

# Engagement and collective flow experiences in three Brazilian music ensembles

## Experiências de engajamento e fluxo coletivo em três grupos musicais brasileiros



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**Abstract:** This research aimed to investigate engagement and collective flow indicators in the self-reported experiences of music ensemble participants. Based on the second phase of a sequential explanatory mixed methods research design, this article presents the results of the qualitative phase of the research. The results were obtained through online focus group interviews with 12 participants from three Brazilian musical ensembles. Data analysis included descriptive statistics and a categorical content analysis procedure. The qualitative results were organized into two sets of categories: (1) six categories that may enhance the collective flow experience, and (2) seven categories that assist in describing the subjective experiences of collective flow. Examples were provided for each category, and it was also possible to establish relationships with the dimensions of engagement. In general, the results of this study allowed for a deeper understanding of engagement and collective flow indicators among music ensemble participants.

**Keywords:** engagement. flow. collective flow. motivation. music ensemble.

**Resumo:** O objetivo desta pesquisa foi investigar os indicadores de engajamento e de fluxo coletivo nas experiências de participantes de grupos musicais. Com base na segunda fase de uma pesquisa de métodos mistos sequencial explanatória, este artigo apresenta os resultados da fase qualitativa da pesquisa. Os resultados foram obtidos por meio de entrevistas com grupo focal on-line com 12 participantes de três grupos musicais brasileiros. A análise dos dados incluiu estatísticas descritivas e um procedimento de análise de conteúdo categórica. Os resultados qualitativos foram organizados em dois grupos de categorias: (1) seis categorias que podem favorecer a experiência de fluxo coletivo; e (2) sete categorias que podem descrever subjetivamente a experiência de fluxo coletivo. Exemplos são fornecidos para cada categoria e também foi possível estabelecer relações com as dimensões do engajamento. De maneira geral, os resultados deste estudo permitiram um maior entendimento dos indicadores de engajamento e de fluxo coletivo em participantes de grupos musicais.

**Palavras-chave:** engajamento. fluxo. fluxo coletivo. motivação. grupos musicais.

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## 1. Introduction

Motivation is understood in the literature as the intention and direction of an individual's energy that guides them toward something, while engagement is the active participation of the individual in a task (Fredricks; Blumenfeld; Paris, 2004; Appleton *et al.*, 2006; Martin, 2008; Betts, 2012; Reschly; Christenson, 2012, 2022; Reeve, 2018). Fredricks and McColskey (2012) state that motivation underlies and precedes engagement, which is always related to the environment and context. Considering this distinction, engagement is understood as active participation in an activity that is determined by the quality of behavioral, cognitive, and emotional dimensions of an individual's experience when performing an action (e.g., Fredricks; Blumenfeld; Paris, 2004; Rose-Krasnor, 2009; Christenson; Reschly; Wylie, 2012; O'Neill, 2012; Reeve, 2018). The literature commonly describes three dimensions of engagement and their respective indicators: *behavioral engagement*, which involves factors such as frequency, intensity, duration, and actions performed in an activity; *cognitive engagement*, characterized by the pursuit of strategies, thoughtful reflection on activities, and a preference for challenge; and *emotional engagement*, including elements such as interest, enjoyment, and a sense of belonging.

Studies have explored how people engage with music in various situations, such as music making, listening, teaching, or learning (e.g., Lamont, 2012; O'Neill; Senyshyn, 2012; Beineke, 2015; Richmond *et al.*, 2016; Joseph; Southcott, 2017; Chen; O'Neill, 2020; Toni, 2023, 2024; Toni; Araújo, 2023, 2024). Additionally, researchers have been using flow theory to examine how students and musicians engage in their musical activities (e.g., O'Neill, 1999, 2012, 2016; Custodero, 2005; Lamont, 2012; Croom, 2015). The phenomenon known as the flow experience is characterized by a mental state in which individuals immerse themselves deeply in an activity, exhibiting elevated levels of concentration and deriving substantial enjoyment from the task. Csikszentmihalyi

(1990) identifies nine characteristics of the flow experience: challenge-skill balance, action-awareness merging, clear goals, feedback, concentration on the task, a sense of control, loss of self-consciousness, transformation of time, and autotelic experience. It is understood that motivation can lead to engagement in an activity, and profound engagement can be qualified as a flow experience (Csikszentmihalyi; Hermanson, 1995; Shernoff; Csikszentmihalyi, 2009; Steele; Fullagar, 2009; Bempechat; Shernoff, 2012; Shernoff, 2013). In this sense, the present research considers the relationship between flow and engagement to comprehend how the actions of individuals in a music ensemble can be qualified.

Recent research suggests that the phenomenon of collective flow can be a shared experience among individuals within a group (Walker, 2010; Salanova *et al.*, 2014; Sawyer, 2017). Investigating individual flow experiences provides a foundation, but the literature indicates the importance of recognizing that collective flow is more than the sum of individual parts, and it emerges from a shared dynamic that requires consideration in research (Tay, Tan, & Goh, 2021). Pels, Kleinert and Mennigen (2018, p. 18) assert that collective flow is a “shared state of balance within a group as represented by (a) fluent, positive interactions within the group, (b) a high collective competence of the group, and (c) a collective state of mind of the group through positive relationships between group members.” In general, research on collective flow in musical contexts typically features the use of “we” in participants’ narratives, the recurring presence of positive emotions, the emphasis on the complexity of a task that necessitates the engagement of multiple individuals, and accounts of the unity of individuals along with their contributions, dialogues, and conflicts (e.g., Freer, 2009; Diaz; Silveira, 2013; Hart; Di Blasi, 2015; Gaggioli *et al.*, 2017; Tan; Tjoeng; Sin, 2021; Tay; Tan; Goh, 2021; Gibbs; Czepiel; Egermann, 2023).

The engagement of individuals in musical activities is embedded within a collective social dynamic that needs to be taken into account

(e.g., Small, 1998; Mithen, 2005; Olsson, 2007; O'Neill, 2012; Elliott; Silverman, 2015; Savage *et al.*, 2021). Therefore, the current study addresses ensemble musicians' self-reported musical engagement and collective flow experiences. This research aimed to investigate engagement and collective flow indicators in the self-reported experiences of music ensemble participants.

## 2. Method

This study was conducted using a sequential exploratory mixed methods research design (Wise, 2014; Creswell, Plano Clark, 2017). The first phase (quantitative) explored the engagement and flow experiences in collective music practices of amateurs, students, and professional musicians (Toni; Araújo, 2024). The second phase (qualitative) was conducted through focus group interviews (Cohen, Manion, & Morrison, 2007; Krueger; Casey, 2014). This article reports on the second phase.

### 2.1 Participants and contexts

This research employed a non-probabilistic sampling method, intentionally selecting individuals from three distinct music ensembles for three focus group interviews (Cohen, Manion, & Morrison, 2007). The selection of these three music ensembles was based on the availability of participants in the first phase of the research (Toni; Araújo, 2024). The selected participants consisted of three music ensembles characterized in Table 1, two of them located in Curitiba (the Southern region of Brazil) and one of them located in Juiz de Fora (the Southeast region of Brazil).

Table 1 – Music ensemble participants’ background

		Music Ensemble 1 (N = 4)		Music Ensemble 2 (N = 4)		Music Ensemble 3 (N = 4)	
Group formation		Guitar, Brazilian pandeiro, cavaquinho, and euphonium		Electric guitar, drums, bass guitar, and vocals		Violins, viola, and cello	
		Amateur musicians and an undergraduate music student		Amateur musicians		Professional musicians	
Age		M	SD	M	SD	M	SD
		31.5	3.1	25.3	2.8	37.5	4.4
		N	%	N	%	N	%
Gender	Female	1	25	1	25	1	25
	Male	3	75	3	75	3	75
	Other	-	-	-	-	-	-
		N	%	N	%	N	%
Reasons for participating in the musical ensemble <sup>1</sup>	I have a personal connection with this music practice	3	75	2	50	2	50
	Engaging in musical activities with peers	2	50	2	50	3	75
	Financial support / Remuneration / Work	3	75	-	-	1	25
	Pursuing professional development	-	-	2	50	-	-
	Leisure	1	25	1	25	-	-

Source: The authors (2025). 1 Participants could report more than one response. M = Mean. SD = Standard Deviation. N = Number of participants.

2.2 Measures and materials

An online questionnaire was sent to participants, and information about participants’ characteristics and motivations for music practice was gathered. An interview script with three sections

was used in the focus groups (Appendix I). The first section aimed to recap the group music practice and explore possible antecedents of engagement and flow experiences. The process of participants recalling and providing information about their music practice is a procedure adopted in other studies on engagement and flow experiences (e.g., Freer, 2009; Rose-Krasnor, 2009; Lamont, 2011, 2012; O'Neill & Senyshyn, 2012; Tan, Tjoeng, & Sin, 2021). The second section included questions about possible indicators of engagement and flow experience. Finally, the third section aimed to provide a deeper understanding of collective flow.

## 2.3 Procedures

From the first phase of the research (Toni; Araújo, 2024), it was possible to select music ensembles that could help explain and expand our understanding of engagement and collective flow experiences in this second phase of the research. Participants were contacted and provided information about the research and the Informed Consent Form. They were also provided a link to access the online questionnaire and were allowed to ask any questions related to their participation in the research. An online focus group interview was scheduled with each of the three selected music ensembles. After the textual transcription of each interview, participants were contacted to read the transcription and confirm whether they agreed with the information provided in the interview, allowing for a direct check of the qualitative data with the participants (Creswell & Plano Clark, 2017).

## 2.4 Analysis

The questions concerning the characterization of participants and their motivations for the music practice (presented in the participants and contexts section; Table 1) were analyzed using descriptive statistics and categorical content analysis procedures. Bardin's (2016) content analysis was also used for the qualitative data analysis from the focus group interviews, following three steps: (1) pre-analysis; (2) exploration of the material; and (3) treatment



and interpretation. Based on the interview transcripts, NVivo software was used to code the participants' responses. The themes identified in the content analysis emerged from the interview questions and the participants' narratives. The literature review and the questions from the first phase of the research (survey; Toni; Araújo, 2024) also helped establish criteria for choosing the thematic labels. Initially, the establishment of categories was based on the nine components proposed by Csikszentmihalyi (1990) for flow experiences and the literature on student engagement (e.g., Fredricks, Blumenfeld; Paris, 2004; Christenson, Reschly; Wylie, 2012). Subsequently, the consulted literature was essential for establishing categories to facilitate and describe the participants' subjective experiences in potential collective flow experiences (Walker, 2010; Salanova *et al.*, 2014; Sawyer, 2017; Pels, Kleinert, & Mennigen, 2018). The unit of analysis used in the interview transcription was the theme articulated in a broader unit of textual context (e.g., a set of sentences). The enumeration rule employed was the presence of a theme articulated in the interview, and there was no recurrence of the same interview excerpt in different categories (Bardin, 2016).

### 3. Results

The results section was organized into two sets of categories: (1) six categories that may enhance the collective flow experience, and (2) seven categories that assist in describing the subjective experiences of collective flow.

#### 3.1 Categories that may enhance the collective flow experience

Considering the participants' narratives, Table 2 presents the analytical categories for factors that may enhance the collective flow experience and their associations with engagement in the collective music practice.



Table 2 – Analytical categories for factors that may enhance the collective flow experience and their associations with engagement in the collective music practice

Categories that may enhance the collective flow experience	Dimensions of engagement in participants' narratives		
	Group 1	Group 2	Group 3
Motivations for the collective music practice	Antecedents	Antecedents	Antecedents
Challenge-skill balance	Cognitive Emotional	Cognitive	Behavioral Cognitive Emotional
Clear goals	Antecedents Emotional	Antecedents Cognitive	Antecedents Behavioral Cognitive
Feedback	Behavioral Emotional	Behavioral Cognitive Emotional	Cognitive Emotional
Close listening, communication, and group collaboration	Behavioral Cognitive	Cognitive Emotional	Behavioral Emotional
Being in control and understanding the group as a collective unit	Behavioral	Behavioral Cognitive	Behavioral Cognitive

Source: The authors (2025).

In the content analysis of the focus group interviews, efforts were made to confirm the presence of categories related to aspects that may enhance the collective flow experience in the participants' narratives. The first category listed in Table 2 is related to *motivations for the collective music practice*. This category was present at the beginning of the interviews, specifically during the characterization of the music ensembles, indicating possible antecedents for engagement in the music practice, as illustrated by the following example.

**Group 1 - Motivations for the collective music practice. P3:** Why did I choose this music ensemble? Especially because it's an opportunity to study *Choro* [Brazilian musical genre], to delve into the musical genre, and to be able to play with others, which is a very different

experience from playing with recordings at home. So, I think it's more daring when we decide to play in a music ensemble, you know? And you also learn more. I really like *Choro*. So, for me, it's fun to do this. [...] **P4:** I chose to join the music ensemble because I also enjoy *Choro*. I think it's the musical genre I like the most to play nowadays. It's the musical genre I identify with the most and want to play and learn more about.

The second category in Table 2 is related to the *challenge-skill balance*, a condition described by Csikszentmihalyi (1990) as fundamental to the flow experience. The following example illustrated this category in the participants' narratives regarding their musical practices, characterizing behavioral, cognitive, and emotional engagement in the activity.

**Group 3 – Challenge-skill balance. P4:** What I wanted to say: I think there are many challenges in the musical aspect. Because this formation is very exposed, the sound of the quartet is very pure, and it can become very dense depending on the writing, context, room acoustics, and recording technique. [...] Any little thing you do appears in the performance. So, being able to play in tune with a music ensemble like this is a huge challenge. [...] **P3:** [...] For me, I think it's also the feeling of challenge, you know? [...] We always study for a solo repertoire, and then you find yourself in an orchestra, which you never studied to be in, basically. [...] Many times, we skip this fundamental part of evolution, which is playing in a smaller music ensemble where, even though there are several instruments, each instrument has its own importance.

The third category in Table 2 is also related to an important condition for the flow experience, which is *clear goals*. In general, this category was mainly present at the beginning of the interviews,

during the characterization of the music ensembles and their antecedents for engagement in the music practice. This category was associated with the activity's behavioral, cognitive, and emotional engagement, as illustrated by the following example.

**Group 2 – Clear goals. P3:** The biggest challenge is to have everyone aligned with the band's proposition. Whether it's a band doing covers, composing an album, aiming for financial gain, or creating art, you know? It's like everyone thinking that for a band to function well, everyone needs to be about eighty percent aligned in their thinking to avoid generating too much conflict and ending up becoming unsustainable. It's very challenging to play with someone who you know will jump ship at some point or head in the opposite direction from what you are aiming for. I think here in [band], we share a similar perspective of wanting to create original music, you know?

The fourth category in Table 2 is related to *feedback* from the action performed, a condition for flow experience mentioned by Csikszentmihalyi (1990). The following example illustrates this category in the participants' narratives regarding their musical practices, characterizing behavioral, cognitive, and emotional engagement in the activity.

**Group 3 – Feedback. P4:** So, let's say, the excitement of the live performance can deceive the ears a bit. Sometimes, you might even play a bit out of tune, but if the person watching you sees and perceives engagement, sees the music ensemble, and witnesses the camaraderie and emotions, that live sound has a different impact on people. [...] **P3:** [...] In communicating with the audience, despite being a challenging piece to understand, I think we received feedback through applause and admiration,

which was very interesting. You know, I didn't expect that from this piece. I expected it from other pieces, but with this piece, it was interesting. The audience's reaction was even a surprise, at least for me.

The fifth category in Table 2 relates to *close listening, communication, and group collaboration*. This category assists in examining the connections among the interviewees, qualifying a potential collective flow experience. Additionally, as illustrated by the following example, this category was present in participants' narratives regarding their music practices, characterizing behavioral, cognitive, and emotional engagement in the activity.

**Group 2 – Close listening, communication, and group collaboration. P4:** Talking about the music practice: It's very easy, it ends up being a straightforward thing to do. In terms of our relationship and interaction, precisely because we already have an activity, we already have a friendship, and we are very open. We are very transparent when there's something to resolve. So, it's something that doesn't bother us, you know? [...] **P3:** Yes, it's this easygoing coexistence with intimacy and openness to bring a song that the guys don't like [and them saying]: "We don't like the song." We won't have a guilty conscience at all, at least not me. [...] And it's okay, it's fine. You will present something else that the band will like.

Finally, the sixth category in Table 2 is related to a sense of *being in control and understanding the group as a collective unit*. According to the consulted literature, this category seeks to articulate a condition for the collective flow experience through a sense of unity within the group during an activity. This category was generally present in participants' narratives regarding their music practices, characterizing behavioral and cognitive engagement in the activity, as illustrated by the following example.

**Group 3 – Being in control and understanding the group as a collective unit. P3:** [...] So, at each stage, we assess what we always do in our activity, we play and conduct an assessment of everything we did, and then we change and plan accordingly. [...] **P4:** [...] We knew there were three episodes [in a piece], we knew the themes of each episode and what was happening during the piece: “There’s this part, there’s this other part.” Each of us had a mental map of the music: A physical map in front, the sheet music, and an interpretive idea. We knew where to put more energy and where to put less energy.

Based on the categories that may enhance the experience of collective flow, some considerations from the analysis of the interviews can be presented: (1) The first category is related to motivations and antecedents of engagement in a musical practice; (2) the second, third, and fourth categories are related to conditions for the flow experience outlined in the studies proposed by Csikszentmihalyi (1990); and (3) the fifth and sixth categories are expansions of the literature to contemplate a collective flow experience among individuals, allowing an extension of the conditions mentioned in the previous categories for the collective experience.

### 3.2 Categories that assist in describing the subjective experiences of collective flow

Considering the participants’ narratives, Table 3 presents the analytical categories for factors that assist in describing the subjective experiences of collective flow and their associations with engagement in the collective music practice.

Table 3 – Analytical categories for factors that assist in describing the subjective experiences of collective flow and their associations with engagement in the collective music practice

Categories that assist in describing the subjective experiences of collective flow	Dimensions of engagement in participants' narratives		
	Group 1	Group 2	Group 3
Action-awareness merging	Cognitive	Cognitive	Cognitive Emotional
Loss of self-consciousness	-	Cognitive Emotional	Cognitive Emotional
Transformation of time	-	-	-
Repeating the group experience	Emotional	Emotional	Emotional
Concentration on the task and on the group members	Behavioral Cognitive	Behavioral Cognitive	Behavioral Cognitive Emotional
Emotional communication during and after the group performance	Emotional	Cognitive Emotional	Cognitive Emotional
The experience builds a collective sense of purpose	Behavioral Cognitive Emotional	Cognitive Emotional	Cognitive Emotional

Source: The authors (2025).

In the content analysis of the focus group interviews, efforts were made to confirm the presence of categories related to aspects that assist in describing the subjective experiences of collective flow. The first category in Table 3 is related to the *action-awareness merging*, considering that this is a subjective experience also described by Csikszentmihalyi (1990) in characterizing the flow state. The following example illustrated This category in participants' narratives regarding their music practices, characterizing cognitive and emotional engagement in the activity.

**Group 3 – Action-awareness merging. P3:** And the most interesting thing, what I think was cooler, is that it wasn't perfect, far from perfect. But I think we entered a state of flow, not just us four, but I think with the audience as well, you know? We explained how the piece was to the audience.

It's a complicated piece, a more contemporary piece, and it has a more complex language to understand. It's almost 20 minutes of music. [...] So, it's a more challenging repertoire. I think we almost entered a state of flow because it was so enjoyable that we overlooked many of the mistakes that happened.

The second category in Table 3 is related to the *loss of self-consciousness*, an experience described by Csikszentmihalyi (1990), indicating a profound integration of the individual with the activity. This category was not present in the narratives of Group 1. Still, it was present in the narratives of Groups 2 and 3, characterizing cognitive and emotional engagement in the activity, as illustrated by the following example.

**Group 3 – Loss of self-consciousness. P3:** [...] After listening to the recording, there were some things that we played live that I was hearing in the recorded sections: "No, I didn't hear that at the time." So, what was cool was this state of immersion. [...] **P4:** [...] But that's the idea, you know? The idea is for you to feel, during this live performance immersion, the string being scraped by the bow and the sound vibrating and reaching your ears.

The third category in Table 3 is related to the subjective experience of the *transformation of time*. In general, the participants emphasized immersion in the activity, to a greater or lesser extent, in the categories of action-awareness merging and loss of self-consciousness. However, the transformation of time was not explicitly present in the participants' narratives about their music practices.

The fourth category in Table 3 is related to the narratives about *repeating the group experience*. This category was present in participants' narratives regarding their music practices, characterizing emotional engagement in the activity, as illustrated by the following example.



**Group 2 – Repeating the group experience. P1:** [...] But I also like to highlight a bit of frustration. I would like to do more of this, but I can't yet. How can I do more of this? How can I monetize it so I can do more? [...] **P3:** [...] In the end, we have our other occupations, jobs, and other life stuff. But when we are playing, I see that everyone in the band would, if it were financially viable, just play music, I think everyone would like that.

The fifth category in Table 3 is related to the *concentration on the task and on the group members*. This category assists in examining the connections among the interviewees through the qualification of a potential collective flow experience. Additionally, as illustrated by the following example, this category was present in participants' narratives regarding their music practices, characterizing behavioral, cognitive, and emotional engagement in the activity.

**Group 1 – Concentration on the task and on the group members. P4:** Especially for us who met while playing. [...] So, I think it follows all the common dynamics of *Choro*. There's no musical arrangement, but everyone has to pay attention to the soloist and work things out. For example, I see what the soloist does and I see what [participant] does, so I follow and try to accompany what he is going to do, understand? [...] I think I also work on my concentration, I'm quite distracted with things. This is a feeling I have when I play, a feeling that I need to have more self-control and greater concentration.

The sixth category in Table 3 relates to *emotional communication during and after the group performance*. The following example illustrated This category in participants' narratives regarding their music practices, characterizing cognitive and emotional engagement in the activity.

**Group 2 – Emotional communication during and after the group performance. P4:** [...] We never had anything

unresolved and no major conflicts, because we were always on the same page to take our next step. Our next plan was always in tune with everyone. Everyone was always in the same boat. And if there was something that might be off, a conversation was enough to resolve it, any issue at all. [...] **P2:** I won't lie, it is truly very gratifying. [...] But there is also frustration sometimes when we think: "Let's play this song!" And when we can't get it as a whole, there are some frustrations. But, overall, it's much more happiness, enjoyment, and joy than frustration.

Finally, the seventh category in Table 2 is related to an *experience that builds a collective sense of purpose*. This category was present in participants' narratives regarding their music practices, characterizing behavioral, cognitive, and emotional engagement in the activity, as illustrated by the following example.

**Group 1 – The experience builds a collective sense of purpose. P4:** I also agree with what was said, and

another issue came to my mind, another aspect that maybe everyone shares, perhaps some less and others more, but it's about this thing that [participant] talked about belonging. Not only in the sense of belonging to our music ensemble, as a music ensemble making music, but something a bit broader, a sense of belonging in making this Brazilian music, this music that is *Choro*. It's as if we were part of it, of this larger thing that is *Choro*, which is something I find very interesting to be carrying forward, continuing this *Choro* practice. [...] **P1:** [...] About what [participant] said about this issue of ancestry, it's about doing something truly Brazilian. Like, when you stop to think about it, it makes sense.

Based on the categories that assist in describing the subjective experiences of collective flow, some considerations from the analysis of the interviews can be presented: (1) The first, second, third, and fourth categories are related to subjective experiences of the flow state outlined in the studies proposed by Csikszentmihalyi (1990); and (2) the fifth, sixth, and seventh categories are extensions of the literature to consider the collective flow experience, allowing an extension of the subjective experiences mentioned in the previous categories to the collective experience. Of the seven categories that can assist in describing the subjective experiences of collective flow, one was identified in only two groups, and one was not explicitly found in the narratives of the three interviewed music ensembles.

## 4. Discussion

The discussion was structured to align with each of the two sets of categories presented in the results section.

### 4.1 Categories that may enhance the collective flow experience

This research aimed to investigate engagement and collective flow indicators in the self-reported experiences of music ensemble participants. The narratives provided by participants across the three music ensembles revealed motivations that can be characterized as more intrinsic (Csikszentmihalyi, 1990; Ryan, Deci, 2000), and they were associated with factors such as personal identification with the music practice and interpersonal relationships within the music ensemble. Moreover, it was discernible that specific extrinsic motivations underwent a process of internalization, evolving into more intrinsic motivations for the participants (Ryan; Deci, 2000; Voelkl, 2012; Reeve, 2018), and they were associated with factors such as aspirations to deepen one's understanding of the music practice and to pursue professional advancement. In general,

participants' motivations are also intertwined with potential facilitators or antecedents for engagement, taking into account individual and contextual aspects such as personal identification with the music practice and peer relationships (Furlong *et al.*, 2003; Rose-Krasnor, 2009; Voelkl, 2012; Kahu; Nelson, 2018; Reeve, 2018).

Initially, the challenge-skill balance was analyzed in the first phase of this research project primarily as cognitive engagement (Toni and Araújo, 2024). However, it became evident in the qualitative results of this second research phase that this category also encompasses aspects of behavioral and emotional engagement. Subsequently, the clear goals for Groups 1 and 2 were more related to antecedents and emotional engagement. At the same time, Groups 2 and 3 reported goals that were also directed toward cognitive engagement, and the goals of Group 3 described behavioral engagement related to actions necessary for their professional music practice. In parallel, regarding feedback, Groups 1 and 2 provided narratives primarily related to behavioral engagement, while Group 3 mainly considered cognitive and emotional engagement aspects. These results may be correlated with the participants' roles within the group (amateur and professional musicians), a factor that can be comprehended in terms of participants' expertise (Ericsson & Pool, 2016). In this regard, Hallam (2002, 2016) asserts that amateur and professional musicians may exhibit some differences in their motivations and engagement that need to be considered in music practice, teaching, and learning contexts.

Csikszentmihalyi (1990, 1996) asserts that an individual's expertise in a particular domain can contribute to establishing conditions that facilitate a potential flow experience. Consequently, the professional musicians in Group 3 of this study might have reported indicators of behavioral engagement that distinctly outline their goals in the form of actions (also qualified by other dimensions of engagement). At the same time, they also extended

beyond the behavioral dimension to address feedback (primarily stemming from cognitive and emotional engagement). This pathway of development toward collective flow (from amateur to professional musicians) in the participants' narratives may indicate a learning process regarding the categories that may enhance the collective flow experience. Moreover, this pathway and these categories can be promoted in contexts of music practice, teaching, and learning so that there can be a process of musical development coupled with positive subjective flow experiences, impacting their motivations and engagement to continue a task (Hallam, 2002, 2016; Araújo, 2008; O'Neill, 2012; Elliott; Silverman, 2015).

The pronounced presence of emotional engagement in the goals of Groups 1 and 2 can be discussed in the context of the possibilities for sustaining engagement and collective flow experiences. Affective and social aspects are associated with individual and contextual antecedents for engagement and motivation, as well as potential outcomes of engagement (e.g., social integration and identification) that enable individuals to remain motivated and engaged (Juvonen; Espinoza; Knifsend, 2012; Reeve, 2018; Fredricks; Reschly; Christenson, 2019). Moreover, the conditions discussed in the literature for collective flow anticipate that the unit of performance is the group and that the goals must be clear for everyone, as well as sharing challenges and skills in a task through interdependence, coordination, and cooperation is deemed essential (Walker, 2010; Sawyer, 2017). Corroborating these discussions, Walker (2010) asserts that collective flow tends to exhibit conditions related to task feedback that are primarily cognitive and then affective. In contrast, social process feedback is primarily affective and then cognitive. On one hand, as a condition for collective flow, cognitive engagement can assist in understanding this experience based on task feedback, as it was more prominently described in Group 3. On the other hand, as a condition for collective flow, emotional engagement is relevant in the social process feedback, which was present in all three groups of participants.

In general, the pathway of development toward collective flow discussed may also correlate with the variable of how long the group has been playing together. This potential variable could influence the structuring of music ensembles' goals and feedback, considering that cognitive engagement could become more structured over time and be more related to self-regulation in the music ensemble participants and their tasks (Fredricks; Blumenfeld; Paris, 2004; Cleary; Zimmerman, 2012; Veloso; Araújo, 2017). Moreover, it could impact collective competence for music practice, which is also evident in the challenge-skill balance (Busseri & Rose-Krasnor, 2008; Reeve, 2018). These discussions are also related to (1) close listening, communication, and group collaboration, and (2) being in control and understanding the group as a collective unit. These latter two conditions encompassed all three dimensions of engagement in the participants' narratives and are listed in the literature as aspects that assist in describing the emergence of shared structures in a task (Sawyer, 2003, 2017; Walker, 2010; Gaggioli *et al.*, 2013).

The category related to close listening, communication, and group collaboration seems to play a crucial role in participants' narratives in studies examining collective flow in musical contexts (Sawyer, 2006; Freer, 2009; Hart; Di Blasi, 2015; Gaggioli *et al.*, 2017; Tan; Tjoeng; Sin, 2021; Tay; Tan; Goh, 2021). Such experiences were evident when the participants in this study reported, for example, the importance of dialogue and negotiation within the group. O'Neill (2012) asserts that shared experiences are as meaningful as negotiating group differences in the process of active musical learning, and these negotiations become experiences that promote growth, challenge, and transformation within the individuals and their groups, rather than merely pacifying experiences of their individual engagement. The literature consulted also asserts that human social practices may involve interactions with shared intentions, as seen in musical interactions that require the collective maintenance of musical performance (Goodman, 2002; Tomasello *et al.*, 2005; Frith, 2007; Cross, Laurence; Rabinowitch, 2012). These



last two categories that may enhance the collective flow experience listed in this study presented characteristics that point to the need for negotiation regarding what each member can contribute within the musical group, corroborating the literature in the sense that shared intentions require complementary actions rather than just imitative ones, a fundamental characteristic for the emergence of a collective flow experience and a collective engagement (Fredricks; Blumenfeld; Paris, 2004; Walker, 2010; Bempechat; Shernoff, 2012; Bishop, 2018; Tay; Tan; Goh, 2021).

#### 4.2 Categories that assist in describing the subjective experiences of collective flow

Csikszentmihalyi (1990) asserts that the term “flow” arises from the subjective experience of action-awareness merging, and this term was present in the participants’ narratives from all three music ensembles interviewed in this study, primarily through cognitive engagement. However, the category of loss of self-consciousness was not identified in the narratives of Group 1, which may support discussions already presented in this study regarding establishing a pathway of development based on the conditions for collective flow that could influence this category. Csikszentmihalyi (1990) also emphasizes that the loss of self-consciousness is associated with a feeling of self-control (and not the opposite) and brings forth a sense of a more complex self after and with the flow experience. In this sense, participants in Groups 2 and 3 reported moments in which the music practice and the potential flow experience allowed for the loss of consciousness related to the control of actions and the possible new learnings arising from the collective experience.

Although the action-awareness merging and the loss of self-consciousness are present in the participants’ narratives in this research, it was impossible to explicitly identify the time transformation category. There was an expectation that questions directed toward cognitive engagement could assist in eliciting reports for this category. Still, these questions might not directly capture the participants’ narratives for this type of experience.



Regarding this situation, the literature also discusses the challenges of measuring aspects of individuals' cognitive engagement in the process of recalling a specific task (Fredricks; McColskey, 2012; Fredricks; Hofkens; Wang, 2019). On the other hand, reports of repeating the group experience were present based on emotional engagement and were related to the possibilities of learning more within the music ensemble. Additionally, the category associated with building a collective sense of purpose was closely related to reports about repeating the experience and was primarily associated with emotional engagement. In this regard, related to the participants' narratives, Walker (2010) asserts that individuals' subjective experiences in performing a task as a group construct meaning and a collective sense of purpose, prompting the group to desire to repeat the experience, and some rituals may be established to institutionalize collective flow.

The category of concentration on the task and the group members was present in this research as a subjective experience primarily related to behavioral and cognitive engagement, with professional musicians from Group 3 also providing reports of emotional engagement. Concentration is an element that characterizes behavioral engagement, and it is related to conditions and subjective experiences for flow experience (e.g., Fredricks, Blumenfeld; Paris, 2004; Rose-Krasnor, 2009). Based on the results from the present research, the category of concentration on the task at hand and on group members exhibited behavioral and cognitive engagement, reinforcing both individual and collective efforts through actions and reflections for task completion. In this sense, Csikszentmihalyi (1990, p. 54) asserts, "although the flow experience appears to be effortless, it is far from being so. It often requires strenuous physical exertion or highly disciplined mental activity. It does not happen without the application of skilled performance. Any lapse in concentration will erase it." In considering the need for significant group concentration, Sawyer (2017) asserts that there is no collective flow without the risk of failure. Thus, the group can create a space to experiment with and question actions

for future performances. Sawyer (2017) reinforces that the risk of failure pertains to a collective mobilization for a performance that involves a collective behavioral, cognitive, and emotional effort to accomplish the task, as described in the participants' narratives from this research. Moreover, the interviews conducted contribute to corroborating accounts of a sense of shared competence among participants that can influence the establishment of collective efficacy in their practices (Busseri; Rose-Krasnor, 2008; Richmond *et al.*, 2016; Reeve, 2018; Tan; Tjoeng; Sin, 2021). This discussion can be further explored in future studies on collective flow and collective efficacy (e.g., Salanova *et al.*, 2014; Veloso, 2022), as Csikszentmihalyi (1990, 1996) establishes this relationship by stating that flow experiences can contribute to a self-efficacy that enables the development of skills that can be meaningful for individuals.

Emotional communication during and after the group performance was a subjective experience primarily associated with emotional engagement, but also featured reports of cognitive engagement in this research. The participants indicated shared positive emotional experiences during and after group work, reinforcing findings from other studies about flow experiences in music practice, teaching, and learning processes (Araújo, 2008; Beineke, 2015; Lamont, 2012; O'Neill, 2012; Croom, 2015; Elliott; Silverman, 2015; Hart; Di Blasi, 2015; Gaggioli *et al.*, 2017; Tan; Tjoeng; Sin, 2021; Toni, 2023; Toni; Araújo, 2024). Additionally, emotional communication during and after the group performance was also described in terms of caring for the feelings of the other participants in the music ensembles interviewed. Indeed, research on collective flow in different contexts reinforces the importance of emotional communication that enhances the collective experience of participants and can provide shared positive emotional experiences among group members (Sawyer, 2003, 2017; Walker, 2010; Pekrun, Linnenbrink-Garcia, 2012; Gaggioli *et al.*, 2013, 2017).

## 5. Conclusion, limitations, and future research directions

The results allowed a deeper understanding of engagement and collective flow indicators among music ensemble participants. In this sense, it was possible to understand potential relationships between engagement and collective flow and identify motivational aspects and social connections in the three collective contexts of music practice and learning. The focus group interviews assisted in the investigation of collective flow in this research by (1) recognizing that the focus group itself provided the opportunity for experiences to emerge from joint participation, and (2) assuming that the experiences collectively described constitute a larger unit than the sum of the individual parts (Cohen; Manion; Morrison, 2007; Krueger; Casey, 2014). However, this study has some limitations, such as using self-report data and relying on participants' recollection of experiences from their practice in a music ensemble. Future studies on engagement and collective flow may consider methodological improvements (as also suggested by Fredricks; McColskey, 2012; Sawyer, 2017; Fredricks; Hofkens; Wang, 2019). Based on the limitations of the present study, new studies are suggested that include observation protocols for music practices, analyses of interactions among individuals, longitudinal studies, or other methodological approaches.

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## Appendix I. Focus group interview script

### Context and background

1- How do you characterize the music ensemble, and what is each member's role? Why did you choose to participate in this music practice?

### Indicators of engagement and flow experience

2- What types of activities do you undertake in this group?

3- How much time do you spend playing and rehearsing together?

4- Could you describe how your participation in this music practice happens?

5- What are the challenges in this music practice? How do you recognize these challenges?

6- How do you deal with these challenges in your music practice and learning? Could you provide an example?

7- How do you organize the music practice? Do you discuss the music practice and what you can do in future rehearsals?

8- What emotions and feelings do you experience when you participate in this music ensemble?

9- Do you think you share any common feelings with others when participating in the collective music practice? If so, which feeling(s) do you think is (or are) shared?

### Collective flow

10- Do the people who participate in this music ensemble with you have any influence on your emotions or feelings? Could you provide an example?

11- Do the people who are making music with you share the same feelings you described? Could you provide an example?

12- Based on our talk, is there anything else you would like to share about your experience in this music ensemble?

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