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**Goal prominence: A cross-linguistic perspective on the
conceptualization of motion events**

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Goal of motion: “the entity or place towards which something moves”
(Crystal 2008).



© <http://www.gettyimages.com/detail/video/man-walking-towards-solo-tree-in-barren-landscape-stock-video-footage/168610561>



Outline

1. Introduction
2. Satellite-framed vs. Verb-framed languages
3. Thinking for speaking
4. Aspect vs. non-aspect languages
5. The present study (focus on English, German, Greek):
 - a) Hypothesis
 - b) Corpus study
 - c) Verbalization study
6. Conclusion



There are two main streams of research dealing with goals of motion:

- The first one addressing the so-called source-goal asymmetry or goal-bias hypothesis:
 - Goals and sources of motion behave asymmetrically;
 - A clear preference for the endpoint of motion is reported

(see, among others, Ikegami, 1987; Landau & Zukowski, 2003; Stefanowitsch & Rohde, 2004; Lakusta & Landau, 2005; Gehrke, 2008; Papafragou, 2010; Georgakopoulos & Sioupi, 2015; Lakusta & DiFabrizio 2016).

- The second one viewing goal preference in motion events as a reflector of cross-linguistic differences.



Today's talk



The background:

Two distinct factors have been reported to determine goal preference:

- the cross-linguistic differences in lexicalization patterns of motion events
- the presence of grammatical viewpoint aspect encoding, on the other

Two major findings:

- Satellite-framed languages explicitly express goals more often than Verb-framed languages
(see Slobin, 1996; Georgakopoulos & Sioupi, 2015)
- Speakers of aspect languages are more prone to omit the goal of motion than speakers of non-aspect languages
(Athanasopoulos & Bylund, 2013; Bylund, 2009; Schmiedtová, von Stutterheim, & Carroll, 2011; von Stutterheim & Nüse, 2003; Stutterheim, Bouhaous, & Carroll submitted)

Satellite-framed vs. Verb-framed



- Languages that express the path in the verb (map the core schema of the event onto the verb): **verb-framed languages**.
- Languages that express the path out of the verb via “satellites”: **satellite-framed languages**.
(Talmy, 1985; 2000)
- Satellites are defined as “certain immediate constituents of a verb root other than inflections, auxiliaries, or nominal arguments”.
(Talmy, 1985: 102)
 - “The Satellite is thus intended to encompass all of the following grammatical forms: English verb particles, German separable and inseparable verb prefixes, Latin or Russian verb prefixes, [...] .”
(Talmy, 2000: 222; cf. Beavers et al., 2010, Goschler et al., 2013, who include also PPs)



Path: in the
verb root



Path: out
of the verb

Satellite-framed vs. Verb-framed



A classic study is Slobin (1996), who found characteristic differences in event descriptions:



The dog *ran* into the house.



Main verb
encodes manner

SATELLITE-FRAMED PATTERN:
→ path encoded in a satellite



Manner of motion is a **salient category** in these languages, which **affects event conceptualization**.

(see Slobin, 1996; 2000)



Le chien est entré dans la maison *en courant*.
'The dog entered the house by running.'



PP encodes
manner

VERB-FRAMED PATTERN:
→ path encoded on main verb

Satellite-framed vs. Verb-framed



Der Hund *lief* **ins** Zimmer hinein.



Main verb
encodes manner

SATELLITE-FRAMED PATTERN:
→ path encoded in a satellite



O skílos **bíke** sto domátio *tréhodas*.
'The dog entered the house by running.'



Participle encodes
manner

VERB-FRAMED PATTERN:
→ path encoded on main verb



Thinking for speaking



- In motion events, when the PP is optional (e.g. *They fell in the water*), a Verb-framed language omits the PP more frequently than a Satellite-framed language)

(Slobin, 1996: 199–201)

- Similar differences were reproduced in non-prototypical motion events, such as CHANGE OF POSSESSION EVENTS, which have a similar semantic structure to Change of Location events.

(Georgakopoulos & Sioupi, 2015)

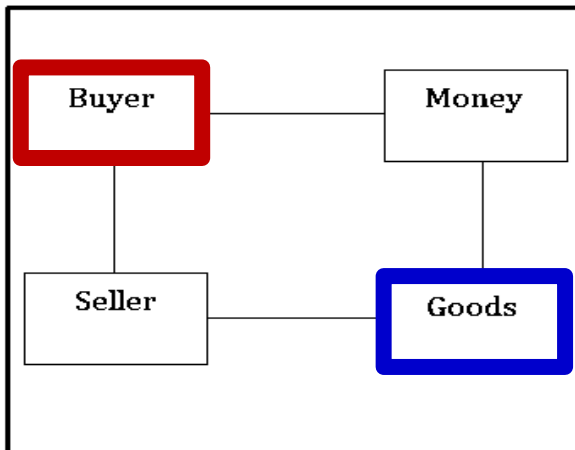


Fig. a. The profiled attributes (in bold) of BUY in the COMMERCIAL EVENT frame

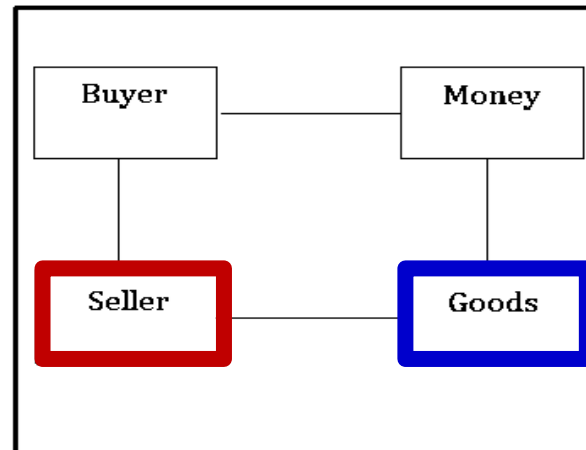


Fig. b. The profiled attributes (in bold) of SELL in the COMMERCIAL EVENT frame

Lexical units of the
COMMERCIAL EVENT
FRAME: BUY, SELL

(cf. Fillmore,
1982 [2006]: 378)



Thing (Theme)
Buyer/ Seller



- (i) Aus Verzweiflung **verkaufte** schon **jede zweite Frau** ihr Baby
from desperation sell.3SG.PAST already each second woman her baby
'Every second woman sold her baby out of desperation'. [HMP12]
- (ii) Schon mit 19 Jahren **kaufte** sie ihr erstes Kunstwerk.
Already with 19 years buy.3SG.PAST she her first work of art
'When she turned 19 (years old), she bought her first work of art'. [HMP08]



- (iii) **O proedros** tha **pulisi** tin **omaða** to Dekemvrio.
the President PART sell.3SG.PST the team.ACC the December.ACC
'The President will sell the team in December'. [WOPG18-0378]
- (iv) **O pelatis** ðeli na **ayorasi** ena **cd musikis**.
the customer.NOM wants SUBJ buy.2SG a cd music.GEN
'The customer wants to buy a CD'. [WRPG16-9284]



Thing (Theme)
Buyer/ Seller
Optional element



- (v) **Die Firma** verkaufte in den Folgejahren **Rechner** **an Universitäten**
the company sell.3SG.PAST in the following.years computers to universities
'In the following years, the Company sold computers **to the Universities**'. [SPK]

- (vi) **Er** kaufte **Beruhigungspillen** **von einem** **Junkie**
he bought.3SG.PAST sedative pills from INDEF.DAT junkie
'**He bought sedative pills from a junkie**'. [HMP11]



BUY and SELL can explicitly express an optional element



Thing (Theme)
Buyer/ Seller
Optional element



- (vii) Os to etos 1974 **pulisa** ke ta 6 *điamerismata*
until the year 1974 sold.3SG.PFV and the 6 apartments
se 6 điaforetikus aforastes.
to 6 different buyers

'By 1974, I had sold all 6 apartments to 6 different buyers'. [WRPG17-1791]

- (viii) Sintoma apektise ke đeftero **plio** pu to **aforase**
soon acquired.3SG.PFV and second ship that the bought.3SG.PFV
apo tin eteria Evyevidi.
from the company.ACC Eugenides'

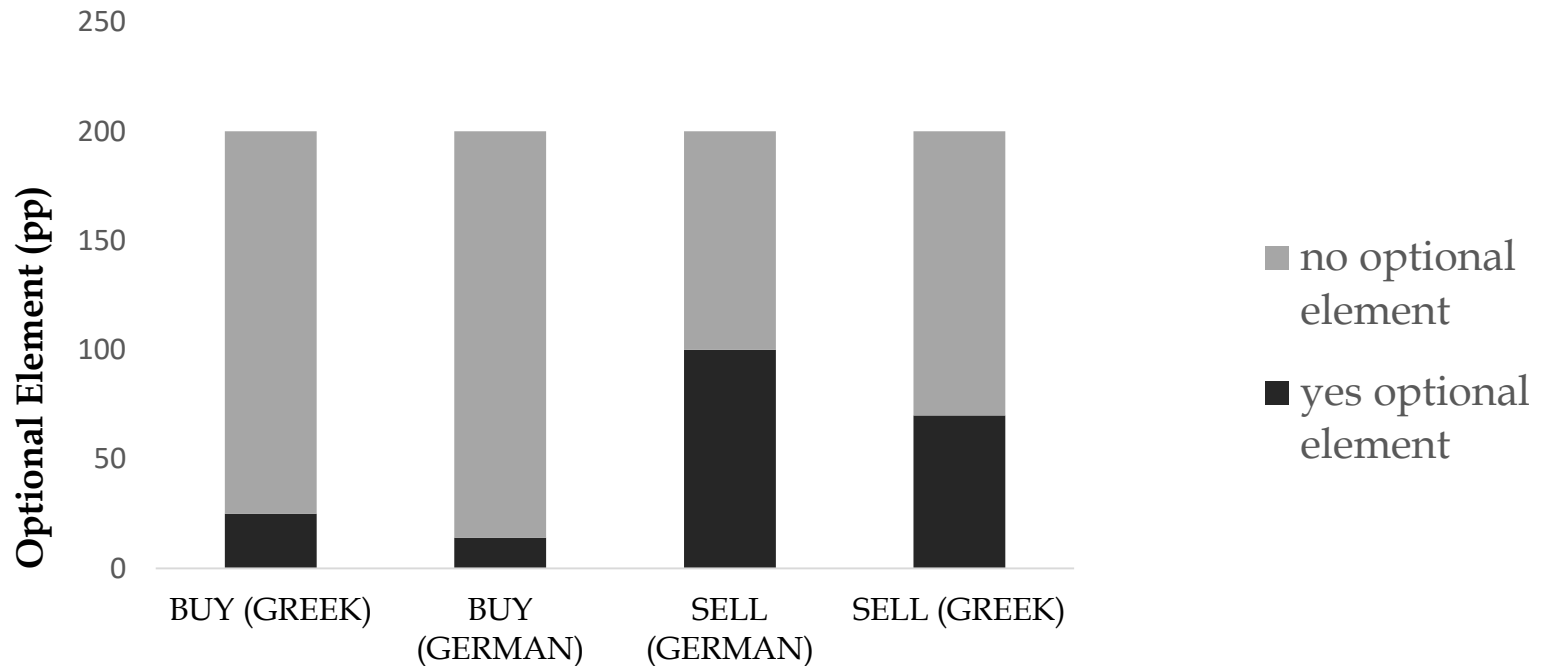
'He soon had a second ship which he bought from the Eugenides company'.
[WRPG17-2380]



BUY and SELL can explicitly express an optional element



Q: Does the typological difference between German and Greek affect some aspects of the bias toward the expression of the Goal?

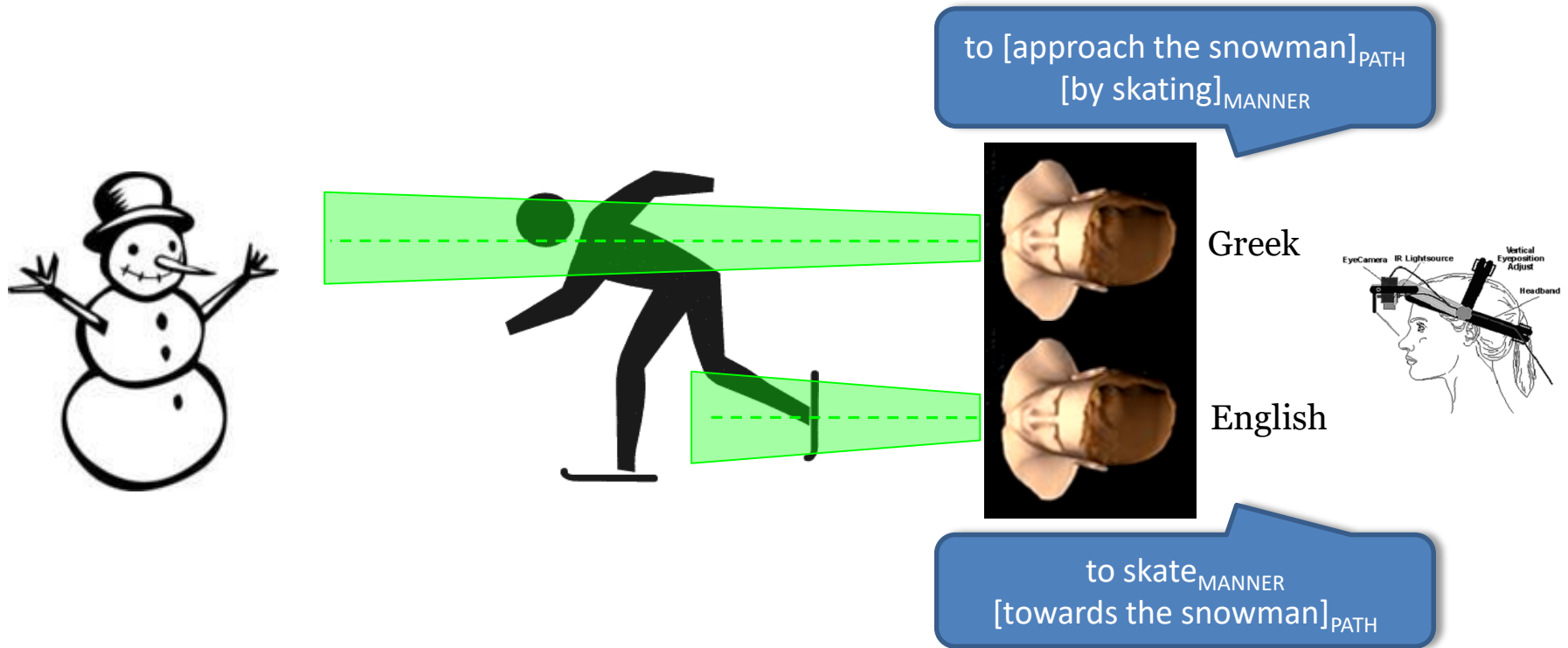


The highest-order interaction (Language \times Type of verb \times Expression of the optional element):
 $\chi^2 (1) = 10.01, p < .05$.

Thinking for speaking



Papafragou et al. (2008) found language-specific differences in gazing behavior **during verbalization**:



This reflects the view that the grammar of a language affects conceptual representations only on a level close to verbalization

(cf. Levelt, 1989; Slobin, 1996)



Grammaticalized aspect

- Aspects are different ways of viewing the internal structure of a situation
(cf. Comrie, 1976)
- A situation can be presented “with its boundaries” (i.e. perfective)
versus “without its boundaries” (imperfective/ progressive)

(cf. Klein, 2009: 52)



An apple fell from the tree.



An apple is falling from the tree.

(see Herweg, 1990; also Stutterheim, et al., 2012; Klein, 1994; Krause, 2002)



- The **English** progressive has much in common with the cross-linguistic notion of imperfective

(cf. Smith, 1991)

a. John *is* reading a book *vs.* b. John reads the book.

- The progressive aspect in **German** is expressed by means of verbal periphrases, like *am/beim, dabei sein zu + inf.* as well as with the adverb *gerade* (cf. c-e):

c. Ich bin *am/beim* Lesen.

d. Als Peter ankam, *war* Hans *dabei*, einen Roman *zu lesen*.

e. Als Peter ankam, las Hans *gerade* einen Roman.

- In **Greek** there is no distinction between progressive vs. non-progressive forms
- Grammatical viewpoint aspect is morphologically encoded in verb forms, which are morphologically either imperfective or perfective and in all tenses

(see Moser, 1994; Horrocks & Stavrou, 2007; Sioupi, 2014)



A variety of studies argue that:

- There is a relationship between aspect and language-specific behavior in the domain of goals of motion in language production
- Speakers of non-aspect languages are more prone to encoding event endpoints than are speakers of aspect languages



(Athanasopoulos & Bylund, 2013; Bylund, 2009; Schmiedtová, von Stutterheim, & Carroll, 2011; von Stutterheim & Nüse, 2003; Stutterheim, Bouhaous, & Carroll submitted)



A variety of studies argue that:

- **English** speakers focus on the **progression** of an event and mention a possible endpoint rarely ('phasal decomposition')
E.g.: *a car is driving along the road*
- **German** speakers conceptualize an event through a '**holistic**' perspective, including a possible **endpoint**

E.g.: *ein Auto fährt zu einem Dorf*
'a car drives to a village'



(see Stutterheim, et al. 2012 among others)

The present study: hypothesis



Assuming that (a) lexicalization pattern and (b) grammatical viewpoint affect the realization of goals, we can expect an interdependency of the two factors to occur in processes related to event conceptualization

There are two possibilities:

(a) the two factors have an additive effect:



H1a: Goals will be more frequent in German (non-aspect, Satellite-framed) than in English (aspect, Satellite-framed) and in Modern Greek (aspect, Verb-framed);

H1b: Goals will be more frequent in English (aspect, Satellite-framed) than in Greek (aspect, Verb-framed).

(b) the weight of each factor is different:

⇒ different clusters (e.g. if the lexicalization pattern is more important than the presence of aspect, German and English will cluster together and Greek will be different).



- **Corpora**

- **English:**

- The British National Corpus for English (<http://www.natcorp.ox.ac.uk/>)

- **German:**

- COSMAS II, IDS Mannheim;

- (see Kupietz et al., 2010; <http://www.ids-mannheim.de/cosmas2/>)

- **Modern Greek:**

- (a) the Portal for the Greek Language

- (http://www.greek-language.gr/greekLang/modern_greek/tools/corpora/makedonia/index.html)

- (a) the Corpus Manager (see Kouklakis et al., 2007)

- **Data**

- **Mode:** written

- **Text type:** newspapers



Table. Properties used to tag the data

Property	Levels	Labeling
LANGUAGE	3	English; German; Greek
REFERENCE TO GOAL	2	Yes; No
TYPE OF ASPECT	2	Perfective; Imperfective/Progressive

- **Number of tokens:** ranged from 1,850 to 17,000 extractions
- Random sorting with MS Excel 2010; formula “=rand()”.
- **N=200** valid tokens for FOLLOW and RUN



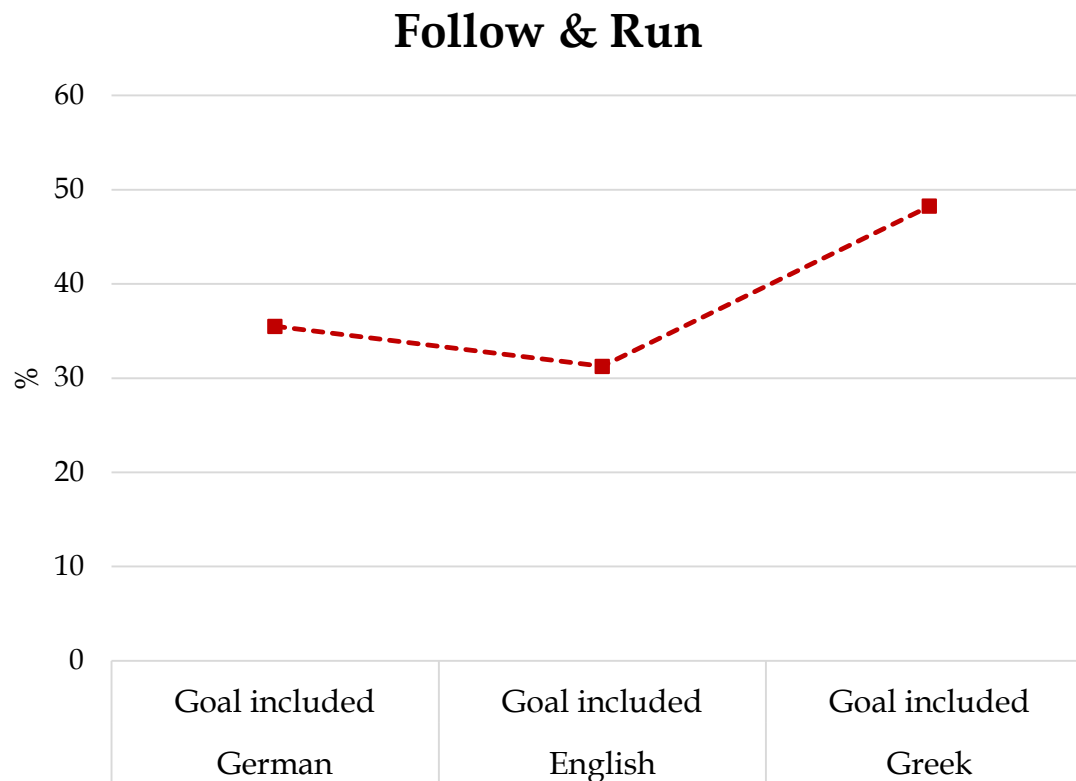
(a)
Der 17-jährige Schüler **folgte** seinem
the 17-years-old.NOM student.NOM follow.3SG.PST POSS.DAT.3SG
Mörder **in dessen** **Wohnung** an der Celler Straße
Killer.DAT in his.PRON.GEN.M flat.ACC in the.DAT Celler Straße
'The 17-years old student **followed** his murder **to his flat** in Celler Straße'
(HAZ08/AUG.03763 HAZ, 19.08.2008, S. 17)



(b)
After a pause to digest this, he **followed** her **to her room** (w_news_1993)



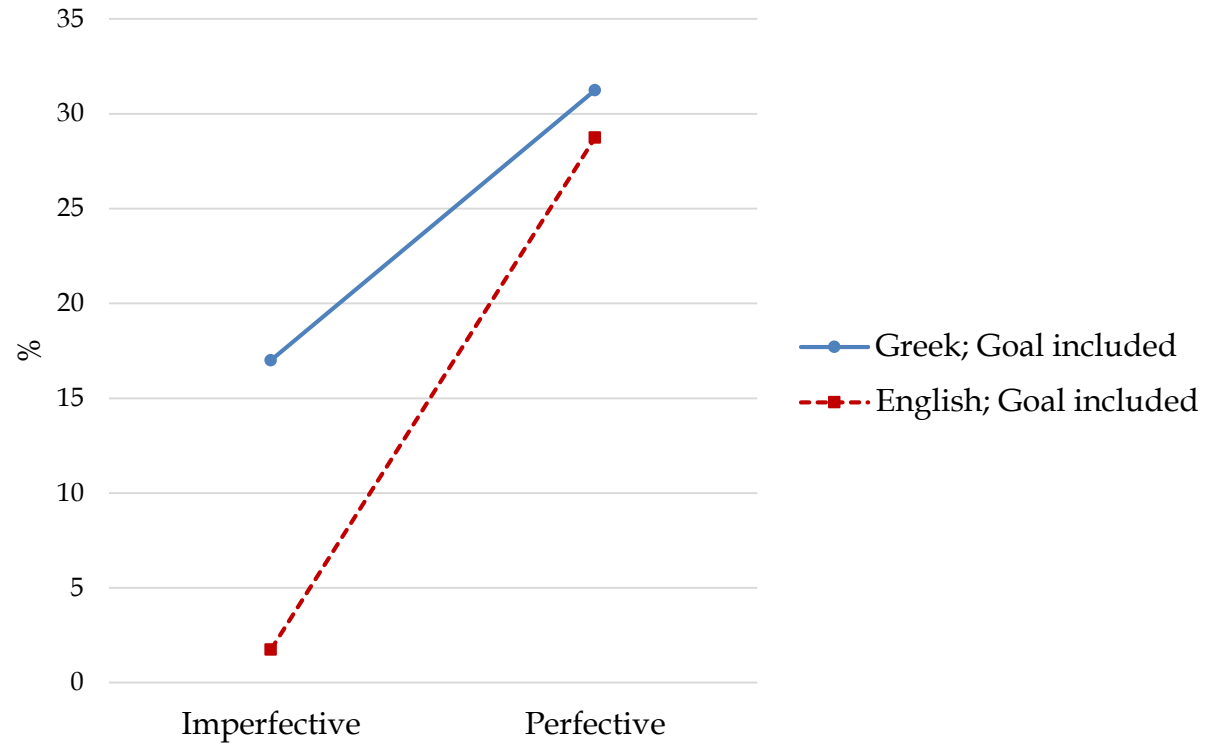
(c)
[...] na ksipnun s-tis 3 to proi k **na akoluθun**
SUBJ wake.2PL.NON-PST.IPFV at-the 3 the.ACC.SG morning.ACC and SUBJ follow.3PL.NON-PST.IPFV
tus yonis tus **s-to** **χorafi**
the.ACC.PL parents.ACC.PL CL.ACC.3.PL.M at-the field.ACC
'[One could see]...that they woke up at three in the morning and they **followed** their parents
to the field' (M0746P004L011)



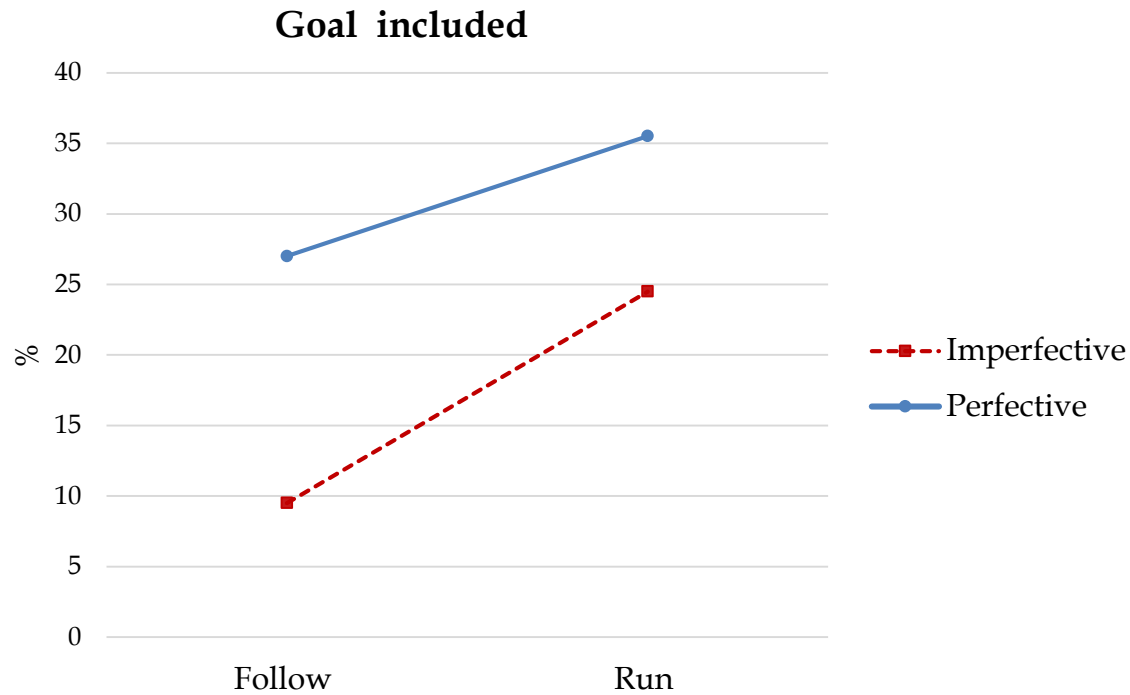
German *vs.* English:
 $\chi^2(1) = 1.62; n.s.$

German *vs.* Greek:
 $\chi^2(1) = 13.35; p < .001$

Corpus study - Results



Greek *vs.* English: $\chi^2(1) = 81.13; p < .001$



Imperfective *vs.* Perfective: $\chi^2(1) = 8.95; p < .05$



Participants:

- 20 Native speakers of English (University of Westminster, London; UK)
 - 20 Native speakers of German (University of Kassel; Germany)
 - 20 Native speakers of Greek (University of Athens; Greece)
-
- All participants were students and postgraduates
 - Age: between 18 and 30
 - Gender: balanced



- The stimuli used in the study were 40 real-world video clips created by the research team of Schmiedtová, von Stutterheim and Carroll at the University of Heidelberg.
- The clips were depicting different event types:
 - a) Ongoing motion events, where the Goal is not reached (**10 items; Goal not reached condition [Condition A]**)
 - b) Goal-oriented motion events, where the moving entity actually reaches the endpoint (**10 items; Goal reached condition [Condition B]**)
 - c) A simple action that did not involve the movement of an entity along a trajectory (e.g., a person wrapping a present) were used as fillers (**20 items; fillers**)
- Two versions of each condition were created, which contained 20 video clips (presented in a pseudorandomized order)

Verbalization study - Method



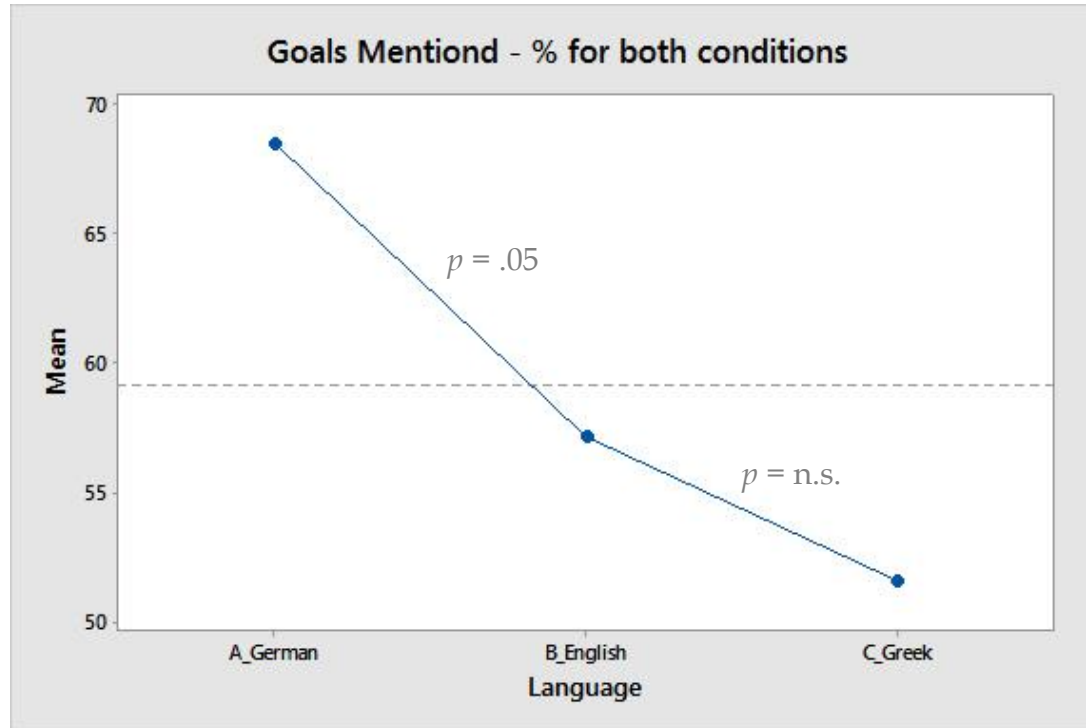
Verbalization study - Method



Verbalization study - Results



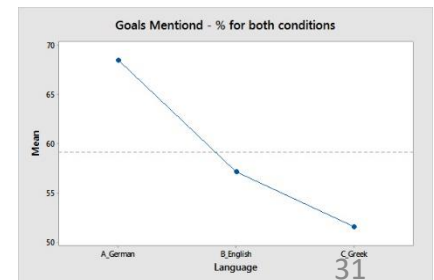
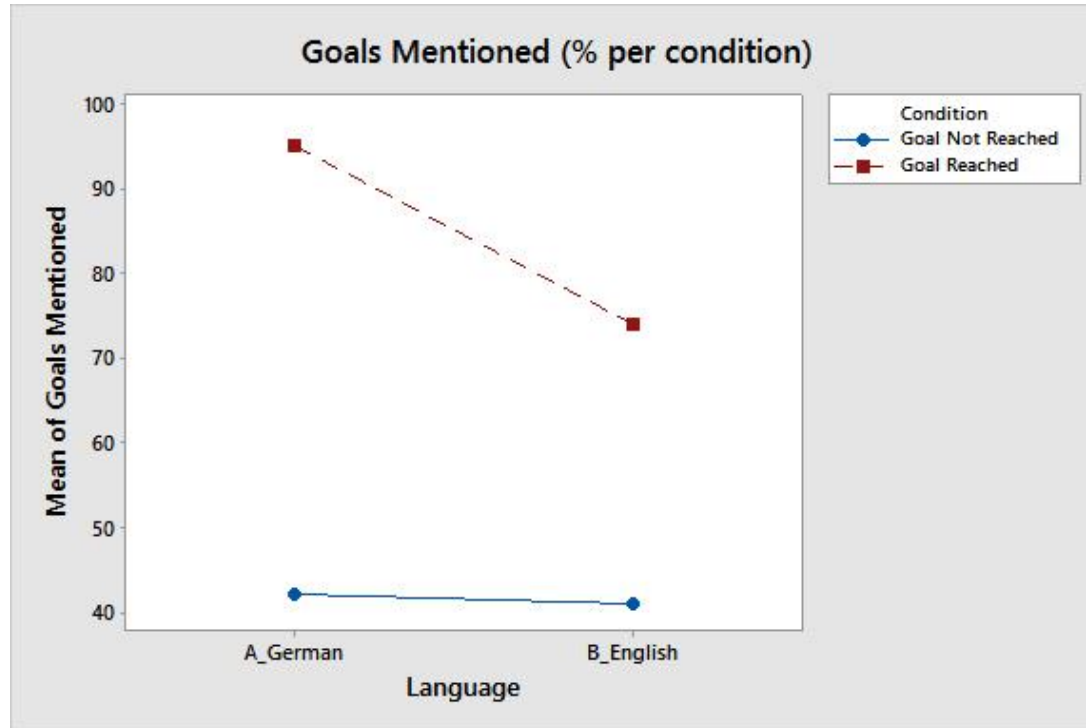
- Main effect for language



Verbalization study - Results



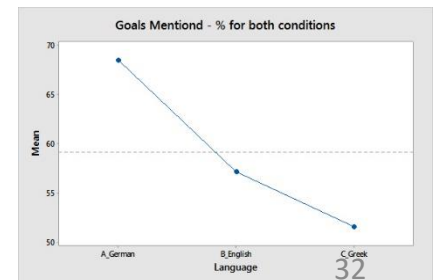
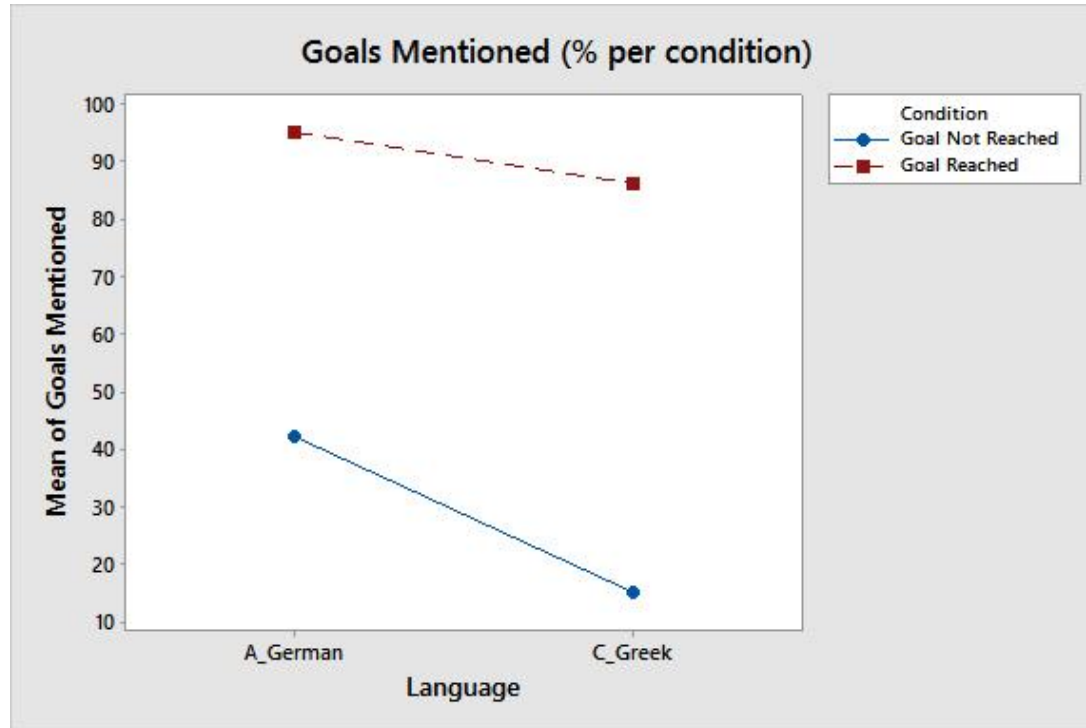
- Breaking down the effect:



Verbalization study - Results



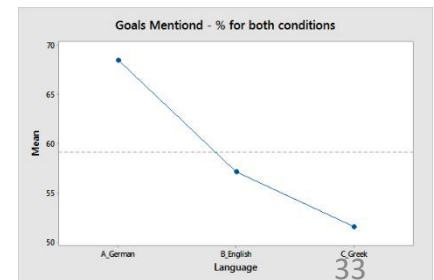
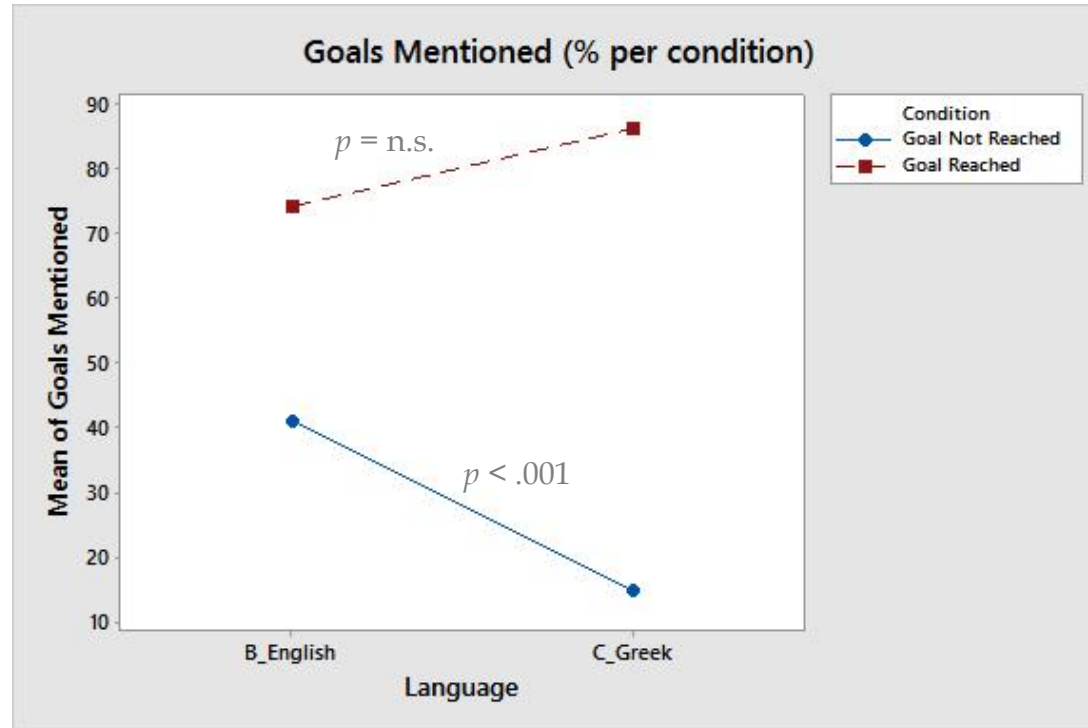
- Breaking down the effect:



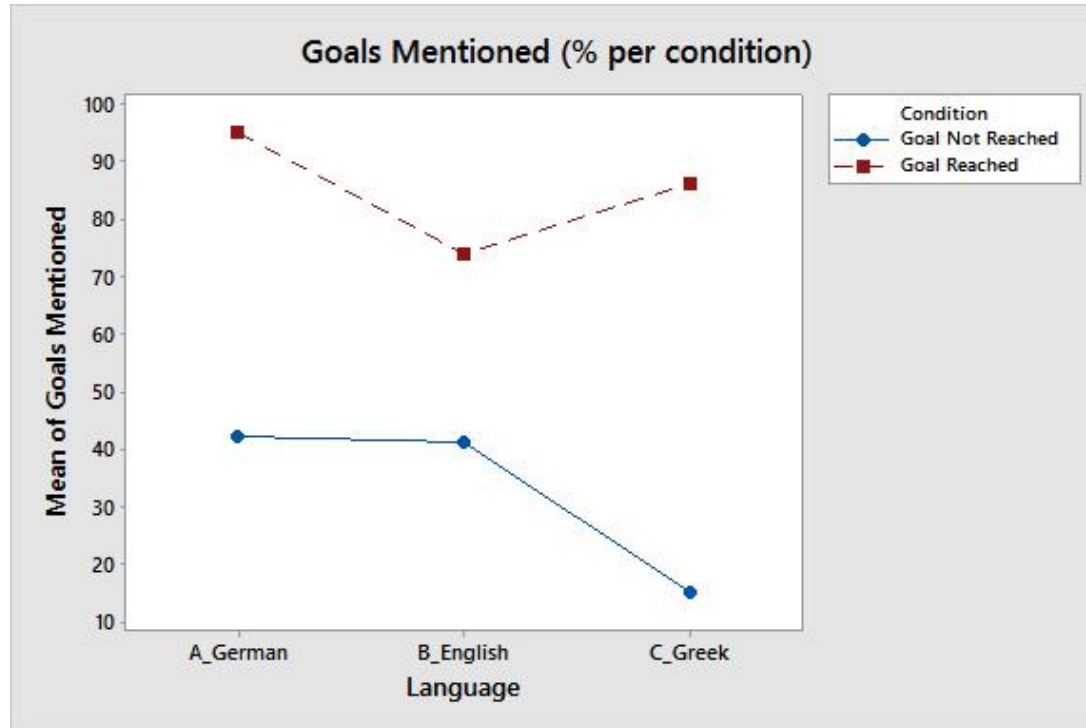
Verbalization study - Results



- Breaking down the effect:



Verbalization study - Results



Language*Condition: $p < .001$



- The results of the corpus study are inconclusive
- That's why we conducted a more controlled experimental study, which shows that:
 - Goal prominence is **language-specific** and **condition-specific**
 - Goal prominence must be investigated from a global **comparative** perspective including **possible combinations** of the relevant factors
 - Our speculation is that **lexicalization pattern** has a stronger impact than aspect



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