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# A Content Analysis of Flow and Music: Teaching, Performance, and Consumption

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A Content Analysis of Flow and Music:  
Teaching, Performance, and Consumption

by

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A Dissertation  
Submitted to the Graduate School,  
the College of Arts and Letters  
and the Department of Music  
at The University of Southern Mississippi  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy

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## ABSTRACT

Positive psychologist Csikszentmihalyi (2008) describes *flow* as a state of heightened concentration and arousal where a balance of skill and challenge cause someone to be so absorbed in a task that everything else seems to disappear. The result of the experience can be one of immense enjoyment and satisfaction. Musical activities lend themselves well to the flow experience due to the multifaceted tasks of listening, practicing, performing, or teaching music. With flow being an ideal creator of intrinsic motivation, music teachers and performers should consider flow and its implications for music making and music instruction.

The purpose of this study was to employ qualitative content analysis to identify and synthesize similarities in themes found across the body of literature that exists on the phenomenon of flow as it pertains to music. The approach of content analysis provides a thorough, transferable, and personal look at the flow experience which is subjective and unique to each individual (Neuendorf, 2017). The researcher examined pertinent studies from major scholarly journals and texts grouped together in three categories: music consumption, music teaching, and music performance. Each of the categories was examined independent of the other categories, and research with overlapping themes were contained and described separately within each category to which that theme pertained. This content analysis is intended to form a more complete picture of flow in music, and could prove beneficial to the understanding of the experiences of music performers, teachers, students, and consumers.

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## DEDICATION

I would like to dedicate this paper to my family. To my dad and mom, James and Irene Keay, there are not enough words in this world to describe what you mean to me and how grateful I am for you both and all that you do for me. You both inspire me every single day. To my grandparents, Koji and Shigeko Sato, Hugh and Jean Keay, for always loving and supporting me in everything I do. You have all been a constant positive force in my life, teaching me how to work hard and love deeply. To Michael, Baina, Corinne, Steven, Adele, Ken, and my extended family near and far. I could not ask for more loving, caring, and special people with which to surround myself, even when we are geographically apart. And lastly, to Nicole, a future full of radiance.

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## CHAPTER I - INTRODUCTION

In examining what motivates human behavior, we observe the most basic and primitive necessities, as well as the most elevated and transcendent experiences. In order to cultivate profound experiences of fulfillment, not only must fundamental needs like food, water, shelter, and sleep be met, but other needs like social belonging, self-esteem, and intimacy must be satisfied (Maslow, 1943). Such profound, transcendent, and meaningful experiences may be described as being in a “flow” state. The psychological theory of flow, introduced by positive psychologist Mihaly Csikszentmihalyi, examines this heightened state of self-actualization, and what must transpire for flow states to occur.

Beginning with fundamental human necessities for survival, American psychologist, Abraham Maslow, has created a foundation for a multitude of thoughts and studies on human motivation by describing basic needs humans strive to satisfy. Maslow (1943) asserts that there exist at least five basic needs: “physiological, safety, love, esteem, and self-actualization,” and that “we are motivated by the desire to achieve or maintain the various conditions upon which these basic satisfactions rest and by certain more intellectual desires” (p. 394). These five fundamental needs have been arranged in a hierarchical order known as Maslow’s Hierarchy of Needs.

Maslow (1943) describes the bottom of the pyramid as the most basic physiological needs: food, water, warmth, and rest. The absence of these essentials makes it impossible for the individual to direct consciousness elsewhere because basic survival is in jeopardy. The next tier of the pyramid presents security and safety as important factors for comfort and stability. The third tier begins to examine the social

relationships of the individual. This level describes the importance of intimate relationships, friends, and feelings of belongingness and love. The tier before finally reaching self-actualization are esteem needs, or feelings of accomplishment and prestige. If all of these tiers are fulfilled, one may achieve their full potential of self-actualization, the final tip of the pyramid.

As Maslow (1943) describes, the levels of the pyramid are arranged in an ascendancy where the most pressing of the levels will absorb one's consciousness, and the individual will not progress towards the top of the triangle until the present goal has been satisfied. In the world of artistic creativity, it behooves us to note the order in which Maslow's needs appear and what must occur in order to fulfill the fifth basic need of self-actualization. Maslow (1943) theorizes most people are motivated to develop themselves in such a way that they are able to reach their maximum potential, working their way from the base of the pyramid upwards. It is in this tip of the pyramid that our motivations, achievements, and satisfactions as artistic beings reside. Psychologist Csikszentmihalyi has designated the term *flow* to describe the many facets of this heightened state of self-actualization.

Csikszentmihalyi (2008) describes flow as "the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it at great cost, for the sheer sake of doing it" (p. 4). Although the enjoyable activity that a person might engage in varies significantly from person to person, the description of feelings of enjoyment may be remarkably similar. The elements of enjoyment contain several separate but important characteristics, and individuals achieving a flow state may identify with some or all of these elements.

Csikszentmihalyi identifies these elements of enjoyment as *dimensions of flow*, and are described in the following paragraphs.

### Balance of Challenge and Skill

One of the most pertinent elements of flow is that the activity is challenging enough to fully engage the participant, but cannot be so difficult that it is overwhelming or seemingly impossible. Csikszentmihalyi (2008) discusses an ideal ratio between the challenge and skill must occur regardless of the activity, and the task must be completed by skillful sequencing, whether purposeful or impromptu. For example, a young clarinet player, learning how to play a major scale, must know the appropriate foundational skills in order to execute the task. The information they know (correct hand position, how to produce sound, basic fingerings, etc.) must be in place to attempt a task they do not know (new scale). The skills that they have must be ingrained enough that they can focus on sequencing the various fingerings together in the correct order, with precision and accuracy, rather than having to concentrate on the fingerings themselves.

Csikszentmihalyi describes the precise point at which enjoyment occurs as when the actions necessary are equal to the perceived abilities of the individual (Csikszentmihalyi, 2008). This balance of what someone is able to do and what is required for execution is a key part of flow in any context.

### Merging of Action and Awareness

When the balance of challenge and skill is proportionate, and an individual's attention becomes so absorbed by the activity, the result is "one of the most universal and distinctive features of optimal experience...they stop being aware of themselves as separate from the actions they are performing" (Csikszentmihalyi, 2008, p. 3).

Musicians, surgeons, gamers, and athletes often describe this feeling of being *in the zone*; everything besides the task at hand seems to disappear because they are completely immersed. The purpose of being in this kind of flow state becomes to *stay* in the flow state. Lapses in concentration or distractions can pull someone from their optimal experience when they become aware of their surroundings or their actions. Although the flow activity may be physically strenuous or mentally taxing, the person's consciousness remains calm to make sure that the actions needed to complete the task are happening seamlessly. Time to reflect is not necessary because the actions seem to be happening like automatically. This sense of continuity provides a great deal of satisfaction and direction (Csikszentmihalyi, 2008). The euphoric and magical feeling of being *in the zone* serves as a powerful motivator to continue the activity just for the sake of doing it.

#### Clear Goals and Feedback

When examining what type of activities might create an optimal experience, the tasks all have clear goals and immediate feedback given to the participant in some way. As an example, one can think of a tennis player and the skills involved in the execution of a game of tennis. The player knows that they need to successfully return the ball on to their opponent's side of the court, and it is obvious to them when this is executed or when they have failed to achieve the goal. The tennis player is given immediate feedback, and additionally, understands the end goal as well as what needs to occur to take steps towards it. Generally, it is easy to see if the tennis player is successful based on her performance, however, this does not mean that she cannot experience flow even if she is not successful all of the time. The feedback she receives, positive or negative, is part of the flow experience (Csikszentmihalyi, 2008).

Sometimes feedback is ambiguous, or goals are not clearly set ahead of time. Certain activities do not get the same type of clear cut and immediate feedback as a bad serve or a missed ball. For musicians and artists, the feedback received may be more abstract, but this information is symbolically valuable. For instance, a music composer may not know if the notes they are using are “correct,” or an artist may not know if what they have painted is “right.” This is due to the creative and originality aspect of the activity. These types of activities indicate a need for the participant to decide on criterion and goals that make sense for them personally. The subjective feedback they receive, if applicable, delivers a message of success to the participant, and this knowledge of achievement “creates order in consciousness, and strengthens the structure of the self” (Csikszentmihalyi, 2008, p. 57). Personally meaningful goals and a way to gauge feedback is crucial in experiencing flow.

#### Concentration of the Task at Hand

The idea of a person being *in the zone* during a certain task might be best explained by the extreme concentration many flow activities necessitate (Bloom, Skutnick, & Henley, 2005; Csikszentmihalyi, 2008; Hefferon, 2006; Hopkins, 2013; Kirchner, 2011; Nakamura & Csikszentmihalyi, 2009). In an optimal flow state, the high levels of concentration and focus do not allow room for other thoughts or information, and additionally, only a select scope of information can be acknowledged to maintain this heightened awareness (Csikszentmihalyi, 2008). Outside thoughts must not be allowed to draw concentration away from the activity, and so the tasks at hand must require total concentration, blocking out extra stimuli and preventing any “disorder in consciousness” (Csikszentmihalyi, 2008, p. 58).

## The Paradox of Control

Another aspect that flow experiencers have in common is their ability to demonstrate a lack of sense of worry about losing self-control. This is one reason why many activities are great flow prompters: they are separate from the realities of ordinary life and the consequences for failure are not as dire. Csikszentmihalyi asserts:

What people enjoy is not the sense of *being* in control, but the sense of *exercising* control in difficult situations...only when a doubtful outcome is at stake, and one is able to influence that outcome, can a person really know whether she is in control. (Csikszentmihalyi, 2008, p. 61)

This aspect of being able to control the enjoyable activity demonstrates one of the most addictive parts of the flow experience.

Although this can be used for satisfaction and motivating experiences, this addictive quality can be negative in activities like gambling, for instance. It is not uncommon, in an activity like gambling, where the individual becomes so focused on their capacity to regulate the enjoyable activity that they do not pay attention to anything else. The individual may become ensnared by the perceived skill to control the activity (Csikszentmihalyi, 2008). In the case of the gambler, the control of betting captivates the individual, and allows them to experience a certain type of order or control outside the uncertainties and ambiguities of real life. Typically, when examining flow experiences, the feelings and satisfaction that result are overwhelmingly positive, but when directed towards self-destructive activities, unfortunately, can be equally powerful.

## The Loss of Self- Consciousness

For many flow experiences, the aforementioned paradox of self-control - taking risks and idealistic notion of losing control - can result in overwhelming positive self-



growth. As Csikszentmihalyi (2008) explains, the ultimate paradox of loss of control is that although one may lose themselves in the experience, ignoring self-consciousness and the possibility of failure, the individual may emerge renewed, confident, and having built a stronger sense of self. The success of taking risks and trusting in oneself in challenging tasks remains one of the intrinsic rewards in flow experiences. The notion of loss of self-consciousness does not suggest the loss of self, and does not mean that the person is completely void of self-consciousness. When experiencing flow, it is a loss of consciousness of self and not being preoccupied with outside distractions, possible failures, and how that might impact one's self. This loss of self-consciousness paves the way to a euphoric feeling of transcendence and uninhibitedness which makes flow a satisfying experience (Csikszentmihalyi, 2008).

#### Transformation of Time

When people who experience flow describe their experiences, they frequently portray a transformation or distortion of time. This distortion commonly includes the feeling that time has slowed down a great deal or is somehow passing by much more slowly. For some individuals, the opposite may be true, and it feels like time is flying by so quickly that hours seem to last no time at all (Csikszentmihalyi, 2008). This seemingly momentary freeness from the bounds of time might result from the intense concentration that most flow activities necessitate, but as Csikszentmihalyi (2008) describes, the exhilaration one feels while in flow comes from losing track of time as well as breaking free from the confines of time. This distortion of time, being in the zone, is supported by the idiom, "time flies when you're having fun."

Csikszentmihalyi (2008) asserts “the key element of an optimal experience is that it is an end in itself” (p.67). Activities that lead to a flow state are intrinsically motivating and satisfying because there seems to be a perfect equity of physical and mental engagement that balances challenge with skill. If the task at hand is beyond the capabilities or skills of the individual, they will experience a certain level of anxiety, knowing that failure of the task, although they are trying, may be likely. If the activity does not challenge the individual enough, boredom and apathy could potentially result. The individual then need not engage because they could likely complete the activity without much difficulty whenever they chose. Flow lives somewhere in between a place of anxiety where the skill needed exceeds the skill possessed, and a place of boredom where the individual’s skills exceed the skills necessary to complete the task.

Consider an individual participating in an activity, perhaps a student learning how to play a short, easy tune on their instrument. When the participant first begins the activity, they do not have a great deal of skills for the task, but the challenges set forth may not be very difficult. Provided that the student has fundamental skills in place, they can learn a piece of music that is easy for their skill level without much trouble. Initially this may be engaging, but could become boring after the student’s skill on the piece increases from practice, but there are no additional challenges. The student will be bored with the task at hand, and is unlikely to experience flow due to the lack of engagement and concentration necessary to complete the task. The contrary to this situation would be if the student is given a piece of music to learn that far exceeds the skills they have mastered. If the challenges are great but the student lacks the necessary skills to execute the challenge, this is likely to provide a certain amount of anxiety and frustration for the

student. This anxiety makes it difficult for the student to achieve a flow state because they are aware and conscious of the goals and tasks they are not able to execute.

If the student has a difficult piece that challenges the abilities they have in such a way that the music is slightly more advanced than the skills of the student, it could be likely that they will find themselves in a position where they are in an optimal state. The student may not experience boredom because of the challenges in the task at hand, but they are not necessarily overwhelmed by those challenges because of the skills they possess. Arriving to a state of flow does not necessarily mean that the participant will stay there for long as this state is ever changing. To continue experiencing this optimal state, the challenges must increase as the participant's skill increases. This complex state requires a constant cycle of balance of challenge and skill as well as motivation and achievement.

In an optimal state, the satisfaction from doing the activity itself is motivation to continue. Flow is reported a great deal among musicians, athletes, web users, dancers, and gamers because of the multi-layered attention needed to execute the task at hand, as well as the organized and gratifying state of mind that results from the execution (Bakker, 2005; Cassie, 2011; Chen, 2006; Csikszentmihalyi, 2008; Hefferon, 2006; Hsu & Li, 2003; H. Huang, L. Huang, Chou & Teng, 2017; Kraus, 2003; Pates, Karageorghis, Fryer & Maynard, 2003; Pilke, 2004; Skadberg & Kimmel, 2004; Steckel, 2006; Swann, Keegan, Piggott & Crust, 2012). In focusing on music as a vehicle to achieve a state of flow, Csikszentmihalyi (2008) discusses music as highly "organized auditory information" that can help to provide order to the listener's mind (p.109). The intellectual order created when listening to or participating in music diminishes the

disorder of random information that can cause distractions. Not only does music deplete tedium and restlessness, but when focused upon, can create order resulting in flow experiences (Csikszentmihalyi, 2008).

Listening to music, live or recorded, can induce a state of flow, but additionally, and perhaps yielding greater benefits, making music is suggested as a prime way to experience flow. Csikszentmihalyi (2008) explains that music making, whether it be playing an instrument, singing, or participating in a variety of musical activities, allows the “whole consciousness [to] become ordered” (p. 111). With flow being the ideal state of being, or peak experience in an activity like music making, music teachers and performers should consider flow and its implications for music teaching as well as music making in general.

Examining flow in large ensembles, private lessons, children’s’ activities, choir, band, orchestra, or more specific avenues of music making provide avenues to investigate how flow functions in different musical settings (Cassie, 2011; Custodero, 1997; Freer, 2009; Hopkins, 2013; Kirchner, 2011; Kraus, 2003; Riggs, 2006; Steckel, 2001; St. John, 2006). Collectively studying this information provides educators and performers information on the frequency, likelihood, and conditions necessary to create this optimal state in the music learning and performing environment (Bakker, 2005; Custodero & Stamou, 2006; Hopkins, 2013; Privette, 1983; Sinnamon, Moran & O’Connell, 2012; St. John, 2006; Wrigley & Emmerson, 2011). Flow occurrences in listening activities and music making activities also have implications for various populations, including non-musicians. How personality and disposition may have an impact on one’s ability to achieve flow should also be considered by music teachers and music performers. This, in

turn, should lead to examining moments when personality or disposition may hinder the ability to achieve a state of flow. This includes performance anxiety and how experiencing an optimal state may be interrupted by nervousness, distractions, or other outside forces.

Perhaps one of the most important aspects of flow to examine with relation to music education, music performance, and music consumption is that of the intrinsic motivation that takes place in a state of flow. We are often inclined to sacrifice a great deal in order to pursue the sheer joy of making music, but where does that drive come from? Understanding who experiences flow could potentially help educators understand why certain students are more motivated than others. Performers may better understand why they sometimes enjoy performing in certain situations more than others, or why they have a desire to repeat certain practice or performance events. Anticipating what creates flow states in rehearsals and educational settings could benefit instructors and students in more effectively structuring rehearsal time and spaces. The questions of who is in flow, why are they in flow, and how are they achieving a state of flow may help us better structure and prepare curriculum, sequencing, and performance avenues in music so that we can enjoy this transcendent state as much as possible.

The pertinent themes found across many different studies on flow through a vast array of musical activities, performing contexts, attitudes, and perceptions, could have a direct impact on how we as music teachers approach common music education practices, and how we could potentially reform music education curricula, methods, and approaches. A content analysis of major studies in the area of flow and music will be examined and synthesized. For this particular research study, the framework of a content

analysis is advantageous due to the abstract and personal nature of flow. Content analysis provides information that more fully captures the multi-faceted and subjective qualities of the flow experience. This study strives to investigate the body of literature that exists on the phenomenon of flow as it pertains to music consumption in the form of listening and enjoyment, music teaching in areas such as pedagogy and curriculum, and aspects of music performance including emotional, psychological, and physical responses to music. By synthesizing these pieces of the many different aspects of the flow experience and music, this research seeks to answer these questions: What does current literature say about flow in music? How might this information impact thought on music performance, teaching, and consumption? Exploration and analysis of data aims to create a more comprehensive view of flow and music.

## CHAPTER II – REVIEW OF RELATED LITERATURE

### Measuring Flow

Measuring flow continues to be a difficult task due to the subjective nature of the experience. Jackson & Marsh (1996) discuss that “any attempts to investigate flow are fraught with difficulties and limitations. Part of the attraction of the flow state lies in its mystique. Flow cannot be fully captured by a score on a questionnaire, experience sampling methods, or indepth interviews” (p. 32). Several different methods of capturing and measuring flow have been investigated for the myriad of contexts where it may appear.

Larson & Csikszentmihalyi (1983) began using the Experience Sampling Method (or ESM) to try to capture self-reported data of participants’ experiences including activities and feelings. This sampling method “consists in asking individuals to provide systematic self-reports at random occasions during waking hours of a normal week... [to] create an archival file of daily experience” (Larson & Csikszentmihalyi, 1983, p. 21). Participants are randomly given a signal on a pager at multiple points during the day. If possible, they must stop what they are doing to answer a series of questions about the activity in which they are currently involved and what subjective feeling or mental states they feel they are in currently, or their thoughts, perceptions, and feelings. Participants are to record this information during their “regular day” for several days or sometimes for weeks depending on the researcher’s preference. This type of sampling method has since been explored and used in a variety of contexts. As Kubey, Larson & Csikszentmihalyi (1996) assert, these “comprehensive snapshots at each random moment” or short frames of information captured individually do not capture the richness or depth of the reality

taking place, but these random clips taken over time can be pieced together to form a cohesive picture of behaviors and experiences (p. 23). Phenomena such as flow are best captured gradually in a variety of contexts and circumstances (Kubey et al., 1996).

Several measures, questionnaires, and observational forms have been created to try to record the flow experience or various parts of it. A variety of developed flow scales provided practitioners and researchers a plethora of flow assessment tools so that it may be examined in different situations and from diverse perspectives (Jackson, Eklund & Martin, 2010). The three most common scales include multidimensional, unidimensional, and core flow scales. The multidimensional scales include constructed measurements called the Flow State Scale-2 (FSS-2) and Dispositional Flow Scale-2 (DFS-2).

The FSS-2 came from the original Flow State Scale (FSS), developed by Susan A. Jackson and Herbert W. Marsh (1996), and primarily looks at the dimensional nature of flow. A 54-item questionnaire and subset shortened 36-item version of the questionnaire were developed with questions examining the dimensions of flow that were to be answered by the participant using a five-point Likert-type scale. Participants were asked to consider an activity when they felt fully immersed and engaged, or an activity they just completed in which they felt fully immersed and engaged and then answer questionnaire items accordingly. The Flow State Scale was found to be a valid and reliable measurement of the flow construct (Jackson & Marsh, 1996).

The Dispositional Flow Scale – 2 (DFS-2), written in conjunction with the Flow State Scale-2 (FSS-2), was found to be a reliable instrument to examine and measure the flow construct (Sinnamon, Moran, O’Connell, 2012) and is used in a variety of contexts



that include physical activity (Jackson & Eklund, 2002). The FSS-2 and DFS-2 were created alongside each other in order to explore the relationships between the dispositional aspects of flow and the characteristics of the flow experience. (Jackson, Eklund & Martin, 2010). Whereas the FSS-2 was designed to be completed immediately after the event to try to grasp the participants' immediate feelings and reactions, the DFS-2 was designed to be completed at a different time than immediately following the activity. The DFS-2 seeks to understand an individuals' flow proneness based on their disposition and personality, often labeled the "autotelic personality," which will be discussed later.

Both of the multidimensional flow scales, the FSS-2 and the DFS-2, are self-report instruments intended to examine flow experiences based on the nine different dimensions of flow (Jackson, Eklund & Martin, 2010). Both scales are 36 items and questions are to be answered using a five-point Likert-type scale, similarly to the original FSS. For the most detail regarding participants' flow experiences, these flow scales classified as the *LONG* form of the questionnaires are the most comprehensive and thorough. Jackson, Eklund & Martin (2010) elaborate that two additional subsets exist for the long flow scales, the *LONG Flow – General* and the *LONG Flow – Physical* which contain minor wording differences. The *Physical* form's primary use would be for athletic, sport, and performance settings where there is an obvious physical component to the activity. The *LONG Flow - General* form is geared more towards activities where physical movement is not as prevalent or pertinent to the activity, and slight variance in wording "make[s] them adaptable to a wide range of settings" (Jackson, Eklund & Martin, 2010, p. 13). Versions of the DFS-2 and FSS-2 in other languages than English

have been utilized in flow research internationally. Kawabata, Mallett & Jackson (2008) used and demonstrated the validity and reliability of the Japanese rendition of the DFS-2 and FSS-2, appropriately labeled the Japanese Dispositional Flow Scale – 2 (JDFS-2) and the Japanese Flow State Scale – 2 (JFSS-2).

The flow state scales include *SHORT* forms of the DFS-2 and FSS-2 as well as the *CORE Flow Scales* (Jackson, Eklund & Martin, 2010, p. 10-11). The unidimensional or short forms are concise versions of the DFS-2 and FSS-2. Instead of being 36 items, each scale is only nine items long, examining briefly each one of the nine dimensions of flow for a “concise assessment of the global flow construct” (Jackson et al., 2010, p. 11). The *CORE Flow Scale* is used to demonstrate what the flow experience is like from the perspective of the person experiencing flow with a more phenomenological approach to the lived experience of flow (Jackson, Eklund & Martin, 2010). Differences between the *SHORT* and *CORE* instruments and their full-length versions were found to be appropriate measures when examining subject experiences, motivation, and task absorption (Martin & Jackson, 2008). Depending on the activity, parameters of the study, time allotted, and particular flow dimensions of interest, studies may employ a variety or combination of these scales.

#### The Autotelic Personality

Studies examining music and flow use a variety of different scales and other measures, attempting to capture a deeply personal, subjective, and often non-tangible and fleeting experience. Perhaps one of the most pertinent aspects of these scales, specifically the DFS-2, examines flow proneness or what Csikszentmihalyi labels the “autotelic personality.” Someone with an autotelic personality has temperaments or

personality characteristics that make them more likely to experience flow. For example, this may include people who are open to new things, tenacity towards challenges, ability to lose oneself in an activity, and intrinsic motivation to set and achieve clear goals for success. Noting these traits in individuals impacts how we approach satisfaction, motivation, and the desire to immerse oneself in continued music making.

As Csikszentmihalyi (2008) describes, the word autotelic comes from two Greek words, “*auto* meaning self, and *telos* meaning goal” (p. 67). The idea of self-motivation and the autotelic personality examines the link between personality and one’s ability to experience flow and the intensity of that flow state. Using the Temperament and Character Inventory (TCI), a personality test that closely coincides with the dimensions of flow, Teng (2011) examines different dimensions of temperament and character as they relate to the likelihood of someone experiencing flow. The study found that traits such as novelty-seeking, persistence, and self-transcendence were positively related to flow, and more importantly was the first study of its kind to examine the relationship between the dimensions of flow and how they relate to individual temperament and character. The data suggest a relationship between certain personality facets and dimensions of flow (Teng, 2011). Although Teng’s findings do not speak to musical activities, other studies demonstrate links between flow proneness and personality traits that may influence one’s ability to experience flow when engaged in a musical activity (Bloom, Skutnick & Henley, 2005; Butkovic, Ullén & Mosing, 2015; Fritz & Avsec, 2007; Sinnamon, Moran & O’Connell, 2012; Sutton, 2004). Before looking at research specifically focused on flow and music, examining the other realms in which flow occurs helps us to better understand the subjectivity and unique aspects of the phenomenon.

Current research suggests flow occurs in diverse populations, varying age groups, and during a wide variety of activities. Flow occurrences have been recorded among teenagers engaged in skateboarding (Seifert & Hedderson, 2010), adults who ocean-cruise for years at a time (Macbeth, 1988), and Japanese motorcycle gangs (Sato,1988). Research in math problem solving (Golnabi, 2017) and creative writing (Larson, 1988) provide other examples of flow experiences and how a proper balance of challenge and skill can initiate immense satisfaction. Yoga practitioners (Phillips, 2005) and modern dancers (Hefferon & Ollis, 2006) report flow experiences, presenting how enjoyment may be evidenced in physical activity. These studies demonstrate the multitude and range of how flow may be experienced, and the innumerable different interests in which people are engaged that potentially prompt flow.

#### Flow and Online Activities

One of the fastest growing areas of research examining flow is that of web activity and online technology usage. With the mainstay of technology and the internet, it is no surprise people are spending more time immersed on the internet. Chen, Wigand & Nilan (1999) label web activity as a “multi-activity medium” that involves “new creative, communicative and collaborative activities” (p. 590). They suggest that the myriad of activities and varieties of ways to connect with others provide a type of balance of challenge and skill that may involve the individual goals of the web browser. Less obvious than other flow facilitating activities, web browsing flow may be indicated by enjoyment, time distortion, and telepresence (Skadberg & Kimmel, 2004). Pace (2004) asserts participants of different gender, age, occupation, and web experience reported

experiencing flow while using the web, noting that a wide variety of individual differences among participants exists.

In similar studies, web users reported satisfaction and enjoyment in their web browsing experiences when the program they were using had easy usability and good content (Calvo-Porrá, Faña-Medín & Nieto-Mengotti, 2017; Pilke, 2004). Chen (2006) also examined the satisfaction experienced by web users and found that participants who reported experiencing flow also reported positive affect and enjoyable feelings as a result of flow. Positive attitude as a result of flow experiences during web usage resulted in participants learning and retaining more information while exploring the web (Skadberg & Kimmel, 2004).

Online gaming and computer gaming provides comparable flow occurrences to web browsing. Flow experiences often predict participation and users' reception of online games (Hsu & Lu, 2004). Like other web-based activities, observing a balance of skill and challenge as well as achievement of goals are important flow facilitators in computer gaming (Engeser & Rheinberg, 2008). These flow facilitators are so well constructed into the game, that sometimes gamers find themselves addicted to the challenge and subsequent goal achievement. H. Huang, L. Huang, Chou, and Teng (2017) examined how temperaments and personality characteristics of gamers impacted their intention to repeatedly play a game. Flow dimensions and personality were used to examine gamer responses and their gaming loyalty.

#### Flow in the Workplace

Flow occurrences in the workplace provide a unique perspective of the experience because the joy of leisure, although possibly experienced at work, is not the primary

motivation. Ilies et al. (2017) assert people are able to experience flow in the workplace when other psychological needs are met, including autonomy and competency. This study also noted that personalities of the workers had an impact on flow, as did their feelings of well-being. Similar findings suggest everyday routines and the skills of workers had the most significant and impactful relationship with flow occurrences (Deitcher, 2011).

In a study specifically examining the occurrences of flow in the workplace among professional and blue-collar women, autonomy and skill was important as it provided more flow experiences for professional working women. Blue-collar women did not experience flow as frequently due to boredom, frustration with suppressive supervisors, and general unhappiness in their job (Allison, 1988). These results can be expounded by continuing to examine work-related flow. Salanova, Bakker & Llores (2006) found that self-efficacy beliefs and the social support and goals that people have in the workplace facilitate work-related flow, and that work-related flow creates self-efficacy, social support, and goal achievement. Salanova et al. (2006) suggest “optimiz[ing] the work environment” can lead to “positive consequences of self-efficacy” (p. 19). Pondering information from studies on work-related flow demonstrate the wide array of contexts in which flow may or may not occur in the workplace.

#### Flow Inside and Outside Schools

For students who have not yet entered the workforce, we may examine flow experiences with a different age group in mind. Research on students studying a variety of subjects at school and outside of school contexts yield another aspect of the flow phenomenon. Hektner & Csikszentmihalyi (1996) examined teenage behavior in a

longitudinal study looking at patterns of flow experiences in and out of school contexts. Flow experiences were observed in both contexts and created positive changes on their cognition and affect. The students who experienced flow also demonstrated an increase in self-esteem and motivation as well as being more proactive in their future career goals. In this case, flow experiences created many positive byproducts. Similarly, D. Shernoff, Csikszentmihalyi, Schneider & E. Shernoff (2003) examined student engagement among high schoolers to see how they decided to spend their time when they are most engaged in an activity. Results showed learning episodes that facilitated flow included activities where students could interact, they felt they were in control of their learning environment, and they had appropriate skills to balance with the challenges at hand. (Shernoff et al., 2006).

Ellwood & Abrams (2017) explored similar findings by examining students on and off campus and found activities that encouraged flow created greater achievement and motivation among students. Examining students in an obligatory statistic course, computer gaming as leisure, and voluntary French course, Engeser & Rheinberg (2008) found achievement was an important flow facilitator. The balance of challenge and skill that students had to negotiate was a main factor in the variety of activities and whether or not they were able to achieve a state of flow (Engeser & Rheinberg, 2008).

Chang (1996) expounds on similar results in student teachers and their flow experiences. A balance of challenge and skill was crucial for student teachers to be able to experience flow; however, quite often the student teacher thought that the challenge was too great for them, and they underestimated their perceived skill and were able to find balance. Receiving clear feedback also remained a crucial part of facilitating flow.

Anxiety was a recurring factor in hindering flow. This was also noted in research by Carli, DelleFave & Massimini (1988) in examining the difference in flow occurrences between Italian and American students. Although the amount of flow between the two groups was fairly matched, Americans demonstrated a preference for being more in control of their situation and felt anxiety when they were not in control. Anxiety created the biggest hindrance for American students while Italian students' flow experiences were most blocked by feelings of apathy when they were not challenged enough. Comparable data from both groups suggested that a balance of challenge and skill are important to facilitate flow.

#### Flow and Athletics

Another area that emphasizes the importance of the balance between challenge and skill is athletics. With a great deal of breadth and depth in flow research, many different athletic activities and situations lend themselves well to flow experiences. Early flow research suggested that physical education classes had the highest mean for flow provided there was a balance of challenge and skill (Chandler, 1987). More current research on flow and athletics assert flow does not occur by coincidence in athletics as there are several factors that inhibit or facilitate flow, many of which that can be controlled (Hefferon, 2006; Nicholls & Polman, 2005, Pain, 2003; Pates, 2003 Phillips, 2005; Swann, Keegan, Piggott & Crust, 2012).

Hodge, Lonsdale & Jackson (2009) investigated basic psychological needs of athletes, dispositional flow, and athletic engagement among elite athletes. This study suggests athletes must have their basic psychological needs met before they are able to feel motivation and engagement that can lead to flow experiences. Studying dispositional



flow and mindfulness, Kee & Wang (2008) assert higher scores among athlete participants on a Mindfulness/mindlessness scale (MMS) coincided with significantly higher Dispositional Flow Scale -2 (DFS-2) scores, specifically in the areas of balance of challenge and skill, merging of action and awareness, clear goals and feedback, total concentration, and loss of consciousness. González-Cutre, Sicilia, Moreno & Fernández-Balboa (2009) investigated the occurrence of dispositional flow in physical education classes and found if students were socially motivated and believed they had the skills necessary to complete the task that they were more likely to demonstrate dispositional flow. Additionally, the teacher served as an important factor to help facilitate motivation which could lead to flow (González-Cutre et al., 2009).

Flow has also been examined in specific sports, and in some cases some of these overlap with music and imagery. Golfers were able to increase flow intensity and flow occurrences utilizing imagery intervention while playing (Nicholls, Polman & Holt, 2005). Pain, Harwood & Anderson (2011) also used imagery as a tactic for competitive soccer players, but also added asynchronous music to help personalize pre-performance rituals. Pain et al. (2011) define asynchronous motivational music as music that is not intended to be synchronized with some type of movement, like one might find in aerobics or dance. This music was utilized so that the soccer players could listen to something which was not intended to elicit specific movements, but rather provided background music to help motivate the players. In order to “assess the qualities of selected music to ensure if could be considered ‘motivational’ for each participant,” this study utilized the Brunel Music Rating Inventory-2 (BMRI-2) (p. 217). This instrument assesses musical qualities of selected music using six psychophysical questions on a 7-point Likert-type

scale. Imagery and asynchronous motivational music did help facilitate flow and positive perceived performance among competitive soccer players (Pain et al., 2011). A similar study in asynchronous music, pre-performance imagery, and flow was completed on netball performance (Pates, Karageorghis, Fryer & Maynard, 2003). Using personal imagery and asynchronous music selected from their personal music collection, two-thirds of the participants experienced flow and all participants improved their netball shooting performance suggesting, personally preferred music and imagery can enhance athletic performance (Pates et al., 2003).

The use of asynchronous motivational music to improve or facilitate flow presents only one aspect of how flow in athletics and flow in music may be related. Although different in training and execution, the performance realms of athletics and music share several constructs when examining flow. Martin (2008) asserts music and sport remain in “two distinct domains” but examining the two together can give “insight into and understanding of the key factors that are relevant to motivation and engagement across performance domains” (p. 136). Similarly, Bellon (2006) examined professional athletes and musicians and their perceptions and descriptions of flow which were found to be remarkably similar. Athletes and musicians describe a distortion of time, complete absorption in activity, loss of self-consciousness, relaxation and pleasure, and the need for feedback and clear goals. Further discussions regarding how professional musicians could apply sport psychology principles to facilitate flow provide an interesting bridge between the activities (Bellon, 2006).

Flow in the aforementioned leisure activities, web browsing, gaming, and educational contexts can all be described by Csikszentmihalyi’s (2008) dimensions of

flow, but the experiences are quite different. Although athletics and music making share many common characteristics in flow experiences, it is necessary to examine the different manifestations of flow through the lens of music specifically. There exists a breadth of literature on music and flow that helps to inform our understanding of just how subjective, personal, and circumferential this experience can be.

### Flow and Music

Butkovic, Ullén, and Mosing (2014) examined personality traits such as openness, motivation, flow proneness, and IQ to gain a better understanding of why certain people may engage in musical practice more than others. Using the Swedish Flow Proneness Questionnaire (SFPQ), with the addition of seven sub-set questions specifically directed to flow and music, this study found that flow proneness was by far the strongest predictor of music practice frequency. The activity of practicing music involves so many of the different dimensions of flow that it is no wonder individuals who are more prone to experience flow find satisfaction and intrinsic motivation in an activity like musical practice. These studies suggest certain elements of one's personality do impact the likelihood of whether or not someone may experience flow and the intensity of the flow state.

In examining flow proneness, perhaps one of the categories of people who experience flow the most are children. The uninhibited, playful, and often spontaneous interactions that children engage in make them a likely group to experience flow, especially in a musical setting where they are able to be creative and flexible. Custodero has studied children's music learning many different contexts which has led to several investigations of flow experiences of children in the music classroom. The Flow

Indicators in Musical Activities (FIMA) form was created by Custodero (1998) as a method to observe and record children's behavior during music activities.

Custodero's 1998 study on flow in children's music experiences found the FIMA to be a reliable and valid way to observe flow in children, and has been used in a variety of ways since. The study also revealed that the quality of adult intervention had a direct impact on the students' flow experiences. Students' awareness of adults and peers served as a good indication of how absorbed they were in the musical task at hand as well as their intrinsic motivation. When left to their own devices, this study found that children will go to great lengths to manipulate their own learning so that they can regulate their own balance between challenge vs. skill level (Custodero, 1998). St. John (2006) revealed similar findings in research about scaffolding in the elementary music classroom. This study found that, if given the opportunity, young students in a music classroom will place themselves where they need to be and with whom they need to be in order to facilitate and maintain flow.

Later studies examined boundaries, guidelines, social interactions, and how they impacted students' flow experiences in the music classroom (Custodero, 2005; Custodero & Stamou, 2006). These studies revealed students are more likely to enter a flow state when clear boundaries or guidelines are present, despite the notion that most teachers believed the opposite. Observable characteristics of flow included "deliberate gestures, anticipation, and self-assignment" (Custodero & Stamou, 2006, p. 1669).

Cunha and Carvalho (2012) used Custodero's FIMA form and revised it to coincide with their study on how Orff-Schulwerk activities impacted children's music learning and flow states. This longitudinal study sought to examine children's lived

emotions by observing them doing musical activities through the Orff approach, and found that Orff activities created positive emotions and prevalent flow states in children. They found “joy, contentment and interest have an effect of broadening” students’ experiences in Orff-Schulwerk music making activities, and may “be significant in the way children acquire musical knowledge” (Cunha & Carvalho, 2012, p. 239).

The interaction that children have with one another can be an important aspect of the creation of a flow experience. This idea can be seen in more structured music ensembles where musicians can reach a transcendent state in part by having a feeling of being a part of something greater than themselves. The absorption, coordination, and concentration required to perform in a large music ensemble setting welcomes many characteristics that lead to flow experiences. Freer (2009) explains in his study of young male choir participants that flow experiences provide an opportunity for the music making activities of individuals to become entwined and indivisible from the music making activities of the ensemble.

Kraus (2003) examines the occurrence of flow in students’ experiences in a university wind ensemble setting. He found that students reported flow experiences, especially during longer periods of performance activity as well as more towards the end of the rehearsal as opposed to the beginning and middle of the rehearsal time frame. Participants reported that their likelihood to experience flow depended on what other people were doing during the rehearsal, and that stops during rehearsal time interrupted flow. More advanced students as well as students with autotelic traits were better able to create goals for themselves and find ways to engage in more challenges that resulted in flow (Kraus, 2003).

In addition to findings that flow occurs towards the end of the rehearsal block and when stops during rehearsal are less frequent, Cassie (2011) suggests flow occurs during longer playing episodes (between five and twenty minutes) in a large ensemble of beginning string players, and is more likely to occur in non-traditional seating arrangements where the room is set up to encourage student interaction. The data from this study suggest that the collective effort from everyone in the ensemble helped stimulate flow states for participating students.

Students' flow experiences seem to be related to rehearsal structure, how long each activity lasts, and whether there are lots of stops and starts. Additionally, a study examining flow in a collegiate marching band found that flow experiences were more frequent and more intense when the musician enjoyed the music they were rehearsing or performing. This research also revealed that flow experiences are more common in the marching band setting in performance situations as opposed to rehearsals (Steckel, 2001).

In ensembles, regardless of size, flow often occurs during actual performances as opposed to rehearsals perhaps because of the unique experience of performing, but also due to the continuity of the activity where there are no stops as would be likely in a rehearsal setting (Cassie, 2011; Kraus, 2003; Steckel, 2001). During a performance, the performer may be in a heightened state of arousal from the rush of performing in front of others or possibly driven by the thought that they cannot stop the performance.

Sinnamon (2012) asserts that flow occurs for both elite student performers as well as amateur students in the context of both music classes and studio lessons. This study found the DFS-2 to be a reliable instrument as well as providing information about the high frequency of flow states in student musicians during performances. Wrigley &

Emmerson (2011) revealed similar findings, however, they elaborated by including data that suggest the flow experience was diminished, less satisfying, and less absorbing if assessment was involved. This study alluded to music performance being similar to performance in athletics, and saw little variability in who achieved flow when considering instrument, grade level, or gender.

In addition to observing flow in performance situations, Trayer, Harré & Overall (2011) sought to discover what contributed to young students' desire to participate or perform again in structured artistic performance activities. They examined the quality of the individuals' experiences, personal feelings, and flow states through interviews as well as administering the Positive and Negative Affect Schedule (PANAS) and the Flow State Scale (FSS). Consistent with findings from similar studies, this study found that the measurements taken in real-time as well as the students' reflective responses revealed reports of "high levels of positive emotions, flow, togetherness, and integrity" (Trayer, 2011, p. 174). Additionally, in examining insights into whether or not a student would want to repeat the activity, students that reported having experienced flow coincided with their eagerness and inclination to want to recreate the experience again (Trayer, 2011). The findings of this study suggest flow experiences serve as motivation to repeat the activity in which they experienced a flow state, including performance situations.

Although performances are prime opportunities for flow to occur due to the uniqueness of the experience, there are situations in which flow may be unachievable exactly because it is a performance; due to the optimal conditions for the individual that must be present for flow to occur, one's ability to experience flow may be dampened by performance anxiety. The loss of self-consciousness is one of the dimensions of flow in

that the individual must be so engrossed in the activity both mentally and physically that there is no opportunity for feelings of self-consciousness or self-scrutiny. The anxiety that a performer may feel in front of others can cause an inability to “lose” themselves in the moment.

Kirchner, Bloom & Stutnick-Henley (2008) and Kirchner (2011) found that flow proneness, or one’s likelihood to experience flow, also known as dispositional flow, was significantly and negatively impacted by performance anxiety. The predictors of flow proneness included self confidence in ability, desire to express emotion through music, having pre-set goals, the ability to keep their focus on the music, and the ability to play without self-criticism. Experiences with performance anxiety directly impacted the performers’ abilities to experience flow. Performance anxiety creates “scatterbrainedness” and the sensation that time is being drawn out, however, flow states create a feeling of heightened organization and focus and the sensation that time has “flown” by. A study examining flow and performance in amateur percussion auditions also demonstrated a negative correlation between flow proneness and performance anxiety – the more anxiety was experienced, the less likely that the performer experienced flow (Stocking, 2013).

When considering the domain of flow in which action and awareness merge, it is perhaps no surprise that there is a physical component of flow. This physical component can often be interrupted by the negative physical side effects of performance anxiety, however, when experiencing flow, some of the signs of performance anxiety can seem remarkably similar to a flow state. The body is engaged on both accounts, and is



physically functioning in a state of high arousal. Athletes report experiencing flow in a variety of different contexts as do surgeons who operate for several hours at a time.

Beyond the controlled physical movements to execute a task such as playing piano, Manzano, Harmat, Theorell & Ullén (2010) found that there was a significant relationship between flow and heart rate, blood pressure, facial muscle movement, and respiration. Pianists were asked to perform a piece of their choosing that they enjoyed while being monitored for heart rate, blood pressure, respiration, and any movement occurring in facial muscles. Upon concluding their performance, they rated their state of flow, if any, using the Flow State Scale (FSS), which was found to be a reliable measurement of flow (Jackson & Eklund, 2004). Data from movements of the Zygomaticus Major (ZM), the so-called “smile muscle” which activates during “positive, high-arousal, joyous states,” and deep breathing suggest that an increased activation of the sympathetic branch of the autonomic nervous system engages when an individual experiences flow (Manzano, Harmat, Theorell & Ullén, 2010, p. 303).

Playing an instrument or singing can have an impact on one’s physiological responses to music, but simply listening to music may also have an effect. Although a great deal of research has examined the relationship between music making and flow, some studies have demonstrated that listening to music can be just as powerful as playing an instrument or singing. In a study regarding mindfulness activities and reports of attention, aesthetic response, and flow experiences to such activities, data suggest that all participants experienced a “heightening” of attention during music listening that resulted in a positive psychological experience (Diaz, 2011).

Without guidance through specific tasks or training, people were still able to achieve flow states when simply listening to music. Spangardt, Ruth & Schramm (2016) found that when listening to the radio, people enjoy listening to songs that are familiar to them and that they like the sound of regardless of their skill in analyzing music. Complexity in the music created more frequent flow states for some listeners with musical experience while it diminished flow states for younger and less-experienced music listeners.

Teachers seek to create a safe, engaging, energetic, and stimulating environment for their students so that they can become fully immersed in the learning activity at hand whether it is listening to music or making music by singing or playing instruments. In the music classroom, having students experience flow should be an overarching objective because this likely means that sequencing and instruction have provided the student an opportunity to become completely absorbed in the activity without any self-scrutiny or doubt in their ability. In examining the instruction of individual participants in a boys' choir, flow experiences typically occur more frequently when the director is sensitive to the needs of individuals within the ensemble as well as being attentive to entire group. Additionally, repertoire selection, structure of rehearsal time, and using rehearsal techniques developmentally suitable and artistically meaningful for the individuals in the ensemble were key factors to create flow experiences (Freer, 2009).

Because of the organization and sequencing required to create flow situations among students, it is likely that teachers may enter a state of flow themselves. In Bakker's 2005 study, teacher flow experiences occurred due to a combination of autonomy, performance feedback, social support from colleagues, and coaching from

supervisors. In examining crossover and emotional contagion theories, Bakker also suggests that teacher's experiences with flow do crossover to their students. The more flow experiences the teachers reported, the higher frequency of comparable experiences their students had as well (Bakker, 2005).

Flow may also be dictated by not only the *how*, but also by the *what*. Selecting learning materials can help to contribute to students' success, thus potentially helping them to experience flow. Hopkins (2013) examined Vygotsky's Zones of Proximal Development as well as Csikszentmihalyi's Flow Theory as frameworks to consider how to select repertoire for large ensembles and how it could impact motivation and participation of students in an ensemble. Hopkins puts forth the notion that repertoire should be chosen that "permits an emphasis in rehearsal and performance on the musical versus the technical aspects of a piece...[to] ultimately lead to high levels of musical growth, understanding, and motivation" (Hopkins, 2013, p. 74).

When examining assessment and instructional planning, it may be helpful for teachers to look at students' flow experiences. Byrne, MacDonald & Carlton (2003) conducted a study on students doing a group composition project to look at the quality of the work and the enjoyment or flow state of the group members. Data suggest that the quality of a group composition project is higher if the students are experiencing more flow states while working. These findings suggest that flow models may be helpful in initiating instruction, planning student activities, and assessing student progress in the music classroom (Byrne, MacDonald & Carlton, 2003).

Not only did students experiencing flow have higher quality work, but it seems the reverse of this is also true in that higher achieving students experience flow more

often. O'Neill's 1999 study examines high achieving music students at a specialist music school, moderately achieving music students at a specialist music school, and regular music students at a basic state school. Data suggest flow experiences were more frequent with musical activities over non-musical activities for all students. Perhaps more pertinent to examining flow and achievement, findings also suggest that high achieving music students at the specialist music school experience the greatest amount of flow compared to their moderately achieving classmates. However, students at a regular state school who are simply involved in music but not necessarily high achieving, also experienced high instances of flow when participating in music. O'Neill (1999) asserts the experience in a specialized music school may potentially put a lot of stress and evaluative pressures on students which could contribute to depletion of flow experiences. This may be especially true for students who, based on standards created by the school, are less musically capable. These findings intend to encourage researchers and educators to investigate other ways of cultivating motivation and satisfaction among music students as well as continued engagement in music making activities so that they have the best opportunities for success (O'Neill, 1999).

Csikszentmihalyi, Rathunde & Whalen (1993) describe how talent impacts flow frequency among teenage musicians. They found that talented musicians experience more flow than those with less than average ability. These findings suggest that not only do students experience higher levels of achievement when they are in a flow state, but they also experience flow more frequently if they are achieving well at the task at hand.

Experiencing satisfaction and success motivates an individual to continue the activity or repeat the activity again and again. Sometimes these experiences go beyond

basic enjoyment. The intensity and deeply personal nature of one's flow experiences can lead to some descriptions of flow as a state of transcendence or a peak experience.

Maslow (1971) describes peak experiences as "a generalization for the best moments of the human being, for the happiest moments of life, for the experiences of ecstasy, rapture, bliss, of the greatest joy" (p. 105). When investigating flow and music, these peak experiences are not limited to musicians with formal music training. The emotional aspects of flow should not be compared to an aesthetic experience. A complex study or philosophical examination of music are not necessary for the listener or music maker to experience flow (Pike, 1972).

In qualitative interviews regarding enjoyable musical experiences, Bernard (2009) asserts instances of transcendence and peak experiences were shared by participants without any sort of prompt more than any other topic in regard to music making, teaching, and learning. In order for musical transcendence to be labeled as such, Bernard mentions the musicians must be performing at a level that is at the top of their ability, but perhaps more important, that they have a sense of being a part of something greater than themselves. This may include an ensemble or group of performers, but could also be more abstract like a "cultural tradition" or perhaps "being a part of larger forces of nature or of the universe" (Bernard, 2009, p. 4).

In examining the subtle differences between peak experiences and flow in music, it is suggested that peak experiences imply a certain esoteric and abstruse quality that differs from the discernable definition of flow (Privette, 1983). Peak experiences may not be driven by strong motivation whereas flow is defined by intrinsic motivation and doing the activity for the sheer satisfaction of doing it. Privette (1983) describes how

immersion in the task at hand creates a temporary loss of self that coincides with both flow states and peak experiences. With this we conclude that peak experiences, transcendence, and flow all involve the shared idea of participants' feelings being a part of something greater than themselves.

### CHAPTER III - METHODOLOGY

The methodology employed in this study is based in content analysis. Similar to a meta-analysis, where trends and patterns are apparent after analyzing data from a wide body of research, content analysis provides an overview of trends and emergent similarities among many different studies and literature (Glass, McGaw, & Smith, 1981; Neuendorf, 2017). The amalgamation and examination of the body of research on a certain topic can potentially contribute beneficial and more comprehensive information to the overall knowledge about a certain subject (Standley, 1996). Due to the subjective and personalized nature of flow, many of these studies will be examined by a more qualitative means including nomothetic content analysis, rather than a meta-analysis. Neuendorf (2017) explains “a nomothetic study hopes to identify generalizable findings, usually from multiple cases” (p.23).

Content Analysis can be defined as:

A data analysis strategy used to study the content of texts and discourses. Qualitatively oriented researchers who use content analysis (CA) seek to understand the meanings, symbols, and communicative nature of texts, through either deductive or inductive measurements (Stan, 2009).

Flow occurrences in disciplines such as athletics, gaming, yoga, dance, and a myriad of other activities help to provide a global look at flow instances. Research examining flow and other subjects outside of music was used to gain a greater perspective of the flow experience, however, was not utilized as a major part of the study so that the lens could be more focused on musical aspects. Within music specifically, there exists a wide variety of ways in which flow is reported and studied. Elo & Kyngäs (2007) state that content analysis provides a means to extract prevalent themes into

categories based on their related material which could help organize findings into readily available data for music teachers and performers.

This study sought to examine the body of literature that exists, specifically for flow and music, so that we may paint a more complete picture of how flow occurs, in what contexts it is most likely to occur, and also what often prevents flow from occurring. The literature examined included scholarly research in the form of books, journals, dissertations, thesis, and conference proceedings. Specific information was found by running keyword searches and examining reference citations from reputable sources of data. Music education journals and dissertations served as a primary search vehicle for the most recent research.

The pertinent literature was read and analyzed for emergent similarities and differences. Using content analysis, this information was then assembled into categories and reported (Wolcott, 2009). Specifically, keywords, recurring themes, and similar findings were recorded and color coded by likeness. Color-coded themes were then grouped together and analyzed so that they could be broken down into smaller subcategories within each color coded category. Emergent connections in the literature categories were often grouped together based on findings or implications of the study. Similar categories were organized to support cohesive overviews of unique flow experiences in a variety of settings.

The approach of qualitative content analysis provides a more thorough, transferable, and personal look at the flow experience. It is possible, in qualitative content analysis, that concepts and patterns develop that were not anticipated. Although not portended, this does not lessen their importance, and unforeseen themes were still



considered (White & Marsh, 2006). It is with this in mind that the initial research questions were re-examined to mesh with emergent concepts and patterns to best describe flow in music (White et al., 2006). Gathering data from studies on flow and music, we begin to see trends and commonalities that inform our understanding of flow in music, but also lead to examining certain trends over others that are more pertinent to music education, performance, and general consumption.

Upon analyzing and categorizing numerous studies pertaining to flow and music, the scope of the study needed to be structured differently than originally anticipated. Rather than defining specific categories of flow and music, the literature was first split into three main categories: music teaching and flow, music performance and flow, and music consumption and flow. As previously mentioned, these categories were then further divided into subcategories to better capture the specific instances that create a bigger picture of flow in musical activities. The categories and subcategories will be discussed in depth in chapter four.

As Krippendorff (2004) discusses, “content analysis is context sensitive and therefore allows the researcher to process as data texts that are significant, meaningful, informative, and even representational to others” (p. 41). These findings have been categorized as such due to propinquity in populations, flow dimensions, types of flow experiences, types of musical activities, and other general music characteristics. Analysis of data search for notable elements and associations between related studies, and it is the synthesis of these elements and associations that paints a cohesive and informative picture (Stake, 2010). Data collection for this study is intended to provide an

examination and coalescence of applicable studies, as well as demonstrating patterns and commonalities that emerged.

Content analysis seeks to gather knowledge in order to produce understanding of a particular phenomenon (Downe-Wamboldt, 1992). Flow, being uniquely individual and subjective, lends itself well to exploring particular studies to compile data so that we might better understand this phenomenon in a universal sense as it pertains to music. Additionally, as Weber (1990) asserts, content analysis is used to demonstrate emergent patterns and the synthesis of psychological states of different cultures, societies, select groups, or institutions. Examining the present body of literature on the psychological state of flow in regard to music from a nomothetic content analysis viewpoint can provide us with insights regarding trends and commonalities of musical motivation and satisfaction, as well as music curriculum and pedagogical instruction.

## CHAPTER IV – RESULTS

The results from qualitative content analysis suggest current research on flow and music may be organized into three main categories: music performance and flow, music teaching and flow, and lastly, music consumption and flow. The categories were further sorted into subcategories to better elaborate on the nuances and individuality of flow experiences in the literature examined (See Figure 2 below). Several of the studies appear in multiple categories and subcategories as their participants, methodology, or results help to create a more complete picture of a particular emergent theme. The three main categories, as well as their subcategories, will be discussed below to gain a deeper understanding of the flow experience.

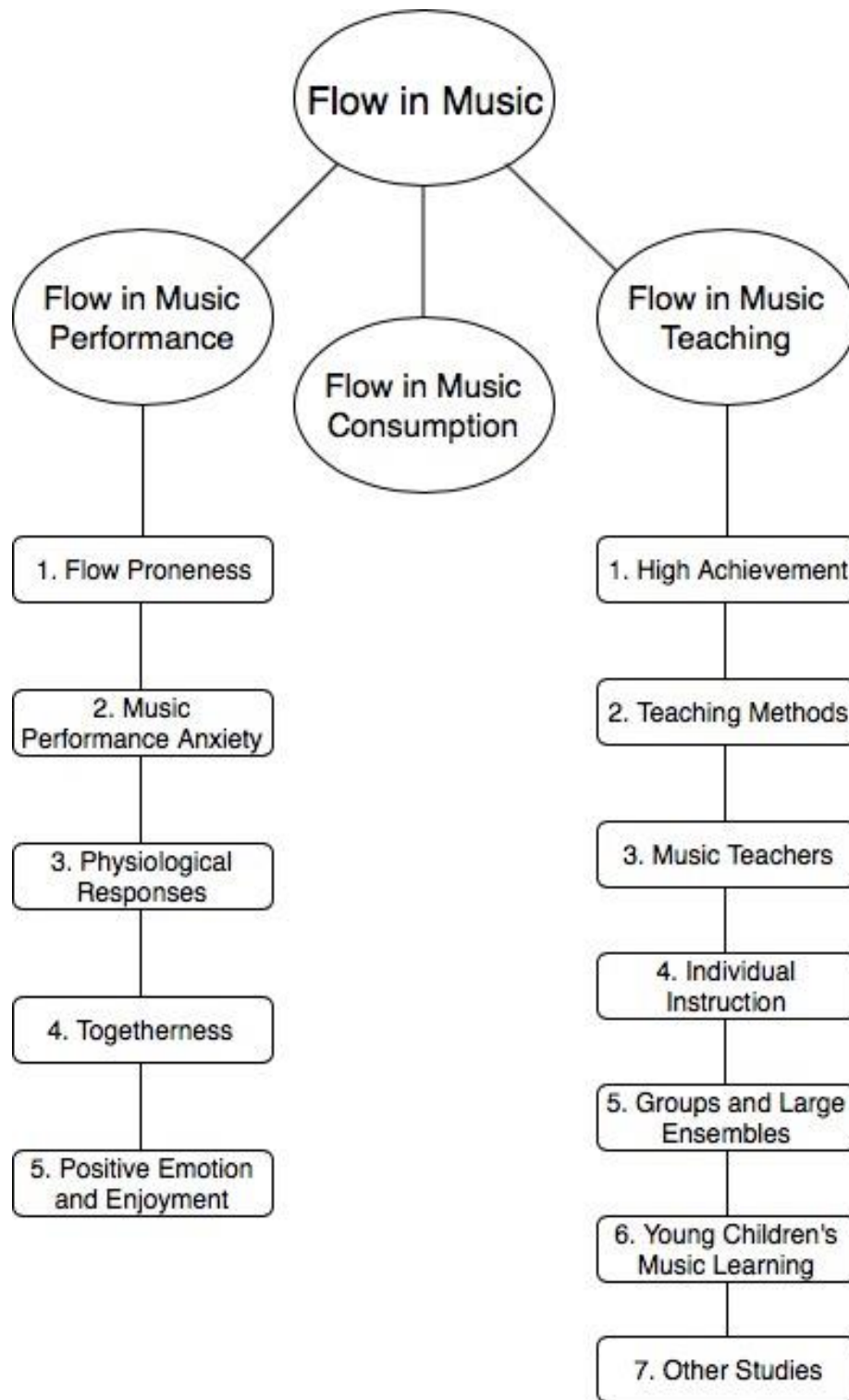


Figure 1. Results of content analysis organized into categories and subcategories.

## Flow in Music Performance

The communicative and emotionally stimulating aspects of music performance create an experience that is difficult to convey through words, and many of these experiences seem to “just click” in a way that the participants are able to achieve a state of flow. Creating an optimal experience relies on several factors, many of which depend on the individual. Specific preferences, personalities, and abilities must be considered, which makes the avenue of music performance and flow a personal and subjective endeavor. For this reason, much of the data collection utilized in studies found in this section contain qualitative, personal interviews.

Identifying individual differences among performing musicians is one of the most pertinent aspect of examining flow in music performance. Personality traits play a role in whether or not someone is likely to experience flow more than another individual, but it also has to do with the situation in which they are performing. Large ensembles versus individual performances, informal playing or singing versus performances that are being evaluated, practicing alone versus performing in front of an audience, and a simple matching of an individual’s skills to the challenge at hand can all have a significant impact on flow. Research examining these factors not only utilize personal interviews and observations, but also include more quantitative measures of flow like the Flow State Scale (FSS) and Dispositional Flow Scale (DFS).

A notable aspect of flow in music performance focuses on solitary music making and music making in large or small ensembles. One of the most profound experiences in music performance is the joining together of many players to create a cohesive and complex sound out of many individual voices. This feeling of togetherness and being a

part of something greater than oneself may be an important component to flow. The following examines and categorizes recent literature that expounds upon the many components of flow in music performance by focusing the lens on specific individual differences and performance experiences.

### *1. Flow Proneness and Musical Performance*

There are a wide variety of activities that create flow experiences, and the intensity and frequency of how flow is experienced varies as well. Much of the research on flow centers around phenomenology of the experience rather than the personality and flow proneness of the individual; however, investigating flow proneness provides insight into who experiences flow and why their experiences are different. Csikszentmihalyi and Nakamura (2009) describe flow proneness as the “autotelic personality” and go on to state that this “personality is distinguished by several *metaskills* or competencies that enable the individual to enter flow and stay in it” (p. 93). Among these characteristics are a general interest and curiosity in life, perseverance, and a lack of self-centered attitude. Those with an autotelic personality may find joy and satisfaction in certain activities, leading to flow states.

Looking through the lens of motivation and personality, Butkovic, Ullen, and Mosing (2014) examined flow proneness to better understand why certain people engage in more musical practice than others. Personality traits such as flow proneness, IQ, motivation, and openness were studied as possible predictors of practice behavior. The experience of flow was noted as the strongest predictor of positive and frequent practice behavior. Bloom and Skutnick-Henley (2005) also investigated flow proneness, but specifically in adult musicians. They discovered that individual differences among

participants had an impact on flow proneness. Self-confidence and belief in one's abilities as well as the aspiration to express emotion through music with others were significant predictors of flow proneness.

Large and small musical ensembles provide a helpful comparison among group members where some individuals report more flow experiences than others. When making music in any kind of ensemble, the feeling of being a part of something greater than oneself lends itself well to many of the dimensions of flow, yet certain individuals are more able to arrive to this peak experience. Kraus (2003) investigated flow occurrences in a university wind ensemble, and found that more seasoned students who demonstrated autotelic or flow proneness traits were able to experience more flow because of how they self-structured personal goals and created challenges for themselves in rehearsal. In similar settings of professional instrumental chamber ensembles that reported experiencing flow, Sutton (2004) noted the presence of autotelic personality traits among group members. This also included the group member's willingness to trust one another, the want to approach the task with preparedness and a sense of sharing music in a meaningful way, and an exclusion of self-pride. The characteristics investigated by Sutton (2004) are directly in line with Csikszentmihalyi's (2008) description of the autotelic personality.

Autotelic personality traits or flow proneness provide some insight as to why certain individuals may experience flow with more frequency than others. The activity, challenges of that activity, and skills needed to execute the activity are all important aspects of flow. Although autotelic traits are unique to individuals, they all share common characteristics as the current research suggests. Self-confidence in one's

abilities as well as perceived and actual skill level to complete a task are important facets of flow proneness. Autotelic individuals may even restructure their thinking, interactions, or task so that a challenge does exist for them to conquer. Another crucial aspect is the sense of being a part of something greater than the self, and the motivation to share with others emotion and meaning in the music. This strive for emotional connection demonstrates why performing music creates so many opportunities for flow to occur, and why someone with an autotelic personality would be drawn to such an activity.

## *2. Musical Performance Anxiety and Flow*

The realm of music performance coincides in different ways with flow occurrences. Although there are many people who experience flow regularly in music performance settings, whether they are prone to experience flow or not, there exists another population in music to examine to further our understanding of why flow may not occur. On the one hand, the special moments that performances create are difficult to replicate anywhere except in that exact moment. This unique, peak experience presents ample opportunities for flow to occur, provided that the performer has balanced the skills needed to execute the task at hand. The other side of this phenomenon is that pressure placed on the performer, simply because it is a performance, can have undesired and detrimental effects on flow states. This section examines the impact that performance anxiety can have on flow experiences among performing musicians.

Joann Kirchner has completed some of the most prominent research on flow and performance anxiety. Kirchner (2008) asserts “as research conveys, musical performance anxiety does indeed affect professional musicians...the ability to focus on the intrinsic



rewards of an experience, as opposed to the consequences, opens musicians to a greater possibility of entering a state of flow” (p. 295). Suggestions for combatting performance anxiety and trying to experience flow include examining repertoire so that there exists a balance between the performer’s skills and the difficulty level the music requires. This requires a sense of control from the performer that can counteract a feeling of being out of control that may come along with anxiety. Additionally, finding ways to fully immerse oneself in the music as opposed to allowing distracting outside thoughts is crucial to a state of mind that is conducive to experiencing flow.

Further research on music performance anxiety and flow by Kirchner, Bloom, and Stutnick-Henley (2008) found that although flow proneness and performance anxiety can exist together, flow experiences are greatly and negatively impacted by performance anxiety. Additionally, this study found that students who did not self-destructively criticize themselves were able to achieve flow more than those who did have a self-defeating attitude. Kirchner et al., (2008) suggest a number of factors exist that can help encourage flow and discourage music performance anxiety. Choosing appropriate repertoire, or in the language of flow dimensions, having a balance between challenge and skill, is among the most important factors. Defining clear goals for performance and trying to ensure total absorption and focus on the task is also important. They also suggest discouraging an inner monologue that creates negative self-talk before or during the performance. Because this research was limited to college music students, they suggest it may be beneficial to investigate if similar trends exist in other music making populations.

Just as Kirchner et al. (2008) describe self-criticism as an influencing factor on performance anxiety, Bloom and Stutnick-Henley (2005) assert self-criticism is the most significant hindrance to experiencing flow. Rather than looking at performance anxiety as an impediment, they examined elements that might promote flow in adult musicians. Participants described total absorption, emotional investment, connections with others, feelings of transcendence, and everything just “clicking” into place as being important factors in promoting flow. The multi-faceted experience of flow would be easily destroyed if the participant had self-destructive thoughts or felt critical in regard to their own abilities.

Attitudes and preparation continue to be a theme in other veins of research examining flow and performance anxiety. Stocking (2013) asserts there exists a negative correlation between flow and performance anxiety in examining practice habits and audition situations among percussionists auditioning for a DCI Drum Corps. Stocking (2013) suggests the percussionists who experienced more flow during individual practice were less likely to experience performance anxiety in the audition situation, inferring that perhaps anxiety and lack of confidence prevented some participants from reaching a balance between challenge and skill in their practice episodes.

Other studies have revealed similar findings in understanding the relationship between flow and performance anxiety. Wrigley and Emmerson (2003) administered the Flow State Scale-2 (FSS-2) to music school students immediately after a performance. No differences appeared between who is experiencing flow in regard to gender, instrument type, and age, and they suggest that flow seems to occur in music the same way it appears in other activities. If students perceived or experienced an imbalance in

their abilities with the challenges in front of them, they were not able to enjoy or engage in the musical experience.

Fullagar, Knight, and Sovern (2013) investigated this balance of challenge and skill and how it impacted flow and performance anxiety in students preparing recital pieces. Similar to other findings, Fullagar et al. (2013) state performance anxiety and flow are antithetical, and that the perceived skills needed for the recital repertoire correlated with whether or not the student would experience flow. Essentially, the presence of performance anxiety would indicate the lack of flow experiences, and if the student thought the music was difficult, it would likely create a situation where flow was unlikely. Conversely, if there were no occurrences of performance anxiety, there would be a greater likelihood that flow would occur. This also meant that the student felt their skills were an appropriate level to successfully execute the repertoire.

In some cases, the causes of performance anxiety are in direct opposition to flow facilitators so it is not surprising that the two are not often found happening together. Current research suggests that perhaps the most important dichotomy between flow and performance anxiety exists due to the imbalance between challenge and skill. If the musician perceives or knows that their skills are not matching the challenge that the music presents, anxiety results and flow will not be experienced. This may only be a perception and not a reality for the performer, but even the thought that their skills are not adequate can cause performance anxiety. Additionally, negative inner dialogue or self-talk creates a mental block that renders the musician unable to achieve flow. These forces, which are quite the opposite of the previously discussed autotelic personality,

make it difficult for a performer to lose themselves in the moment or find that state of intense satisfaction and enjoyment.

### *3. Physiological Responses to Music Performance and Flow*

Music performance anxiety often has detrimental physical effects on the performer, although in some ways, anxiety can present itself much like excitement. Investigating the physical and physiological responses to flow may provide information on the similarities and differences between these two states of arousal; however, studies examining the physiological responses to flow in music are not as numerous as other flow topics. Especially in performance situations, music provides some unique challenges in measuring physical aspects of the experience because it may distract the musician enough to detract from the concentration or loss of self-consciousness that is necessary to facilitate flow. Despite this challenge, much can be ascertained from deepening our understanding of the physiological responses that take place when musicians are in flow.

Manzano, Harmat, Theorell, and Ullén (2010) investigated flow states in professional pianists, specifically focusing on subjective reports of flow and the physiological responses while playing. Measurements taken included arterial pulse pressure, respiration, head movements, and changes in the zygomaticus major muscles facial muscles. Significant relationships were found between flow and blood pressure, breathing, variations in heart rate, and movement in the zygomaticus facial muscles suggesting definite physiological responses to flow experiences. The total concentration necessary to facilitate a flow state often requires total involvement of the body as well, and presents several physiological and physical changes in the musician (Manzano et al., 2010).

With an emotionally heightened state like flow, studies finding elevated physical manifestations are not surprising. Thomson and Jaque (2011) explored findings that demonstrated slightly opposing information regarding flow and performing artists. Participants were asked to wear a “Vivometric LifeShirt...that measures autonomic regulation,” monitoring changes in heart rate and cardiac output (Thomson and Jaque, 2011, p. 149). Although participants were reporting high states of flow, they were physically experiencing low autonomic regulation. Thomson and Jaque (2011) suggest that this unexpected decrease in heart rate may be due to the fact that professional musicians are used to performing under stress and are able to tolerate and operate under intense conditions. These findings are antithetical to previous research and also to what someone might expect in a heightened state, although that it is likely this phenomenon varies from person to person just as the flow experience is subjective and varies for each individual.

Although not as prevalent in music performance research, examining the physiological effects of flow while practicing and performing music have worthwhile indications to help us better understand the phenomenon. Music performance in itself is a physical activity, and the physicality involved are talking points among music teachers, directors, and performers all the time. Even the youngest musicians understand the importance of posture, breathing, and other physical involvement depending on the medium of music making. Gathering knowledge on how these physical aspects of playing or singing respond to stress and arousal are important to understand how to practice, prepare, and perform.

#### *4. Flow and Togetherness*

Music often brings people together in unique and special ways. Although it can be a solitary activity, music is shared and enjoyed for entertainment, celebrations, rituals, and also between music makers. Engaging in music making with others creates an exclusive sense of togetherness and connection between the participants. This might be felt amongst informal music consumers enjoying the same type of music together, or can be radically more intense and planned with formal music ensembles or groups. The essence of playing or singing in an ensemble or group is to connect and work with others to create something beautiful, bringing individual sounds together to form a greater whole. This connection and togetherness in music provides ample opportunity for flow experiences.

In examining artistic performance activities, Traves, Harre, and Overall (2011) noted that experiencing flow was a great contributing factor as to whether or not a student would want to repeat the activity again or not. Students reported intense feelings of positivity and togetherness which led to flow, and consequently, they would be motivated to do the activity again. Looking at research on flow proneness in adults, participants described the feeling of being connected with others as being an important and significant aspect of their flow experience (Bloom & Skutnick-Henley, 2005). In a summer music camp, students reported the most flow occurrences when rehearsing with large ensembles and hanging out with friends, whereas few reported flow in private lessons or individual practice (Diaz and Silveira, 2012). In Cape's 2012 study, wind ensemble members, guitar students, and jazz band students were interviewed regarding their experiences in group rehearsals and what they perceived as meaningful in their musical participation.

Like the previously mentioned research, students stated that they valued the opportunity to engage and communicate musically with others. Cape (2012) asserts “relationships form and strengthened through participation were important to the musicians...[they] valued the connections...and a sense of belonging within the ensemble community” (p. 251). The relationship between flow and togetherness or group communities persists throughout a variety of different music ensembles and populations.

Not only do some musicians experience flow in conjunction with a great sense of togetherness or connectivity with others, but they often report feelings of transcendence and more global feelings of being a part of something larger than themselves. Bernard (2009) investigated descriptions of musicians’ flow experiences, and found a common theme that performers often have a sense of being a part of something and a sense of togetherness that results in an intense enjoyment in the moment of the activity. Additionally, some reported feelings more like a spiritual awakening as they connected with others through music. In these instances, “transcendent music making experiences [are] those occasions on which one is making music and feels at the height of his or her powers, as well as connection to something larger than him or herself” (Bernard, 2009, p. 10). Similar feelings of group togetherness were examined by Sutton (2004). Three professional chamber ensembles were interviewed to learn more about their peak experiences and flow occurrences as a group. They described similar perceptions of shared experiences and arriving at a state of transcendence together.

Flow and feelings of togetherness permeate a wide variety of musical groups or ensembles; however, band, choir, and orchestra provide some of the most easily accessible and most common musical group formations in professional and educational

contexts. Emotional peaks, feeling of togetherness, and positive interactions with ensemble members are some of the main flow facilitators in large ensembles (Jaros, 2008; Walters, 2004; Freer, 2009; Kraus, 2003; Steckel, 2001; Cape, 2012; Cassie, 2011). Research examining flow as it relates to choir, band, and orchestra not only provides valuable information about the flow experience, but informs us about a large portion of the musician population.

Examining flow in high school choral rehearsals, Jaros (2008) affirms that singers in the study who reported flow states experienced all nine of Csikszentmihalyi's (2008) flow dimensions. Most of the participants experienced flow at least on occasion and many experienced it with a high frequency. The rehearsal sequence and repertoire did have an impact on whether or not flow occurred, including more flow occurrences on specific pieces after a few days of rehearsals. This is likely in part due to the ensemble becoming more connected and understanding how their part fits within the group. Walters (2014) noted similar findings in regard to repertoire in choral rehearsal settings by examining the relationship between flow and the balance of challenge and skill. Choral participants were not able to collectively experience flow in rehearsal if repertoire was too difficult, and suggestions for score study were made to help facilitate flow in regard to certain pieces.

Freer (2009) examined flow occurrences in a boys' choir, studying what individual choir members described as flow facilitators. Participants described flow experiences occurring later in rehearsal as singers became more familiar with the repertoire, and noted that maintaining a balance of challenge and skill level was important to not feel overwhelmed. Findings also suggest that during flow experiences,



“the music making of individuals is inseparable from that of the ensemble” which indicates a strong sense of collective togetherness among the choir members (Freer, 2009, p. 154). Flow experiences and being a part of something greater, even for young musicians, conveys the significance of ensemble music making.

Instrumental ensembles such as wind ensembles, marching band, and orchestras may provide opportunity for participants to experience flow for many of the same reasons choir members might experience flow. Kraus (2003) examined flow instances in a university wind ensemble, suggesting that longer rehearsal episodes with few stops from the director yielded more flow experiences for the ensemble. Additionally, students experienced more flow towards the end of rehearsal, indicating that the more familiar the students became with the music and each other, the greater likelihood of flow. Through the lens of wind band repertoire, Hopkins (2013) makes similar assertions. Selecting repertoire that provides a balance between challenge and skill level for the ensemble member helps to encourage flow, and the powerful response of musicians working together is “something we can do in our music ensembles that students can’t get anywhere else in the school curriculum” (Hopkins, 2013, p. 74)

Research seems to indicate that string orchestras, although different in instrumentation, embrace the same type of community as wind bands. Cassie (2011) investigated large beginning string ensembles with similar findings. Longer playing episodes promoted more flow experiences, and a non-traditional seating arrangement encouraged students to create an environment around them that helped facilitate flow. A pervasive theme throughout the study indicated that students enjoyed making music as a

collective effort. This was executed both in musical rehearsal as well as dialogue between students about the rehearsal and music.

Marching band provides a unique exploration for flow in that not only are there musical and ensemble aspects to the activity, but a physical component as well. Steckel (2001) investigated flow in college marching band students, and found that they do experience flow, although not with the frequency of other types of group ensembles. Flow was more likely to occur during performances as opposed to rehearsals, and students reported that it was important for them to personally like the music they were performing in order for flow to occur. The collective group of marching band offers some interesting paradoxes. In a physical sense, each person's placement on the field is part of the greater whole, although there is a sense of independence and separation necessary to go from one individual place to the next. Also, the physicality and mental concentration needed to march, play, execute drill, listen, watch, and pay attention to others may provide more numerous and spontaneous challenges than other types of ensembles. These are potential explanations as to why not as many marching band participants experience flow, although these results still yielded higher flow occurrences than athletes.

The wide variety of musical activities that bring people together may facilitate flow in ways that other activities possibly cannot. The coming together to create something that could not exist without the participation of the group unifies people in powerful ways. Current research suggests group music making and ensembles create flow opportunities more frequently as the duration of time spent with each other increases. Getting used to working together and increased familiarity with repertoire

make flow instances more likely, provided there is a balance of challenge and skill among the group members. Feelings of transcendence and being a part of something greater than oneself in a global sense present as a common theme in research examining individuals' perceptions within the ensemble. The type of musical ensemble that people engaged in did not matter for most participants – flow was experienced in choir, band, orchestra, and a myriad of other types of group music making. Rehearsing and performing in ensemble settings provides powerful implications for flow in music. This flow-creating impression of togetherness is a strong motivator for participation and merit in music practice and performance that should be contemplated by teachers and performers alike.

#### *5. Positivity, Enjoyment, and Flow in Music Performance*

Flow, by definition, embodies positive emotions and enjoyment as some of its main characteristics that result from the experience. Although many of the aforementioned studies discuss positive emotions experienced by participants as well feelings of enjoyment in a variety of contexts, it is helpful to examine research in music performance and flow through this lens more closely, as these enjoyable and emotionally positive experiences are perhaps one of the most powerful aspects of flow.

Fritz and Avsec (2007) investigated the subjective well-being and flow experiences of music students in a variety of rehearsals, solo performances, and ensemble rehearsals. Using the Positive Affect Negative Affect Schedule (PANAS), Satisfaction with Life Scale (SWLS), and Dispositional Flow Scale (DFS-2), they found that flow and well-being are positively related. Results suggest “flow is more related to emotional than cognitive aspects of subjective well-being,” which is to be expected as flow is typically

an emotionally charged experience (Fritz and Avsec, 2007, p. 5). Similar findings by Trayer, Harre, and Overall (2011) suggest flow is an emotionally affective positive experience, which often results in the participant wanting to repeat the experience. Motivation to repeat the activity because of positive and emotionally affective experiences exists in other literature as well. Lamont (2012) investigated the strong emotions felt during musical performance. University music students described their most intense performance experiences and were analyzed utilizing the Strong Experiences of Music Descriptive System. This research suggests the positive emotions experienced during musical flow occurrences is a key component to creating long term motivation in young musicians.

Some research like Diaz and Silveira's (2012) study on summer camp music students establishes that enjoyment and positivity are coupled with flow experiences among participants, but positive emotions experienced with flow also appear in deeper emotional contexts. Bloom and Skutnick-Henley (2005) illustrate themes found in adult musician flow experiences. Many participants describe the emotional aspects of flow including feelings of connection with others, absorption, emotional involvement, and heightened awareness. They also mention an impression of everything lining up in perfect harmony and a sense of transcendence.

Bernard (2009) affirmed similar information upon interviewing professional musicians about their peak musical experiences. Many of the participants not only described extreme enjoyment or emotionally positive experiences, but they arrived at feelings of transcendence, comparing these occurrences to religious experiences or spiritual awakenings. Not only do these experiences of heightened states have

implications for musicians, but as Bernard (2009) asserts when we “aspire to greater mindfulness and endeavor towards a more complex consciousness, [we] become collaborators in the progress of human evolution” (p. 19). In this way, we see that the peak experience of flow goes far beyond the positive emotions or “in the zone” feelings we enjoy from the experience, but a sense of mindful engagement that has potential to change how we make meaning in all aspects of our lives.

The enjoyment and positive feelings that result from flow experiences provide motivation to repeat the activity, and also impact us on a deeper emotional level. The belief that flow provides transcendent experiences and a spiritual enlivening holds powerful implications for those who engage in music practice and performance. With this in mind, creating flow occurrences not only encourages positive experiences, but helps us deepen our understanding of ourselves as emotional and artistic beings. As musicians, we should aspire to this next level of transmission and intelligence.

#### Flow in Music Teaching

Music instructors must often consider what motivates and interests their students to help inform instruction, behavioral management, and assessments. Examining flow in music teaching could provide focus on the inner drive behind student’s behavior and motivations in certain tasks. Flow, although not always tangible and readily observable in all teaching situations, creates an optimal state in which students are intrinsically motivated to continue the assignment and persevere through challenges they may face. In essence, this is one of the main goals of any type of instruction, but especially important in music where the task and evaluation can be subjective and personal.

One of the key components of understanding flow and music teaching is the necessary balance of challenge and skill. Regardless of the student's abilities, this balance is crucial to avoid the student becoming overwhelmed or bored. Certain students may have dispositions that allow them to be more creative in their approach to specific tasks, and the Dispositional Flow Scale (DFS) can be utilized to discover these individual differences. Teaching methods like scaffolding and sequencing produce positive flow experiences if applied thoughtfully. More specific methodologies, for instance Orff Schulwerk, create a physical and hands-on involvement that assist students in fully engaging in the activity. In young children especially, using the Flow Indicators in Musical Activities (FIMA) can provide information about flow occurrences in children, and how they are able to thoughtfully self-regulate their environment, the people who surround them, and their physical location in the classroom to induce flow states.

The instructional setting creates a varied discussion of flow and how it might occur. Individual instruction has the unique ability to cater to the specific individual's needs, allowing the student to get what they specifically need to experience flow; however, this interaction relies heavily on the teacher and their method of instruction. Large ensembles provide an entirely different experience of instruction and interaction, and often the culture of togetherness or creating something larger than the individual plays an important role in the flow experiences of the ensemble members. In many teaching settings, the notion of flow crossover from teacher to student can potentially shape an interesting outlet of both student and teacher satisfaction.

### *1. High Achievement and Flow*

Educators should strive to have each student excel to their maximum potential and find satisfaction in their hard work, tenacity, and perseverance. In music, these successes might occur not only in public performances, but day to day classroom interactions, rehearsal settings, and practice episodes. It is in these moments when there is an ideal balance of challenge and skill that students may achieve flow, finding pure enjoyment in the moment. Looking at this balance of challenge and skill, one can pose the question that if the participant excels to a greater potential with more advanced skills than someone else, do they experience more flow?

Csikszentmihalyi, Rathunde, and Whalen (1993) describe the impact of high achievement in a certain area (referring to this high achievement as “talent”) on flow frequency, and suggest that more “talented” students may be more likely to experience flow. They assert the “productive tension between high skills and high challenges” is stimulating for a highly skilled student, whereas it would be overwhelming for the average student (p. 233). Sinnamon (2012) used the revised Dispositional Flow Scale (DFS-2) to examine dispositional flow in amateur and elite student musicians in studio lessons and music classes. Results indicated that both groups of students experience flow frequently, however the elite students experienced more than the amateur students. These findings certainly speak to high achievements impacting student ability to experience flow states while engaging in music, and make it pertinent to consider how often flow experiences might be missing from the average student’s experience if they are unable to fully engage and lose themselves in the activity.

In addition to investigating the flow states of high achieving music students, O'Neill (1999) also examined moderately achieving students at a "specialist school" and young music students at a "non-specialist state school." Concurring with findings that high achieving music students experience flow more often (Csikszentmihalyi, Rathunde, Whalen, 1993; Sinnamon 2012), O'Neill also discovered that the regular state school students experienced flow a great deal as well. Upon further examination, it appears as though pressure on the moderate achievers at an elite, specialist school inhibited flow from occurring. Perhaps their skill level was not balanced with the more complex tasks they were asked to do, or anxiety about failing prevented students from being fully absorbed in the task. In this instance, high achievement seemed to be secondary to a performance environment or expectations on the students.

Due to the variety of factors needed to create flow states, students may be experiencing flow differently at various times based on their own developmental characteristics, skills necessary for the task at hand, and environment. Clementson (2014) stated that flow can be thought of as a continuum based on the student's own personal development. They can shift between "beginning musician" to "budding musician" and finally to "advanced musician" depending on the skills that are being asked of them, and how they are able to execute tasks in the context of the band class (Clementson, 2014, p.184). If they are able to find a balance between the challenges presented to them with the skills they have, they will be a "budding" and intrinsically motivated to continue. Moving along this continuum requires the skills and high achievement to shift into the next level, and in this sense, more talent or skill is necessary to achieve more flow.



Often students will recognize that greater challenges are necessary so that they must increase their skill in order to experience flow. This may not be a conscious decision, but they may be able to recognize that increasing their skill level to overcome hurdles is worth having the satisfaction of executing a difficult task. Cape (2012) examined several groups of student musicians and found that they shared several characteristics including the request for opportunities for achievement. Not only did these students want to increase their skills to conquer a more difficult task, but they wanted to be placed in situations where they had opportunities to excel. With this competitive and intrinsically motivated strive for success, it comes as no surprise that these students reported a great deal of flow experiences.

Examining flow and student achievement in another avenue, Byrne, MacDonald, and Carlton (2003) studied flow in student composition projects where students worked together in groups. When flow was observed among group members working together, the quality of the project was higher, where conversely, groups lacking flow experiences had lower quality work. It is possible, in this respect, that not only do higher-achieving student musicians experience flow more often, but that flow creates a higher quality product.

The relationship between talent, high achievement, and flow provide insight into what goals should be set for the music classroom and if those goals should in fact be the same for all students. If the most gifted students are experiencing flow more regularly due to their aim for challenges beyond their skill level which they are intrinsically motivated to overcome, or if they are able to lose themselves more in the activity because of their abilities, we can certainly celebrate and capitalize on this in our instruction and

curriculum development. Perhaps the more important piece here, however, are the students who are not as high achieving. The students who may find it more difficult to navigate the delicate balance between what they know and what is asked of them will inevitably struggle to find a place of satisfaction and enjoyment in the musical activities in which they are asked to engage. We must ask ourselves how we can better set goals and structure musical activities to potentially create more optimal conditions for all students to find ways to engage in flow.

## *2. Flow Informing Teaching Methods*

An environment conducive to flow experiences can be difficult to create in the classroom or in rehearsal settings because of the variance in student ability, dynamics between individuals, and a plethora of other factors. Despite all of these variables, certain activities, strategies, and rehearsal tactics seem to have an advantage over others to create flow experiences. That is not to say that flow can be guaranteed for these settings and techniques, but certain themes emerge from the literature that provide information on teaching methods that may lend themselves to more frequent flow occurrences in the music classroom.

Sequencing remains a crucial part of teaching regardless of the skill level of the students, number of students, or type of activity. Especially with younger learners, the order of the activity, how things are introduced and practiced, and the social organization around the execution of the activity is important for attention, completion, and retention. The idea of scaffolding, or structuring systematically to get the student to move beyond imitation of a task and able to independently execute the task, has its origins in Vygotsky's (1978) notion of *zones of proximal development*. St. John (2004, 2006)

asserts young children in music classes will interpret and negotiate what they need to in order to experience flow. When given autonomy to communicate and work together, young children will scaffold themselves through shared, improvised ideas. Not only do they structure themselves in this manner, but they also place themselves in certain locations in the classroom with certain individuals who will most likely help them achieve a flow state.

Parente (2011) discusses similar tactics in organizing sequenced practice activities for piano students. Using Fitts and Posner's "phases of learning," which is described as "cognitive engagement transitioning through the associative stage to autonomous mastery," piano students practiced under heavily structured guidelines for approximately three weeks (Parente, 2011, p.3). After these three weeks, they were given more autonomy in practice time for the following three weeks. This combination of structure and autonomy yielded joy, satisfaction, more mindfulness, improved self-assessment, and more frequent occurrences of flow in the participants. Additionally, the students demonstrated a greater sense of mastery in performance after structuring their practicing according to the "phases of learning."

This notion of structure includes children's music learning, as Custodero & Stamou (2006) demonstrated by examining observable flow indicators in secondary music classrooms. Although teachers believed that having more freedoms would encourage young students to achieve a state of flow in music activities, in most cases, clear boundaries and guidelines made it much easier for students to experience flow. Within these set boundaries and guidelines, students were able to organize themselves or

“self-assign” activities in an order and structure that helped them to reach an optimal state.

While scaffolding and highly sequenced practice provide a sense of structure and the autonomy to help make interactions, environment, and activities conducive to flow experiences, improvising provides that same sort of balance of structure and freedom. Matthews (2003) examined flow occurrences in beginning adult singers during vocal lessons, and found that activities involving improvisation revealed consistently higher numbers of flow experiences than any other activity. Notable is that the most frequent flow experiences not only occurred during improvising, but specific musical elements that were present. Improvisation activities centered around major scales and Dorian mode created more flow states than any other activity in the lessons. It is not surprising that the pairing of freedom to create in the moment and the structure of following progressions and form during improvisation lends itself well to experiencing flow. It seems as though the creative aspect of being in the moment also allows for a loss of self-consciousness and transformation of time. This information presents a strong case to incorporate improvisation into musical activities where possible for the creative satisfaction and engagement of the music maker.

General music and teaching techniques are helpful in providing systematic ways to create flow experiences, and this can be narrowed down to more specific methodologies to understand how to create flow experiences in music classrooms of all levels. The work of Lori Custodero (Custodero, 1997, 1998, 2005; Custodero & Stamou, 2006) has been a cornerstone in understanding music making in young children and flow. Cunha and Carvalho (2012) expounded on the work of Custodero by focusing

specifically on the Orff Schulwerk teaching method to examine the lived emotions and flow states of young children, and the impact on how they acquire musical information. The hands-on involvement of Orff activities and the relation of speech and movement to music lends itself well to many of the dimensions of flow; however, they were also able to establish that positive emotions were frequently experienced by the children during the Orff activities. This combination of flow and positive lived emotions “demonstrated to be significant in the way [children] acquire musical information” (Cunha & Carvalho, 2012, p. 234). Although not an automatic tactic for creating flow experiences in children’s music learning, the Orff Schulwerk method provides a strong framework in which to explore basic musical concepts and flow states for young children.

The specificity of using teaching methodologies like Orff Schulwerk may be useful for certain teaching circumstances and age groups; however, it is important to examine not only *how* something is being taught, but *what* is being taught. The importance of repertoire selection emerged in current flow literature, especially for large ensembles such as choir, band, and orchestra. Walters (2014) examined famous choral works for potential “challenges” to make suggestions on how to find a balance of challenge vs. skill so that choir members may arrive to a state of flow. For the choir director, Walter (2014) suggests score study should be done through the lens of identifying challenges to sequence and prepare the ensemble, resulting in greater satisfaction and enjoyment.

Hopkins (2013) used Vygotsky’s (1978) *zones of proximal development* and flow as a groundwork for repertoire selection for large ensembles. Similar to Walter’s (2014) notion of “challenge” score study and St. John’s (2004, 2006) suggestions for

scaffolding, Hopkins (2013) asserts the selection of repertoire impacts the motivation, participation, and ultimately whether or not the students will be able to fully engage in the rehearsal and performance. In examining flow in choral rehearsals, Jaros (2008) noted a spike in emotion and flow experiences among choir members during rehearsal frames for a specific piece, suggesting flow and affect can be intensely impacted by specific repertoire selections.

In addition to repertoire selection, Jaros (2008) described a consistent rise in affect and engagement later in rehearsals, resulting in more experiences later in each rehearsal. Although many factors could be involved, it is possible that as the choir became more familiar with and secure in their individual parts, the more they were able to feel successful and satisfied resulting in flow. Cassie (2011) reported similar findings in a beginning orchestra class. Flow occurred more frequently during longer player episodes, between five to twenty minutes, which occurred later in class. Cassie also noted that non-traditional seating arrangements seemed to increase flow experiences, much like St. John's (2004 & 2006) findings that students will place themselves where they need to be and whom they need to be with in order to find a state of optimal arousal.

As demonstrated by the literature, specific teaching techniques, methodologies, repertoire, and classroom set up all have a significant influence on whether or not students are able to fully engage in musical activities. As educators, we are not bound by prescribed ways of running rehearsals or teaching daily objectives, but this information can serve as helpful suggestions for reinvigorating student engagement with specific materials and in certain learning environments. In the current research, a common theme

of structure, combined with autonomy as well as sequencing, that leads to a balance of challenge and skill appears to be paramount in achieving flow states in music students.

### *3. Music Teachers and Flow*

There exist specific methodologies and teaching tactics that encourage flow, but additionally, we must examine the teacher's role in all of these experiences. It may benefit music instructors and students to discover whether or not flow states among teachers impact their students and how their instruction or intervention might impede or encourage flow. Crossover theory presents an interesting consideration that it is possible if teachers are in a state of enjoyment and satisfaction in their job that their students will be also. Caouette (1995) suggests that flow experiences can help improve leadership abilities, and that a satisfied and engaged teacher will be a better leader in the classroom. Whether they are purposefully encouraging flow or inadvertently hindering flow, the role teachers play in achieving an optimal state in the music classroom is critical.

In studying young children's music learning, Lori Custodero has made several significant findings in the realm of music and flow. In examining teacher roles and the impact of adults on young music learners, most notable are findings that children's awareness of adult intervention did have an impact on whether or not they were likely to experience flow (Custodero, 1997; Custodero, 1998). Typically, being aware of the teacher hindered flow while being aware of peers helped induce flow through tactics like imitation. The quality of certain types of teacher interaction sometimes was the exception, but generally speaking, young music students benefit from less intervention by the teacher.

Bae (2010) utilized Custodero's observable flow indicators in applied piano instruction to assist private teachers in discovering whether or not their students were experiencing flow, and what type of instruction the teachers were using to help facilitate flow. Challenging their own instructional strategies, the teachers focused on improving specific aspects of their instruction to see if it would create more flow among their students. A notable theme was that teachers began to see their role as a facilitator who was to provide assistance in learning while the students arrived at the knowledge on their own.

Similar to these findings, Riggs (2006) examined the relationship between student and teacher in private studio instruction. This research (Riggs, 2006; Freer, 2006) asserts experience and awareness of the instructor is important, but there needs to be a certain amount of negotiation between student and teacher in regard to the unique characteristics of the student as a learner. Because many studio instructors teach as they have been taught in a "maestro-like, authoritarian manner with one-directional commands given," there often exists a lack of consideration for developmental and learning differences (Riggs, 2006, p. 176). Much like Bae's (2010) research, challenging one's own instructional methods may provide insight into what teachers are doing specifically to create flow experiences for their students, and perhaps where they might be able to make changes to help facilitate flow in one-on-one instruction.

In some instances, it is not specifically what a teacher does in their instruction to create flow experiences, but the larger picture that they help create. In looking at the culture of a middle school band classroom, Clementson (2014) describes an emergent theme titled "teacher as the culture bearer" suggesting the importance of the band's



beliefs and value system initiated by the director (p. 150). By pulling together all aspects of the band culture – environment, rules, values, and acceptance, in addition to regular everyday instruction, the teacher has the ability to create a strong culture that makes flow more likely for their students, and probably gives them a greater sense of satisfaction as well.

The satisfaction that teachers achieve in teaching is just as important as the experiences of their students. In a career where burnout and attrition are prevalent, examining what teachers can do to experience flow in their work might be beneficial in retention and excellent teaching. Bakker (2005) examined teacher flow experiences using a work-related flow scale (WOLF), and found that work autonomy, feedback on performance, social support from colleagues, and coaching from supervisors were important flow indicators for teachers. Additionally, the emotional contagion theory examined in this research suggests that the flow experience of the teachers influenced the flow experiences of the students in that if the teacher experienced flow, the students would likely experience it as well. This knowledge has major implications for how teachers approach their craft, as the benefit of experiencing flow is two-fold when this crossover is experienced.

When examining flow and music teaching, it is of course pertinent to look at the role of the teacher in students' abilities to experience flow. The importance of teachers experiencing flow while teaching leaves room for much more investigation. Not only should we want our students to experience flow, but the benefits of teachers experiencing flow as well should be noted. This seems as though crossover theory would be a way to exponentially increase satisfaction and engagement in the classroom among all involved.

Outside of this, teachers should note that their intervention can perhaps do more to inhibit flow than to create it, noting that especially young students will adapt to their surroundings, if there are no distractions, to try to create an optimal experience.

#### *4. Individual Instruction and Flow*

Unlike traditional classes where a teacher leads a classroom of students, individual music instruction provides a unique exchange of information between instructor and student that requires personalized and focused examination of an individual's abilities. This type of apprentice model can allow the student to move at their own pace and excel in areas of strength whereas in a class setting they may be restricted or hindered by the speed of the instruction. This type of instruction presents several beneficial characteristics that may induce flow, but this is not always the case depending on the student, teacher, repertoire, and a variety of other factors.

For some students, especially those that are inexperienced or shy, the thought of singing or playing an instrument alone in front of someone else often creates a great deal of anxiety or hesitation. Diaz and Silveira (2012) examined flow occurrences at a two-week music camp, and found that musical activities (large ensemble rehearsals, music electives, music theory) created the most flow as opposed to social activities. The only exception to this finding was that of private lessons and small ensemble sectionals which were found to be low flow inducing activities. It is quite possible that because of the short duration of this camp, the students and teacher were not able to establish a trusted rapport where the students felt relaxed enough to experience flow during one-on-one instruction. Another hypothesis for a lack of flow is that the teacher was not able to

provide a balance in the challenges presented in lesson material with the students' skills or perceived skills.

Riggs (2006) examines this breakdown of behaviors between student and teacher in studio lessons. Using college students as participants, Riggs (2006) noted that many college studio professors focus on a maestro or apprentice-type tradition where there is not much emphasis placed on the individual student differences. Rather than the studio teacher being the ultimate authority, flow would occur more often for the student if an open dialogue existed between teacher and student. A review of Riggs' work by Freer (2006) suggests the same and adds that concepts like scaffolding and "reflection-in-action and reflection-on-action" from both the student and the teacher would make flow occurrences more frequent (p. 226). Creating a dialogue between student and teacher requires communication and negotiation, but has several advantages over the apprentice model where the instructor teaches as they have always been previously taught, ignoring the individual learning needs of the student.

Other research examines different tactics for increasing flow in studio teaching, some utilizing observable flow indicators to measure flow in students (Bae, 2010; Matthews, 2003). Bae (2010) examined studio piano instructors and their private lesson students to see how the instructors could alter their teaching methods to create more flow opportunities for their students. Due to the individualized nature of instruction in studio teaching, these piano teachers were able to alter their approach, challenging their own teaching beliefs in some cases, to help the students achieve flow states. Matthews (2003) found that flow was relative to the individual performances of adult beginning vocal students in that the challenges presented need to be slightly less than the average skill

needed to execute the task for the students to experience flow. Improvisation created the most flow episodes for the participants and could be facilitated by the instructor. Parente (2011) suggests organized practice habits structured by the teacher can help students achieve flow experiences, mastery, mindfulness, self-assessment, and joy. This personalized approach in lessons or suggested practice strategies outside of lessons are paramount to understanding how flow might occur in studio lesson situations.

The success of the student may be evident in the outcome of the tasks they are trying to achieve. In the personalized instruction found in private lessons, there are many different approaches a teacher can utilize. In all of these, current research suggests that establishing a rapport with the student and embracing their individual differences is crucial for their engagement and satisfaction. Using the apprentice model where instructors teach just as they were taught can be effective, however, there is a risk of alienating the individual student if the method includes a one-way, teacher to student, stream of information to achieve results. The back and forth dialogue in instruction and execution between student and teacher is crucial for the student to experience flow, knowing that they are being heard, understood, and collaboratively working together towards their musical needs.

##### *5. Flow in Groups and Large Ensembles*

Making music with others is perhaps one of the most powerful and engaging parts of any musical experience. The interaction with and reliance on others provides an extraordinary sense of togetherness and being a part of something greater than oneself. The feeling of many people working together for a common goal can be exhilarating and intense, but removes the anxiety that some might feel performing music alone. This may

provide some possible explanation as to why many flow experiences in music take place in group settings or large ensembles.

D. Shernoff, Csikszentmihalyi, Schneider, and E. Shernoff (2003) studied student engagement in a multitude of activities seeking to understand better how these students chose to spend their time and when they were most engaged. Findings suggest they were more engaged during group work activities versus listening to lectures, watching videos, or taking tests. Although they did not directly investigate music students, their assertions suggest that there needs to be an appropriate balance of challenge and skill as well as a certain amount of autonomy for the students to experience flow, and group settings can often provide this formula.

This is comparable to other findings in the literature that study music students specifically such as research done by Byrne, MacDonald, and Carlton (2003) that examines group composition projects. This study found that group members experienced flow states while working together, and that the more flow was occurring, the higher the quality of the project. These findings could help initiate instruction and ideas for student activities in the music classroom and ensembles.

More specifically in music education, there is a joining together of students into large ensembles such as band, choir, and orchestra. These avenues for music making appear to be a hotbed for flow activity for a variety of reasons, but the most pertinent, the coming together of something greater than the individual. Diaz & Silveira (2012) found that at a two-week music camp, one of the highest ranked flow inducing activities was student participation in large ensembles. Large ensemble activities were ranked above social, academic, and individual activities for this group of participants. Similar findings

were suggested by Cape (2012) in research that examined student musicians from several different musical ensembles. The experiences of wind ensemble members, guitar students, and jazz band members were examined, and a commonality between all students' responses was they found it meaningful to communicate and engage with others in their group. Although they spoke about their individual identity within their particular ensembles, they perceived the relationships and interactions with others to be of the utmost importance to experiencing satisfaction in their music making.

In structured ensembles, many students' experiences allude to similar themes. Cassie (2011) found that in a beginning middle school string orchestra, the students discussed their enjoyment in regard to the collective effort of playing and performing together, and this appeared to create flow experiences for the participants. Similarly, Clementson (2014) examined middle school band students and found that although friendly rivalry existed in the ensemble, the idea of the band culture and togetherness was an important aspect of their positive experiences.

In ensembles with more mature participants and larger numbers of members, the themes of togetherness remain the same. Through the lens of repertoire selection, Hopkins (2013) asserts the motivation of students is impacted by the participation of many people all together. Kraus (2003) makes similar suggestions for flow occurrences among wind ensemble members, stating that the flow experiences of the individuals in the group are dependent on the abilities and actions of those around them. Examining a larger group, Steckel (2001) suggests similar findings in marching band, but also mentions that participants reported difficulty in completely losing oneself in the task. This might be due to the constant mental focus, physical movement, and spatial

awareness required in marching band. Vocal ensembles revealed comparable ideas of being a part of a larger whole, and flow experiences occurring. Jaros (2008) found all nine dimensions of flow to be present in choral rehearsals, and that specific repertoire induced flow more than others. In another choir study, Walters (2014) also examined repertoire to explore what choir members experienced in rehearsals together, and how challenges can provide opportunities for deeper understanding and enjoyment.

Large ensembles and musical groups of all types can provide many varied opportunities for musicians to experience flow. The energy and coalescence of musicians playing or singing together encourages flow in ways that we may not be able to replicate in other music making situations. These powerful avenues for music instruction should be utilized and further investigated as they may present flow opportunities for music students who might not otherwise experience flow in their own practice or individual instruction.

#### *6. Young Children's Music Learning and Flow*

Although much of the research in this section has been mentioned as a part of other areas of flow and music teaching, the music making activities of young children provide opportunity to examine a unique population that warrants further investigation when discussing flow. Children have imaginative and uninhibited qualities that make them likely candidates to experience flow; they are not as restricted and self-conscious in their interactions with others and tend to adjust their surroundings so that they are in prime flow-experiencing positions.

Lori Custodero's work is the cornerstone of flow and music making in young children. Her 1997 dissertation developed the Flow Indicators in Musical Activities

(FIMA) which identified 142 code-able events to observe in children's music making. Using this instrument in music classes, the research noted flow occurred in longer activities (approximately seven minutes), typically happened during activities that were more familiar (activities that had been practiced for two to four weeks), and in one-on-one social contexts. Findings also demonstrated the importance of multi-sensory involvement in activities as well as the need for clear feedback. Generally speaking, Custodero (1997, 1998) asserts FIMA is a reliable and valid measure of observable flow, and that students are good at initiating and regulating their own level of challenge in order to keep a mindful balance of challenge and skill. Also noted is that adult intervention can hinder flow while peer involvement (via imitation) often encourages flow. Perhaps most prevalent in Custodero's (1997, 1998, 2005; Custodero & Stamou, 2006) work is that flow experiences are an important part of children's music education.

Several researchers have utilized the work of Custodero to explore flow and music with more specific perimeters in mind. Cunha & Carvalho (2012) used FIMA to explore the Orff Schulwerk methodology, and inspected how Orff activities might encourage flow in young music students. They also found a connection between the pedagogy used in Orff activities and how students experienced positive lived emotions. St. John (2004) also used the FIMA instrument to investigate scaffolding in kindermusik classes. The community of learners were able to scaffold themselves as well as improvise in collective music making in order to facilitate flow. In similar research, St. John (2006) used a revised FIMA (R-FIMA), noting that students will put themselves with certain individuals and where they need to be in the space in order to encourage flow



for themselves. This research also reiterated the importance of playing with others as a fundamental skill for young learners.

Other research in flow and music making for young children studies the structure and activities that young children might engage in within a classroom setting. Sullivan (2004) describes students involved in “circle time” and “free music time.” These activities did not result in elevated attention spans among participants, however, both activities did result in flow experiences. Although flow in special education is not a focus of this investigation, research by Perry (2015) examines special learners through the lens of flow and music activities. This research focused on third grade students with sensory processing disorders, and whether or not they experienced observable flow in their music classes. All of the participants demonstrated that they experienced flow, and in fact showed a better governance of their disability when involved in music making. Much like findings in other music classrooms, these students were able to self-regulate and place themselves where they needed to be and with whom they needed to be in order to facilitate flow.

Children provide a unique area of study in music research, in particular in the area of flow experiences in music. They are not bound by many of the social expectations and anxieties that adults experience, and have uninhibited and imaginative qualities that allow them to whole-heartedly immerse themselves in activities without concern. The current research suggests that flow is observable in young music learners with several aspects that mirror Csikszentmihalyi’s dimensions of flow. A unifying theme across much of the research done on flow and young children’s music making activities is that, if given the opportunity, they will self-structure, self-assess, and scaffold their activities to facilitate

flow. They will also place themselves in a physical space around people who will help them achieve flow, and that the people they chose to surround themselves with are often not adults or teachers. These findings have important implications for instructors of this age group, however, it may be helpful to further investigate what significance these ideas have for older students and music makers in different contexts as well.

### *7. Other Studies in Flow and Music Teaching*

In an effort to report as many findings as possible in the realm of flow and music teaching, not all research falls into the aforementioned categories, and will be briefly discussed here. In early flow research, Chandler (1987) examined the difference between flow occurrences in secondary school students in physical education classes, art and music classes, and traditional academics. This preliminary research only examined the challenge versus skill domain of Csikszentmihalyi's flow dimensions, and found that physical education had the highest mean for flow experiences. Music and art also had "high flow" occurrences in comparison to the "low flow" academic classes. Although these initial findings in the secondary school setting add to the literature, the absence of examination of the other dimensions of flow theory create gaps in possible outcomes.

A more contemporary study by Montanez (2011), sought to understand students who had high flow scores on the Flow State Scale -2 (FSS-2). The FSS-2 indicates whether or not someone has experienced flow in an activity they have just completed. Students who experienced high levels and frequent intensity of flow based on their results from the FSS-2 were further interviewed. Montanez (2011) also investigated whether any demographic information like gender, instrument group, participation in outside school activities, and education levels had any impact on flow. None of these categories

were found to be significant, but the study suggested that several flow facilitators exist in physical, mental, and environmental preparation. In opposition to this finding, the study found flow could be inhibited by non-optimal physical preparedness, mental distractions, and non-optimal environment. Other themes presented in this research discuss the importance of enjoyment and a sense of accomplishment among students to use flow as a motivating factor.

Although brief in their addition to the literature, these studies help to paint a more vivid and complete picture of flow and music teaching. Based on this literature and other pertinent information in this section, it is obvious that a myriad of factors impact flow and music instruction and learning. There exists a pool of knowledge from which music teachers should draw from, as the benefits of implementing tactics that could create flow experiences in music teaching are profound, meaningful, and essential.

#### Flow in Music Consumption

Music listening and making music in a leisure capacity represents a way that a large majority of people experience and consume music. Feelings of enjoyment from listening to and making music undoubtedly take place during organized music rehearsals and performances, and additionally occur frequently in musical teaching and learning; however, examining music consumption and how flow is experienced or created in these informal settings provides a unique vantage point to better understand the flow phenomenon.

Unlike the categories of flow in music teaching and flow in music performance, this category of flow in music consumption lacks the subcategories and a wide scope of studies contained in the other sections. Most of the current research in flow and music

delves into teaching or performance aspects, but few studies fall outside the realm of music activities that are participated in purposefully for education or performance. This is a striking realization because it is possible that a large majority of music is heard as ambience, for instance in a restaurant, store, or in television, movies, and advertising. Other music may be heard as part of rituals or activities like sports, parties, weddings, or religious services, also adding to the atmosphere, meaning, and overall experience. Music may also be heard by consumers because they purposefully listen to it for entertainment, for accompanying activities, or as mentioned earlier, as ambience, background sounds that meet some need other than direct listening. These instances represent a large portion of musical activities, yet the research on flow and music does not reflect this. The dichotomy that exists here will be further addressed in future research implications.

Listening to music, whether passively or with intention, may have an impact on individuals' flow states. Spangardt, Ruth, & Schramm (2016) examined people's reactions to radio programming, and what music might induce flow states most often. They suggest that regardless of the participants' abilities to analyze the music they were hearing, they enjoyed the music more when it was familiar to them. This enjoyment and familiarity created a sense of "absorption" for the listener, and more flow states were experienced. The use of certain types of music on the radio, on television, and in movies is often carefully selected to engage the listener/viewer. Noting what types of music helps to increase flow experiences could possibly have implications for mediums that rely on captivating a certain audience.

Listening to music can create an emotional response in people for a variety of reasons. It is not uncommon for previously heard music to remind the listener of a specific event or time at which they first heard that music, and have the listener revisit feelings or emotions from that time. Babani (2009) describes the reaction of participants who listened to music that they had heard before that had elicited a heightened state of arousal. This music seemed to have a similar effect on the listener when revisited. Notably, the music was not necessarily happy in emotional content, but still produced a flow-like state, demonstrating that feelings of sadness and joy could create a heightened state of emotion and satisfaction to a listener, even in subsequent hearings.

Familiarity with music may not be the only aspect that increases flow experience in music listeners. Mindfulness techniques were utilized by Diaz (2010) to explore the impact they had on flow states and aesthetic experiences. These mindfulness techniques did result in an increase of attention, aesthetic responses, and flow experiences in listeners compared to those who did not use the them. Listening to music is an activity commonly sought after for the intent of enjoyment, and “exploring ways in which this experience might be purposefully enhanced may be of benefit to many people” (Diaz, 2011, p. 55).

In addition to passive and mindful listening, music has been used to help facilitate flow in athletes to help enhance their performance. Using pre-performance music and imagery, Pain, Harwood, and Anderson (2011) found that competitive soccer players experienced more flow, and had heightened perceived performance before competition. Pates, Karageorghis, Fryer, & Maynard (2003) demonstrated similar findings in net ball performance. Listening to asynchronous music pre-competition resulted in more flow

experiences among two thirds of the participants as well as improved netball shooting performance among all participants.

Music may help create flow experiences for people just by listening, whether with intention or as background music, but additionally can occur when music is made informally and as a leisure activity. Examining older adults (aged 60 years or older) participating in music making activities, Rybak (1995) suggests that flow experiences occurred in nearly a quarter of the participants. This experience was sometimes dependent on whether or not the individual perceived themselves as being in control and having autonomy to make creative decisions. The balance of potential challenge for participants untrained in music with the skills necessary to execute musical tasks inhibited flow for some participants. Generally speaking, as a leisure activity for untrained music makers, flow was still able to occur in a variety of circumstances. This allows us to consider the notion that flow does occur in leisure music making activities, even if the music makers are untrained.

People with little to no music training and those who perform music informally and as a leisure activity provide insights into how people react to and engage in music. It is not surprising to find instances where music creates intense engagement and satisfaction among untrained music listeners or music makers. In examining peak experiences in a general population of college staff members, Lowis (2002) discovered that music was reported as the activity that most elicited peak experiences and flow-type experiences. This experience might be the result of musical involvement like playing an instrument or singing, but may also be triggered by passive listening. Individuals with musical training experienced stronger emotional reactions and cognitive engagement in

their chosen musical activity, but music induced flow remained consistent across participants regardless of musical ability.

Although much of the scholarly research that exists on flow and music delves into the realms of music performance and teaching, we should also consider how music and flow experiences impact the average music consumer. We are constantly inundated with music whether it be for entertainment, ambiance, rituals, therapeutic needs, religion, or creative satisfaction. Understanding that flow can and does occur in everyday musical occurrences can provide powerful insights into what motivates, emotionally moves, and satisfies people.

## CHAPTER V – DISCUSSION

The flow phenomenon plays a far-reaching and essential role in how people consume, perform, and teach music. Though the current literature indicates an increasing breadth and depth in all types of research on flow and music, research investigations should continue examining the many unique and personal facets of this experience. There is much to gain in understanding flow as it pertains to music. For music performers, understanding the emotional drive and motivation for practice and performance delves deeply into what is personally satisfying about formal music making. A great deal of this stems from the notion of flow. Similarly, in music education, students and teachers alike, are most benefitted when they find out what “just clicks,” and the transfer of knowledge becomes much more organic, stimulating, and satisfying. The study of the flow phenomenon is also paramount in understanding why music accompanies so many daily activities, rituals, and experiences. The delight and gratification music creates in all of these categories can best be understood by exploring the dimensions of flow.

Musical activities, whether they be music performance, music education, or music consumption, create a unique platform on which to experience a state of satisfaction, engagement, and enjoyment. Flow experiences exist in a wide context of activities, professions, age groups, and lifestyles. The current literature on flow and music provides numerous possibilities for deepening our understanding of this phenomenon. By collecting and analyzing the current literature on flow and music, this study has sought to discover emergent similarities that may help us recognize what areas of flow and music



have been investigated, how these findings might be utilized, and potential future areas of research in flow and music.

By sorting existing literature by common themes, populations, and findings, this content analysis sought to provide an overview of common trends and emergent themes in flow and music research. The findings of this study suggest that the current body of research examining flow and music may be compartmentalized into three categories: flow in music performance, flow in music teaching, and flow in music consumption. These categories were divided further into subcategories in order to investigate each category with more depth. This categorization was organized with the intention of making findings relevant and useful to music performers, music teachers, and music consumers alike. The categories may also help to convey where more emphasis has been placed in certain research veins, and where there has been little investigation.

### Music Performance

A great deal of literature exists on music performance and flow, although much of this research crosses over into the realm of music education as well. Flow proneness, or the notion of the autotelic personality, are some of the most direct predictors of whether or not someone will experience flow. The characteristics of someone who embodies flow proneness can occur through a wide variety of activities, but may be most noticeable in the activities that the individual prefers. The current literature on flow and music indicates musical activities are a great platform for flow prone individuals to experience states of optimal arousal. Instruments like the Dispositional Flow Scale (DFS) are utilized to measure the likelihood that someone might experience flow. Noting participants' autotelic traits in interviews and observations provide useful information in

regard to music making activities. In educational situations, this information is especially pertinent because students' personalities and temperaments may be direct indicators as to whether or not they will be able to fully immerse themselves in the activity at hand. If students do not have autotelic traits or flow proneness, it would be beneficial for student and teacher alike to find other ways to engage the individual, as it may not be as easy for them as other more flow prone students.

Flow proneness may be directly impacted by situational aspects in addition to individual traits. Music performance anxiety plays a crucial role in whether or not people performing music will experience flow. Anxiety in performance contexts, among peers, or in one-on-one music lessons has the potential to be a significant factor in interfering flow, as the inability to experience a loss of self-consciousness does not allow the participant to fully immerse themselves in the activity. There are many activities and feelings that stimulate flow, but few that so distinctly obstruct it.

If flow is considered an optimal state, it is for this reason that music performance anxiety should be examined and attempts to counteract it should be a priority in music performance situations. For some, anxiety might include interacting with or performing in front of others, and any level of performer or student may feel intimidated by the imbalance of their skills and the challenges of the task at hand. Educators should be particularly cautious of the delicate balance of challenge versus skill because this may mean the difference of positive or negative performance experiences for students. This balance can be corrected with thoughtful planning and sequencing on behalf of the instructor, and may help instill confidence and motivation in the student for completion of the task at hand.

Another aspect of examining flow and performance anxiety, as well as flow in general, is that of the physiological responses to this optimal state. The literature suggests that physiological responses to flow in music do exist, but there is a need for further research to assist teachers and performers alike to understand this phenomenon further. Flow does impact physical attributes like pulse, perspiration, heart rate, and other physical indicators of arousal, however, the link between how these physical manifestations enhance, hinder, or generally impact flow states are not clear. In particular from a performance standpoint, better understanding the physical facets of flow could have significant implications for those that experience performance anxiety as well as being another more tangible motivator for seeking out flow experiences.

A physical part of music making, whether in performance or educational settings, is often that of being surrounded by and collaborating with others. Although this does not represent the same type of physical sensations discussed in current literature about physiological impacts, the notion of togetherness, or becoming a part of something greater than oneself is notable throughout much of the flow and music literature. Making music with others and experiencing a sense of togetherness has important and far-reaching implications for both performing and teaching music. The literature on flow and music indicates, through interviews and personal observations, that a sense of togetherness is one of the most pervasive explanations as to why participants in music value the experience the way they do, and additionally provides several interpretations as to why people might experience flow while making music with others.

The positivity experienced in making music with others also expands to individual music activities in performance and teaching avenues. An overarching theme

across flow literature in general, but specifically in flow and music literature, is that of the lived experience of positive emotions and enjoyment. This theme is pervasive across music teaching, performance, and consumption, and has many ramifications for future study. When the reward of the activity becomes the activity itself, intrinsic motivation becomes undeniable and unceasing. This has powerful implications for practice habits of performing musicians as well as actual performance situations. In music education, the idea of the activity being directly linked to positive emotions experienced creates a cycle of motivation.

### Music Teaching

Flow in music education provides valuable insights into how instructors might approach objectives, sequencing, and assessment. Current research suggests pertinent information regarding achievement in student performance and flow. Many instances of this in the current literature poses that this may be in part due to autotelic personality traits. Not only do high achieving students experience flow frequently, students who experience flow tend to be more high achieving. Flow provides intrinsic motivation for students, but also may assist in helping them to more fully reach their potential. This positive cycle should be noted by teachers for those students who are successful in their tasks, but perhaps more dire attention should be directed to those students who are struggling to achieve the intended objectives and who are likely not experiencing flow. Using information regarding flow characteristics, especially noting the dimension of challenge and skill balance, teacher intervention (or lack thereof), sequencing, and scaffolding could potentially help students experience flow which in turn could help their achievement in the activity at hand.

Specific teaching tactics like the above-mentioned scaffolding and sequencing are important considerations in much of the literature discussing flow and music teaching. Leading students through a progression in which they can arrive at a challenge and discover ways to overcome the challenge is essential for growth and achievement. In addition to the balance of challenge and skill, the idea of merging action and awareness is significant in many teaching methods. For example, with many musical activities there is a certain amount of automaticity that must occur. Fingerings, breathing, articulation, and posture for a wind player for instance must be something that occurs without the participant needing to concentrate fully on any one aspect. These tactics may be learned separately, but the amalgamation of these together requires awareness of each individual component to disappear and become just part of the action it takes to play the instrument.

In any educational situation, the “what” is being taught is just as important as the “how” it is being taught. Repertoire selections among large ensembles or studio lessons provide a foundation of the proper balance of challenge and skill which can result in flow, or if unequal, can result in anxiety or boredom. How new repertoire is introduced both in ensembles and individual studio lessons provides a critical step in whether or not the student is likely to experience flow or not. The current literature suggests that not only what is being taught important, but that certain teaching methods can be direct impediment to experiencing flow. Activities selected for young students can provide the necessary engagement and autonomy to facilitate flow, or could potentially create situations that stifle or hinder the child’s ability to experience flow. For example, too much adult intervention can often inhibit young children from experiencing flow, and this can be difficult to gauge when, in many ways, it is the teacher’s job to be involved.

When examining flow through the lens of student and teacher interactions, the literature conveys useful information about crossover and contagion theories. The notion that teachers experiencing flow are more likely to have students experiencing flow is a universally beneficial situation. Not only does this aid the students, but in a profession where attrition is prevalent, the experience of flow may be an influential betterment to consider for the instructors. Finding engagement and satisfaction within the contexts and confines of their teaching situations makes it more likely that the teacher will not only continue their job, but cyclically produces students who are engaged and satisfied as well.

The literature on flow and music teaching indicates flow occurs in both individual instruction and ensemble rehearsals but for slightly different reasons. The personal attention given in studio instruction provides avenues for both the teacher and the student to explore what exactly will benefit the student, although it may be difficult for the student to completely immerse themselves in the activity when the focus is intensely on them. Also, many instructors revert to an apprenticeship model that does not always provide a reciprocal relationship between teacher and student, but more of a one-way channel from teacher to student. This method may hinder flow for some students, and is described in personal interviews and observations in much of the research that discusses individual studio instruction.

In ensembles, the instruction may also travel in a similar one-way channel of instructor to group, however, flow may result due to other factors. The sense of togetherness previously mentioned comes into play as an influential aspect of flow in ensembles, as well as the concentration and awareness it takes to synchronize individuals with one another. Being amongst other musicians may also provide enough relief for

some students who may be nervous to play alone to experience some level of loss of self-consciousness, which could encourage flow.

The uninhibited nature of children may also generate a loss of self-consciousness when they immerse themselves in musical activities. The current literature indicates children will place themselves where they need to be and with whom they need to be in order to increase their chances of experiencing flow. They do this without any purposeful regulation or plan, but are able to discover rather quickly if they will be able to immerse themselves in the activity or not. It is for this reason that educators who work with young students must recognize that a certain amount of autonomy given to students can be highly beneficial for those students to experience engagement and satisfaction in classroom activities.

### Music Consumption

The literature that exists on flow and general music consumption is varied and extends to an assortment of different topics and investigations. This area of research, although broad, is underrepresented considering the scope of which music appears in the daily lives of most individuals. The implications of the current literature suggest there is much more research to be done in this sector, but also provides valuable information about music consumption.

Music listening is perhaps one of the most foundational aspects of music consumption outside of teaching and performing. The literature indicates individuals experience more flow and positive emotions when they hear music that is familiar to them. This knowledge has paramount implications for not only general music consumers, but also for the teaching and performing realms. Understanding that

familiarity and repetition has an impact on whether or not an individual can be fully immersed and satisfied with what they are hearing could have ramifications for materials teachers use, what performers select to share with audiences, or how music is utilized in the general population. This could greatly influence consumption in terms of advertising and entertainment to name specific avenues of usage.

Familiar music is not the only type of music that can help encourage flow. Listening to certain types of music that has personal meaning to the listener can encourage increased performance on specific activities. Asynchronous music provides relaxation and focus that has the potential to help people arrive at a state of flow while performing some other type of activity like athletics. From these findings, some presumptions may be made about helping performance among individuals in a variety of activities by discovering what type of music best helps them experience flow.

Leisurely music making or music listening represent a large portion of the music consumption and flow literature discovered. Individuals who make music strictly for recreational purposes experience flow just as people do in the music performance and music education realms. The literature indicates that untrained musicians potentially experience flow almost as frequently as trained musicians, but just may not be as emotionally attached to the experience. Also, for individuals that were able to describe what activity made them most relaxed and satisfied, a large portion described music. With these two powerful pieces of information in mind, it behooves music educators and music performers to more thoughtfully consider the role of music consumption outside the branches of education and performance.



If some of the primary goals of music performance are to engage an audience and share an art form, it is essential to consider the method of communication and if the intended message is being transferred. Flow, on behalf of the performer, is welcomed and hoped for, but in the case of the music consumer, experiencing flow becomes a meaningful part of the experience should they want to repeat it. This may encourage an area of future research: crossover theory in regard to flow between performer and audience member. Without audience members there to enjoy and become immersed in performances, the landscape of music performance changes drastically.

Examining music education in terms of music consumption and flow provides new areas to investigate. This may include leisurely music making, but also musical experiences that occur during other day to day activities. One of the goals of a music educator may be to teach students musical concepts so that they might better understand and appreciate music, which as a general consumer of music, greatly increases the likelihood that they may experience flow and positive emotions when simply listening to music. Music education practitioners should consider the existing literature on flow and music consumption to explore ways to make musical activities applicable and flow inducing for all different types of students in a wide variety of situations.

#### Limitations of the Study

A limitation of this study is the inability of the researcher to examine every piece of literature published and unpublished on the subject of flow and music. All efforts were made to discover all pertinent studies in the available body of research, although it is possible that studies were inadvertently excluded. Keyword searches and examination of reference sections of major studies provided initial starting points of investigation and

created subsidiary routes to consider. Notwithstanding this thorough search of literature, it may be that studies were unknowingly not reported.

Despite Csikszentmihalyi's thorough definition of flow, it is important to consider that certain interpretive liberties may have been taken by researchers in their examination and description of flow. This subjective influence was noted, and the current study sought to examine literature that used the label "flow" in regard to a heightened state or peak experience. Studies that did not title the experience "flow" were not included as the subjective phenomenon of peak experiences, euphoric states, and heightened experiences, although often similar, do not necessarily share the same defining characteristics of flow. This remains one of the hazards when studying a psychological state that is often difficult to pinpoint, measure, and describe.

Additionally, the nature of qualitative content analysis can potentially allow the subjectivity of the researcher to influence findings. When synthesizing and categorizing studies, complete objectivity of the importance of data is not possible due to personal experiences and interests (Bresler & Stake, 2006). Stake (2010) discusses the human researcher is the primary and most important of all research tools. The researcher's biases towards particular findings over others are not intentional, but remain unavoidable in a subjective collection and analysis of data as we are only able to perceive and understand the world based on our own unique relationships, experiences, and conceptual understandings (Stake, 2010).

#### Future Research on Flow and Music

In the realm of music performance and flow, there exists a wide array of potential for future studies that better inform our understanding of the flow experience in musical

contexts. One area to continue examining is that of flow proneness and the notion of the autotelic personality. The current literature suggests temperament and personality characteristics have an impact on one's ability to arrive at a state of flow and the intensity that someone may experience flow. The idea that certain people are more likely to be in flow than others simply based on their personality presents important implications in understanding why some people may involve themselves in and stay with music as a profession or as a leisure activity, and should be noted as an important area for future research.

Likewise, understanding music performance anxiety and its relationship to flow helps to provide information to those who may find it difficult to experience flow while performing. Some aspects for future research could include examining the absence or presence of flow to discover if it is more closely linked to physiological or psychological manifestations of performance anxiety. Also, as several of the current studies have suggested, flow is hindered by the presence of performance anxiety; however, would flow be able to occur with the help of substances that are intended to eliminate performance anxiety such as beta blockers or the like, or would these aids also dampen the emotional arousal necessary to experience flow?

Research on physiological responses to flow are in the early stages. This small body of research provides a wide array of possibilities for future studies, including a better understanding of the physical manifestations of performance anxiety and heightened states of satisfaction. This realm of research could branch out into aural and optical stimuli as well as how necessary it is for the body to be physically involved in the task in order to experience flow. This also leads to ideas about what state the body

should physically be in for flow to occur as well as examining what actually happens to the body while experiencing flow. Knowing more about the physical on goings in the body during flow experiences allows us to better prepare ourselves to experience flow as well as potential information on how to better facilitate flow.

An emergent similarity of the importance of “togetherness” across literature pertaining to music performance suggests several future avenues of inquiry. This sense of community when making music with others was found to be important to flow experiences in a variety of contexts like band, orchestra, choir, marching band, and small ensembles. Although there have been variety of studies completed on these mediums, group music making seems to be a powerful trigger for flow experiences, and further examination could provide useful in understanding the flow experience from different perspectives. Small ensembles and marching band may provide some especially pertinent further research due to the independence needed among participants. In small chamber ensembles where each individual plays or sings a different part than others versus a participant playing or singing with multiple people requiring little independence could yield interesting results conveying the importance of different types of group involvement. In marching band there is not only an aural sense of togetherness, but the visual aspect provides an additional layer of intrigue. Each person is needed to create a larger whole but must be completely independent in their movement from all other participants. This paradox in togetherness and independence with flow create fascinating research avenues to pursue.

One of the most pervasive themes throughout the current research examined was that of experienced positive emotions and a sense of enjoyment or satisfaction that paired

with flow experiences in music. The emotions experienced with music making and flow may create an antithetical experience in that music is not always intended to elicit happy or positive emotions. People may listen to or perform sad, somber, or angry sounding music that creates positive or happy emotions and a sense of enjoyment that we normally would not pair with undesirable feelings like sadness or anger. Further research examining the lived emotions of music performers or consumers experiencing flow could inform our understanding about the impact music has on human emotions.

The arena of music teaching and flow provides a wealth of opportunity for future research suggestions and investigations. Although a subjective experience, flow may be one of the most tangible experiences noted that celebrates motivation, engagement, and satisfaction in music learning. The current literature on high achievement among music students and flow suggests that flow pairs with success in the music classroom in many ways. Future research might investigate how achievement and flow may predict long term retention and attrition in music learning, as well as how flow can be utilized as a reward and motivator among music students.

Flow as motivation also has implications for how teachers might structure both long term curriculum and daily plans. Identifying instances where flow is more likely (such as the end of uninterrupted run throughs of music or in large ensembles at the end of rehearsals as the current literature suggests) presents some suggestions for sequencing. These ideas could be expanded so that flow becomes the compensation for the more tedious aspects of music learning. Cross over and contagion theories reveal another important avenue to explore flow in regard to music learning. Further research on

crossover flow experiences between teacher and students could provide a powerful and valuable asset for retention and satisfaction among both groups.

The different components of individual music teaching versus teaching in large groups or ensembles provide contrasting yet equally viable pathways for future investigation. Individual music instruction is perhaps where some of the most intense improvement and learning occurs due to the teacher's ability to tailor to the student's specific needs. As current research suggests, this apprentice model is most successful when an open dialogue exists between student and teacher, although this does not always amount to flow experiences. The types of sequencing, method of instruction, and perhaps repertoire used could provide useful information in individual instruction and flow. Further research on personalities, teaching styles, and learning styles among studio teachers and pupils may also have fascinating implications on music instruction.

The dynamics of group music making and learning differ quite substantially from that of individual instruction for obvious reasons, but may be examined from a flow standpoint in many of the same ways. Sequencing, teaching styles, and factors helping or hindering student engagement in larger ensembles are crucial for experiencing flow, and may provide interesting areas of future research. Longer playing episodes, student and teacher placement in classroom, and specific repertoire were among many of the factors that created flow experiences as suggested by the current literature. Many of these factors are influenced by the participants' abilities to balance the challenge of the task with their perceived skills. Future research could investigate how much of this balance of challenge and skill relies on the individuals in the group or if it is the balance of the entire group that provides more flow experiences for those involved.

Flow and young children's music making is a well researched area, although there are many ways in which further research could help deepen our understanding of this phenomenon. Children provide unique participants in flow research because of their ability, if given the opportunity, to create or place themselves systematically in situations that are more conducive to flow while in the music classroom. The uninhibited and imaginative characteristics of children create ample opportunities for expanded research on observable flow indicators, teacher/adult involvement in student musical activities, and improvisation in musical activities. Although many of these findings may be specific to young children, they can perhaps provide insights into other groups of music learners.

There exists a relatively small body of literature that seems to fall neither in the arenas of music performance nor music teaching. For the purpose of this study, all other research in which people experience flow and music together was denoted music consumption. Considering the pervasive way that music influences our everyday lives, there is a disproportionate amount of investigation that specifically examines music and flow outside of the lens of formal music performance and teaching. Music remains an incredibly influential part of how we experience our everyday surroundings. We consume music for rituals, entertainment, emotional release, ambience, cultural heritage, and storytelling to name a few. This category of flow experiences and music leaves much to be discovered, and is perhaps the most pertinent area for future inquiry. Current research displays gaps in our understanding of how seemingly influential music is as a part of our everyday lives. We gain a great deal enjoyment and satisfaction from consuming music, whether actively participating or passively listening, yet we know little about how flow experiences coincide with these everyday musical activities.

This study sought to better understand the relationship between flow and music, and what current literature reveals regarding flow experiences in musical contexts. The deeply subjective, positive, and meaningful experience of flow is a worthwhile area of research in music as it mirrors much of what we hope to experience as performers, teachers, learners, and consumers of music. Although flow may not be a tangible and declared objective of music activities, the phenomenon creates something that we strive towards as humans - creative satisfaction, involvement in something larger than oneself, and intent focus on something that is personal, enjoyable, and meaningful.



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