

FEATURE ARTICLE

The Role of Physiology, Affect, Behavior and Cognition in Leader Character Activation: A Music Intervention

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ABSTRACT

We build on the theoretical model proposed by Crossan et al. (2021) to examine leader character activation, through the use of music, as a foundational area for leader character development. Our findings reveal that music influences all of the physiology, affect, behavior, cognitive (PABC) systems to more and less degrees. As well, music activates all dimensions of character, with different dimensions of character varying in their reliance on the PABC systems. Our empirical examination underscores the importance of examining activation as an initial step in development, yielding insights into the holistic role of the PABC systems in character development. Although all four systems are implicated, this study points to the need to understand how various dimensions of leader character rely differentially on the PABCs, which provides important insight into how leader character development can be tailored. Finally, the study verifies the important role of music therapy in the activation and subsequent development of leader character and

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paves the way for other innovative approaches that move beyond the cognitive and behavioral focus in leadership development to embrace physiology and affect as well.

While significant progress has been made in understanding the nature of leader character (Crossan et al., 2017; Hackett & Wang, 2012; Peterson & Seligman, 2004), with the importance of leader character development documented (Hannah & Avolio, 2011), there is a dearth of empirical research addressing leader character development. Building on prior leader character research, Crossan et al. (2021) used a cross-disciplinary approach to forge the theoretical links between the development of leader character and four underlying systems – physiology, affect, behavior, and cognition (PABCs), using music therapy to illustrate the theory. Responding to the call for further research to examine the theoretical model, we explore the effects of listening to music (self-selected songs), among leaders in the workplace, on the PABC systems and the activation of the character dimensions through an exploratory qualitative study using music as an intervention. The research questions we address are: (1) Can music activate leader character? And if so, how? (2) What is the relationship between the PABCs and the activation of leader character?

We employ the definition of character identified by Crossan et al. (2021) as, “an interconnected set of habituated patterns of thought, emotion, motivation or volition, and action (Bright et al., 2014) that satisfy very specific criteria, identified by Peterson and Seligman (2004), as being virtuous” (p. 287). We also rely on the framework of leader character that Crossan et al. (2017) propose (Figure 1), where the term leader refers to the disposition to lead. In our study, individuals also had the position to lead.

We proceed by introducing the concepts of leader character and leader character activation, and then

explain how music activates the PABCs. Building on these sections, we address leader character activation and the PABCs. We present our research model, which arises from the theoretical development, along with the methods. Our findings are presented then followed by a discussion and implications for research and practice.

Leader Character Overview

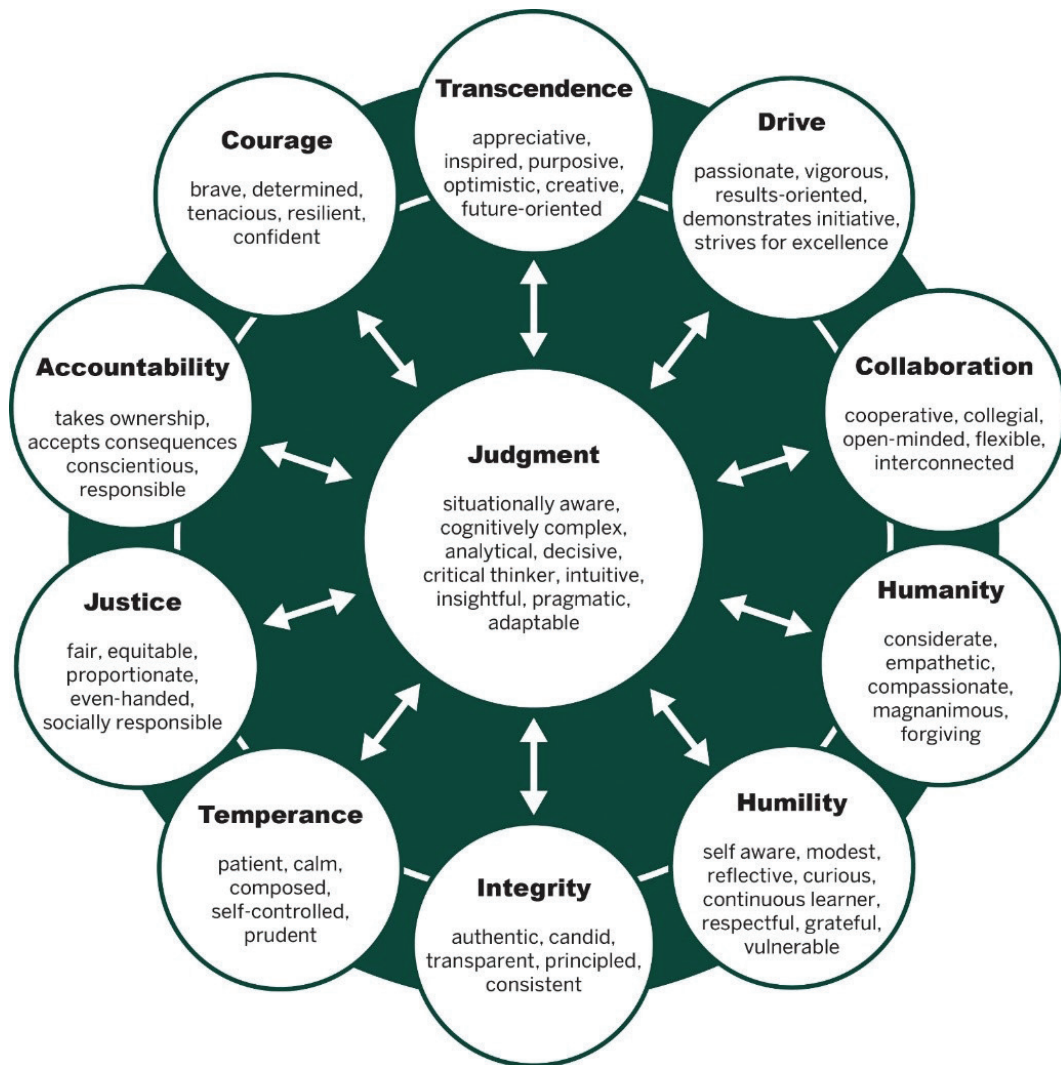
Leadership scholars Hannah and Avolio (2011) claim that “character is an indispensable component of sustainable leadership performance” (p. 979). They note that “leader competence has been more extensively studied – through theories focusing on decision-making, expertise, skills, and adaptability – as compared with leader character, which has lagged in theory development and empirical research” (Wright & Goodstein, 2007, p. 979). Sturm et al. (2017) take it one step further and describe effective leadership as the entanglement of leader character and leader competence, so it is not that character displaces competence, but rather underpins it. Scholars concur that leader character – who someone is – influences what and how they do it as captured in current leadership theories (Quick & Wright, 2011).

Leader character finds its roots in virtue ethics philosophy, dating back millennia to Confucius and Aristotle (Hackett & Wang, 2012). Peterson and Seligman (2004) provided a major bridge to psychology with their extensive research applying character to individual well-being. A second major bridge was forged by management theorists who sought to apply character to leadership in organizations. Relying on engaged scholarship with practitioners to bridge the gap between research and practice, Crossan et al. (2017) used a multi-method approach to develop both a framework and an instrument (Leader

Figure 1

Leader Character Framework

Source: Crossan et al. (2017)



Character Insight Assessment – LCIA; Sigma, 2018) that could be used in research and practice. Partnering with Sigma Assessment Systems (2018), the LCIA, which has both self and 360 assessment, has been validated and used in studies that support the network structure of leader character and its relationship to measures of both well-being and performance (Monzani et al., 2021). Crossan et al. (2017) relied on the seminal work

of Peterson and Seligman (2004) and employed their criteria when identifying behaviors that could be considered virtuous: fulfilling; intrinsically valuable; non-rivalrous; not the opposite of a desirable trait; trait-like or habitual patterns that are relatively stable over time; not a combination of the other character strengths; personified by people made famous through story, song, etc.; absent in some individuals and nurtured by societal norms and

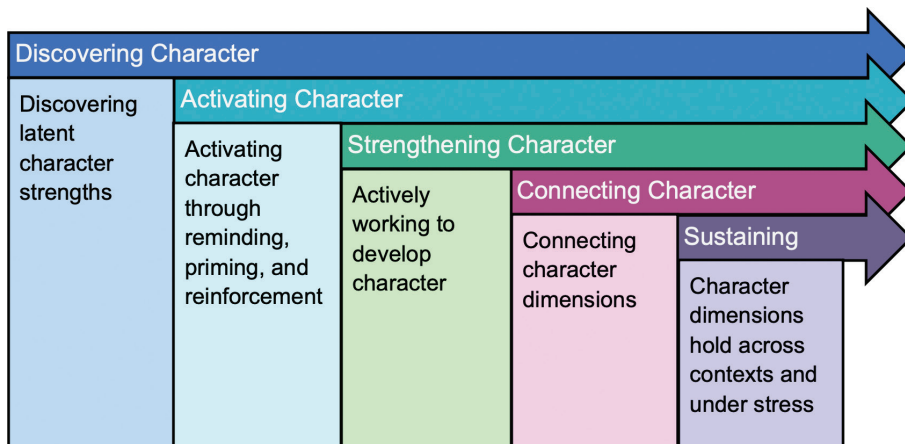
institutions. The 11 dimensions of character shown in Figure 1 are revealed in observable behaviors associated with each of the elements.

Missing from many characterizations of character is the theoretical guidance associated with the interconnected nature of the character dimensions. While treating them as distinct, as opposed to the network structure, may be simplified for research, there are serious shortcomings associated with neglecting the interconnected nature of character, particularly when it comes to development. The network structure informs that any virtue can operate as a vice when not supported by the other virtues in the constellation. The under- and over-weighting of virtuous behaviors by both individuals and organizations can lead to what could be a virtuous behavior operating as a vice, something that not only undermines individual judgment but also contributes to toxic and unfavorable environments. The under- and over-weighting is learned because behaviors that are valued by leaders become valued by their followers. The potential for a virtue to operate like a vice is perhaps the missing piece in understanding the dynamic of “excessive positivity” (Alvesson & Einola, 2019) and the “too much of a good thing” (Antonakis et al., 2017; Busse et al., 2016) effect where researchers identify that there is a curvilinear relationship between many positive leadership phenomenon and outcome measures (moderate levels are better than low or high levels). However, researchers have not anticipated the interconnected nature of the dimensions of character that would fundamentally influence the dynamic. For example, high levels of compassion that are not supported by other dimensions of character such as temperance (calm, composed, patient, prudent, self-controlled), lead to what researchers have called “compassion fatigue” (Chachula, 2022). Finally, although there is agreement that character is revealed in habit, there has been limited attention to the development of that habit (Lamb et al., 2021).

Leader Character Activation

Strong character is embodied by frequently exhibiting the virtuous behaviors, sustained across different contexts, which make up character. Crossan et al. (2021) reveal that character development occurs along a continuum as shown in the Character Development Stages Model (Figure 2). Character development begins with discovering character behaviors, followed by the activation of these behaviors. These behaviors are then strengthened with a focus toward increasing the frequency of the behavior. Strengthening one behavior supports the development of other behaviors and thus becomes interconnected to the other behaviors. And last, character is strongest when it is exhibited frequently and sustained despite context. The first two stages, discovering and activating, are critical to set a solid foundation on which character can be strengthened. An individual who develops awareness of their character and experiences it being activated can then pursue the development of character with intentionality. Therefore, this study focused on the first two stages to serve as a foundational starting point to examine how character can be developed.

Because character is a habit made of a set of behaviors, the process of character development draws from the habit development literature to inform the process of character development, and in this case, the activation of character. Habits are behavioral responses to environmental cues that develop through repetition of a behavior in consistent contexts for which strong habits typically involve strong and deliberate intention (Gardner & Lally, 2013). The first stage of character development, discovery, requires an intentional focus to examine and understand how exhibiting the character behavior would manifest. This includes self-awareness of an individual's current state of character, how it manifests, and what the behavior requires for it to be activated. The second stage of character development, activating, requires a cue to trigger the intended behavioral response (Gardner & Lally, 2013), in this case a

Figure 2*Character Development Process***Source:** Crossan et al. (2021)

character behavior. Activation of a character behavior is therefore evident by simply exhibiting the behavior (Rebar et al., 2019). Activation of a character behavior is focused only on a short display of the behavior, whereas the next stage, strengthening, would be more concerned with the duration or frequency of exhibiting the behavior. This study used music as a cue to activate character because of its universal applicability, relative accessibility, and because of its hypothesized effectiveness to activate both the PABCs and character behaviors. The next section describes how music activates the PABCs, which we then build on to link character activation with the PABCs.

How Music Activates the PABCs

Overview of Prior Music Research

Music can bring a listener out of their automatic functioning into a conscious awareness of their PABCs by bypassing cognitive schema scripts and behavioral scripts that enforce learned reactions, instead allowing for intentional responses (Croom, 2012). Prior research has established that music affects the listener physiologically (e.g., Karageorghis et al., 2006), emotionally (e.g.,

Salimpoor et al., 2009), behaviorally (e.g., Misuraca et al., 2017), and psychologically (e.g., Bigliassi et al., 2018). Although prior music research has largely focused on benefits to the listener (e.g., Randall & Rickard, 2017), it is also important to recognize that the same music activation mechanisms can also manipulate the listener's experience, which is consistent with insights from the priming literature and a prevalent practice in marketing and the entertainment industry. From the marketing and music literature, specific music can be played to cue a memory, which in turn impacts individual preferences in addition to manipulating purchasing and spending behaviors (North & Hargreaves, 2009). While in this section we focus on the positive benefits of music, the negative or manipulative aspects reinforce that importance of intentionality, awareness, and reflection by the listener. Specifically, research suggests that intentionally listening to sad music to remain or become sad produces similar emotional effects to the recollection of a sad autobiographical memory but is intrinsically more pleasurable (Vuoskoski & Eerola, 2012).

Music listening is one of the most common human behaviors around the world and is ubiquitous to our

everyday lives (Schäfer et al., 2013). Listening to music aids in the ability to function better cognitively, socially, physiologically, physically, and emotionally (Schäfer et al., 2013). Music is easily accessible and readily available, which is why music is such an effective tool to use for leader character and PABC activation. When a person listens to music, their cognitive ability to attend to a task is enhanced with resolve to achieve something, without altering the perception of the challenge at hand (Priest & Karageorghis, 2008). Thus, a music listener is more inclined to focus and see the task through more effectively and efficiently than without the presence of appropriate music stimuli, such as: upbeat and fast music for exercise, soft and calming music for relaxation, and simple classical orchestral pieces for cognitive tasks (Navarro, 2015).

How Music Influences the PABCs

Two components of music, arousal and valence, have been validated and provide insight into how music activates the PABCs (Irrgang & Egermann, 2016). Listening to music can allow the listener to express emotion and regulate affect (Swaminathan & Schellenberg, 2015). The term “affect” is used, “as an umbrella term that covers all evaluative – or ‘valenced’ (positive/negative) states” (Juslin & Sloboda, 2010, p. 10 in Van den Tol & Ritchie, 2014). Emotional responses are often measured along two dimensions: arousal (low to high) and valence (negative to positive) as illustrated by the circumplex model (Russell, 1980). The association between mode and affect is considered to be culture-specific to music in the Western world: songs played in the major chord are associated with positive emotions (happiness) whereas the minor chord is associated with negative emotions (sadness) (Swaminathan & Schellenberg, 2015). Listening to music can evoke emotions or prompt insightful ideas (Böhm et al., 2016). Applicably, personal music listening is effective in maintaining or achieving a specific mood or emotion, whether positive or negative (Randall & Rickard, 2017). For example, music that is slow, quiet, and played in a minor chord, often portrays and provokes

more sadness than music that is faster, louder, and in a major chord, which elicits happiness (Swaminathan & Schellenberg, 2015; Van den Tol & Ritchie, 2014). Tempo is associated with emotional arousal, which is linked with the limbic system (e.g., the amygdala) and can be linked with increased heart rate and elevated breathing (Swaminathan & Schellenberg, 2015). Listening to relaxing music for instance, can lower arousal levels in the presence of stressors: listening to music has been associated with faster recovery from a stressful experience when compared with listening to nature sounds or silence, with regard to pre- and post-cortisol measures (Swaminathan & Schellenberg, 2015).

Music can be used as a tool to elicit a stimulus, which influences the PABCs to activate leader character behaviors. Physiology is mainly influenced by the tempo of a song – a higher tempo elicits higher arousal and a lower tempo elicits lower arousal (Ellis & Thayer, 2010). Affect is mainly influenced by the key of the song and the lyrics through associated memories, experiences, moods, and emotions (Schäfer et al., 2013). Behavior may be influenced by listening to music, which in turn initiates certain types of dance movements or may stimulate certain types of social interactions (Murrock & Higgins, 2009). Cognition is mainly influenced by the lyrics in a song by triggering new thoughts, ideas, or drawing on memory (Lesiuk, 2010). In film, for instance, music has been used to enhance the cinematic experience by affecting the viewers’ emotions, the perception of character behavior, cueing or priming the viewers to feel a specific emotion to match the character’s emotion or event (Damjanovic & Kawalec, 2021).

Leader Character Activation and the PABCs

The Role of the PABCs in Character Development

Crossan et al. (2021) describe the four PABC systems and the implications for individuals if they have

insufficient capacity to regulate the system. For example, if an individual has learned to suppress affect (feelings, mood, and emotion) rather than learning to regulate it, they will struggle to develop empathy and compassion (behaviors associated with the character dimension of humanity). Studies examining emotional regulation distinguish between deep acting, which involves changing the emotion itself, from surface acting, which involves suppressing the emotion, with the former fostering well-being and the latter impairing it (Semmer et al., 2016). Cognitive empathy, or the ability to consciously detect and understand the affective state of others, can be strengthened by listening to familiar or preferred music through the activation of specific neurophysiological pathways, such as the prefrontal cortex, which controls executive functioning and emotion regulation (Wallmark et al., 2018). Specifically, more open-minded empathetic listeners will try to “see something positive” (Wallmark et al., 2018, p. 14), especially when exposed to preferred music. Karageorghis and Terry (1997) suggest that mood improvements are a consequence of listening to motivating music. Therefore, music listeners undergo emotional regulation, which can influence both their social cognitive and affective processing (Wallmark et al., 2018).

The importance of understanding the PABCs and their interconnected nature is perhaps most developed in the field of cognitive behavior therapy. Building on that research, Crossan et al. (2021) incorporate within cognition the important role of core beliefs defined as, “fundamental, inflexible, absolute, and generalized beliefs that people hold about themselves, others, the world, and/or the future” (Wenzel, 2017, p. 17 from Beck, 2011; Dobson, 2012). As Wenzel (2012) describes, “when a core belief is inaccurate, unhelpful, and/or judgmental (e.g., “I am worthless”), it has a profound effect on a person’s self-concept, sense of self-efficacy, and continued vulnerability to mood disturbance” (p. 17). Crossan et al. (2021) describe that leader character can mediate the relationship between core beliefs

and context as strong leader character fosters more functional, rather than dysfunctional core beliefs that allow individuals to transcend context. This is an important connection back to the discussion of activation, where prior research has characterized the individual as largely reactive to stimulus. In this study, we acknowledge that core beliefs will influence the leadership development process as an anchor point that directs attention and action. Essentially, individuals do not engage learning and development with a cognitive blank slate, but rather from a set of beliefs, some of which are known, and other beliefs are more subconscious. Part of the learning and development process therefore encourages a greater awareness of core beliefs and how these may influence the development process.

Leader character is observed through 11 virtuous dimensions shown in Figure 1. Judgment is positioned at the center connecting to each of the dimensions, as the other character behaviors are expressed through the choices and decisions made (Crossan et al., 2017). Because of their interconnected nature, if strength in one dimension is not supported by the others, this leads to what could be a virtue, operating as a vice. Aristotle’s noted example is that courage becomes reckless without the support of temperance. Judgment, or what Aristotle referred to as practical wisdom, is in the center, because it relies on all dimensions of character (Newman, 2010). Good judgment requires that the person is able to regulate cognition and affect (Likierman, 2020), but as Crossan et al. (2021) reveal, it also relies on physiology because inability to regulate the physiological system underpins the fight/flight response that short-circuits cognitive function. Good judgment relies on being situationally aware, understanding the challenges that arise and having the appreciation for stressful circumstances commanding unique responses. Research has shown that cognitive biases (e.g., confirmation, risk aversion, or excessive risk) influence the choices people make (Likierman, 2020). When a person is more self-aware (a behavior associated with the character dimension of

humility), the individual is able to gain new perspective and thereby gain clarity.

The Role of Music in the Process

Self-awareness can be achieved through role-playing and simulations (Krueger et al., 2017), which offers participants the opportunity to see different positions and to consider opposing views safely (Likierman, 2020). Exercises that focus on developing self-awareness, such as listening to music (Navarro, 2015), can offer different viewpoints (Likierman, 2020) and assist with exercising good judgment. Music affects the listener's brain by stimulating hormone production, specifically in the limbic system (e.g., the amygdala), which results in the maintenance or shift to a more positive affective state, resulting in improved emotional, cognitive, and behavioral reactions (Navarro, 2015). In therapy, music has been used for many purposes, such as with PTSD patients learning to control their emotions by listening to songs that calm them down and slow their arousal state, affecting their physiology, which in turn exercises their integrated PABCs (Navarro, 2015). This act of becoming more self-aware is strengthened through music therapy.

Music can influence the listener's physiological arousal state through the tempo of the song (Husain et al., 2002), which in turn can activate specific character behaviors. With need for further exploration, we presume higher arousal states to be associated with dimensions such as courage, transcendence, and drive. For example, being passionate and vigorous, which are elements associated with drive, are typically supported by higher arousal states when exhibited. These behaviors are more receptive to sensory information (e.g., physiological cues such as heart rate) and can therefore be controlled with interoceptive feedback from the body and mind, which facilitates self-regulation of cognition, emotion, and behavior (Gard et al., 2014). Alternatively, we surmise that lower arousal states are associated with dimensions of temperance (patient, calm, composed),

humility (self-aware, reflective), and humanity. For example, being patient, calm, and composed, which are elements associated with temperance, can utilize traditional arousal regulation strategies, such as deep breaths and yoga (Gard et al., 2014), when feeling physiologically overstimulated (e.g., elevated heart rate, feeling flushed, shallow breathing) during or prior to a task or event to decrease arousal states (Harmison, 2006).

Cognitive abilities have been positively influenced by music that puts the listener into a more pleasant mood and higher arousal state (Husain et al., 2002) connecting different variables of the dimensions to work together to produce better judgment. Therefore, having self-awareness of one's PABCs, specifically self-efficacy, posture, and state-anxiety, in addition to physiological variables such as arousal, are necessary for optimal coherence and performance (Crossan et al., 2021; Harmison, 2006).

Conceptual Model

Our theorizing associated with character activation reveals the importance of embedding character activation in a deliberate and intentional cycle as shown in the conceptual model presented in Figure 4, which includes: (1) assessing the development need, (2) making an intentional choice associated with the development need, (3) activating character and then (4) cultivating awareness and reflection associated with the experience (Crossan et al., 2013). The way in which an individual assesses their development need is influenced and can be limited by what they know and understand (Izrik & Nola, 2006 in Matthews, 2014), which is why the 360 approach is a critical component to support assessment. An individual's intentionality to activate a behavior is influenced by their beliefs about the behavior, their beliefs about how others perceive the behavior, and their ability to perform the behavior (Conner, 2020). In the case of using music to activate character, the individual's personal preferences will also influence their choice of music. The music stimulus is used as a tool to cue a character behavioral response while also

activating the PABCs that support character. The awareness and reflection that follows the activation of character is critical to inform the assessment through a feedback process, represented by the red arrow. Awareness and reflection can be tied to the dimensions of character (Crossan et al., 2013). In addition, “what, when, why, and how” are essential questions Aristotle urged individuals to address to support awareness of contextual influences and ultimately intentional action associated with the development of character (Newman, 2010). Although outside the scope of this study, the red arrow in Figure 4 reveals a feedback loop to assessment, which then continues the learning cycle of habit development. Music can be used as the stimulus to activate specific character behaviors (Crossan et al., 2018).

There are three critical implications arising from the foregoing analysis. Firstly, because this study employs a reflection-based behavior intervention, it should activate the behavior of self-awareness associated with the character dimension of humility. Although this may be the case for any study that is not simply observational in nature, we also suggest that because awareness has been identified as an important building block of learning, developing self-awareness in the course of developing any dimension of character will be of benefit. Strengthening character can be exercised through the practice of self-awareness and regular reflection (Crossan et al., 2013). Music is an example of a tool that can activate character (Crossan et al., 2018) and is universal with its impact on arousal and affect (Ellis & Salmoni, 2019). Connecting music and character activation promises to reveal how to activate leadership character (Crossan et al., 2018).

Secondly, because prior research points to habit development needing to be customized to the learner to strengthen intrinsic motivation (Ryan & Deci, 2000), this study provides the participants with autonomy by allowing the participant to choose which character behaviors to focus on activating. Furthermore, partici-

pants are also instructed to choose their own music in alignment with the customized literature and because music preference is personalized. The participants completed a LCIA-360 prior to the study, which helped to inform their choice as we describe in our methods. Thirdly, Aristotle (Newman, 2010) outlines the need to understand the learning in its context and thus we seek to understand the basic what, when, where, why, and how music influences character development.

Methods

Participants were recruited from one organization, with offices stretching across Canada. From three cohorts totalling 158 potential participants, 48 people agreed to participate, and 28 participants completed the preliminary character assessment and telephone interview. For purposes of transparency, this study began as the first stage of a larger study that would also incorporate links to character development over time. However, the COVID-19 pandemic truncated the study, and therefore we are reporting on activation only. As we subsequently describe, the coding of the interview transcriptions revealed a saturation level of insights that deemed this initial stage as a stand-alone study.

Ethical approval for this study was sought and gained from the Research Ethics Board at the University. Eligibility for this research study required participants to be over the age of 18, proficient in working with other people and physically capable of listening to music. We recruited participants from a sample of public-sector executives and upper management team leaders. The participants' varied ethnic backgrounds, preferred language, gender, and time spent in current and total leadership roles was collected and described. The sample comprised 19 females and 9 males whose mean age was 48 years (34–63 years of age). The distribution of ethnicity within the sample was as follows: 54% Caucasian, 7% Asian, 7% African Canadian, 7% First Nation/Métis/Inuit, 0% Latin America, and 25% Other. The participants averaged 13 years of leadership experience

(a minimum 5 months, a maximum over 29 years' experience). We used a four-phase process that followed the conceptual model in Figure 4.

Phase 1

In the first phase, participants completed a demographic questionnaire and the LCIA-360. The survey consists of a series of behavioral statements in which the participants are requested to assess the likelihood of exhibiting the behavior on a 1–5 Likert scale. Participants received their self-ratings as well as ratings collected from their selected leaders and colleagues. As shown in Figure 4, the report provided feedback that would likely inform areas for development. Consistent with the customized theorizing to support intrinsic motivation, participants chose which leader character behavior(s) to focus on activating with music. The participant used the leader character framework to choose their behavior(s), which consists of 11 dimensions and the associated 4–9 behavioral elements. Importantly, the LCIA-360 was not used as a baseline measure of character but rather as a measure to examine the relationship between the assessment and intentionality to develop character behaviors.

Phase 2

In phase 2, each participant was asked to create a music playlist. Participants selected one or more song(s) to create a playlist designed to activate their chosen character behavior(s), providing them with complete autonomy. Each song was coded and assigned to the appropriate genre category (Ellis & Salmoni, 2019), defined as a category that recognizes the characteristics of a particular music file belonging to an established form of music (e.g., rock or country; Tao et al., 2017). Although songs can cross genre categories, each was categorized into the genre deemed most appropriate. The distribution of the selected songs by their genre is presented: Classical (13.4%), Opera (0.8%), Rock (38.1%), Pop (24.7%), R&B/Hip-Hop (8.8%), Rap (0.8%), Country (4.2%), Jazz/Blues (0.4%), New Age (3.8%), EDM/House (3.4%), Workout music (0.4%), and Gospel/

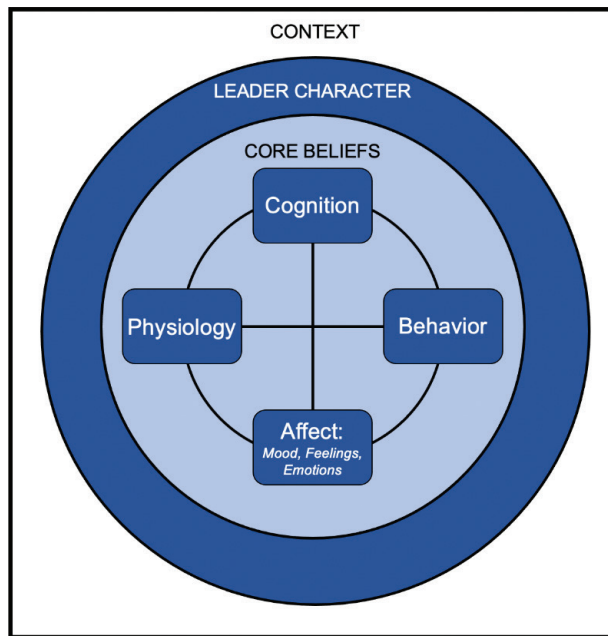
Traditional (1.3%). With regard to genre preferences, our findings are congruent with the literature that Rock and Pop (contributing to 62.8% of total song selection in this study) are the most popular genres worldwide, likely because this type of music induces emotional responses (Brattico et al., 2011). Furthermore, Rap music and Heavy Metal are often associated with negatively valenced emotional responses (North et al., 2018) such as anger, whereas Classical music has been strongly associated with aesthetic emotions and the blues with sadness (Swaminathan & Schellenberg, 2015). The self-selected procedure ensured that the music retained individually affecting qualities. The music (one or two of their song choices) was subsequently played during the interview in phase 4. The interviewee was asked to listen to the music in whatever means they preferred (i.e., over a speaker, through their phone/computer, using headphones).

Phase 3

Phase 3 involved the beginning portion of a semi-structured phone interview (necessary amid the global pandemic), lasting between 20- and 45-minutes. The participant played their chosen music to activate their intended character dimension or its elements. According to the theoretical model proposed by Crossan et al. (2021), listening to self-selected music should activate the intended character behavior, and in addition, should also activate the underlying PABC systems, as depicted in Figure 3. For example, when a participant wanted to activate temperance by calming down and finding composure, they listened to a song from their temperance playlist that is pleasant and relaxing (e.g., Vivaldi's Four Seasons). Alternatively, when a participant wanted to activate drive and courage to "take action" and thus required increased arousal, they listened to music from their Drive playlist (e.g., Beastie Boys' Sabotage).

Phase 4

Phase 4 involved the second portion of the semi-structured phone interviews. The interview protocol is

Figure 3*Core Beliefs, Character and Context***Source:** Crossan et al. (2021)

provided in Appendix A. The interview structure is consistent with Aristotle's who-what-where-when-why-how approach to understand action and decision (Newman, 2010). We posed basic questions that explored why they listened to certain songs, when they listened to that type of music beyond the interview session, what it was about the music that affected or affects them, along with some questions that helped us better understand the role of the PABCs. The "who" was omitted because this question was previously answered as it referred to the participant. However, the "where" was omitted because the question was no longer relevant to our study as a result of the current global pandemic. Specifically, the "where" focused on the location of the music-listening, which was previously done during the commute to and from work and in the physical work space (e.g., private office, common meeting room). During data collection, the participants were all working from home and therefore could not practice this "normal" music-listening

behavior. Instead, participants discussed their practice or intention to incorporate music-listening into their work day, that is, before meetings or presentations, and during specific tasks, regardless of actual physical space. Furthermore, we had respondents to provide measures of their heart rate before and after listening to the music to account for physiological changes, in addition to completing the Positive and Negative Affect Scale (PANAS) assessment (Watson et al., 1988) immediately after listening to their music, which was designed to measure positive and negative affect. Table 1 provides a summary of key constructs and measures.

Analysis

Our primary analysis aimed to address the first and second research questions. The first research question focused on whether character was activated from the use of music. While retrospective self-report measures are the most commonly used measures of habit (Mazar &

Table 1

Key Constructs and Measurable Variables

Constructs	Measures	
Primary measure		
Character Activation and PABCs	Coding	
Secondary measures		
Leader Character Assessment	Leader Character Insight Assessment (LCIA) - 360 (Sigma, 2018)	
Music	Genre, Tempo, Mode	
Physiology	Heart Rate (bpm)	
Affect	Positive and Negative Affective State (PANAS; Watson et al., 1988) sums (scores range 10-50)	
Behavior	Action described during music listening	
Cognition	As observed in interview	
Category	Definition	Themes
Assess	Self-evaluation, assessment	Find balance, analyze, LCIA, discrepancies
Intention	Purpose, use, reason, unobserved, unintended outcome, hoping to develop	Mindset, mind frame, head-space, boost, focus, calm me, sooth, mood, goal, purpose, pleasure, to activate/strengthen
Activate	Observable behavior, strengthening and developing character behavior	Reminder, familiar, develop, strengthen
Aware/Reflect	Being self-aware, noticing, reflecting	Aware, reflect, consider, notice

Wood, 2018), we employed a hybrid self-expert measurement of character activation to enhance validity. The self-report draws from the data collected through the interviews, which is based upon self-reported experiences of how the music influenced the participant's self-reported behavior. The expert-observation draws from the researchers coding the interview transcripts to identify whether and which character behaviors were activated. Coding is a method used to label the data to provide an overview of contrasting data that allows the researcher to make sense of themes in relation to the research questions (Elliott, 2018). The second research question

addressed the relationship between the PABCs and the activation of character. To examine this relationship, we continued to code for the PABCs and examined their relationship to the activated character behaviors.

Our secondary analysis continued to examine the second research question more holistically. The data were coded as themes emerged rather than at the end of data collection, and thus data analysis of each interview was subject to continual readjustment and cross-referencing. The ongoing thematic analysis provided a way in which we could code from the participants' experiences

and intentions as they were revealed: (1) before the interview (pre LCIA-360 and demographic questionnaire) and (2) during the interview with music listening.

Firstly, the interviews were transcribed verbatim by one researcher, who began to appraise content and identify potential themes. The data were saved under numerical identifiers in compliance with ethical standards and to maintain the participants' anonymity, along with screening any references to promote confidentiality. Each interview transcript was read in its entirety. After simple coding, we categorized the labels through theoretical coding. For example, "I use music to calm down" was referenced as "calm" and categorized under the theme "Intention." This process was done with each interview (until interview number 28) when it was felt that no additional categories would emerge.

The second researcher coded the data. The two researchers independently coded the first 10 interviews and compared and discussed the emerging themes in addition to any discrepancies and similarities. Any disagreements in initial coding and interpretation were discussed among the researchers resulting in 100% consensus after discussion. Subsequently, interrater reliability was tested on five independently coded transcripts and was validated with a rigor check; the two coders had a reliability of 76.64%. The coding was important since we were identifying behaviors that were aligned with the various dimensions of leader character as opposed to relying on respondents to use language such as "humility" to describe their behaviors. The first researcher completed coding of the final 13 interviews independently and shared the results with the second and third researcher.

The concept of saturation in qualitative data collection is considered the most important factor to consider with regard to sample size in qualitative research; "when gathering fresh data no longer sparks new theoretical insights, nor reveals new properties of your core theo-

retical categories" (Charmaz, 2006, p. 113 in Dworkin, 2012, p. 1319). Most qualitative research resources suggest using 5–50 participants (Dworkin, 2012) – "25–30 participants is the minimum sample size required to reach saturation ... in studies that use in-depth interviews." (Dworkin, 2012, p. 1320). We continued to collect data until no new codes or categories emerged and saturation was achieved, which was reached with 28 interviews (Finlay & Ballinger, 2006).

Our methods privilege music's activation of character by the very nature of asking our participants to reflect and incorporate music into their leader character activation plans. Therefore, the leader character behaviors of humility and judgment are prompted due to the nature of this study. As well, the study privileges cognition from the PABCs due to asking participants about their history of music-listening and their plan to incorporate music into their character development plans. Therefore, although we have descriptive statistics to highlight trends within our data, our interest in this research is more about the process of leader character activation and PABCs, which we describe in the next section with use of quotes from our interviews.

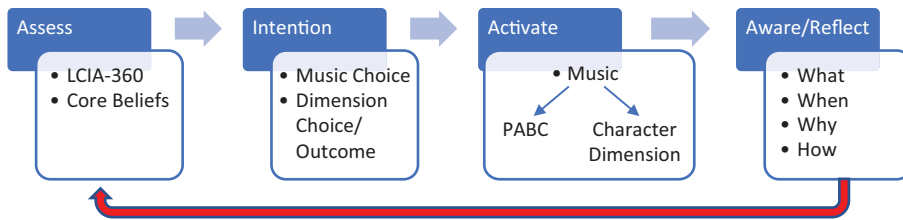
Findings

Phases 1 (Assess) and 2 (Intention)

We anticipated the LCIA-360 would cultivate awareness and help shape intention, keeping in mind that pre-existing core beliefs would also be influential. The LCIA-360 offered an opportunity for participants to understand their own self-assessment relative to the assessment of others. The self-assessment alone would have reinforced the participant's own core beliefs, whereas the assessment by others offered an opportunity to consider other points of view. The following quote illustrates the relationship:

Well, basically, there are four areas I thought I could work on. Drive and judgment are kind of

Figure 4
Model



together for me. Integrity, from a comment in the report about how I sugar-coat feedback, which is very valuable. But my strengths are relationships and collaboration. So I sometimes over-consult, which impacts drive and judgment. Courage, not that I don't have confidence, but it's getting it out so people can see it ... I want to work on my drive and judgment, integrity and courage. I honestly feel I do have confidence and I am brave, and I need to choose my moments so they can see this. I am analytical. I can come across as tentative.

Insights from the LCIA-360 and interview data were analyzed and revealed that the participants' raters (not including self and leader ratings) assessed the participants as being weakest in judgment (29%) and humanity (23%), on average. Leaders assessed the participants as being weakest in courage (26%) and judgment (19%). The participants self-assessed themselves as being weakest in temperance (21%) and humanity (15%). Despite judgment being identified as an area of development, the intentions to activate character were mostly humanity (22%), temperance (18%), and courage (18%). Only one participant identified judgment as an area they planned on activating, which they self-assessed as being one of their lower character dimensions:

Phases 3 (Activate) and 4 (Aware/Reflect)

The analysis of Phases 3 and 4 is structured around four areas: (1) the relationship between the phases in Figure 4 and the dimensions of character; (2) the

relationship between the PABCs and the dimensions of character; (3) additional insights from the "what, when, why, how" questions; and (4) emerging insights.

Phases and Character

Table 2 provides a summary of the coding for each dimension across the phases, where the phases are referred to as categories – assess, intention, activate, aware/reflect. We present the data with the percentage of mentions for each dimension and the overall counts in the total column. Table 2 reveals that all dimensions of character were represented across all of the processes; however, there was different emphasis across the dimensions and phases.

The activation of character behaviors was coded by the researchers. Overall, the results revealed that music can activate all dimensions of character (Table 2) as per Research Question 1. Participants found the task of choosing music to activate specific character straightforward, as revealed in the following quote: "My playlist incorporates songs that activate each of the aspects of character to balance all of the behaviors, for each of them to strengthen. I went through all of my favourite songs, and my kids' favourites too, and I added the songs that spoke to me or reminded me of elements from each dimension and if it registered with a certain behavior."

However, the results revealed that participants relied on music for some dimensions more than others. With 11 dimensions, any proportion above 9.1% (green highlight) indicates a higher proportion than would

Table 2
Process Phases by Dimension

Category	Transcendence	Drive	Collaboration	Humanity	Humility	Integrity	Temperance	Justice	Accountability	Courage	Judgment	Total
Assess	6.7	13.4	16.8	7.4	23.5	6.7	6.7	3.4	4.7	5.4	5.4	149
Intention	14.4	14.4	5.2	5.8	14.8	4.7	12.1	2.9	3.6	8.8	13.3	445
Activate	7.6	8.6	6.7	16.2	17.1	9.5	13.3	1.0	2.9	6.7	10.5	105
Aware/ Reflect	4.2	6.7	10.5	10.1	23.9	14.3	9.7	2.5	2.5	5.0	10.5	238
Across %	9.8	11.6	8.5	8.3	18.8	8.0	10.8	2.7	3.4	7.0	11.0	937

be expected in an even distribution. At a summary level (across % row) the dimensions that exceeded 9.1% were transcendence (9.8), drive (11.6), humility (18.8), temperance (10.8) and judgment (11.0). Across all phases and processes, the dimensions of justice, accountability, and courage were under-represented (red highlight). Highlighted in yellow are dimensions that exceed the 9.1% threshold by more than double.

At 18.8%, humility was over double the 9.1% threshold and in particular for assess and aware/reflect at 23.5 and 23.9%, respectively. We anticipated humility would be emphasized across all phases of the process since the study prompts self-awareness and reflection. However, the interviews revealed it is important to understand the role of music in activating humility not simply because the process prompts reflection: “As soon as a familiar song comes on, I am put into the right mindset; it makes me pause. For example, humility—I am more grateful, more aware to be vulnerable; temperance—composed, calm, self-control, I am excitable; humanity—other people, more aware.”

Judgment has a similar quality to humility because of the reasoning that is activated throughout the processes as revealed in the following quote: “The state of the person and where the mind is allows us to activate our character and deal with situations appropriately, allowing us to make better decisions with better judgment since the situation will be better managed. This is also the case with strong integrity and humanity. We make our best decisions when we’re in the right mindset. In order to be good leaders and to show good character, we have to be in a good mindset. Others might use yoga for example, but music might be used too as a tool to get you in the right frame of mind.”

Although dimensions such as justice and accountability received fewer mentions, they were nonetheless implicated, as one participant observed: “To activate accountability, particularly “accepting consequences”

seemed to be the largest discrepancy between myself and my raters. To activate justice, particularly “social responsibility” was rated lowest by raters. I listen to music in the afternoon, to remind me to attend to my weaker character dimensions.” However, this mention is more about reminding rather than revealing activation.

PABCs and Character

Table 3 provides a summary of the coding for the PABCs by dimension as per Research Question 2. We present the data with the percentage of mentions for each dimension and the overall counts in the total column. Table 3 reveals that the PABCs are represented across all dimensions of character when they are viewed collectively (as seen in the PABC row). The interviews help bring the data to light about the impact of music on the collective PABCs. “My time to listen to the music, loud volume, crowd out everything else in my mind. Tempo increases my emotions. I listen to block out noise and distraction to re-focus and boost my energy levels in order to tackle the task at hand. I also listen to playlists designed to calm me down, similar to meditation and breathing.”

When viewed individually across all dimensions of character, each of the PABCs are evident except for physiology and its association with collaboration. To clarify this point, it means that any mention associated with physiology and collaboration occurred alongside affect, behavior and cognition. There is differential emphasis across the PABCs and the dimensions of character. As with the processes, 9.1% is the expected proportion if there were equal influence across the 11 dimensions. What is noteworthy is that in the case of PAC, two dimensions account for over 50% of the mentions.

For physiology, drive and temperance account for 50%. It is interesting that they tend to operate in opposite directions as per the following two quotes: “I did create a playlist and created it for my temperance. I was

Table 3
PABCs by Dimension

PABCs	Transcendence	Drive	Collaboration	Humanity	Humility	Integrity	Temperance	Justice	Accountability	Courage	Judgment	Total
P	10.7	20.2	0.0	2.1	9.5	1.6	30.0	0.8	0.8	7.4	16.9	243
A	28.2	4.5	2.7	8.9	29.9	5.5	12.0	0.3	0.3	1.4	6.2	291
B	14.1	6.1	6.1	4.0	17.2	17.2	14.1	2.0	7.1	2.0	10.1	99
C	3.4	6.1	3.9	8.0	22.8	8.2	8.5	2.2	2.6	4.3	29.9	461
PABC	12.0	5.3	7.9	9.1	16.6	5.6	15.2	1.8	3.6	9.2	13.7	1008
Total	12.3	7.1	5.3	7.8	19.0	6.2	14.9	1.6	2.8	6.5	16.4	2101

trying to achieve calmness with a song and take that moment to actively breathe and to counter my drive.” Whereas another participant who was working on drive noticed: “Music itself is effective. For high energy, songs are fast-beat, strong, upbeat, plus the lyrics are motivating.”

For affect, transcendence and humility account for 58.1%. In virtually all instances, participants sought to induce positive affect as revealed in the following quote: “This song makes me soar way up. Something I imagine you’d play in the Cathedral or deep in a pine forest with the sun sneaking through. It makes you feel peaceful.” However, there was one instance of a participant selecting a piece of music that was sad: “I especially like sad songs, like from the movie *Schindler’s List*. It’s a story, you can picture it and connect to it. Like movies and pictures and images. Emotions can jump, and we can get away from our reality for a bit and appreciate your health more. Like thinking about what those composers went through and their stories and comparing what I’m going through.” This participant also scored himself as being negatively affected after listening to this song (the only participant to feel more negative after listening to music as revealed in the PANAS scores). There were many interesting descriptions around affect as revealed in the following quote: “My playlist for humanity evokes primal and for lack of a better word, ethos, from the opera songs I’ve chosen. Recently, I listen to audio books more than music. Now, I have reintroduced myself to music, which had been cathartic and emotional and evokes certain character behaviors.”

For cognition, humility and judgment account for 52.7%. Consistent with the results from Table 2, there were several dimensions that exceeded 9%—transcendence (12.3), humility (19), temperance (14.9) and judgment (13.7). Although drive only accounted for 7.1% of all PABCs, it did represent 20.2% of the mentions for physiology. The following quote illustrates the connection: “It’s not the lyrics of the songs but the

tempo that drives me. Songs, in general, that give me energy and confidence. Not that I’m a lazy person but listening to these songs helps me feel like I can conquer the world and motivates me. Drive.” This was reflected in the heart rate data of our participants, whereby the general pattern of pre- to post-heart rate measures increased after listening to their song choice that they used to activate lower arousal dimensions such as temperance and humanity, whereas their heart rate increased after listening to more arousing music for dimensions such as courage and drive.

Overall, the PABCs were implicated in all dimensions of character and participants had a sense of this even as they selected their music: “Each song I’ve chosen affects me differently. Classical music I feel in my soul. Or Adele, the words she sings, I sing along to her. Some songs I love the beat if it picks me up. Some songs I associate with a memory or a time in my life ... such a happy memory. I picked the songs for a variety of reasons, if they’re from a movie or memory or the message they relay, that reminds me of a certain behavior. For example, Enya’s “Anywhere Is,” is for transcendence and I use it for my meditation. Collaboration for example, the lyrics in “You need to calm down” by Taylor Swift, because of Covid-19 right now, people are going a little crazy. And when I’m working with stakeholders, I have to understand their points of view. Temperance, for example, “Superman’s Song” – Superman has to show restraint, and remain calm and cool, instead of using his powers to rob a bank sort of thing.”

Another participant emphasized that there is an intentionality around listening that makes a difference: “I am really glad to have had this opportunity to go through this process. Instead of just having the music on in the background, I am actually listening to it. I’ll put on a couple of songs if I’m having a bad day. I was amazed at the impact it has when you consciously select songs to affect your mood. I was pleasantly surprised that I could get to another frame of mind by listening to

certain songs. Lyrics and stories affect me, hearing about a situation that is similar to what I'm going through and that they were able to succeed. It's like I'm learning from their mistakes, that I find most useful and motivating."

Insights from What, When, Why, How Questions

At the outset, it is important to point out that the interview protocol did not have "who" related questions. We had assumed that the participant was the "who" but as it turned out, we did not anticipate how much individuals would rely on others in terms of understanding their needs, helping them identify music and identifying with artists in the music they chose. One participant explained how his/her music choices are influenced by the artists: "I choose music that inspires me, sung by strong role models, for example, P!nk—I like her as an Artist, a strong individual, self-confident, good values, their personality, authenticity, family-oriented, believes in herself, instills positivity. Songs that instill relationships and building strong bonds." Also, as we address in subsequent sections, music is attached to memory and that memory often included others, hence the activation of character through music was not simply a solitary experience and therefore our presumption that "who" would only involve the individual was unfounded.

The foregoing analysis captures some of the coded responses to the what, when, why, and how questions in the interview protocol (largely because the processes of assess, intention, activate, aware/reflection) capture some of the insights. Here we focus on insights from the interviews that are not captured in the foregoing analysis. Whereas Table 2 focuses on the processes by dimension and Table 3 captures the relationship between the PABCs and the dimensions of character, there were additional insights. Responses around "when" and "where" seemed to go together and were very far ranging, revealing an important versatility in how music activates character personally and professionally as revealed in the following contrasting quotes: "I listen to music to go to sleep every night. I listen to playlists in the car."; "I listen

to music in the afternoon, to remind me to attend to my weaker character dimensions. It's good for a break in my day."; "I listen to music before difficult conversations and meetings ... I can close my office door and listen for a few minutes." There were also interesting aspects of "when" revealing a possible temporal sequencing such as a participant talking about using music to induce a calming effect from background noise that would then allow them to become more results-oriented, activating their drive.

Whereas the previous sections focused on "what" as it relates to the dimensions of character, participants also spoke about a variety of applications with several mentions about meetings: "Before an important meeting, for example ... can be intimidating with superiors. Helps me increase my confidence and settle my nerves before a task." "In the past, I've listened to music before a presentation when I'm nervous, or before difficult meetings. I'll listen to some music before the meeting to calm down and feel grounded." "I tend to work right through lunch, and I don't take a break, now I would like to take a break. Now I would like to take a lunch break and sit in my reading nook in the office with my speaker and listen to music and take a pause and activate certain character traits with specific playlists to activate and prepare for meetings. I know I can't do it every day, maybe three days a week though, but I need some balance, for mental health and to breathe, eat, stop, pause, and think about what's coming in the afternoon to prepare for it. I need to be more healthy and find sustainability to centre me."

Music also went well beyond the dimensions of character, revealing a connectivity to core beliefs: "I mostly listen to music when I want to get into 'my soul'—I don't listen to music very often, but when I can, I listen to music to return back to myself." "In today's society, so much of the news is on politics and war and negatively portrayed media, which surrounds us so we are forced to live in a world with this negative lens and even the chemicals we consume are negatively impacting us. Now

we need these positive tools, such as mindfulness and yoga to help us be more emotionally and spiritually and physically balanced. For example, art, dance, photography, reading, and music. Music is global, it's not necessary to know the lyrics since you can translate it and find the story meaningful."

The processes in Table 2 and the PABCs in Table 3 provide important insights about how music activates character. In this section, we underscore the point made earlier that it is not simply an individual experience but the "how" needs to consider the collective experience. This also extends to the activation of character in others as described by one participant: "For example, colleagues of mine were frustrated with the photocopy machine this morning so I played my temperance songs for them and they became much calmer. The ripple effect for the rest of the day was noticeable and with their interactions with other people too." There was also an important link to memory that we had not anticipated, as discussed next.

Emerging Insights

Although Crossan et al. (2021) theorized about the role of core beliefs, the PABCs and character development, there were important insights about memory itself that merit unpacking. The underlying theory that character can be activated and primed, presumes a connection to memory, yet this connection has not been theorized. The interviews provide initial insight into this connection as per the following quote: "I chose songs for my playlist either because of the association or memory that it brings up or the lyrics or message." Another participant described that music carries with it meaning, whether it is a prior experience, something about the artist, or the lyrics. Music, therefore, seems to tap into a collective consciousness, not simply the memory of the person listening to it.

Insights from the data have revealed the critical role memory plays with the use of music to activate char-

acter. This supports the character development model, which places the conditioning and priming as an important foundation to occur first to support the activation of character. Memory is elicited more effectively when attached to strong emotional events (Croom, 2012; Damjanovic & Kawalec, 2021). Music can be used as a stimulus to influence one's emotions, thus altering or maintaining their affective state, and improving their present cognitive functioning (Croom, 2012; Damjanovic & Kawalec, 2021). This finding supports how music is a powerful and effective tool that can be used to activate character. The activation of character is a critical step for the individual to not only be able to acknowledge they are capable of exhibiting the behavior but also provides a clear understanding for how character is activated, which is a critical step that precedes the development of character.

Limitations

Although saturation was reached in the responses from respondents, this study is limited by the number of respondents. As such, we only used the PANAS and HR measures to augment the interview data and point researchers to the potential of employing these measures. In addition, participants self-selected into this study. Because it was not our intention to measure the impact of music vis-à-vis other methods or no intervention, we did not employ a control group. Rather we relied on prior music research, which emphasized that every listener has a personal experience of music. Thus, we were not seeking to identify whether certain tempos, for example, would elicit certain responses, but rather whether listening to music would activate the PABCs and the dimensions of character.

While we relied on prior research that justified self-report experiences associated with activation, future research would benefit from other measures of activation, such as change in PANAS and HRV. Finally, because we did not address the bridge between activation and development, it remains to be seen how acti-

vation feeds into development. For example, is development a series of activation points or is there some other mechanism needed?

This study used music as an intervention to explore the links between music, character, and the PABCs. This study provides insight into the processes of how music influences character through the PABCs, but is limited by its qualitative design as these findings do not determine whether these changes are significant or their effect sizes. Further research is warranted to examine causal relationships, such as using a classic intervention design with a control group.

Implications for Research

We sought to address whether music can activate leader character, and if so, how? In addition, we sought to examine the relationship between the PABCs and the activation of leader character. Our findings reveal that music can activate leader character and we documented the relationship between the PABCs and the dimensions of character. Our findings reinforce the importance of understanding the PABC systems in leader character development. And although we focused on the activation of character because leader character and leader competence are entangled (Sturm et al., 2017), it is expected that the PABC systems apply more broadly than character, and thus warrant examination and understanding in leadership research.

We chose to focus on activation as a foundational step in the development stages, and as revealed in Figure 4 we employed several constructs to unpack activation with respect to associated processes (assessment, intention, awareness/reflection), a set of what, when, why, how questions in the interviews, in addition to examining the role of the PABCs to understand how activation occurs. This study reveals that there is further opportunity to study activation, for example given the important role of memory. The critical role of memory in the study, both as an individual and collective construct, raises an

important question about where character resides and how individuals can access it. For example, the mentions by participants about tapping into the experience of artists and their music suggests that individuals may derive immediate benefit from tapping into these external resources. However, this suggests the reverse is also true so that there may be positive and negative influences associated with the activation of character. A benefit of music is that individuals can, with intention, construct the experience they seek. Even here, it is important to recognize that music is often used to manipulate the experience of a person as employed in film (Costabile & Terman, 2013) and consumer marketing (Allan, 2006). One aspect of the intentional and unintentional aspect of the activation of character is the sequencing of the PABCs as they relate to learning. Building on the work of Crossan et al. (1995) who identified behavior change, preceding cognitive change as a form of experiential and experimental learning, there is opportunity to insert physiology and affect into the sequential process to examine how the activation of the PABCs influences the learning process.

We conclude that there is significant opportunity for further research on activation beyond examining constructs such as memory, specifically as building on measures of PANAS and heart rate, which although introduced in this study, were not a central feature given the smaller sample size. There is further insight to be gained by making these measures more central in studies of character activation. Ideally, as suggested by Crossan et al. (2021), heart rate variability would be measured as opposed to simple heart rate. As they describe, it is the variability that is more predictive of positive and negative outcomes. There was preliminary indication in this study about how music was employed to activate affect in a way that we interpreted as processing affect. This is in line with the view of e-motion as energy in motion (Crossan et al., 2021) and thus there is insight to be gained about how music can be used to regulate affect. For example, as revealed by one participant, lis-

tening to the music from Schindler's list stirs emotion in a particular way. Crossan et al. (2021) observed that individuals who have not learned to regulate affect, will be impeded in their development of character, and thus there is need for further research that addresses how music is used to process emotion, building on research that has tapped into this area (Jahanitabesh et al., 2019). Because individuals and organizations face emotional trauma (deKlerk, 2007), future research would benefit from understanding how music can help individuals to process emotions.

This study revealed that music activated some dimensions of character more than others and hence there is opportunity to understand more clearly how various dimensions of character are activated. For example, we anticipate the dimension of Justice to be activated by other triggers, such as events (O'Neill & Cotton, 2017). Here again, there is important insight to be gained by parsing, intentional and unintentional activation of character. This is particularly relevant because events, broadly defined, are both planned and unplanned, positive and negative, and hence understanding the impact of such events on character is critical.

We anticipated that core beliefs would influence the activation of character as revealed in the Crossan et al. (2021) model. However, this was not a central focus of the study, but rather, as shown in Figure 4, a factor that would influence intention. There is an obvious connection between core beliefs and memory, which deserves further examination, and more broadly, we see opportunity to consider the activation of character as a means of influencing core beliefs. The potential to connect to core beliefs is quite promising given leadership challenges associated with areas such as unconscious bias, implicit bias, and research associated with growth and fixed mindsets (Rattan & Dweck, 2018). This will be an important line of inquiry since there are many aspects of leadership development specifically, and management

more broadly that rely on shifting core beliefs (e.g., Sai Manohar & Pandit, 2014).

Although we focused on the activation of character, activation is an important first step in development as shown in Figure 2. While there is a significant literature on habit development more generally, there is a need for future research that builds on activation to understand habit development with respect for character. For example, is activation always implicated in development? In addition to the PABCs and the processes in Figure 4, this study reveals the specific role of memory as an influential force in character activation and understanding the role of memory in the habit development cycle will also be important. We anticipate a diary method would be extremely helpful in understanding the nuances of habit development.

Music revealed itself as an important means to activate the PABCs and the dimensions of character. Given the ubiquity and universality of music, it offers promise for both research and practice. Whereas music offers a means to influence all of the PABCs, future research would benefit from contrasting music as a methodology with approaches that might be considered more single channeled, such as lectures and readings.

Implications for Practice

The foregoing discussion touched on implications for practice and now we highlight three important implications for practice. Firstly, the study revealed that individuals had no difficulty using music to activate character. Thus, there is an immediate and practical application of this research since music is available to all and can be tailored to the learner's needs. Secondly, the breadth of application, as individual often paired the activation of character with a particular need, such as preparing for a difficult conversation, a challenging task, or using it to calm themselves. Thus, music is a ready resource that can be employed in the workplace. Thirdly, as organizations

seek to elevate leader character alongside competence, there will be demand for approaches that foster character development. This study reveals the important role music can play in the leadership development agenda, keeping in mind the role of the PABCs in the activation of the dimensions of character. Importantly, while in this study music was used in an intentional way to activate character, organizations need to be mindful of the ways in which character may be activated (for better and worse) through implicit and explicit practices and processes that can support or undermine character development. Crossan and Crossan (2023) articulate a model of character development that highlights the impact of peer and cultural influence on the intention to develop character. Thus, while music may be a useful approach for individuals to exercise their character development, those efforts can be thwarted by organizational processes and practices that over-weight some dimensions of character and neglect others.

Conclusion

Our findings reveal that music activates all of the PABC systems to more and less degrees. In addition, music activates all dimensions of character, with different dimensions of character varying in their reliance on the PABC systems. The study makes three key contributions. Firstly, it underscores the importance of examining activation as a precursor to development because the process of activation yields insights into the holistic role of the PABC systems. These insights prompt researchers and managers to consider how leadership development experiences need to account for the activation of the four PABC systems in character development. Our study reveals that leader character activation, which Crossan et al. (2021) see as an initial step in development, relies on all four systems. Secondly, although all four systems are implicated, this study points to the need to understand how various dimensions of character rely differentially on the PABCs, which provides important insight into how leader character development can be tailored. Thirdly, the study verifies the important role of music

therapy in the activation and subsequent development of leader character and paves the way for other innovative approaches that move beyond the cognitive and behavioral focus in leadership development to embrace physiology and affect as well. Understanding what it takes to activate character yields further insight into the nature of leader character specifically, and leadership development more broadly.

Although our findings reveal that music can activate leader character, reinforcing the importance of understanding the PABC systems in leader character activation and development, we learned far more in the process. Important questions about where character resides, and the role of memory in character activation and development, along with the important role of the PABCs in character development ensure a robust future research agenda.

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Appendix A

semi-structured interview guide

1. Pleasantries: How are you? Is this still a good time to speak?
2. Can I have your heart rate? We will need this as a baseline measure for the study
3. Leader Character Insight Assessment (LCIA) Feedback Report
 - a. What is your previous experience with/exposure to leader character?
 - b. What were your insights about the LCIA-360?
 - c. Were there any discrepancies between your self assessment and that of others?
 - d. What are your preliminary intentions about developing the character dimensions?
4. Experience with music
 - a. What is your habit around listening to music? For example, do you listen to it often, and perhaps under particular circumstances?
5. Describe the music you have chosen
 - a. Purpose? that is, character, mood, etc.
 - b. Why did you choose the songs?
 - c. When do you listen to it?
 - d. What is it specifically about the music that affects you?
- e. How does it make you feel?
- f. How can you use the music to activate your [character dimension]?
- g. When will you listen to it?
6. Listen to your music
 - a. Let them listen to a couple of songs
 - b. Ask them about the songs they listened to and how they feel
 - c. What is their HR?
7. ¹Next steps:
 - a. 7-day Reflection
 - i. Template e-mailed to you
 - ii. You will listen to your playlist every day
 - iii. Record the songs you listen to
 - iv. Record your heart rate immediately following listening to the music
 - v. Note your movement while listening to the music – did it change?
 - vi. Rate how you're feeling
 - vii. Did you notice anything else?
 - viii. Please submit this to OWL site, under "Assignments"
 - b. The link to your follow-up LCIA will be e-mailed to you once this has been submitted.
8. Final questions, remarks, suggestions...

¹ Given the restrictions associated with the pandemic, we truncated the study and did not include the 7-day reflection