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Rhythm Manipulation of Read Poetic English

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RHYTHM MANIPULATION IN READ POETIC ENGLISH

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RHYTHM MANIPULATION IN READ POETIC ENGLISH

by

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CHAPTER ONE

INTRODUCTION

1. Theoretical Framework

Spoken English and poetic English are different. Spoken English is divided into sentences which can be further divided into smaller units such as words and individual sounds within those words. This hierarchical structure has clear marks of emphasis that we may or may not be conscious of in our production. In written English these divisions can be represented by commas or semicolons where there is a break in speech stream. In spoken English, strong breaks are represented by pauses or silences. English speakers have an internalized sense of divisions and links that order the language (Attridge, 1995).

It is also true that poetic English, like spoken English, is divided into the same hierarchical structure. The fact that English itself is carried on a stream of syllables (Attridge, 1995) is important. These syllables may be stressed differently in order to give emphasis to a word in a line of a poem. This emphasis gives deeper meaning to the semantics of a poem. Stress in syllables can be identified as intensified or produced with more energy, indicated by being longer in duration, louder in volume, unique in pitch, or a combination of the three (Attridge, 1995)

Poetry has a structure that is followed and kept consistent. This structure is called meter, which gives poetry rhythm and melody (Hobsbaum, 1996). Meter is made up of different patterns of feet, or combinations of stressed and unstressed syllables. This particular rhythm that is established varies depending on how a writer wishes their poems to sound. This research seeks to answer the following questions:

RQ1:Can stress be influenced by reading a previous poem in a different rhythm?

1

RQ2: Is there a default rhythm of poetic English?

1.2 METHODS

It is possible to measure rhythm, and stress by looking at pitch, duration, and intensity. Studies have done so to determine if a language is stress-timed or syllable-timed in rhythm. The data collected in this study comes from audio recordings from 15 English dominant participants. They were chosen on the basis of their language proficiency and fluency and recruited through email forwarding with help from instructors. The recordings collected had participants reading two poems that were specifically written for this study. This was done in order to ensure the participants had not heard or read them before. They were two loose form iambic tetrameter poems. Two versions of the poems were made, version one of both poems alternated six and seven syllables in a line and the second version alternated seven and six syllables. One hundred and seven tokens were extracted from the recordings and analyzed. For each token I measured intensity, pitch, and duration in order to accurately mark it as stressed or unstressed in comparison to the syllables that preceded and followed it. I manipulated the syllable structure of English poems in order to test if English speakers have a default way of reading poetry. The manipulation of this structure involved moving a monosyllabic word that was not attached to a foot from the end of a line to the beginning of the line that succeeded it. This syllable would either be stressed or unstressed depending if it was its own foot or was the first or second half of the foot. I hypothesized that readers would stress the same syllables when reading the same versions of each poem. I examined the vowels in syllables that moved lines, the preceding, and subsequent syllables.

1.3 OVERVIEW OF THESIS:

This thesis examines the possible manipulation and default rhythm of poetic American English. Chapter 2 reviews studies that have measured rhythm of languages through stress and syllable measurements and defines terminology important and relevant to this study. Chapter 3 gives details about the participants involved in this study, explains the methods employed, and stated the hypotheses. The results are then presented in Chapter 4 where I give and an explanation of my findings. Chapter 5 discusses the results stated in the previous chapter and extends future considerations for research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This thesis investigates the rhythm of poetic English and the possibilities of being able to manipulate rhythm to yield the same stress on the same words/syllables from most participants. In this chapter I will discuss previous works related to the measurement of stress in rhythm. I will also discuss the definitions of meter in poetry, rhythm, and stress. These definitions will be essential to the understanding of this study. First, I will begin by defining what a syllable is and describing meter and poetry forms more in depths and explain the basis on which the poems for this study were written in. Then I'll discuss how to identify rhythm and stress in order to measure it. Finally, I will explore the relevant studies which have provided the framework for analysis of stress and acquiring measurements that will serve me in order to collect and interpret my data.

2.2 Description of Meter and Poetry Forms:

2.2.1 What is a syllable?

A syllable is a unit of speech that can be made up of two parts if it has multiple sounds, the onset and the rhyme. The rhyme can stand alone in what is called a monosyllabic word. (Dawson & Phelan, 2016). An example of a monosyllabic word would be 'cat' and a word such as 'kitten' is an example of a multisyllabic word. A syllable can be made up of two parts if it has multiple sounds, the onset and the rhyme. The onset contains the consonant or set of consonants, if any, before the nucleus. The rhyme further contains the nucleus and the coda. The nucleus of the rhyme is the vocalic part and the coda consists of any final consonants that may appear in the syllable (Dawson & Phelan, 2016). The nucleus is the heart of the syllable that

carries suprasegmental features (Dawson & Phelan 2016). These suprasegmental features are stress, volume, and pitch (Chatman, 1965).

2.2.2 Meter and Poetry

The pattern of meter is how heavy and lightly stressed syllables are interspersed together (Hobsbaum, 1996). On the importance of meter Hobsaum (1996) writes that the meter is the blueprint for the rhythm, which is the inhabited building. Monosyllabic words in English metrical verse are generally not controlled by metrical rules which allows more rhythmic freedom (Fabb et al., 2008). Monosyllabic content words usually take stress, though not all words do so equally, and can lose their stress in rapid speech. Monosyllabic function words on the other hand, are generally unstressed but can take emphatic stress that indicates emphasis, important or new information, gives emotional force, or brings out a contrast (Attridge, 1995). The meter in poetry is the rhythm assigned to the lines of a poem and the rhythm of a line comes from the pattern that different stressed syllables of words produce (Fabb et al., 2008). There are what are called loose and strict meters. Loose meter, as opposed to strict meter, allows binary and ternary feet to be in the same line and can have one syllable groups where one syllable can stand alone without being grouped into being a part of a foot.   Loose meter is often found in songs, ballads, and nursery rhymes where feet in a line do not have to be strictly one form.

Loose Meter
Robert Frost's "The Road Not Taken"
Two roads diverged in a yellow wood,
And sorry I could not travel both

Figure 2.1: loose meter example (stress indicated in red)

<div style="border: 1px solid black; text-align: center;">

Strict Meter

Clement C. Moore's "A Visit from St. Nicholas"

'twas the night before Christmas and all through the house

not a creature was stirring not even a mouse

</div>

Figure 2.2: strict meter example (stress indicated in red)

There are poetic meters called iambs and trochees. The iamb is the most encountered meter in the English language. It is a foot that is made up of a weak syllable followed by a strong one. A trochee, on the other hand, is the opposite of an iamb where the foot is a strong syllable followed by a weak one. These meters put certain amounts of feet in lines and give a poem rhythm. For example, Shakespeare wrote a lot of his works in iambic pentameter which is five iambs in a row and Edgar Allen Poe's 'The Raven' is written mainly in the trochaic meter.

<div style="border: 1px solid black;">

TROCHAIC METER	**IAMBIC METER**
Edgar Allan Poe's "The Raven":	**Shakespeare's "Romeo and Juliet":**
Once upon a midnight dreary,	Two households, both alike in dignity
while I pondered weak and weary	In fair Verona where we lay our scene

</div>

Figure 2.3: trochaic and iambic meter examples (stress indicated in red)

2.3 Defining Rhythm and Stress

Attridge (1982) defines rhythm as a series of events of regular repeated pulses of energy; these events are patterns of stress and intonation, pauses and control of speed, and modes of

emphasis. Rhythm encompasses many different suprasegmental units such as stress (Chatman, 1965).

To perceive rhythm is to comprehend these features as a pattern, time with repetition and periodicity (Attridge, 1982). Linguistics rhythm distinction is seen as the presence or absence of specific phonological and phonetic properties (Forta & Vigario, 2001). These phonetic properties are syllable structure, vowel reduction, and the correlates of stress, which are crucial according to Daur (1983). Based on these principles languages can fall into classifications of three rhythms, syllable-timed, stress-timed, or mora-timed.

Attridge (2014) states that the syllable is the smallest rhythmic unit of language. Stress timed languages are languages that segment speech in feet such as Dutch and Russian and syllable-timed are languages are ones that segment speech in syllables like Spanish and Italian. Because stresses in the language are what provide the main markers of rhythm, English is thought to be stress-timed language (Attridge, 1995). Being a stress timed language means being measured in feet (Ramus et al., 1999). Feet, the smallest units of metrical theory, are units of rhythm and stress that usually have two syllables. Depending on the parsing direction (left to right or right to left) the syllables in the foot alternate in stress (weak and strong or vice versa) (Hayes, 1995).

Though we are not bound to just one definition as stress is said to be a subject of great debate, there is a general consensus in the elements contained in its definition. Stress is correlated with strong rhythmic beats with greater duration and rising in pitch (Hayes, 1995). It is the capacity of one syllable be to be pronounced with a suprasegmental feature or combination of features which make it more prominent than any other syllable (Chatman, 1965). It is also a property of syllables that is more prominent than an unstressed one due to having greater

loudness, longer duration, and different pitch of full vowels (Dawson & Phelman, 2016). The definition that I adhere to throughout this study is that a stressed syllable is a syllable whose rhythm is more prominent than other on the basis of being louder in intensity, longer in duration, and different in pitch.

2.4 Measurements and Familiarity of Rhythm and Stress

Some studies (Ramus et al., 1999) have shown that infants use rhythm to establish similarities and differences between their native language and a foreign language. Ramus et al.'s (1999) research was conducted in order to determine if there is language discrimination in children and to offer a way to more clearly categorize languages into stress timed or syllable timed categories. They had an experimental group of infants switch from listening to English and Dutch to Spanish and Italian. Sentences were drawn at random, but all had from 15 to 19 syllables and roughly matched in duration. They argued that increased rate of sucking when infants heard novelty in an environment appear to support the idea that these categories of rhythm classifications are meaningful and that they reflect actual properties that signal so in language. They were also able to account for the fact that infants are able to discriminate between languages based on the rate of sucking recorded leading to the belief that they can classify and group languages with similar properties together.

The process of measuring stress has played an important role in order to distinguish languages into two categories of rhythm, stress timed or syllable timed. This has been subject of many studies. Dauer (1983) proposed that a language should not be thought to be stress-timed or syllable-timed with the corresponding properties but rather should be thought to be more syllable-timed than stress-timed if it has more syllable-timed properties and vice versa. This is backed by Patel and Daniele (2003) and Miller (1984) which suggest that "languages are better

described along a continuum of syllable-timing and stress-timing, rather than being rigidly classified as one type or the other. Patel and Daniele (2003) sought to compare the prosody of language and music. They found that just as English and French have different language rhythms stress-timed and syllable timed respectively, their music also has significantly different measures of rhythm which were measured with the nPVI (normalized pairwise variability index), and that it reflects the differences of the languages themselves. This study showed that by examining the duration, pitch, and intensity of rhythmic and melodic patterns one could measure and compare the prosodic structure of patterns in speech and music (Patel & Daniele, 2003).

Similarly, Deterding (2001) compared the English of Singapore and Britain in order to see if there was a difference in rhythm between the two. Singapore English is usually classified as syllable-timed and British English usually stress-timed. They found a significant amount of variability in the measure of syllable-to-syllable duration for British English, which supported previous indications that, by comparison, Singapore English may be more syllable-timed (Deterding, 2001). There was some evidence that the greater frequency of syllables with vowels reduced to a schwa in British English can contribute to establishing the difference as well. Dauer (1983) observed differences between stress and syllable timed languages, these being two important distinctions, syllable structure and vowel reduction. These features gave notice to the observation that some syllables in syllable-timed languages tend to be equally noticeable and in stress-timed languages some syllables are more noticeable than others.

Another study that measured stress for the distinction of two languages was done by Frota & Vigário (2001). The authors compared the different rhythms of European Portuguese (EP) and Brazilian Portuguese (BP). The two languages had previously been noted as being on different ends of the timing spectrum but never had clear support for this distinction. They used

three sentences from an EP corpus that was available to them and compared it to sentences from a BP corpus. The speakers from these corpuses were educated people in their early 20's and 30's. In this study, the absence or presence of phonological properties that were specific to each language would be what set the two languages apart. Frota & Vigário (2001) found that the two have clear distinct rhythms. EP had stress and syllabic characteristics, whereas BP had syllable and mora timed characteristics.

We know that English is carried on a stream of syllables and like other Germanic languages, stress plays a dominant role in speech rhythm (Attridge, 1995). According to Attridge (1995) "English speakers who come across an unfamiliar word in print can usually guess from its structure, how to stress it" (p. 28). Rhythm distinction is possible as previously stated, through formal measurement and research and we can identify languages as syllable timed or stress timed. But as far as human innate capabilities go, there is strong support to the claims that psycholinguistics studies show differences in rhythm detectability from birth (Payne et al., 2012). It has been found that children can hear changes in rhythm based on the duration and intensity of vowels (Payne et al., 2012). This study compared the speech of adults and children. Payne et al. (2012) reported that children start out having more syllable timed rhythm regardless of language but as they grow older they become more in tune with the rhythm of the language they are learning and the difference between child and adult speech in regards to length of syllables and stress becomes, almost nonexistent (Payne et al., 2012).

2.5 Conclusion

In this literature review I have presented studies that discuss the measurement of stress and syllables directly correlating them to the measurement of rhythm as it is one of the features that make it up. Measuring rhythm can be done by extracting the duration, pitch, and intensity of

the syllables in question. Syllables are units of speech made up of an onset and a rhyme that carry the stress of words. Stress is a property of syllables that make up rhythm by being longer, louder, and different in pitch. Rhythm encompasses suprasegmental features such as stress in regular patterns of emphasis. The studies reviewed in this section helped discuss the acoustic parameters used to measure rhythm: duration, pitch, and intensity. They also helped define these terms. I will adhere to these definitions in my study. By understanding on what basis rhythm is distinguished, it will be possible to distinguish the rhythm differences, if any, in the poems that my participants read.

2.5.1 Hypotheses

Hypothesis 1: I hypothesize that most participants will read the same version of poems in the same rhythm based on the fact that that is what I have heard and perceived throughout my life.

Hypothesis 2: I hypothesize that the monosyllabic words at the end of the poem's lines will be stressed because there will be an emphasis the words that mark the end of a line. The ones at the beginning of the line will not be stressed because it will blend together with the unstressed syllable that follows it in the Iambic pattern. Attridge (1995) states that stressing can give emphasis to words in poem lines and I believe speakers will give emphasis to monosyllabic words to mark the end of the line.

Hypothesis 3: I hypothesize that the first poem will not directly influence the stress of the second poem's reading because participants are not aware of which is the target syllable that is being manipulated to be stressed or unstressed. This is based on Attridge (1995) as he states that an English speaker can guess the stress of unknown a line in poetry based on the previous line that has been read.

CHAPTER THREE

METHODOLOGY

3.1 Participants

The participants who took part of this study consisted of 15 English

speakers. Participants were chosen according to their English language fluency and

dominance. Although the recruitment flyer did not indicate that only English dominant speakers

were considered for the study (because I did not want English dominant speakers to

wrongly self-evaluate or perceive themselves as not being dominant) only participants who

were English dominant were included in the analysis. Participants were all currently taking

different courses at the University of Texas at El Paso.

3.1.1 Questionnaire

A questionnaire link containing questions about sociolinguistic factors was given to

participants after they recorded their audio. The reason why it was given after the poems was so

that subject would not feel self-conscious or second guess their English abilities and fluency.

3.2 Extra linguistics factors:

3.2.1 Bilingualism

Most participants identified as bilinguals, which was not surprising given the border city

we live in, whose culture very much revolves around the Mexican Spanish Language.

Their perceived language proficiencies in each of the languages (English and Spanish) were

recorded in the questionnaire, in case this factor had a clear effect on the data.

3.2.2 Age and Education

Participants' level of education and age were not considered for this study. There were 15

participants in this study, 10 females and 5 males, between the ages of 18 and 36. These were the

social factors of the participants I was able to recruit whose English proficiency met the requirements. Age and sex were not reported as being of major importance in previous literature.

In high school it is required that students fulfill English courses that follow a curriculum implemented and created by the federal and state governments in order to pass a state assessment that is required to graduate. In Texas, for example, where most participants from this study were educated, the curriculum states, in §110. C. Chapter 110. "Texas Essential Knowledge and Skills for English Language Arts and Reading" (2019), the need for reading and comprehension of literary poetry texts and writing of poetry using a variety of poetic techniques and a variety of poetic forms throughout several grade levels. This means that most participants in my study were familiar with poetry and rhythm from school. In other words, this knowledge that they have has been established through education and not innately with simply speaking English.

3.3 Data collection:

3.3.1 Recruitment of participants

Due to the impact of Covid-19, I was unable to recruit participants in person as stay-at-home orders and social distancing had taken into effect. Recruitment was achieved with help from instructors from the Languages and Linguistics Department who forwarded the recruitment email to their students.

3.3.2 Ethics and Equipment

Before any material was sent out or received, participants were sent a consent form to read and agree to participate. An email reply was required to acknowledge their agreement to participate in the study. Participants were made aware that due to the special circumstances with Covid-19 and the need to deliver and receive material through email,

their anonymity was not guaranteed, but that I would do everything I could in order to maintain it.

Due to the lack of equipment availability all recordings were done with personal recording devices. Most participants opted to record themselves, usually with cell phones, and sent their recordings to me via email. Other participants opted to video conference through Google Hangouts, in which case I recorded the audio of the session. After the recordings were received, I used version 2.3.3 of Audacity® recording and editing software to convert the files into the .wav format in order for the program Praat to read them. The program Praat (Boersma & Paul, 2001) was used to annotate and retrieve the measurements from the sound files. A Praat script by Shigeto Kawahara was modified in order to be able to run all sound files and annotated text grids together and retrieve the measurements for all syllables in question at once. Microsoft Excel was then used to summarize, view, and get the average and percentages of the measurements of the poems as well as create graphs.

3.3.3 Reading Materials

The poems that participants read were written specifically for this study. This guaranteed that subjects did not have preconceived notion of how the poems should or would sound. It was extremely difficult to construct a poem that was able to be ambiguous in structure and still make sense. Yet, I was able to write poems based on the loose meter structures. Though my poems are loose in syllables, there is sufficient structure where my hypothesis can still be tested and observed. What I was looking for were measurements of that last syllable of a line and the first syllable of the preceding line, along with the syllables that came before and after it.

August peaks its head in   This day was not unlike

To the coffin of July   One I've bumped into before

     Vs.   Vs.

August peaks its head into   This day was not unlike one

The coffin of July   I've bumped into before

Figure 3.1: manipulated syllable example

    There were two poems written and two versions of each which differed in the position of the monosyllabic word. The manipulated monosyllabic word changing in stress depending on its position would be a strong indicator of the possibility of manipulating stress.

    The reason that first impressions of these poems were needed was because having prior knowledge to how a poem sounds would mean the participants would not be reading them in a way that represented their internal default rhythm but rather one that had already been established for that particular poem. Two poems (poem A and poem B) were written because there needed to be variety. We could not assume that one poem would accurately reflect default rhythm as it may be a one-time occurrence for this specific poem. Two versions of each poem were created in order to accurately be able to detect of one poem's rhythm had influence over the other. It would not suffice to switch the same poem's versions around because again, participants would have a preconceived notion fresh in their heads of how the poem should sound. They would also be made aware of target syllables/words and this would create inaccurate representations of default rhythm. One version of each poem was randomly sent to the participants in different documents. Document 1 had five participants, document 2 had three participants, document 3 had four and document 4 had three.

Table 3.1: organization of poems per document

Version of Document:	1	2	3	4
Poem (P) and version (V) in	PA V1	PB V2	PA V2	PB V1
the document	PB V2	PA V1	PBV1	PAV2

If the participants opted to videocall and have me record, then the version of the poems assigned to them was shown to them one after the other through the screen sharing setting in the application. Their reading reflected their default and initial instinct of how to read the poems and what that rhythm sounds like.

3.3.4 Process

Once participants agreed to participate, they were sent an email that contained either the date and time of a scheduled video chat and were sent the poems with instructions. After their recordings were received or recorded, participants were sent a follow up email with the web link and instructions to complete a questionnaire of social factors.

3.3.5 Analysis

Ramus et al. (1999), Deterding (2001), and Patel and Daniele (2003) used the PVI method to explain their results. Basically, the PVI measures the duration of the sequences they are looking at. They did this by measuring the absolute value of the difference between the target sounds, maybe a vowel, and the sound that comes after it. They divided it by the mean duration of each pair of sounds then they summed up the numbers and divided by the amount of differences. So, what is important to note here is that the duration of the segments we are looking at is important to measuring syllable stress. Barry et al. (2009) states that the f0 or the pitch is important to the measure of rhythm as it is the aspect of rhythm that people perceive consciously. The f0 in Praat measures the changes in pitch. Since stress is indicated by loudness as well and

Chatman (1965) states that a stressed syllable was strong if it is stronger than those surrounding it, I also measured the intensity of the segments. The measurements of each participant generated by Praat were examined on a Microsoft Excel. Poems were classified into different versions.

For each poem I compared each participant's target syllable to the syllable before it in duration, pitch, and intensity and I marked if the syllable was stressed based on each individual measurement. If duration of the target syllable was longer than that of the syllable prior to it, then the syllable was marked as stressed. If the pitch of the target syllable was different (higher or lower) than that of the one before it then it was marked as high or low. After marking the measurements for each participant, I determined if the lower or higher pitch of a syllable correlated to it being stressed or not. Similar to duration, if intensity of the target syllable was higher than that of the syllable before it, then it was marked as stressed, and if it was lower, then the syllable was marked as unstressed. I marked the target syllable as stressed or unstressed if two or more of the three measurements described above were the same. Once that was finished, I calculated the rate of stressed target syllables and noted the percentages and number of tokens stressed in each poem and each of its versions. I also calculated the average duration, pitch, and intensity of the target stressed syllables of both poems and their versions.

3.4 Summary

In this chapter, I have given a brief description of participants' demographic information and the materials used to collect the data. I discussed how the participants for this study were recruited and the adjustments made to the method of data collection because of the restrictions due to Covid-19. I also discussed the acoustic measurements taken and how the data was analyzed.

CHAPTER FOUR

RESULTS

4.1 Introduction

The manipulation of target monosyllabic occurred when it was moved from the end of a poem line to the beginning of the following line. Version 1 of both poems had the target syllable at the beginning of the line, and version 2 had the target monosyllabic word at the end of a line. The measurements of vowels of the monosyllabic words that were analyzed were duration, pitch, and intensity. These measurements were compared across poems and their different versions to see if the stress or lack thereof, was the same even if the order of the poems was different. If two out of the three measurements coincided in being stressed or unstressed, I labeled the syllable as such. Duration, pitch, and intensity may signal stress as being strong or weak individually, but taking the other two measurements into consideration is a way to more reliably define the syllable as such. Low pitch was most often correlated with presence of stressing though it was not exclusive to it.

Each version of the poem was indeed different, but only in the fact that both version 1's had the monosyllabic word at the beginning of the line and both version 2's had the target monosyllable at the end of the line.

August peaks its head in

To the coffin of July

Vs.

August peaks its head into

The coffin of July

This day was not unlike

One I've bumped into before

Vs.

This day was not unlike one

I've bumped into before

Figure 4.1: manipulated syllable example

4.2 Results

The first thing that was analyzed was whether the order in which the poems appeared mattered for both poem A (PA) and poem B (PB). I found that the order of the poems did not have any effect on their stressing and were not influencing each other. From here on out order of the poems will be disregarded.

Hypothesis 1 predicted that most participants would stress the same words and have roughly the same rhythm when reading their poems. This hypothesis was supported by the results of this study. As table 4.1 and table 4.2 show, the averages for all participants' version 1 duration and intensity were consistently lower and pitch averages consistently higher for the target syllables than that of the target syllables in version 2. The higher averages of duration and intensity and the lower the pitch averages in both PA and PB's version1 of the poems indicated that stress was not present for their respective monosyllabic target words. Similarly, both version 2's of PA and PB the duration and intensity had higher averages as well as lower pitch averages in their target syllables indicating that stress was present. This means that most participants' rhythm and stressing patterns were the same since the same versions of both poems' average duration, intensity, and pitch measurements patterns coincided with each other.

4.1 Poem A target syllable measurements

Word	To	Waves	Reign	You	'til	For	Break	Warned
Stressed % N Total:	53% 8 15	57% 8 14	46 % 6 13	50% 6 12	50% 7 14	63% 7 11	57% 8 14	50% 7 14
Duration (sec) version 1 version 2	0.0811 0.1922	0.1334 0.1681	0.1474 0.1687	0.0964 0.1097	0.0867 0.1089	0.112 0.1186	0.0929 0.1228	0.1294 0.2401
Pitch (Hz)								

version 1	217.79	179.19	184.44	185.13	185.03	171.11	180.51	193.22
version 2	148.84	135.88	132.7	143.25	153.05	147.77	148.37	130.32
Intensity (dB) version 1	67.36	70.18	68.93	65.36	69.42	70.61	69.44	69.45
version 2	70.4	71.94	70.88	70.07	73.75	72.79	72.75	70.92

4.2 Poem B target syllable measurements

Word	One		Sounds		Won't		Had		Than	
Stressed % N Total:	28%	4 14	90%	9 10	27%	3 11	21%	3 14	18%	2 11
Duration (sec) version 1 version 2	0.0999 0.1251		0.161 0.1948		0.0715 0.0881		0.0908 0.1168		0.8876 0.0966	
Pitch (Hz) version 1 version 2	158.72 165.73		134.67 156.78		141.24 176.81		157.76 178.37		136.8 171.37	
Intensity (dB) version 1 version 2	73.95 66.45		72.36 66.42		72.86 68.57		74.11 68.09		71.51 68.47	

Hypothesis 2 predicted that the target monosyllables at the beginning of a line would not be stressed and target syllables at the end of the line would be stressed. Both PA and PB's version 1 had the target syllable at the beginning a line in the poem and version 2 had it at the end of a line in the poem. Overall in these two poems, when the target monosyllabic words were at the beginning of the line, they were not stressed the way that those same target monosyllabic words were in the second version where they appeared at the end of the line. Fabb et al.(2008) and Attridge (1995) stated that a monosyllabic words that carried stress be that for emphasis could stand alone, therefore indicating that the monosyllabic target word at the end of a line could be it's own foot. Iambs can be a foot made up of two weak syllables and this won't affect the structure of the Iamb or the rhythm of the meter. That is exactly what the target syllables at

the beginning of the lines in the poems seemed to be doing when the where unstressed; they were part of a foot as a weak syllable. As table 4.1 and 4.2 show above, the location of the target syllable did influence the poems' rhythm and stressing.

For the same monosyllabic target words in both poems' version 1 these averages were usually lower for duration and intensity and higher for pitch as compared to the target syllables in versions 2, meaning that these words on average were not stressed. Compared to one another, PA and PB had different stresses due to the fact that the target syllables were in a different position.

PA had 107 tokens for all 15 participants that were able to be analyzed. Version 2 of the poem with the target syllable at the end of the line had participants stressing it more often than not. Version 1 on the other hand, where the target syllable was at the beginning of the line had less participants stressing this syllable. Table 4.3 shows the stress rate of PA and each of its versions. They show that version 1's target syllables were more inclined to be unstressed and that version 2's target syllables were more inclined to be stressed.

Table 4.3 Rate of Target Syllable Stress, Poem A

Poem A	Stressed		Unstressed	
	%	N	%	N
Version 1	42	24	57	33
total stressed syllables: 57				
Version 2	62	31	38	19
total stressed syllables: 50				

PB had 60 tokens from all 15 participants that were analyzed. The data showed that this particular poem had participants stressing less target syllables. Version 1 had the least number of stressed monosyllables from both poems and both of their versions. It was however rather parallel with version 2 as the same words had practically the same amount of stressed words. In

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PB no matter the version of the poem, target syllables were more often unstressed as shown in table 4.4.

Table 4.4 Rate of Target Syllable Stress, Poem B

Poem B	Stressed		Unstressed	
	%	N	%	N
Version 1	29	8	70	19
total stressed syllables: 27				
Version 2	39	13	60	20
total stressed syllables: 33				

Hypothesis 3 which predicted that the rhythm of the first poem's in a participants' assigned document would not influence that second poem's rhythm was supported as well. No data showed that order affected which words were stressed or unstressed. There were no differences in the average measurements of duration, pitch, or intensity that indicated target syllables being more similar to that of the previous poem that was read. They were simply similar in average measurements to its own version of corresponding poem.

4.3 Perception

Though this study was not based on perceived stress, it is interesting to note those results. Fry (1958) came to the conclusion of how both duration and intensity played a role and acted as cues in judging syllable stress in a study where English words such as "subject" and "digest" were the material for the perception test in which variations of duration and intensity appeared.

Upon listening over the recordings while I annotated them, I wrote down the stress I perceived of the target monosyllabic words. Surprisingly, my perception relied heavily on measurements of duration since that was what I noticed most of the syllable. Version 1 of both poems had the target syllable at the beginning of the line of the poems and version 2 of both poems had the target syllable at the end of the line. Perceptually, versions 2 stressed the target

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syllable more often because it was usually longer than when that target syllable was at the beginning of the line.

Table 4.5 Perception target syllable stressing

poem A	version 1		version 2		poem B	version 1		version 2	
Word	**stressed**		**stressed**		**Word**	**stressed**		**stressed**	
to	37%	3	71%	5	*one*	14%	1	87%	7
waves	25%	2	71%	5	*sounds*	28%	2	75%	6
reign	75%	6	100%	7	*won't*	14%	1	25%	2
you	12%	1	71%	5	*had*	14%	1	37%	3
'til	25%	2	71%	5	*than*	14%	1	0%	0
for	25%	2	57%	4					
break	25%	2	100%	7					
warned	87%	7	100%	7					
Total word elicitations:		8		7			7		8

Compared to the percentages in tables 4.3 and 4.4, the percentages of my perceptions where much higher for those syllables that were stressed across all 15 participants. I heard mostly 70% or more of the target syllables in poem versions to be stressed whereas tables 4.3 and 4.4 indicate that in different versions of different poems between 60% and 29% of target syllables were stressed according to the measurements of duration, intensity, and pitch. Interestingly, my perception and the numerical measurements were parallel to each other based on the fact that I heard PA and PB's version 1's to be less stressed on average than version 2 of both poems.

4.5 Summary

In hypothesis 1 I predicted that participants would have the same patterns of stress and rhythm. I observed that both PA and PB's version 1 had relatively lower duration and intensity averages and higher pitch averages. Equally, both version 2's had higher duration and intensity averages and lower pitch. This means participants generally read in virtually the same rhythm

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and stress patterns since the averages of each version were consistent in being stressed in both version 1's and unstressed in both version 2's. Therefore, hypothesis 1 was supported.

Hypothesis 2 predicted that participants would stress the target monosyllabic words at the end of lines and not stress the ones at the beginning of the lines based on the fact that Attridge (1995) talks about stressing as a use for emphasis. The data showed target syllables were stressed more often at the ends of a line in the poems and were less likely to be stressed when they were at the beginning of the lines. Hypothesis 2 was also supported as there was evidence showing that stress assignment to the target syllable that had no foot tended to be dependent on the position of the syllable.

Though only briefly discussed, hypothesis 3 which predicted that the first poem being read would not influence the second poem's rhythm found that that is exactly what happened. Participants reading the poems in one order did not show different data than those reading the same poems in another order. The arrangement of poems had no visible effect on each other's rhythm, therefore supporting Hypothesis 3.

CHAPTER FIVE

CONCLUSION

Hypothesis one which predicted most participants' stress and rhythm patterns to be equal was in fact supported. The majority of the fifteen participants had rhythms that were similar as they stressed roughly the same words and their duration, intensity, and pitch averages were consistent between the two versions of each poem. There were words that were stressed or unstressed by all or most participants and two participants that stressed their assigned version of P1 in the exact manner. It is unlikely this happened by chance, rather, it was most likely influenced by a shared rhythm intuition.

Hypothesis 2 was also supported as the monosyllabic words at the beginning of the lines were usually less stressed than those at the end of the poems' lines. This was the case for all poems that were read. Location of the target syllable did influence the majority of reader's choice to stress it.

Hypothesis 3 predicted that the first poem being read would not have influence on the rhythm of the second poem. The data showed that even though the poems were read in different order it did not affect the rhythm or the word stressing. In other words, there was no influence from the first poem that was read on the second poem, each kept their own rhythm no matter which appeared first. This observation supported Hypothesis 3.

Though all three of my hypotheses were supported by the current research study, it is prudent to state that being able to recruit more participants would have helped in arriving to these conclusions. In order to accurately represent each category of poems and versions and to be able to garner larger evidence of a default poetic rhythm, a larger sample of participants would be necessary.

The fact that PA and PB did show differences between its two version led me to believe that there is a potential for a default rhythm to exist and be measured at a greater capacity. Manipulation of that rhythm does seem to correlate to the position of the words or syllables and should be further studied.

For future consideration:

Given that there were several limitations that affected this study, there are possible expansions and changes that can be made to it. This study reported that there seemed to some kind of default rhythm in participants. The issue here is that there were only 15 participants that were being analyzed and this is a relatively small sample to come to a clear conclusion of what people's internal rhythm is one consideration for the future is to increase the number of participants.

Another expansion that could be made is the added measurement of individuals' perception to the rhythm of other poems. Perception, in my opinion, has been shown to appear more important and more accurate for showing what stress in a syllable sounds like. Rather than relying on numerical measurements, an individuals' perception could pick more or different cues that indicate the presence of stress or lack thereof. In listening to the recordings, I identified stressed syllables based on my perception of syllable length. It would be interesting to note what cue or measurement other participants would report their perception of syllable stress to be based on. We know there is a possibility for pitch and intensity to also be meaningful, but will individuals rely on one or several measurements more than others?

Different versions or meters of poems could also give an insight to any default rhythms or could yield different results than the ones reported in this study. Though this study gave

evidence to the existence and possible manipulation of stress in poetry, it still remains to be

tested on a wider scale.

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Poem A version 1

August peaks its head in
To the coffin of July
Checks potential damage then
Waves its hand and signals five

It's well prepared to take
Reign of time from dusk to dawn
August will never let
You forget the day it's on

Day one is a fresh start
Til day two presents the same
Day three had enough fun
For day four to take the blame

Day five is ready to
Break your heart if needed
This is that which July
Warned when its life depleted

Poem A version 2

August peaks its head into
The coffin of July
Checks potential damage then waves
its hand and signals five

It's well prepared to take reign
Of time from dusk to dawn
August will never let you
Forget the day it's on

Day one is a fresh start til
Day two presents the same
Day three had enough fun for
Day four to take the blame

Day five is ready to break
Your heart if needed
This is that which July warned
When its life depleted

Poem B version 1

This day was not unlike
One I've bumped into before
The old broken record
Sounds like clocks striking Twenty-Four

One by one the seasons change
From hot to cold and back
Today's added boredom
Won't shuffle tomorrow's hand

It seems that even stars
Had dull plans written for me
Maybe nothings better
Than unwanted novelty

Poem B version 2

This day was not unlike one
I've bumped into before
The old broken record sounds
Like clocks striking Twenty-Four

One by one the seasons
Change from hot to cold and back
Todays added boredom won't
Shuffle tomorrow's hand

It seems that even stars had
Dull plans written for me
Maybe nothings better than
Unwanted novelty

CURRICULUM VITAE

Erika Moreno was born February 1997 in El Paso, Texas. She enrolled at Northwest Early College High School in 2011 where she took dual credit college classes as she concurrently attended El Paso Community College. In December 2014 at the age of 17, she received her Associate of Arts degree from El Paso Community College, one semester before graduating high school. She was accepted at the University of Texas at El Paso in 2015 and worked as a work-study undergraduate assistant for the Recreational Sports Department and Liberal Arts Center for Instructional Technology. In December 2017 she became a first-generation college graduate as she obtained her Bachelor's of Arts in Linguistics.

After a brief break from studying, Erika enrolled at the University of Texas at El Paso once more in order to obtain her Master's of Arts in Linguistics. During her two years there, she worked as a Graduate Teaching Assistant for the department of Languages and Linguistics where she assisted instructors in courses such as Introduction to Linguistics, Syntax, and The Structure of Spanish among many several others.

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