Conducting Flow: A Quantitative Correlational Study of Music Conductor Leadership Traits in Millennial Business Managers

Corey M. Ames

Dissertation Submitted to the Doctoral Program

of the American College of Education

in partial fulfillment of the requirements for the degree of

Doctor of Education in Leadership

March 2024

Conducting Flow: A Quantitative Correlational Study of Music Conductor Leadership Traits in Millennial Business Managers

Corey M. Ames

Approved by:

Dissertation Chair: David Collum, EdD

Dissertation Committee: Petronella Cameron, PhD

Abstract

Individuals born between 1981 and 1996 are expected to be the dominant generation in the workforce by 2025. The problem is conventional leadership applications seem unrelated to the millennial generation's need for workplace autonomy and adapting to volatile, uncertain, complex, and ambiguous conditions. There is a gap in information about group flow, its significance in organizational leadership, and linking conductor skills in the corporate world. The purpose of this quantitative correlational study was to investigate the relationship between music conductor-type leadership traits and corporate atmosphere in millennial business managers. Conductor-type leadership theory, which is based on ambidextrous and empowerment leadership, and flow leadership theory serve as the foundation for this study's theoretical framework. Research questions were designed to investigate the relationships between the conductor-type leadership skills of active listening and time management, and corporate atmosphere. The sample consisted of 8,346 millennials who played the serious leadership game FLIGBY. Data were collected from ALEAS Simulations, the creators of FLIGBY and stratified for use in the study. Using SPSS for correlation analysis a moderately significant correlation was found between active listening and corporate atmosphere. A weak but significant correlation was found between time management and the corporate atmosphere. Principal component analysis was used to determine intercorrelations among variables sum of flow, active listening, and time management. An additional PCA was conducted and found a principal musician flow component. It is recommended that companies and organizations create standard training programs in flow leadership based on the study's findings, interpretations, and conclusions.

Keywords: active listening, ambidextrous leadership, conductor-type leadership, empowerment leadership, flow leadership, flow state, millennials, time management

Dedication

To my family for all the patience, guidance, and understanding you gave through this process. To my colleagues for debating pedagogical practices. To my classmates for forming a lifelong bond of friendship through the frustrations of Microsoft Word formatting to the affirmation of being on the right track. To the leaders who listened throughout my career and took risks with me when no one else would. The source of encouragement and support I gained from you was pivotal in my ability to traverse this journey.

To my wife, Megan, who shows me that every day is a better day and keeps me grounded. To my daughter, Brennan, whose curiosity, and eye for justice of the world is ever growing and awe inspiring to me as a parent. To my daughter, Ellison, who shows imagination and joy in everything she does.

To my aunt Cindy, who showed me that a degree is just the beginning of life-long learning. To my grandmother, Audrey Sager, who introduced me to music at an early age and fostered a sense of helping others achieve their full potential. To my grandfather, Ronald Bruner, for teaching me the importance of valuing others and the lessons of family and unconditional love. To all the conductors who have shown me the power of group work and music-making. To my teachers who never settled for just an answer but an explanation.

I dedicate this work to you!

Acknowledgements

I want to acknowledge the many acquaintances I have made throughout this research for their continued brainstorming and interest in my work. Without your expertise and insight my ideas alone would not have led me to using FLIGBY as a research instrument. The late Mihaly Csikszentmihalyi founded the concept of flow many decades ago and without extensive research on this topic, this research would not have been conceived.

I want to acknowledge the many professors at the American College of Education who have been pivotal in my development as a scholar including Dr. Roach, my TOR, who I was lucky enough to have through all my chapter courses. To the professors who forced me to think and apply my skills in different ways including Dr. John Avella, Dr. Verna Velez, Dr. Jason Caudill, Dr. Gail Claybrooks, Dr. Wendy Kaaki, Dr. Carolyn Price, Dr. Patricia Tobin, and Dr. Imani Akin. Most notable, the light-hearted humor and straightforward approach by my chair, Dr. David Collum has made the harsh reality of dissertation revisions enjoyable and encouraging. I want to give credit to my committee member Dr. Petronella Cameron for her unwavering support and content expertise.

It is also worth mentioning my editor, Dr. Andrea Curry, who taught me a wealth of information and application in scholarly writing style through her editing and detail-oriented approach.

This dissertation would not be possible without the love and support of my wife and daughters. I am blessed to have found such a wonderful partner in life to fully support me in everything I do. “We are such stuff as dreams are made on.”

Without your guidance, contributions, and support none of this would be possible.

Table of Contents

List of Tables

Table

List of Figures

Figure

Chapter 1: Introduction

Generation Y, often known as millennials, will outnumber Generation X and baby boomers by 2025, making up 75% of the global workforce (Moreno et al., 2022). This means that in the years to come, managers will likely face a range of challenges, the main of which is discovering, developing, keeping, and inspiring young employees (Omilion-Hodges & Sugg, 2019). An emerging concept of leadership that enables and enhances the intrinsic motivation of employees, increasing work productivity, and efficiency known as *flow leadership* seeks to measure the impact of leadership extremes between structure and autonomy (Almeida & Buzady, 2022; Wang et al., 2021). Like how a music conductor balances structure with individual choice in an ensemble setting, the correlation of a conductor's leadership with that of a flow leader can lead to emerging strategies in working with millennial employees.

Initially studied in musicians and athletes, the psychological state of *flow* can be thought of as the synthesis of productivity, maintenance, and leisure activities (Csikszentmihalyi, 2008). The state of Csikszentmihalyi's "optimal experience" is simply where an individual's needs, opportunities, and preferences align in work or hobby they engage in. Initial studies in flow in the workplace led to the discovery that leadership skills and choices lead to increased flow enabling opportunities (Marer et al., 2016).

Future research of flow leadership and the correlation of conductor-type leadership may provide the necessary skillset to develop new models of leadership within organizational contexts that align with millennial worker characteristics. Leadership that enables flow may be an additional solution to recruitment and retention strategies for future generational shifts in the workplace.

This chapter introduces the topic of flow and conductor leadership and defines the problem this research sought to address through background and statement of the problem, purpose, and significance of the study. The research questions that guided the study, and corresponding hypotheses are discussed. A theoretical framework based on the blend of flow leadership and conductor-type leadership theory is provided. Definitions of terms used in the study, the scope, delimitations, and limitations are also be addressed.

Background of the Problem

Research on millennial workers shows an increase in the need for decentralized leadership practices (Fenwick et al., 2023). The need for executives to comprehend the relationship between millennial viewpoints and employee engagement may change because of shifting demographics' potential impact on employee attitudes and beliefs (Hurtienne et al., 2022). The leaders of today are more distinctive, and they may not need hierarchical leadership because they value a great deal of liberty and flexibility in their everyday lives and work surroundings.

Music conductors have shown evidence of a symbiotic relationship between leaders and followers without much empirical evidence (Meals, 2020). Sutherland and Cartwright (2022) asserted that ensemble members' primary motivations are their own self-interests, which can either be ignored or exploited by employing a more democratic leadership style. Like millennials, musicians require autonomy in the workplace within a structured environment (Krause, 2015).

In flow state research, individual experiences have been extensively investigated (Arslan & Altan-Atalay, 2022; Swann et al., 2019). Despite the abundance of studies on flow and group flow, there is a lack of understanding of group flow, its importance in organizational leadership,

and the relationship between conductor skills in the business sector. Being a complex process, understanding the flow state process and the factors that help and hinder it is essential (Sutherland & Southcott, 2021).

Statement of the Problem

The problem was that conventional leadership applications seem unrelated to the millennial generation's need for workplace autonomy and adapting to volatile, uncertain, complex, and ambiguous (VUCA) conditions. Easton and Steyn (2022) found no significant effect on leadership effectiveness utilizing directive or transactional leadership styles with millennial employees. Conversely, Easton and Steyn found transformational and empowerment leadership to have a significant effect. Transformational leadership styles tend to cater more individually to employee needs and the millennial generation's need for autonomy (Hurtienne et al., 2022; Moreno et al., 2022). Flow leadership can balance leadership traits among varying styles (Almeida & Buzady, 2022).

Purpose of the Study

The purpose of this quantitative correlational study was to investigate the relationship between music conductor-type leadership traits and corporate atmosphere in millennial business managers. All musicians (i.e., employees) think like conductors (i.e., leaders), akin to the self-governing practice of holacracy, despite the evident hierarchy between conductors and musicians (Toomer et al., 2018). Recent studies on flow-enabling leadership have revealed intricate connections between the distinguishing traits of balancing ability, strategic thinking, personal strengths, and feedback (Buzady et al., 2022). The aim of this was to assess how these distinguishing characteristics, which are like those of a music conductor, affect the corporate atmosphere.

Significance of the Study

Information regarding group flow, its importance in organizational leadership, and connecting conductor skills in the business sector is lacking. The growing need for innovative leadership practices to attract and retain millennial employees is a growing concern for business amidst what scholars call the *Great Resignation* where mass numbers of employees cost organizations billions of dollars annually as they seek other employment or transition to new fields (Alaql et al., 2023). Researchers Alaql et al. (2023) further suggested the need for younger generational leaders to learn to lead before being led. The understanding of communication, how leaders make decisions, and enabling employee response is essential to combatting this global crisis (Alaql et al., 2023; Fenwick et al., 2023; Marer et al., 2016). Music conductors can lead dozens of musicians (i.e., employees) with simple visual gestures and align these leadership skills in business strategy and leadership approach can hold great impact on organizations (Krause, 2015; Meals, 2020; Pasher et al., 2020; Talgam, 2015; Vanzella et al., 2019). This study may hold significance in the fields of music performance, music education, leadership theory, and business leadership strategy.

Research Questions

Formulating research questions is a vital initial step in determining how researchers gain knowledge through their work (Thuan et al., 2019). This quantitative study's direction was determined by the following research questions to achieve its goal:

Research Question 1 (RQ1): What is the relationship between the conductor-type leadership trait of active listening and corporate atmosphere in millennial managers in medium and large-sized companies?

Research Question 2 (RQ2): What is the relationship between the conductor-type leadership trait of time management and corporate atmosphere in millennial managers in medium and large-sized companies?

Research Question 3 (RQ3): What is the relationship among the conductor-type leadership traits of active listening, time management, and corporate atmosphere in millennial managers in medium and large sized companies?

Research Hypotheses

Throughout gameplay, users complete a series of simulated leadership events. A mean score is calculated using the player's response to each event. The measurement scale of these means will not be known until data analysis. The following were the hypotheses for the study's research questions:

$H1_o$: There is no statistically significant relationship between the independent variable (IV) active listening and dependent variable (DV) corporate atmosphere according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H1_a$: There is a statistically significant relationship between the active listening (IV) and corporate atmosphere (DV) according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H2_o$: There is no statistically significant relationship between time management (IV) and corporate atmosphere (DV) according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H2_a$: There is a statistically significant relationship between time management (IV) and corporate atmosphere (DV) according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H3_o$: There is no statistically significant relationship among active listening, time management, and corporate atmosphere according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H3_a$: There is no statistically significant relationship among active listening, time management, and corporate atmosphere according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

Theoretical Framework

Conductor-type leadership theory, which is based on ambidextrous and empowerment leadership, and flow leadership theory served as the foundation for this study's theoretical framework (Alghamdi, 2018; Jansson et al., 2021; Marer et al., 2016; Sutherland & Cartwright, 2022). Tight or structured leadership enables business leaders to maintain order and pursue uniformity among management and individuals through explicit employee role definition. In businesses with strict leadership structures, loose leadership promotes autonomy because it allows for transparent communication, feedback, leveraging of employee talents, and the development of balancing skills. Individuals accurately perceive, interpret, and share the decisions made by leaders when tight control and flexible control are combined, and they creatively contribute to company goals (Guo et al., 2020).

Conductor-type leadership is built on the premise that musicians need structure and autonomy within musical performance and practice. Wang et al. (2021) posited that tight and loose structure alone is not enough for musicians to maintain peak performance. A great deal of empowerment and individualized praise is necessary to achieve the greatest results. Musicians must also communicate effectively with each other to achieve optimal performance conditions.

Weidner (2020) further suggested that the structural elements a conductor provides for an ensemble can develop the framework for musician agency (i.e., autonomy) and collaboration.

Flow leadership theory encompasses the same application. When a leader creates an environment for flow state opportunity, they provide a structure that allows employees to enter in and out of flow state more frequently (Marer et al., 2016). The development of soft skills in using this approach is especially important as it shows evidence that these traits can be learned and taught (Almeida & Buzady, 2022).

Definitions of Terms

The following terms were used throughout this dissertation when examining secondary gameplayer data from Flow is Good Business for You (FLIGBY). Common terms of variables have been excluded from the study. The definitions of terms include two independent variables, (active listening and time management) and one dependent variable (corporate atmosphere). Sampling is stratified and includes gameplayer data of individuals considered born of the millennial generation born between 1981 and 1986 (Freeman, 2019).

Active listening is a leadership skill that requires a leader to infer meaning in context from communicating with employees (Badibanga, 2019; Marer et al., 2016). *Active listening* is also an innate ability in musicians that aids in the decoding of emphasis and inflection in speech patterns and sound (Musso et al., 2020; Todorova et al., 2022).

Ambidextrous leadership theory is the theory that employees need a leader that can balance the extremes of tight (i.e., structured) and loose (i.e., freeform) leadership traits (Guo et al., 2020; Musso et al., 2020).

Balancing skills are a defining feature of flow leadership and require a leader to analyze and evaluate workplace tasks based on an employee's strengths and weaknesses with the

combination of skillsets of other employees. This also requires leaders to use their understanding of employee skills to align individuals with specific organizational tasks (Marer et al., 2016).

Clutch state is a psychological state of optimal experience after a challenging activity or event has occurred. Considered a motivating factor for musicians and athletes to continue to intentionally encounter a flow state despite immense struggle, training, or pain (Swann et al., 2019).

Conductor-type leadership is a theoretical construct of ambidextrous and empowerment leadership theories where peak musical performance occurs within the balance of structure and autonomy (Wang et al., 2021).

Corporate atmosphere is a workplace environment measure of a leader's ability to enable team flow state in FLIGBY gameplay because of decisions made in FLIGBY gameplay (Marer et al., 2016).

Empowerment leadership theory is a theory that considers shared delegation of the task at hand, expressing faith in good performance, encouraging involvement in decision-making, and removing administrative hurdles to share power or delegate greater duties and autonomy to employees (Jansson et al., 2021; Kundu et al., 2019).

Feedback is a defining feature of flow leadership. In terms of flow leadership, immediate feedback that evolves around learning rather than performance is essential (Almeida & Buzady, 2022).

Flow leadership is a leadership style that is defined by the leadership traits of balancing skills, understanding personal strengths, feedback, and strategic thinking (Buzady et al., 2022).

Flow state is the mental state of "optimal experience" that occurs when an individual encounters a task they are fully challenged and engaged by that creates a sense of pure joy

(Csikszentmihalyi, 2008). *Flow state* is a high form of intrinsic motivation that encourages individuals to seek concurrent experiences of (Swann et al., 2019).

Millennials are individuals born between 1981 and 1996 (Freeman, 2019).

Personal strengths are the ability to identify and use one's own talents is a prerequisite for being willing to identify and utilize the unique strengths of others who may not be immediately apparent and a defining feature of flow leadership (Badibanga, 2019).

Strategic thinking ensures that a company's mission, objectives, and goals are continuously evaluated based on the knowledge of its employees, clients, and other stakeholders and is the final defining feature of flow leadership (Buzady et al., 2022; Knight et al., 2020).

Sum of flow is a measurement of a game player's ability to enable flow in all seven characters within the FLIGBY game platform (Marer et al., 2016).

Time management is defined as a leader's ability to prioritize organizational needs in relation to individual stakeholder needs (Goldsby et al., 2020).

Traditional leadership is any leadership style that dictates a clear hierarchical structure opposite the preferred shared leadership styles of the millennial generation (Fenwick et al., 2023; Moreno et al., 2022).

Assumptions

The following assumptions about the proposed quantitative correlational study were made. A basic assumption of correlation is the distribution of normality (Mishra et al., 2019). All data analysis consisted of pairs of data at an interval or ratio level. Data showed a linear relationship (see Verma & Abdel-Salam, 2019). Assumptions must be met for the use of the parametric Pearson's correlation test (Mishra et al., 2019). Another assumption non-related to testing is that the sample size of 1,000 is adequate in investigating the proposed research

questions. Typically, the power or sensitivity of a statistical test increases with sample size (DeMoulin & Kritsonis, 2009). The amount of variance in a sample may also be diluted by using a bigger sample size. Additionally, it is assumed that the measurement of active listening and time management can be effectively measured in gameplayer data from FLIGBY. While current research has shown effective measurement of the leadership skills exhibited in FLIGBY, the makeup of this research design may show different findings (see Buzady et al., 2022).

Scope and Delimitations

Akanle et al. (2020) provided the *4Ws2Hs* approach to defining the scope and delimitations of a study: (a) what topic to study, (b) why, (c) when, (d) what topic not to study, (e) how much to study a topic, and (f) and how to study a topic. When looking to leadership in music, there is evidence of leader and follower relationship that maintains autonomy in musician expertise and performance (Meals, 2020). Because of this and the emergence of the need for these skills in millennial workers, it is important to study this topic now. Empirical evidence of conductor leadership shows a connection to improved performance (Talgam, 2015); however, there are no current studies that link the field of music to the practice of organizational leadership. When looking to increase the scope of conductor-leadership, as applicable to millennial business managers, it is essential to search for similarities and analyze the relationships between conductor type leadership traits and those of millennial managers, Coker (2022) posited that doctoral students haphazardly apply scope and delimitation in their work; however, the intent in this study is to strategically apply elements that constrain the work into more manageable terms.

The scope of the study encompasses millennial business managers of small and medium-sized companies that play FLIGBY, a serious leadership game. This element was essential in

creating boundaries that ensured the alignment of the selected population and leadership characteristics outlined in this study. The theoretical framework of conductor-type and flow leadership served to create delimitations to study this topic within.

Limitations

Theofanidis and Fountouki (2018) posited that while delimitations are within a researcher's control, limitations are purely external. The large amount of data that FLIGBY has collected in gameplay over the last several years is too extensive to research on the whole. Correlation must often be looked at more closely than other statistical tests to avoid misinterpreting relationships that are merely coincidental (Aggarwal & Ranganathan, 2016). One of the most significant limitations of correlational research is the assumption of linear relationships (Janse et al., 2021). Researchers Janse et al. (2021) noted that the correlation is not a measure of the best fitted line through the data, but only to the extent that all the observations fall along a single straight line. Another limitation noted by the authors is that the number of observations will impact the scatterplot's shape (Janse et al., 2021). Using a sample of 1,000 should show a stronger relationship than a smaller sample would. While observed data may show a close linear relationship it may not be accurate due to being previously collected over a long period of time. Elements of leadership that are measured may have been more applicable to environment needs during gameplay. Another limitation of this study is there may be varying degrees of representative samples from differing demographics that may skew results based on cultural implications on gameplay that are not being considered in this study.

Chapter Summary

Further research of innovative leadership styles is necessary to cater to a generational leadership shift (Fenwick et al., 2023). An introduction allowed for the development of a

problem statement backed by research. The purpose and significance of the study were provided in Chapter 1. The research questions and hypotheses serving the study's purpose to investigate possible relationships between the conductor-type leadership skills of active listening and time management in millennial business managers were included. A theoretical framework utilizing conductor-type and flow leadership theory were summarized (Alghamdi, 2018; Jansson et al., 2021; Marer et al., 2016; Sutherland & Cartwright, 2022; Wayne et al., 2021). Provided within the chapter is a list of term definitions. Assumptions, the scope, and delimitations set by the researcher, and limitations were addressed.

To build a blueprint for focus in the research a literature search was employed and was discussed in the next chapter. Chapter 2 will provide an expanded theoretical framework as a foundational lens to conduct the study. A current literature review outlining the role of a conductor as leader and impact of flow theory on leadership will ensue.

Chapter 2: Literature Review

Musical ensemble performance elicits the impression of an asymmetric and simultaneous response link between conductor and ensemble through the analysis of gesture and musician response (Meals, 2020). Positive correlations between conductor feedback and peer feedback indicate that individual musicians place a high priority on being acknowledged for their contributions; however, group experience over self-experience is not seen as a priority (Sutherland & Cartwright, 2022). Moreno et al. (2022) suggested that the style of feedback given to employees may be most impactful to the millennial generation when it is immediate and applicable. The problem is that conventional leadership applications seem unrelated to the millennial generation's need for workplace autonomy and adapting to volatile, uncertain, complex, and ambiguous (VUCA) conditions. Looking to conductors for leadership style may be an appropriate solution to this problem. OBJ

Conductors are becoming more aware of how their ability to communicate with gestures and balance their specialized talents may produce the best artistic performance. Orchestra conductors are regularly mentioned as notable models of effective leadership (Krause, 2015; Meals, 2020; Pasher et al., 2020; Talgam, 2015; Vanzella et al., 2019). Conductors can speak with more than 100 musicians simultaneously and alter performance components with a swift flick of the baton. Like this, some company leaders are exceptional at motivating their followers to go above the call of duty by creating environments that encourage a flow state (Marer et al., 2016). When a task is difficult, someone is enthusiastic about something, and they are content, they enter a state of flow (Csikszentmihalyi, 2008). Flow is sometimes referred to as "being in the zone" or as a state of "optimal experience," and it is characterized by effortless work

completion and unrivaled satisfaction, which gives one an innate drive to seek out a recurrent experience (Swann et al., 2019).

By 2025, individuals born between 1981 and 1996, also known as generation millennials, will make up 75% of the world's workforce, outnumbering previous generations (Moreno et al., 2022). This means that managers will likely confront a variety of difficulties in the years to come, the biggest of which was finding, developing, keeping, and inspiring young workers (Omilion-Hodges & Sugg, 2019). The highest levels of organizational success are attained by work groups under the direction of managers who are fostering individualized leader-follower connections, offering opportunities for feedback through role-testing events, and remaining committed to follower success (Omilion-Hodges & Sugg, 2019).

Swann et al. (2019) stated:

> The concept of flow is the most studied and developed psychological framework for such optimal experiences. Flow is defined as an enjoyable, intrinsically rewarding experience characterized by concentration and absorption in a specific activity, to the exclusion of irrelevant thoughts and emotions, and a sense of everything coming together or clicking into place, even in challenging situations. (pp. 2–3)

There is a gap in information about group flow, its significance in organizational leadership, and linking conductor skills in the corporate world. The purpose of this quantitative correlational study was to investigate the relationship between music conductor-type leadership traits and corporate atmosphere in millennial business managers. The theoretical framework for this study was based on the four distinguishing characteristics of flow leadership theory and conductor-type leadership theory centered

on ambidextrous and empowerment leadership (Alghamdi, 2018; Jansson et al., 2021; Marer et al., 2016; Sutherland & Cartwright, 2022). These characteristics are observed as important attributes of conductors in relation to musicians and to contribute to the interrater reliability of flow leadership characteristics (Buzady et al., 2022; Jansson et al., 2021).

The chapter includes methods for obtaining literature through a literature search strategy, the theoretical framework for the study, a current review of the literature, opposing findings, and an overview of the research synthesis. A current literature review will present the topics of intrinsic motivation because of flow through harmonious passion, workplace engagement, and worker output. Group flow theory was discussed through characteristics of group flow, workplace autonomy and combined psychological state. The capacity of location to enhance flow through physical and environmental factors, predictors of flow leadership, a conductor's ability to promote flow, and the gamification of leadership training will also be addressed.

Literature Search Strategy

As a research approach, literature reviews provide a substantial contribution to the conceptual, methodological, and thematic development of several disciplines (Paul & Criado, 2020). While evidence exists that groups experience flow in similar and different ways than an individual, the process of group flow development is not well documented (Pels et al., 2018). The preferred reporting items for systematic reviews and meta-analyses (PRISMA) model is effective in designing a model of inquiry that can find relevant articles for use in scholarly research. Pels et al. (2018) was a valuable resource in finding synonyms for group flow and developing search limitations to find valid references for this work.

The most significant resource has been the partnership with ALEAS simulations, FLIGBY’s creators, who use a well-curated blog to promote flow leadership research and

publish the most recent peer-reviewed studies on the topic along with FLIGBY applications. Additionally, the American College of Education (ACE) library's ACE OneSearch, which provides access to numerous scholarly databases, has been a tremendous asset in ensuring that scholarly resources are discovered throughout the search. I purchased some articles for use in this study, as they were not available free of cost. I also used Google Scholar for this detailed search. Having an open-source strategy enables researchers to use free search engines to locate high-quality literature reviews and published publications (Pearce, 2018). Once articles were found, they were saved by importing references from text files, Internet databases, and other sources into RefWorks for sorting, tagging, and organizing by topics and subtopics. Xiao and Watson (2019) posited three techniques to find literature using open source, backward, and forward searches. In looking through retrieved article reference sections and searching for additional research conducted by certain authors, I found more literature for inclusion.

The research question should be used to generate the search terms. The study question can be broken down into concept domains and keywords (Xiao & Watson, 2019). Doing so provided *conductors as leaders*, *millennial leaders*, *flow leadership characteristics*, *workplace location*, *workplace identity*, and *FLIGBY* as major domains and keywords in the search. Pels et al. (2018) provided additional synonyms for group flow including *collective effervescence*, *group effervescence*, *networked flow*, and *social flow*. Additional keywords included *ambidextrous leadership*, *clutch state*, *empowerment leadership*, *flow leadership theory*, *flow state*, *flow theory*, *flow-enabling leadership*, *harmonious passion*, *leadership in the performing arts*, *millennial leadership*, *music conductors as leaders*, *obsessive passion*, *transactional*, and *transformational leadership*.

The inclusion of the words “and” and “or” in Boolean searches allowed for a more in-depth and valid search. As recommended by Pels et al. (2018), the inclusion of the word “not” was utilized to exclude articles about electrical flow, blood flow, and current flow when they would present themselves in a search. Search filters were utilized to find articles published within the last 5 years and to discern whether articles were peer-reviewed. Lastly, author searches were conducted to find seminal articles by Mihaly Csikszentmihalyi, Zoltan Buzady, Zsadany Vecsey, and Paul Marer, founding scholars for flow theory and the designers of FLIGBY. Over 76% of the publications in the search results were published within 5 years of the research, which met the requirements of the doctoral program at the ACE.

Theoretical Framework

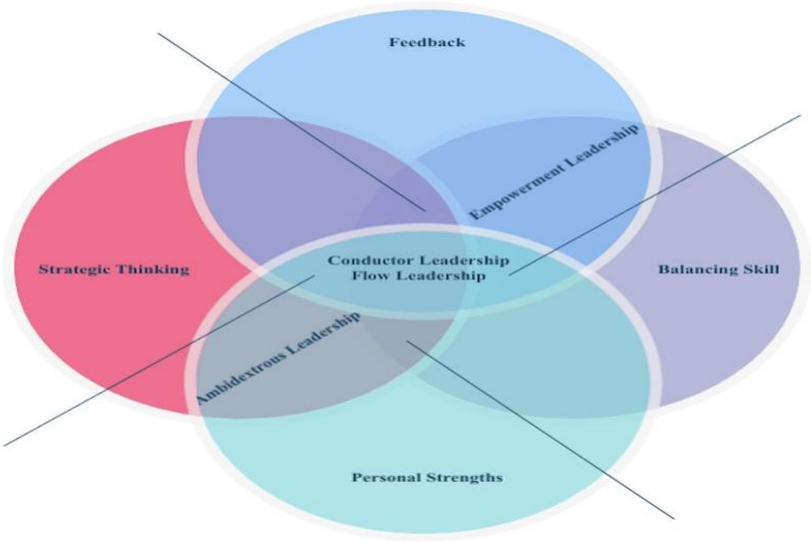
The fundamental goal of developing a theoretical framework for research is to give all interpretations of the significance of your findings a sound academic foundation. The theoretical framework provides a foundation for what to search for in data, how to think about how everything observed in data fits together, and how to communicate findings more succinctly in the context of what existing theories must contribute (Kivunja, 2018). Figure 1 shows the connections between conductor-type leadership and the four defining flow leadership characteristics.

Feedback, strategic thinking, balancing skills, and personal strengths have all shown a positive effect on employees. Feedback can encourage knowledge sharing among employees and make them more vulnerable (Coutifaris & Grant, 2021). Strategic thinking assures a continuous assessment of a company’s mission, objectives, and goals based on the expertise of the workers, customers, and other stakeholders (Knight et al., 2020). A leader must be willing to maintain an equal level of priority for all factors by treating staff members fairly and balancing their skills

with appropriate challenges (Badibanga, 2019). Promoting diversity within firms fosters a more collaborative environment that improves productivity, creativity, and sound decision-making (Lin, 2021).

Figure 1

Theoretical Framework for Conductor Leadership



Note. Conductor leadership is similar to flow leadership through balancing skill, strategic thinking, personal strengths, and feedback. The addition of time management and active listening involved in ambidextrous and empowerment leadership.

Conductor Leadership

One can better perceive possible linkages with organizational leaders in the business world by understanding how closely conductor-type leadership traits reflect those of a flow leader. Musical group leaders establish an ecosystem of participation to various degrees based on the synthesis of several leadership approaches (Sutherland & Cartwright, 2022). The ambidextrous leadership paradigm states that leaders should have a perfect balance of open and closed leadership abilities that are situated between the

domains of organizational processes that promote exploration (autonomy) and exploitation (structural; Alghamdi, 2018). While being strict with organizational structure, leaders must be able to motivate employees to be innovative. Control is possible in a closed leadership structure since there are fewer variables there (Guo et al., 2020). For instance, the time and resources (i.e., musicians, equipment, and talent) available to a music conductor during practice are a constraint. A strengths-based methodology is used when selecting the content, planning the rehearsal schedule, and creating the musical schedule (Nielsen et al., 2022).

Conductors focus on the systems and procedures that provide them with the ability to keep the organization and the individuals in it under their control. As a result, experimentation and risk-taking are more prevalent in organizational and rehearsal practice because of delegation and cooperation techniques (Wang et al., 2021). Conversely, musical independence and student autonomy occur because of specific instructional strategies that encourage agency and decision-making by integrating cognitive modeling, scaffolded education, and authentic, frequent, individual-led music-making in curricular ensembles (Weidner, 2020). This leads to the notion that there is a strong tie between elements of structure and innovation in the conductor leadership style.

Ambidextrous Leadership

It is believed that developing ambidexterity is a necessary condition for maintaining competitive advantages in organizations. Ambidextrous leadership, which seeks to improve company outcomes on the macro level through leadership conduct on the micro level, is one tool for achieving this goal (Musso et al., 2020). The impact of ambidextrous leadership on employee work results has been the subject of numerous studies, but few researchers have looked at the congruence or incongruence of two seemingly opposing leadership philosophies (Guo et al.,

2020). Almeida and Buzady (2022) posited that the extreme forms of transactional and transformational leadership can co-exist and be applied in organizational practice.

In a music rehearsal, the evidence of leader balance between tight and loose is evident in the immediate feedback required from the conductor. There are several elements of tight structure within a rehearsal constrained to time, particular concert deadlines, and instrumentation; there is a great deal of innovation and independence (loose structure) within the ensemble (Nielsen et al., 2022). Despite literature historically illuminating the need to prioritize structure over autonomy or loose versus tight leadership practice, there is a growing need for employees to have leaders that strive to balance between exploration and exploitation (Guo et al., 2020). Over time, certain surplus skills have a negative effect on conductor skills and self-confidence. The idea of "sensemaking affordance" is presented to explain how different leader skill categories are bargained for to maintain overall efficacy (Jansson et al., 2021, p. 576).

Empowerment Leadership

Empowerment leadership is a type of shared leadership in which managers give their staff members more autonomy. Individuals are more likely to forsake passivity, take chances, and acquire self-responsibility when they perceive their leaders to be empowering them. As a result, they are more accountable for the outcomes (Kundu et al., 2019). A set of conductor-specific behaviors known as empowerment leadership involves enhancing the purpose of work, demonstrating confidence in high performance, encouraging participation in decision-making, and removing bureaucratic restrictions to share power or delegate more responsibilities and autonomy to musicians (Jansson et al., 2021). Using empowerment techniques during music rehearsals foster group musical

independence (Weidner, 2020). Although it is advised that leaders use caution when modeling empowering behaviors, there is a strong correlation between empowering leadership and employees' productivity. Autonomy is often viewed by untrained employment as a sign of a lack of leadership direction, but trained employment sees it as a beneficial innovation to boost self-sufficiency (Ahmed et al., 2022).

Flow Leadership

According to the flow theory (Csikszentmihalyi, 2008), employing specific leadership traits can encourage and improve possibilities for workers to enter and exit the state of flow. After establishing 29 flow leadership skills that enhance and foster the opportunity for individuals to move in an out-of-flow state more frequently, ALEAS simulations (Marer et al., 2016) created FLIGBY, a serious leadership game that trains individuals how to enhance and enable flow states with their subordinates. While several of the measured skills are thought of as essential to leadership, four of these characteristics, which include: (a) balancing skills (challenges), (b) feedback, (c) personal strengths, and (d) strategic thinking are specifically stressed in flow leadership. The skillsets place less focus on a leader's relationship with a particular individual and more on how they relate to their team members and how they may balance their own and other individuals' personal experiences to optimize employee potential. Feedback needs to be immediate and usable. For individuals to reach their full potential, a leader must be able to identify and capitalize on their talents. Flow leaders communicate the why and how of reaching goals in a straightforward and consistent manner.

Blend of Theories

Ambidextrous leadership affords practicing leaders the balance of tight and loose structure. In conjunction with the ability for a conductor to empower musicians to take

ownership of group effort, the framework using these leadership theories can help connect the observed leadership traits of conductors with those of flow leaders. Like flow leaders, music conductors constantly manage concerns and issues in tandem while juggling abilities and making quick adjustments. Conductors are also known to evolve over time and justify certain leader traits over others to gain the most out of their ensembles (Jansson et al., 2021). With the development of flow leadership and flow being a state that was first studied in musicians, there is a growing momentum of the idea that leaders should recognize how conductor-type leadership works despite a gap in the literature (Csikszentmihalyi, 2008; Marer et al., 2016; Pasher et al., 2020; Talgam, 2015). By developing this theoretical framework, the tight and loose attributes of a musical conductor and musician's performance can be more directly linked to leadership styles in organizational management and tied to defining flow leadership characteristics of balancing skill, strategic thinking, feedback, and personal strengths as measured in FLIGBY.

Research Literature Review

Flow is a concept that has been studied for decades in the experiences of high-performance athletes, musicians, artists, gaming aficionados, and race car drivers (Csikszentmihalyi, 2008; Swann et al., 2019). Often describing the loss of time awareness, laser beam focus, and pure enjoyment, flow is often associated at the cross section of the intrinsic motivation of passion and compliance to goals (Bonneville-Roussy & Vallerand, 2020; Kundu et al., 2019). Additionally, flow has been found to be an attainable psychological state in working environments based on leader communication, relationships, and employee passion for the work along with employee productivity and output (Badibanga, 2019; Marer et al., 2016). The recent

emergence of serious games has presented many ways to measure leaders' ability to enable flow. The following literature review discusses these topics thematically from the individual perspective of flow through intrinsic motivation, the positive and negative effects of flow and clutch state, group flow theory, the ability for a place to enhance flow, predictors of flow leadership, a conductor's ability to promote flow, and the gamification of leadership training.

Intrinsic Motivation

Social interaction frequently has an impact on one's desire to join a musical group or productive organization. Four primary components (i.e., social possibilities, sharing, commonality, belonging and collective understanding) define how artmaking is thought to promote group experiences of social connectedness and flow state (Perkins et al., 2022). Participants in a study by Hwang (2018) described feeling responsible when other group members make a mistake. Anxiety can make it harder for a student to succeed when they are by themselves, but when they are with other students, they feel more capable. Understanding the interaction between a conductor and a musician requires an understanding of student agency, or an individual's sense of autonomy (Weidner, 2020). The emotional state an individual experiences when they enter flow frequently creates a strong desire to seek out new experiences (Swann et al., 2019). Consequently, athletes may become unhealthily fixated on flow and purposefully put themselves at risk for injury. Perfectionism can keep individuals from enjoying an activity to the point that they cannot enter a flow state (Arslan & Altan-Atalay, 2022). A conductor or leader can influence an individual's agency by choosing how much control to exercise or how to distribute ownership within a group or organization, and by controlling potentially compulsive and harmful behaviors.

Harmonious and Obsessive Passion

According to Bonneville-Roussy and Vallerand (2020), 99% of professional musicians are devoted to what they do. More specifically, there is a distinction between obsessive (OP) and harmonious passion (HP), or dual mode of passion (DPM). Music educators can create circumstances where pupils can grow strong intrinsic desire that transforms into a HP. Musicians are encouraged by HP to freely choose to play music for the joy of it and remain disconnected from the feeling of pressure or judgment from others or themselves. This phenomenon is what Csikszentmihalyi (2008) called a flow state. Additionally, HP has a flexible persistence in the activity that allows for other important life domains like family, exercise, and hobbies. Those who have this kind of passion report generally positive outcomes because engagement in the activity is more adaptable with HP. Regularly engaging in one's preferred hobby results in positive feelings, lowers stress, and improves psychological well-being in HP individuals (Bonneville-Roussy & Vallerand, 2020).

Workplace Engagement

A trustworthy relationship between a leader and their subordinates is necessary for workplace engagement. Respecting others' viewpoints and paying attention to them is necessary for developing trust. The ability of many stakeholders to contribute to decision-making is one of the most effective ways to build trust (Johnson, 2011; Kacmar et al., 2013; Oliver & Hioco, 2012). Perceptions of politics can be used to gauge employee involvement in some jobs. If there is any apparent unfairness, employees' inclusion or unintentional exclusion in decision-making may negatively affect a situation (Kacmar et al., 2013). To improve workplace motivation and engagement, professional development

must take advantage of employee strengths (Lin, 2021; Požega et al., 2020). Active listening skills are innate in musicians. According to Musso et al. (2020), musicians even process language sounds at a faster and more efficient rate than non-musicians. The added benefit of pitch recognition aids in discerning mood from speech patterns. In terms of processing both musical tones and syllables, musicians outperformed non-musicians. According to Musso et al. (2020), musicians' aural skills develop hypersensitivity to speech tones. Employees frequently bring problems to a leader's attention when they occur through communication that is fueled by a strong emotional response (Todorova et al., 2022). Leaders must understand that intense communication frequently requires more assertive conflict management techniques, such as competition and cooperation, and may require the leader to select a final resolution (Todorova et al., 2022). Moreover, when there is high intensity, employees' feelings of well-being and job satisfaction are decreased by the defense mechanisms of avoidance and accommodation. Future conflict management solutions must be developed to proactively detect when conflict is on the rise. Strong leaders interact with conflict by using their strengths and awareness of conflict, along with their own abilities.

One of the most valuable leadership abilities is the capacity to handle staff conflict (Kar & Tripathy, 2021). Conflict results from misunderstanding, and it has become customary in companies to totally avoid conflict. A disagreement or difference of opinion between or among individuals who could harm an organization is called a conflict (Ronquillo et al., 2022). In the workplace, there can be a conflict between personal and organizational goals on occasion, and how that conflict is handled is important (Todorova et al., 2022). Leaders must assign tasks based on the talents of their subordinates. A crucial leadership skill is delegation (Ahmed et al., 2022). As a result, executives are more willing to take chances that benefit the firm overall.

Tight leadership helps organizations maintain order and consistency between management and individuals during “role creating,” whereas loose leadership encourages autonomy within organizations when specific institutions are in place. When flexible leadership and tight leadership are in harmony, individuals accurately perceive, interpret, and share the decisions made by leaders and work toward organizational goals in innovative ways (Guo et al., 2020).

Flow and Clutch State

Using interview techniques that are event-focused, two overriding themes were found by Swann et al. (2019). Every participant engaged in a satisfying workout event that included flow and clutch states. Clutch states were never possible in flow states. While clutch states were connected to pressure and discomfort, flow states were connected to effortless effort. Although flow is not always an easy psychological state to reach, it might give participants a slight addiction to looking for consistent easy experiences. According to Habe et al. (2019), professional musicians strive to achieve flow experiences every single day of their lives. Flow can hinder productivity by depleting one’s resources and resulting in burnout (Arslan & Altan-Atalay, 2022). Even more, Csikszentmihalyi (2008) contended that flow and addiction share mechanisms, and that individuals who experience flow may forget to eat, damage their relationships, and overlook crucial deadlines.Worker Output

No matter what country or industry an individual works in, Wibowo and Paramita (2022) contended that a sudden change in the corporate climate could have an impact on almost everyone in a company. This could cause stress in the workplace, and if they are not able to handle it, they should consider quitting. The capacity to deal with this stress is resilience. As many businesses adjust to vulnerability, uncertainty, complexity, and

ambiguity (VUCA) in their different contexts, employee resilience is a crucial idea in human resource management that has gained a lot of attention recently. A leader can gain insight into an employee's requirements by actively listening to them and responding in a way that promotes mutual understanding (Badibanga, 2019). This listening technique involves deciphering the communication's content, the sender's intent, and the situation in which it was made. The act of hearing and replying while keeping one's attention on the speaker is known as active listening. When it comes to balancing skills, active listening is the cornerstone for figuring out what employees value, whom they get along with, and how they complement one another (Badibanga, 2019; Marer et al., 2016).

Group Flow Theory

Different priorities are placed on the individual, social, and organizational notions of psychological safety. Even within the same organization, organizations' interpretations of psychological safety vary (Fyhn et al., 2022). Several aspects of emotional response to a shared experience, persistence in finishing a task, or a sense of place identification can all be the result of flow. Interactions between individuals, leaders, groups, and places are vital (Dennett, 2019). When a leader gives individuals the freedom to be themselves, take calculated risks, and exercise their autonomy, motivation, and potential can be fostered. The main contribution of Pels et al. (2018) was the compilation of numerous works on group flow theory and applications. Group flow has been demonstrated in numerous disciplines and via extensive quantitative, qualitative, and mixed methods research. Focusing on the extremes of structure and autonomy in leadership, conductors encourage risk taking and guarantee high caliber performance (Wang et al., 2021). The theory of musical emergence is explained by group flow, in which the combined individual interpretations of all musicians result in a final performance that is particular to its time and

location and relates to the subtleties of each musician's psychological condition (Sutherland & Cartwright, 2022).

Group Flow Characteristics

Research has shown that the desire to join a musical group is typically driven by a desire for social contact. Four key components (social possibilities, sharing, a sense of community and belonging, and collective understanding) define how artmaking is seen to promote social connectivity (Perkins et al., 2022). Collective understanding of group flow can be difficult to describe: "just being part of the group [is joyful] We were all like doing the same thing and focusing, the synchronization I guess [gives me joy]. If somebody else messes up, I feel like it's kind of my fault" (Hwang, 2018, p. 30).

The concept of "group effervescence" or "collective effervescence" emphasizes the importance of group participation. When asking participants about nerves in performance, group effervescence was an important aspect (Hwang, 2018). Anxiety can make it harder for a student to succeed when they are alone or feel alone. Group effervescence is a key component to students feeling safe and secure to take risks and perform. Insecurities become more pronounced when a collective flow component is present because students in an ensemble take psychological ownership of the group goals. Collective ownership emerges in an ensemble as a function of ensemble members sharing control over, developing joint knowledge about, or investing collective effort into a performance (Butler, 2022; Gray et al., 2020; Hwang, 2018).

Workplace Autonomy

Employees who are given the freedom to approach their work in a way that plays to their strengths are more likely to experience flow, be more productive, and take

calculated risks (Marer et al., 2016; Tomaževič & Aristovnik, 2019). According to Jansson et al. (2021), the acquisition of leadership abilities may lessen an individual's flow and make them more indifferent and bored at work. Although it is advised that leaders use caution when modeling empowering behaviors, there is a strong correlation between empowering leadership and employees' productivity. Autonomy is often viewed by untrained employees as a sign of a lack of leadership direction, but trained employment sees it as a beneficial innovation to boost self-sufficiency (Ahmed et al., 2022).

Combined Psychological State

Like-minded teams were more likely to have strong group cohesion and be vulnerable to the moderating effects of groupthink (Lin, 2021). Building teams that have a range of interests, skills, and weaknesses is crucial because it promotes sound decision-making processes and guarantees that the decisions incorporate more value and input. The student members in a musical group "identified the adoption of responsibility for music-making and one another as a cultural component of each of the bands, leading to a sense of ownership in process and product" (Weidner, 2020, p. 64). Employees are more committed to the objectives of the organization when there is group flow. Even though data point to a leader-follower relationship at the brain level, collaborative performance is commonly regarded to represent leadership in tandem (Vanzella et al., 2019). There is a leader/follower role that is always assumed when two or more individuals perform together.

Ability of Place to Enhance Flow

The social constructivist theory of place identity sheds light on how individuals perceive space in their own unique ways and provides useful data for research in a range of disciplines, including geography, sociology, psychology, environmental sciences and ecology, public

administration, spatial planning, and others (Peng et al., 2020). The capacity of musicians to enter a flow state depends on both the physical and environmental milieu. Physical location can heighten awareness, and leaders can foster a culture of trust inside a company to encourage taking risks and delighting in one's work (Kob et al., 2020; Marer et al., 2016).

Physical Place. Due to the more nuanced sound and physical sensations, musicians value working in acoustically enhanced environments (Kob et al., 2020). Musicians benefit from certain environments when they perform. Musicians spend their entire lives attempting to secure performances in venerable theaters and music halls. Engineers have used artificial intelligence to imitate acoustical experiences because churches and theaters were historically built to improve sound (Verma & Berger, 2022). According to place identity theory, an individual's perceptions, memories, and experiences in a significant space contribute to the construction of an additional identity construct (Bonaiuto et al., 2016). An individual is in a flow state when their environment prompts a social reaction that reacts with identity. Additionally, flow state has been demonstrated to improve spatial and mental awareness (Sinnett et al., 2020). An acoustically designed space may instantly create the best experience for a musician used to playing in non-acoustic environments by greatly enhancing sound output and spatial awareness capabilities (Kob et al., 2020; Sinnett et al., 2020). An eudemonistic identity theory contends that one's experiences and wellbeing throughout life have an impact on both one's flow state and location identity (Bonaiuto et al., 2016). Aristotle first used eudaimonia to describe a thriving state. Flow, according to Csikszentmihalyi (2008), is

the perfect condition for coexisting with eudaimonia. This encourages a feeling of wellbeing at work.

Environmental Place. Leaders may give employees the monetary and social rewards they anticipate through intellectual stimulation, individual attention, a model influence to foster trust and respect, and the capacity to ignite intrinsic motivation (Wu et al., 2022). Leaders have an idealized influence on those who work for them when they do the walk and talk the talk. When they have faith in their leader, employees are far more inclined to follow workplace rules. Employees are more likely to contribute constructively to the workplace when the organizational structure is maintained, and they feel confident taking risks without worrying about receiving negative feedback from their superiors. Strong active listening skills, the capacity to balance employee skillsets, the ability to emphasize employee strengths, and the ability to provide rapid, critical feedback are all traits of leaders who can provide doors for their team members to enter and exit flow states (Marer et al., 2016). The best leaders for building trusting connections with their staff are those who create situations where individuals can use their abilities, find challenges in their work, and take measured risks.

Predictors of Flow Leadership

According to Shepherd (2022), flow is improved when internal experiences are nonjudgmental in respect to automatic and intentional thought restrictions. The past and future fade from one's awareness when one is perpetually in the present. As a result, the internal clock deviates, giving the feeling that time is disordered. Intense attention is made possible by having well-defined goals and the means to achieve them. Guo et al. (2020) found that ambidextrous leadership enhances the quality of leader member exchange (LMX) when the qualities of tight leadership and loose leadership are congruent rather than incongruent. Second, LMX quality may be enhanced by high loose-high tight leadership as opposed to low loose-low tight leadership. Third, ambidextrous leadership and employee productivity and creativity are mediated by LMX quality. These goals must not conflict or be unclear. Having precise feedback enables the individual to adjust their actions at any point along the process (Badibanga, 2019; Coutifaris & Grant, 2021). Feedback may have unfavorable effects. The likelihood that an employee will criticize themselves and detest the task at hand increases when a leader criticizes how an employee or subordinate feels. Negative feedback is poisonous because flow state is greatly influenced by how much fun an activity is to perform. When a conductor is uncertain, musicians in an ensemble lose interest right away and the motivation to put out effort (Viljoen, 2018). An individual's growth of their flow state was significantly influenced by the leader's approach of analysis and point of view. Formative feedback, which is often devoid of individual criticism but provides valuable information that enhances ensemble performance, captures a conductor's attention consistently (Sutherland & Cartwright, 2022; Sutherland & Southcott, 2021).

Conductor's Ability to Promote Flow

Audience members witness synchronization between a conductor's gestures, musicians' movements, and the emotive sound produced by an orchestra while they watch musical performances (Meals, 2020). There is a discernible delay between a conductor's gesture and the group. Any debate about movements, personality, communication, or creating a welcoming playing environment must include the conductor as a fundamental component, which is frequently intuitively understood (Vanzella et al., 2019; Viljoen, 2018). The interaction between conductors and musicians has been around for a while. Throughout the hours, weeks, and frequent months of concert preparation, the conductor oversees realigning their actions with the imagined motives of an ensemble. Boredom or a lack of motivation are frequent predecessors in the musical practice process to the flow state, which subsequently develops into frustration, anticipation, and, if properly prepared, the delight of a performance (Sutherland & Southcott, 2021). After a stellar performance, there is frequent elation or grief, which triggers a time of searching for the next stellar performance. Music-making and the "flow" sensation can and have a beneficial psychological impact, but they can also be highly addictive and can result in harmful obsessions (Sutherland & Southcott, 2021; Swann et al., 2019). While leadership and management theory often overlap, leadership requires training of individuals outside of their current position of expertise (Badibanga, 2019).

Conductor-Type Leadership Characteristics. Conductors display an enormous variety of leadership behaviors (Krause, 2015; Talgam, 2015). The type of ensemble performance and contentment in the group are correlated with leadership style (Krause, 2015). The type of ensemble performance and group musical satisfaction are both correlated with the conductor's leadership style. Ensemble members' primary motivations, according to Sutherland and

Cartwright (2022), are their own self-interests, which can either be disregarded or tapped into by utilizing a more democratic leadership style. This fosters unity among students and aids in the development of leadership skills, which may serve as training for conductorship. It has been demonstrated that inquiry-based rehearsal techniques promote student autonomy (Weidner, 2020). In conducting practice, delegation and active listening establish a balance between strict and loose leadership extremes (Wang et al., 2021).

Flow Leadership Characteristics. The ability to lead and shape communication styles, corporate cultures, and work environments are typically associated with flow promotion. The methods for making decisions, such as analytical abilities, information gathering abilities, and methods for completing tasks, such as execution abilities, organizing abilities, and time management, have not shown any sign of meaningful connections to the fundamental abilities that support flow. Leadership is a dynamic action that can occur anywhere in a system, regardless of positional authority (Otter & Paxton, 2017). By combining the benefits of 29 traits, flow leadership is a type of leadership that promotes optimal performance and an intrinsic motivational experience (Marer et al., 2016). These traits are a combination of transferable leadership abilities and inborn leadership personality traits.

The most immediate work a leader can do is to synthesize problems faster and learn in the moment how to solve issues. The immediacy required of employees can sometimes be the biggest hurdle in developing trusting relationships and is becoming more ambiguous and volatile as technology advances (Kalman et al., 2021). Managing and prioritizing who, when, and how to communicate with is something that will require

continuous reflection and learning. Learning fast as the creators of FLIGBY suggest will only increase and become a normal attribute of leaders in a VUCA world (Souders, 2021).

Gamification of Leadership Training

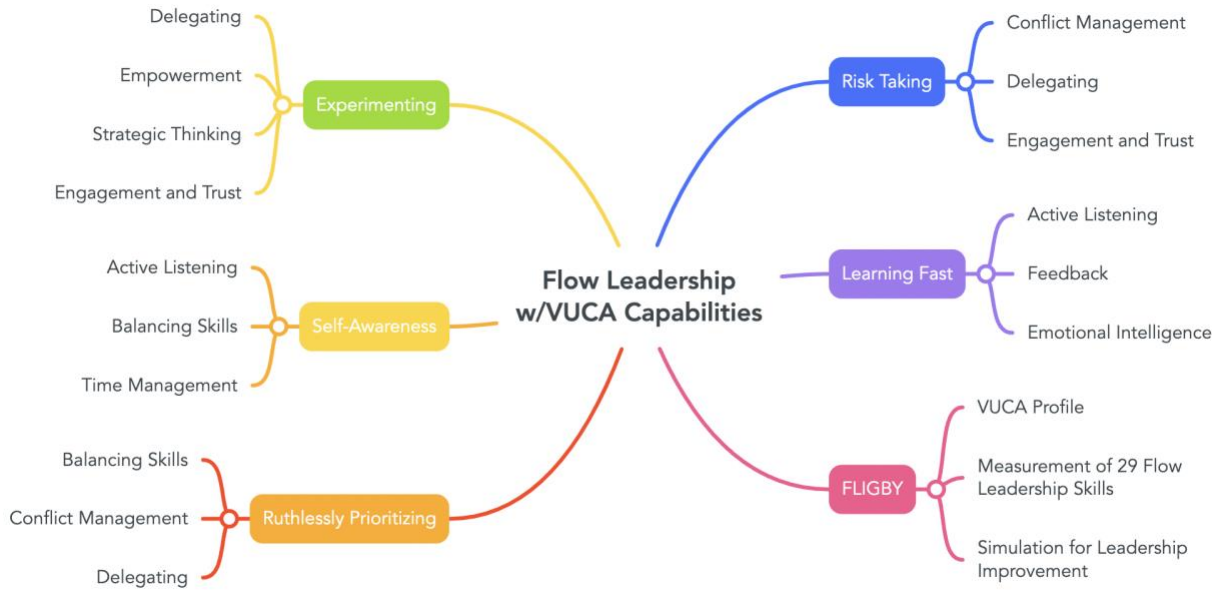
A variety of fields and trainees can use simulation as a practice and learning tool. It is a tactic not technology for augmenting and replacing authentic experiences with guided ones that accurately and interactively evoke or duplicate key aspects of the real world (Zhang et al., 2018). One such technique is FLIGBY, which helps an individual gain personal leadership ability by assisting them while they manage a made-up Turul winery. The development of active listening would benefit from the inclusion of this method in school. Players are led through several workplace disputes in the simulation, circumstances that call for teamwork and collaborative problem-solving as well as active listening and decision-making (Marer et al., 2016). It is the players' duty to increase employees' intrinsic motivation by building on their strengths and analyzing each circumstance considering individual employee traits. The simulation offers a framework for coping with strong personalities and creating attainable goals using an active listening and strengths-based approach.

Leadership, conflict management, diplomacy, and emotional intelligence are just a few of the skills FLIGBY can help one develop. In terms of a leadership development tool, research demonstrates a high association between the game's evaluation qualities and the soft skills necessary for success in the 21st century (Almeida & Buzady, 2022). Additionally, FLIGBY has demonstrated extensive connections between the four defining elements of flow leadership (i.e., balancing skills, personal strengths, feedback, and strategic thinking) and the 29 flow leadership traits the game evaluates (Buzady et al., 2022).

VUCA has become a synonym for organizational disorder. Every problem that is considered by VUCA has a unique set of issues that call for a unique set of solutions (Bennett & Lemoine, 2014). Situations that are volatile frequently, quickly, and drastically alter the trajectory of organizational progress. Situations that are uncertain and in which events and their results are unpredictable, make preparedness difficult. Managing complex situations without endangering the interests of one or more parties is tough. When events and the information around them can be interpreted and understood in many ways, ambiguous situations occur that make judgments challenging. With flow leadership, FLIGBY has attempted to gauge a leader's capacity to address these issues (Souders, 2021). Like flow leadership, music conductors are constantly addressing issues and problems now while balancing skills and adapting on the fly. A current issue is that there is not a clear understanding if VUCA can be solved by any one mechanism; however, FLIGBY has identified five abilities leaders that navigate these issues will possess, which include: (a) embracing risk, (b) experimenting, (c) self-awareness, (d) learning fast, and (e) ruthlessly prioritizing (Canning, 2021). VUCA can be used as a starting point to gauge a leader's capacity for dealing with complicated events, much like a conductor does throughout a rehearsal. The combination of trust, motivating structures, and processes to build autonomy are becoming more and more important to a leader's performance as more firms adopt VUCA capabilities in a constantly changing world. These components went into the development of a leadership framework for flow leadership with VUCA capabilities. The leadership profile tool is depicted in Figure 2.

Figure 2

Flow Leadership With VUCA Capabilities



Note. Flow leadership skills divided into sectors of how they impact VUCA capabilities.

In utilizing the framework for measuring VUCA capabilities as outlined in FLIGBY, the most significant characteristics of flow leadership have been used to support the development of the five capabilities, which include: (a) risk taking, (b) experimenting, (c) self-awareness, (d) learning fast, and (e) ruthless prioritization (Canning, 2021). To take more risk, leaders must develop the ability to address conflicts head-on through active listening, strategic thinking, time management, balancing skills, personal strengths, and feedback.

Utilizing secondary data from FLIGBY provided a wealth of information on ways that flow-enabling leadership abilities are useful (Buzady et al., 2022). Due to the high intercorrelation between all eight variables when taken as a whole, Badibanga (2019) discovered that FLIGBY could assess flow leadership capabilities to develop a new capability for a new dimension. This new dimension was appropriately referred to as “social enterprise skill,” as it

was a predictor of both generating profit and facilitating flow. The findings added to the body of knowledge already available on encouraging flow and making money in a variety of different ways.

Chapter Summary

Individual experiences have been extensively studied in flow state research (Arslan & Altan-Atalay, 2022; Swann et al., 2019). There is a lack of knowledge on group flow and its significance in organizational leadership and linking conductor skills in the business sector, despite the volume of research on flow and group flow. Understanding the process of flow and the elements that support and hinder it is necessary because it is a complex process (Sutherland & Southcott, 2021).

The theoretical framework for this study is based on the four distinguishing characteristics of flow leadership theory and conductor-type leadership theory centered on ambidextrous and empowerment leadership (Alghamdi, 2018; Jansson et al., 2021; Marer et al., 2016; Sutherland & Cartwright, 2022). Tight leadership helps organizations maintain order and aim for consistency between management and individuals by clearly defining roles. Loose leadership encourages autonomy within organizations that have tight leadership structures as they allow for clear communication, feedback, the strengths of employees, and balancing skills to occur. When flexible leadership and tight leadership are in harmony, individuals accurately perceive, interpret, and share the decisions made by leaders and work toward organizational goals in innovative ways (Guo et al., 2020).

A skilled conductor can leave a lasting impression on every musician they work with (Sutherland & Cartwright, 2022). Understanding group flow better and conducting more research will provide the knowledge required to make the most of flow and

leadership. The knowledge discovered via quantitative correlational research will influence leadership training practices in the future and provide suggestions for assisting leaders in promoting flow within their organizations. In Chapter 3, a methodological approach to investigating the relationships between conductor-type leadership traits and flow leadership was discussed.

Chapter 3: Methodology

The purpose of this quantitative correlational study was to investigate the relationship between music conductor-type leadership traits and corporate atmosphere in millennial business managers. Traditional leadership approaches are becoming less effective in modern society. Millennials are projected to assume 75% of the global workforce by 2025 (Moreno et al., 2022). Changing demographics may affect employee attitudes and beliefs, which may affect the requirement for leaders to understand the connection between millennial perspectives and employee engagement (Hurtienne et al., 2022). The leaders of today are more distinctive; they require a lot of freedom and flexibility in their daily lives and work environments; thus, they do not require hierarchical leadership. A growing organizational trend is the implementation of holacracy, or decentralized leadership practices where all employees are equally responsible for maintaining innovative edge in a volatile, uncertain, complex, ambiguous (VUCA) world (Fenwick et al., 2023). While there is a clear hierarchical relationship between conductors and musicians, all musicians (i.e., employees) think like a conductor (i.e., leader) like the self -governing practice of holacracy (Toomer et al., 2018).

Recent research examining flow enabling leadership has shown complex relationships to the defining characteristics of balancing skill, strategic thinking, personals strengths, and feedback (Buzady et al., 2022). This study is designed to evaluate how the music conductor-type skills of active listening and time management impact corporate atmosphere through these defining features. A contribution to the body of flow leadership research will be made by observing potential links for flow enabling

leadership development and empirically investigating the connection of conducting with evolving leadership practices.

The problem is that conventional leadership applications seem unrelated to the millennial generation's need for workplace autonomy and adapting to volatile, uncertain, complex, and ambiguous (VUCA) conditions. Research questions are contingent upon the problem and purpose of research. To ascertain the relationship between the elements of active listening, time management, and corporate atmosphere, the research questions were both researchable and measurable. A crucial first step in directing how researchers gain knowledge through their research is to formulate research questions (Thuan et al., 2019). The following research questions were used to guide this quantitative investigation to fulfill its intended purpose:

RQ1: What is the relationship between the conductor-type leadership trait of active listening and corporate atmosphere in millennial managers in medium and large-sized companies?

RQ2: What is the relationship between the conductor-type leadership trait of time management and corporate atmosphere in millennial managers in medium and large-sized companies?

RQ3: What is the relationship among the conductor-type leaderships traits of active listening, time management and corporate atmosphere in millennial managers in medium and large sized companies.

The following are the hypotheses for the study's research questions:

$H1_o$: There is no statistically significant relationship between the independent variable (IV) active listening and dependent variable (DV) corporate atmosphere according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H1_a$: There is a statistically significant relationship between the active listening (IV) and corporate atmosphere (DV) according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H2_o$: There is no statistically significant relationship between time management (IV) and corporate atmosphere (DV) according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H2_a$: There is a statistically significant relationship between time management (IV) and corporate atmosphere (DV) according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H3_o$: There is no statistically significant relationship among active listening, time management, and corporate atmosphere according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H3_a$: There is no statistically significant relationship among active listening, time management, and corporate atmosphere according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

The research methodology, design, and justification for this quantitative correlational study are covered in this chapter. To examine FLIGBY's secondary gameplayer, the researcher's observational role will be described. The research process is outlined, including the population, research site, program, archival data, data instrument, and instrument validation. The method of data analysis is explained. Finally, a description of validity and reliability are given, along with some ethical considerations.

Research Methodology, Design and Rationale

Each research question deserves a unique set of criteria, the evidence desired to show trends and results, and ability to maintain ethical standards. Each researcher has a unique set of skills that help align their experience with the intent to research (Creswell & Creswell, 2018). In this study, a quantitative correlational design was used to examine the relationship between conductor-type leadership and flow leadership traits.

The objective of quantitative research is to identify valid mathematical models for real occurrences. Most frequently, these mathematical representations take the form of functional relationships between a set of variables. A significant challenge in quantitative modeling is developing trustworthy measurements for these variables (Borgstede & Scholz, 2021). Qualitative research is the study of the nature of phenomena, and it is especially well suited for addressing the causes of observations of something or its lack, analyzing complex multi-component interventions, and focusing on the improvement of interventions (Busetto et al., 2020). The quantitative correlational approach for this study is the most appropriate as it seeks to measure the functional relationships between variables.

Methodology

This study incorporated a quantitative methodology to determine whether there was a statistically significant relationship between flow leadership traits and music conductor-type leadership traits among millennial managers. The concept of conductor-type leadership is the ability to balance a variety of musician talents, give prompt feedback, draw on personal experience, manage time, engage in active listening, and think strategically. These qualities fit the defining traits of flow leadership exactly (Marer et al., 2016). Quantitative procedures often

test theory, whereas qualitative approaches either use theory as a lens to shape the study design or produce new concepts inductively from their findings (Wright et al., 2016).

Design

A correlational study aims to determine the direction and intensity of correlations between and among variables within the context of their environment (Gray & Grove, 2020). Research on correlations is observational and non-experimental. A complete picture of the behavior of the data is provided using statistical tools and metrics. These statistical methods aim to find or highlight patterns or trends in the data (Cooksey, 2020). Only descriptive research can evaluate both a single variable and several variables (Siedlecki, 2020). This design is appropriate because it can address the study's stated research topic and evaluate the strength of variables.

The purpose of statistical analysis is to simplify large amounts of quantitative data so that it is more understandable (Thrane, 2022). The ease of replication is an additional benefit of quantitative research. Using numerical data to describe findings can save a great deal of time, energy, and resources (Eyisi, 2016). The correlational study approach does not allow for cause-and-effect inferences because the variables are not under any control (Gravetter et al., 2020).

In this study, correlational tests were designed to evaluate the impact that the independent variables have on the dependent variables. The independent variables were active listening and time management, and the dependent variable was user corporate atmosphere indicating a flow-promoting work environment. The data were imported into the Statistical Package for Social Sciences (SPSS) for analysis after being segmented in a way that was appropriate for this investigation. Both nominal and continuous data were

present in the data file, only the continuous data were used for correlational analysis to answer the research questions and provide evidence for the hypotheses. To determine the existence, strength, and direction of a relationship between two variables, a bivariate statistical method known as correlation analysis is performed (Creswell & Creswell, 2018). Principal component analysis (PCA) was also conducted to determine if there are any potential intercorrelations among the variables (Shrestha, 2020). The Spearman or Pearson's correlation tests will be employed, depending on the data set.

Role of the Researcher

My experience as a musician, licensed music educator, conductor, and program team leader of a middle school band, orchestra, and choir program provided a framework for research. Leavy (2022) posited that new knowledge can come from the experience, relationships, and attained knowledge of the researcher. Upon beginning doctoral studies, I became interested in the idea of flow-promoting leadership and came across the FLIGBY website through a general search on flow leadership. After an initial inquiry about the FLIGBY program, I was given demo access to play the game and get a feel for how the program may enhance flow leadership skills.

As the primary researcher in this study, I had no direct connection to the secondary data set despite my limited experience with gameplay and initial inquiry to ALEAS simulations. In quantitative research, the researcher's position is impartial to prevent prejudice while striving to investigate the problem from a distance (Johnson & Christensen, 2019). When conducting secondary data analysis, it is important to maintain data in its original context as much as possible (Costa & Moreira, 2019). Gaining access to gameplay was especially important in understanding the types of data that could be collected for this study and how a player may respond to the game.

Potential Incentives

One of the pillars of contemporary science is data sharing, which permits extensive study and reproducibility (Tedersoo et al., 2021). To use the data set, ALEAS simulations has asked that the researcher share findings through the company platform after final approval. Tedersoo et al. (2021) further suggested that data companies provide data for free to researchers and maintain transparency in requesting and validating data.

Research Procedures

A quantitative correlational design examining the relationship between the independent variable mean ratings of active listening and time management and mean ratings of corporate atmosphere scores was utilized. The target population of the study was comprised of millennial managers. A stratified sampling method was utilized in this study. After correlational tests were conducted, a PCA was performed to look for any underlying relationships between variables. Archival data of gameplayer statistics was utilized from FLIGBY.

Population and Sample Selection

The target population was millennial business managers. Secondary information gathered from FLIGBY gameplayer data was used. The data set included players from 49 different countries. Nearly 8,000 samples are included in the current database (Buzady et al., 2022). A stratified sample of 1,000 millennial managers from throughout the world will be utilized for the study. The millennial generation is comprised of individuals between 1981 and 1996 (Freeman, 2019). A minimum sample size of 980 was necessary for a 95% confidence interval. Anonymity and confidentiality were protected once the secondary data set was made available as no identifiable information was shared with me. A generated number pre-assigned by ALEAS Simulations was given to each participant.

FLIGBY is a serious flow leadership game created by ALEAS Simulations. The goal of the game is to help the player's fictional winery run more profitably, sustainably, and with a positive corporate atmosphere. The player takes on the role of the general manager of the winery (Marer et al., 2016). The goal of FLIGBY is to find, assess, and support the growth of leadership competencies that, if used, would aid in fostering a flow-promoting work environment. The FLIGBY developers, ALEAS Simulations, was contacted for site approval. A letter detailing the request was provided (see Appendix A). Permission was granted by the president of ALEAS Group (see Appendix B). Following IRB approval, secondary data were collected from ALEAS Simulations.

Viable consent in secondary data research is a subject of growing concern. Because access to digital information is so easy, initial consent is currently enough to guarantee privacy, but Harriss et al. (2019) argued that secondary data use needs to be constantly reviewed. Upon registering for the game, players must accept the FLIGBY terms of use agreement (see Appendix C) and give consent for the usage and collection of information (ALEAS Simulations, 2022). Once consent was initially given and gameplay commences, data were housed by ALEAS Simulations in the FLIGBY Master Analytics Profiler (MAP). Consent was not collected because initial consent was given prior to gameplay and the site administrator granted permission to use this archival data (see Appendices B & C). ALEAS simulations adhere to a strict data collection policy in line with the European Union's General Data Protection Regulation, the Brazil Lei Geral de Protecao de Dados and the California Consumer Privacy Act of 2018 (see Appendix D). Additionally, researchers must sign a non-disclosure agreement (NDA) with ALEAS Simulations to retain anonymity and confidentiality throughout the research process. The

NDA (see Appendix E) was signed by all parties involved prior to the collection of data after IRB approval.

Archival Data

Gaining access to archival data is done by requesting the consent of individuals or administrators at the site, which allows access and research to be conducted (Creswell & Creswell, 2018). Stratified sampling was used to select user data from the FLIGBY Master Analytics Profiler. The data were obtained from ALEAS simulations, the software developers of FLIGBY. Site permission for the study and access to data were sent to the president and chief executive officer of ALEAS Group (see appendix A).

Data Instrument

The official flow leadership game, FLIGBY, was used in this study as the instrument to measure each construct. FLIGBY is a serious game software with a movie-like interface consisting of 23 individual scenes. It gives the user the option of choosing which way a segment should go. The scenarios are organized around a progression of more difficult occupational assignments or events. FLIGBY gives players the opportunity to practice responses to difficult business situations while protecting them from the costly and sometimes permanent consequences of their decisions (Marer et al., 2016).

FLIGBY measures three aspects of performance based on a leader's ability to promote flow in the workplace using 29 flow leadership skills that include active listening and time management (Marer et al., 2016). To win the game, players finish with at least 8 hours of gameplay and a 60% level or higher in each of the three workplace flow measurements of corporate atmosphere, profit, and sustainability. Over 8,000 players worldwide have contributed to the current data housed in the FLIGBY MAP.

Based on the conductor-type leadership construct developed in the theoretical framework, the independent variables of active listening and time management, as measured by FLIGBY, were used. The scales of measurement were defined by means of gameplay decisions linked to these skills in each set of data and measured against the corporate atmosphere score that is defined by means of gameplay decisions that improve individual and group flow characteristics (Marer et al., 2016). The archival data were extracted from an encrypted set of FLIGBY analytics sent via email.

Traditional leadership development may not address the underlying problems that affect employee motivation and performance, and as a result, it does not encourage sustainable growth or flow (Vecsey, 2020). The reason being is that millennials prefer leadership that encourages shared leadership, which is not as prevalent in leadership styles with a hierarchical approach (Moreno et al., 2022). FLIGBY is considered the only tool that can assess a leader's capacity to foster flow in the workplace is FLIGBY (Frederick, 2019). Using flow enabling leadership techniques has had a few favorable effects, including an improvement in company profitability and productivity (Badibanga, 2019). The flow leadership skills that were analyzed included active listening and time management. The correlational tests were conducted using secondary data from a global population of millennial managers who played FLIGBY and measured participant use of these leadership skills.

Instrument Validation

FLIGBY is a professional development tool used to measure and enable flow in the workplace. Mihaly Csikszentmihalyi, the creator of flow theory, participated in the creation of this interactive leadership simulation to successfully include the concept of

flow into the simulation's features (Marer et al., 2016). FLIGBY's effectiveness as a tool for leadership development is consistent with its realistic, interactive, and scenario-based design. As a method of teaching leadership in multiple settings, it has been used by corporations and in Master of Business Administration programs around the world.

Data Collection

The secondary data set was provided in an unfiltered Microsoft Excel spreadsheet. Stratification of the data was used to create a stratified sample of millennial players born between 1981 and 1996 (see Freeman, 2019). The data set included both qualitative and quantitative variables. Only the quantifiable variables were used and specifically include data for the variables of balancing skills, feedback, applying personal strengths, time management, active listening, and strategic thinking.

Data Analysis

Correlation analysis was used to identify the association between two variables, as well as its strength and direction (Creswell & Creswell, 2018). From the stratified sample, strata based on gameplayer self-reported workplace and industry profession was created from the secondary data set. To determine whether there may be potential intercorrelations between the variables, PCA was also performed using SPSS. A PCA's goal is to use fewer variables to describe a multidimensional data collection (Shrestha, 2020).

Perry and Netscher (2022) posited that 5% of stewardship in research should go towards research data management. Often overlooked in free data sharing, data cleaning is becoming increasingly important in the management of large sets of data (Ilyas & Chu, 2019). There were attempts made to remove any copies of data, search for outlying variables, and re-evaluate statistical procedures to ensure minimal error in results.

A basic assumption of correlational statistics is normal distribution. To test for normality, the Shapiro-Wilks and Kolmogorov-Smirnnof tests were employed. The Kolmogorov-Smirnov test is recommended to test for normality with samples greater than or equal to 50, whereas the Shapiro-Wilks is suggested for samples of less than or equal to 50 but has been shown to be effective as well on larger sample sizes (Mishra et al., 2019). The sample size of 1,000 should show normality in both tests and guide the decision to choose a parametric over non-parametric correlation test. Once the normality test was rejected, the Spearman's rho correlation was applied to the data using an alpha level of .05 for a 95% confidence interval. Cohen's d was used to measure the effect size of variables. Lastly, a principal component analysis (PCA) was conducted to determine whether a relationship exists among all variables of active listening, time management, and corporate atmosphere.

Reliability and Validity

Validity is simply an instrument's ability to measure that which the researcher would like to measure. Reliability is the consistency in which the instrument repeatedly measures what the researcher intends to measure (Adhikari, 2018). Because the evaluation tool utilized in this study was already developed for other purposes, further discussion of the validity and reliability of FLIGBY is necessary. Buzady et al. (2022) conducted a multivariate analysis of the 29 skills measured in FLIGBY and determined several linear correlations with the four defining leadership skills. A simulation creates evaluation that is only based on in-game choices and the application of the appropriate skill set, and there is no bias based on interpersonal relationships between the trainer and trainee. Wilson (2019) discovered that FLIGBY is fair and does not discriminate regarding gender, age, or nationality.

Ethical Procedures

The NDA protects the collected data, and it protects the intellectual property of the researcher. The Belmont Report posits that respect for persons allows individuals to consent to be participants of a study and those with diminished autonomy to have protections (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). While the NDA expires 2 years after the date of signature, data will be secured on a password protected universal serial bus (USB) drive for 3 years after the study is concluded and then physically destroyed with a hammer to ensure the memory card is damaged so no data can ever be retrieved. The password protected USB drive was stored in a locked file cabinet in the lead researcher's home office. Only the lead research had access to the password protected USB. Adhering to the non-disclosure agreement (see Appendix E) copies of data were only made for the sole purpose of research, labeled confidential and accessed using a password and fingerprint protected laptop. The laptop was used in the lead researchers home office during data analysis and research. When not in use, the laptop was securely locked in a desk drawer in the lead researcher's home office.

FLIGBY also assigns unique and encrypted IDs to each data point ensuring there is no identifiable information. Due to the nature of secondary data, there is minimal risk of harm to individuals with no direct link to their identities. This process ensures beneficence in minimizing harm to individuals whose data are used in the study. The Belmont Report requires that research is conducted with justice in mind (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). The sample population of secondary data was not directly tied to gender or race of individual players. Participant names were not

provided to me as part of the data set; instead, a unique identification number was utilized to correspond to everyone's results.

There are more ethical issues in research because of new research techniques and technology (Costa & Moreira, 2019). Researchers must maintain the initial fieldwork interaction and data interdependence between the researcher and participant. Sharing data, reanalyzing data, and analyzing secondary data have all become valuable practices in qualitative and quantitative research (Camfield, 2019; Gomes & Duarte, 2020).

Chapter Summary

The study's suggested quantitative correlational methodology is appropriate to use when assessing secondary data. The purpose of this quantitative correlational study was to investigate the relationship between music conductor-type leadership traits and corporate atmosphere in millennial business managers. In this chapter, the rationale for the chosen methodology and design were discussed. My role as the researcher was defined. Relationship between conductor-type traits of active listening time management, and corporate atmosphere as measured by FLIGBY. A PCA was performed to better understand the relationships among the variables. The validity and reliability, as well as ethical considerations were evaluated and discussed. The findings and analyses of this quantitative research are presented in Chapter 4.

Chapter 4: Research Findings and Data Analysis Results

The millennial generation is becoming a dominant force in the field of leadership (Easton & Steyn, 2023). Millennials seem to function best under team leadership styles that empower themselves and employees and are absent of hierarchical structures (Easton & Steyn, 2022, 2023). Employee engagement levels are decreasing across the globe but at an even more exponential rate for millennials (Singh et al., 2023). The problem is conventional leadership applications seem unrelated to the millennial generation's need for workplace autonomy and adapting to volatile, uncertain, complex, and ambiguous conditions. Goryunova and Lehmann (2023) suggested there is benefit in applying the leadership skills of music conductors. Musicians who perform have unquestionably mastered collaboration, originality, and adaptability. Symphony orchestras that are successful serve as examples of inclusivity, teamwork, discipline, real leadership, and following (Goryunova & Lehmann, 2023).

The impact of leadership extremes between structure and autonomy is being studied by the novel concept of flow leadership, which increases productivity and efficiency at work by enabling and enhancing employees' intrinsic motivation through flow state (Almeida & Buzady, 2022; Wang et al., 2021). The similarity between a conductor's leadership style and that of a flow leader can inspire new approaches to managing millennial workers like how a conductor of music strikes a balance between structure and individual choice in an ensemble environment. The purpose of this quantitative correlational study was to investigate the relationship between music conductor-type leadership traits and corporate atmosphere in millennial business managers.

Following, the procedures of data collection are described. A detailed analysis of data, and an explanation of the results of this study are provided. Reliability and validity of the

statistical testing procedures, data, and analysis are discussed. Lastly, a summary of Chapter 4 concludes with the research findings and data analysis results and transition to the final chapter.

Data Collection

The population for the study included all gameplayers born between 1981 and 1996 known as *millennials* (Freeman, 2019). Site permission was granted contingent on IRB approval (see Appendix B). After IRB approval was received, archival data from FLIGBY's Master Analytics Profiler (MAP) was requested by email from the president of ALEAS simulations (see Appendix F). The archival data were first collected by ALEAS Simulations in October of 2013, and this data set includes data collected through May 26, 2023.

For research purposes, the data were requested on May 16, 2023. A non-disclosure agreement was signed and dated on May 17, 2023. After signing the non-disclosure agreement and sending a copy of the IRB approval letter (see Appendix E & Appendix G), a meeting was held with the site administrator to explain the data set that would be extracted for the study on May 30, 2023. The purpose of the meeting was to discuss research problems and suitability of days prior to data collection. The site administrator released initial raw data on May 31, 2023, 15 days prior to proposed collection end date. Once the email with the raw data had been received it was accessed on a password and fingerprint protected laptop. The data were then transferred to a password protected USB drive. The data were nominal and ordinal. Nothing deviated from the suggested strategy for gathering data other than a faster timeline.

The data included 16,364 unique sets of gameplayer data. Eight thousand three hundred and forty six sets of data were from millennial users and were stratified for use

in the study. The proposed sample size of 1,000 participants was surpassed by 835% (n = 8,346). In the data provided, participants exhibited a 100% response rate with no missing data for all 8,346 participants. Table 1 shows the frequency of participants by birth year. Global data consisted of predominantly individuals residing in the United States (39%) and Hungary (16%); however, data points were collected from 99 countries. The data show a diverse population of varying ages and levels of management/leadership experience within the millennial users of FLIGBY.

Table 1

Frequency of Participants by Birth Year

Birth year	*n*	%
1981–1984	1,769	21.2
1985–1988	1,983	23.7
1989–1992	1,988	23.8
1993–1996	2,606	31.2

As shown in the histogram in Figure 3, it can be visually observed that a higher frequency of younger millennials exists in participants born between 1989 and 1996 (55%). The number of years participants have held minimal leadership positions for 1–7 years is also represented in most of the sample. The histogram also shows a visual representation of how this data set did not follow a normal distribution. A histogram typically shows distribution and is derived from Latin for drawn fences (Nuzzo, 2019). These fences contribute to fencing in the parameters of a quantifiable variable and in this instance show a slightly negative skew in the sample population.

Figure 3

Histogram of Frequency of Participants by Birth Year

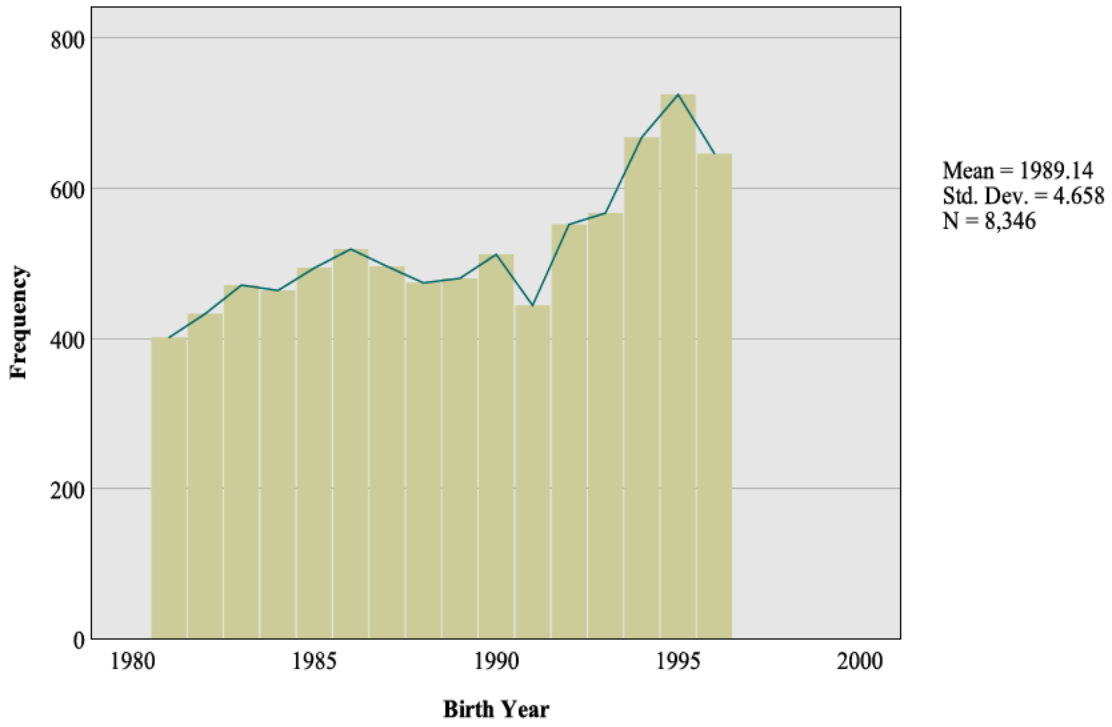


Table 2 shows the frequency and percentages of participant demographics for gender, age, company size, and years of management or leadership experience. It was interesting that gameplayers in the younger portion of the millennial generation seemed to have higher participation rates. While the age range was from 27–42 years old at the time of this study, the mean age was 34 with a mode age of 28. The sample was representative of male and female participants reporting as 51.5% male and 48.5% female. Thirty-seven percent of participants reported working in companies with 1,000–10,000 or more employees. A majority (62.6%) of participants reported having 1–7 years of management or leadership experience. There were no data on the age that participants entered leadership positions from FLIGBY, based on the data; however, an estimated range of leadership entry can be calculated from the mean age in tandem with experience. This calculation provided an estimated entry to leadership of participants from 27–33 years of age. This statistic coincided closely with the mean age of 34 and mode age of 28.

Table 2

Frequencies and Percentages of Participant and Management Demographics

Demographic	Mean	Median	Mode	*SD*	Characteristic	*n*	%
Gender					Female	4,045	48.5
					Male	4,301	51.5
Age	34.14	34	28	4.658	27–34	3,752	45
					35–42	4,114	55
Company size					Self-Employed	2,110	25
					2–50 Employees	910	11
					51–1000 Employees	930	11
					1001–10,000+ Employees	3,050	37
Management experience					None	1,382	16.6
					Less than a year	1,708	20.5
					1–3 years	2,602	31.2
					3–7 years	1,784	21.4
					7–15 years	794	9.5
					More than 15 years	76	.9

Note. Company size was left unanswered for about 10% of sample (n=1,346) likely due to no supervising managing experience, or no employment at time of gameplay.

Data Analysis and Results

Statistical assumptions had to be addressed before data analysis. The first assumption was whether the data fell within a normal distribution. Due to the size of the data sample a Kolmogorov-Smirnnof (K-S) test was conducted to test for normality (Mishra et al., 2019). The K-S test showed non-normality with a p-value < .001 in the independent variables of active listening, time management, and the dependent variable corporate atmosphere score. The ranks of the data, not their actual values, should be used to determine the correlation coefficients for data having extreme values or outliers (Akoglu, 2018). Because this result confirms the data did not follow a normal distribution, the non-parametric Spearman rho correlation test was used. A second assumption of correlation is that data consist of pairs of numerical data. The data set provided by ALEAS simulations included ordinal values for all variables.

Using the means, standard deviations, and population size of the variables in RQ1 and RQ2, a Cohen's d was calculated for each correlational test for effect size. Active listening had a mean score of 66.16 with a standard deviation of 12.04. Time management's mean score was 57.69 with a standard deviation of 15.39. The purpose of FLIGBY is to enhance the corporate atmosphere so the higher mean score of 60.47 is justified with a standard deviation of 15.24.

Descriptive statistics and correlations for the variables are provided in Table 3. Using Cohen's d, active listening showed a medium effect size of d = 0.640 and time management showed a Cohen's d = 1.098, which is considered a large effect size. The Cohen's d statistic is used to compare two groups (Lakens, 2013). It converts the discrepancy between two means into units of standard deviation. Cohen's d provides the number of standard deviations that separate the two means (Schäfer & Schwarz, 2019). This statistic shows that research findings that utilize these samples show practical significance and may be more generalizable to the general population of millennials.

Table 3

Descriptive Statistics and Correlations for Study Variables

			Spearman's Rho			Kendall's Tau		
Variable	*M*	*SD*	1	2	3	1	2	3
Active listening	66.11	12.04	–	–	.505**	–	–	.381**
Time Management	57.69	15.39	–	–	.330**	–	–	.238**
Corporate Atmosphere (Flow)	60.47	15.24	.505**	.330**	–	.381**	.238**	–

Note. ** Correlation is significant at 0.01 level (2-tailed).

One assumption to Pearson's r is that correlation must show a linear relationship. While Pearson's r correlation measures linear relationship of variables against a straight line, the Spearman's rho measures the strength and direction of slightly looser monotonic relationships, that is as one variable increases the other increases or decreases with it (Schober et al., 2018).

The large data set showed more sensitivity to outlying data and range of response in participants as assumed (DeMoulin & Kritsonis, 2009).

The following research questions were used to guide this quantitative study's direction to fulfill its objective:

RQ1: What is the relationship between the conductor-type leadership trait of active listening and corporate atmosphere in millennial managers in medium and large-sized companies?

$H1o$: There is no statistically significant relationship between the independent variable (IV) active listening and dependent variable (DV) corporate atmosphere according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H1a$: There is a statistically significant relationship between the active listening (IV) and spacing

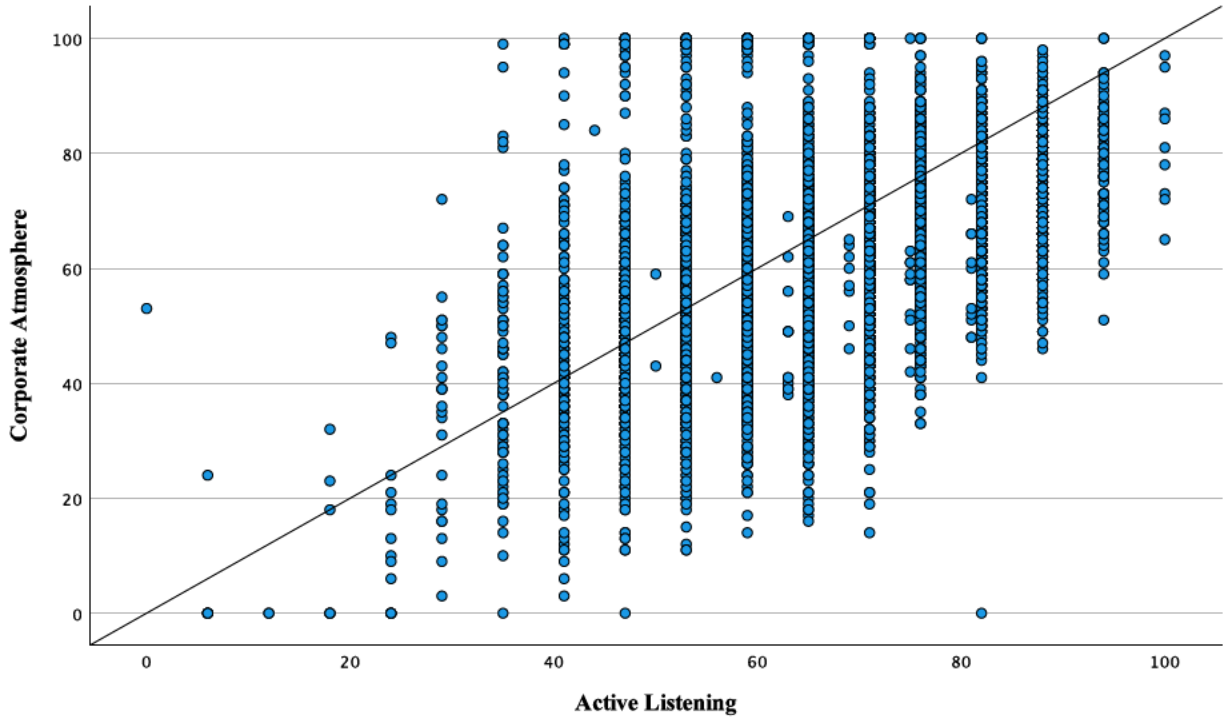
corporate atmosphere (DV) according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

IBM SPSS was used for all statistical testing. The independent variable of active listening score was paired with the dependent variable corporate atmosphere score calculated from sum of group and individual flow state in game play decisions. The results gave p = .505, which shows a significant moderate and positive linear relationship between active listening and corporate atmosphere (Schober et al., 2018). Figure 4 shows a moderate positive monotonic relation between active listening and corporate atmosphere and addresses this assumption (Verma & Abdel-Salam, 2019). Schober et al. (2018) suggested that correlation coefficients should be interpreted based on the context of the results. Since the corporate atmosphere score is based off

multiple relationships in the FLIGBY gameplay, this can be considered more significant due to its small part in the overall set of measurements used (Schober et al., 2018).

Figure 4

Spearman Rho Correlation Between Corporate Atmosphere and Active Listening



An extension of the Spearman's rho correlation is Kendall's tau correlation. Kendall's tau is suggested to be used when the same rank is repeated several times in small data sets; however, some scholars suggest it can show more accurate results within a population (Akoglu, 2018). Conducting the Kendall's tau resulted in $\tau = .381$, which is considered a moderate correlation coefficient and consistent with the moderate positive correlation found in Spearman's rho.

RQ2: What is the relationship between the conductor-type leadership trait of time management and corporate atmosphere in millennial managers in medium and large-sized companies?

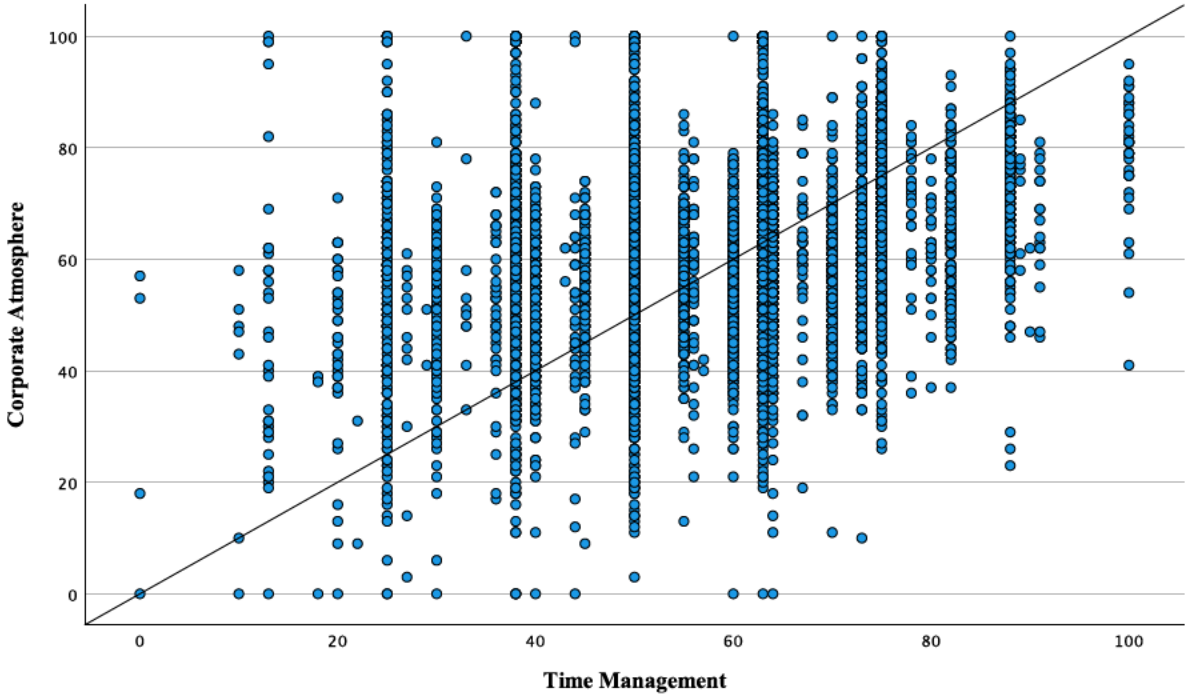
$H2o$: There is no statistically significant relationship between time management (IV) and corporate atmosphere (DV) according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

$H2a$: There is a statistically significant relationship between time management (IV) and corporate atmosphere (DV) according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

The independent variable of active listening score was paired with the corporate atmosphere score calculated from the sum of group and individual flow state in game play decisions. The results gave $p = .381$, which showed a weak but significant positive monotonic relationship between time management and corporate atmosphere scores (see Mishra et al., 2019). This correlation was not as strong as active listening. Table 2 shows $\tau = .238$ as the Kendall correlation for time management and corporate atmosphere, which shows a fair agreement. Figure 5 shows a scatterplot of the correlation and evidence of many outliers of extremes in 0% and 100%. Also evidenced is a moderate positive monotonic relationship.

Figure 5

Spearman Rho Correlation Between Corporate Atmosphere and Time Management



RQ3: What is the relationship among the conductor-type leadership traits of active listening, time management, and corporate atmosphere in millennial managers in medium and large sized companies?

*H*3*o*: There is no statistically significant relationship among active listening, time management, and corporate atmosphere according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

*H*3*a*: There is no statistically significant relationship among active listening, time management, and corporate atmosphere according to a score measured by FLIGBY for millennial managers in medium and large-sized companies.

Due to the nature of this large data set, a principal component analysis (PCA) was conducted to see if a relationship existed among the variables. Typically, principal components

are extracted at or above an eigenvalue of 1 known as Kaiser's criterion (Jugessur, 2022). Jugessur further explained Jollife's rule considers a lower eigenvalue of 0.7 but can be the cause for overestimating factor extraction. Each analysis should extract factors based on the context of the research. Upon analysis of the components one component had an eigenvalue of > 1 and a second component > 0.9. Table 4 shows the extraction results of the PCA in the form of a principal component matrix. Figure 6 is a scree plot of the PCA and shows the two components that were extracted using the individual flow states (sum of flow score) of the seven characters in FLIGBY gameplay. Sum of flow has a load of .682 on the active listening component followed closely by time management with a load of .597. The sum of flow and active listening factors negatively impact time management as evidenced in component 2 with the most significant load on time management coming from the sum of flow score (-.611).

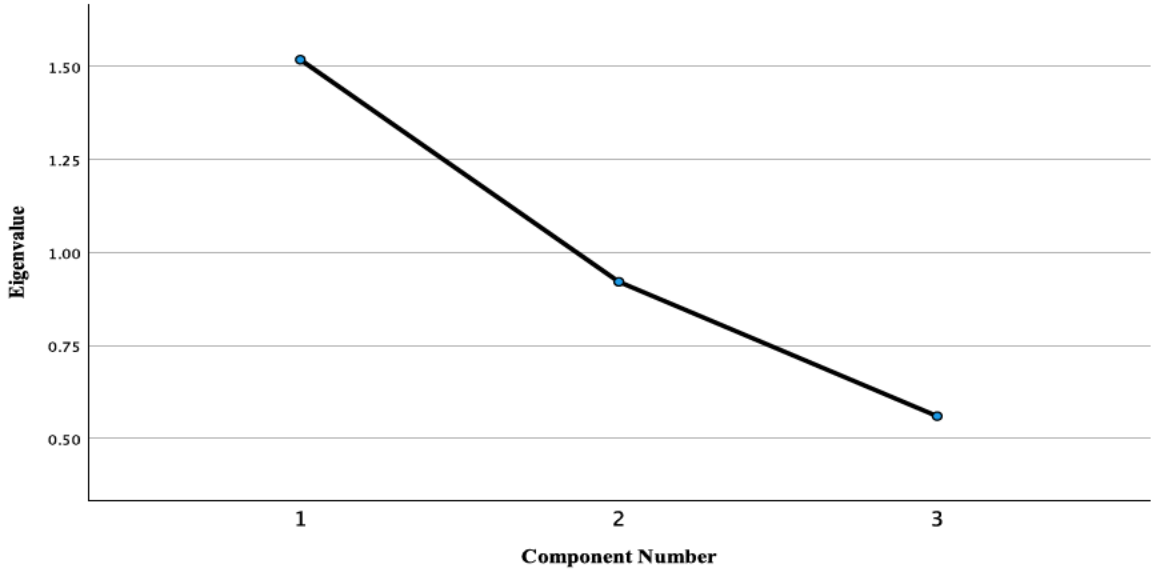
Table 4

Extraction Results of PCA Principal Component Matrix 1

Variables	Component	
	Active listening	Time Management A
	1	2
Sum of flow	.682	-.611
Active listening	.834	-.031
Time management	.597	.740

Figure 6

Scree Plot of PCA of Active Listening, Time Management, and Sum of Flow



An additional PCA was conducted using the corporate atmosphere (flow) score showing a slightly less significant negative load on time management. Joliffe's rule was used for the second extraction. The results show a significantly strong load of active listening and time management on corporate atmosphere as measured by FLIGBY (see Table 5). This component shows evidence of a musician flow component. Figure 7 is a scree plot of the PCA and shows the two components that were extracted using the individual corporate atmosphere score exhibited in FLIGBY.

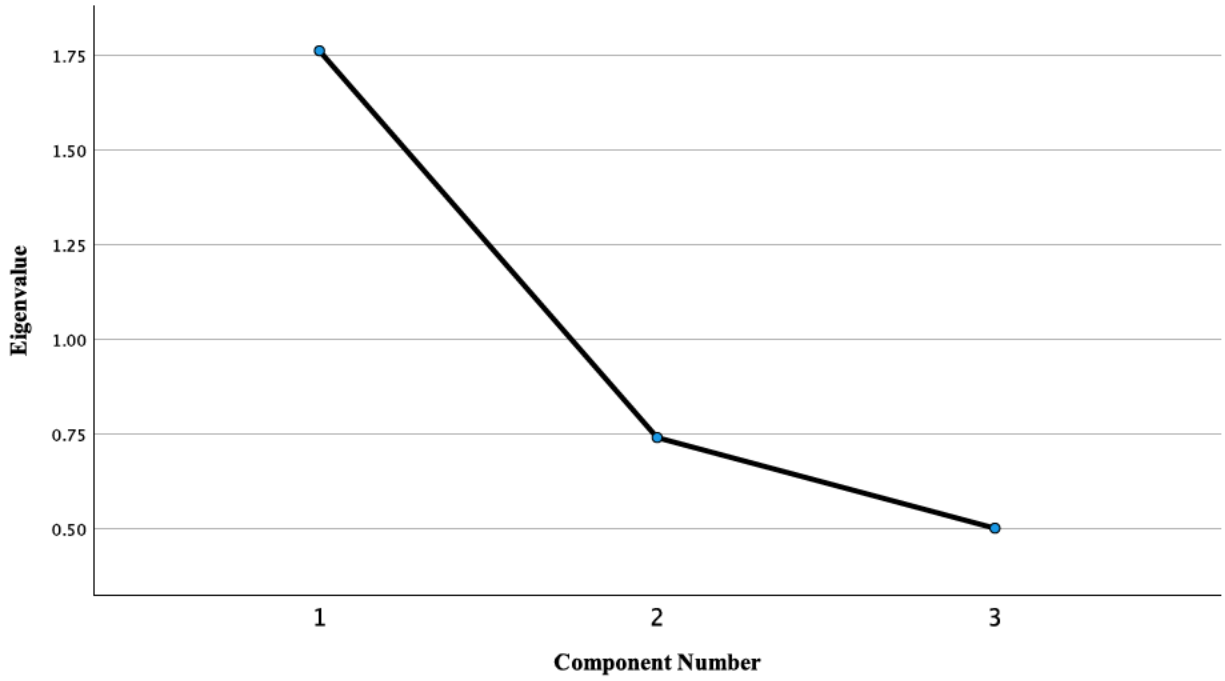
Table 5

Extraction Results of PCA Principal Component Matrix 2

Variables	Component	
	Musician flow	Time management B
	1	2
Flow	.815	-.278
Active listening	.804	-.337
Time management	.671	.741

Figure 7

Scree Plot of PCA of Active Listening, Time Management, and Corporate Atmosphere (Flow)



Reliability and Validity

Reliability is the stability with which the instrument consistently measures the outcome the researcher intended for observation (Adhikari, 2018). Validity is simply an instrument's ability to measure what the researcher is interested in. Correlational studies often have high, meaning the research findings are more generalizable to a general population (Shao et al., 2022). Using such a large data set was helpful in reaching saturation and ensuring findings may be practical to a larger population; however, only gameplayers use the serious leadership game FLIGBY were measured, which may be a threat to external validity in outside contexts. Despite this, stratified sampling methods are shown to be highly accurate in being a reliable measure of the population sampled and can increase external validity (Berndt, 2020).

The variables used in this study came from archival data in a continuous and ordinal format with scores ranging from 0–100. The programmers of FLIGBY have assigned values to specific responses throughout gameplay decisions and measure the responses in numerical fashion. An additional threat to validity is the history and maturation of participants. Frey (2018) defined *history* as differences in participation contingent on changes over time. Younger players seem to slightly overbalance the population of data suggesting they are more apt to participate in professional development tool usage such as FLIGBY. The data set was also collected over 10 years from 2013–2023. The site confirmed this data set all uses the same version of FLIGBY, so this threat will be less severe (Z. Vecsey, personal communication, May 30, 2023).

Andrade (2018) suggested that validity is often a measure of judgement of a researcher on the research instrument. Further discussion of the validity and reliability of FLIGBY is required because the evaluation tool used in this study was not designed by the researcher. A multivariate analysis of the 29 abilities assessed by FLIGBY by Buzady et al. (2022) revealed several linear connections with the four key flow leadership competencies and all 29 measured skills. The collective judgement of users of the program suggests high internal and external validity based on Andrade's (2018) definition. With over 16,000 participants worldwide contributing to data collection used in this study, and continued maintenance in the FLIGBY MAP, the tool has become a key program used in higher education business leadership curriculum, and companies ensuring validity and reliability.

A simulation produces evaluation that is only based on in-game decisions and the application of the proper skill set; there is no bias based on the trainer's or trainee's interpersonal ties. This narrow use helps to ensure only the skills measured by the program will be measured in accordance with the developers' purpose to create a serious leadership game that enhances flow

leadership in its players (Adhikari, 2018; Marer et al., 2016). Exploratory structural equation modeling (ESEM) is a growing set of procedures seeking to find underlying intercorrelations among large data sets of variables (Shao et al., 2022). Bias seems to be less apparent in exploratory processes like PCA used in this study and increases overall reliability of results.

Chapter Summary

The problem and purpose of this quantitative correlational study were presented with background information of the problem. Research findings and data analysis results were presented through narrative text, tables, and figures representing statistical procedures conducted using SPSS on secondary gameplayer data sets from FLIGBY. RQ1 showed a moderate positive relationship between active listening and corporate atmosphere scores in FLIGBY. RQ2 showed a weak positive relationship between time management and corporate atmosphere score in FLIGBY. RQ3 presented two principal components relating to active listening and time management. The sample included N =8,346 sets of ordinal data. Reliability and validity of the testing instrument, statistical procedures, and study were discussed. Moving forward, a discussion and interpretation of the results are provided in the final chapter.

Chapter 5: Discussion and Conclusions

The purpose of this quantitative correlational study was to investigate the relationship between music conductor-type leadership traits and corporate atmosphere in millennial business managers. Researchers have investigated leadership traits and their impact on the millennial generation extensively as a generational shift is occurring (Alaql et al., 2023; Easton & Steyn, 2022, 2023; Freeman, 2019; Hurtienne et al., 2022; Moreno et al., 2022). The problem is conventional leadership applications seem unrelated to the millennial generation's need for workplace autonomy and adapting to VUCA. Flow state has been shown to be a valuable outcome of certain types of leadership and contributes to workplace autonomy (Almeida & Buzady, 2022; Badibanga, 2019; Marer et al., 2016; Pels et al., 2018; Sinnet et al., 2020). Music conductors have shown the ability to adapt in complex situations, addressing individual and group needs in seemingly simultaneous ways (Krause, 2015; Meals, 2020; Sutherland & Cartwright, 2022; Sutherland & Southcott, 2021; Talgam, 2015). Using conducting leadership as a construct of ambidextrous and empowerment leadership highlighted both active listening and time management as essential traits of a music conductor. The corporate atmosphere served as a measure of group flow.

Using secondary gameplayer data from the leadership game FLIGBY, a quantitative correlational design was employed. The data of 8,346 millennial managers was used in the study. RQ1 sought to examine the relationship between active listening and corporate atmosphere. After the Pearson assumption of normality was rejected through a K-S, a nonparametric Spearman rho correlation was used and found a moderate significant correlation. Due to the evidence of multiple high and low outliers, Kendall's tau was conducted and verified this finding. RQ2 examined the existence of a significant correlation between time management and

corporate atmosphere. Time management also showed nonnormality in a K-S. A weak but positive Spearman correlation was found in testing the hypothesis for this research question. Kendall tau measured as a fair correlation coefficient. The null hypothesis was therefore rejected for both RQ1 and RQ2. RQ3 was designed to investigate whether significant relationships existed among the variables of active listening, time management, and corporate atmosphere. Using a principal component analysis to discover intercorrelations, a musician flow component, active listening component, and two-time management components were found. The null hypothesis was also rejected for RQ3 in favor of the alternate hypothesis.

The findings suggest evidence of a musician flow component, which indicates the combination of active listening and time management may be an effective trait combination in enhancing corporate atmosphere. As discussed in Chapter 2, these traits combine attributes of ambidextrous and empowerment leadership which fuel millennials. Findings help expand on current knowledge of this generation and flow leadership.

Interpretations and conclusion of the findings from the data analysis in Chapter 4 are discussed in Chapter 5 in relation to the literature review and theoretical framework of conductor-type and flow leadership found in Chapter 2. The limitations of internal and external validity are evaluated. Implications for leadership are addressed. Finally, a conclusion of the study is provided.

Findings, Interpretations, and Conclusions

Data analysis contributed to answering the three research questions in terms of rejecting null hypotheses and finding significant relationships between and among variables. Analysis was done on the mean values of active listening, time management, corporate atmosphere, and sum

of flow. Interpretations and conclusions on active listening, time management, and findings of each research question is discussed in detail.

Active Listening, Corporate Atmosphere, and Sum of Flow

Active listening had a moderate and significant positive relationship ($\rho = .505$) with corporate atmosphere after conducting Spearman's rho in RQ1. Kendall's tau ($\tau = .381$) verified this finding. One of the most essential skills a leader must possess to encourage workplace engagement is the ability to listen to varying viewpoints and guide group work (Johnson, 2011; Kacmar et al., 2013; Oliver & Hioco, 2012). Active listening can also break down communication barriers and provide solutions in conflict management (Todorova et al., 2022). Musicians can interpret tone of voice and vocal intentions faster than non-musicians (Musso et al., 2020). The literature supports the notion that active listening has an impact on corporate atmosphere when used appropriately by leaders (Easton & Steyn, 2023).

In RQ3, active listening had a positive load of .804 meaning that active listening accounted for a large amount of variance in the variables. The magnitude found in the principal component allowed for the extraction of an active listening component. Active listening can increase autonomy in musical ensembles by managing what Nielsen et al. (2021) described as tight and loose structure within a music ensemble. This active listening component expands research knowledge by confirming the work of Ahmed et al. (2022) showing an increase in self-sufficiency through a moderate load (.597) in time management within this component.

RQ3 provided more insight into the relationship of corporate atmosphere and active listening. FLIGBY measures corporate atmosphere by the average of flow events in gameplay. Another score measured is the sum of individual flow events the seven characters in FLIGBY experience. To see if a difference existed in how flow was impacted at the individual and group

level, two PCAs were conducted using the sum of flow and corporate atmosphere scores. Active listening showed a higher load on individual flow (.834) than it did on group flow (.804). More interesting was active listening seemed to have a greater negative load (-.337) on time management when analyzed alongside corporate atmosphere.

Time Management, Corporate Atmosphere, and Sum of Flow

Time management had a weak but significant correlation ($\rho = .381$) to corporate atmosphere in RQ2. Kendall's tau ($\tau = .238$) found a fair correlation consistent with the Spearman rho results. This finding supports the research of Jansson et al. (2021) by showing that leadership constraints may hinder an individual's ability to experience flow causing indifference and a lack of work ethic. One of the first tasks in FLIGBY gameplay is for the participant to decide how much time to schedule for a one-on-one meeting with all seven employees at Turul winery (Marer et al., 2016). Time is then measured against everyone's needs and results in placement on a flow chart. When time requirements are not met, employees move further away from the flow state. In RQ3 this was further corroborated by evidence that corporate atmosphere shows a moderate negative load on time management skills in time management component A.

Time management component A showed that the sum of flow has a moderately negative load (-.611) corroborating with Arslan and Altan-Atalay (2022) that flow can interfere with employee productivity, deplete resources, and cause burnout. Kalman et al. (2021) further suggested that the immediacy required of employees can be detrimental in productivity. This weight seemed to be significantly less (-.278) in time management component B with the average group flow found in corporate atmosphere. Group flow has group moderating effects that can reduce anxiety, encourage group ownership, and provide safe environments where employees feel more comfortable, taking risks (Butler, 2022; Gray et al., 2020; Hwang, 2018).

Musician Flow Component

A musician flow component was discovered in conducting a PCA for RQ3. The significantly high loads of corporate atmosphere (.815), active listening (.804), and time management (.671) showed there was strong evidence that the conductor-type leadership traits of active listening and time management are highly correlated to corporate atmosphere in millennial managers. The theoretical framework of conductor-type leadership and flow leadership supports this finding (Alghamdi, 2018; Jansson et al., 2021; Marer et al., 2016; Sutherland & Cartwright, 2022). Group flow can be enhanced by a leader's ability to merge leadership styles (Buzady et al., 2022). Research shows that millennials desire to work for leaders that balance skill with creativity and can cater to their individual strengths (Easton & Steyn, 2022, 2023).

Interpretations Pertaining to the Conductor and Flow Leadership Framework

The theoretical framework of music conductor-type and flow leadership provide a unique perspective combining music with organizational leadership. Hiebert et al. (2022) posited that theoretical frameworks cohesively bring the entire research study together and serve as a researcher's best support in showing reasoning for it. Luft et al. (2022) suggested that the theoretical framework serves as a complex lens shaped by experience, special knowledge and beliefs of a researcher that help explain and challenge findings within a field of expertise.

Innately, the need to listen is amplified in musicians (Musso et al., 2020). Conductor-type leadership provides evidence of advanced active listening skills in music conductors and therefore provides a basis for the positive correlation that active listening has on corporate atmosphere when used by leaders (Johnson, 2011; Kacmar et al., 2013; Oliver & Hioco, 2012).

The structure provided by time management aligns with the concept of flow leadership balancing the extremes of transactional and transformational leadership (Almeida & Buzady,

2022). The ambidexterity of music rehearsal further aligns the two theories to show that when leaders exhibit elements of tight and loose leadership simultaneously, they increase employee productivity and musician output (Buzady et al., 2022; Jansson et al., 2021; Nielsen et al., 2022).

As expected, the combination of active listening and time management showed a significantly positive relationship with corporate atmosphere utilizing this framework. Evidence of a musician flow component is useful in interorganizational strategy and leadership practices. Conductor-type and flow leadership provided a strong foundation for the analysis and interpretation of the results of this study and help to add knowledge to the fields of music and organizational leadership (Hiebert et al., 2022; Luft et al., 2022).

Conclusions

Active listening and time management are two skills that leaders should develop and strengthen. Active listening is a skill that connects to many facets of employee motivation (Johnson, 2011; Kacmar et al., 2013; Oliver & Hioco, 2012; Todorova, 2022). Time management is also contingent on whether a leader develops positive corporate atmosphere and an environment that fosters group flow (Buzady et al., 2022; Nielsen et al., 2021).

The evidence of a musician flow component is crucial to developing an understanding of how the leadership skills of conductors can translate into the leadership profession (Krause, 2015; Sutherland & Cartwright, 2022; Talgam, 2015). Active listening seems to be the most important skill in developing individual and group flow in millennial managers and has applications in many realms of leadership including conflict management, employee trust, motivation, and work ethic (Butler, 2022; Gray et al., 2020; Hwang, 2018; Todorova et al., 2022).

The findings support the argument that conducting-type leadership is a valuable model for millennial managers to utilize (Easton & Steyn, 2023; Sutherland & Cartwright, 2022). As millennials dominate the workforce, it is important for leaders to consider the conditions they create within their organizations and how they choose to implement leadership skills (Easton & Steyn, 2022, 2023; Jansson et al., 2021). Using the musician flow component can aid in the development of leaders that are well equipped to handle VUCA conditions. Little research has shown a statistical correlation of music-conductor leadership traits in fields outside of music (Krause, 2015; Meals, 2020; Pasher et al., 2020; Sutherland & Cartwright, 2022; Sutherland & Southcott, 2021; Talgam, 2015; Vanzella et al., 2019). The findings of this study provide the first evidence of a relationship apart from the field of music performance and education.

Limitations

Limitations are often out of a researcher's control (Theofanidis & Fountouki, 2018). In addressing limitations, considerable effort needs to be made to address internal and external validity. Internal validity refers to the ability of a study to rule out other explanations for a result (Cuncic, 2021). The term external validity relates to how effectively a study's findings can be expected to apply in other situations. The generalizability of the findings is determined by this form of validity. Examples of external validity include whether the findings are applicable to different persons, contexts, events, or time periods (Cuncic, 2021).

The first limitation this study presented was the enormous amount of raw data that was collected. ALEAS Simulations provided 16,336 unique data sets. Correlational studies often need to be more methodical to avoid misinterpreting relationships and drawing false inferences (Aggarwal & Ranganathan, 2016). Stratification was used to extract the data of millennial users born between 1981 and 1986 (Freeman, 2019).

Pearson's r correlation coefficient assumes data have a normal distribution. Using a K-S test for normality presented a limitation of non-normal distribution. While Janse et al. (2021) suggested that the Pearson r correlation is robust against this violation, they added that the Spearman rank correlation is more robust against outliers. Since the data included game averages ranging from 0–100 and several outliers appeared, the Spearman rho rank correlation was used. An additional limitation presented in multiple users scoring the same in gaming decisions, so the addition of Kendall's tau correlation helped verify findings (Akoglu, 2018). To validate the results, Cohen's d was used to measure the effect size of active listening and time management on corporate atmosphere. Active listening demonstrated a Cohen's d= 0.640, which is regarded as a medium effect size, whereas time management demonstrated a Cohen's d= 1.098, which is considered a large effect size.

When utilizing large data sets, it is important to search for intercorrelations among variables. Principal component analysis extracts components that account for most variance in data sets. Jugessur (2022) discussed variations of how researchers decide to extract variables. An eigenvalue of 1 is typically considered; however, seldom finds multiple components in analysis. Jolliffe and Cadima (2016) suggested lowering the extraction eigenvalue to 0.7 to allow for multiple component extraction. To compensate for the possibility of overestimation, an eigenvalue of 0.7 was used for the first principal component analysis and 0.9 was used for the second principal component analysis to allow for the extraction of two components.

Using archival data has advantages in human protections by keeping a considerable distance between participants and researcher, however, there are limitations (Costa & Moreira, 2019). The longitudinal span in which data were collected could have ramifications on the data's results. Data for this study were collected between October of 2013 and May 2023. Technology

updates, and instrument changes could have a negative impact on the validity of results. In meeting with the site administrator, this limitation was alleviated with the confirmation that all data in the set provided used the same version of FLIGBY (Z. Vecsey, personal communication, May 30, 2023).

A further limitation of archival data is that the researcher does not collect the data directly and historically contextual factors of participant external environments can play a role in decision making during game play (Frey, 2018). Lastly, there are varying degrees of samples representative of different demographics. Frequencies and percentages of participant and management demographics were not considered in this study but may be relevant in future research.

Recommendations

Based on the findings, interpretations, and conclusions of this study, it is recommended that businesses and organizations develop standard training programs in flow leadership. This recommendation comes as generational shifts in the workforce continue to evolve intrinsic motivation and employee engagement seem to be mismatched with traditional leadership styles (Easton & Steyn, 2022, 2023). With the discovery of a musician flow component, the ability of music conductors to lead large groups of musicians while balancing structure and creativity in rehearsals should serve as a model for leaders around the globe (Meals, 2020; Sutherland & Cartwright, 2022). As VUCA conditions increase, flow should be a common element in evaluating organizational behavior, climate, and culture.

Finding out what employees value, who they get along with, and how they complement one another requires active listening (Badibanga, 2019; Marer et al., 2016). Self-worth has immense value in intrinsic motivation and provides opportunities for individuals to develop

harmonious passion for tasks (Bonneville-Roussy & Vallerand, 2020). Leadership training should include skill development of active listening because of this. Because social relationships are difficult to repair, this training should be delivered in a simulated format to alleviate costs associated with poor decision-making or learning curves associated with younger leaders (Zhang et al., 2018).

Leaders with stronger active listening skills may make a larger impact as advocates for policy change by ensuring they are more accurately representing stakeholder needs. During the Coronavirus 2019 pandemic, there were numerous policies in place that controlled the type of instruction, the frequency of instruction, and the amount of teacher-student contact. There were differences between elementary and secondary music teachers, with elementary teachers expressing more annoyance with their relative lack of priority in the distant learning system (Shaw & Mayo, 2022). Educational advocacy is highly contextual, and no two systems should be assumed to be the same. Pending demographics, financial stability, and resources Shaw (2020) argued that often educational advocacy efforts are in response to collateral damage from broad, sweeping educational reforms that do not fit unique circumstances. Having more invested dialogue with stakeholders using active listening should improve efforts on a global level.

As technology advances, decisions require much more immediate attention (Kalman et al., 2021). Leadership training in time management, specifically how to read individuals, discern what they need and value, how much time to communicate with them, and how much time they need questions answered within can help increase flow state opportunities (Almeida & Buzady, 2022; Marer et al., 2016). Soft skills once thought to be innate are shown to be trainable (Almeida & Buzady, 2022).

Further research on active listening, time management, and how these leadership skills can enhance intrinsic motivation in employees should be considered using quantitative, qualitative, and mixed methodologies. Because causation cannot be determined from this study, more targeted research showing causation, lived experiences, and contextual reasoning for effect should be considered. Swann et al. (2019) discussed the benefit of event-focused interviews in researching flow and clutch states to increase the validity of time-sensitive experiences.

Implications for Leadership

In educational settings, a feeling of mistrust and a culture of weariness have been fostered by not being heard. In the era of Twitter, Instagram, emails, and texting, there is seemingly unlimited access to communication tools. Listening is a skill utilized less and less in individuals' daily lives, and this is true in educational contexts as well (Itzchakov & Kluger, 2018). Understanding one another better is made possible by listening. When done properly, active listening has the power to transform businesses and foster better teamwork among employees. School administrators could also become better listeners with some focused effort and planning (Collins, 2021). As one leader develops, others are inspired to follow suit, which has a longitudinal impact that boosts organizational effectiveness as well as a positive climate and culture (Zenger & Folkman, 2020).

Focused and timely feedback ensures that communication between leaders and subordinates is accepted and acted on (Guo et al., 2020; Viljoen, 2018). Conductors (leaders) that seem unsure of their decisions or stall are likely to influence loss of engagement in organizational tasks from workers (Viljoen, 2018). Organizational leaders at local, state, and national levels can learn from this study by evaluating the time it takes to make decisions, time it takes to communicate those decisions to stakeholders, and develop more targeted evaluation

tools for effectiveness. This could increase stakeholder engagement, employee buy-in, and have greater impact on policy advocacy.

Teachers can motivate their students by increasing group flow environments within their classrooms. Understanding what motivates children through active listening efforts is essential to bridging structural elements of learning to the desire and joy of creating (Bonneville-Roussy & Vallerand, 2020; Hwang, 2018). Understanding the importance of time management in social interactions is also an important lesson from this study. Timely and focused feedback on strengths has been shown in research to improve flow conditions in individuals; the amount of time to spend is often overlooked when considering individual needs (Almeida & Buzady, 2022; Marer et al., 2016).

Most importantly, research has shown that flow state is predominately an individual psychological state (Csikszentmihalyi, 2008; Swann et al., 2019). This study provided evidence that leaders can promote this state in groups of individuals through specific leadership traits of active listening and time management. Leaders should make a concerted effort to apply this knowledge to their practice.

Conclusion

This study aligns findings with previous research that suggests correlations between active listening, time management, and corporate atmosphere exist. By using a theoretical framework of conductor-type and flow leadership, the findings suggest that the leadership traits used by music conductors are an effective component in creating a group flow environment in organizational decision-making. As generational shifts emerge, traditional leadership models fail to retain employee engagement. This study provides a leadership component that may prove useful in these circumstances.

Data provide evidence for the development of flow leadership training programs in varying organizational fields. The elements of active listening and time management are crucial to understanding communication trends, the timeliness of communication, and can help to develop more effective communication evaluation models. Teachers and leaders in business organizations can create environments of flow opportunities utilizing these skills.

The implications of this study reach leaders on local, state, national, and global levels. Flow leadership should become a standard leadership model used in professional development and training. The training should be provided in a simulated format like FLIGBY to avoid costs associated with inadequate decision-making and learning. Further research is recommended to find causal links to these relationships and provide a stronger knowledge base on conductor-type and flow leadership.

References

Adhikari, S. (2018, August 2). *17 differences between validity and reliability.* Public Health Notes. https://www.publichealthnotes.com/17-differences-between-validity-and-reliability/

Aggarwal, R., & Ranganathan, P. (2016). Common pitfalls in statistical analysis: The use of correlation techniques. *Perspectives in Clinical Research*, *7*(4), 187–190. https://doi.org/10.4103/2229-3485.192046

Ahmed, T., Chaojun, Y., Hongjuan, Y., & Mahmood, S. (2022). The impact of empowering leadership on job performance of higher education institutions employees: Mediating role of goal clarity and self-efficacy. *Psychology Research and Behavior Management*, *15*(2), 677. https://doi.org/10.2147/PRBM.S357083

Akanle, O., Ademuson, A. O., & Shittu, O. S. (2020). Scope and limitation of study in social research. In A. S. Jegede & U. C. Isiugo-Abanihe (Eds.), Contemporary issues in social research (pp. 105–114). Ibadan University Press.

Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine*, *18*(3), 91–93. https://doi.org/10.1016/j.tjem.2018.08.001

Alaql, A. A., AlQurashi, F., & Mehmood, R. (2023). Data-driven deep journalism to discover age dynamics in multi-generational labour markets from LinkedIn media. *Journalism and Media*, *4*(1), 120–145. https://doi.org/10.3390/journalmedia4010010

ALEAS Simulations. (2022, March). *Terms of Use*. Fligby.

Alghamdi, F. (2018). Ambidextrous leadership, ambidextrous employee, and the interaction between ambidextrous leadership and employee innovative performance. *Journal of Innovation and Entrepreneurship*, *7*(1), 1–14. https://doi.org/10.1186/s13731-018-0081-8

Almeida, F., & Buzady, Z. (2022). Development of soft skills competencies through the use of FLIGBY. *Technology, Pedagogy and Education*, 1–14. https://doi.org/10.1080/1475939X.2022.2058600

Andrade, C. (2018). Internal, external, and ecological validity in research design, conduct, and evaluation. *Indian Journal of Psychological Medicine*, *40*(5), 498–499. https://doi.org/10.4103/IJPSYM.IJPSYM_334_18

Arslan, İ., & Altan-Atalay, A. (2022). Too perfectionist to flow: The roles of perfectionistic strivings and perfectionistic concerns for flow in dance. *Current Psychology*, 1–8. https://doi.org/10.1007/s12144-022-03364-9

Badibanga, J. (2019). *Leadership skills, promoting flow and generating profit: A study of millennial managers through gamification* [Doctoral dissertation, University of North Florida]. UNF Graduate Theses and Dissertations. https://digitalcommons.unf.edu/etd/924

Bennett, N., & Lemoine, G. J. (2014, January-February). *What VUCA really means for you*. Harvard Business Review. https://hbr.org/2014/01/what-vuca-really-means-for-you

Berndt, A. E. (2020). Sampling methods. *Journal of Human Lactation*, *36*(2), 224–226. https://doi.org/10.1177/0890334420906850

Bonaiuto, M., Mao, Y., Roberts, S., Psalti, A., Ariccio, S., Cancellieri, U. G., & Csikszentmihalyi, M. (2016). Optimal experience and personal growth: Flow and the consolidation of place identity. *Frontiers in Psychology, 7*, 1654. https://doi.org/10.3389/fpsyg.2016.01654

Bonneville-Roussy, A., & Vallerand, R. J. (2020). Passion at the heart of musicians' well-being. *Psychology of Music*, *48*(2), 266–282. https://doi.org/10.1177/0305735618797180

Borgstede, M., & Scholz, M. (2021). Quantitative and qualitative approaches to generalization and replication-A representationalist view. *Frontiers in Psychology*, *12*, 1–9. https://doi.org/10.3389/fpsyg.2021.605191

Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological Research and Practice*, *2*(1), 1–10. https://doi.org/10.1186/s42466-020-00059-z

Butler, T. (2022). Autonomy-supportive teaching in the large ensemble: Positive outcomes for student motivation and teacher satisfaction. *Music Educators Journal*, *108*(4), 31–36. https://doi.org/10.1177/00274321221107537

Buzady, Z., Wimmer, A., Csesznak, A., & Szentesi, P. (2022). Exploring flow-promoting management and leadership skills via serious gaming. *Interactive Learning Environments*, 1–15. https://doi.org/10.1080/10494820.2022.2098775

Camfield, L. (2019). Rigor and ethics in the world of big-team qualitative data: Experiences from research in international development. *American Behavioral Scientist*, *63*(5), 604–621. https://doi.org/10.1177/0002764218784636

Canning, D. (2021, January 9). *Your FLIGBY® profile. VUCA* report. ALEAS Simulations.

Coker, D. C. (2022). A thematic analysis of the structure of delimitations in the dissertation. *International Journal of Doctoral Studies*, *17*, 141–159. https://doi.org/10.28945/4939

Collins, C. J. (2021). Expanding the resource based view model of strategic human resource management. *The International Journal of Human Resource Management*, *32*(2), 331–358. https://doi.org/10.1080/09585192.2019.1711442

Cooksey, R. W. (2020). Descriptive statistics for summarising data. In *Illustrating statistical*

procedures: Finding meaning in quantitative data (pp. 61–139). Springer.

Costa, A. P., & Moreira, A. (2019). Technology ethics in qualitative research: How to be. *The Qualitative Report, 24*(13), 1–4. https://doi.org/10.46743/2160-3715/2019.4116

Coutifaris, C. G., & Grant, A. M. (2021). Taking your team behind the curtain: The effects of leader feedback-sharing and feedback-seeking on team psychological safety. *Organization Science*. *33*(4), 1574–1598. https://doi.org/10.1287/orsc.2021.1498

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE.

Csikszentmihalyi, M. (2008). *Flow: The psychology of optimal experience.* Harper Collins.

Cuncic, A. (2021). *Understanding Internal and External Validity.* Verywell Mind. https://www.verywellmind.com/internal-and-external-validity-4584479

DeMoulin, D. F., & Kritsonis, W. A. (2009). *A statistical journey: Taming of the skew!*. AlexisAustin Group.

Dennett, P. (2019). Csikszentmihalyi meets Socrates: Fostering a sense of group flow to produce creative outcomes. *Journal of Organisational Creativity*, *1*(1), 18–27. https://d1wqtxts1xzle7.cloudfront.net/59920932/joc_120190703-3826-e8r216-libre.pdf?1562152973=&response-content-disposition=inline%3B+filename%3DCsikszentmihalyi_meets_Socrates_Fosterin.pdf&Expires=1696997098&Signature=Fgk4qW-N4RRemsJXGJJE9e6Jrkal8VVMkLhM

Easton, C., & Steyn, R. (2022). Leadership styles and effectiveness in the workplace: A perspective of the millennial generation. *South African Journal of Economic and Management Sciences, 25*(1), 1–10. http://doi.org/10/4102/sajems.v25i1.4541

Easton, C., & Steyn, R. (2023). Millennial leaders and leadership styles displayed in the workplace. *South African Journal of Business Management*, *54*(1), Article 3139. http://doi.org/10.4102/sajems.v25i1.4541

Eyisi, D. (2016). The usefulness of qualitative and quantitative approaches and methods in researching problem solving ability in science education curriculum. *Journal of Education Practice, 7*(15), 91–100. https://files.eric.ed.gov/fulltext/EJ1103224.pdf

Fenwick, M., Vermeulen, E. P., Kono, T., & Joubert, T. (2023). Organizing-for-innovation. In *Perspectives in law, business, and innovation* (pp. 1–27). Springer, Singapore. https://doi.org/10.1007/978-981-19-7234-8_1

Frederick, J. F. (2019, April 21). *Flow-promoting leadership - A program firmly rooted in values*. Leadership & Flow. https://flowleadership.org/flow-promoting-leadership/

Freeman, M. (2019). Time use of millennials and nonmillennials. *Monthly Labor Review*, 1–13. https://www.bls.gov/opub/mlr/2019/article/pdf/time-use-of-millennials-and-nonmillennials.pdf

Frey, B. (2018). *The SAGE encyclopedia of educational research, measurement, and evaluation* (Vols. 1–4). SAGE Publications. https://doi.org/10.4135/9781506326139

Fyhn, B., Bang, H., Sverdrup, T. E., & Schei, V. (2022). Safe among the unsafe: Psychological Safety climate strength matters for team performance. *Small Group Research*, 10464964221121273. https://doi.org/10.1177/10464964221121273

Goldsby, E., Goldsby, M., Neck, C. B., & Neck, C. P. (2020). Under pressure: Time management, self-leadership, and the nurse manager. *Administrative Sciences, 10*(3), 38. https://doi.org/10.3390/admsci10030038

Gomes, S., & Duarte, V. (2020). What about ethics? Developing qualitative research in confinement settings. *European Journal of Criminology*, *17*(4), 461–479. https://doi.org/10.1177/1477370818801305

Goryunova, E., & Lehmann, R. (2023). Achieving harmony: Leadership and followership lessons from the orchestra. In *Handbook of global leadership and followership: Integrating the best leadership theory and practice* (pp. 1–17). Springer International Publishing.

Gravetter, F. J., Wallnau, L. B., Forzano, L. A. B., & Witnauer, J. E. (2020). *Essentials of statistics for the behavioral sciences*. Cengage Learning.

Gray, J. R., & Grove, S. K. (2020). *Burns and Grove's The Practice of Nursing Research: Appraisal, Synthesis, and Generation of Evidence*. Elsevier Health Sciences.

Gray, S. M., Knight, A. P., & Baer, M. (2020). On the emergence of collective psychological ownership in new creative teams. *Organization Science*, *31*(1), 141–164. https://doi.org/10.1287/orsc.2019.1307

Guo, Z., Yan, J., Wang, X., & Zhen, J. (2020). Ambidextrous leadership and employee work outcomes: A paradox theory perspective. *Frontiers in Psychology*, *11*, Article 1661. https://doi.org/10.3389/fpsyg.2020.01661

Habe, K., Biasutti, M., & Kajtna, T. (2019). Flow and satisfaction with life in elite musicians and top athletes. *Frontiers in Psychology*, *10*, Article 698. https://doi.org/10.3389/fpsyg.2019.00698

Harriss, D. J., MacSween, A., & Atkinson, G. (2019). Ethical standards in sport and exercise science research: 2020 update. *International Journal of Sports Medicine*, *40*(13), 813–817. https://doi.org/10.1055/a-1015-3123

Hiebert, J., Cai, J., Hwang, S., Morris, A. K., & Hohensee, C. (2022). Building and using theoretical frameworks. In *Doing research: A new researcher's guide* (pp. 51–75). Springer International Publishing. https://doi.org/10.1007/978-3-031-19078-0_3

Hurtienne, M. W., Hurtienne, L. E., & Kempen, M. (2022). Employee engagement: Emerging insight of the millennial manufacturing workforce. *Human Resource Development Quarterly*, *33*(2), 137–156. https://doi.org/10.1002/hrdq.21453

Hwang, S. S. (2018). *An investigation of intrinsic and extrinsic motivations in middle school modern band and advanced choir* (Publication No. 10978100) [Doctoral dissertation, California State University] ProQuest Dissertations and Theses Global. https://go.openathens.net/redirector/ace.edu/login?url=https://www.proquest.com/dissertations-theses/investigation-intrinsic-extrinsic-motivations/docview/2188085271/se-2

Ilyas, I. F., & Chu, X. (2019). *Data cleaning*. Morgan & Claypool.

Itzchakov, G., & Kluger, A. N. (2018, May 17). *The power of listening in helping people change*. Harvard Business Review. https://hbr.org/2018/05/the-power-of-listening-in-helping-people-change

Janse, R. J., Hoekstra, T., Jager, K. J., Zoccali, C., Tripepi, G., Dekker, F. W., & van Diepen, M. (2021). Conducting correlation analysis: Important limitations and pitfalls. *Clinical Kidney Journal*, *14*(11), 2332–2337. https://doi.org/10.1093/ckj/sfab085

Jansson, D., Døving, E., & Elstad, B. (2021). The construction of leadership practice: Making sense of leader competencies. *Leadership*, *17*(5), 560–585. https://doi.org/10.1177/1742715021996497

Johnson, C. E. (2011). Chapter 7: Ethical decision making and behavior. In C.E. Johnson (ed.), *Meeting the ethical challenges of leadership casting light or shadow*.

https://www.sagepub.com/upm-data/39590_Chapter7.pdf

Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches*. SAGE.

Jolliffe, I. T., & Cadima, J. (2016). Principal component analysis: a review and recent developments. *Philosophical transactions. Series A, Mathematical, physical, and engineering sciences*, *374*(2065), Article 20150202. https://doi.org/10.1098/rsta.2015.0202

Jugessur, Y. (2022). Dimension reduction, factor analysis, scree plot in educational research and academic performance. *International Journal of Humanities and Social Science Intervention*, *11*(4), 15–28. https://www.ijhssi.org/papers/vol11(4)/Ser-3/D1104031528.pdf

Kacmar, K. M., Andrews, M. C., Harris, K. J., & Tepper, B. J. (2013). Ethical leadership and subordinate outcomes: The mediating role of organizational politics and the moderating role of political skill. *Journal of Business Ethics*, *115*(1), 33–44. https://doi.org/10.1007/s10551-021-1373-8

Kalman, Y. M., Ballard, D. I., & Aguilar, A. M. (2021). Chronemic urgency in everyday digital communication. *Time & Society*, *30*(2), 153–175. https://doi.org/10.1177/0961463X20987721

Kar, B., & Tripathy, A. (2021). Variation in conflict behaviours at departments and levels of management. *Prabandhan: Indian Journal of Management*, *14*(1), 25–43. https:/doi.org/10.17010/pijom/2021/v14i1/157062

Kivunja, C. (2018). Distinguishing between theory, theoretical framework, and conceptual framework: A systematic review of lessons from the field. *International Journal of*

Higher Education, 7(6), 44–53. https://doi.org/10.5430/ijhe.v7n6p44

Knight, E., Daymond, J., & Paroutis, S. (2020). Design-led strategy: How to bring design thinking into the art of strategic management. *California Management Review, 62*(2), 30–52. https://doi.org/10.1177/0008125619897594

Kob, M., Amengual Garí, S. V., & Schärer Kalkandjiev, Z. (2020). Room effect on musicians' performance. In: Blauert, J., Braasch, J. (eds), *The technology of binaural understanding*. Modern Acoustics and Signal Processing (pp. 223–249). Springer, Cham. https://doi.org/10.1007/978-3-030-00386-9_9

Krause, D. E. (2015). Four types of leadership and orchestra quality. *Nonprofit Management & Leadership*, 25(4), 431–447. https://doi.org/10.1002/nml.21132

Kundu, S. C., Kumar, S., & Gahlawat, N. (2019). Empowering leadership and job performance: mediating role of psychological empowerment. *Management Research Review, 42*(5), 605-624. https://doi.org/10.1108/MRR-04-2018-0183

Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology, 4*, Article 863. https://doi.org/10.3389/fpsyg.2013.00863

Leavy, P. (2022). *Research design: Quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches*. Guilford Publications.

Lin, P. (2021). Birds of a feather flock together and break gold together? - Cohesion impacts of group members with resemblance in personality on group decision-making and groupthinks. *Journal of Educational Practice and Research, 34*(2), 41–82. https://www.proquest.com/openview/d01e45cc41a45fca8ee4125e3349c02d/1?pq-origsite=gscholar&cbl=2041167

Luft, J. A., Jeong, S., Idsardi, R., & Gardner, G. (2022). Literature reviews, theoretical frameworks, and conceptual frameworks: An introduction for new biology education researchers. *CBE life sciences education*, *21*(3), Article rm33. https://doi.org/10.1187/cbe.21-05-0134

Marer, P., Buzady, Z., & Vecsey, Z. (2016). *Missing link discovered: Planting Csikszentmihalyi's flow theory into management and leadership practice by using FLIGBY, the official flow leadership game.* ALEAS Group.

Meals, C. D. (2020). The question of lag: An exploration of the relationship between conductor gesture and sonic response in instrumental ensembles. *Frontiers in Psychology*, *11*, Article 573030. https://doi.org/10.3389/fpsyg.2020.573030

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, *22*(1), 67–72. https://doi.org/10.4103/aca.ACA_157_18

Moreno, A., Navarro, C., & Fuentes-Lara, C. (2022). Factors affecting turnover intentions among Millennial public relations professionals: The Latin American case. *Public Relations Inquiry, 11*(2), 199–220. https://doi.org/10.1177/2046147X221081176

Musso, M., Fürniss, H., Glauche, V., Urbach, H., Weiller, C., & Rijntjes, M. (2020). Musicians use speech-specific areas when processing tones: The key to their superior linguistic competence? *Behavioural Brain Research*, *390*, 112662. https://doi.org/10.1016/j.bbr.2020.112662

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). *The Belmont report*: Ethical principles and guidelines for the protection

of human subjects of research. https://www.hhs.gov/ohrp/sites/default/files/the-belmont-report-508c_FINAL.pdf

Nielsen, S. G., Jordhus-Lier, A., & Karlsen, S. (2022). Selecting repertoire for music teaching: Findings from Norwegian schools of music and arts. *Research Studies in Music Education*, *45*(1), 94–111. https://doi.org/10.1177/1321103X221099436

Nuzzo, R. L. (2019). Histograms: A useful data analysis visualization. *Physical Medicine and Rehabilitation Journal, 11*(3), 309–312. https://doi.org/10.1002/pmrj.12145

Oliver, D. E., & Hioco, B. (2012). An ethical decision-making framework for community college administrators. *Community College Review*, *40*(3), 240–254. https://doi.org/10.1177/0091552112445611

Omilion-Hodges, L. M., & Sugg, C. E. (2019). Millennials' views and expectations regarding the communicative and relational behaviors of leaders: Exploring young adults' talk about work. *Business and Professional Communication Quarterly*, *82*(1), 74–100. https://doi.org/10.1177/2329490618808043

Otter, K., & Paxton, D. (2017). A journey into collaborative leadership: Moving toward innovation and adaptability. *New Directions for Adult and Continuing Education, 2017*(156), 33–42. https://doi.org/10.1002/ace.20248

Pasher, E., Porat, R., Turjeman-Levi, Y., Harir, M., & Caspi, Y. (2020). Leadership in business, innovation and art: Lessons learnt from an orchestra conductor. In P. Formica, & J. Edmondson (eds.), *Innovation and the arts: The value of humanities studies for business* (pp. 270–216). Emerald Publishing Limited. https://doi.org/10.1108/978-1-78973-885-820201008

Paul, J., & Criado, A. R. (2020). The art of writing literature review: What do we know and

what do we need to know?. *International Business Review*, *29*(4), Article 101717. https://doi.org/10.1016/j.ibusrev.2020.101717

Pearce, J. M. (2018). How to perform a literature review with free and open source software. *Practical Assessment, Research & Evaluation*, *23*(8). https://scholarworks.umass.edu/pare/vol23/iss1/8

Pels, F., Kleinert, J., & Mennigen, F. (2018). Group flow: A scoping review of definitions, theoretical approaches, measures, and findings. *PLOS One, 13*(12), Article e0210117. https://doi.org/10.1371/journal.pone.0210117

Peng, J., Strijker, D., & Wu, Q. (2020). Place identity: How far have we come in exploring its meanings? *Frontiers in Psychology*, *11*, Article 294. https://doi.org/10.3389/fpsyg.2020.00294

Perkins, R., Kaye, S. L., Zammit, B. B., Mason-Bertrand, A., Spiro, N., & Williamon, A. (2022). How arts engagement supported social connectedness during the first year of the COVID-19 pandemic in the United Kingdom: Findings from the HEartS Survey. *Public Health, 207,* 1–6. https://doi.org/10.1016/j.puhe.2022.03.002

Perry, A., & Netscher, S. (2022). Measuring the time spent on data curation. *Journal of Documentation, 78*(7), 282–304. https://doi.org/10.1108/JD-08-2021-0167

Požega, Ž., Crnković, B., & Maðarić, K. K. (2020). Influence of training programme design on employee education. *Ekonomski Vjesnik, 33*(2), 351–360. https://www.proquest.com/openview/b0d84618e67561c37595319fc7b347ac/1?pq-origsite=gscholar&cbl=2031970

Ronquillo, Y., Ellis, V. L., & Toney-Butler, T. J. (2022). *Conflict management*. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK470432/

Schäfer, T., & Schwarz, M. A. (2019). The meaningfulness of effect sizes in psychological research: Differences between sub-disciplines and the impact of potential biases. *Frontiers in Psychology*, *10*, Article 813. https://doi.org/10.3389/fpsyg.2019.00813

Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation coefficients: appropriate use and interpretation. *Anesthesia & Analgesia*, *126*(5), 1763–1768. https://doi.org/10.1213/ANE.0000000000002864

Shao, K., Elahi Shirvan, M., & Alamer, A. (2022). How accurate is your correlation? Different methods derive different results and different interpretations. *Frontiers in Psychology*, Article 2791. https://doi.org/10.3389/fpsyg.2022.901412

Shaw, R. D. (2020). How music education policies come to be and what teachers can do. *Music educators journal*, *107*(1), 62–67. https://doi.org/10.1177/0027432120945011

Shaw, R. D., & Mayo, W. (2022). Music education and distance learning during COVID-19: A survey. *Arts Education Policy Review*, *123*(3), 143–152. https://doi.org/10.1080/10632913.2021.1931597

Shepherd, J. (2022). Flow and the dynamics of conscious thought. *Phenomenology and the Cognitive Sciences*, *21*(4), 969–988. https://doi.org/10.1007/s1109-021-09762-x

Shrestha, N. (2020). Detecting multicollinearity in regression analysis. *American Journal of Applied Mathematics and Statistics*, *8*(2), 39–42. https://doi.org/10.12691/ajams-8-2-1

Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. *Clinical Nurse Specialist, 34*(1), 8–12. https://doi.org/10.1097/NUR.0000000000000493

Singh, R., Chaudhuri, S., Sihag, P., & Shuck, B. (2023). Unpacking generation Y's engagement using employee experience as the lens: an integrative literature review. *Human Resource Development International*, 1–29. https://doi.org/10.1080/13678868.2023.2170210

Sinnett, S., Jäger, J., Singer, S. M., & Antonini Philippe, R. (2020). Flow states and associated changes in spatial and temporal processing. *Frontiers in Psychology*, *11*, 381. https://doi.org/10.3389/fpsyg.2020.00381

HYPERLINK "https://doi.org/10.3389/fpsyg.2020.00381"Souders, B. (2021, October 6). *How to thrive in VUCA world: Create the right conditions for flow*. Fligby. https://www.fligby.com/how-to-thrive-in-vuca-world-cultivate-flow/

Sutherland, A., & Cartwright, P. A. (2022). Working together: Implications of leadership style for the music ensemble. *International Journal of Music Education, 40*(4), 613–627 https://doi.org/10.1177/02557614221084310

Sutherland, A. T., & Southcott, J. (2021). Fluctuating emotions and motivation: Five stages of the rehearsal and performance process. *International Journal of Music Education*, *39*(1), 3–17. https://doi.org/10.1177/0255761420963984

Swann, C., Jackman, P. C., Schweickle, M. J., & Vella, S. A. (2019). Optimal experiences in exercise: A qualitative investigation of flow and clutch states. *Psychology of Sport and Exercise*, *40*, 87–98. https://doi.org/10.1016/j.psychsport.2018.09.007

Talgam, I. (2015). *The ignorant maestro: How great leaders inspire unpredictable brilliance.* Portfolio.

Tedersoo, L., Küngas, R., Oras, E., Köster, K., Eenmaa, H., Leijen, Ä., Pedaste, M., Raju, M., Astapova, A., Lukner, H., Kogermann, K., & Sepp, T. (2021). Data sharing practices and

data availability upon request differ across scientific disciplines. *Scientific Data, 8*(1), 1–11. https://doi.org/10.1038/s41597-021-00981-0

Theofanidis, D., & Fountouki, A. (2018). Limitations and delimitations in the research process. *Perioperative Nursing-Quarterly scientific, online official journal of GORNA, 7*(3 September-December 2018), 155–163. https://doi.org/10.5282/zenodo.2552022

Thrane, C. (2022). *Doing statistical analysis: A student's guide to quantitative research*. Taylor & Francis.

Thuan, N. H., Drechsler, A., & Antunes, P. (2019). Construction of design science research questions. *Communications of the Association for Information Systems, 44*(1), Article 20. https://doi.org/10.17705/1CAIS.04420

Todorova, G., Goh, K. T., & Weingart, L. R. (2022). The effects of conflict type and conflict expression intensity on conflict management. *International Journal of Conflict Management, 33*(2), 245–272. https://doi.org/10.1108/IJCMA-03-2021-0042

Tomaževič, N., & Aristovnik, A. (2019). Factors of trust in immediate leaders: An empirical study in police service environment. *International Journal of Environmental Research and Public Health, 16*(14), Article 2525. https://doi.org/10.3390/ijerph16142525

Toomer, J., Caldwell, C., Weitzenkorn, S., & Clark, C. (2018). *The catalyst effect: 12 skills and behaviors to boost your impact and elevate team performance*. Emerald Group Publishing. https://doi.org/10.1108/978-1-78743-551-320181021

Vanzella, P., Balardin, J. B., Furucho, R. A., Zimeo Morais, G. A., Braun Janzen, T., Sammler, D., & Sato, J. R. (2019). fNIRS responses in professional violinists while playing duets: Evidence for distinct leader and follower roles at the brain level. *Frontiers in*

Psychology, *10*(164). https://doi.org/10.3389/fpsyg.2019.00164

Vecsey, Z. (2020, April 26). *Why-how-what: Defining FLIGBY's leadership development mission*. Fligby. https://www.fligby.com/why-how-what/

Verma, J. P., & Abdel-Salam, A. S. G. (2019). *Testing statistical assumptions in research*. John Wiley & Sons.

Verma, P., & Berger, J. (2022). Enhancing audio perception of music by AI picked room acoustics. https://doi.org10.48550/arXiv.2208.07994

Viljoen, C. (2018). *The experience of flow in professional and semi-professional orchestral musicians* [Doctoral dissertation, University of Pretoria]. UPSpace Institutional Repository. https://repository.up.ac.za/handle/2263/65812

Wang, S., Eva, N., Newman, A., & Zhou, H. (2021). A double-edged sword: the effects of ambidextrous leadership on follower innovative behaviors. *Asia Pacific Journal of Management*, *38*(4), 1305–1326. https://doi.org/10.1007/s10490-020-09714-0

Wayne, J. H., Vaziri, H., & Casper, W. J. (2021). Work-nonwork balance: Development and validation of a global and multidimensional measure. *Journal of Vocational Behavior*, *127*, Article 103565. https://doi.org/10.1016/j.jvb.2021.103565

Weidner, B. N. (2020). A grounded theory of musical independence in the concert band. *Journal of Research in Music Education*, *68*(1), 53–77. https://doi.org/10.1177/0022429419897616

Wibowo, A., & Paramita, W. (2022). Resilience and turnover intention: the role of mindful leadership, empathetic leadership, and self-regulation. *Journal of Leadership & Organizational Studies*, *29*(3), 325–341. https://doi.org/10.1177/15480518211068735

Wilson, M. (2019). *An examination of the relationships between user background, media*

library interactions and gameplay decisions in the FLIGBY leadership simulation game [unpublished thesis, Central European University, Hungary]. https://www.etd.ceu.edu/2019/wilson_mark.pdf

Wright, S., O'Brien, B. C., Nimmon, L., Law, M., & Mylopoulos, M. (2016). Research design considerations. *Journal of Graduate Medical Education*, *8*(1), 97–98. https://doi.org/10.4300/JGME-D-15-00566.1

Wu, T., Wang, Y., Ruan, R., & Zheng, J. (2022). Divergent effects of transformational leadership on safety compliance: A dual-path moderated mediation model. *PLoS One*, *17*(1), Article e0262394. https://doi.org/10.1371/journal.pone.0262394

Xiao, Y., & Watson, M. (2019). Guidance on conducting a systematic literature review. *Journal of Planning Education and Research*, *39*(1), 93–112. https://doi.org/10.1177/0739456X17723971

Zenger, J., & Folkman, J. (2020, December 23). *What makes a 360-degree review successful*? Harvard Business Review. https://hbr.org/2020/12/what-makes-a-360-degree-review-successful

Zhang, Y., Zhang, J., & Li, J. (2018). The effect of intrinsic and extrinsic goals on work performance: Prospective and empirical studies on goal content theory. *Personnel Review*, *47*(4), 900–912. https://doi.org/10.1108/PR-03-2017-0086

Appendix A

Site Permission Request

[redacted]

December 6, 2022

[redacted]

CEO
[redacted]

Dear [redacted]

My name is Corey Ames, and I am a doctoral candidate at American College of Education (ACE) writing to request permission to access secondary gameplayer data from FLIGBY. This information was used for my dissertation research related to Conducting Flow: A Quantitative Correlational study of Music Conductor Leadership Traits in Millennial Business Managers. The purpose of the quantitative correlational study is to investigate the relationship between music conductor-type leadership traits and flow leadership traits in millennial business managers.

Data would be collected in July 2023 after IRB approval. Particularly interested in data set that includes millennial leaders born between 1981 and 1996.

Important Contacts for this study include:

Principal Investigator: Corey Ames
E-mail: [redacted]
Phone: [redacted]

Dissertation Chair: [redacted]
E-mail: [redacted]

Thank you for your attention to this issue and prompt response. I appreciate your time and consideration of my request.

Regards,

[redacted]

Appendix B

Site Permission Approval

American College of Education
Corey M. Ames
E-mail: [redacted]
Phone: [redacted]

Permission to use FLIGBY gameplay data

Dear Mr. Ames, **December 8, 2022**

I have reviewed your request regarding your study. I am pleased to support your research project entitled "Conducting Flow: A Quantitative Correlational study of Music Conductor Leadership Traits in Millennial Business Managers. "

Your request to use FLIGBY's related gameplay database (of millennial leaders born between 1981 and 1996, in an anonymous format, without personal user identifications) is granted. The research will include secondary gameplayer data from the FLIGBY Master Analytics Profiler.

This authorization covers the time of January 15th, 2023, to March 30, 2024 (expected graduation date or longer). This site authorization is contingent on receiving IRB approval from the American College of Education committees.

We look forward to working with you.

Sincerely,

[redacted]
President

[redacted]

[redacted]

Appendix C

Terms of Use/Initial Consent

TERMS OF USE AGREEMENT

This Terms of Use Agreement (the "**Agreement**" or "**Terms**") is a legal agreement between "**You**" and ALEAS Group (represented by the ALEAS Hungary Ltd.) ("**ALEAS**," "**We**" or "**Us**") and governs your use of the Service. The "**Service**" means (i) ALEAS' proprietary software application, which includes compiled software code, images, music, media, templates, data, a user interface, any documentation accompanying the program, and any updates or supplements of such software and documentation (collectively, the "**App**"); and (ii) ALEAS' proprietary software and related media accessible at www.fligby.com, including all related subdomains (the "**Website**").

The Service is provided by ALEAS for the purpose of providing a smart entertaining learning and development platform. The Service may also provide information and links related to other ALEAS products and services and third-party products and services. If You are under the age of 18 years of age or the age of majority in your location, You may use the Service only with the involvement of a parent or legal guardian.

IF YOU DO NOT ACCEPT ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT, ALEAS IS UNWILLING TO LICENSE THE SERVICE TO YOU, NO LICENSE IS GRANTED AND YOU ARE NOT AUTHORIZED TO INSTALL OR USE THE SERVICE.

THIS AGREEMENT INCLUDES AN ARBITRATION CLAUSE, WHICH PROVIDES FOR A CLASS ACTION WAIVER AND A JURY TRIAL WAIVER. UNLESS YOU TIMELY OPT OUT OF THIS ARBITRATION CLAUSE, YOU AND ALEAS AGREE THAT ANY DISPUTE RELATING TO THIS AGREEMENT MUST BE RESOLVED BY INDIVIDUAL MANDATORY ARBITRATION.

1. **This Agreement governs your relationship with ALEAS** and your use of and access to all services and products provided by ALEAS (collectively, the Services). You agree that by accessing or using any part of the Services You are bound by the terms of this Agreement (the Terms), including the applicable Privacy Policy and Community Guidelines incorporated herein.

2. **You may not use the Services unless all of the following apply to You**, and You affirm that all of the following apply to You:

    a. You are either an adult over the age of 18 years old, an emancipated minor, or You have express permission from your parent or legal guardian to use the Services;

    b. You are legally allowed to use the Services where You live;

    c. You are not using the Services or accepting the Terms on behalf of any other entity, such as a company or organization, unless You have the authority to bind that entity to these Terms;

d. You have not been banned by ALEAS from using the Services;

e. You will view the Digital Content for which You are authorized and for the time period and for the time period in such subscription or membership ("Viewing Period").

3. **Digital Content.** The Service may allow You to: (i) access Digital Content on a subscription basis for viewing during a limited period ("Subscription Digital Content"), (ii) rent Digital Content for on-demand viewing over a limited period of time ("Rental Digital Content"), (iii) purchase Digital Content for on-demand viewing over an indefinite period of time ("Purchased Digital Content"), (iv) purchase Digital Content for pay-per-view viewing over a limited period of time ("PPV Digital Content"), and/or (v) access Digital Content on a free, ad-supported or promotional basis for viewing over a limited period of time ("Free Digital Content"). Digital Content may be available as Subscription Digital Content, Rental Digital Content, Purchased Digital Content, PPV Digital Content, Free Digital Content, or any combination of those, and in each case is subject to the limited license granted herein.

4. **Subscriptions/Memberships.** Offers and pricing for subscriptions (also referred to at times as memberships), the subscription services, to the extent of available Subscription Digital Content, and the specific titles available through subscription services may change over time and by location without notice (except as may be required by applicable law). Unless otherwise indicated, any price changes are effective as of the beginning of the next subscription period. If You do not agree to a subscription change, You may cancel your subscriptions or memberships as indicated herein. The pricing for subscriptions or memberships may include VAT and/or other taxes. Where applicable, such taxes were collected by ALEAS or a third party. We make no guarantee as to the availability of specific Subscription Digital Content available in any subscription. Some of the subscription services we offer are from third parties. Third parties that provide subscription services may change or discontinue the features of their services or the content in their services. ALEAS is not responsible for the content contained in any third-party subscription service or the features of those services.

5. **Cancellation of Subscriptions/Memberships.** You may cancel your subscription or membership at any time by visiting Your Account and adjusting your membership settings. We do not provide refunds for the cancellation of your subscriptions or memberships. All transactions for Subscription Digital Content, Rental Digital Content, Purchased Digital Content, and PPV Digital Content are final. You may cancel an order for Digital Content, Rental Digital Content, or Purchased Digital Content within 48 hours of purchase or rental (or, for customers in the UK and European Union, within 14 days from the date of purchase or rental by clicking "Cancel Your Order", except that You may not cancel an order for

Digital Content, Rental Digital Content or Purchased Digital Content once You have started viewing or downloading such Digital Content.

6. **Payment Methods.**

    a. If we are unable to process your payment using your designated payment method, we reserve the right to charge any payment method we have on file for You.

    b. If You purchase a subscription or membership or start a free trial for a subscription or membership, your subscription or membership will automatically continue, and You authorize us (without further notice, unless required by applicable law) to collect the then-applicable periodic subscription or membership fee including any taxes, using any payment method we have on file for You.

    c. UNLESS YOU NOTIFY US BEFORE A CHARGE THAT YOU WANT TO CANCEL OR DO NOT WANT TO RENEW, YOU UNDERSTAND THAT ANY CONTINUING SUBSCRIPTION OR MEMBERSHIP YOU AGREED TO WILL AUTOMATICALLY RENEW AUTOMATICALLY AND YOU AUTHORIZE US (WITHOUT ANY NOTICE TO YOU, UNLESS REQUIRED BY APPLICABLE LAW) TO COLLECT THE THEN-APPLICABLE PERIODIC SUBSCRIPTION OR MEMBERSHIP FEE INCLUDING ANY TAXES, USING ANY PAYMENT METHOD WE HAVE ON FILE FOR YOU.

    d. If all payment methods we have on file for You are declined for payment, your subscription or membership was canceled unless You provide us with a new payment method. If You provide us with a new payment method and are successfully charged before your subscription or membership is canceled, your subscription or membership period was based on the original billing date and not the date of the successful charge. You can use the "Your Account" settings to update your designated payment method(s).

7. **Promotional Trials.** We sometimes offer eligible customers various trials or other promotional memberships which are subject to this Agreement except as otherwise stated in the trial. We reserve the right, in our sole discretion, to determine your eligibility for any trial or other promotional membership. Trial members may at any time (through Your Account) choose not to continue to a paid subscription or membership at the end of a trial period.

8. **Limited License to Digital Content.** Subject to payment of any charges to rent, purchase or access Digital Content, and your compliance with all the terms of this Agreement, ALEAS grants You a non-exclusive, non-transferable, non-sublicensable, limited license, during the applicable Viewing Period, for personal, non-commercial use.

9. ALEAS Privacy Policy. The ALEAS Data Policy is located at https://fligby.com/data-policy/ and is incorporated herein by reference ("Data Policy"). The Data Policy provides

information about your privacy rights and explains how ALEAS protects and handles your personal information. You agree to the terms of the Data Policy, including the transfer of information to other countries for storage, processing, and use, if applicable.

10. **Proprietary Rights.** The Service is protected by copyright laws, international copyright treaties, and other intellectual property laws and treaties. All rights in the Service not expressly licensed under this Agreement are reserved to ALEAS. You may not reproduce, retransmit, disseminate, sell, publish, broadcast, circulate, rent, lease, sublicense, assign, or otherwise transfer any portion of the Service except as expressly authorized in this Agreement. No right to use any trademark or trade name of ALEAS is granted to You hereunder other than the right to display the ALEAS marks that are placed on the Service and any ALEAS messages when they are rendered in the Service, in which case such marks may not be altered or removed by You without written approval by ALEAS.
11. **Assessment Measurements.** The Service provides an assessment report from the interactions with the Digital Content. The information and data received from You was used in accordance with the Data Policy.
12. **General Restrictions.** You may not (i) transfer, copy, or display the Digital Content, except as permitted in this Agreement; (ii) sell, rent, lease, distribute, or broadcast any right to the Digital Content; (iii) remove any proprietary notices or labels on the Digital Content; (iv) attempt to disable, bypass, modify, defeat or otherwise circumvent any digital rights management or other content protection system used as part of the Service; or (v) use the Service or Digital Content for any commercial or illegal purpose.
13. **Copyright infringement is not allowed on the Services**, and ALEAS will, in appropriate circumstances, terminate the account of any repeat infringer. If your copyright has been infringed by any content on the Services and You did not grant a license for this use by uploading your copyrighted work to the Services, You may submit a notice that meets all of the requirements of the Digital Millennium Copyright Act (DMCA), 17 U.S.C 512(c)(3), to our Copyright Manager at info@fligby.com. Your notice must include: (1) an electronic or physical signature of the copyrighted work owner (or a person authorized by the copyright owner), (2) a description of the copyrighted work, including the URL where the infringing content is available, or a copy of it, (3) contact details of the person submitting the notice, including email address, telephone, and mailing address, (4) statement in "good faith belief" that the work is not authorized by the copyright owner, and (5) a statement by the sender that all of the above information is accurate, and that the person sending the notice is either the copyright owner or is authorized to act on behalf of the copyright owner. Upon receiving a notice satisfying these requirements, ALEAS will take whatever action, in its sole discretion, it deems appropriate, including removal of the challenged content from the Services.
14. **Termination.** We may terminate your access to the Service, including any subscription or membership available as part of the Service, at our discretion without notice (except as may be required by applicable law) if You violate any of the terms of this Agreement and

without any refund of any fees. In such an event, You must delete any and all copies of Digital Content that You have downloaded.

15. **Communications**. We may send You communications which may include phone, email, text message, push notifications, or other means of communication and You hereby consent to receive those communications (unless You are a customer in the UK, European Union, Turkey, or Brazil, in which case You separately decide whether or not You wish to receive those communications).

16. **Explicit Content.** By using the Services, You may encounter content that may be offensive, indecent, or objectionable and which may or may not have been identified as having explicit language or other attributes. Nonetheless, You agree to use the Service at your sole risk, and ALEAS has no liability to You for any content. Content types, genres, categories, and descriptions are provided for convenience and ALEAS does not guarantee their accuracy.

17. **Warranties.** The Service comes with no express or implied warranties, except those that cannot be disclaimed under the law. ALEAS DOES NOT PROMISE THAT THE SERVICE OR ANY FUNCTIONALITY THEREOF WAS ERROR-FREE OR UNINTERRUPTED OR THAT YOUR USE OF THE SERVICE WILL PROVIDE SPECIFIC RESULTS. THE SERVICE IS PROVIDED BY ALEAS “AS-IS” AND “AS-AVAILABLE” WITHOUT ANY OTHER WARRANTY OR REPRESENTATION OF ANY KIND. ALEAS CANNOT ENSURE THAT THE SERVICE OR ANY FILES OR OTHER DATA YOU DOWNLOAD IN RELATION TO THE SERVICE WAS FREE OF VIRUSES OR CONTAMINATION OR DESTRUCTIVE FEATURES. YOUR USE OF THE SERVICE AND THE RESULTS AND PERFORMANCE ACHIEVED USING THE SERVICE IS AT YOUR OWN RISK. ALEAS DISCLAIMS ALL EXPRESS OR IMPLIED WARRANTIES AND CONDITIONS, SUCH AS MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. ALEAS makes no representation or endorsement of the function of the Services or any content available through the Services. ALEAS has no responsibility or liability to You arising from your use of the Services. ALEAS has no responsibility or liability to You arising from hacking event, data breach, theft, misuse of information, conspiracy, racket, fraud, act of terrorism, misappropriation of information, technical malfunction, interruption of service, or similar event that may cause You to suffer damage, loss, or injury, including without limitation any damage to or loss of your personal property, data, operations, information, reputation, goodwill, profits, etc. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, AND REGARDLESS OF THE NATURE OF THE CAUSE OF ACTION, ALEAS WILL NOT BE LIABLE TO YOU FOR ANY DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, OR PUNITIVE DAMAGES, OR FOR ANY LOST PROFITS, WHETHER INCURRED DIRECTLY OR INDIRECTLY, OR FOR INTANGIBLE LOSSES, ARISING FROM (a) YOUR ACCESS TO OR USE OF

(OR INABILITY TO ACCESS OR USE) THE SERVICES; (b) FROM THE ACTS OR OMISSIONS OF ANY OTHER PERSON OR THIRD PARTY, INCLUDING, WITHOUT LIMITATION, ANY DEFAMATORY, OFFENSIVE, OR ILLEGAL CONDUCT OF OTHER PERSONS OR THIRD PARTIES, OR; (c) ANY CONTENT OBTAINED FROM THE SERVICES. IN NO EVENT SHALL THE AGGREGATE LIABILITY OF ALEAS ARISING OUT OF OR RELATING TO THESE TERMS OR THE SERVICES EXCEED THE GREATER OF FIFTY U.S. DOLLARS (U.S. $50.00) OR THE AMOUNT YOU PAID ALEAS, IF ANY, IN THE PAST TWELVE MONTHS FOR THE SERVICES GIVING RISE TO THE CLAIM. THE LIMITATIONS OF THIS SECTION SHALL APPLY TO ANY THEORY OF LIABILITY, WHETHER BASED ON WARRANTY, CONTRACT, STATUTE, TORT (INCLUDING NEGLIGENCE), OR OTHERWISE AND SHALL FURTHER APPLY WHETHER OR NOT ALEAS HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES AND EVEN IF A REMEDY LAID OUT IN THESE TERMS IS FOUND TO HAVE FAILED ITS ESSENTIAL PURPOSE. CERTAIN JURISDICTIONS, INCLUDING JURISDICTIONS IN THE EUROPEAN UNION, DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR THE LIMITATION OR EXCLUSION OF LIABILITY FOR CERTAIN TYPES OF DAMAGES. IF THESE LAWS APPLY TO YOU, SOME OR ALL OF THE ABOVE DISCLAIMERS, EXCLUSIONS, OR LIMITATIONS MAY NOT APPLY TO YOU, AND YOU MAY HAVE ADDITIONAL RIGHTS.

18. **Modifications of Service.** ALEAS may from time to time, in its sole discretion, make updates, modifications, supplements, or new versions of the Service or portions thereof available to You under this Agreement for the purpose of, among other things, distributing bug fixes, patches, and feature improvements. We highly recommend that You enable automatic updating on your mobile or satellite device or that You promptly install all updates as they appear. ALEAS disclaims any and all liability relating to Your failure to install any updates to the Service. Notwithstanding the foregoing, ALEAS does not have any obligation to provide any bug fixes, modifications, updates, or technical or end-user support for the Service.

19. **Indemnification.** You shall defend, indemnify, and hold harmless ALEAS and its owners, officers, members, managers, directors, shareholders, subsidiaries, joint ventures, partners, employees, agents, licensors, and licensees from and against any and all claims, actions, suits, proceedings, demands, losses, liabilities, damages, judgments, settlements, penalties, costs, and expenses (including without limitation all reasonable attorneys' fees), known and unknown, arising out of (i) your use of the Service; (ii) any dispute between You and any other user or users; (iii) your violation or breach of this Agreement, or (Iv) the infringement by You, or any other user of Your username or account, of any intellectual property or right of any person or entity.

20. **Applicable law.** The laws of Hungary without regard to conflict of law provisions will govern these Terms and any Dispute that arises between You and ALEAS. These Terms will not limit any consumer protection rights that You may be entitled to under the mandatory laws of your residence.

21. **Dispute Resolution, Class Action Waiver, and Arbitration.**

    a. General. For purposes of this Agreement, the term "**Dispute**" was given the broadest possible meaning allowable under applicable law and shall mean any claim, dispute, action, or other controversies between You and us concerning this Agreement, the subject matter of Your agreements with ALEAS, or any product, service or information We make available to You, whether in contract, warranty, tort, statute, regulation, ordinance, or any other legal or equitable basis, except for claims, disputes, and controversies relating to the enforcement or validity of our intellectual property rights. In the event of a Dispute, You or ALEAS must give the other party a Notice of Dispute, which is a written statement that sets forth the name, address, and contact information of the party giving it, the facts giving rise to the Dispute, and the relief requested. You must send any Notice of Dispute by postal. mail or courier to: ALEAS Hungary Ltd., 1112 Budapest, Nevegy utca 28. We will send any Notice of Dispute to You by U.S. Mail or courier to your address if we have it or otherwise to your email address on file with ALEAS. You and ALEAS will attempt to resolve any Dispute through informal negotiation within sixty (60) days from the date the Notice of Dispute is sent. We may choose to provide You with a final written settlement offer after receiving your Notice of Dispute ("**Final Settlement Offer**"). After sixty (60) days, either You or ALEAS may commence an arbitration proceeding to resolve the Dispute, as set forth below.

    b. Binding Arbitration. If You and ALEAS do not resolve any Dispute by informal negotiation, any other effort to resolve the Dispute was conducted exclusively by binding arbitration under the Federal Arbitration Act, 9 U.S. Code section 1 et seq., and the provisions of this Section 21. The Dispute was resolved by a neutral arbitrator whose decision was final except where an appeal is required by applicable law.

    c. Class Action Waiver. To the maximum extent permitted under applicable law, any proceedings to resolve any Dispute in any forum was conducted solely on an individual basis. Neither You nor ALEAS will seek to have any Dispute heard as a class action or in any other proceeding in which either party acts or proposes to act in a representative capacity. No arbitration or proceeding was combined with another without the prior written consent of all parties to all affected arbitrations or proceedings. If this waiver is found to be illegal or unenforceable as to all or some parts of a Dispute, then it will not apply to those parts. Instead, those parts was

severed and will proceed in a court of law, with the remaining parts proceeding in arbitration.

d. Arbitration Procedure. Arbitration was administered by the American Arbitration Association (the "**AAA**") under its Commercial Arbitration Rules. An AAA Demand for Arbitration may be found on the AAA website located at: www.adr.org. Any in-person hearing in the arbitration was held in your county of residence if You reside in the USA. Either You or ALEAS may request a telephonic or in-person hearing by following the AAA rules. In a Dispute involving Ten Thousand Dollars ($10,000.00) or less, any hearing was telephonic unless the arbitrator finds good cause to hold an in-person hearing instead. You and ALEAS hereby agree to accord this arbitration agreement the broadest scope permissible under applicable law and that it shall be interpreted in a non-restrictive manner. The arbitrator may award the same relief to You individually as a court could award. The arbitrator may award declaratory or injunctive relief only to You individually and only to the extent required to satisfy your individual claim. The arbitrator may award compensatory damages but shall NOT be authorized to award non-economic damages, such as for emotional distress or pain and suffering, punitive damages, or indirect, incidental, or consequential damages. Each party shall bear its own attorneys' fees, costs, and disbursements arising out of the arbitration and shall pay an equal share of the fees and costs of the arbitrator and AAA. Although We may have a right to an award of attorneys' fees and expenses if we prevail in arbitration, we will not seek such an award from You unless the arbitrator determines that your claim was frivolous. Within fifteen (15) calendar days after the conclusion of the arbitration, the arbitrator shall issue a written award and, if requested by either party, a written statement of decision describing the material factual findings and conclusions on which the award is based, including the calculation of any damages awarded. Judgment on the award may be entered by any court of competent jurisdiction. The parties waive their right to commence any action or judicial proceeding in connection with a Dispute hereunder, except for purposes of: (i) recognition and/or enforcement of the arbitration award or any other decision by the arbitral tribunal; (ii) obliging the other party to participate in the arbitration proceedings; (iii) requesting any type of conservative or interim measure in connection with the Dispute prior to the constitution of the arbitral tribunal; (iv) requesting the appearance of witnesses and/or experts; and/or (v) requesting that any information and/or documentation discovery be complied with. By agreeing to this binding arbitration provision, You understand that You are waiving certain rights and protections which may otherwise be available if a Dispute were determined by litigation in court including, without limitation, the right to seek or obtain certain types of damages precluded by this arbitration provision, the right to a jury trial, certain rights of appeal, the right bring a claim as a class member in any

purported class or representative proceeding, and the right to invoke formal rules of procedure and evidence. In the event of any conflict between the applicable arbitration rules and the terms of this arbitration provision, the terms of this arbitration provision will control.

e. Disputes are to be Filed Within One Year. To the extent permitted by applicable law, arbitration of any Dispute must be initiated within one (1) year from the date the cause of action accrued. If a Dispute is not initiated within one (1) year, it was permanently barred.

f. Equitable Relief. You agree that we would be irreparably damaged if the terms of this Agreement are not specifically enforced. Therefore, in addition to any other remedy that We may have at law, and notwithstanding our agreement to arbitrate Disputes, We was entitled, without bond or other security or proof of damages, to seek appropriate equitable remedies with respect to Your violation of this Agreement in any court of competent jurisdiction.

22. **Other Agreements.** This Agreement constitutes an individual consent by You to be bound by the terms of this Agreement and is the entire agreement between You and ALEAS with respect to Your use of the Service and any and all other written or oral agreements or understandings previously existing between You and ALEAS with respect to such use are hereby superseded and canceled. This Agreement is not intended to supersede or replace any other agreements entered into with ALEAS by You or Your company that expressly supersedes clickwrap terms. To the extent there are any conflicts or inconsistencies between this Agreement and any other agreement, policy, or documentation, the following order of precedence will apply for resolving such conflicts or inconsistencies: (i) any Agreement between ALEAS and You or Your Company that expressly supersedes clickwrap terms shall control; then (ii) this Agreement; and then (iii) any other agreements, policies, or documentation.

23. **Void Where Prohibited.** Although the Service is accessible worldwide, not all features, products, or services discussed, referenced, provided, or offered through or on the Service are available to all persons or in all geographic locations or appropriate or available for use outside the United States. ALEAS reserves the right to limit, in its sole discretion, the provision and quantity of any feature, product, or service to any person or geographic area. Any offer for any feature, product, or service made on the Service is void where prohibited. If You choose to access the Service from outside the United States, You do so on your own initiative and You are solely responsible for complying with applicable local laws.

24. **Miscellaneous.** If any of the provisions of this Agreement are held by a court or other tribunal of competent jurisdiction to be void or unenforceable, such provisions shall be limited or eliminated to the minimum extent necessary and replaced with a valid provision that best embodies the intent of this Agreement, so that this Agreement shall remain in full

force and effect. ALEAS' failure to insist on or enforce strict performance of this Agreement shall not be construed as a waiver by ALEAS of any provision or any right it has to enforce this Agreement, nor shall any course of conduct between ALEAS and You or any other party be deemed to modify any provision of this Agreement. This Agreement shall not be interpreted or construed to confer any rights or remedies on any third parties.

Last Updated: March 11, 2022.

Appendix D

FLIGBY's Data Policy

FLIGBY® Leadership Simulation and related online solutions are offered as a service of ALEAS Group and were created to assess and develop people management skills.

At ALEAS Group (represented by ALEAS Hungary Ltd.) (**"Company", "ALEAS", "we", "our",** and/or **"us"**), we value the protection and the privacy of individuals who use our platform and services through https://www.fligby.com and https://metrix.fligby.com (the **"Site"**), our software application (the **"App"**), and any related web-based, downloadable or other applications (collectively, the **"Service"**). This Data Policy describes the way we process and protect personal information and data that You provide, or we collect in connection with the Service.

This Data and Privacy Policy will explain how our Company uses the personal data we collect from You when You use our Service. Words and terms used in this Data Policy unless otherwise defined shall have the meanings given to them in the European Union's General Data Protection Regulation ("GDPR"), the Brazil Lei Geral de Protecao de Dados ("LGPD") and the California Consumer Privacy Act of 2018 ("CCPA"), all as amended from time to time. References to the GDPR shall be deemed to include the GDPR as incorporated into UK law under the Data Protection Act 2018 (DPA 2018).

Topics:

1. What data do we collect?

ALEAS collects several different types of information for various purposes to provide and improve our learning and development services to our users and partners.

ALEAS collects several different types of information to provide and improve our smart learning and development services to our users. Offering the Service and experiences requires ALEAS to process personal information You provide. Personal information includes information that identifies, relates to, describes, is capable of being associated with, or could be reasonably linked, directly or indirectly, with a particular user or household. In some instances, information is collected in the aggregate that does not relate to any particular user or household, such as the number of App users per day. In other instances, personal information can be sufficiently anonymized that it cannot reasonably identify, relate to, describe, be capable of being associated with, or be linked, directly or indirectly, to a particular user.

Creating a "FLIGBY" account requires your basic contact information, including your email address. We may also require You to select a password for authentication and provide a username that was visible to other users when You post to public portions of the Service. We receive and store this information and use it to create a user profile and provide You with access to the Service. We may use your email address to contact You with information relating to the Service or to provide support. We may also require your contact and payment information if You are entitled to receive payment based on your use of the Service or if You have accepted an obligation to provide payment. When You post or upload materials to the Service, including without limitation text,

audio, images, or other media (collectively "**User Content**"), those materials are personal information.

If You make a purchase through our Service, your payment-related information, such as your credit and debit card or automated clearing house (ACH) information, is collected and stored by our third-party payment processor on our behalf.

When You use the Service, ALEAS may collect additional personal information, including more detailed contact information You provide, your location, demographics, and your use of the Service. We may also collect and record certain information such as your unique device ID, hardware type, media access control ("**MAC**") address, international mobile equipment identity ("**IMEI**"), the version of your operating system ("**OS**"), and your location (based on your Internet Protocol ("**IP**") address). This information is useful to us for troubleshooting and helps us understand usage trends and for providing You with the correct version of the application.

If You contact us directly, we may receive additional information about You. For example, if You contact us for customer support, we may receive your name, email address, phone number, the contents of any message or attachments You may send to us, and any other information You choose to provide.

We automatically receive information about your interactions with our Service, such as your gaming results, the posts or other content You view, the searches You conduct, the people You follow, and the dates and times of your visits.

We may collect information using cookies, pixel tags, and similar technologies. Cookies are small text files containing a string of alphanumeric characters. We may use both session cookies and persistent cookies. A session cookie disappears after You close your browser. A persistent cookie remains after You close your browser and may be used by your browser on subsequent visits to our Service.

Our Company also collects the following data:

- **Information and content You provide.** We collect the content, communications, and other information You provide when You use our Services, including when You sign up for an account, create or share content, and message or communicate with others. This can include information in or about the content You provide.
- **Device Information.** As described below, we collect information from and about the computers, phones, and other web-connected devices You use that integrate with our Services.
    - **Device attributes:** information such as the operating system, hardware and software versions, browser type, app, and file names and type.
    - **Identifiers:** unique identifiers, device IDs, and other identifiers.
    - **Device signals:** Bluetooth and Satellite signals and information about nearby Wi-Fi access points, beacons, and cell towers.
    - **Network and connections:** information such as the name of your satellite operator or ISP, language, satellite phone number, and IP address.
    - **Cookie data:** data from cookies stored on your device, including cookie IDs and settings.

2. How do we collect your data?

You directly provide our Company with most of the data we collect. We only collect such Personal Information on our Site or in our App when You voluntarily provide it to us. We collect data and process data when You:

- Subscribe online or create an account to subscribe for our Services.
- Provide your email address to sign up.
- Voluntarily subscribe or contact us via email or other communications methods.
- Use or view our website via your browser's cookies.
- Provide any other information voluntarily when using our Site or App.

Our Company may also receive your data indirectly from the following sources:

- Information about your computer or device and internet or satellite connection, including operating system, device type, and browser type.
- Details of your visits to our Site, including traffic logs and data.

Our Company uses cookies in a range of ways to improve your experience on our Site, including:

- Keeping You signed in.
- Understanding how You use our Site.

Our Company uses cookies to recognize You on our Site and remember your previously selected preferences. These could include what language You prefer and location You are in. A mix of first-party and third-party cookies is used.

You can set your browser not to accept cookies, and the website tells You how to remove cookies from your browser, however, some of our features may not function as a result.

3. How will we use your data and personal information?

Our Company collects your data and personal information so that we can:

- Create your account to subscribe to our Services.
- To personalize your experience.
- Track audience size and usage patterns.
- Recognize You as a returning user to our Site.
- Provide, maintain, and improve our Services.
- Communicate with You, provide You with updates and other information relating to our Service, provide information that You request, respond to comments and questions, and otherwise provide customer support.
- Send You messages and notifications.
- Facilitate transactions, redemptions, and payments.
- Find and prevent fraud and respond to trust and safety issues.
- Understand and analyze how You use our Service and develop new products, services, features, and/or functionality.

For data collected from the European Union, EFTA states, Brazil, and the United Kingdom, the primary legal bases/basis we rely on for such processing is a contractual necessity for fulfilling our Terms of Service and Terms of Use and to comply with our legal obligations.

4. How We Share the Information We Collect

We do not and will never rent, sell, or share information about You with nonaffiliated third parties for their direct marketing purposes unless we have your affirmative express consent. We do not and will never rent, sell, or share information about You with nonaffiliated third parties for their direct marketing purposes unless we have your affirmative express consent. We may access, preserve, and disclose your information if we believe doing so is required or appropriate to: (a) comply with law enforcement requests and legal process, such as a court order or subpoena; (b) respond to your requests; or (c) protect your, our, or others' rights, property, or safety. For the avoidance of doubt, the disclosure of your information may occur if You post any objectionable content on or through our Service in violation of our Data and Privacy Policy. We may transfer your information to service providers, advisors, potential transactional partners, or other third parties in connection with the consideration, negotiation, or completion of a corporate transaction in which we are acquired by or merged with another company, or we sell, liquidate, or transfer all or a portion of our assets. The use of your information following any of these events was governed by the provisions of this Data and Privacy Policy in effect at the time of the acquisition or merger. We may also disclose your information with your permission.

5. How do we store your data?

Our Company securely stores your data. We secure your data through encryption in transit and at rest. your data were stored in accordance with the applicable retention requirements of the Company, US laws, and any other applicable laws.

6. Does ALEAS **Process the Personal Information of Children?**

We do not knowingly collect, maintain, or use personal information from children under 18 years of age. If You have concerns, believe, or learn that a child has provided us with personal information violating this Privacy Policy, please alert us at info@fligby.com.

7. Record Keeping

Our Company keeps a record of when and how we received your consent for data collection and processing. Our Company keeps a record of exactly what and where You were told at the time of consent. We regularly review consents to check that their relationship, the processing, and their purpose have not changed.

8. What are your data protection rights?

Our Company would like to make sure You are fully aware of all your data protection rights. Every user is entitled to the following:

- **The right to access** – You have the right to request Our Company for copies of your personal data. We may charge You a small fee for this service.
- **The right to rectification** – You have the right to request that Our Company correct any information You believe is inaccurate. You also have the right to request Our Company to complete the information You believe is incomplete.
- **The right to restrict processing** – You have the right to request that Our Company restrict the processing of your personal data under certain conditions.
- **The right to object to processing** – You have the right to object to Our Company's processing of your personal data under certain conditions.
- **The right to data portability** – You have the right to request that Our Company transfer the data that we collected to another organization, or directly to You, under certain conditions.

If You make a request, we have one month to respond to You. If You would like to exercise any of these rights, please contact us.

8. Data security

To accomplish its mission of helping leaders and organizations develop people skills, ALEAS must collect and analyze vast amounts of data. As such, it is dedicated to putting the necessary safeguards in place to maximize the protection of these data.

ALEAS maintains a highly secure information technology environment to protect its client's data's confidentiality, integrity, availability, and privacy. It adheres to all Canada, U.S., European Union, and international data protection and security laws, and it routinely undergoes regular audits of its information technology to ensure its policies, procedures, and security controls meet or exceed the high standards of its clients.

In addition, ALEAS operates in a proactive security environment that uses a multitude of preventative, detective, and administrative systems and controls. We have chosen to ensure maximum coverage of client requirements by implementing rules for information security managed under the frameworks of ADGA Groups Converged security solutions.

ADGA Group, 110 Argyle Ave, Ottawa, Canada

9. How to contact us

If You have any questions about Our Company's Data Policy or the data we have collected, or You would like to exercise one of your data protection rights, please do not hesitate to contact us.

- By email at: [redacted]
- Or write to us at:

[redacted]

Should You wish to report a complaint or if You feel that our Company has not addressed your concern in a satisfactory manner, You may contact our Data Protection Officer for the contact information for the appropriate authority.

10. Changes to our privacy policy

Our company keeps its privacy policy under regular review and places updates on this web page.

Appendix E

Non-Disclosure Agreement

NON-DISCLOSURE AGREEMENT

This Agreement takes effect as of the date of the last signature by the Parties, and is made between:

a) [redacted] hose

b) _____, born on_____, whose place of residence is at _____ (a "Counterparty"), each a "Party" and together, the "Parties".

1. Definitions

Authorised Person – Any director, officer, employee, adviser or agent of a Party or of any company within a Party's Group.

Confidential Information – Any information (whether written, oral or in electronic form) marked confidential or that would be regarded as confidential by a reasonable business person concerning the business, plans or intentions of a Disclosing Party that a Receiving Party receives or accesses as a result of any discussions or dealings under this Agreement or learns during visits to a Disclosing Party's premises but excluding any information in accordance with Clause 4.

Disclosing Party – A Party that discloses Confidential Information.

Group – A Party and each any subsidiary or holding company from time to time of that Party in which it owns (directly or indirectly) 50% or more of the issued share capital.

Intellectual Property – means (i) rights in, and in relation to, any trademarks, logos, patents, registered designs, design rights, copyright and related rights, moral rights, databases, domain names, utility models, and including registrations and applications for, and renewals or extensions of, such rights, and similar or equivalent rights or forms of protection in any part of the world; (ii) rights in the nature of unfair competition rights and to sue for passing off and for past infringement; and (iii) trade secrets, confidentiality and other proprietary rights, including rights to know how and other technical information.

Purpose – Academic Research

Receiving Party – A Party that receives Confidential Information.

2. Disclosure

2.1. All Confidential Information disclosed by a Disclosing Party to a Receiving Party for the Purpose whether on or before the date of this Agreement shall be protected under the terms of this Agreement.

2.2. All Confidential Information will remain the property of the Disclosing Party, which warrants that it has the right to disclose it but does not warrant its accuracy or completeness.

3. Obligations

3.1. The Receiving Party shall use all Confidential Information solely for the Purpose and:

a. not disclose it, except (i) to any Authorised Person where strictly necessary to fulfil the Purpose or (ii) with the prior written consent of the Disclosing Party;

b. keep it in a safe and secure place and use reasonable measures to prevent unauthorised access, destruction, corruption or loss and protect Confidential Information with at least the same degree of care as it uses to keep its own proprietary information of a similar nature confidential, which shall in no event be less than reasonable care;

c. not make any copies, summaries or transcripts of it unless this is strictly necessary for the Purpose (all such copies, summaries or transcripts will be deemed to be Confidential Information);

d. not use, reproduce, transform, or store the Confidential Information in an externally accessible computer or transmit it in any form outside of its usual place of business;

e. notify the Disclosing Party immediately if it becomes aware that any Confidential Information has been disclosed to, or is in the possession of, any unauthorised person;

f. upon written request, immediately return all of it to the Disclosing Party or destroy it if so directed. The Receiving Party may retain Confidential Information as required by applicable law or regulation or that it may reasonably require for archive purposes. The provisions of this Agreement will continue to apply to any retained Confidential Information; and

g. inform its Authorised Persons of the provisions of this Agreement and take all steps necessary to procure their compliance with them. All acts or omissions of the Receiving Party's Authorised Persons and Group companies shall be treated as if they were the acts or omissions of the Receiving Party itself.

4. Exceptions

4.1. Confidential Information shall not include any information that:

a. is or becomes generally available in the public domain other than as a result of the breach of this Agreement or any unauthorised disclosure or other act or omission by any other Party;

b. is lawfully in the possession of any Receiving Party before its disclosure under this Agreement;

c. is lawfully obtained by the Receiving Party on a non-confidential basis from a third party authorised to disclose such information without restriction and without breach of this Agreement; or

d. the Parties agree in writing is not Confidential Information; or (e) is independently developed by the Receiving Party without the use of any proprietary, non-public information provided by the other Party under this Agreement.

4.2. This Agreement does not prevent the disclosure of Confidential Information that a Party is required to disclose by law or requested by a regulatory authority, provided that any Receiving Party prior to such disclosure:

a. gives the Disclosing Party reasonable notice to allow the Disclosing Party a reasonable opportunity to seek a protective order or similar; or

b. uses reasonable endeavours to obtain written assurance from the applicable judicial or regulatory authority that it will afford the Confidential Information a reasonable level of protection.

5. Rights

5.1. No Party shall use another Party's name or marks in any campaign or other public disclosure without that Party's prior written consent.

5.2. No Intellectual Property rights in the Confidential Information are granted to any Receiving Party. A Receiving Party will not (and will ensure that an Authorised Person does not) apply or register any intellectual property right for any part of the Confidential Information.

5.3. No Party will assign, novate, sub-contract or otherwise transfer its rights or obligations under this Agreement without the prior written consent of each other Party.

6. General Terms

6.1. Any Party may terminate this Agreement at any time on thirty (30) calendar days written notice to each other Party. Notwithstanding termination, the obligations contained in this Agreement shall apply to all Confidential Information for two (2) years from the date of disclosure.

6.2. Any notices required to be given hereunder shall be transmitted between the parties addressed as follows:

a. [redacted]

b. If to Counterparty:
Address:_____

_____, E-mail:_____

6.3. This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and supersedes all previous agreements, negotiations, discussions, writings, understandings, commitments and conversations with respect to such subject matter.

6.4. This Agreement is binding on the parties hereto, and may be executed in one or more counterparts, all of which shall be considered one and the same agreement, and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other parties.

6.5. In the event that any provision of this Agreement shall be invalid, illegal or otherwise unenforceable, the validity, legality and enforceability of the remaining provisions shall in no way be affected or impaired thereby.

6.6. The Parties acknowledge that monetary damages alone may not be an adequate remedy for the Disclosing Party for breach by the Receiving Party of its obligations under this Agreement and, accordingly, agree that the Disclosing Party shall be entitled to specific performance of

the Receiving Party's obligations hereunder and to injunctive and other equitable relief in addition to any other remedy to which it may be entitled at law or in equity.

6.7. The failure to exercise, or a delay in exercising, a right or remedy provided by this Agreement or by law does not constitute a waiver of the right or remedy or a waiver of other rights or remedies. No single or partial exercise of a right or remedy provided by this Agreement or by law prevents further exercise of the right or remedy or the exercise of another right or remedy.

6.8. This Agreement shall be governed by and construed and enforced in accordance with the laws of State California, United States and the Parties submit to the exclusive jurisdiction of the courts of State California, United States.

Signed by for and on behalf of:

ALEAS Sims, Inc.	**Counterparty**
Signature:	Signature
Name: [redacted]	Name:
Title: President	Title:

Date:

Appendix F

Official Data Collection Request

From: [redacted]
Subject: Re: IRB Approval Attained!
Date: May 17, 2023 at 4:41 AM
To: Co
Cc: [redacted]

ZV

Please be cautious
This email originated from outside of ACE organization

What great news; congrats, Corey! Writing your thesis will be easier than managing the approval process, I guess :-)
We are happy to work with you together; it will be a creative journey, also for us. And just the latest connection to your topic: Itay Talgam (https://www.talgam.com/), the conductor whose book we were supposed to check out earlier, will be here in Budapest at a leadership conference. [redacted] and I will join his keynote; it may also provide insights into your research project.
I'm attaching the NDA; if you have any questions, just let me know. After we get it back from you, we will provide the database in XLS format for you. How does it sound to you?
What do you think about catching up next week?

[redacted]

On Tue, May 16, 2023 at 8:48 PM [redacted]

> I hope you are well. I have great news, I just received IRB approval today! I will be connecting with my chair this evening and will be in touch with my next steps as lead researcher on this project. In the meantime, attached is a copy of my IRB approval letter for your records. If you have a new version of the NDA, please send so I may sign and begin collecting data to analyze.
>
> Corey
> CONFIDENTIAL EMAIL: This e-mail is intended solely for the addressee. The information contained herein is confidential. Any dissemination, distribution or copying of this e-mail, other than by its intended recipient, is strictly prohibited. If you have received this e-mail in error, please notify me immediately and delete this message.

–
[redacted]
Co-founder and Partner
ALEAS Simulations, Inc. - California
[redacted]

nda_for_academic_re...0.docx

Appendix G

IRB Approval Letter

May 16, 2023

To : Corey Ames
[redacted]

From : Institutional Review Board
American College of Education

Re: IRB Approval

"Conducting Flow: A Quantitative Correlational Study of Music Conductor Leadership Traits in Millennial Business Managers"

The American College of Education IRB has reviewed your application, proposal, and any related materials. We have determined that your research provides sufficient protection of human subjects.

Your research is therefore approved to proceed. The expiration date for this IRB approval is one year from the date of review completion, May 16, 2024. If you would like to continue your research beyond this point, including data collection and/or analysis of private data, you must submit a renewal request to the IRB.

Candidates are prohibited from collecting data or interacting with participants if they are not actively enrolled in a dissertation sequence course (RES6521, RES6531, RES6541, RES6551, RES6561, RES6302) and under the supervision of their dissertation chair.

Our best to you as you continue your studies.

Sincerely,

[redacted]
Chair, Institutional Review Board
American College of Education