

1 An Analysis of Explicit Subjective Modality Metaphors in 2 Discussion Section of Linguistics Research Articles

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5 *Received: 10 September 2021 Accepted: 2 October 2021 Published: 15 October 2021*

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7 **Abstract**

8 Based on Halliday's theory of Grammatical Metaphor in Systematic Functional Linguistics
9 (SFL), this paper delves into the distribution features as well as interpersonal meanings of
10 modality metaphor in discussion section of Linguistics Research Articles (RAs). The
11 discussion sections of 60 RAs in Applied Linguistics (2016-2020) were selected and the
12 classification of explicit subjective modality metaphor from Halliday Matthiessen, Huang and
13 Fan was adopted in current study. The results show that epistemic modality metaphors take
14 up the highest proportion in explicit subjective modality metaphor (84.8

15

16 **Index terms**— explicit subjective modality metaphor, linguistics research articles, interpersonal meanings.

17 **1 Introduction**

18 grammatical Metaphor (GM), as a critical link between semantic level and lexicogrammatical level, has played
19 a pivotal role in Systematic Functional Linguistics since it was proposed by ??Halliday in 1985 ??Cong, 2014:
20 74). According to ??Halliday (1985: 351), GM could be divided into Ideational Grammatical Metaphor and
21 Interpersonal Grammatical Metaphor. The former one is mainly manifested as transitivity and realized by
22 nominalization and verbalization while the latter consists of Mood Metaphor and Modality Metaphor. Stupendous
23 research has been conducted upon Ideational Grammatical Metaphor with nominalization in its core (Halliday,
24 1999; ??Hu & Yan, 2001). By contrast, scant research has been concentrated on modality metaphor. Modality
25 referred to intermediate degrees such as "sometimes" and "perhaps" between positive and negative poles ??Fan,
26 2001: 139) and acts as a major exponent of interpersonal function of language ??Chang, 2001). When the speaker
27 intends to show his opinion regarding possibility, modality is, in this case, coded as modal elements like "must,"
28 "usually," which are congruent realization of modality. Halliday supposed that the most congruent expression
29 of modality is realized by modal verbs or adjuncts ??Hu, 2020: 42). Comparatively, incongruent realization of
30 modality manifests in a projected or embedded clause, which is modality metaphor ??Halliday & Martin, 2004).
31 To subsume modality metaphor under modality system, Halliday came up with explicit subjective and objective
32 modality metaphors. By using explicit subjective modality metaphor, the expression of modality becomes a
33 projection of speakers or authors' stance. Namely, in explicit metaphorically expressed modality, subjectivity is
34 expressed by "I" or "we" ??Fan, 2001: 153).

35 Discussion Section in Empirical Research Articles (RAs) is crucial in expounding the achievements and
36 practical value of the research ??Hess, 2004 ??Hess, : 1239)). In this section, the authors are supposed to
37 compare the results with literature, interpret results, express their opinions and stance. Meanwhile, they need
38 to convince readers of the significance and contribution of their research ??Golmohammadi et al., 2014: 607).

39 Nevertheless, few investigations looked into the analysis of explicit subjective modality metaphor in academic
40 discourse. Thus, the current study attempts to investigate the interpersonal meaning of explicit subjective
41 modality metaphors in discussion section of linguistics RAs.

7 A) DISTRIBUTION FEATURES OF EXPLICIT SUBJECTIVE MODALITY METAPHOR

42 2 II.

43 3 Theoretical Framework a) Halliday's Modality System

44 Halliday (1985) classifies modality into mainly two types: modalization and modulation. If the clause is an
45 "information" clause, which is a proposition congruently realized as indicative, this means either possibility or
46 usuality; if the clause is a "goods and services" clause, which is proposal realized by imperative, it means either
47 "is wanted to," relevant to a command, or "wants to," relevant to an offer; namely, either obligation or inclination
48 (Figure 1). ??Halliday, 1985:335) In addition, orientation is the basic distinction that determines how each type
49 of modality will be realized ??Halliday, 1994: 355). Namely, it is distinction between subjective and objective
50 modality, and between the explicit and implicit variants (Figure 2). ??Halliday, 1985: 358) According to ??alliday
51 (1985), explicit subjective and objective patterns are metaphorical realization of modality and the examples are
52 given in Table 1.

53 4 Modulation: inclination

54 Explicit subjective modality metaphor includes probability in modalization and obligation in modulation. In
55 these two situations, the clauses with modality represent a mental process to emphasize the subjectivity of the
56 speaker, such as "I believe," "I reckon," "I want," "I desire" etc. Moreover, modified relational clauses that
57 express a cognitive state or emotion can also clearly represent subjective orientation, which is also metaphorical
58 ??Chang, 2001). Such as:

59 (a) I'm sure Mary'll know. (Probability) (b) I'm willing for him to go. (Inclination) ??alliday (1994:347)
60 believed that in the two types of modalities, usuality and inclination, the speaker cannot express explicit subjective
61 modal meanings.

62 assuming that it can be expressed by the first verb phrase of a verb phrase complex, such as:

63 (c) I tend to wake up early in the morning. = I usually wake up early in the morning. (Usuality)

64 5 b) Realization of Explicit Subjective Modality Metaphor

65 According to ??alliday's (1994) definition and classification of modality metaphor as well as the complements of
66 the realization of modality metaphor by ??hang (2001) and ??uang (2000), the realization methods of objective
67 modality metaphor include two realization methods: (a) projection clauses like [I/we V that] and [I/we be ADJ
68 that] and (b) verb phrase complex. In separate, projecting clauses, some verbs and adjectives are given in Table
69 2 and Table 3 by Fan (2001) and Hu (2020). And the realization methods are summarized in Table 4. ??006)
70 specific study on the structure of linguistics RAs, the current research selected the discussion sections of 60RAs
71 from Applied Linguistics (2016-2020), with a total of 95,665 words.

72 The second step was to identify modality metaphors in the corpus. Based on the definition elaborated by
73 Halliday and the supplements for modality metaphor identification raised by other scholars, lists with search
74 terms for explicit subjective were input in AntConc. Meanwhile, the selected modality metaphors were manually
75 checked, sorted and classified.

76 Then, SPSS was utilized to conduct a quantitative analysis to reveal distribution features of explicit subjective
77 modality metaphor in discussion section. Also, modality metaphors with different semantic features were
78 compared with the assistance of Chi-square.

79 Finally, focusing on the original context, the interpersonal meaning of modality metaphors was analyzed to
80 explain the reasons for different distributions.

81 IV.

82 6 Results and Discussion

83 7 a) Distribution features of explicit subjective modality 84 metaphor

85 It can be noted in Table 5 that in the current corpus, there are totally 48 different varieties of explicit subjective
86 modality metaphors, with a total frequency of 171. Epistemic modality accounts for 84.8% of the total modality
87 metaphors, much more than other types. Among these 145 epistemic modality metaphors, the pattern "we/I
88 find/found that" is most popularly used explicit subjective modality metaphor (23 occurrences), followed by the
89 pattern "we believe that" (14 occurrences) and "we know that" (10 occurrences). As for boulomaic modality
90 metaphors, there are totally 19, accounting for 11.1%. Evaluative modality metaphors such as "we question
91 that," "we can appreciate that" and evidential one including "we felt that" only take up a small fraction as a
92 whole, 3.5% and 0.5% respectively. The first reason for the high proportion of epistemic modality metaphor is
93 its role in accentuating scientificity and objectivity of RAs.

94 The pursuit of scientificity and objectivity is an essential feature of scientific discourse (Markkanen & Schroder
95 1997: 12). The epistemic modality demonstrates the author's certainty or uncertainty upon the hypotheses ??Li,
96 2001). Compared with other subjective modality metaphors, epistemic ones emphasize that the views are simply
97 derived from individual behavior instead of the main body in society, which in turn proves that the authors
98 are pursuing the scientificity and objectivity of academic discourse. In this case, a range of mental verbs such

99 as "believe," "think" or "argue" can be classified as belief evidentials (Hu, 1994), which are not fixed facts, but
100 subjective judgments that are difficult to verify. Moreover, the author chooses a subjective projection to show
101 the argument and takes on full responsibility for the certainty and modality of the information (Yang, 2015).

102 **8 Example 1: We can conclude that only the English native
103 speakers treat novel and regular metonymy differently, with
104 the latter highly conventionalized, while the other native
105 groups do not (for more details see Slabakova et al. 2013)
106 (From RA 3).**

107 Example 2: We would have seen a larger and wider effect of MTI had we been able to include more participants
108 in our sample who had not attended any MTI. For example, we think (that) this would have led to a statistically
109 significant effect of MTI on the Somali vocabulary measures, at least for lexical depth (From RA 37).

110 In Example 1, the form "we can conclude that," with an explicit subjective projection, gives a condensed
111 summary for the results of the current study. It indicates the core finding as well as the certainty of the research.
112 In Example 2, the author makes a reasonable and subjective prediction by using "we think that" pattern, which
113 displays his subjectivity. The author claims that if more participants can be included in the sample, a more
114 profound effect of Mother Tongue Instruction will be figured out. Thus, he or she surmises MTI will definitely
115 exert an influence on Somali vocabulary measures. Undoubtedly, it is a prediction instead of the fact seen from
116 the research. However, the author is willing to shoulder the responsibility for this claim, arguing that MTI will
117 influence the development of biliteracy since he or she has conducted scientific research in this field.

118 ii. According with the politeness principle (1) Raising different or supplementary viewpoints in a conciliatory
119 way In addition, sometimes it is common for authors to propose a view that is opposite or complementary to
120 previous research. In this case, authors tend to express their opinions without damaging others' face (Hu, 2020)
121 as is shown in Example 3.

122 Example 3: We might thus have to recognize that some aspects of language knowledge are perhaps not as
123 atomistic or discrete as 'desirable' for this purpose. In other words, we may wish to consider developing tests of
124 lexicogrammar rather than 'pure' syntax or vocabulary tests, or integrating aspects of syntactic or phraseological
125 properties of vocabulary into vocabulary tests (From RA 24).

126 In Example 3, the author is explicit involved in the discourse by means of an explicit subjective projection "we
127 might thus have to recognize that." It can be inferred that 'pure' syntax, vocabulary tests, integrated syntactic
128 or phraseological properties of vocabulary were previously and consistently considered into vocabulary tests by
129 researchers. However, the writer here points out that developing tests of lexicogrammar should also be taken
130 into account. Compared with previous cognition, the writer's viewpoint is a complement.

131 (2) Strengthening negotiation between writers and readers Subjectively projected propositions take first person
132 pronouns i.e. I or we as the projector while objective ones resort to the non-interactant "it" or "there." Hyland
133 (2008) emphasizes the interaction between the writer and the reader. It is often the case that writers and readers
134 share common knowledge but writers need to adjust negotiation space by shortening distance between readers
135 and themselves.

136 Example 4: Earlier we pointed out that the concern about vocabulary tests based on word family knowledge
137 is that they may overestimate the lexical knowledge that learners can apply to reading. Based on the evidence
138 from the two studies above and our text analysis by Morpholex, we contend that this concern is exaggerated and
139 further that there is little reason to reconsider the large amount of useful and influential research that is based
140 on the word family as the unit of counting (From RA 60). (Subjective) In Example 4, readers show concern
141 for vocabulary tests based on word family knowledge. Nevertheless, the author evaluates this concern that it is
142 exaggerated. By employing the pattern "we contend that," the author can weaken the tension of this preposition,
143 as a result of which, creating a negotiable atmosphere. In Example 10, the use of objective modality metaphor
144 "it is possible that" shows that researchers are prone to air their views in a negotiable way, so as to enhance the
145 academic inclusiveness and negotiation space of the research.

146 (3) Expressing the author's deliberativeness "Pure opinion" is a pivotal component of the content that is
147 subjectively projected (Aijmer, 1997; ??imon-Vandenbergen, 2000). When the projection, no matter objective
148 or subjective, is "pure opinion," it will exude the author's deliberative attitude toward his point of view.

149 Example 5: At the same time, we want to clarify that we cannot assume causality based on these correlations,
150 and we also have not controlled for the impact of, for example, participants' general cognitive ability as a possibly
151 mediating factor in the results (From RA 37).

152 As is shown in Example 5, an opinion that is we cannot assume causality based on these correlations is proposed
153 by the author as an object clause followed by "we want to clarify that." Superficially, the subjective projection
154 "we want to clarify that" conveys author's purpose and intention. More importantly, it emphasizes the author's
155 opinion in a deliberative way. In Example 12, with the objective projection, the writer doubts the reliability of
156 complicated formulae in accessing essays, further demonstrating writer's deliberateness.

9 Conclusion

158 The result of quantitative analysis clarifies that subjective modality metaphors are commonly utilized by writers in
 159 discussion section in Linguistics RAs. Among the annotated modality metaphors, Epistemic modality metaphors
 160 are most frequently used (84.8%), followed by boulomaic, evaluative and evidential modality metaphors.

161 The distinctive distribution difference can be explained from two perspectives. First, compared with
 162 other modality metaphors, epistemic modality metaphors contribute to pursuing scientificity and objectivity
 163 of academic discourse. More importantly, the interpersonal meaning of epistemic modality metaphor satisfies
 164 the politeness principle by raising different or supplementary viewpoints in a conciliatory way, strengthening
 165 negotiation between writers and readers as well as expressing the author's deliberativeness.

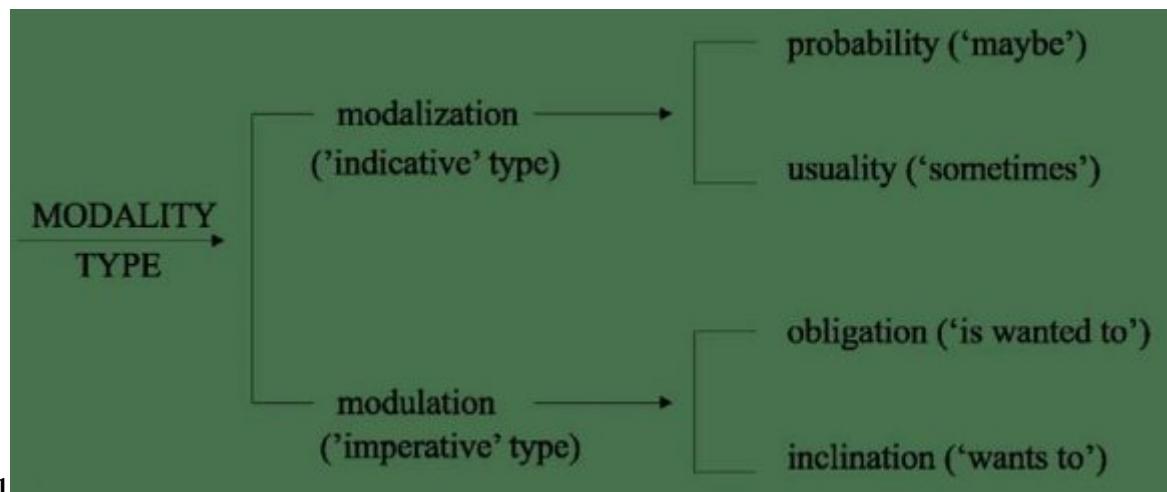


Figure 1: Figure 1 :

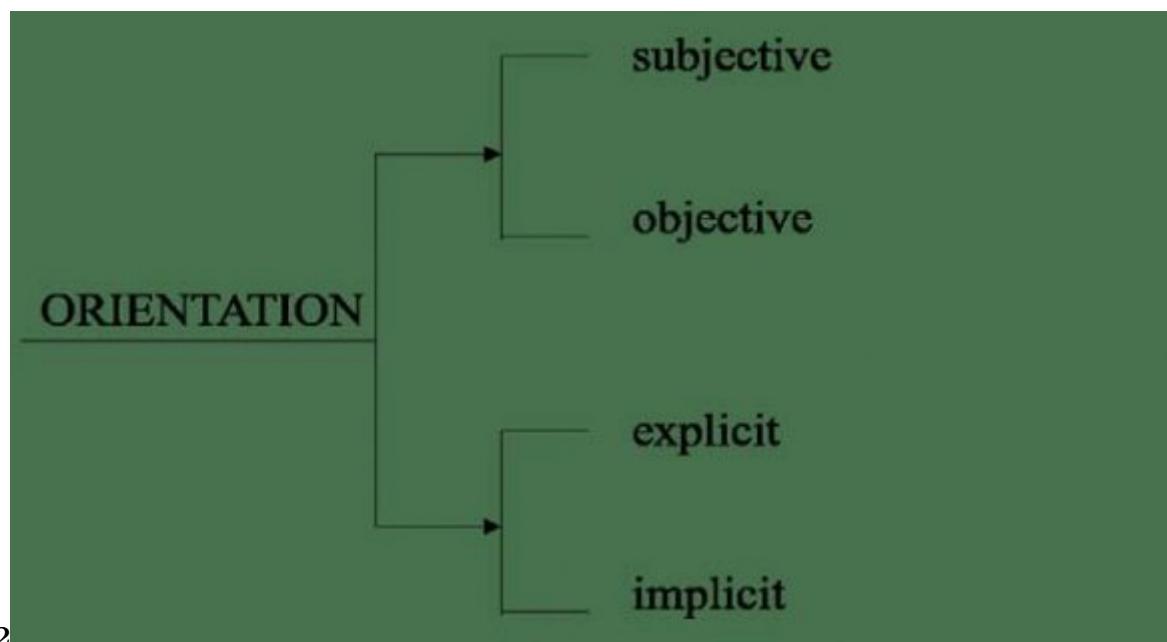


Figure 2: Figure 2 :

1

ORIENTATION	Explicit Subjective	Explicit Objective
TYPE	(Modality Metaphor)	(Modality Metaphor)
Modalization: probability	I think Mary knows.	It's likely that Mary knows.
Modalization: usuality		It's usual for Fred to sit quite quiet.
Modulation: obligation	I want John to go.	It's expected that John goes.

Figure 3: Table 1 : Metaphorical Realization of Modality(Halliday 1994: 358)

2

Semantic Feature	Subclass	Members
	Learn	learn, read
	Conjecture	allow, anticipate
Epistemic		

[Note: remember, believe, think, feel, posit, suppose, suspect Estimate count, estimate, guess, judge Discover ascertain, deduce, determine, discover, find, guess, rationalize, realize, hear, learn, read Comprehend grasp, understand Deduce conclude, deduce, gather, infer, prove, reason, rationalize Evaluative Admire admire, adore, affirm, appreciate, believe, dread, fancy, fear, lament, prefer, reaffirm, regret, resent, respect, stand, support, tolerate, treasure, trust, worship Accept accept, understand Care care, mind, wonder, worry Boulomaic Correspond agree, disagree, decide Wish dream, expect, hope, imagine, intend, mean, plan, propose, wish, desire, refuse, decline Allow allow Evidential See perceive, smell, see, taste, detect, feel, notice, sense]

Figure 4: Table 2 :

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Nonetheless, Huang (2000) put forward a different view,

Semantic Feature	Subclass	Certainty	Perception	Expectation	Un/happiness	sad, tragic, distressing	certainty
Epistemic							
Evaluative	In/security				surprising, funny, encouraging		
	Impact				interesting, im- pressive, excit- ing		
	Quality				neat, nice, won- derful		
	Composition				appropriate, proper		
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Figure 5: Table 3 :

	Semantic Feature	Explicit	Subjective
Modal	[I/We V that]		
Epistemic	I/We be ADJ		
Evidential	our opinion		
		I/We tend to	
		[I/We V that]	
Modular	I/We be ADJ		
Evaluative	Boulomaic	our responsibility	
		our desire/determination	

III.

Methodology

a) Research Questions

Concentrating on distribution and functions, this study is designed to answer the following questions:

- (1) In linguistics RAs, what is the overall distribution of explicit subjective modality metaphors in discussion section?
- (2) What are the interpersonal functions of explicit objective modality metaphors in discussion section of academic discourse?

b) Research Procedures

Firstly, based on Yang's (

Figure 6: Table 4 :

Realization Method	Semantic Feature	Examples in Corpus	Frequency	Perce
		we/I find/found that (23)		
Epistemic		we believe that (14) we know that (10)	145	84.8%
		...		
Projection Clauses	Boulomaic	we want to V that (6) we hope that (5) we expect that (3)	19	11.1%
		...		
Evaluative		we question that (1) we can appreciate that (1) we were surprised that (1)	6	3.5%
		...		
Total	Evidential	we felt that (1)	1	0.5%
		171		100%

Figure 7: Table 5 :

9 CONCLUSION

167 [??? and ??????????????????] , ??? , ?????????????????? .

168 [??? and ???????ä½?"?????] , ??? , ???????ä½?"????? .

169 [??? and ??????????????] , ??? , ?????????????????? .

170 [??ç?"?] , ??? ??ç?"? .

171 [??? ()] , ??? 2000. (3) p. .

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