THE WRITING PROCESSES OF FRESHMAN STUDENTS WITH AD/HD AT

TEXAS STATE UNIVERSITY: AN EXPLORATORY STUDY

by

Collin Couey, BA

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Committee Members:

Deb Balzhiser, Chair

Robert Tally Jr.

Eric Leake

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DEDICATION

To Camri, my beautiful and caring girlfriend who was so patient these last two years.

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CHAPTER I

INTRODUCTION

I wasn't a happy person during my first two years in college. I had a 1.9 GPA and was struggling with every aspect of school. When I was 21, three years into my college career, my sister was diagnosed with AD/HD, prompting me to get tested. I was then diagnosed with AD/HD. Receiving the diagnosis helped me get the help I needed to learn to become a better student; before, I felt helpless, like nothing I did worked. Once I was diagnosed, I was able to learn to focus and became a better student.

One aspect of my studies that suffered was my writing. However, it's important to note that these problems cannot be attributed solely to my AD/HD. Because writing is a process, and I was never taught that process until much later in my academic career, my struggles likely stemmed from a combination of being a novice writer compounded by the symptoms of my AD/HD that naturally make all academic endeavors more difficult. For instance, those with AD/HD typically have a difficult time starting and completing difficult assignments, miss or forget about appointments or assignments, and don't spend enough time on assignments or projects ("ADHD FAQS"). Not only did I not know I had AD/HD and, thus, was unable to compensate for these issues that made school generally difficult, I was also a novice writer without the necessary tools (understanding the process) to succeed in challenging writing environments. To me, it seemed that writing was something that one was either good at or not. Because of the amount of time it would take me to write, I would grow frustrated and would either not turn in anything at all or

turn in work that was below my standards and intellectual capabilities. I felt powerless and stupid compared to the other students in the class.

Aside from my undiagnosed AD/HD, the reason I think it was so difficult for me to write was because I had grown up in the Texas public school system, which teaches formulaic writing and writing to standardized tests. This outdated model of the writing process didn't work for me, and I'm sure it didn't for many students. The focus was on writing an outline then a thesis statement. I had to make sure I wrote a good topic sentence. While these steps are helpful and useful, they never seemed to come first during my writing process. My pre-writing ended up being something completely different. My writing process was sloppy and disorganized and does not look at all like the process I was taught my entire life: write outline, write thesis, and write topic sentences. I would often write the paper then go back and write the required outline. It was confusing and made it hard to concentrate on the actual content of my paper. Unfortunately, transitioning into college didn't help me gain any confidence as a writer because even in my first year English courses, I was taught relatively formulaic writing.

Getting the AD/HD diagnosis did more than just provide me with opportunity to get the medication I needed; the diagnosis made me realize that I wasn't stupid or doing anything wrong. The way I was taught just didn't work for me. *Nothing was wrong with me*; my writing and studying processes just differed from those of other students. I had to develop a completely new process that no teacher had ever taught to me before. What worked for the majority of students would not work for me, especially when it came to writing. Aside from knowing that I had to do some things differently, I didn't think about

how or what I did differently. I didn't even think about why it mattered that I did things differently. It was a relief to know that I could succeed.

It wasn't until my second semester of graduate school that I began to think about the ways that my writing process might differ from other students' because of my AD/HD. This study stemmed from an assignment that I did during my Composition Theory course. The assignment required us to record ourselves while writing. At the time, I didn't think anything significant came from the assignment aside from a great understanding of my own writing process. It was interesting, but it wasn't until the entire class shared their experience with the assignment that I noticed a trend. My process looked drastically different than those of my classmates. I wrote for a shorter amount of time but produced just as much, I did not edit as I went like my classmates, I did more extensive revision, I had to re-organize my paper more frequently, and I was much more distracted. The only other person in the class of 14 who had similar results was a colleague who also has been diagnosed with AD/HD. This assignment was the first time that I began thinking about the different ways that students with AD/HD might compose, and because much of the scholarship written in rhetoric and composition is centered on the first-year English classroom, I decided to focus this study on freshman students. I was curious how novice writers with AD/HD compose compared to that of their non-AD/HD peers.

My experiences with AD/HD give me a unique perspective and have led me to invest in learning how students with AD/HD compose and more empowered when dealing with their studies. Not only do I have to keep my understanding of AD/HD in mind when I am writing, my experience teaching in the first year English classroom

allows me to see what all freshmen, not just those with AD/HD, struggle with when entering college for the firs time. Surprisingly, the prevalence of AD/HD in the University is thought to be anywhere between 3-10% and yet very little has been written about it in the field of rhetoric and composition. This fact is surprising considering *CCCC*s 2005 (reaffirmed in 2011) stance on disabilities and disorders in the writing classroom, which states that disability studies makes an important contribution to rhetoric and composition. They also acknowledge that "[t]he critical lens of disability studies scholarship has produced new knowledge, for example, about variations of composing processes, alternative ways of working with students in the composition classroom or writing center" (CCCC). With this in mind, this study is timely and important in the field of rhetoric and composition.

Since little has been written in rhetoric and composition, I designed this study to be an early step toward a greater understanding of the writing processes of students with AD/HD. The goals of this exploratory study were to find out how freshman students with AD/HD compose their essays. Specifically, it was designed to look at how distracted they are, how productive they are, and how their environment affects their writing. To accomplish this, I had students record themselves in a process similar to how I had to record myself during my Composition Theory course. This method allowed me to see how these students with AD/HD compose, how the physical space in which a student writes might affects their writing, and how productive, engaged, or distracted they are during their writing process.

Background

Because many misconceptions about AD/HD exist and are propagated, it is important to spend time explaining the history and manifestation of AD/HD in both children and adults. The Attention Deficit Disorder Association defines Attention Deficit Hyperactivity Disorder as "a condition resulting in symptoms of inability to maintain attention, impulsive behaviors and/or motor restlessness." The disorder was first noticed in the 1940s and 1950s and originally attributed to brain damage. It wasn't until the 1980s that the term Attention Deficit Disorder (ADD) was coined and two subtypes of ADD were determined to exist: ADD with hyperactivity and ADD without hyperactivity ("Attention Deficit" 1). In 1987 the subtyping was eliminated and ADD became ADHD (different from AD/HD). The current conceptualization of AD/HD recognizes three subtypes: hyperactivity, impulsivity, and inattentiveness. These subtypes are operationalized further by recognizing that one can occupy multiple subtypes at the same time: "Attention Deficit/Hyperactivity Disorder, Combined Type[;] Attention-Deficit/Hyperactivity Disorder, Predominately Inattentive Type[;]and Attention-Deficit/Hyperactivity Disorder, Predominately Hyperactive-Impulsive Type" ("Attention Deficit" 2).

A person is diagnosed with one of these subtypes depending on how the symptoms manifest from an early age. Personally, I was diagnosed with Attention Deficit/Hyperactivity Disorder, Predominately Inattentive Type. Each of these core subtypes has nine distinct symptoms, and one must demonstrate six of the nine symptoms to be classified in that subtype. To be diagnosed, the "symptoms associated with the three subtypes of ADHD must (1) be present for at least 6 months, (2) cause significant

impairment in social or academic functioning, and (3) occur across two or more settings" ("Attention Deficit" 2). In addition to these requirements, some symptoms must be present before the age of seven.

A common misconception, and a flaw in my research design, is that most people (including medical professionals) are unaware that ADD is an archaic and outdated term that no longer adequately addresses the variance in different manifestations of AD/HD. One of the reasons that studies have only recently begun focusing on post-secondary students with AD/HD is that, as children with AD/HD reach adulthood, many "display fewer hyperactive-impulsive behaviors and show improvement in their attention span" ("Attention Deficit" 2). Another reason is that children with AD/HD are likely to experience academic problems. It is thought that roughly 30% do not finish high school ("Attention Deficit" 4) and their enrollment in post-secondary education is 1/10th the rate of the general population (Gregg 1). With these factors in mind, students with AD/HD either didn't make it to post-secondary education or their symptoms dissipate to a level where they become invisible in the classroom even though they still struggle with learning.

The prevalence of AD/HD in adults is thought to be around 4.4%, though some studies put it as high as 9% (ADD.org). The traditional first year English classroom has roughly 20 students. If 4.4% of adults are thought to have AD/HD, instructors are likely to have at least one student in their class with AD/HD. Even more important to note is that some, like me when I took first year English, might not be aware they have the disorder. Some of the challenges people diagnosed with AD/HD face include "academic underachievement, lack of social skills, disorganization, or difficulty completing

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important tasks. These often result in difficulty with personal relationships, staying employed, or completing an education" (ADD.org). Because college students can already be disorganized and have difficulty completing important tasks their first year of college, a student with AD/HD experiences these problems at a magnified level. College also poses a new challenge for freshman students. In the more relaxed and self-regulated environment, students lose the rigid structure of secondary education. Further, they often do not have their parents to check to make sure they maintain focus and stay on top of their studies. Sarah Gray et al. found that students with AD/HD reported "that they struggle to keep up with the academic demands of a university" (2). These students stated that they "work harder to achieve good grades, are concerned with their academic progress, take longer to complete assignments, and have difficulty completing tests within time limits" (2). My experience is similar to these self-reports and matches with my poor school performances. It is evident that students with AD/HD have a disadvantage when they enter the college classroom, especially the composition classroom.

CHAPTER II

REVIEW OF LITERATURE

In this section, I examine some of the prior scholarship about composition process studies in the field of rhetoric and composition. Primarily, I look at Sondra Perl's study because my own study is a sort of updated version of it. Thus, my study is heavily influenced by Perl's in scope and methods. In addition to Perl, I look at post-process studies and finally examine ecocomposition. Because little has been studied in regard to AD/HD and writing in rhetoric and composition, I looked to other disciplines who have studied AD/HD in more detail, thus, this review of literature includes several different studies that all address some of the different aspects of AD/HD studies, with a focus on those studies that were designed to examine writing and AD/HD. This lack of focus on student writers with AD/HD in a field devoted to the study of writing seems like a glaring oversight in our scholarship. Thus, this study was designed to add another layer of thought to the discussion about composition process studies.

Composition Process Studies

Studying the writing processes of students has been a focus of rhetoric and composition studies since nearly its inception as a field of study. The 1980s saw a boom of research in studying the ways people write. The process movement—Flower and Hayes, Perl—looked at the ways students compose in order to better understand how to teach composition. Perl found that writers who were labeled as "remedial" displayed a consistent writing pattern: pre-writing, writing, editing in that order. Flowers and Hayes

take that idea of writing process further by suggesting that writers instead occupy multiple stages of that process at various times and shift between them fluidly. However, little emphasis was placed upon participants' personal backgrounds, motives, and physical environments. Typically, the resulting pedagogies from these initial studies assumed that everyone writes the same way and that one correct writing process exists. These process studies are likely the reason that formulaic writing was taught to me so often during my time in primary and secondary school.

One of the first researchers in composition and rhetoric to study the writing process was Sondra Perl. In her 1979 study, "The Composing Process of Unskilled College Writers," she examines the writing processes of basic writers and asks if they can be analyzed in a way that would be replicable before posing the question about what "an increased understanding of their processes suggest about the nature of composing in general" (1). In particular, Perl uses several case studies to "discern patterns and themes that suggest regularities in composing behavior across individuals," which leads to more generalizable data. She describes the three types of data that she is analyzing: "the students' written products, their composing tapes, and their responses to the interview" (4). Perl found that remedial writers did almost no prewriting unless prompted, had trouble editing, particularly if they were guessing about the mistakes they might be making, and they also tended to write from an egocentric point of view. My study matches closely with Perl's because I plan on addressing the writing processes of novice writers in a similar fashion. However, my study differs from Perl's in that her process and methods were focused solely on the unskilled writers themselves and did not take into account how their environment might play a part in their writing processes.

In 1981, Linda Flower and John R. Hayes outline a theoretical research framework in "A Cognitive Process Theory of Writing." They expand upon Perl's earlier study by examining the ways in which the writing process has been viewed before providing their own theoretical framework in order to reimagine the writing process. First, they describe the traditional stage process model—the model they are problematizing and critiquing, noting that "this familiar metaphor or model describes the composing process as a linear series of stages, separated in time, and characterized by the gradual development of the written process" (366-7). To complicate this process, Flower and Hayes rethought the traditional models and presented a new model of writing that offers a different perspective of the traditional stages of writing. Instead of moving through each stage in order, they reimagine the process by claiming that the stages are less concrete and more "mental processes" than a "hierarchical structure" (367). They claim that at any given point, a writer can be in any stage of the process and can even be in multiple stages at once.

In order to better understand writers' processes, they propose that instead of looking at what writers are doing during the composing process, researchers should instead ask what they are thinking by conducting a think-aloud study which produces a protocol analysis: "We ask them to work on the task as they normally would … except that they must think out loud" (368). Through this method, one is able to see "not only the development of the written product but many of the intellectual process which produced it" (368-9). While most of Flower and Hayes's concerns were focused on novice versus experienced writers, they note that the theoretical framework that they provide will be useful for various types of research projects.

In response to process theory, post-process theorists claim that process is too linear and that there can be no hierarchical writing process that works for everyone. Instead, they claim that writers occupy many different steps in the process at any given point and can shift between them freely: "Many post-process scholars, largely influenced by post-modernist and anti-foundationalist perspectives, suggest that the process paradigm has reduced the writing act to a series of codified phases that can be taught" (Breuch 97). These scholars struggled with what process pedagogy had become. They found that process pedagogy was too general and reduced the writing process to one universal process that could be taught and applied by all students. Post-process scholars sought to reexamine the definition of writing by analyzing it as an activity instead of a body of knowledge (Breuch 98). In other words, instead of conceptualizing writing as taking place on a straight line (get assignment, write, turn it in), it is much more like a jumbled mess of twists and turns with numerous intersections and stops. Like the social constructionists, post-process theorists found that writing is not a solitary experience but instead a social one. Writing is collaborative and involves many different elements that are not solely cognitive. Given these more current studies and my observations about a difference in the process of AD/HD writers in my class, it makes one wonder about the writing processes of novice writers with AD/HD.

Ecocomposition, Space, and Location

Going even further than post-process theorists, ecocompositionists claim that process theorists failed to take into account how environment affects the composition process. If post-process theorists came to understand that writing is a social experience, then ecocompositionists claim that writing is very much a physical process as well that

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involves everything surrounding the author of a text; writing is not solely a cognitive exercise.

In "Breaking Ground in Ecocomposition: Exploring Relationships between Discourse and Environment," Sidney I. Dobrin and Christian R. Weisser look at how the physical space and environment that writers inhabit as they write affects their writing. They examine "the importance of the intersections between discourse, place, and environment through theoretical examination and pedagogical approaches" (259). They stress the importance of paying attention and claim that writers are "reliant upon environment" and are "dependent upon their surroundings—surroundings that are dynamic, difficult to define, and susceptible to the forces imposed by writers" (261). Of specific importance to my study, they pose the question "[w]hat effects do local environments have on any kind of writing, any kind of writer?" (273). Nedra Reynolds examines the different spatial metaphors—that composition as frontier, as city, and as cyberspace—composition studies have adopted in the past 30 years in "Composition's Imagined Geographies: The Politics of Space in the Frontier, City, and Cyberspace." She first describes each metaphor in detail before presenting the problems that the metaphor poses. Ultimately, she determines that "[c]omposition needs to develop ways to study space differently that might close the gap between imagined geographies and material conditions for writing" (248). She claims (rightly) that where we are and what we have been through (even if it's just the fact that you're cold or hungry when composing) affects the way we compose.

Ecocomposition studies are fairly limited, but they ask an important question and fill an important gap that was often missing in the work process scholars. To gain a

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greater understanding of how people write, it is important to take all aspects of the writing process into account, not just the physical or mental act of writing. Ecocompositionists rightly point out the importance of thinking about the physical and emotional spaces that we occupy during out writing processes. Being hungry, tired, cold, or hot might make it more difficult to write affectively. Therefore, this study focuses not only on the cognitive composition process but also on what spaces its participants inhabit when they compose. This focus, coupled with the focus on their writing process from start to finish allows me to craft a more complete grasp of the way post-secondary students with AD/HD compose.

Prior AD/HD research (Gaps in the AD/HD research):

Many studies have been conducted to examine the learning ability of students with AD/HD; however, the majority of the research centers on secondary and primary students. These studies are particularly found in the fields of psychology, education, and psycholinguistics. In "Written Composition Performance of Students with Attention-Deficit/Hyperactivity Disorder," Ana Miranda Casas and Manuel Soriano Ferrer found that children with AD/HD performed significantly worse "on the majority of the planning, translation, and revision process measures usually employed to assess the quality of written compositions" (443). Their study was designed to "carry out an in-depth examination of the writing performance of children with a clinical diagnosis of ADHD" compared to children without a diagnosis (446). They had students with and without AD/HD write a narrative using a familiar topic and analyze it using Hayes and Flower's theoretical framework. Their study focused primarily on a written artifact produced by students while still looking at their writing process as it occurred. They

found "significant differences between children with and without ADHD … on uncorrected content errors" and that "children with ADHD have considerable difficulties on tasks that require organizing and structuring information" (455).

While their study is perhaps the most complete look of the writing process of students with AD/HD, they fail to take environment into account. The children were seated "in a noise-free room" and only had one session of writing (448). The researchers didn't take into account the physical location in which these students were asked to work. My study aims to see if students' writing process changes when they are in an environment of their own choosing. The fact that the researchers point out potential avenues for more research, including conducting the study on different age groups and focusing on different types of written composition (expository or argumentative essays) suggests that this study is timely and valuable.

Several studies that focus on students with learning disabilities and AD/HD focus on quantitative aspects of writing like adequacy, structure, grammar, and lexicon. In "Discourse Complexity of College Writers With and Without Disabilities: A Multidimensional Analysis," Gregg Noel, Chris Coleman, Robert B. Stennett, and Mark Davis examined "specific word- and sentence-level features most frequently used in the expository writing" of students with AD/HD (23). They found that all of their participants, regardless of having a learning disability or AD/HD, used language in the same way (35). However, they did find that those students who had learning disabilities or AD/HD scored significantly lower than those without disabilities based on a quality rating score of their participants (37). Similarly, Anna Maria Re, Martina Pedron, and Cesare Cornoldi conducted a study of "24 sixth- and seventh-grade children with ADHD

symptoms" designed to examine the students' expressive writing ability (244). The researchers had the students write for only ten minutes in an empty classroom and found that students with AD/HD scored worse on all of the quantitative parameters they were using in their study: adequacy, structure, grammar, and lexicon.

Likewise, Laura Thompson Jacobson and Robert Reid study the writing process of students with AD/HD by providing three students with AD/HD with strategies that help improve the students' persuasive writing ability. Jacobson and Reid found that by introducing self-regulated strategy development (SRSD) to these students, their writing improved markedly. Specifically, they introduced these students to the STOP and DARE SRSD writing strategies. STOP stands for the following: **S**uspend judgment**, T**ake a ride**, O**rganize your idea**, P**lan more while you write. DARE stands for the following: **D**evelop their topic sentence, **A**dd supporting ideas, **R**eject possible arguments for the other side, and **E**nd with a conclusion (163-164). During Jacobson and Reid's control, "each student began writing immediately" without any pre-writing or planning time (165). After introducing the SRSD strategies, each student showed a marked improvement on their time planning and their writing. They found that by using SRSD strategies, students who have been diagnosed with AD/HD do show improvements in their writing. In "Expressive Writing Difficulties in Children Described as Exhibiting ADHD Symptoms," Anna Maria Re, Martina Pedron, and Cesare Cornoldi conducted a study of "24 sixth- and seventh-grade children with ADHD symptoms" that looked at the students' expressive writing ability (244). The researchers had the students write for only ten minutes in an empty classroom. Their results showed that the students with AD/HD

scored worse on all of the quantitative parameters they were using: adequacy, structure, grammar, and lexicon.

These studies are narrow and focus only on one particular part of the writing process. They don't take into account revising and editing—a crucial part of composition for students with AD/HD. Along with this, the researchers in the first study don't mention the location in which they had these students do their writing, and in the second study they place the students in a silent classroom. All of the studies look only at qualitative features that tend to examine only the quantifiable aspects of writing: adequacy, grammar, syntax, spelling, lexical diversity, etc. These studies seem to stack the deck against the students with AD/HD because they look only at the aspects of writing that students with AD/HD will have the most trouble with on first draft writing. All of the studies mentioned focus on students either in secondary or elementary schools. My study will look more closely at the entire composition process—pre-writing, drafting, revising, editing—of post-secondary students with AD/HD in order to get a better idea about how these students struggle or succeed in their process. This focus will help fill the gaps in these studies and will present an introduction of AD/HD student writing in composition and rhetoric studies. These studies that do address the writing process of students with AD/HD are from various other fields and do not adequately reflect the way that compositionists understand the writing process.

Unlike the studies mentioned previously, Gray et al. looked at both qualitative and quantitative data when studying post-secondary students with AD/HD. Their study was designed to "gain further insight into the way in which ADHD symptoms manifest and impair functioning in the post-secondary setting" (9). To accomplish this, they studied the

way that AD/HD symptoms manifest in post-secondary students with AD/HD by conducting phone interviews with them. They asked their participants to provide real life examples in response to six symptoms of AD/HD (3): (1) wrapping up details, (2) getting things in order, (3) remembering appointments/obligations, (4) delaying getting started, (5) fidgeting or squirming, and (6) compulsion to do things. They found that there was a "marked discrepancy in evidence of impairment as measured by standardized cognitive and academic tests versus self-report measures" (10). In other words, the students with AD/HD indicated a greater level of academic and social stresses than their test results indicated. This finding is consistent with the stresses that I encountered during most of my academic career. This study differs from many others in that it accounts for the qualitative data provided by these students. The responses they received from students demonstrate the difficulties faced by students with AD/HD in a college environment including recurrent forgetfulness that can result in missing deadlines, appointments, or classes.

Robert Weis, Emily Dean, and Karen Osborne found that many recommendations offered by clinicians were not supported by evidence of those students' "history, diagnosis, test data, and current functioning" (1). They found that accommodations, including additional time, reading help, text-to-speech, and writing help matched a one-size-fits all approach. Instead, they recommended that accommodations should be determined on a case-by-case basis. Further, Manju Banerjee, Joseph Madaus, and Nicholar Gelbar conducted a study in which they tried to determine how the process of providing accommodations for students with learning disabilities developed. They found that because of the ambiguous nature of proving one has a

learning disability, "service providers [were] left to make important decisions on the basis of incomplete data" (35). Nichole Wadley and Laura Liljedquist studied the effect of extended test time accommodations for students with AD/HD in "The Effect of Extended Test Time for Students with Attention-Deficit Hyperactivity Disroder." Surprisingly, they found that extended time (the most common accommodation given to students with AD/HD) did not have an overall effect on AD/HD students' scores in comparison to other students.

As scholars of rhetoric and composition, we need to shoulder some of that responsibility because we have studied the writing process in greater depth. It is our duty to explore the ways that different student populations compose in order to gain a deeper knowledge about writing processes and their pedagogical implications. Therefore, when reading, you should view this study as more of a first step in a long road of understanding the writing processes of students with AD/HD. It is an exploratory look aimed at discovering some of the ways that one might look at the intersection of distractibility, writing environment, and process.

CHAPTER III

METHODOLOGY

The methods presented in this chapter were designed to provide the best opportunity to achieve the goals outlined in the previous chapter. Because my initial research question asked "how do novice writers with AD/HD compose," I conducted three case studies of freshman writing students at Texas State in order to gain a glimpse at the writing processes of post-secondary students with AD/HD. Two of the students have a clinical diagnosis of AD/HD and one does not. To get as total a glimpse as possible into these students' writing processes, I looked at three things: (1) how engaged in their writing process they were versus how distracted they were during their writing process, (2) how their environment might have affected their writing process, and (3) how productive they were during their writing process. The following methods were designed to address those goals.

To understand these students' writing processes, I asked them to download a free software computer program called *Camtasia Relay*. *Camtasia Relay* is software that records users via their webcam, microphone, and a real-time video capture of the user's computer screen. In other words, when the student chooses to turn on the software, it records her/him, and I am able to see what is being typed on her/his screen, what she/he is saying or the noises around her/him, and what is going on around them as recorded by her/his webcam. The software is free, and students needed to manually download it themselves. It is important to note that I had no remote access to this program once it was

installed on their computers, and the subjects were responsible for turning the program on and off when they began and finished writing. While they composed, the program was running in the background, capturing each stage of their writing process—pre-writing, draft, revising, editing, proof-reading. These recordings allowed me to track trends and patterns of these students' writing processes and compare the students with AD/HD against the control of a student who is not diagnosed with AD/HD.

Participants

I found three willing participants enrolled in one of nine sections of a writing intensive English 1320 course at Texas State University. The participants were three freshman students: Alex, Jess, and Sam. Their names have been changed in order to keep them anonymous. They are all white females between the ages of 18-20. Alex and Jess both have been clinically diagnosed with AD/HD and have known they have the psychiatric disorder for most of their lives. Sam has not received a diagnosis for AD/HD. Sex and ethnic background were not considered for participation in my study, though it is important to note that the lived experiences of students differs greatly and that many different factors might impact a student's writing process.

Complications and Procedure

In this section, I explain the way I recruited participants. Initially, the study was designed to examine students during the fall semester. However, my recruitment during that time was unsuccessful, and, thus, I had to modify my methods to accommodate for the failed recruitment.

Participant Selection.

I first explain my initial recruitment method before explaining the changes I made during the spring semester.

<u>Failed Recruitment</u>

As stated above, my study was conducted during the spring semester. Initially, I looked for participants in English 1310 courses during the fall semester. However, I ran into complications that made me push my study to the spring semester. These complications also made me re-think my recruitment methods. My methods for recruitment during the fall semester follow.

I approached only one instructor, who taught four sections of English 1310 and asked if I could give a five-minute explanation of my project to her. I informed the instructor that I planned on conducting a study of post-secondary student writing processes and would like to recruit potential subjects from her class. This precaution ensured that each student was writing the same thing at the same time and provided a consistency of teaching. I then attended the beginning of each of all four sections and gave a brief explanation to the class detailing my project in order to solicit participants. While I explained my project to the students, the instructor was not in the room. I handed out a sheet of paper that asked the students if they would like to participate in the study. In order to mitigate any kind of embarrassment these students might feel, I asked all of the students to fill out the sheet and turn it back in at once so anyone willing to participate could not be singled out. No student saw anyone else's request form because I picked these forms up individually. I did not share any of the information with the instructor and the students remained anonymous throughout the study.

The information I provided to the students in these class visits was a brief explanation of my study with a statement that I will follow up with them with an e-mail with more information if they indicated interest in participating. They did not sign a consent form during this initial class visit. Instead, if they continued to express interest in the study after the follow up e-mail, I had a one-on-one meeting where they signed the consent form.

As mentioned above, I sent an informative e-mail to each participant who expressed interest in the study. The e-mail provided more details about their involvement in the study, and I asked again if they are willing to participate. If the participant was still interested, I set up a one on one meeting in order to have them sign the consent form, explain their responsibilities in the project in more detail, and download Camtasia.

In the four sections I initially visited, 67 students returned a class-form to me. Of those 67 students, 40 of them (60%) indicated no interest in participating while the other 27 (40%) indicated interest. Of those 40% of interested participants, only four of them indicated that they had received a diagnosis of AD/HD in the past. Even with the surprisingly high response rate, I was still unable to complete the study during the fall semester because of lack of student follow-up after I e-mailed them.

I sent the follow up e-mail to all students who were diagnosed while only sending the e-mail to four randomly selected students of the remaining, non-AD/HD participants. Of the eight e-mails I sent, only two students responded, neither of them had a clinical diagnosis of AD/HD. After three days without response, I re-sent the e-mail to those with AD/HD while sending e-mails to ten other participants who indicated interest. In the end,

none of the students with AD/HD responded which meant I could not pursue the study further that semester.

Modified Recruitment Methods

I made several modifications to my recruitment methods between the Fall and Spring semesters to increase potential involvement. For instance, I increased the number of instructors that I pulled participants from. Instead of four sections from one instructor, I asked five different instructors if I could come to their 1320 sections. Two instructors taught three sections, and three taught one section. I increased the number of classes I visited by five, leaving me with 96 returned class forms. Of the 96, only 20 (19%) students indicated interest in participating in the study while the remaining 76 (81%) indicated they did not wish to participate. Of the 20 who indicated interest, only three of them identified as AD/HD.

I also changed how I approached the class visit. I made my pitch longer, included more information about my project, provided the students with a better idea of the benefits they might receive from participating, tried to be more approachable and less stiff. I did not read a specific script during each visit, but I did have several different aspects of my study that I talked about. In order to understand my recruitment methods, I include those general talking points here:

- Introduce myself
- Explain that the study is for my thesis
- Explain the purpose of the study
- Explain what participants will have to do if they choose to participate
- Explain time commitment of student

- Explain the anonymous nature of the study

- Explain the benefits of their participation in the study

Because I am not the most confident public speaker, I would not elaborate or adequately explain some of these steps during each of my visits. The pitch also changed each time I visited a different class due to the general feel of the classroom. Sometimes I would focus more on certain aspects based on the reaction of the students. During my visits in the fall semester, I was not specific enough with information and focused on unimportant details of my study. I would also focus on parts that were important to me, but the students didn't seem to care about. For instance, I would talk a lot about myself and my thesis, but I found that students either didn't care about my thesis (rightly) or didn't understand the importance of a thesis. Additionally, I focused too much on what they would have to do, instead of focusing on the benefits they would receive from participating. Even though the study was designed to minimize the time commitment required by the student, pointing out all of the things they would have to do in more detail than necessary during the initial visit likely discouraged participation.

During the spring, I focused more on the benefit that the students would receive from participating in the study as well as the general importance of what they would be doing. For instance, I explained that if they participated, the process might show them any potentially problematic habits or trends they exhibit while writing, particularly if they have AD/HD. I explained that I did this experiment myself and found the knowledge and self-reflection that resulted from the experiment turned out to be invaluable for my ability as a writer. I also explained the benefit of learning more about how post-secondary students with AD/HD compose gives writers better insight into understanding this

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specific population. In general, the in-class response was much greater during these visits in the second semester. What I mean is that the students during the visit in the spring were generally more responsive while I was performing my pitch. This could mean many things, but it is likely a factor of me becoming more comfortable in front of students, as well as general differences in personalities. Additionally, instead of going at the beginning of class, I went during the last ten minutes. I asked that those who wished to participate come directly to my office so that we could have the secondary meeting immediately instead of at a later date.

This method met with varied results. Of the 20 people who wanted to participate, only five of those came immediately to my office. Of those, only one student completed the study. I sent the follow-up e-mail to those who did not come immediately to my office after class. Instead of randomly selecting, I sent e-mails to every single willing participant. Five students came for the second visit, two of whom had AD/HD. Only three of these six students completed the study: two with AD/HD and one without.

Participant Involvement

Once I had my willing participants, I held an instructive session that averaged 15 minutes on using Camtasia Relay. These meetings were held separately for each participant to further help with anonymity. During the meeting I explained more about what Camtasia would do when they turned it on, gave instructions about how to use and install the program, and asked students to sign the consent form. The program was only active when they chose to turn it on. Additionally, the participants had to manually submit the recorded file to me once it was complete during a second one-to-one meeting.

In this meeting, I transferred the files from their computers onto a password-protected external hard drive.

Primarily, subjects did what was expected of them in their writing class. They prepared and wrote their assigned essay like they normally would, except they now had Camtasia Relay running while doing so. Upon completion of their assignment, participants were asked to submit their Camtasia recordings along with any hand written notes or writing that they had to me during the second meeting. I also suggested that they delete the files from their computers once they submitted them if they wished. None of the participants had hand-written notes.

Precautions and Rejected Methods

Because my study focused on students with AD/HD, a risk of disclosure exists, but I took precautions to minimize the likelihood of that outcome. Other students in the class might have learned of the subjects' diagnosis, but the participants would need to disclose themselves in order for their instructor or fellow students to know they participated in the study. Another concern I worried about was the instructor of record finding out that these students participated. The likelihood of these risks is low because of the way that I solicited participants. Aside from the instructors knowing that I gained participants from their sections, the instructors were not in the room while I recruited and they did not otherwise know unless the student disclosed his or her participation. Even though students were required to self-disclose their AD/HD to me in the class form, they will remain anonymous throughout the study, so unless they disclosed they are in the project, there is minimal risk of anyone knowing they participated.

There were several alternate designs considered for recruitment as well as the failed initial recruitment method. I could have recruited in the dormitories by using flyers, but this method was not consistent and the risk of exposure was higher. The current study ensures consistency because each student is in the same course taught by the same instructor. I also considered having students write reflective journals as well, but decided against it. Additionally, I was going to have them volunteer verbally while in class, but decided that passing out a sheet to each student was more consistent and minimized the risk of each disclosure.

Data Analysis

To answer my research question, "how do freshman students with AD/HD compose their essays?", I needed to first analyze the data in a way that provided a clear picture and idea of these three students' writing processes. With that in mind, I needed to determine ways to mark how distractible they are, how productive they are, and how their environment affects their writing.

Once Alex, Sam, and Jess transferred their recordings to me, I began data analysis. To understand the ways that they wrote, I examined four different aspects of their writing process when watching the videos: (1) The environment they composed in and how that may have affected their writing, (2) how long they were engaged in the writing process—noting when they were engaged in *Microsoft Word* and outside of *Microsoft Word*, (3) how many times they were distracted, and (4) their productivity during the recordings.

Environment

   I paid close attention to where Alex, Jess, and Sam decided to write. Because ecocomposition points out the need to recognize the ways that environment interacts with writing, and because the purpose of much of the research outlined in the review of literature was not designed to address environment in relation to AD/HD and writing, examining how the environments these students chose to write in is important. In order to determine how these environments might affect their writing, I examined their chosen writing environment, how many times something in the environment caused a distraction, how listening to music or audio recordings might have affected their work, and how other people in their writing environment might have affected their writing. It is important to note that in this study I was limited to studying the environment to what one could see in their webcam recordings and hear via their microphones. This meant that I only saw Alex, Sam, or Jess in front of the computer and what was immediately behind them. Even with this limited information, I was able to gain a good sense of their environment based on what their microphones picked up and their surroundings. In addition to their surroundings, I also include what they are listening to while writing. The nature of *Camtasia Relay* is such that the microphone attached to the subjects' computers picks up the surrounding noise in the environment. However, it will also pick up whatever the student is listening with their headphones. For instance, if many people are talking around the students, but they are listening to music on their computer with headphones, I will hear both things while the student might only hear the music.

Time Engaged vs Time Distracted

In order to capture a sense of the students' writing processes, I operationalize how they were engaged or distracted by whether or not they were actively engaged in thinking or writing in *Microsoft Word* or how long they were engaged out of *Microsoft Word*. Being engaged in *Microsoft Word* was marked by having *Word* open, looking at the screen, scrolling up and down while thinking or re-organizing, or revising and editing their work. I marked being engaged outside of *Word* by looking away from the computer to reference printed research, watching a YouTube video related to their research, talking to someone in the room about their paper, or looking at research online. I operationalized distractions by being actively engaged in something other than their paper. These distractions included checking their phones, surfing the internet, using instant messaging, talking to someone in the room about something else, watching television, and/or getting up and walking around.

Whenever they engaged in one of these three markers, I would note the time when the activity started and mark when it ended, creating a timeline. With this timeline, I was able to generate an idea of how long they were engaged at a time, how often they were distracted, and how productive they were when they were switching between distraction and engagement. I provide an example of how I recorded the first ten minutes of one recording below in Figure 1. Every time the student became engaged in *Word,* engaged out of *Word*, or became distracted, I marked it by typing either "I," "O," or "D," then marking the time spent during this activity. "I" indicates being engaged in *Word*, "O" indicates being engaged out of *Word*, and "D" indicates being distracted. For instance, as

seen in Figure 1, you see the shift from I to O to D within the first two minutes. Each

comma indicates a shift in engagement or a shift toward distraction.

In *Word* (I) 0-1.37, Outside of *Word* (O) 1.37-1.48, **Distracted (D) 1.48-2.00,** O 2.00-3.50, I 3.50-5.12, O 5.12-6.02, I 6.02-6.28, O 6.28-7.03, I 7.03-10.00
Figure 1: Timeline of the First Ten Minutes of Sam's Third Recording

Productivity

The purpose of this study is not to determine the quality of Alex, Jess, and Sam's

writing but, instead, to get a clear picture about how they compose and if AD/HD might

affect post-secondary students' writing in a significant way throughout. I focused on how

productive they were throughout their process, as evidenced by their recordings. I chose

to examine productivity because one of the major differences between the recordings was

the time spent writing. Looking at productivity gives a greater understanding of what

these students are doing in the time they set aside to physically compose their essays. To

accomplish this, I looked at word count from the beginning of recording to the end as

well as focusing on periods when a high number of transitions between distractions and

engagements occurred. For instance, if one of the participants was distracted then

engaged, then distracted in rapid succession, I examined how productive they were

during that less engaged time. Additionally, I looked at their word count during the times

they were engaged longest. For instance, if one of the participants spent a large portion of

the recording engaged, I examined how productive they were during that time. In other

words, I wanted to gain a clearer idea of how their distractibility affected their ability to

produce during the time they spent writing. I hypothesized that the production-to-

distraction ratio would be more consistent for Alex and Jess' recordings than for Sam's

since they have AD/HD and are more accustomed to being productive while being distracted.

Limits

It is important to note that only Jess and Sam provided recordings that documented their entire writing process from beginning to end. They each provided three recordings in which they started with blank *Word* documents and continued through the revising and editing phases of their writing processes. Thus, they provided a more complete glimpse at their writing process. However, Alex did not begin recording until she was already in her revision stage. Unlike the other two, she already had a complete draft written by the time she recorded her first capture. Thus, I do not have as clear a picture of her writing process as the other two. Therefore, I could not use Alex's full recording to understand her writing process because she did not record her whole process. I include her results, here, because the recordings she provided still give data in regard to how a student with AD/HD might handle the revision and editing stages of the writing process.

Another complication that might have skewed the data is that Sam's microphone threshold—how much noise it picked up—was turned down, and thus I could not always hear what she was saying. This might mean that I marked her being distracted when she was talking, when really she might have been talking about her paper.

CHAPTER IV

RESULTS

In this chapter, I present both the qualitative and quantitative data that Alex, Sam, and Jess's recordings yielded. To provide the greatest understanding of the ways that these students composed, I focused on four key aspects of their writing processes when looking at the recordings: (1) the environment in which the subjects compose; (2) time engaged in *Word*, out of *Word*, and while distracted; (3) and their productivity while engaged. These three key findings are presented in order to provide the clearest picture of Sam, Alex, and Jess's writing processes as presented in their recordings. They also best address how distractible and productive they are while recording, two of the major goals of this study.

Environment

In this section, to present the best picture of their environment, I present where the participants chose to compose their essays. I also discuss differences in their locations and present various types of distractions that are present in their background. Sam wrote in what appeared to be a dorm room. The lighting was typically low, and the walls behind her were bare. She wrote in the same place during all three recordings. Her environment seemed distraction-free for the most part, though in all three recordings there appeared to be at least one other person in the room. This person was essentially her only source of distraction, and 97% of the time that she was distracted, it was because she was talking to this other person. The only other times that she was distracted were when she was

watching television and getting up to walk around. She did not check her phone, use instant messaging, or surf the Internet at all during any of her recordings. At most, there appeared to be three other people in the room with her. In her first and third recording, she did not listen to any sort of music, and in her second she listened to an audio-recording of someone reading a short story. She was also aware that she was being recorded and would often write notes directed to me. In one such note, she apologized to me for listening to audio recordings, saying that the soft-speaking voices helped her concentrate. Sam sat and wrote in a room where another person was watching television or talking to another person the entire time. She was able to stay focused the majority of the time despite the talking and television. While she did get distracted because of talking periodically, considering her environment, it is surprising that she did not get distracted more. She was productive with at least one other person in the room watching television and talking to her periodically.

Jess's environments differed substantially from Sam's. In her first recording, she appeared to be writing in her dorm room like Sam. Unlike Sam, it appeared that she was alone and no one else was in the room with her to provide distractions. Another distinction between Sam and Jess is that Jess fidgeted and shifted in her seat significantly more. She was almost constantly moving in her chair. She checked her phone 14 times (40%) across all recordings and was distracted with greater frequency than Sam. In her second recording, Sam appeared to be in the library, or at a sorority house, with several talking people surrounding her. She was writing with her laptop in her lap and sitting on a couch or recliner. Jess also listened to music across all three recordings via Pandora Radio. While the music itself didn't seem to provide a distraction, Pandora itself was a

problem. Because the nature of Pandora is such that you have little control over what song will play next, she frequently would open her web browser to skip a song or would become distracted by the advertisements that played between songs. In fact, changing the song resulted in a distraction nine (30%) different times across all recordings and prompted her to check Facebook several times since she opened the web browser. However, the music appeared to help her concentrate as well. In the second recording, there were at least two other people in the room with her who were talking. The music allowed her to concentrate on writing and not be distracted by the talking in the room. Like Sam, Jess had at least one other person in her environment who was talking or being distracting. However, unlike Sam, Jess never stopped to talk to anyone in her environment. She was writing in her bed during her third recording, which might have resulted in the short length of the capture. Additionally, it seemed as if she was working on revising and editing based on a peer-reviewed printed copy of a rough draft. Across all three recordings, checking her phone and changing her music were her greatest source of distraction.

Alex's choices of writing environment were the most atypical of the three. During her first recording, she was writing in a lecture hall while a professor was giving a lecture. Since she was in her revising and editing phase, she was primarily fact-checking and re-writing sentences and chunks of her introduction and body paragraphs. Her writing environment was interesting because it showed that she is capable of writing in what appears to be a very distracting place. While she was distracted almost as many times as she was engaged, she was still able to be productive in the short amount of time she recorded. During her second recording, she was in a living room writing with her

laptop on her lap while sitting on a couch. The television was on in the background with a baseball game playing and there was at least one other person in the room with her. The other person was her greatest source of distraction during this recording because he would say things that would immediately break her concentration. However, they discussed her paper at length two separate times during the recording, so he was not a complete distraction. The television also provided a source of distraction. Anytime something exciting happened in the baseball game, she would glance at the television and watch for several moments before attempting to re-focus on her writing. Both of Alex's chosen writing environments were not intuitively ideal places to write, but in both cases she was productive a greater percentage of the time than not. In fact, during her second recording, an arguably more distractible environment, she was productive for 78% of the total time.

To summarize, Sam wrote in what most would consider an intuitively good place to write across all of her recordings while Jess and Alex wrote in five different places across all five of their recordings. All three participants wrote in at least one location that had at least one other person who was talking or watching television which resulted in increased distractibility. Jess listened to music during each of her recordings, Sam listened to an audio recording during one out of three of her recordings, and Alex didn't listen to any sort of music or audio recordings during either of her recordings.

Time Engaged Versus Time Distracted

In this section, I present the percentages of time that Sam, Alex, and Jess move from engagement versus distraction. I differentiate between time engaged in *Word,* time engaged outside of *Word*, and time distracted. This data provides the difference in the

amount of time spent working on the essay versus the time distracted. This data gives insight into these students' writing processes because it examines what they are doing when sitting down to compose their essays. I also include the major due dates for each of their assigned essays. The total amount of time spent recording is also recorded.

Sam

Sam recorded her process a total of three times. Her paper was assigned on April 6th, a thesis and introduction were due on April 13th, a draft for peer review was due on April 22nd, and the final paper was due on April 29th. Her first recording was on April 1st at 3:00 pm, her second was on April 20th at 9:45 pm, and her third was on April 29th at 10:30 pm. Her recordings captured a relatively complete look at how she composes a paper since her first recording starts with a blank *Word* document. Each subsequent recording picks up where she left off from the previous recording. In her final recording she completes her final draft. The first recording was 61 minutes, the second 100 minutes, and the third 92 minutes for a cumulative total of 253 minutes, or 4 hours and 13 minutes.

<u>Recording One</u>

In her first recording, Sam, who does not have AD/HD, worked for 61 minutes and was engaged within *Word* for 47 minutes (76%), outside of *Word* for ten minutes (17%), and distracted for four minutes (7%). She was engaged in *Word* 27 times, outside of *Word* 20 times, and distracted 13 times. The average number of times she worked while engaged both in and outside of *Word* was three minutes and 40 seconds per time engaged between distractions with the longest consecutive time engaged being 11 minutes. The average time she worked while engaging either in or outside of *Word* was

73.4 seconds per time engaged. The average time of her distraction was 19 seconds per distraction with the longest time distracted being three minute 20 seconds. She was actively engaged in working for 57 minutes and 30 seconds (93%) of the recording and distracted for four minutes (7%). Figure 2 demonstrates a timeline of her entire recording from start to finish. The black bar indicates the amount of time she was engaged in *Word*, the dark grey bar indicates when she was engaged outside of *Word*, and the bottom light grey bar indicates the times she was distracted. This timeline presents a good visual timeline of her time engaged versus time distracted.
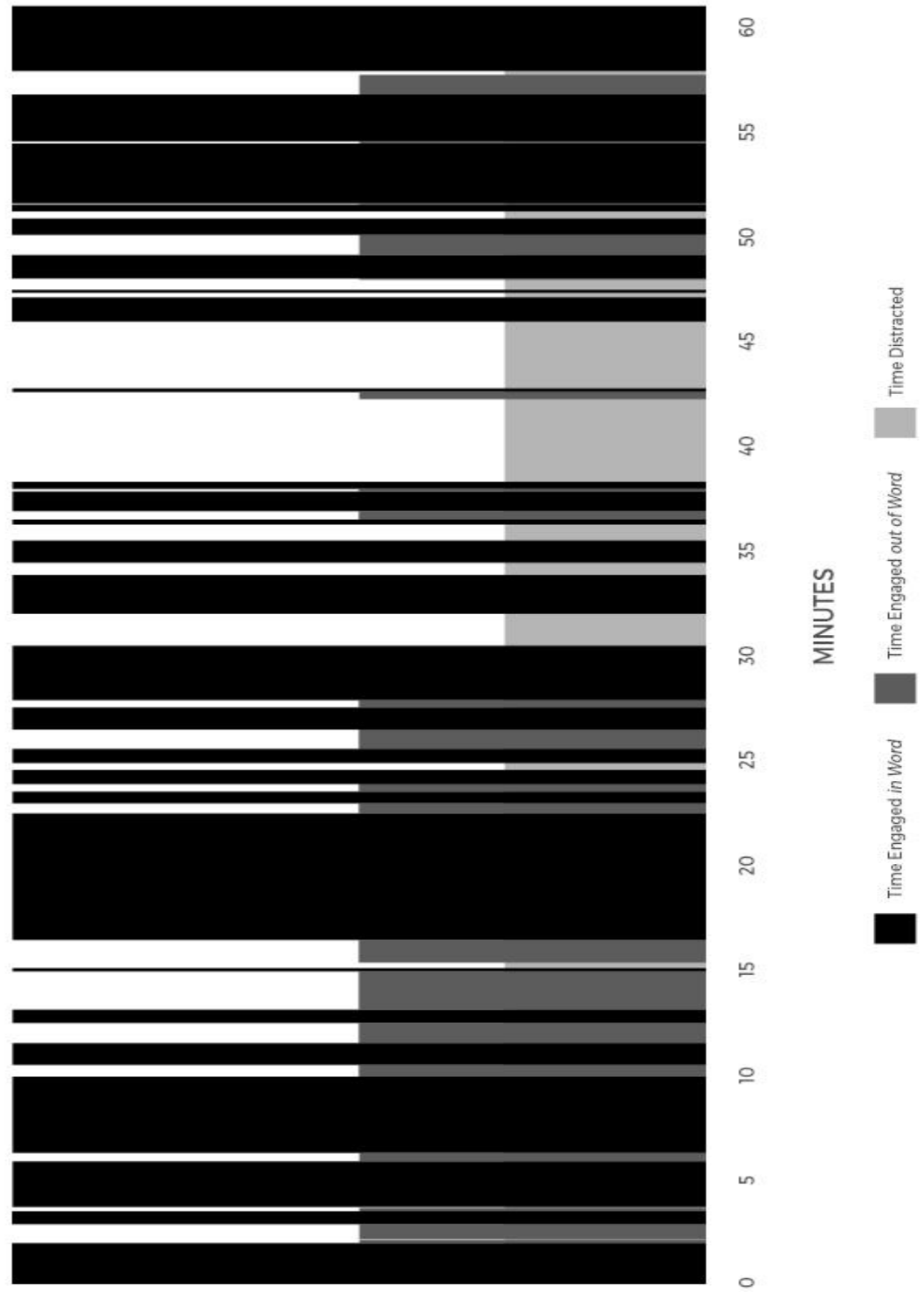
Figure 2: Timeline of Sam's First Recording

Sam worked for 100 minutes during her second recording and was engaged within *Word* for 56 minutes (56%), engaged outside of *Word* for 22 minutes (22%) seconds, and distracted for 22 minutes (22%) seconds. Figure 3 demonstrates the percentages of time she was engaged in each of her recordings. She was engaged in *Word* 48 times, engaged outside of *Word* 31 times, and distracted 29 times. The average time she worked while engaged both in and outside of *Word* was two minutes and 45 seconds per time engaged between distractions with the longest consecutive time engaged being 21 minutes and 23 seconds. The average time she worked while engaging either in or outside of *Word* was 60.8 seconds per time engaged. The average time of her distraction was 42.8 seconds with the longest time distracted being four minutes and 25 seconds. She was actively engaged in working for 78 minutes (78%) of the recording and distracted for 22 minutes (22%). Figure 3 demonstrates a timeline of her entire recording from start to finish. The black bar indicates the amount of time she was engaged in *Word*, the dark grey bar indicates when she was engaged outside of *Word*, and the bottom light grey bar indicates the times she was distracted. This figure presents a good visual timeline of her time engaged versus time distracted.
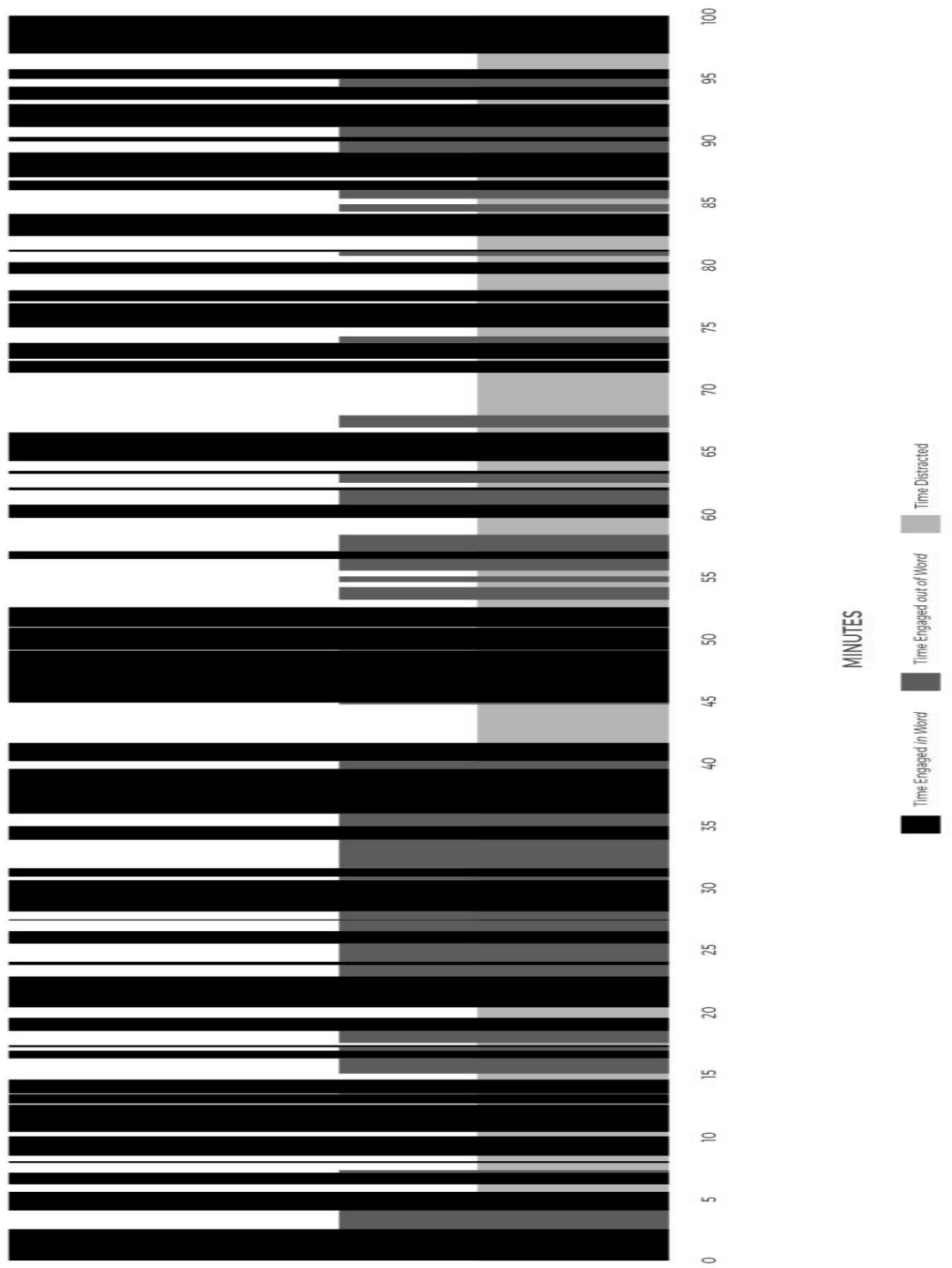
Figure 3: Timeline of Sam's Second Recording

In her third recording, she worked for 92 minutes and was engaged in *Word* for 64 minutes and 41 seconds (70%), outside of *Word* for nine minutes and 40 seconds (11%), and distracted for 17 minutes and 49 seconds (19%). Figure 3 demonstrates the percentages of time she was engaged in each of her recordings. She was engaged in *Word* 21 times, engaged outside of *Word* 15 times, and was distracted 10 times. The average time she worked while engaged both in and outside of *Word* was seven minutes per time engaged between distractions with the longest consecutive time working being 29 minutes. The average time she worked while engaged either in or outside of *Word* was two minutes per time engaged. The average time of her distraction was one minute and 43 seconds with the longest time distracted being six minutes and 32 seconds. She was actively engaged in writing or thinking about her project for 74 minutes (81%) of the recording and distracted for 18 minutes (19%). Figure 4 demonstrates a timeline of her entire recording from start to finish. This figure presents a good visual timeline of her time engaged versus time distracted. Figure 5 demonstrates the summary of percentages of time she was engaged in each of her recordings.
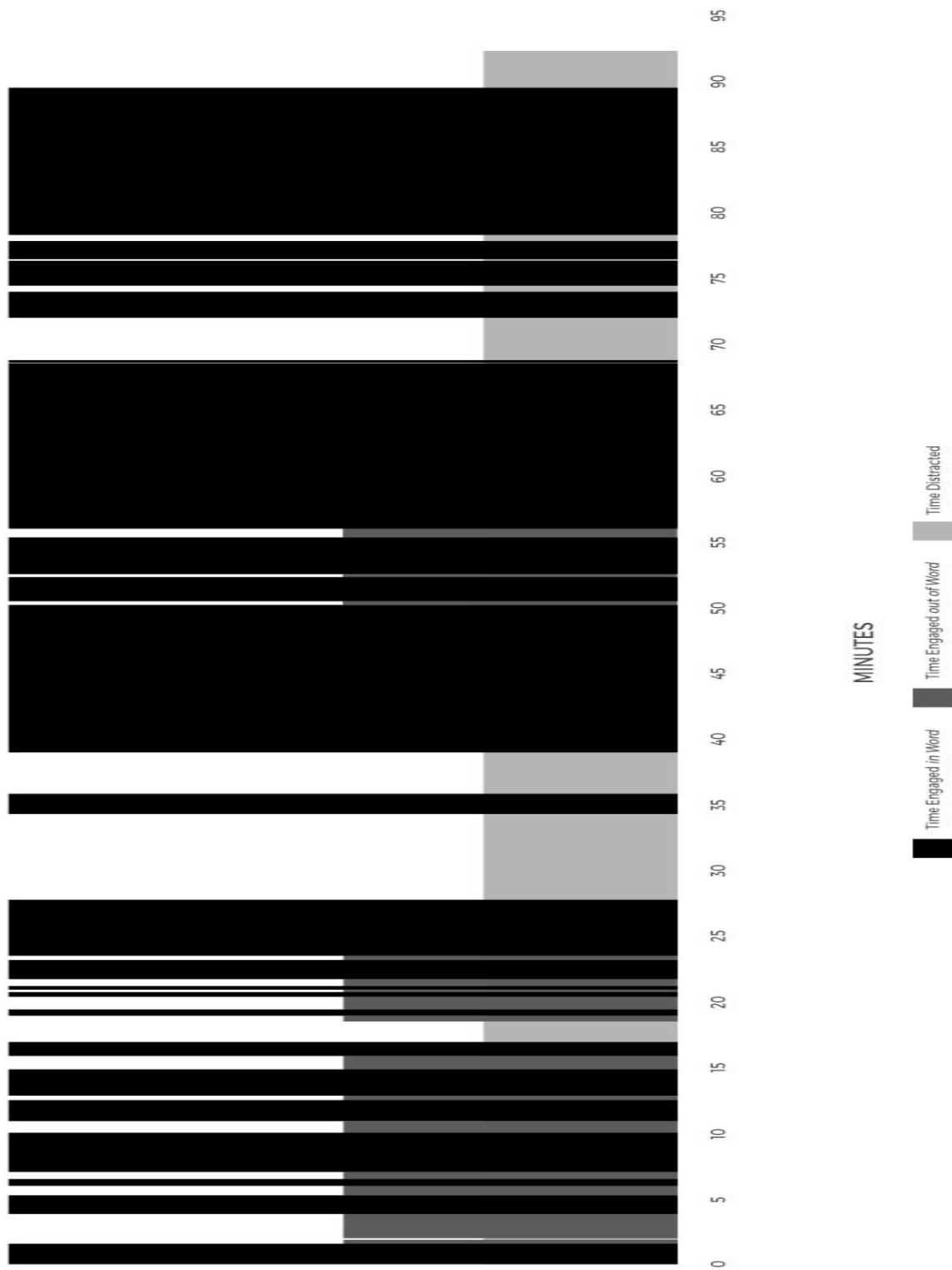
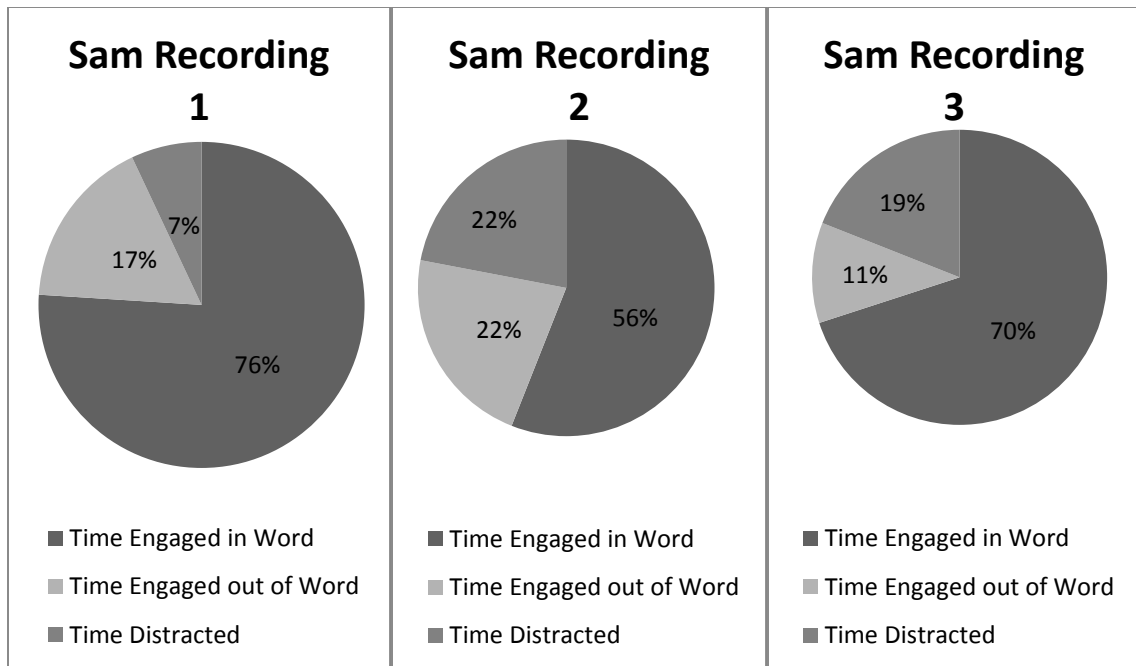Figure 4: Timeline of Sam's Third Recording

Figure 5: Summary of Time Sam Spent Engaged in *Word*, out of *Word*, and Distracted

Jess

Jess also recorded a total of three times, and, like Sam, her recordings captured a relatively complete look at how she composes a paper. Her paper was assigned on April 6th, a thesis was due on April 20th, a draft for peer review was due on April 22nd, and the final paper was due on May 4th. Her first recording was captured on April 22nd at 12:50 pm, her second was captured on April 22nd at 4:20 pm, and her third was captured on May 1st at 9:52 pm. Jess recorded for 40 minutes during her first recording, the second for 68 minutes, and the third for 29 minutes for a cumulative total of 137 minutes, or two hours and 17 minutes.

Jess recorded a total of three times like Sam. In Jess's first recording she worked for 40 minutes and was engaged within *Word* for 21 minutes (53%), engaged outside of *Word* for ten minutes (24%), and distracted for nine minutes (22%). The average time she worked while engaged both in and outside of *Word* was two minutes and 30 seconds per time engaged between distractions with the longest consecutive time actively engaged being eight minutes and 49 seconds. The average time she worked while engaged either in or outside of *Word* was 44.3 seconds per time engaged. The average time of her distraction was 44.8 seconds, with the longest time distracted being four minutes and 26 seconds. She was actively engaged in working for 31 minutes (77%) of the recording and was distracted for nine minutes (23%). Figure 6 demonstrates a timeline of her entire recording from start to finish. The black bar indicates the amount of time she was engaged in *Word*, the dark grey bar indicates when she was engaged outside of *Word*, and the bottom light grey bar indicates the times she was distracted. This figure presents a good visual timeline of her time engaged versus time distracted.
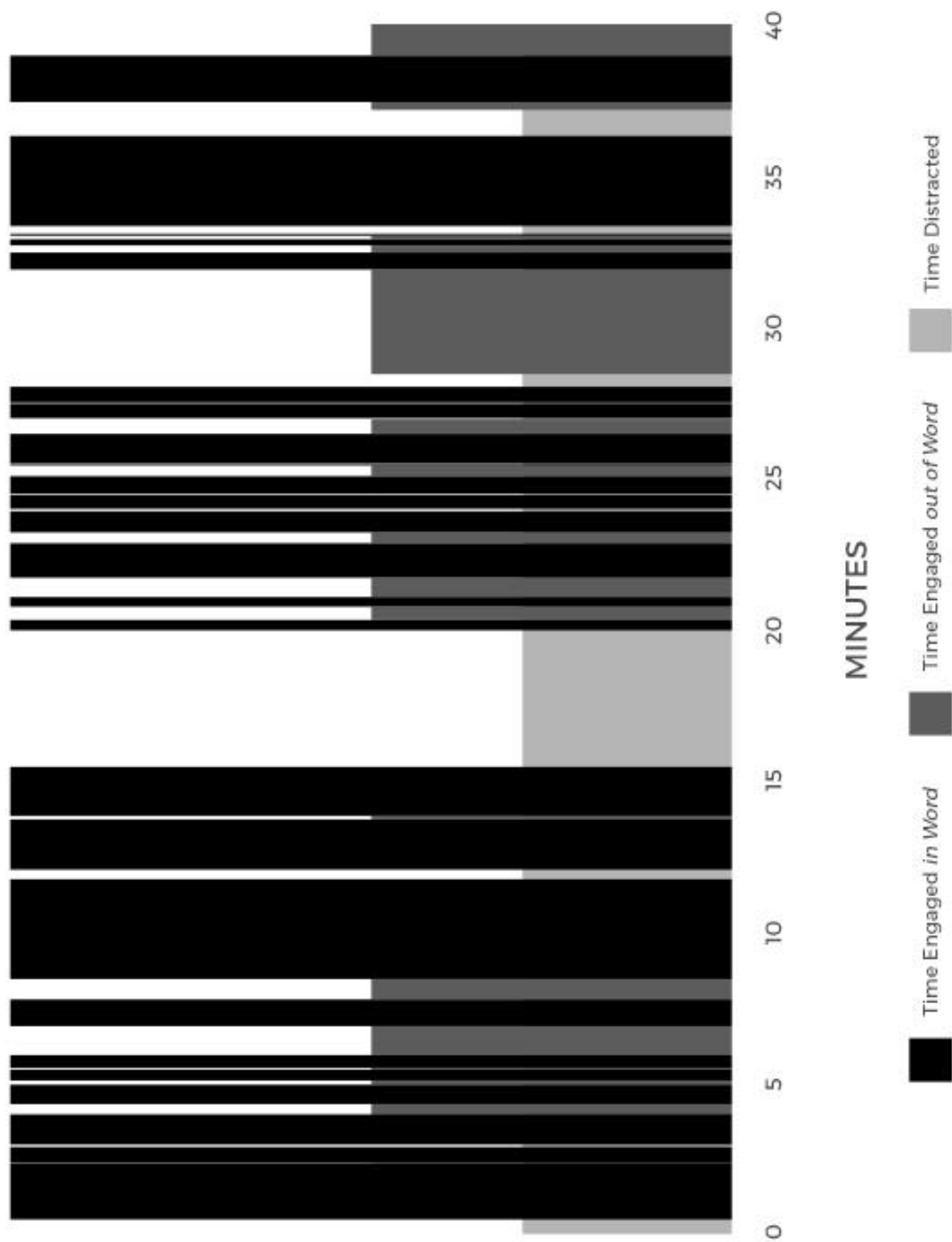
Figure 6: Timeline of Jess's First Recording

<u>Recording Two</u>

Jess recorded for 68 minutes in her second recording and was engaged within *Word* for 36 minutes (53%), engaged outside of *Word* for 23 minutes (34%) seconds, and distracted for nine minutes (12%). Figure 5 demonstrates the percentages of time she was engaged in each of her recordings. The average time she worked while engaged both in and outside of *Word* was five minutes per time engaged between distractions with the longest consecutive time actively engaged being 14 minutes. The average time she worked while engaged either in or outside of *Word* was two minutes per time engaged. The average time of her distraction was 41 seconds, with the longest time distracted being two minutes and 32 seconds. She was actively engaged in working both in and outside of *Word* for 59 minutes (88%) of the recording and was distracted for nine minutes (12%). Figure 7 demonstrates a timeline of her entire recording from start to finish.
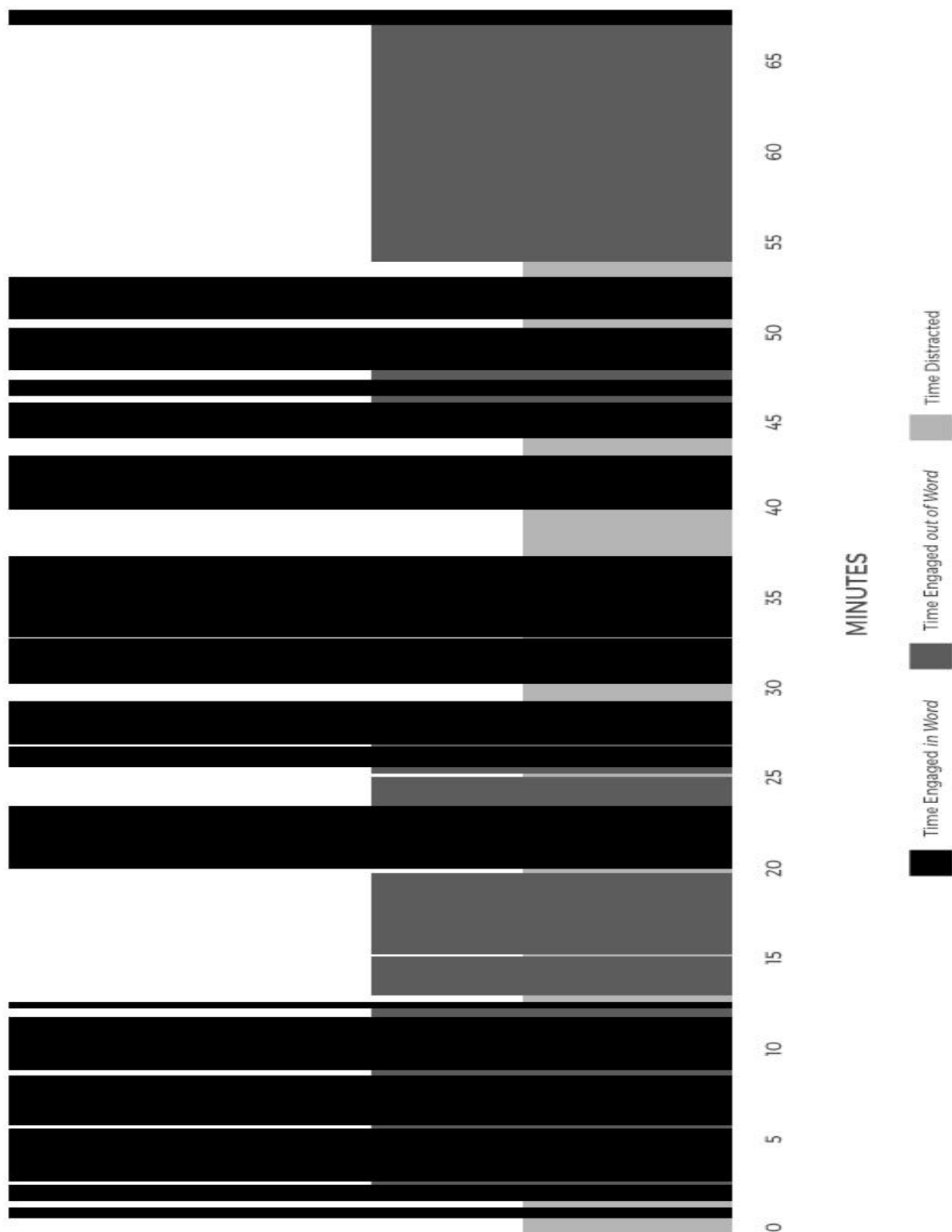
Figure 7: Timeline of Jess's Second Recording

<u>Recording Three</u>

In her third recording, Jess worked for 30 minutes and was engaged within *Word* for 15 minutes (50%), engaged outside of *Word* for ten minutes (35%), and distracted for five minutes (15%). Figure 5 demonstrates the percentages of time she was engaged in each of her recordings. The average time she worked while engaged both in and outside of *Word* was two minutes and 30 seconds per time engaged between distractions with the longest consecutive time actively engaged being five minutes and ten seconds. The average time she worked while engaged either in or outside of *Word* was 45.8 seconds per time engaged. The average time of her distraction was 45.8 seconds with the longest time distracted being 52 seconds. She was actively engaged for 25 minutes (85%) of the recording and was distracted for five minutes (15%). Figure 8 demonstrates a timeline of her entire recording from start to finish. Figure 9 demonstrates a summary of the percentages of time she was engaged in each of her recordings.
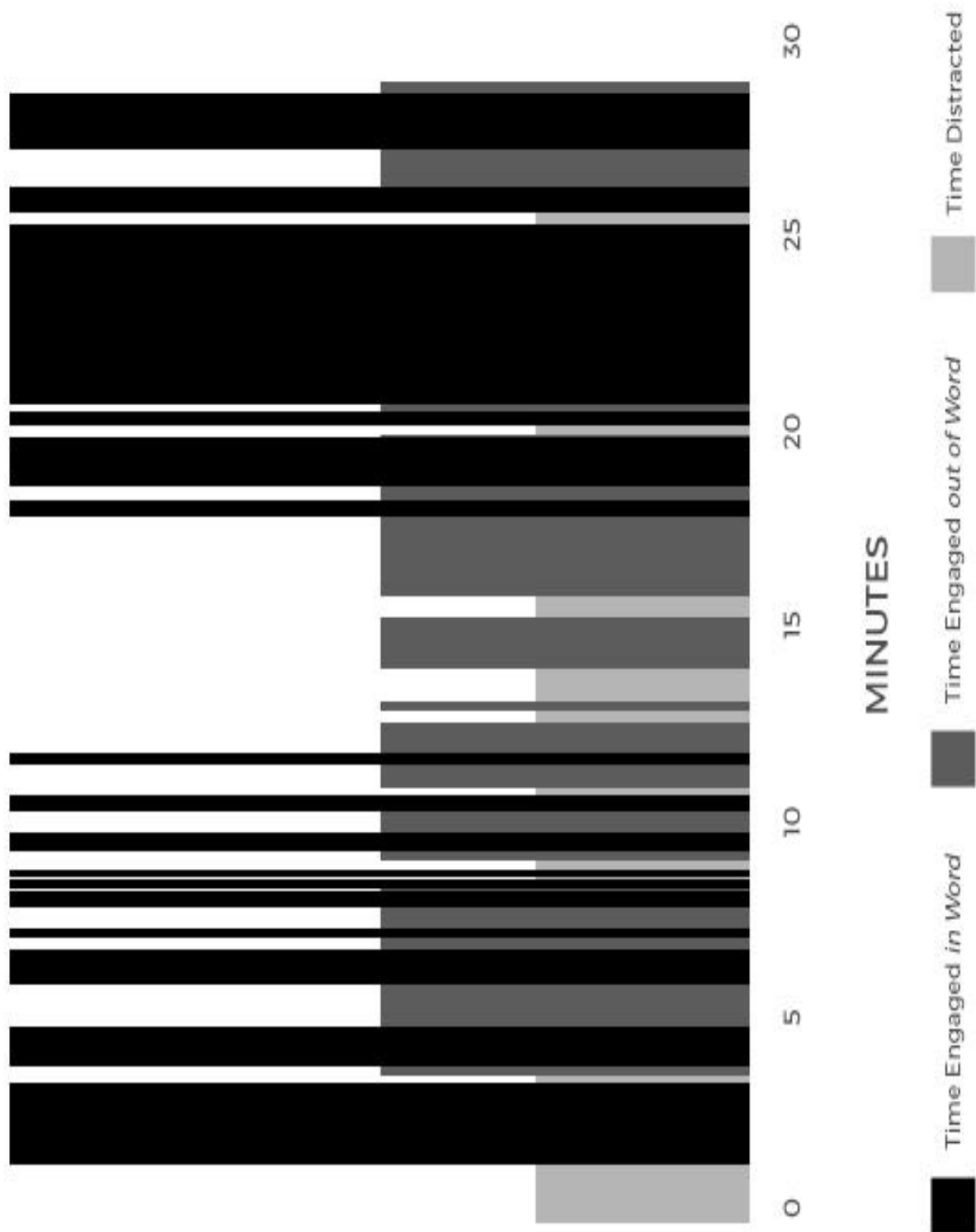
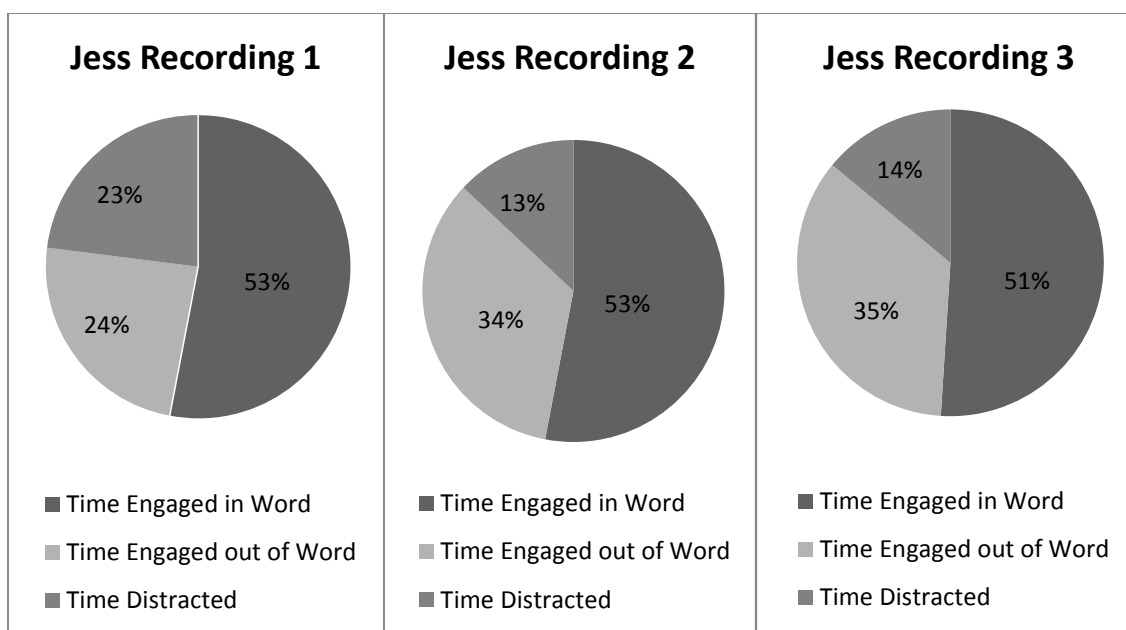Figure 8: Timeline of Jess's Third Recording

Figure 9: Summary of Time Jess Spent Engaged in *Word*, out of *Word*, and Distracted

Alex

Unlike Sam and Jess, Alex did not start recording with a blank *Word* document. Thus, her recordings only show her revising and editing practices. Her paper was assigned on April 13th, a draft for peer review was due on April 20th, and the final paper was due on April 22nd. Her first recording was captured on April 20th at 10:30 am, and her second was captured on April 21st at 10:55 pm. Her first recording was for 27 minutes, and the second was for 27 minutes for a cumulative total of 54 minutes, or one hour and 14 minutes. Sam recorded and was engaged significantly longer than Alex and Jess, recording more than both of them combined. This distinction is important when looking at their productivity. One thing I noticed immediately with Sam's recordings is that she wrote at almost a glacial pace. While I do think she was editing as she wrote, she seemed to think spend a lot more time sitting and thinking than both Jess and Alex.

Recording One

        In Alex's first recording, she worked for 27 minutes and was engaged within

Word for 14 minutes (53%), engaged outside of *Word* for three minutes (13%), and was

distracted for ten minutes (34%). The average time she worked while engaged both in

and outside of *Word* was three minutes and 30 seconds per time engaged between

distractions with the longest consecutive time actively engaged being 14 minutes. The

average time she worked while engaged either in or outside of *Word* was 108 seconds per

time engaged. The average time of her distraction was 91.3 seconds with the longest time

distracted being two minutes and 44 seconds. She was actively engaged in working for 17

minutes (66%) of the recording and was distracted for ten minutes (34%). Figure 10

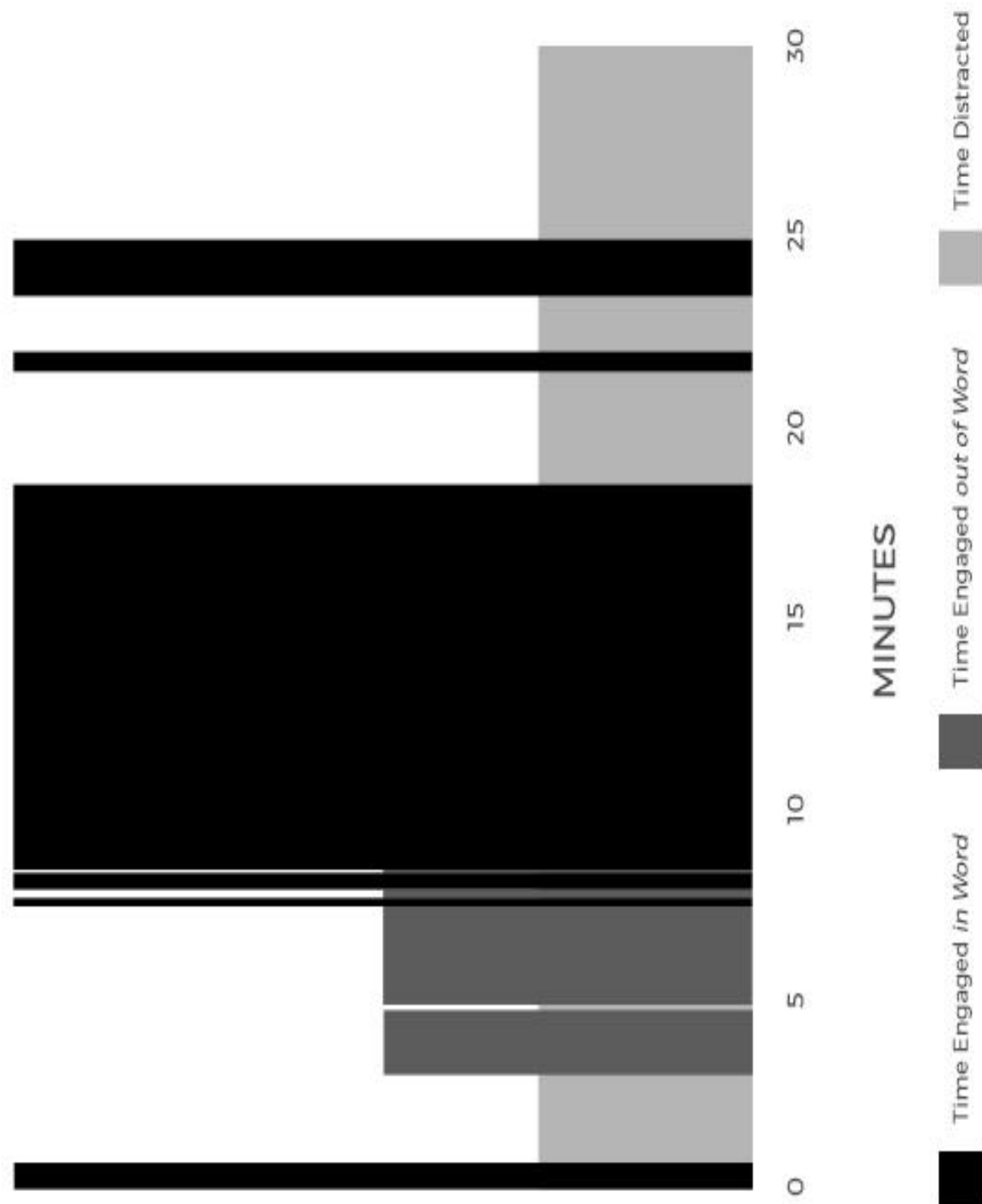demonstrates a timeline of her entire recording from start to finish.

Figure 10: Timeline of Alex's First Recording

In her second recording, Alex worked for 27 minutes and was engaged within *Word* for 16 minutes (59%), engaged outside of *Word* for five minutes (19%), and was distracted for six minutes (22%). Figure 7 demonstrates the percentages of time she was engaged in each of her recordings. The average time she worked while engaged both in and outside of *Word* consecutively was two minutes eight seconds per consecutive engagement between distractions with the longest consecutive time actively engaged being five minutes and 44 seconds. The average time she worked while engaged either in or outside of *Word* was 44.2 seconds per time engaged. The average time of her distraction was 40 seconds with the longest time distracted being 80 seconds. She was actively engaged in working for 21 minutes (78%) of the recording and was distracted for five minutes (22%). Figure 11 demonstrates a timeline of her entire recording from start to finish. Figure 12 demonstrates the percentages of time she was engaged in each of her recordings.
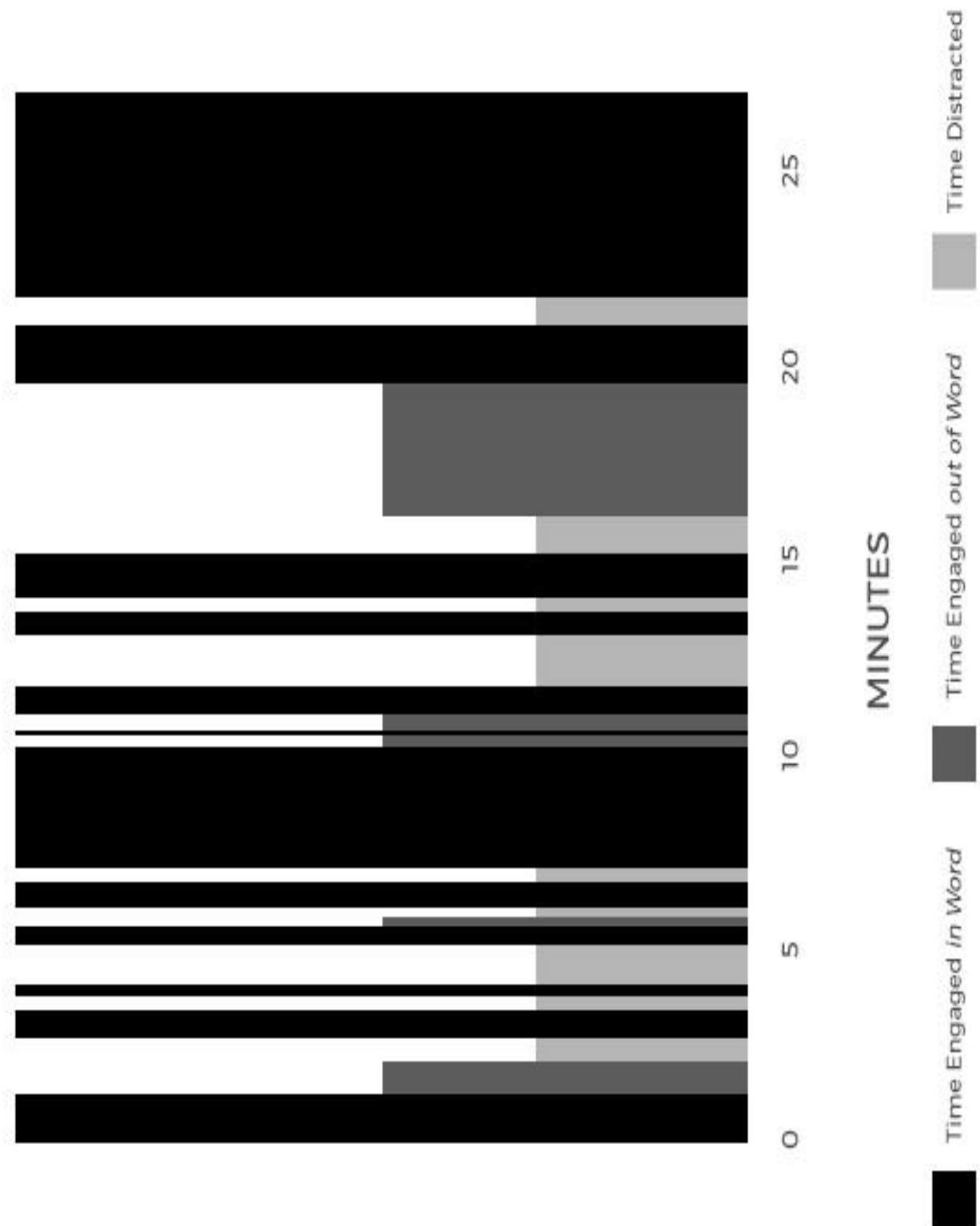
Figure 11: Timeline of Alex's Second Recording

Figure 12: Summary of Time Alex Spent Engaged in *Word*, out of *Word*, and Distracted

Synthesis

When looking at both Jess and Sam's data side by side, it is interesting to note that Jess had roughly the same level of distractibility and productivity as Sam. Sam's most productive session was her first recording, while Jess' was her second. In fact, when looked at side by side, Sam gets more distractible the further into her process she is and Jess gets less distractible. Sam was distracted for only 7% of her first recording while Jess was distracted for 22%. In the second, Sam was distracted 22% of the time while Jess was distracted only 12% of the time. In the third Sam is distracted 19% of the time while Jess was distracted for 14%. Their average time per distraction also differs greatly. Figure 13 demonstrates the differences between Sam and Jess's time engaged versus time distracted across all of their recordings. Much like their distractibility, Sam's average time per distraction (ATD) goes up significantly while Jess' goes down. During the first

recording Sam is only distracted an average of 19 seconds while Jess is distracted an average of 44.8 seconds per distraction. During the second recording, they even out though, as Jess's average time remains almost the same. Sam's ATD is 42.8 seconds while Jess's is 41 seconds. Sam's ATD increases sharply between her beginning stages of writing and the later stages when she needs to develop more complex ideas. Jess seems to be consistent with her level of distraction. During their third recording—revising and editing—Sam and Jess differ once again. Sam's ATD for this recording is her highest at 107.1 seconds while Jess is at her lowest with only 22.4 seconds. An important difference here is that the time they recorded was drastically different as well. Sam recorded for 92 minutes while Jess only recorded for 29 minutes. Across all three of her recordings, Sam re-engaged from distraction by engaging in *Word* 27 times and outside of *Word* 16 times. Jess re-engaged by engaging in *Word* 22 times and outside of *Word* 12 times. Alex re-engaged in *Word* 12 times and outside of *Word* 3 times.

Number of Time Engaged versus Times Distracted

Legend: Total Time Engaged in Word | Total Times Engaged out of Word | Total Times Distracted

Figure 13: Comparison between Sam and Jess's Time Engaged versus Time Distracted

Productivity

To get the best idea about how these students compose, I analyzed their productivity. Instead of looking at quality of writing, I decided to look at how productive they were during their recordings. I looked at total amount of words written, words written per minute, most words written during a certain amount of time, and least amount of words written during a certain amount of time. I also note how their productivity relates to their distractibility. An important factor that is not obvious when looking at the numbers is that during Alex and Jess' third recordings, and both of Alex's recordings, the participants were primarily revising and editing. Thus, their productivity is less obvious since they are re-writing and removing sentences completely. The numbers and time lengths presented are rounded to the nearest number for simplicity's sake.

Sam

During her first recording, Sam, the student without AD/HD, wrote 444 words during her 61-minute recording and wrote 7.3 words per minute. At her most productive during this recording, she wrote 87 words during the last 11 minutes of the recording. At her least productive during this recording, she wrote 11 words between the 38th and 48th minutes. This ten-minute period was also the time when she was most distracted throughout the entire recording. Table 1 shows a summary of words per minute, total words, and most words written at a time for all recordings.

During her second recording, she wrote 401 words during the 100 minute recording and wrote 4.4 words per minute. At her most productive during this recording, she wrote 138 words between the 19th minute and 41st minute, which was her longest uninterrupted time engaged in and out of word. At her least productive during this recording, she wrote 21 words between the 50th minute and the 65th minute. This 15 minute period was also the time when she was most consistently distracted throughout the recording.

During her third recording, she wrote 403 words during the 92 minute recording and wrote 4.4 words per minute. At her most productive during this recording, she wrote 120 words between the 38th minute and the 68th minute, which was her longest uninterrupted time engaged in and out of word. This time also accounts for the 30 minutes that the second person in the room with her left. Without the outside distraction in her environment, she was the most productive. At her least productive during this recording, she wrote 44 words between the 68th minute and the 92nd minute mark. This

time also account for when the second person returns, and marks the time where Sam is the most consistently distracted.

Jess

During her first recording, Jess wrote 318 words during her 40 minute recording and wrote 7.95 words per minute. At her most productive during this recording, she wrote 153 words between the 1st minute and the 11th minute at the very beginning of the recording. At her least productive during this recording, she wrote 21 words between the 11th minute and the 20th minute. Throughout the remaining 20 minutes, she maintained a consistent level of distraction vs productivity, writing roughly 45 words every five minutes.

During her second recording, she wrote 752 words during her 67 minute recording and wrote 11.2 words per minute. At her most productive during this recording, she wrote 375 words between the 33rd and the 40th minute. At her least productive during this recording, she wrote zero words between the 54th and 68th minutes. Her production versus distraction during this recording was remarkably consistent, and there was no one segment of time where she was more distractible than engaged. She was distracted at consistent intervals throughout the recording.

During her third recording, she wrote 76 words during her 29 minute recording and wrote 2.6 words per minute. At her most productive during this recording, she wrote 53 words between the 20th and 25th minute. She had three different drops in productivity. She removed nine words from her draft between the first minute and the ninth minute, zero words between the 11th minute and 13th minute, and three words between the 26th minute and the 29th minute.

	Sam 1	Sam 2	Sam 3	Jess 1	Jess 2	Jess 3
Total words	444	401	403	318	752	76
Words per minute	7.3	4.4	4.4	7.95	11.2	2.6
Most words written at one time	7	138	120	153	375	53
Least words written at one time	11	21	44	21	0	0

Table 1: Summary of Productivity for Sam and Jess

CHAPTER V

DISCUSSION AND CONCLUSION

In this chapter, I discuss the different ways my results can be viewed in relation to the goals of this study—to gain further insight into the way that novice, post-secondary students with AD/HD compose. In doing so, I analyzed the writing process of 3 writers—2 diagnosed with AD/HD and one not. In my results, I examined the amount of time they were engaged in their writing process versus the frequency and number of times they were distracted, the environmental effects on Jess, Alex, and Sam's writing, and how productive they were at various times during their composition processes. Here, I will discuss the implications of these results before offering what some of these results might mean before offering avenues for future research. Since this study was primarily exploratory with a sample size too small to offer any causal relationships, the majority of the discussion is conjecture. However, several patterns emerged that might indicate a difference between writers with and without AD/HD. By focusing on these aspects, I am not only contributing to the growing discussion centered around ecocomposition, but I am also re-examining the ways that novice writers compose.

Limitations

Several limitations are important to consider in conjunction with the findings of this study. First, findings cannot be generalized to AD/HD writers or to novice writers. Data was derived from only three students attending Texas State University. In order to get a clearer picture, sample students could be pulled from several different universities.

Second, my bias might have influenced the way that I read the videos. Because I have AD/HD myself, I might have been inclined to see certain aspects of Jess and Alex's writing process a certain way that other researchers might not. Someone without the diagnosis might have seen things that I did not. Third it is entirely possible that being distracted might actually be a way for the students to pause and think about their ideas rather than a true distraction. In other words, my participants might have still been engaged, even though it appeared that they were distracted.

Fourth, the subjects were all aware they were being recorded, no matter how much time had passed since they began capturing. At several points, Sam, Alex, and Jess all opened the recording to check if it was still running. This awareness might have influenced the way they wrote, how often they wrote, and what they wrote. Knowing they were being recorded might have made them less likely to surf the internet, use their phones, or do other obviously distracting activities since they knew what the study was about. It might also have affected their writing processes. They might not have recorded as long, or have worked as often if they weren't being recorded. In addition to being aware they were being recorded, Alex paused her recordings several times which means her recordings were shorter than she actually composed.

Fifth, during my recruitment, I used the term AD/HD when discussing my project. While seemingly small, when talking to Jess in my office she mentioned that she didn't know if she could participate since she only had ADD. Since the majority of students, even those who have the disorder, might not be aware that the term ADD is no longer being used, using the term AD/HD might have dissuaded other students who have the disorder to participate since the term has a negative connotation, or they thought they

might have been ineligible. This limitation could also account for the difficulty with recruitment.

Environmental Effects

In this section, I discuss the different ways that Alex, Sam, and Jess's choice of environment might have affected their writing process. I focus primarily on three things: (1) the potential effect of talking and environment, (2) the potential effect of listening to music or audio recordings during the composition process, and (3) the potential effect of their chosen writing locations. I also discuss the ways that these three aspects might interact with one another during the writing process.

Talking and Environment

Talking to other people in the room turned out to be one of the primary causes of distraction for both Sam and Alex. In this section, I will examine the ways that talking with those in my participants' environment might have affected their writing. The environment all three subjects chose to write in affected their writing to some degree. Of note, both Jess and Alex, the two subjects who have an AD/HD diagnosis, wrote in several different types of environments aside from their dorm rooms. As noted in the results, Sam wrote in the same place during all three recordings. Jess, Alex, and Sam were all subject to distractions because of the environment they chose to write in. According to their recordings, all three composed with at least one other person in the room. Sam chose what, for all intents and purposes, would be considered an ideal writing environment for many people—a quiet dorm room. However, across all of her recordings, Sam's primary distraction was beginning conversations with the second, and sometimes third, person in the room with her. It seems that she chose an environment

ideal for focusing, but the fact that another person was in the room with her made it null and caused most of her distractions. Almost every time she lost focus on her project, it was because of the second person instigating conversation with her, pulling her focus away from her writing. This could mean that she might not value what the other person thinks about her writing, or she might think that the peer review that she is likely to do in her English 1320 course is adequate help for her to revise. It could also indicate that she needed a short break from writing. Since the writing process is so messy and chaotic, she very well could have remained engaged in thinking about her paper while talking to this other person. It is impossible to know based on this exploratory study.

A similar situation is seen during Alex's second recording. Another person in the room frequently starts conversations, which leads Alex to disengage from her writing. However, in this situation, Alex seems to utilize the other person constructively. Several times, she asks for his opinion about a sentence or even entire paragraphs of her paper. She seemed more interested in openly discussing her ideas with another person instead of just writing silently in between conversations. While I cannot generalize, it appears that Alex is more likely to ask for help and advice from others. Furthermore, this trait is not necessarily indicative of AD/HD but might mean that Alex is a more advanced writer since asking for other's opinions is something a novice writer is unlikely to do. Though it is entirely possible that she is a less confident writer who is willing to ask for input or feedback from other's because she knows it will benefit her. A future study might look more closely at these students' understanding of the writing process prior to participating in the study via a survey or interview. Jess, on the other hand, never engaged in conversation with another person. During her second recording, Jess was sitting on a

couch in a heavily trafficked area, either in a library or sorority house. People were consistently talking around her, but she never once shifted attention from her paper to engage in those conversations. She was still distractible, but unlike Alex and Sam, she didn't talk to anyone around her. This seems to indicate that when Jess is engaged in the writing process, despite all other distractions, she is focused on the writing task and works without letting her environment distract her.

Almost all of Sam's distractions were from talking with the second person in the room who was present nearly the entire time she wrote across all three recordings. The rate that she stopped to talk to him was drastically lower than Alex when she was in the room with another person. Alex stopped and talked to the other person much more frequently than Sam did, and would often instigate the discussion instead of just responding when she was talked to. The fact that Sam didn't stop to talk to the other person in the room and only responded when he started the discussion is a testament to her focus and ability to stay engaged, primarily during her first recording when she had to begin her writing process. Both students with AD/HD were productive in numerous environments.

I'm curious to see if students with AD/HD are more likely to engage in writing in a more diverse range of places. Anecdotally, I almost never write in an environment that might be considered ideal. In fact, I'm writing this in a coffee shop right now. This might indicate that students with AD/HD are capable of starting and stopping work more quickly. While the participants in the study who have AD/HD were generally more distractible, this ability to write anywhere might indicate that they were able to become engaged more quickly than those without AD/HD. A future study could examine this

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phenomenon in more detail. This study does not provide enough data to determine if the

chosen environment affects how students with AD/HD compose. However, it seems that

students with AD/HD are more likely to write in noisier, less traditional writing

environments. Another study that focuses solely on where students with AD/HD compose

and how they are or are not distracted by that chosen environment is needed to determine

if students with AD/HD are more likely to compose in less traditional environments.

Listening to Music or Audio Recordings While Writing

In this section, I discuss the potential ways that listening to music or an audio-

recording might be detrimental or beneficial during the writing process. Both Jess and

Sam listened to some type of music or audio recording during their time spent

composing. It seems that one reason that Jess may have not disengaged from her writing

to talk to those around her was the music she was listening to. Though changing music

was the cause of much of Jess's distractibility while writing, music also seemed to be the

reason she was able to stay engaged with her writing while other people were in the

room. It seems that the reason that the music caused a distraction for her was because she

was listening to her music on shuffle via Pandora Radio. Pandora plays random songs for

you based on the music that you like which gives the person listening to it almost no

control over what song will play. Additionally, unless you pay a monthly subscription

fee, advertisements play periodically between songs, adding further distraction. The

design of Pandora might be the reason that Jess was distracted, not the music itself. In

fact, the music seemed to provide her with more focus instead of less. Another reason she

might not have been distracted by those around her is the fact that she was using

headphones. Wearing headphones in a busy place usually indicates to others that one

does not wish to be disturbed, so it might have deterred those around her from engaging in conversation with her. Additionally, the act of having on headphones might have made it easier for Jess to tune out her noisy and erratic surroundings.

Even Sam insisted that listening to audio-recordings of short stories helped her concentrate. However the second recording is the only time she listened to any sort of music/audio recordings and it did not seem to deter her from getting distracted. As seen in the results, she was just as likely to disengage from writing by talking to someone else in the room. In fact, her rate of talking to the other person was much higher in this recording than in either of her other two. This suggests that even though listening to these audio recordings might help her concentrate more when she is engaged, listening to these recordings was not meant to help her focus on remaining engaged in writing. In other words, the audio recordings seemed to help her focus while she was engaged in her writing process, but, unlike Jess, she did not appear to be listening to the audio recordings to zone out other distractions present in the environment. The fact that Jess listened to music in all three recordings might mean that her reason for listening was to help her stay focused and engaged on the writing process instead of being distracted by outside influences. Alex did not listen to any type of music or audio recordings throughout her recorded writing sessions. Even though these findings are not generalizable, they indicate a need to further study the way that music and audio recordings affect writing and distractibility. A future study that examines how students utilize music when writing needs to be conducted within the field of rhetoric and composition. Since it seems that music was instrumental in keeping Jess from becoming distracted, a study designed to

determine if students who listen to music while writing use it to help them focus, or to help them tune out their surroundings is needed.

Chosen Writing Location

In this section, I discuss the potential effect that the chosen writing location has on my participants' writing process. Sam, Alex, and Jess had the freedom to choose where they wrote during this study. The intent was to examine the potential effect of where they chose to write on their writing process. Many of the studies that have been done previously on AD/HD and writing—Casas and Ferrer, Jacobson and Reid, Noel, Coleman, Stennett, and Davis—didn't focus on the way that writing location might affect the final written artifact. Therefore, I thought it necessary to examine and discuss the areas where Sam, Alex, and Jess chose to compose. While the sample is not large enough to generalize, the fact that both Alex and Jess wrote in a variety of different environments—dorm room, heavily-trafficked sorority house, living room, lecture hall, in a bed—while Sam only wrote in one place—dorm room—suggests that the environment that someone with AD/HD chooses to compose in doesn't negatively affect their productivity one way or another. Both Alex and Jess were equally productive across all five of the locations they chose to write in, and while Alex's environment had the most adverse effect on her productivity, she still managed to remain engaged and active in the writing process for the majority of the recorded time.

Unfortunately, since Sam did not compose in another location, it is impossible to compare how her productivity might have been affected should she compose in a different location more similar to those that Alex and Jess chose to record in. It remains clear, though, that the environments chosen by the two students with AD/HD varied

greatly, and did not have a negative impact on their writing, despite the fact that they seemed like less ideal places to write compared to Sam's chosen writing location.

Since this study was primarily exploratory, future studies that focus more specifically on writing environment and AD/HD are needed. A connection between AD/HD, environment, and productivity seems to be present in my findings. However, a wider array of students need to be examined to be able to generalize. A greater number of students with AD/HD need to be examined to see if their chosen environments are more unique and noisy compared to those without AD/HD. This study would require a larger number of non-AD/HD students as well because Sam's recordings were not sufficient. Not only does the participants' chosen environment need to be examined, but their productivity in that environment needs to be monitored. This would show us if one particular type of writing environment might be ideal for those without AD/HD. Additionally, how they remain focused in these environments needs to be examined whether it be with music, audio recordings, or other means that my study did not find. In future research, interviews that explicitly ask participants where they write and why they write there could be utilized to get a better picture of their writing location instead of the snapshot that my study provided. If students' chosen writing location is deliberately chosen for a specific reason—less distracting, need a public space—then that indicates that they are thinking about the effect that their location has on their writing. I imagine most novice writers will choose their location solely based on convenience. For instance, I imagine most will write in their dorm rooms or the library since that's where they do all their other homework. I'm interested in knowing if students have thought about the effect their location has on their writing. This interview might also have participants discuss

their mood or other environmental effects like their comfort (are they hungry, cold, hot, uncomfortable) while they write.

Sam, Jess, and Alex's Writing Processes

In this section, I discuss ways that Alex, Sam, and Jess navigate through their writing processes. I take into account three aspects of their writing processes that I could witness: (1) what, if any, their pre-writing looked like during their recordings, (2) what the participants did when writing, and (3) what their revising and editing process looked like. Jess and Sam's first two recordings both captured what they were doing during the time when they wrote the majority of their essays. As mentioned earlier, when Alex started recording, she already had a majority of her essay written and was already in the revising and editing stages of her process, so I will not discuss her results until discussing revising and editing.

Pre-Writing

Unfortunately, none of the subjects recorded their pre-writing. I assume that most of their pre-writing occurred in their writing classrooms, or somewhere other than *Word*. It is also possible that these students did not do substantial pre-writing.

Writing

In this section, I examine the way my results might indicate substantial differences between Sam and Jess's first two recordings. These recordings captured a clearer sense of their writing process prior to revising and editing because they both begin recording with a blank *Word* document and each subsequent recording continues where the previous one left off. Examining how they are engaged in this part of their writing

process is important in understanding the potential differences that might exist between AD/HD and non-AD/HD writers.

<u>First Recordings</u>

As seen in the results, both Sam and Jess captured a clear picture of the beginning stages of their writing processes with their first recording. Remarkably, even though Sam recorded for 20 more minutes than Jess, she was distracted almost the same amount of times. Her 13 distractions comprised only 7% of the total time she recorded; compared to the 12 distractions at 22% of Jess's recording, she was more engaged and for longer periods of time. While it wasn't a surprise to see that Jess, who was diagnosed with AD/HD, was more likely to get distracted, the difference in time engaged at the beginning of the writing process is significant. Both of their papers were assigned the same day, but Sam starts writing ten days before Jess. This seems to indicate that Sam was more prepared to write the paper, and was more motivated to begin. It also indicates that Sam is not procrastinating when starting her paper. Jess appears to begin writing the paper the morning before a draft is due for peer review.

Even though Sam recorded for 20 minutes more than Jess, the number of times that they were engaged in *Word*, out of *Word*, and distracted were similar. However, Sam spent 76% of her time engaged in *Word* while Jess only spent 53%. This difference in engagement and distractibility at the beginning of the writing process seems to be consistent with the fact that students with AD/HD typically struggle beginning major projects and are more likely to have a harder time engaging and finishing projects ("ADHD FAQS"). This seems to show a relationship between unwillingness to begin, focus, and distractibility when beginning the writing portion of the writing process.

However, the exploratory nature of this study does not provide conclusive data to support that relationship. It seems as if engaging in the beginning of the writing portion of the writing process is easier for Sam who does not have AD/HD. However, Jess is equally productive even though she seems to wait until near the last minute to start the assignment. This could mean that Jess has had more time to engage in more substantial pre-writing or that she needs more time for pre-writing. She might also just struggle with the larger organizational problems inherent in starting a paper and needs more time to begin writing.

Perhaps most significant is the fact that, despite the time difference and level of distraction versus engagement between Jess and Sam during the first recording, they were equally productive during the time they recorded. As seen in the results, Sam produced 444 words during the 61 minutes while Jess produced 403 during the 40 minutes. Their longest consecutive writing session yielded 155 words for Sam and 153 words for Jess. While it's difficult to directly compare the two since other factors such as their apathy toward the subject or their mood can contribute to productivity and differing parts of the writing process, this data seems to show that even though Jess was more distracted, she was just as capable of producing as much work in a shorter amount of time. However, many things could contribute to this, like having more time thinking about her paper as a whole since Jess started her initial writing ten days after Sam. Jess had more time to think about her paper than Sam, and thus was more likely to have a better idea about the scope of her project. Additionally, Jess and Sam likely have a difference in how they engage in the writing process. It is unclear if Jess needed that extra time to think and pre-write in order to begin writing. Some people need more time engaged in actually writing than

others, so more data is needed to see if students with AD/HD need more time pre-writing and are able to be just as productive in a shorter amount of time. Because I did not have a way to record pre-writing in this study, a future study could gather data specifically targeted at cumulating data for the pre-writing and beginning stages of writing of students with and without AD/HD to see if the potential connection my data shows exists by conducting interviews and collecting any hand-written notes or other artifacts.

Second Recordings

The second recording might be the most interesting of the eight total recordings. Not only does Jess have the most productive recording across all eight captures, she is the least distractible during this time compared to Sam who was at her most distractible and least productive. As seen in the results, Jess wrote for 68 minutes and was engaged for 59 of those minutes. Sam's second recording was the longest across all eight at 100 minutes, but she was only engaged for 78 of those minutes. Jess was 10% less distractible in a much shorter time, and was remarkably productive. The results showed that despite Sam's long recording, she produced roughly the same amount as her shorter first recording. Jess recorded for a longer period of time than her first recording, but produced a larger number of words. This could indicate a number of things, chief among them that Jess needs less time to write and produce work than Sam give some amount of pre-writing time. However, when looking at the larger picture of their assignments as a whole, this result changes shape.

Sam's first recording was on April 12th while her second was on April 20th. The gap of eight days could account for the loss of productivity because it will likely take her more time to re-engage with her paper after such a long break. Of course, it is unclear

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(but seems likely) that she was still working on her paper by thinking about it periodically, working on it in class, along with any other types of engagement that might have occurred outside of the recordings she captured. On the other hand, Jess's first recording is on the morning of April 22nd before a draft of her paper is due for peer review. Her second recording is on the same day, later in the afternoon after their class met. Looking at her writing process like this indicates that she might have been more productive during this second recording since she had just had a peer review in class, and had a much better idea about what to focus on and write. It is also possible that her motivation for writing was high since she had just come from class. Jess wrote the majority of her paper across these first two recordings. They both happened on the same day, separated by the time she spent in her English 1320 course. This data shows that she procrastinated until the day it was due, but was able to be productive. This lends more weight to a study in the ways such writers pre write. Like their first recordings, these results lend themselves to further research. A greater look at when students with AD/HD choose to begin the composition process, coupled with a greater understand about what types of pre-writing they engage in, as well as how they might utilize class time or peer review might be useful. This type of study would be useful because it would show a clearer picture if waiting until the last minute is a sign of needing more time to pre-write or a symptom of AD/HD.

Revising and Editing

In this section, I examine the ways that Sam, Jess, and Alex engage in revising and editing as seen in their recordings. Understanding how these novice writers engage in revising and editing (and to some extent if they understand what revising and editing

truly is) is important in understanding potential differences that could exist for AD/HD writers. Examining the ways that students with AD/HD engage in the revising and editing process is also important because it is not a step often studied in relation to students with AD/HD.

<u>Third Recordings</u>

As seen in the results, Sam, Jess, and Alex all recorded their revising and editing process during their third recording. Only Sam produced a substantial amount of work during her third recording at 403 words. Both Jess and Alex produced less than 100 words during the time captured. Jess spent most of her third recording acting off of what appears to be a peer-reviewed copy of her paper. During this recording, she does not do any significant revision and she sticks mostly to line-editing, fixing a few sentences, and proof-reading. In fact, she produced most of the 76 words she wrote in one sitting. Not only that, but her third recording was her shortest at 30 minutes, and while she was not as distractible as when she began her writing, the cognitive commitment seems to be weaker. The time she spent revising and editing, and the amount of work she did seems to indicate that she was not at all engaged in any type of revision process, but instead was just fixing minor issues and proof-reading. Because the total word count on her essay at the beginning of her third recording was identical to that at the end of her second recording, it is safe to assume that she had not done any more work prior to this stage in her process. I'm curious to see if this lack of revision is the case across other students with AD/HD or is isolated. Her lack of revising could be indicative of not understanding what the revision process actually looks like. She may even believe that the line editing and proof reading she was engaged in is revision. My results are inconclusive, so future

studies would need to look at the revising and editing processes of students with AD/HD to determine a better picture.

Sam and Alex, on the other hand, engaged in some amount of revision. As seen in the results, during Sam's third recording, she produced 403 words, which is consistent with the amount she produced each time she recorded. One anomaly in my results is that Sam captured her third recording on April 30th, but her paper was due on the 29th. This anomaly could be the result of a paper extension that was not noted on the syllabus I was going off of, or she could have been given extra time. It is unclear but important to note. She seemed to be re-thinking several paragraphs of her paper and adding to her introduction and conclusion to make it more coherent. In addition, she produced another entire paragraph. Alex also did significant revisions during her two recordings. Since both of her recordings captured only this portion of her process, I combined them when talking about it here. Alex spent the entire 54 minutes of her recordings revising and editing large portions of her paper. In fact, during her second recording, she re-wrote and re-organized an entire paragraph before asking someone to read it. This process indicates a greater understanding of the revision and editing process than the other two participants. Since her recordings began with her already having a relatively complete draft, and since they began after her class had a peer review, it is safe to assume that she was utilizing the ideas that she was given during peer review. Unlike Jess, she was not simply line editing and proof reading, though. My findings here are not conclusive and do not indicate that having AD/HD affects the revising and editing phase of the writing process. In fact, Alex, who has AD/HD, revises the most significantly and for the longest time whereas Jess does not revise at all.

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Time Spent Writing

As seen in the results, Sam recorded a significantly longer amount of time than both Jess and Alex. Since I only had the results of Sam and Jess to compare relatively complete writing processes, it is impossible to determine whether Jess's shorter recordings are a result of her having been diagnosed with AD/HD. Since everyone has a different writing process, it is unclear if students with AD/HD will spend less total time writing. Though in my experience as someone who has a diagnosis, I have anecdotally noticed that I tend to spend more total time engaged and writing than that of my peer's given the same assignment. A future study designed specifically to determine the amount of time spent writing total versus productivity might be conducted.

Additionally, I found it shocking how little all three of them actually spent writing. Even Sam, who recorded the most, only spent a total of four hours and 13 minutes, and Jess spent only half of that total time writing at two hours and 17 minutes. It is unclear how long Alex actually spent writing her paper since she did not record the writing portion of her process; however, the fact that she spent an hour revising and editing might indicate that she spent a significant amount of time writing the actual paper. Regardless, the time spent writing by these freshmen is not nearly as long as I was expecting when I first designed this study. It was a surprising result that I was not anticipating, and I could indicate that all freshman students do not have an adequate understanding of the writing process as a whole. Since it is unclear what level of education that these students received before arriving at Texas State, it is impossible to determine how much they know about the writing process.

Conclusion

This study was exploratory and, therefore, seemed to raise more questions than it answered. However, my results indicate that several patterns and issues could exist for students with AD/HD, particularly novice students with AD/HD. While some of the issues discovered stem from an apparent lack of understanding of the writing process in general, several key differences did exist between the subjects with and without AD/HD. Of particular note is the difference in writing environments. Overall, this study seemed to indicate a greater need to study writing processes once again. While rhetoric and composition has studied writing processes in a similar fashion—Perl, for instance—it might be important to update these research studies now that the student population is not only larger but more diverse than it was in the 80s and 90s. Many other studies were suggested in the discussion section that are related and draw from the findings of this study. Still, I am curious to see if conducting a similar study on more advanced writers with AD/HD would yield different results. It might be more fruitful when determining if some of the problems my participants demonstrated were a result of a lack of understanding of the writing process, or truly a sign of AD/HD. Additionally, conducting this study with other demographics outside of just those students who have AD/HD would be interesting. Does a difference exist between writers with Autism? Bipolar disorders? Do these differences matter when teaching composition? Above all, I think this study indicated that novice writers need to be taught a greater understanding about the writing process in general.

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