



Collocations of English Emotion Expressions in High School Textbooks*

Yunjung Ku

Korea University

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ABSTRACT

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The purpose of this study is to examine similarities and/or differences between emotion collocations (emotion adjective + preposition) presented in high school English textbooks and the Corpus of Contemporary American English (COCA), and to analyze the underlying conditions on the choice of prepositions in emotion collocations by referring to the COCA. For the analysis, emotion collocations were extracted manually from 16 high school English textbooks in Korea. Then, how these emotion adjectives were collocated with prepositions by native speakers was investigated referring to the COCA. The similarities and/or differences in the prepositions between the two corpora were examined focusing on the diversity of prepositions in emotion collocations. The findings reveal that most of the emotion adjectives in the textbooks combine with only one preposition, while some combine with two; in contrast, data from the COCA suggests that emotion adjectives can combine with various prepositions. The study makes a significant contribution to the field as it provides a better linguistic understanding of emotion collocations, and warns against the textbook-set rule on emotion adjectives. Implications for improved pedagogical practices for EFL learners are provided.

I. INTRODUCTION

With an increase in interest in the deeper functional levels of meanings constructed through social interaction, expressing one's emotion has gained great importance in the field of second language learning and teaching (Brown, 2007). Among the various functions that a speech act serves, expressing one's state of mind is one of the major and primary functions. Leech (1981) clarified the functions of a language, among which is an expressive function, that is, to "express its originator's feelings and attitudes"

(p. 40). Considering that emotions are an integral part of human mental and social life, comprising the essence of learning and teaching English is, without a doubt, understanding how to express one's feelings through language forms.

On this account, it is not surprising that communicative competence, i.e., the ability to interact with other speakers, is gaining more importance in second language learning and teaching. In particular, understanding and expressing one's thoughts and feelings comprise the core of the curriculum in English as a foreign language (EFL) settings.

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The National Curriculum in Korea embodies this pedagogical trend. The 2015 7th Revised National Curriculum emphasizes basic interpersonal communication skills through which students can understand and express their thoughts and feelings.

However, conveying one's feelings as one intends is challenging for second language learners because of the distinct emotion vocabulary and ways of expressing emotions across languages (Pavlenko & Driagina, 2007). In part, the challenges that learners face may be related to the uniqueness of emotion words that are represented, processed, and recalled differently from abstract or concrete words; they are more memorable and more readily recalled but less concrete than abstract and concrete words (Altarriba & Bauer, 2004).

Despite their importance, emotion expressions occurring in high school English textbooks have not been studied yet, as opposed to the considerable amount of research done on collocations occurring in English textbooks in Korea. At the most, what has been reported is the analysis of the proportion of emotion vocabulary in the total number of words (J. K. Lee, 2009).

Since including "plenty of authentic languages" in the course book is essential (Ur, 1996, p. 186), this study aims to figure out the similarities and differences between emotion expressions in high school English textbooks and the native speaker corpus. In EFL situations, where the primary linguistic input comes from the textbook, examining the authenticity of the textbook assumes great importance (Littlejohn, 1998; Ur, 1996; Williams, 1983).

Special attention should be given to emotion adjectives combining with the prepositional phrase (i.e., emotion collocation¹) because choosing the appropriate preposition following the emotional term, such as *happy with* and *worried about*, in consideration of the whole context is challenging for English learners as well as linguists (E. Kim, 2015; Osmond, 1997). Thus, among the various forms of emotion expressions, this study focuses on emotion adjectives collocating with a prepositional phrase, as the choice of preposition in emotion collocation is affected by the surrounding linguistic and contextual situation (Y. Ku, 2019). The specific questions examined in this study are as follows:

- 1) What are the emotion collocations occurring in high school English textbooks, and how diverse are the prepositions compared with those in the COCA?
- 2) What are the underlying conditions with respect

to the choice of prepositions in emotion collocations?

Since there are virtually no studies on emotion collocations occurring in high school English textbooks, addressing these questions will give pedagogical insight in teaching diverse prepositions and their combinations with emotion adjectives.

II. LITERATURE REVIEW

1. Theoretical Background

Before tapping into the main concern of this study, the notion of collocation is examined and defined to clarify the object of this study. The term collocation has been defined using different approaches, from the psychological to the phraseological. Among these is the Firthian approach to collocation, which originates in the work of Firth in the 1950s. Firth, as can be inferred by his statement "you shall know a word by the company it keeps" (as cited in Widdowson, 2007), underlined that the way words typically occur together provides the basis for understanding elements of the meaning of words. This approach was expanded by Halliday and Sinclair in the 1960s, which paved the way for lexical studies in corpus-based linguistics (Barfield, 2006; Men, 2015). The notion of collocation defined by Firth and his followers is called frequency-based studies on collocation² because it emphasizes the statistical significance of co-occurring words, regardless of any semantic bonding between the collocating items (Men, 2015).

However, in contrast to frequency-based studies on collocation, this study describes the usage and combinations of words as observed in the native speaker corpus. In other words, the focus of analysis is not on the statistical significance of co-occurrences between words; instead, word combinations are analyzed regardless of their frequency. This is because language relating to emotions can only be properly described and understood in light of the whole context of the utterance (Y. Ku, 2019). This study examines linguistic and situational contexts to ascertain the dynamic process involved in expressing emotions.

Grammatical collocation³ with emotion adjectives needs special attention among the various types of collocations because the cause and effect of emotion, *emotional causality*, is expressed through prepositional phrases (Dirven, 1997). Apart from a few causal prepositions,

¹ In this study, *emotion collocation* is defined as a combination of an emotion adjective and a preposition, following Osmond's definition of emotion construction: "X is adjective/past participle preposition Y" (Osmond, 1997, p. 112).

² Though Men (2015) summarized studies on collocation into two subsections (*text-oriented studies* and *frequency-based studies*), he cautioned that they are not mutually exclusive. The division was only made "for the purpose of stressing their difference" (Men, 2015, p. 17).

³ According to Benson, Benson, and Ilson (2010), collocations can, on the whole, be divided into two types: grammatical and lexical. A grammatical collocation is a phrase consisting of a dominant word and a preposition, or a grammatical structure, while lexical collocations consist of content words, such as nouns, adjectives, and verbs.

such as *on account of* and *because of*, many non-causal prepositions are used to describe emotional causality. Dirven (1997) explained two ways of representing emotional causality: *emotion as cause* is represented by preposition + noun (e.g., out of fear) and *the cause of emotion* is represented by adjective + preposition (e.g., happy with). For example, in the sentence *Mary trembled with anger at his remark*, the external event (his remark) caused the inner emotional state of anger, which in turn brought about the physiological reaction of trembling. Here, the preposition *with* is used to conceptualize the link between the outer physiological reaction and the inner emotional cause, while the preposition *at* is used to link the external event triggering the emotion with the inner emotion. In short, both emotion as cause and the cause of emotion are represented in the sentence *Mary trembled with anger at his remark*. In contrast, in emotion collocation, only the cause of emotion is represented, not emotion as cause. For example, in *Mary is angry at his remark*, only the cause of emotion is represented in the prepositional phrase.

This study focuses on an emotion adjective collocated with a prepositional phrase (the cause of emotion). The constraint on the preposition that follows the emotion adjective has posed as a challenge to grammarians and language learners because the choice of preposition is not only restricted by its meaning but also by the nature of the emotion as well as the appraised cause of the emotion (Osmond, 1997). Thus, providing a better linguistic understanding of emotion collocations to second language learners gains significance. Having discussed the notion of collocation and the focus of this study, the next section examines previous studies on collocations occurring in the textbooks.

2. Previous Studies

Owing to their significant role in vocabulary learning, collocations have garnered wide interest in the field of second language learning (Hill, 2000; Lewis, 2000). Hill (2000) contended that the concept of *collocational competence* needs to be added to the concept of communicative competence since students who lack collocational competence are likely to make long utterances that may sound awkward. Lewis (2000) emphasized collocations as essential to learning a language. Putting emphasis on the pedagogical importance of collocation, Hill (2000) underlined that learners can process and produce language more efficiently in a way similar to native speakers calling on *ready-made chunks*.

To help learners acquire collocational competence, there have been numerous EFL studies analyzing collocations in English textbooks in comparison with the native speaker corpus (H. Choi & Y. Chon, 2012; M. K. Kang, 2014; J. H. Kim, 2011; N. B. Kim, 2004; Y. Kim & J. Suh, 2006; I. S. Kwon, 2002; among others). N. B. Kim (2004) argued that the materials reflect adjective + noun and noun + noun collocations, but other collocations, such as verb + noun and adverb + verb, are not reflected enough. Based

on this, N. B. Kim (2004) suggested that more collocations in the larger-scale English corpora should be presented in English textbooks to expose learners to more authentic material.

Similarly, H. Choi and Y. Chon (2012), in their corpus-based analysis of collocations in tenth-grade English textbooks, compared lexical collocations extracted from 16 high school English textbooks with those in the native speaker corpus. They found that although high-frequency collocations in the textbooks are related to a learner's real life, such as *good grade*, *use computer*, and *healthy food*, the number of collocations including adverbs is relatively small. Arguing that the range of collocations does not correspond to those in the native speaker corpus, they suggested that high-frequency collocations of the native speaker corpus should be included when developing materials for EFL students.

M. K. Kang (2014) examined high-frequency verb + noun collocations occurring in Korean high school English textbooks and compared them with those in the native speaker corpus. She concluded that although there are no considerable differences in 1) the distribution of high-frequency verbs and 2) their combinations with noun phrases between the two corpora, various lexical bundles that cover wide semantic distribution of collocations should be included in the textbooks.

As summarized above, a wide range of corpus-based studies on collocations occurring in English textbooks have been conducted. However, most of the studies are focused on lexical collocations such as verb + noun and adjective + noun. Though given less attention, grammatical collocations still have their centrality in the field of second language learning and teaching since words or phrases, in certain contexts, possess features such as the grammatical company they keep (Hunston, 2001). Hunston (2001) argued that when teaching grammatical collocations, such as *aware of* and *interested in*, the collocation should be taught in a larger context, such as *aware of the problems* and *interested in football*, due to the importance of the context in which the words actually occur. Lewis (2000) also emphasized the importance of teaching grammatical collocations that include both grammatical and lexical words. Thus, analyzing emotion collocations with a prepositional phrase would contribute to teaching and learning how to express one's emotions in various situations.

So far, this section has concerned itself with the theoretical background and previous studies on collocations. The next proceeds to discuss methods of the present study.

III. METHODS

1. Procedure

This study was mainly processed in two steps. First, emotion collocations were extracted manually from 16 high school English textbooks in Korea. As the focus of the study is emotion collocations rather than emotion ad-

jectives that are separated from the following prepositional phrase, emotion adjectives not collocating with the prepositional phrases were ruled out. The process of collecting data from the textbooks is examined in more detail in Section 3.2. After identifying emotion adjectives and their collocating prepositions, how native speakers use these emotion adjectives in combination with the preposition was examined by referring to the COCA. Then, the similarities and/or differences in the prepositions between the two corpora were examined centering on the diversity of prepositions in emotion collocations. Second, to help second language learners better understand emotion collocations, this study investigated the underlying conditions on the choice of prepositions in emotion collocations. Data derived from the COCA was analyzed in consideration of the whole context within and beyond the sentence level.

2. Data Collection

Data was collected from 16 high school English textbooks authorized by the government. Selection of the textbooks for the analysis was based on the 2015 revised national curriculum. For the analysis, *High School English* and *High School English I* were chosen. Table 1 presents the English textbooks selected for this study (see Appendix for details).

TABLE 1
High School English Textbooks in Korea

Publisher	Title
YBM (Park)	English, English I
YBM (Han)	English, English I
Kumsung	English, English I
Neungyule	English, English I
Dong-A	English, English I
Visang	English, English I
Jihak	English, English I
Chunjae (Lee)	English, English I

In this study, only the main reading section was analyzed, with the other parts of the textbook, such as warm-up and after-reading activities, excluded. This was because 1) in most high schools, it is the reading section that is mainly covered during class and 2) contents of the main reading section are repeated continuously in the other parts. When collecting emotion collocations from the textbooks, only emotion adjectives with a prepositional phrase were extracted; emotion adjectives combining with clauses (e.g., *happy that*, *happy because*) and *to-infinitive* (e.g., *happy to see you*) were excluded since dealing with these cases would have obscured the focus of the study. In addition, when extracting emotion collocations, emotion terms were distinguished from other affective states, such

as preferences, attitudes, and stances. While debate on the precise definition of emotion is ongoing, this study followed Fontaine, Scherer, and Soriano's (2013)⁴ definition of emotion. Based on it, adjectives such as *curious*, *confused*, *exhausted*, *indifferent*, *passionate*, *tired*, *comfortable*, *awkward*, and *uneasy* were excluded.

After extracting emotion collocations from 16 textbooks, emotion adjectives and the diversity of the collocating prepositions were examined in comparison with those in the COCA⁵. Among the various emotion adjectives, the ones that occurred in the textbooks were examined for comparison with the prepositions combining with each emotion adjective in parallel.

This section has concerned itself with the methods of the study. The results of the analysis are discussed in the next section.

IV. RESULTS

This section discusses the results of the two research questions. The first section deals with the diversity of prepositions combining with emotion adjectives in both corpora, and in the next, the underlying conditions in emotion collocations are discussed.

1. Diversity of Prepositions in Emotion Collocations: Textbooks vs. the COCA

Table 2 indicates the number of tokens and frequency of emotion collocations occurring in each high school English textbook.

As provided in Table 2, the total number of emotion collocations occurring across the 16 textbooks is 57, consisting of 34 tokens. The frequency of emotion collocations in each textbook ranges from one to eight and the number of tokens extends from one to seven. The meager number of emotion collocations in some textbooks, with a frequency of one or two, can be attributed to the genre of the passage. According to J. K. Lee (2009), emotion vocabulary is limited to only 8.8% of the total number of adjectives used in textbooks. She explained that the limited amount of emotional vocabulary in textbooks is due to the high proportion of expository text type. As J. K. Lee (2009) mentioned, since the passage in high school English textbooks mostly consists of descriptive writing, it is highly possible to include less emotion expressions.

Going back to research question 1, which enquires into the diversity of prepositions in emotion collocations, Table 3 presents emotion adjectives and their collocating prepositions in the textbooks. They are classified by the number

⁴ X is an emotion when "the person has evaluated an event, behavior, or situation as being relevant to his/her well-being or goal attainment, and that an appropriate action readiness or behavioral tendency has been prepared through synchronized changes in different mental and somatic subsystems" (Fontaine et al., 2013, p. 9).

⁵ The Corpus of Contemporary American English (COCA) is the largest (containing more than 560 million words of text) and the most widely used corpus data of English. In this study, emotion collocations used by non-native speakers were ruled out.

of prepositions emotion adjectives collocate with.

TABLE 2
High School English Textbooks in Korea

Publisher	Title	Token ⁶	Frequency
Chunjae	English	2	2
	English I	1	1
Dong-A	English	3	3
	English I	2	2
Jihaksa	English	2	2
	English I	4	4
Kumsung	English	7	8
	English I	3	3
Neungyule	English	5	5
	English I	2	2
Visang	English	5	5
	English I	1	1
YBM (Han)	English	7	8
	English I	3	3
YBM (Park)	English	5	6
	English I	2	2
Total		34 ⁷	57

TABLE 3
Emotion Collocations in High School English Textbooks in Korea

Adjectives with one preposition	with	about	at	by	for	of	over
<i>pleased, satisfied, upset</i>	O	X	X	X	X	X	X
<i>hopeful, nervous, worried</i>	X	O	X	X	X	X	X
<i>amused</i>	X	X	O	X	X	X	X
<i>angered, fascinated, shocked</i>	X	X	X	O	X	X	X
<i>concerned, grateful, thankful</i>	X	X	X	X	O	X	X
<i>afraid, ashamed, envious, proud</i>	X	X	X	X	X	O	X
Adjectives with two prepositions	with	about	at	by	for	of	over
<i>amazed, disappointed</i>	X	X	O	O	X	X	X
<i>excited</i>	X	O	X	O	X	X	X
<i>happy</i>	O	O	X	X	X	X	X
<i>impressed, overwhelmed</i>	O	X	X	O	X	X	X
<i>sorry</i>	X	O	X	X	O	X	X

Note. O refers to when the preposition does occur, whereas X refers to when it does not.

As can be seen in Table 3, more than half of the emotion adjectives (18 out of 25) combine with only one preposition in the textbooks. Following are the examples:

- (1) a. The king was not *pleased with* any of the answers. (Neungyule, English, p. 121)
- b. You must be *nervous* and *worried about* how to survive your first year of high school, right? (Chunjae, English, p. 19)
- c. *Amused at* the sight, we waited until the house

was placed in a new location.

(Visang, English I, p. 147)

- d. They are *angered by* Atticus's effort to give Tom the best defense possible. (YBM, English, p. 203)
- e. I am *grateful for* the answers you have given to me. (Kumsung, English, p. 200)
- f. Don't be *afraid of* being different. (Neungyule, English, p. 74)

As illustrated in (1), emotion adjectives such as *pleased*, *worried*, and *angered*, to name a few, combine with only one preposition. Other emotion adjectives, such as *happy* and *excited*, collocate with two prepositions:

- (2) a. Why was the 33 year old woman *happy about* learning to drive a rickshaw? (Jihaksa, English I, p. 136)
- b. They are just *happy with* winning games and few of them believe they can really go to college. (YBM Park, English I, p. 145)
- (3) a. *Excited by* their mother's suggestion, the little boys ran off and picked a lot of flowers. (Jihaksa, English I, p. 114)
- b. I was *excited about* the work I would be doing. (YBM Park, English, p. 113)

As can be seen from (2) and (3), *happy* and *excited* combine with two different prepositions depending on the context. In the textbooks, emotion words combining with two prepositions are *amazed*, *disappointed*, *excited*, *happy*, *impressed*, *overwhelmed*, and *sorry*.

Unlike emotion collocations in high school English textbooks, emotion adjectives combine with a much wider range of prepositions in the COCA—Table 4 indicates the variety of prepositions native speakers use to express emotional causality.

As is evident from Table 4, in the COCA, the number of prepositions combining with each emotion adjective ranges from three to seven. Of the total adjectives, half combine with more than six prepositions. The following examples show how *happy* combines with seven different prepositions depending on the context, in the COCA.

- (4) a. I was *happy with* my teaching position. (FIC,⁸ 2017)
- b. Some are *happy about* the economic benefits. (NEWS, 2017)
- c. We're both so *happy for* you. (SPOK, 2017)
- d. She didn't know if he was *happy for* her or

⁶ The number of tokens indicates the number of emotion adjective + preposition. For example, *happy at* and *happy about* are counted as two separate tokens.

⁷ When counting the total number of tokens, those repeated across the textbooks were not included.

⁸ In this study, FIC, NEWS, MAG, ACAD, and SPOK stand for fiction, newspaper, magazine, academic, and spoken genre, respectively.

- happy at her. (FIC, 2015)
- e. It suggests that people can't be *happy by* getting married. (SPOK, 2000)
- f. And we were so *happy of* us, of each other. (SPOK, 2017)
- g. Members of the Clinton camp are not *happy over* all of the secrecy. (SPOK, 2016)

TABLE 4
Emotion Collocations in COCA

Adjectives with three prepositions	with	about	at	by	for	of	over
<i>thankful</i>	O	O	X	X	O	X	X
<i>impressed, overwhelmed</i>	O	X	O	O	X	X	X
<i>envious</i>	X	O	O	X	X	O	X
Adjectives with four prepositions	with	about	at	by	for	of	over
<i>fascinated, shocked</i>	O	O	O	O	X	X	X
<i>grateful</i>	X	O	O	X	O	O	X
Adjectives with five prepositions	with	about	at	by	for	of	over
<i>amused, angered</i>	O	O	O	O	X	X	O
<i>afraid, hopeful, sorry</i>	O	O	O	X	O	O	X
Adjectives with six prepositions	with	about	at	by	for	of	over
<i>amazed</i>	O	O	O	O	X	O	O
<i>satisfied</i>	O	O	O	O	O	O	X
Adjectives with seven prepositions	with	about	at	by	for	of	over
<i>ashamed, concerned, disappointed, excited, happy, nervous, pleased, proud, upset, worried,</i>	O	O	O	O	O	O	O

Note. O refers to when the preposition does occur, whereas X refers to when it does not.

As shown in (4), emotion adjectives in the COCA combine with a wider variety of prepositions. This is in direct contrast with *happy* combining with only two prepositions (*with* and *about*) in the textbooks, as illustrated in (2). Given the huge size of the COCA compared to the textbook data, it is possible that there is a wide gap in the diversity of prepositions in emotion collocations between the two corpora. However, the fact that there is less variety of prepositions collocating with emotion adjectives in the textbooks should not be overlooked. Some may argue that teaching high-frequency collocations that have statistical significance should be the primary concern of teaching a foreign language. However, understanding the meaning of emotion words just by the words that co-occur with them more often than random probability does not elaborately show the speaker's intention, as "emotions in one's mind may not correspond to the parallel language forms" (Y. Ku, 2019, p. 106).

In this regard, the collocation of emotion adjectives with only one or two prepositions may, in part, cause students to understand emotion collocations as idiomatic

expressions. Learners' high dependence on *lexical teddy bears*⁹—collocations to which they are exposed to frequently—may lead to less elaborate expressions of emotion. Given that learners heavily depend on familiar word chunks and overuse collocations they feel comfortable with (Barfield, 2006; Hasselgren, 1994), language input given to them should reflect the diverse use of language, depending on its full context.

2. Analysis of Prepositions in Emotion Collocations

So far, this study has examined the diversity of prepositions in emotion collocations in both corpora. In this section, how the cause and effect of emotion, *emotional causality*, is represented in each preposition is examined.

1) With

With, having the schematic meaning of companion, frequently combines with emotion adjectives that imply long duration; long-term emotion adjectives¹⁰ such as *happy, unhappy, pleased, displeased, satisfied, and dissatisfied* frequently collocate with *with* due to its schematic meaning (E. Kim, 2015; Y. Ku, 2019). Following are the examples:

- (5) a. He is *happy with* who he is and has a sense of his place within the community. (ACAD, 2016)
- b. He said "I am particularly *pleased with* this design." (FIC, 2017)

In (5), along with the emotion adjective and preposition, the nature of the appraised object corresponds to the preposition it combines with. The speaker or writer expresses an emotion toward the object that is not a momentary event but an entity that exists continuously; *who he is* and *the design* signify enduring existence, not something that disappears in a short time. Thus, emotion adjectives collocating with *with*-prepositional phrase imply that the emotion endures for a comparatively longer time as a response to an event or object that does not disappear in a moment (Y. Ku, 2019).

2) About

About implies a wide range existing around a certain point, contrary to *at* that implies a precise point (Dirven, 1997; E. Kim, 2015; Osmond, 1997). According to Dirven (1997), *about* has the meaning of "two- or three-dimensional space," whereas *at* implies "zero-dimensional space." Thus, when emotion adjectives combine with *about*-prepositional phrase, the cause of the emotion implies a broad situation (Y. Ku, 2019). Following are the

⁹ Hasselgren (1994) named collocations that learners feel comfortable with and over-depend on as "lexical teddy bears" (p. 237).

¹⁰ Emotion word has the component of duration in its own form (Fontaine and Scherer, 2013). Among the emotion clusters identified by Fontaine and Scherer (2013), the joy type lasts longer than surprise type.

examples:

- (6) a. In her east Cobb condo on election night, Sadie Fields was clearly *pleased about* the overwhelming vote to ban gay marriage. (NEWS, 2004)
 b. They've made it very clear that they're not *happy about* the prospect of transfer. (MAG, 2016)

In (6), the nominals following *about* are a broad situation rather than a specific event. In (6a), it is the wider ramifications of the result of the vote that concern Sadie. Similarly, in (6b), *the prospect* indicates that the experiencers feel the emotion as a response to the indecisive and vague prospect of an event. Thus, emotion adjectives collocating with *about*-prepositional phrase imply that the wider situation surrounding the event has aroused the emotion (Y. Ku, 2019).

3) *At*

At implies a moment of impact rather than continued existence, in contrast to the semantic quality of *with*; *with* has the semantic quality of long duration, whereas *at* has a momentary and sudden meaning (Dirven, 1997; E. Kim, 2015; Osmond, 1997). When combined with an emotion adjective, *at* emphasizes the emotion felt at the impact of an unexpected and new idea (Y. Ku, 2019; Osmond, 1997). Following are the examples:

- (7) a. On my daily morning walks taking the same route, I never cease to be *amazed at* the amount of litter our population distributes on our streets and roadways. (NEWS, 2016)
 b. You'd be *amazed at* how many weekend players neglect to choose a specific target on the green. (MAG, 2014)

In (7), what the person is *amazed at* is the amount of litter, which is a specific number. As *at* has the schematic meaning of a target with focus on a point, it is natural that the following objects are stative and resultative, such as *fact*, *way*, *number*, and *amount* (E. Kim, 2015). Interestingly, in many cases, *amazed at* is followed by a *how*-relative adverb clause, as in (7b). In (7b), *how* specifies the way the action is done, rather than just referring to the whole action, which may sound ambiguous. Thus, it can be concluded that the NP following *at* pinpoints an entity or an event, corresponding to the function of *at* that emphasizes the impact of the emotion (Y. Ku, 2019).

4) *By*

By is associated with passive construction (E. Kim, 2015; Lindstromberg, 2010; Osmond, 1997); *by* is used to signify an agent or a cause (Lindstromberg, 2010). When an emotion adjective collocates with *by*-prepositional

phrase, the following object possesses the meaning of agentivity (E. Kim, 2015; Y. Ku, 2019). Following are the examples:

- (8) a. "I always hate to see it and continue to be *surprised by* actions that lead to disbarment," said OLPR director Susan Humiston. (NEWS, 2017)
 b. I was both *amazed by* the talent of our students and heartbroken by the financial challenges they encountered. (MAG, 2013)

In (8), the experiencers are surprised by *actions* and *the talent of our students*. Although the agent of the action is not apparently represented, the object implies agentivity that acts as a causal force. Thus, emotion adjectives collocate with *by*-prepositional phrase when the focus of the expression is on the agentivity of the object (Y. Ku, 2019).

5) *Of*

Of, in its prototypical feature, implies the meaning of source (E. Kim, 2015). This schematic meaning of *of* is also preserved in emotion collocations. Bolinger (1984) argued that *of*, in its semantic and syntactic nature, is projective. He distinguished *emotions caused* from *emotions projected*; the former shows that emotions are felt as a result of the cause, while the latter expresses an attitude toward the event, not a reaction to it. Examples are as follows:

- (9) a. She donated her organs. And we know the gentleman who has her heart. I know he is out there smiling for what he has gotten from her. And I know the kids and I are just *amazed of* what she's been able to accomplish through her death. (SPOK, 2010)
 b. We were a little *surprised of* the location of where it was coming from. (SPOK, 2017)

In (9a), people feel *amazed of* the accomplishment the organ donor has achieved through her death. They express the feeling of amazement as an attitude toward what the donor has been able to accomplish rather than as a response to the event. Similarly, in (9b), the experiencers express surprised emotion toward the location the message was coming from. This is in parallel with E. Kim's (2015) argument that in emotion collocations with *of*, the objects denote the inherent nature of the cause of the emotion rather than the cause that directly arouses the emotion. Thus, when emotion adjectives combine with *of*, the emotion is construed as *projective* rather than *reactive* (Osmond, 1997).

6) *For*

For, having benefactive meaning in its prototype, is represented in emotion collocations as a benefit marker (E.

Kim, 2015; S. Rhee, 2007). Osmond (1997) also argued that “other is an essential component” of the meaning of emotion collocations of *for* (p. 128). For this reason, *for* is related to the emotion words of gratitude and regret (E. Kim, 2015).

- (10) a. We’re both so *happy for* you. (SPOK, 2017)
 b. I’m so *happy for* both of them. (FIC, 2017)

In (10), the objects of *for* are someone other than the experiencer: *you* and *both of them*. Experiencers feel happiness in response to the desirable event related to others. In other words, they are *fortunes-of-others emotions* that are related to the presumed value of the event happening to others instead of oneself (Ortony, Clore, & Collins, 1999). Thus, when emotion adjectives combine with *for*-prepositional phrase, they become oriented toward others.

7) Over

Over refers to the endpoint of a path (Lindstromberg, 2010). According to Lakoff (1987), *over* visualizes the endpoint of the path, which can be extended metaphorically to the endpoint of a journey. Similarly, Osmond (1997) explained that *over* has an underlying meaning of complexity and multifacetedness, in contrast to *at*, which only focuses on one facet of the event at the moment of awareness. Thus, when an emotion adjective combines with *over*, it is the event extending over the whole process that arouses one’s emotion.

- (11) a. According to a reporter on the Hill, members of the Clinton camp are not *happy over* all of the secrecy, saying . . . (SPOK, 2016)
 b. Maybe that was it, but either way, Nic found himself less than *pleased over* the way his father had treated his fiance over the course of the evening, which was odd. (FIC, 2012)

In (11a), NP following *over* is the whole process of Clinton team’s concealment of details of her medical treatment, as manifested by the modifier *all of the*. It is not only one facet of the secrecy but the whole situation surrounding the event that has aroused the emotion. Similarly, in (11b), the past perfect participle *had treated* and the adverbial phrase *over the course* show how the object encompasses various facets of the cause. Therefore, emotion adjectives combining with *over*-prepositional phrase focus on the multifaceted situation surrounding the event.

V. CONCLUSION

The goal of this study was to, first, figure out the similarities and/or differences between emotion collocations in high school English textbooks and those in the COCA. Second, to help EFL learners have a better understanding of diverse prepositions and their combinations with emo-

tion adjectives, this study analyzed the underlying conditions on the choice of prepositions in emotion collocations by referring to the COCA.

The research was mainly conducted in two steps. First, emotion collocations were extracted manually from 16 high school English textbooks in Korea. Then, how these emotion adjectives are collocated with prepositions by native speakers was investigated referring to the COCA. The similarities and/or differences in the prepositions between the two corpora were examined focusing on the diversity of prepositions in emotion collocations.

The major findings of the study are as follows: first, most of the emotion words in the textbooks combine with only one preposition—*pleased with*, *worried about*, *amused at*, *angered by*, *thankful for*, and *proud of*. Some emotion adjectives, such as *amazed*, *disappointed*, *excited*, *happy*, *impressed*, *overwhelmed*, and *sorry*, combine with two prepositions. In contrast, data from the COCA suggests that emotion adjectives can combine with a much wider range of prepositions. For example, emotion words such as *happy*, *worried*, and *upset* combine with seven prepositions. Second, analyzing the use of prepositions from the context within and beyond the sentence level, this study argues that depending on the context of the utterance, emotion adjectives can combine with many prepositions, and that the linguistic and contextual situations surrounding the utterance can “allow an emotion adjective to combine with a wide range of prepositions” (Y. Ku, 2019, p. 114).

This study contributes to existing literature in a couple of ways. First, it cautions against teaching emotion collocation as a prefabricated unit. High school English textbooks in Korea instruct a hard rule to the students, that emotion adjectives should be followed by one or two specific prepositions. The collocation of emotion adjective with only one preposition among many may, in some part, cause students to understand emotion collocation as an idiomatic expression. While this may be beneficial, this study suggests that a better pedagogical practice would be to teach diverse prepositions and their combinations with emotion adjectives. This will help EFL learners express their emotions in a more sophisticated way. Second, compared to the previous studies that are based on linguists’ intuition, use of the COCA data allows this study to provide a better linguistic understanding of emotion collocations. This study concludes that the whole context, not the emotion adjective in isolation, should be taken into consideration for the collocation rule, as emotions in one’s mind may not correspond to the language forms in parallel (Y. Ku, 2019).

However, this study has some limitations. The analysis on emotion collocations was done regardless of the genre of the text; it would have been more informative if differences between spoken and written language had been identified. For future research, this study suggests to empirically demonstrate how native English speakers use prepositions depending on the genre of the text. Next, this study recognizes a potential bias in comparing the

two corpora despite their significant difference in size—it would have been better to collect data from a larger sample size. For further studies, this study suggests to analyze elementary and middle school textbooks as well.

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APPENDIX

List of Textbooks Used in the Present Study

- Choi, Inn-Chull, Park, Riri, Jang, Mingyeong, Chae, Jiseon, Kim, Geunyeong, Choi, Suha, Kim, Juhye, Son, Jihae, Jeon, Yeji, & Rubadeau, K. (2018). *High school English*. Seoul: Kumsung.
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