.101.4.6 (bold added).
[12] https://doi.org/10.31648/pj.4439 (bold added).
[13] https://doi.org/10.31286/JP.00305 (bold added).
[14] Interestingly, the same verbs, i.e. *przedstawiać* and *prezentować*, were the most frequent verbs of communication employed with text-denoting nouns in subject position in the Polish abstracts of linguistic RA examined by Wiraszka (2023: 224–225).

As many as 39 out of 53 (i.e. 73.58%) occurrences of these verbs in the Polish source texts were translated into English with the use of the abstract-rhetor construction, while only 10 (i.e. 18.87%) were rendered with the passive. Typical examples are given below.

(9)   *W artykule*   ***zaprezentowano***   *przykłady…*
      In article:SG.LOC present:IMPERS.PAST.PERFECTIVE example:PL.ACC

      The article presents *examples…*[15]

(10) ***Przedstawiono***   *także wyniki…*
      present:IMPERS.PAST.PERFECTIVE also   result:PL.ACC

      It *[=the article] also* ***presents*** *the results…*[16]

(11) *…****przedstawiono***   *ponadto   rozszerzoną*
      present:IMPERS.PAST.PERFECTIVE moreover extended:FEM.PL.ACC

      strukturę…
      structure:FEM.PL.ACC

      *…****the article offers*** *an expanded vision…*[17]

When translated with the use of the passive-voice construction, the complement NP (i.e. the direct object) of a Polish *-no/-to* verb becomes the subject in the English sentence. As could be expected then, in accordance with the principle of end-weight, or the tendency to avoid top-heaviness in English, the longer the complement in the Polish text, the less likely translators are to choose the passive in the English translation. Therefore, in cases where a long subject would result in a top-heavy sentence, the translator will often resort to using an active-voice structure with a relatively short inanimate, text- or research-related subject, as in example (12).

(12) ***Wyłoniono*** *charakterystyki MN, które zdaniem podmiotów zaangażowanych w obronę praw mniejszości, decydują o włączeniu dyskursu homofobicznego w zakres MN…*
      The article ***distinguishes*** *the characteristics of hate speech that – according to the entities involved in the defence of minority rights – are decisive for the inclusion of homophobic discourse within the scope of hate speech…*[18]

Alternatively, a 3rd-person active-voice structure with the noun *author(s)* as the subject is employed, as in examples (13) and (14), although this strategy is much less frequent (only 19 instances, 4.22%).[19]

(13) ***Wzięto*** *pod uwagę dane etymologiczne, leksykograficzne (ze słowników ogólnych historycznych i współczesnych) oraz tekstowe (z korpusu oraz z Internetu).*

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[15]   https://doi.org/10.31286/JP.99.4.8 (bold added).
[16]   https://doi.org/10.31648/pj.3706 (bold added).
[17]   https://doi.org/10.31648/pj.7602 (bold added).
[18]   https://doi.org/10.31648/pj.4974.
[19]   This strategy represents the largest group of observations among the minor structural equivalents, collectively subsumed under the label <Other> in the MCA biplots in section 3.

> ***The author considered*** *etymological data, lexicographic information (from historical and contemporary general dictionaries), as well as textual data (from the corpus and the Internet).*[20]

(14) ***Szukano*** *odpowiedzi na pytanie, czy nazwy zespołów folklorystycznych są tylko sztucznym odtworzeniem języka i kultury ludowej…*

> ***The author sought*** *an answer to the question whether the names of folk ensembles are only an artificial reflection of language and folk culture…* [21]

In those cases where the complement of the *-no/-to* verb has a clausal form, the passive construction with a dummy *it* subject can be used, which is obviously compatible with the principle of end-weight. Therefore, complement length may be an insignificant factor for clausal complements, where the passive is normally used in the English translations, as in examples (15) and (16):

(15) ***Wykazano***, *że oba wyrażenia odznaczają się wysokim stopniem skonwencjonalizowania i funkcjonują na zasadzie szablonu…*

> ***It has been shown*** *that both expressions are highly conventionalized and function as templates…*[22]

(16) ***Zauważono***, *że spośród dziewięciu widocznych profili, pięć jest obecnych w każdym z analizowanych języków.*

> ***It was observed*** *that five out of the nine profiles were present in all three languages.*[23]

Although it has been proven to have only marginal significance in the present study, the position of the complement in the Polish source text can also have some effect on the choice of the English structural equivalent of the impersonal *-no/-to* construction. As Polish allows considerable flexibility in the order of the main syntactic constituents, it is not improbable that when faced with a pre-verbal, and often sentence-initial, complement of the *-no/-to* verb, translators tend to consider the possibility of retaining its English equivalent in the same position. In such cases, therefore, the passive-voice construction may be the preferred choice, as in examples (7–8) above or in:

(17) *Dodatkowo   uzyskane   wyniki*
additionally obtained:PL.ACC results:PL.ACC

> ***porównano***   *z   analogicznymi*
compare:IMPERS.PAST.PERFECTIVE with analogous:PL.INSTR

> *uzyskanymi   w   grupie…*
obtained:PL.INSTR in group:SG.LOC

> *Additionally, the results* ***were*** *also* ***compared*** *to a study of a group of…*[24]

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[20] https://doi.org/10.31286/JP.100.3.9 (bold added).

[21] https://doi.org/10.31648/pj.5246 (bold added).

[22] https://doi.org/10.31286/JP.01019 (bold added).

[23] https://doi.org/10.31648/pj.9897 (bold added).

[24] https://doi.org/10.31648/pj.5245 (bold added).

Naturally, the effect of this factor can be overridden by the length of the complement so that structures with longer pre-verbal complements in the Polish source text might be more readily translated with the use of a non-passive English structure.

5. Conclusion

This study has focused on major English equivalents of the Polish impersonal *-no/-to* construction in RA abstracts in linguistics, with a view to shedding some light on the factors that affect their choice in Polish-English translation.

The results indicate that the agentless passive construction represents the most frequent choice for the structural English equivalent of the Polish *-no/-to* construction. The abstract rhetor structure, i.e. an inanimate, research- or text-denoting noun used as the subject of an active verb, is the second major equivalent, often employed in academic prose to diminish the author's agency (Hyland 1998: 172). Translators' choice between the two constructions is, however, far from arbitrary; as shown in the present study, it depends on such factors as: the presence/absence in the Polish source text of a preposition phrase referring to the article (or its part) or the research process (or its element), the semantic type of the *-no/-to* verb (expressing a discoursal vs research-related activity), the length of the complement of the Polish *-no/-to* verb, as well as, less significantly, the position of the complement of the Polish verb (pre-verbal vs post-verbal). While the passive-voice construction may be the default translation choice, the presence of a locative adjunct in the source text, especially in cases where the *-no/-to* verb describes a communication activity, affords an opportunity to employ the abstract-rhetor construction. Similarly, due to the principle of end-weight, the use of the passive in the English translation becomes a less viable option as the length of the complement of the *-no/-to* verb increases, with the exception of clausal complements, which are typically rendered with the dummy-*it* passive.

Previous work on the use of inanimate nouns as subjects of active verbs has demonstrated that this construction tends to be underrepresented in English academic texts written by scholars for whom English is a second or a foreign language in comparison with English texts written by native speakers of the language (e.g. Callies 2013). Focusing on RA's in linguistics, Kowalski (2015: 148) found that Polish authors generally employed the abstract-rhetor construction somewhat less frequently in their English texts published between 2000 and 2010 than native speakers of English (with the frequencies of 1.65 vs 2.12 instances per 1,000 words in 2010). If the English versions of the abstracts examined in this study were produced by the Polish authors of the texts, or by other translators for whom English was not their native language, then the abstract rhetor construction is also likely to be underrepresented in the English translations. The question of whether this is in fact the case could be addressed in future studies.

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