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Comparing the richness in the beauty articles of ELLE and seventeen magazines

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Abstract

This study presents the result of lexical richness analysis which is aimed to see the difference of language variation and use across age groups via lexical density analysis, lexical sophistication analysis and lexical variation/ diversity analysis as methods. The result of the analysis shows that there is no significant difference in the lexical density of ELLE and Seventeen magazines. From TTR analysis, we conclude that the register or the genre of the text does not affect TTR.

Keywords: Richness, Density, Sophistication, Beauty Article.

Comparando la riqueza en los artículos de belleza de ELLE y diecisiete revistas

Resumen

Este estudio presenta el resultado del análisis de la riqueza léxica, cuyo objetivo es ver la diferencia de la variación del lenguaje y el uso a través de grupos de edad a través del análisis de densidad léxica, el análisis de sofisticación léxica y el análisis de la variación / diversidad léxica como métodos. El resultado del análisis muestra que no hay una diferencia significativa en la densidad léxica de las revistas

ELLE y Seventeen. Del análisis de TTR, concluimos que el registro o el género del texto no afecta a TTR.

Palabras clave: riqueza, densidad, sofisticación, belleza, artículos.

1.   INTRODUCTION

Since language changes overtime, the language used by older people may also be different from that used by younger people. Several linguists have suggested that there is a strong correlation between language and age. Wardhaugh (2010) argues that the social organization of age groups influences the language used in those groups. Eckert (1997) states that the increasing age intertwines with the increasing conservatism in speech. In line with Wardhaugh et al. (2013) also proposed an argument about language and age in speech. According to Holmes (2013), the features of people's speech can be different at different life stages. This means that vocabulary, pronunciation and grammar can indicate the age of the speaker. The age of the addressee would affect people's choice of word and grammar as well. People tend to simplify their grammatical construction and vocabulary when talking to children and vice versa.

The study of vocabulary size and use across age groups can be conducted by analyzing the lexical richness of the spoken and written productions. A number of studies on lexical richness in speech and written productions have been conducted. Laufer and Nation

conducted a study on the lexical richness and the quality of written productions of the non-native L2 learners. Using LFP or Lexical Frequency Profile, a tool to test the quality of writing from lexical richness measures, Laufer and Nation (1995) intend to prove that a qualified written composition is determined by its vocabulary size and use. There are four areas in which lexical richness are measured, including a lexical originality (LO) or the percentage of words that are used by one individual in his/her written production, a lexical density (LD) or the percentage of lexical words in the text (i.e. nouns, verbs, adjectives, adverbs), a lexical sophistication (LS) or the percentage of advanced words in the text and a lexical variation (LV) commonly called the type/token ratio (TTR) or the percentage of the different words in the text (Laufer and Nation, 2014). The result of the study shows that L2 learner's vocabulary size and knowledge determine the quality of the L2 learner's quality of written productions. In addition, the LFP proposed by Laufer and Nation (1995) has proven to a valid tool in measuring the vocabulary used in writing.

While Laufer and Nation (1995) conduct lexical richness study to measure NNS L2 learners' quality of writing, White (2014) conducts a study on lexical richness to measure L1 vocabulary development across adolescence. White (2014) uses the quantitative method to investigate vocabulary use in the essays written by English students of the secondary school in New Zealand. The subjects of the study were divided into three age groups. Group 1 consists of students aged 13-14, group 2 consists of students aged 15-16, and group three consists of students aged 17-18. White (2014) limits the analysis for

the 3 lexical richness measures: lexical variation, lexical sophistication, and lexical density. The result of the study shows that there is a significant development of lexical use and size across year levels. In lexical richness level, White's study has shown that older adolescents, 15-18 years, substantially produce more developed vocabularies than the younger ones. White's study has proven to be supporting Holmes' (2013) hypothesis about linguistic pattern and age.

Berman (2007), based on Nippold's (1998) later language development theory, conducted a study on linguistic knowledge and language use across adolescence. According to Nippold (1998), cognitive maturity takes places at a later age. The purpose of Berman's study is to investigate how adolescents from three different school grades (grade IV, grade VII and grade XI) constructs an expository text to discuss the same topic by comparing the lexical richness of the text produced by the three age groups. There are some significant differences in the text produced by two different grades. The text produced by an English-speaking student of the lowest grade, grade IV is low in lexical density and lexical diversity level. Berman (2007) states that only one-quarter of the 70 words she uses in her essay are content words, and she uses around half of the words repeatedly. In addition, she uses one word of more than two syllables (respectful) only once in the text, and she uses only five Latin words in the text. Contrary to the previous essay written by the fourth grade English speaking girl, the essay written by the seventh-grade English-speaking student from the same school shows a significant difference. Berman (2007) finds that around 90 words in the text produced by the seventh-

grade student are open class words, and only seven of the words are used repeatedly. This shows a significant difference compared to text 1 (the fourth grader's essay) in lexical density as well as lexical diversity level. Berman (2007) also finds that there are six words which are more than two syllables long and there are five different adjectives. Moreover, the seventh-grade student uses the Latinate and Germanic strata of English content words in almost equal number. In lexical richness level, Berman (2007) comes into a conclusion that the older subjects of the study produce text with more various and dense vocabularies as well as more sophisticated and complex syntax than the younger ones do.

The aim of this present study is investigating the relation of age and language variation and use by analyzing the lexical richness across age groups. In conducting the lexical richness analysis, the present study adopts Laufer and Nation's (1995) LFP as it has been proven to be reliable in measuring vocabulary size in written productions. Similar to the previous study by White (2014) and Berman (2007), this present study focuses on measuring the lexical richness across age groups and limits measurement on lexical density, lexical sophistication, and lexical diversity. While White (2014) and Berman (2007) compare the text produced by adolescent of different ages in the school context, the present study compares the text from beauty articles in magazines representing different age groups. The source of the data is the text in beauty articles of adults and adolescents magazines, ELLE and Seventeen. ELLE and Seventeen magazines

represent two different age groups; ELLE represents the adult group, while Seventeen represents the adolescent group.

Based on the introduction, the objectives of this study are: (1) to compare the lexical richness of the text in the beauty articles in ELLE and Seventeen magazines. (2) to ascertain the differences of text produced by adult and adolescent magazine in term of lexical richness.

2. METHODOLOGY

2.1. Population and Sample

This present study uses the purposive sampling in conducting the investigation of language and age. A purposive sampling is a sample selected based on the population. The population in this present study is the online magazine articles for two age groups. The sample taken for the present study is online editions ELLE and Seventeen magazines, www.elle.com and www.seventeen.com. These samples have met the criteria of the purposive samples. First, Seventeen represents adolescents aged 13-19 years old, while ELLE represents adults aged 20-35 years old. Second, December 2017 – January 2018 editions are chosen as the source of data with the assumption that these months are the transition period from the end of the year to New Year. Regarding the beauty articles, December 2017 and January 2018 editions would contain articles related to predictions, update, and transitions of 2017-2018 beauty trends. Hence, we can analyze

language variations occurring in the text and investigate the text through the lexical variation, lexical density, and lexical sophistication.

Third, the data to be analyzed are beauty articles in each magazine. Beauty articles generally give a review of the beauty trends, popular beauty products, news and styles related to beauty. Beauty articles commonly take almost the biggest portion in the female magazine's contents in addition to other articles such as fashion and health. In that, they would benefit the writers with a large corpus as the data to be analyzed.

2.2. Method of Data Collection

In order to conduct the study, we conducted three steps in collecting the data. First, we browse through the beauty articles in each magazine's website (www.elle.com and www.seventeen.com). There are 30 articles from each magazine selected as the data. Second, the article issued in the online edition are captured and copied. The copied data is then converted into UTF 8 format in Notepad application. The UTF-8 encoding format is used to ease and simplify the analysis process. Finally, the text from both websites is saved in .txt format.

2.3. Methods of Data Analysis

According to Malvern and Richards (2012), the term lexical

richness refers to the quality of vocabulary in a language sample, and it is often related to vocabulary size (Laufer and Nation, 1995). Laufer and Nation (1995) introduced prevalent lexical richness measures that are used to describe the quality of writing. The measures include lexical originality (LO), lexical variation (LV), lexical density (LD), and lexical sophistication (LS). However, researchers, such as White (2014), would generally focus most on the last three measures. Similar to White (2014), the present study limits lexical richness analysis into the analysis of lexical density, lexical sophistication, and lexical diversity. Lexical originality would be excluded since it measures one writer's performance in each group. In fact, this present study would focus on groups' performance. The description of each analysis is as follow:

2.3.1. Lexical Density Analysis

For lexical density analysis, this present study uses the formula proposed by Laufer and Nation (1995), i.e. the number of lexical tokens x 100 divided by the total number of tokens. However, in order to get the insight of language variation across age groups, we need to see the lexical density in detail. Therefore, we need to break down the part of speech tags for each word. This is done by using Stanford Parts-of-Speech Tagger (Toutanova and Manning 2003).

The result of Stanford POS Tagger would include tags for the primary parts of speech (noun, verb, adjective, and adverb). This

present study chooses to use Stanford Part-of-Speech Tagger online, a website analysis tool for part-of-speech analysis. This tool would ease the analysis of part of speech since it helps to break down the corpus into words and put them into the appropriate part-of-speech (i.e. noun, verb, adjective, adverb, etc.). In order to perform the analysis using Stanford Part-of-Speech Tagger online, we need to insert a text first (the text should not contain more than 70 words) and push the parse button. Stanford Part-of-Speech Tagger online would automatically tag and parse the text into the appropriate part of speech.

2.3.2. Lexical Sophistication Analysis

Next, to conduct a lexical sophistication analysis, this study would use Lextutor. To conduct lexical sophistication analysis, this present study uses Vocab Profiler from the site, www.lextutor.ca. Vocab Profiler would break down the texts into word frequencies in a corpus. The Vocab Profilers in this site are based on Laufer and Nation (1995) and Coxhead's (2000) Lexical Frequency Profiler (LFP) that would divide the word of the texts into 1K and 2K (thousand) levels, Academic word list (AWL), and off-list (the remainder).

To conduct lexical sophistication analysis using vocab profilers, there are some procedures to perform. In this study, we prefer Classic (BNC 1-20K) framework. There are two options for Input Mode: Input Mode A and Input Mode B. The first mode is for the text of medium size (more or less 60,000 words), while the second one is used for larger text size. The present study employs the Input Mode A since the text used for

the data contains less than 60,000 words). The next step is submitting the text by clicking the yellow button. The output can be converted into the document (in MS Word) or spreadsheet (Excel).

2.3.3. Lexical Variation/ Diversity Analysis

The lexical diversity is the ratio of different words in the text and the total number of the tokens (Laufer and Nation, 1995). Laufer and Nation emphasized that lexical diversity counts only the different words used in a composition. Thus, the higher type/token ration is, the more vocabulary a learner knows. Furthermore, Laufer and Nation mention that an LFP (Lexical Frequency Profile) is the authentic measure for lexical variation analysis. An LFP would be able to detect the learners who use high frequency and low-frequency words. Based on this argument, an LFP measure is assumed to be very useful for investigating language and age in the present study. The present study also uses Lextutor to analyze the TTR as it provides automatic TTR measurement. It is believed that it would result in a more reliable and valid result.

3. RESULTS AND DISCUSSION

3.1. Lexical Density

As previously defined, a lexical density refers to the number or the ratio of lexical words or content words compared to the total

number of words in the language sample (Laufer and Nation, 1995; Lu, 2011). The lexical words meant in the present study are nouns, verbs, adjectives, and adverb. To calculate the lexical density, this present study uses the formula proposed by (Laufer and Nation, 1995). The result of the lexical density analysis is shown in Table 3.1.

Table 3.1. Lexical Density Analysis

Lexical Density	ELLE	Seventeen
Number of lexical words	9,318	9,220
Number of tokens	15,114	15,267
Ratio	0.61	0.60

When it is calculated using the formula proposed by Laufer and Nation (1995) (see table 3.1), the lexical density in ELLE is 0.61 while the lexical density in Seventeen is 0.60. The difference is only 0.01. Thus, in general, the lexical density of both magazines does not show a significant difference. From this finding, we can conclude that the lexical density of the text in the present study is not affected by the age of the text producers. This result contrasts with the findings of the previous studies on language development and language use across age groups (Nippold, 1998; Berman, 2007; White, 2014) which show that a lexical density level is closely related to age.

One primary factor influencing the result of the present study is that the data used is of a specific genre. This present study uses text in beauty articles of magazines as the data while the previous studies use expository text in the classroom context as the data Berman (2007),

White (2014) and university academic prose (Lu, 2011). The term genre refers to text type of a register. A genre is usually identified from the linguistic features and style of a text. Therefore, the ratio of the lexical density of the text in beauty articles of both magazines does not show a significant difference. Consequently, the lexical density of texts in beauty articles is proven not much affected by age.

In order to get the insight of language variation across age groups, we need to see the lexical density in detail. Thus, we need to break down the part of speech tags for each word. This is done by using Stanford Parts-of-Speech Tagger. The result of Stanford POS Tagger would include tags for the primary parts of speech (noun, verb, adjective, and adverb) and the lexical words including their total number are presented separately in the form of tables. The tables also present the comparison of part of speech from Seventeen and ELLE magazines.

3.1.1. Comparisons of the nouns

Informative texts such as news or beauty articles are loaded with lexical words as they function as information bearer. Nouns are the most common type of lexical words appearing in a text. High frequency of nouns equals to high density in information (Biber, 1995). There are four main types of nouns described in this present study, singular nouns, plural nouns, singular proper nouns, and plural proper nouns. The output of total number of nouns based on Stanford POS

Tagger is described in table 3.2.

Table 3.2. Comparison of Nouns in ELLE and Seventeen

Types of Nouns (NN)	ELLE	Seventeen
NN (Singular)	2,482	2,661
NNS (Plural)	835	788
NNP (Proper Noun Singular)	1,297	1,115
NNPS (Proper Noun Plural)	15	18
TOTAL	4,629	4,528

Table 3.2, gives us a detailed description of the total of nouns singular and plural nouns in the texts of ELLE and Seventeen magazines. The total number of nouns in both magazines, shows an obvious difference. The total number of nouns in the texts of ELLE magazine is 4,629, which is higher than that in the texts of Seventeen magazine (4,528). This output has shown that the total number of nouns in ELLE is higher than that in Seventeen. However, as we break down the nouns into more specific categories (singular noun, plural noun, singular proper noun, and plural proper noun), the output shows different results from the total number of lexical density. The total number of singular nouns in ELLE magazine is 2,482, while the number of singular in Seventeen magazine is 2,661. This means, there are a fewer number of singular nouns in ELLE's beauty article than in Seventeen. On the other hand, this study finds that ELLE uses a greater number of plural nouns in its beauty article. The total number of plural nouns in ELLE is 835, while the total number of plural nouns in

Seventeen uses is 788. The total number of singular proper nouns in ELLE is higher (1,297) compared to that in Seventeen (1,115). Similar to the result of the singular nouns, the total number of plural proper nouns in ELLE magazine is lower (15) compared to that in Seventeen (18). The result in table 3.2 shows that ELLE uses singular nouns and plural proper nouns less frequently than Seventeen does. On the other hand, ELLE uses plural nouns and singular proper nouns more frequently than Seventeen does.

The most possible argument to this finding can be related to psychological aspect of adolescent behavior that distinct from that of the adult behavior. As stated by the American Psychological Association (APA) both girls and boys are known to spend hours concerned about their appearance, particularly in order to fit in with the norm of the group with whom they most identify. At the same time, they wish to have their own unique style, and they may spend hours in the bathroom or in front of the mirror trying to achieve this goal. Jaffe (1998) states that adolescents tend to be very me-centered. The me-centered characteristic of adolescents is reflected in the great number of singular nouns found from in text of beauty articles in Seventeen. On the other hand, the great number of plural nouns found in the text of beauty articles in ELLE reflects the opposite characteristic of adult from that of adolescent. There is a tendency that adults choose beauty products or treatments that are commonly chosen by many people. The results of nouns by POS Tagger in this present study can be related to language and age. A great number of singular nouns in Seventeen texts signifies that adolescents would prefer unique, individual and distinctive products. On the other hand, adults would prefer more communal products as signified by the great number of plural nouns.

3.1.2. Comparisons of the verbs

The second most common type of lexical word following noun is verbs. Based on Stanford POS tags, the verbs are divided into six main types; base form (i.e: say, go, walk), past form (i.e. said, went, walked), past participle (i.e. gone, walked), non 3rd singular person present form (i.e. have, go) and 3rd singular person present form (i.e. has, goes). The output of total number of verbs based on Stanford POS Tagger is described in table 3.3.

Table 3.3. Comparison of Verbs in ELLE and Seventeen

Types of Verbs (V)	ELLE	Seventeen
VB (Verb Base)	690	1,052
VBD (Past Verb)	192	86
VBN (Past Participle)	220	129
VBP (Verb Present non 3rd singular person)	485	455
VBZ (Verb Present 3rd singular person)	642	468
VBG (Verb Gerund)	349	306
TOTAL	2,578	2,490

As seen in Table 3.3, the total number of verbs in the text of ELLE magazine (2,578) is higher compared to that within the text of Seventeen (2,490). From table 3.3 we are able to get a detail description of the number of each type of the verb (VB, VBD, VBN, VBP, VBZ, and VBG) in each magazine. In ELLE, we can see that the total number of VB or verb base is 690, while the total number of VB in Seventeen is 1,052. ELLE holds a higher number of other verb types (VBD, VBN, VBP, VBZ,

and VBG). This result indicates that ELLE holds a lower number of verb base, but a higher number of inflected verbs.

After examining the data carefully, this study finds that the number of beauty tips found in Seventeen beauty articles is higher than the ones in ELLE. In addition, this study finds that the text producers mostly use imperative forms in the beauty tips. Table 3.4 shows the comparison of the number of beauty tips appearing in both magazines.

Table 3.4. Comparison of the number of beauty tips appearing in both magazines.

ELLE	Seventeen
1.How do you use a toner? 2.10 Easy Ways to Make Your Hair Grow Faster Curtain-length hair for the extensions averse.	1.Here's How to Straighten Your Hair like a Pro. 2.How to Remove Gel Nail Polish Yourself. 3.16 Hot Hairstyles That Will ~Slay~ New Year's Eve. 4.Kick Your Skincare Routine into High Gear with These Blemish-busting and Pimple-preventing Tips to get Flawless Skin in time for Picture Day. 5.3 Beauty Looks That Aren't Too Extra for Class you might actually *want* to Go Back to School to Show off These Looks. Maybe. 6.50 Life-changing Prom Beauty Tips you haven't heard before Get ready to look your most gorgeous! 7.How to Trim Your Bangs without Ruining Your Hair. It's actually pretty easy.

As we can see from table 3.4, there are only 2 beauty tips out of 30 beauty articles selected as the data from ELLE. Contrarily, there are 8 beauty tips out of 30 beauty articles selected as the data from

Seventeen. The data shown in table 3.4 has evidenced why the total number of verb base forms in Seventeen is higher than the ones in ELLE. The sample text below shows the use of base verb form in Seventeen. Below is an article titled How to Remove Gel Nail Polish yourself, taken from Seventeen. This sample text would show the use of verb base form in the text (the words in italics indicate the VB):

> File off the top layer of your polish, then place a cotton ball soaked in pure acetone on top of each of your nails. Wrap them in a bit of tinfoil and let it sit for about 15 minutes. Depending on the toughness of your polish, you may need to leave it a bit longer. Once the gel starts crumbling off, use a cuticle pusher to gently push the polish off of your nail bed (do not file or scrape). (Seventeen)

After examining the beauty tips in Seventeen, this study finds that the text producers frequently use imperative forms in giving orders and instructions. As we can see, verb base forms such as file, place, wrap, let use and scrape are generally used in the sample text. As stated by Mcloughlin (2000), the magazine text producers have to construct their identity. It is possible that the writer's identity may change, even within the same text. The writer can be the reader's friend, adviser, and entertainer, or their identity at the same time and they can shift between these roles. Imperative forms have signaled that using the imperative forms in the text would imply that they have power upon the adolescent readers to give orders or instruction.

As explained in the preceding paragraph, there are more inflected verbs present in ELLE's beauty articles than those in

Seventeen's. Inflected verbs may present in the form of present forms (VBP and VBZ), past forms (VBD and VBN) and gerund (VBG) (see table 3.3). In Table 3.3 we can see that the total number of VBD or past verbs in ELLE is 192, which is higher than that in Seventeen (86). Past verbs refer to an activity performed in the past. What we can interpret from the result of the Stanford POS Tagger concerning the past form of the verb in this present study is that ELLE's text producers include more narrative texts exposing past stories of some public figures or events to the audiences in the beauty articles. From the result shown in Table 3.3, it is indicated that the number of narrative texts in ELLE is greater than that in Seventeen. In addition to describing past time, this part of speech is occasionally used for reflecting the situation at the present time (Biber et al., 2002). Example of this is taken from ELLE:

> Makeup has always brought me joy. When I was growing up, it was my mother's and my escape from what was happening in our lives and in the world, a place we went together. That is why beauty means so much to me. (ELLE)

When we examine the text carefully, the sentence it was my mother's and my escape from what was happening in our lives and in the world, a place we went together. That is why beauty means so much to me. Past time is expressed by the word went, the relation to the present time is expressed by the word means.

Next, as we can see in table 3.3, the total number of VBN or past participle (i.e. chosen, done, exposed, found) in ELLE is 220. This

is higher than the total number of VBN in Seventeen (129). Similar to past tense, past participle (VBN) also less frequently appear in written text. However, past participle verbs still more commonly occur in news or academic writing compared to the simple past form (Biber, 1995). In beauty articles of ELLE and Seventeen, this type of verb also has a low range compared to the other types of verbs in the list, but higher in range compared to simple past form. In ELLE, the total number of past participle is 220, while in Seventeen is 129. This study uses the same sample text to explain the use of past participles in present perfect forms:

> Makeup has always brought me joy. When I was growing up, it was my mother's and my escape from what was happening in our lives and in the world, a place we went together. That is why beauty means so much to me. (ELLE)

As we examine the text carefully, we will see that the sentence Makeup has always brought me joy is expressing events taking place in the past. Then the relation of the past event to present time is expressed by the sentence that is why beauty means so much to me.

The Present perfect functions to express events taking place in the past which still connected to the present time (Biber et al., 2002). The examined text above indicates that the event mentioned in the text has taken place in the past and still happens at the present time. However, the number of this kind of text is higher in ELLE than that in Seventeen. This means that present perfect forms are used more frequently by the text producers in the adult magazine than in

adolescent magazine due to the existence of narrative texts in addition to beauty tips.

Aforementioned, past participle verbs are also used in passive form. The example of passive voice below is taken from ELLE:

> He was inspired by 80s makeup, and applied visible stripes of blush to pay homage. (ELLE)

Often, the agent or the doer is omitted as shown in sample texts of both magazines. By omitting the agent, the text producers want the audience to focus more on the event Biber et al. (2002) or another possibility is that the text producers assume that readers have already known who the agent is. Example of this is sentence taken from the text in Seventeen:

> There was this table that had Kylie Jenner makeup on it and it was just all thrown together (Seventeen).

Following VBN is VBP or verb present non 3rd singular person (i.e. get, help, pour, produce) whose total number is 485 (table 3.3). This number is greater compared to the total number of VBP in Seventeen (455). Next, the total number of VBZ or verb present 3rd singular person (i.e. gets, helps, pours, produces) in ELLE is 642 while that in Seventeen is 468 (table 3.3). VBP which stands for verb present non 3rd singular person (i.e. gets, comes) and VBZ which stands for verb present 3rd singular person (i.e. get, come) are related closely to subject-verb agreement. As explained earlier, base forms appear

frequently in text in beauty articles of Seventeen (see table 3.3). The form exclamation sentences generally do not require subject pronouns, example: file off the top layer of your polish, let it sit for about 15 minutes. Contrarily, beauty articles in ELLE use different text type. Narrative types are mostly used in beauty articles, thus S-V agreements are required. Example to this are:

- Verb present 3rd singular person (VBZ)

Kourtney has made it no secret that she maintains an all-organic lifestyle. (ELLE)

- Verb present non 3rd singular person (VBP)

I recommend retinoid and glycolic acid washes and moisturizers, Retinoids balance sweat gland productions and stabilize cell turnover on the face. (ELLE)

In the first sample text we can see that Kourtney and she are 3rd singular person subject, so both require verb present forms that agree with 3rd singular subjects, that has for 3rd singular person Kourtney and maintains for 3rd singular person she. In the second sample text, I and retinoids are subjects of non 3rd singular person, so verb present forms appropriate for subjects of non 3rd singular person, recommend and balance. This type of text also appear in Seventeen, however the number is not as high as the one in ELLE.

The last type of verb listed in table 3.3 is VBG or gerund.

After examining the gerunds in both magazines, this study finds that the total number of VBG or verb gerund in ELLE is 349 while the one in Seventeen is 306. Gerunds or –ing ending verbs (i.e. going, depending, cleansing) in both magazines are mostly are reduced forms of adjective clause. Sample texts of this are:

- Toners have recently undergone a stunning transformation, going from an unnecessary drying step to the essential hydration station of skincare, she says. to this

- It can also be packed with other beneficial ingredients like tea tree, rose, salicylic acid, and other skincare essentials, depending on your needs.

- Both Kim and Dr. Shah agree the best time to use a toner is right after cleansing as it balances out the skin's ph.

3.1.3 Comparisons of the Adjectives in ELLE and Seventeen

Using Stanford POS tagger, there 3 major types of adjective identified: common adjective (JJ), adjective comparative (JJR) and adjective superlative (JJS). Adjectives found in the text generally describe colors (i.e. black, green), size (i.e. little, long), texture (i.e. smooth, soft), shape (circular, round), time (i.e. annual, daily), judgments, emotions and emphasis (i.e. good, beautiful, fine), and

many other kinds of characteristics (i.e. complex, weird, hot). Biber et al. (2002) also state that adjectives have comparative (i.e. better, worse) and superlative degree (i.e. best, worst). The comparison of the total number of adjectives in both magazines is shown in Table 3.5.

Table 3.5. Comparison of Adjectives in ELLE and Seventeen

Types of Adjectives	ELLE	Seventeen
JJ (Adjective)	1,233	1,265
JJR (Adjective Comparative)	75	68
JJS (Adjective Superlative)	46	27
TOTAL	1,354	1,360

In Table 3.5 we can see that the total number of adjective in ELLE is lower (1,233) than that in Seventeen (1,265). As stated by Biber et al. (2002), adjectives are related to nouns as they most frequently appear to modify nouns. Therefore, informative writing such as news or even beauty articles, which has the highest density of nouns, automatically would have the highest density of adjectives. If we relate the result of common adjective (JJ) in table 3.5 with the result of singular nouns (NN) in table 3.2, we can see that these results are in line with Biber et al. (2002) who say that the high density of nouns would be followed by the high density of adjectives.

In addition to this finding, this study also finds that few adjectives in the text of beauty articles of ELLE and Seventeen have

signified the evidence of language and age phenomenon in adult and adolescent magazines. Some adjectives are only found in ELLE (i.e. averse), but none in Seventeen. On the other way round, some adjectives only found in Seventeen, but none in ELLE (i.e. comfy, cozy, and edgy). Other adjectives are less frequently used in ELLE (i.e. cute, weird) but more frequently used in Seventeen and the other way round. The comparison of these is shown in table 3.6.

Table 3.6. The Frequency of Adjectives used in ELLE and Seventeen

Adjectives	ELLE	Seventeen
averse	1	-
comfy	-	2
comfortable	1	-
cozy	-	1
cute	3	4
edgy	-	1
weird	1	7

In table 3.6 we can see that although these adjectives are not significantly high in number, they have evidenced that certain adjectives such as comfortable is likely preferred by the text producers in ELLE, but not those in Seventeen. Comfortable, comfy and cozy are different words which are equal in meaning. This finding is in line with Holmes' (2013) argument which says that older people would likely to prefer a more standard language than younger people. In table 3.5, the word expressing strangeness weird shows the most obvious evidence of language and age. Tagliamonte (2016), in her work about adolescent

language has found the high distribution of the word weird as predicative and attribute adjectives among speakers aged 13-16. As stated by Tagliamonte (2016), of the overall distribution of adjectives showing of strangeness, weird is most frequently used (70.3%) than any other forms such as strange (14.0%), odd (4,2%), unusual (0.6%) among the younger generations. Holmes' (2013) statement and Tagliamonte's (2016) finding are in line with the result of the present study.

The total number of comparative adjective (JJR) in ELLE is higher (75) than that in Seventeen (68) (table 3.5). Similar to this, the total number of superlative adjective in ELLE is also higher (46) than that in Seventeen (27). Comparative adjective better and superlative adjective best are most frequently used in ELLE. According to Biber et al. (2002) most of the common inflected adjectives (i.e. greater, best) convey either an evaluative meaning or a descriptive meaning that often also implies an evaluation (i.e. cheaper, older). Examples of comparative and superlative adjectives are shown in the sample texts below:

- Comparative Adjective

How do you feel about the trend of photo-driven Instagram makeup?

That, to me, is one thing that makes me very sad because on the other side there has been so much movement toward being more

natural and freeing women up. Again, helping them understand that basically they can look better without makeup or looking like they are wearing a mask. (ELLE)

• Adjective superlative

It is ironic because along with the no makeup movement, there seems to be a rise in services like lash extensions, lip fillers, etc.

Yeah, it is like, oh she looks so fantastic and she has no makeup on. But she probably has access to the best dermatologist. (ELLE)

The two sample texts above are extracted from the interview between ELLE and professional make-up artist Linda Cantello. From the sample texts, we can see that comparative adjective better and superlative adjective the best used in Cantello's statements they can look better without makeup or looking like they are wearing a mask and but she probably has access to the best dermatologist indicate an evaluative meaning and descriptive meaning that implies an evaluation on the current beauty trends.

The results of adjectives discussed in this present study have implied the relation of language and age phenomenon as reflected in the use of adjectives in beauty articles. The result shown in table 3.4 indicates that text in beauty articles of Seventeen contains a high number of descriptive adjectives relating to colors, size, quantity, extent. On the other hand, texts in beauty articles of the adult magazine contain a higher number of gradable adjectives (comparative and superlative) used as

evaluative or emotive descriptors that denote judgments, emotions, and emphasis.

3.1.4. Comparisons of the Adverbs in ELLE and Seventeen

The last part of the speech discussed in this section is the adverbs, whose primary function is to modify adjectives (i.e. slightly bigger, rather fat) and other adverbs (i.e. really/extremely fast). Adverbs are divided into RB which stands for adverbs (i.e. gently, basically), RBR which stands for adverb comparative (i.e. more evenly) and RBS which stands for adverb superlative (i.e. most seamless). Table 3.7 presents the comparisons of each type of adverbs in ELLE and Seventeen.

Table 3.7. Comparison of Adverbs in ELLE and Seventeen

Types of Adverbs	ELLE	Seventeen
RB (Adverbs)	713	783
RBR (Adverb Comparative)	36	49
RBS (Adverb Superlative)	8	10
TOTAL	757	842

The result of the Stanford POS Tagger (table 3.7) shows that the total number of adverbs in the text of ELLE is lower (757) than the total number of the adverbs in the text of Seventeen (842). A similar result is also shown in the result of adjectives (see Table 3.5.) in which the total number of adjectives in ELLE is lower than that in Seventeen. The total number of RB (adverbs) in ELLE is 713 whereas in Seventeen the total

number of RB is 783. The total number the adverb comparative (RBR) in ELLE is 36, while in Seventeen it 49. The last, the RBS or adverb comparative of ELLE reaches the score of 8, while in Seventeen it reaches the score of 10.

One example that can be taken for the interpretation, regarding the output of RB, is the amplifiers or intensifiers (i.e. very, really) in both magazines. After thoroughly examining the data, this study finds that text producers in ELLE use intensifiers less frequently than the text producers in Seventeen. Biber et al. (2002) state that intensifier is categorized as degree adverbs which usually increase intensity (i.e. very, so) and indicate the highest point of a scale (i.e. completely, totally). Tagliamonte (2016) stresses that people use intensifiers in order to boost the meaning. In her study of adolescent language, Tagliamonte (2016) states that so, very and really are quite popular among American English speakers. So and very is the most frequently used intensifiers among teenage girls, while really is frequently used across generations. Although Tagliamonte's (2016) study mostly focuses on investigating spoken language, still it can be used as the reference in the present study. The higher number of adverb intensifiers in this study is in line with the result of Tagliamonte's (2016) study. Table 3.8 gives a detailed comparison of intensifiers used in both magazines.

Table 3.8. Comparisons of intensifiers in ELLE and Seventeen

Intensifiers	ELLE	Seventeen
Very	3	15
Really	10	9
Totally	1	7
Perfectly	0	1

If we compare the result of the present study (table 3.8) with the result of BNC table (3.9), there is a difference in the result adverb intensifiers really and perfectly. In the present study the total number of intensifier really is higher in adult magazine (10), while it is lower in the adolescent magazine (9). The result of BNC shows that the distribution of intensifier really is higher among adolescent (580, 56) than among adults (574, 76). The distribution of intensifier perfectly also higher among adults (74, 55) than that among adolescents (64, 51) according to BNC. Contrarily, according to the result of Vocabprofiler intensifier perfectly is higher in Seventeen than that in ELLE. According to Tagliamonte (2016), the distribution of each intensifier would vary across generations and countries.

Table 3.9. Distribution of intensifiers used across age groups in BNC (frequency/million words)

Intensifiers	Adult	Adolescent
Very	1239.2	1352.52
Really	574.76	580.56
Totally	49.4	51.61
Perfectly	74.55	64.51

To conclude the discussion in this section, we can see the lexical density in ELLE, as a magazine representing adult, is higher than that in Seventeen. Thus, the result is in line with the language and age theory proposed by (Holmes, 2013; Wardhaugh, 2010).

3.2. Lexical Sophistication

Lexical sophistication refers to the rare words (Lu, 2011), which

measures the number of advanced words within the text. Laufer and Nation (1995) proposed LFP to see the percentage of the word types. Lexical sophistication analysis is divided into 4 main categories namely K1 (the first 1000 words or the first most frequent words), K2 (2000 words or the second most frequent words), AWL (Academic Word List) and off-lists (the remainders or those that are not included in either K-1 or K-2 list). This present study only focuses on the GSL since this present study is examining the language used in the magazine, not the language of academic writings.

To examine the GSL in ELLE and Seventeen, this present study uses Vocabprofiler by Lextutor. For the most frequently used words in the texts of both magazines, this study chooses BNC 1-20K. After conducting the required procedures, this study compares the result of the results of GSL in ELLE and Seventeen. The results of the analysis and the comparisons of the results are shown in table 3.10.

Table 3.10. Comparisons of GSL in ELLE and Seventeen

Freq. Level	ELLE	Seventeen
	Tokens (%)	Tokens (%)
K-1 words	12,574 (83.19)	12,657 (82.90)
K-2 words	851 (5.63)	807 (5.293)
K-3 words	468 (3.10)	386 (2.53)
K-4 words	230 (1.52)	249 (1.63)
K-5 words	188 (1.24)	182 (1.19)
K-6 words	92 (0.61)	127 (0.83)
K-7 words	67 (0.44)	73 (0.48)
K-8 words	64 (0.42)	44 (0.29)
K-9 words	47 (0.31)	38 (0.25)
K-10 words	46 (0.30)	46 (0.30)

As we can see in table 3.10, the result of GSL does not show a significant difference. To see which text is more sophisticated, we conduct a correlation coefficient measure of the two samples. The result of the correlation coefficient measure shows that the value of GSL in ELLE is 0.567 while in Seventeen is 0.564. To determine whether the ratio of the GSL of the two samples is significantly different from each other, the T-test is conducted. The result of the T-test is 0.99 which shows that the difference of the two samples in term of lexical sophistication is not significant. Hence, the sophistication of the text in ELLE and Seventeen is of the same level.

The primary factor influencing this result is the register of data used in this present study, which is collected from popular magazines. A register refers to language variation associated with different purposes of communication (Biber and Conrad, 2009). Registers can be recognized through their lexical and grammatical characteristics as they are closely related to the purpose of the communication. The purpose of popular magazines is mostly for entertainment, and as we know, the audiences of popular magazines come from the wide variety of readers with different background of language sophistication. Therefore, they are expected to create a sense of informality Mcloughlin (2000) by using not too sophisticated vocabulary within the text. Therefore, in term of lexical sophistication, the result of the present study does not support the theory of language and age (Holmes, 2013).

3.3. Lexical Diversity Analysis

Lexical diversity refers to a variety of vocabulary and the avoidance of similar word repetition (Malvern et al., 2004). The ratio of lexical diversity mostly known as Type Token Ratio or TTR Laufer and Nation (1995) is obtained by comparing the number of different words and the total number of words or tokens in the text. This present study uses Vocabprofiler since the analysis can be done automatically. The result of lexical diversity analysis using Vocabprofiler is represented in table 3.11.

Table 3.11. Comparisons of TTR using Vocabprofiler

TTR	ELLE	Seventeen
No. of tokens	15,114	15,267
Different words	3,406	2,808
TTR	0.23	0.18

The result of TTR in table 3.11 signifies that the TTR in ELLE differs significantly from that in Seventeen. As described in table 3.11, there are 3,406 different words compared to 15,114 number of tokens in the text. Contrarily, there are 2,808 different words compared to 15,267 number of tokens in the text of Seventeen. Thus, the TTR of ELLE accounts for 0.23 of the total number of tokens. In comparison to this result, the TTR of Seventeen accounts for 0.18 of the total number of tokens. This means, there is a higher number of different

words used in the text of beauty article in ELLE than those used in the text of beauty article in Seventeen.

The higher result of the TTR in the text of beauty article in an adult magazine than that in adolescent magazine in this present study is in line with a previous study conducted by Berman (2007) which compares the essays produced by adolescents across age groups. Berman (2007), who adopts Nippold's (1988) theory of later language development, notices that older adolescents generally use more various vocabularies more frequently than the younger adolescents do when constructing narrative and expository texts. Nippold (1988) argues that linguistic knowledge grows according to age starting from childhood, school-age years, and adolescence to early adulthood and become stable during middle adulthood. The result of the present study is in line with Nippold's (1998) theory of later language development and Berman's (2007) study on linguistic knowledge and language use across age groups.

4. CONCLUSION

The lexical richness analysis in this present study has shown varying results. Lexical richness analysis of the text is aimed to study how the language used in magazines representing two age groups differs with each other. The analysis of the lexical richness in this present study is focused on three main measures: the measure of lexical density, lexical sophistication and lexical diversity of the text in

beauty articles of ELLE and Seventeen magazine. The result of lexical density and lexical sophistication analysis of both magazines in this present study do not show significant differences. On the other hand, the result of lexical diversity analysis of both magazines shows a significant difference. Consequently, from the three measures, the result of lexical density and lexical sophistication in the present study do not support the theory of language and age (Holmes, 2013; Nippold, 1998; Wardhaugh, 2010). From this study, we can conclude that the density and the sophistication of a text are not only affected by the age of the text producer but also by the register and the genre of the text. The difference of the result in this present study from the previous ones is mainly caused by the register and the genre of the data used in the present study. The data of the previous studies is collected from academic writings and expository essays Berman (2007), Nation and Laufer (1995) and White (2014) while the data of the present study is collected from popular magazines. The result of lexical diversity or TTR in this present study supports the theory of language and age and the results of the previous studies. From TTR analysis, we conclude that the register or the genre of the text does not affect TTR. It is the age that affects TTR. The result of TTR is in line with the theory of later language development which says that linguistic knowledge grows, according to age starting from childhood, school-age years, and adolescence to early adulthood. Finally, further study needs to be conducted since this present study only collects data from one magazine of each age group. Bigger corpus is needed to get more data so that more valid result might be able to obtain.

REFERENCES

BERMAN, R. 2007. **Developing linguistic knowledge and language use across adolescence**. Blackwell Handbook of Language Development. Malden: Blackwell Publishing. pp. 347-367. USA.

BIBER, D. 1995. **Dimensions of register variation: A cross-linguistic comparison**. New York: Cambridge University Press. USA.

BIBER, D., & CONRAD, S. 2009. **Register, genre, and style**. Cambridge: Cambridge University Press. UK.

BIBER, D., CONRAD, S., & LEECH, G. 2002. **Longman Student Grammar of Spoken and Written English**. Harlow: Pearson Education. UK.

COXHEAD, A. 2000. **A new academic word list**. TESOL Quarterly, Vol. 34, N° 2: 213–238. USA.

ECKERT, P. 1997. **Age as a sociolinguistic variable. In F. Coulmas**, The Handbook of Sociolinguistics, Oxford: Basil Blackwell. pp. 151–167. UK.

HOLMES, J. 2013. **An Introduction to Sociolinguistics**. New York: Routledge. UK.

JAFFE, M. 1998. **Adolescence**. New York: Wiley. USA.

LAUFER, B., & NATION, P. 1995. **Vocabulary Size and Use: Lexical Richness in L2 Written Productions**. Applied Linguistics, Vol. 16, N° 3: 307-22. UK.

LU, X. 2011. **A corpus-based evaluation of syntactic complexity measures as indices of college-level ESL writers' language development**. TESOL Quarterly, Vol. 45, N° 1: 36-62. USA.

MALVERN, D., & RICHARDS, B. 2012. **Measures of lexical richness. In: Chapelle, C**. The Encyclopedia of Applied Linguistics. Chichester, Blackwell. UK.

MALVERN, D., RICHARDS, B., CHIPERE, N., & DURÁN, P. 2004. **Lexical diversity and language development**. New York: Palgrave Macmillan. USA.

MCLOUGHLIN, L. 2000. **The Language of Magazines**. London: Routledge. UK.

NIPPOLD, M. 1998. **Later language development: the school-age and**

adolescent years. TX: Pro-Ed. Austin. USA.

TAGLIAMONTE, S. 2016. **Teen Talk: The Language of Adolescents**. Cambridge University Press.UK.

TOUTANOVA, K., & MANNING, C. 2000. **Enriching the knowledge sources used in a maximum entropy part-of-speech tagger. In Proceedings of the 2000 Joint SIGDAT conference on Empirical methods in natural language processing and very large corpora**. Association for Computational Linguistics. pp. 63-70. USA.

WARDHAUGH, R. 2010. **An Introduction to Sociolinguistics**. Oxford: Blackwell. UK.

WHITE, R. 2014. **Lexical Richness in Adolescent Writing: Insights from the Classroom: An L1 Vocabulary Development Study**. Master Thesis. Victoria University of Wellington. New Zealand.