Can student interdependence be experienced negatively in collective music education programmes? A contextual approach

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Abstract

Many studies and accounts argue that collective music-making can contribute to building social cohesion and training social skills, and particularly that student interdependence in collective music education programmes can foster this. I argue that this implies two assumptions: first, that students mostly experience interdependence in music programmes positively, and second that their experiences of interdependence are not significantly affected by their experiences in other settings. To address these assumptions, this paper reports on findings from a mixed-methods case study of a French in-school collective music education programme targeting disadvantaged students. The findings suggest that students could experience interdependence negatively in the music programme, and that this was informed by the tendency for interdependence to be framed negatively in the school context. Further, the study suggests that the school's pedagogical notion of the *cadre* led students to frame negative interdependence not as an encouragement to act cohesively, but rather as an adult imposition. The paper ends by discussing the implications of these findings and arguing for further studies investigating the mechanisms that link different collective music-making and educational settings with positive outcomes.

Keywords: interdependence; group cohesion; music education; children; collective; social network analysis; embeddedness; cooperation

Introduction

The idea that music programmes can be used to promote a wide variety of positive outcomes has gained traction in policy circles (for example, DfE, 2011; UNESCO, 2010) and has been borne out in increasing numbers of research studies (for example, Welch *et al.*, 2014; Hallam, 2015). Accordingly, it has become key in justifying the existence of music education programmes, as evidenced by the advocacy efforts of some professional music organizations (for example, Chorus America, 2011).

In particular, many group music education programmes argue that participating in musical ensembles is especially key in building social skills and cohesive groups. This is reflected in the promotional material of some such programmes (for example, Sing Up, 2010; Chorus America, 2009), and in evaluations and research on these programmes. For instance, Creech *et al.*'s (2016: 25) review of research on El Sistema, and El Sistema-inspired, programmes finds that social skills and community-building are among the most highly cited goals of these programmes, and

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that 'many researchers … [have] attributed [their development] to learning through ensemble'. Likewise, Chorus America's (2009) impact study focuses on how choirs help build school and neighbourhood communities, and train social skills alongside academic skills.

These claims are bolstered by academic studies that find that music-making in groups promotes social cohesion, well-being and the training of social skills (for example, Bittman *et al.*, 2003; Rabinowitch *et al.*, 2013; Schellenberg *et al.*, 2015; Kirschner and Tomasello, 2010; see also Hallam, 2015). However, many of these studies seem to elide the variety of experiences and social dynamics that can exist in different collective music-making settings. Although they study particular group music-making set-ups in specific contexts, they often conclude that collective music-making generally leads to positive outcomes. In fact, they use many different terms to refer to music-making in groups, even though they do not seem to use them to mean different things. This suggests a lack of understanding of different group music-making set-ups and the different benefits they can bring. Further, some studies do not specify the mechanisms through which the particular activities that they study lead to positive outcomes. When such mechanisms are specified (for example, Rabinowitch *et al.,* 2013; Koelsch *et al.*, 2010), they often link group music-making generally with positive outcomes, ignoring the different dynamics that arise in different situations. This suggests a further dearth of understanding in how different kinds and components of group music-making, and related educational programmes, can contribute to positive social outcomes.

One such component that is under-studied is interdependence between musicians. Many advocates of group music learning argue that it enables the learning of social skills and the building of positive communities. Govias (2011: 22) claims that 'the collaborative, interdependent environment of the ensemble' is a fundamental part of El Sistema music education programmes, as it helps students 'build and model the cooperative attributes of a healthy symbiotic community'. Likewise, Billaux (2011) claims that interdependence itself is key to understanding the benefits of El Sistema, in particular in terms of gaining social skills. Finally, Booth (2011: 22) describes the orchestra as an 'interdependent' community, which is key to the social impact of El Sistema programmes.

Although these accounts often do not fully explicate what interdependence means, they seem to suggest that it involves being in a group that is important in musicians' lives and where musicians depend on each other, in that each musician is essential for achieving the group's shared goals. Some researchers argue that this kind of interdependence is important in promoting social outcomes. For instance, Koelsch *et al.* (2010) argue that part of the power of collective music-making lies in the cooperation towards shared goals that it entails. They argue that this contributes to shared pleasure and group social cohesion. Research into perceived sense of community (McMillan and Chavis, 1986), including in educational settings (Osterman, 2000; Battistich *et al.*, 1995), advances similar arguments. It finds that communities need to be an important part of individuals' identity, and that individuals need to feel both influential and needed in their community, for a positive sense of community to emerge.

Arguing that such interdependence leads to positive social outcomes in collective music education programmes implies two things. First, it implies that students in these programmes experience interdependence positively. Second, it suggests that this interdependence is somehow unique, or at least that students' experiences of interdependence are not closely relatable to similar experiences elsewhere.

However, some studies problematize these assumptions by arguing against the unique and transformative effects of interdependence in ensembles. Studies of symphony orchestras – in many ways the epitome of the interdependent musical ensemble – suggest that these groups foster competition and tension as opposed to cooperation between musicians (Faulkner, 1973a;

Baker, 2014). They further find that any interdependence that may exist between orchestral musicians is almost entirely mediated by authoritarian conductors (Faulkner, 1973b; Tindall, 2005; Baker, 2014; Levine and Levine, 1996; Cottrell, 2004).

Many differences exist between collective music education programmes and professional orchestras. However, these studies suggest that more research is needed to understand students' experiences of interdependence in programmes that aim to build social skills and group cohesion through group music-making. Indeed, theories of how social relations affect individuals remind us that being embedded in groups can have complex effects, including not only enhancing individuals' agency but also providing constraints (Borgatti and Halgin, 2011; Lin, 2001).

The present study investigates the experiences of interdependence of students in such programmes. Is it possible for interdependence to be experienced negatively by students in collective music education programmes? And do possible experiences of interdependence in other contexts inform students' experiences of it in music programmes? Neglecting to ask these critical questions about the contexts and processes of social impact can lead to the idea, rightly problematized by Baker (2016: 24), that 'positive social action happens automatically when people make music together', and to silencing the voices of participants in favour of blanket statements on the power of collective music-making (Bergh and Sloboda, 2010).

I seek some answers to these questions through a case study of a French in-school collective music education programme and its wider primary school context. The programme is particularly interesting as it emphasized building group cohesion and effectively created student interdependence, and as it was linked to a wider educational context that also aimed to build social cohesion and improve students' social skills. After describing the case and study, I look at interdependence in the music programme and how it was experienced by students. I then look at interdependence in the programme's school context and how it may have informed students' experiences in the programme. I end by discussing the implications of the study's findings.

Study design

This paper draws on findings from a study whose purpose was to investigate the mechanisms behind students' social experiences in collective music education, and to relate these to students' broader educational experiences and outcomes. As an amateur musician and interdisciplinary social scientist with a background in education, sociology, social psychology and anthropology, I was enthusiastic about the potential for collective music-making to promote positive outcomes. However, as mentioned above, I was keen to look at specific aspects of particular music-making set-ups in depth. I was also open to investigating both the positive and unintended effects of group music education, particularly as I felt that the problematic effects of these were under-studied (see also Boeskov, 2017; Kertz-Welzel, 2016).

I therefore decided to further knowledge on this topic through a mixed-methods embedded case study (Yin, 2014) of a particular collective music education programme in two primary schools in a large French city. Both schools were going through the first year of the programme. The intervention was spearheaded by one of the schools, which became the main focus of the study. This school is the source for all the results presented here.

The school was a private primary school (for students aged 5 to 12) run by a large French charitable foundation. It had under fifty students, with some students starting at and leaving the school throughout the year, and approximately thirty members of staff in regular contact with the students. Most members of staff participated in the study, and all students except one participated in the study. Its mission was to increase the self-esteem and academic achievement

of students from disadvantaged backgrounds or who had experienced difficulties in their previous schooling. As such, over 20 per cent of the students at the school were known to social services, and half of the students had already repeated a year of schooling.

The school was unusual in the French educational context in that, compared to other schools and in relation to its mission, it had a relatively strong focus on working on students' *éducation* (understood as the non-academic aspects of learning how to live in society) alongside their academic learning (see Nique and Lelièvre, 1993; Muller, 1999). Particularly relevant for this study, this included improving students' ability to *vivre en collectivité* (live collectively), a concept similar to social skills. Related to this, one of the primary aims of the music programme in the school was to help build social cohesion between students in the school, alongside improving students' social skills. The school also had boarding houses, accommodating over half of the student population, to further pursue these goals.

The music programme under study was a music education programme involving collective learning of mostly classical music in groups of 10 to 15 students. These groups combined with other such groups to perform as an orchestra in an end-of-year concert, to which families, sponsors and local dignitaries were invited. The school contained three such music groups, each with a particular family of instruments. Although the programme had already been deployed in other settings, it had an experimental ethos and gave relative pedagogical freedom to its teachers. The programme took place after school hours and replaced previous extra-curricular activities in the school. Participation in the programme was mandatory for the students.

I carried out ethnographic fieldwork in the school and programme between mid-September 2015, six weeks before the start of the music programme, and the end of the school year in July 2016. I decided to use ethnographic methods to 'physically and ecologically penetrate [students'] circle of response to their social situation' (Goffman, 1989: 125) and understand students' social experiences 'in all [their] various layers of social meaning' (Woods, 1986: 5). As a Frenchman who had not experienced primary education in France, I chose to study a French primary school in a city that was not known to me, to experience 'strange-ness' in the school and its context while minimizing linguistic barriers.

I also carried out two rounds of quantitative measures in the school, one just before the start of the programme (October 2015), and one 5 to 6 months after its start (March/April 2016). I used these methods to obtain quickly a broad picture of students' opinions, attitudes and social relations in the school over time. They also served to focus my qualitative sampling, for instance on groups with different network configurations.

This findings of this paper arise principally from data obtained through overt participant-observation and semi-structured interviews. The former was the 'central method' of my ethnographic fieldwork (Delamont, 2002: 7). It consisted of participating as a learner in music lessons, and playing and interacting with students during break periods and in boarding houses. I tried as much as possible to be subjected to the same rules as the students. I adopted a form of 'least adult' role (Mandell, 1988), engaging in joint action with students in order to build relationships with them while reducing power differentials that are often problematic in research with children (Fargas-Malet *et al.*, 2010; Kirk, 2007). However, my age still markedly set me apart from the students. This sometimes made it difficult for me to gain a legitimate presence in student-centred spaces (see Sim, 2016), although it also made it possible for me to use my age difference to ask naive questions (see O'Reilly, 2009). Likewise, my gender had a substantial impact on how students interacted with me, and so on the relationships that I was able to build and data I was able to obtain throughout my fieldwork.

I concurrently carried out ethnographic observations in a systematic fashion (Delamont, 2002; Delamont, 2008) and frequently took breaks from participation to write up field notes.

I did this to document 'social life as process' (Emerson *et al.*, 1995: 14) in a 'microscopic' manner (Geertz, 1973: 20), focusing on students' behaviours and interactions. I then wrote up these notes as soon as possible out of the field (Delamont, 2002; Delamont, 2008; Hammersley and Atkinson, 2007). I ended up writing close to 500,000 words of notes from an estimate of approximately 700 hours of participant observation.

My observations were informed by a theoretical view of children as agents trying to shape their complex social worlds (James and Prout, 1997; Allan and Catts, 2012; Morrow, 1999; Schaefer-McDaniel, 2004; Weller, 2010). I combined this perspective with principles from social network theory, social capital and relational sociology addressing how social relations enable and constrain individuals and how individuals use these to pursue their goals (Borgatti and Halgin, 2011; Borgatti *et al.*, 2013; Emirbayer and Goodwin, 1994; Lin, 2001).

The findings below also draw on approximately forty group and individual semi-structured interviews with students, lasting 20 minutes on average. I adopted Rubin and Rubin's (2005) 'responsive interviewing' approach for these interviews. This approach recommends seeing interviewees as 'conversational partners' (2005: 14). It emphasizes interviewees and researchers working together to co-shape interviews and achieve shared understandings revolving around both the researcher's and the interviewee's concerns. I thus asked students about their social relations and their experiences and opinions of the school and music programme, while also discussing topics that students raised for discussion. I also carried out child-friendly interviews, including storytelling interviews (Davis, 2007; Eiser *et al.*, 1990) where I provided students with a title for a fictional story related to the topics above. Students then told a story suggested by the title. The purpose of these interviews was to access representations of students' cultural models and figured worlds (Gee, 1999; Holland *et al.*, 1998). In the interview excerpts reported here, I have omitted hesitations and pauses where these did not add substantial meaning. All translations from French are my own.

The social network findings presented below arise from individual structured interviews with students that I carried out during the two quantitative measurement rounds. During these interviews, I asked students to nominate their friends, among other social relations, using the name generator method (Borgatti *et al.*, 2013).

All participants were aware of my identity as a researcher. Members of school staff and other adults could give consent directly to participate in the study, while parents were responsible for giving consent for their child's participation. Nonetheless, I also sought students' assent for intensive methods, such as interviewing, questionnaires and recordings, and systematically asked school staff's consent before carrying out observations in their lessons. I also sought to minimize possible social risks for students arising from collecting social network data, namely by holding interviews in private locations out of earshot of other school members (see Asher *et al.*, 2014).

I promised anonymity and confidentiality to all my study participants and institutions, so all names used in this paper are pseudonyms. I also sought respondent validation by presenting early versions of the findings to the staff and management of both the school and the music programme. While some staff members broadly recognized the dynamics presented here, they also emphasized that this was a partial account of students' social experiences in the music programme and school, and that the findings only concern the period before the end-of-year concert, before the students' collective hard work had come to fruition. Indeed, the concert occurred at the very end of my fieldwork. Therefore, I emphasize that this paper is not a comprehensive account of students' social experiences, and that these could certainly be positive, including with regard to the interdependence that I argue was created. Rather, its purpose is to illuminate certain processes that are interesting in view of the gaps in understanding outlined above.

Interdependence in the music programme

Building cohesion within music groups was a key aim of the programme. For the programme's leadership, it was not only essential for motivating students in their learning, it was also key for achieving the school's aims of building cohesion across the school and improving students' social skills and *éducation*. Indeed, the school decided to mix students from different school classes in the same music groups. This way, it hoped students' social experiences in the music groups would help them establish positive relations with students from other classes, thus building cross-school cohesion and teaching students to cooperate and construct positive relations with a variety of individuals.

Although this was not always intended, in trying to build group cohesion, the programme sometimes put in place strategies which effectively created interdependence between students. Many of these strategies involved helping students realize that they were all essential for their group, including in contributing to their group's goals. This included making different instruments play different parts in each music group, each instrument contributing to a harmonic whole. It also included giving students an instrument to take home with them on loan, but only if every student in their music group was considered 'ready'.

However, it soon became clear that students could be aware of and resent the interdependence that was created between them. This was especially evident in the Strings B group regarding the issue of taking instruments home. The group was unusual in that there were relatively few friendships within it at the beginning of the music programme (see Table 1).

Table 1: Friendship densities in the different music groups throughout the year (friendship density is defined as the number of friendships divided by the possible number of friendships in a group; only students who attended the school at both measurement waves are included)

	Number of students	All friendships		Reciprocated friendships	
		Wave 1 (Oct 2015)	Wave 2 (Mar/Apr 2016)	Wave 1 (Oct 2015)	Wave 2 (Mar/Apr 2016)
Strings B	14	0.159	0.159	0.055	0.022
Strings A	15	0.267	0.329	0.133	0.152
Woodwinds	13	0.263	0.462	0.103	0.256
Of which Flutes	6	0.167	0.467	0.067	0.267

Table 1 shows that the density of friendships – in other words, the number of friendships as a proportion of the total possible number of friendships – in the Strings B group was only 0.16, whereas it was at least 0.26 in the other two groups. This differential was even larger for reciprocated friendships – friendships where both students said that they were friends – which some argue are a stronger and more reliable indicator of interpersonal affinity among children (Berndt and McCandless, 2009; Newcomb and Bagwell, 1995). Further, a visualization of the friendship network of the group at that period shows that all reciprocated friendships arose between students in the same class (see Figure 1). Overall, this suggests that building cohesion in the group, especially across school classes, would be difficult, raising the question of whether interdependence would achieve this.
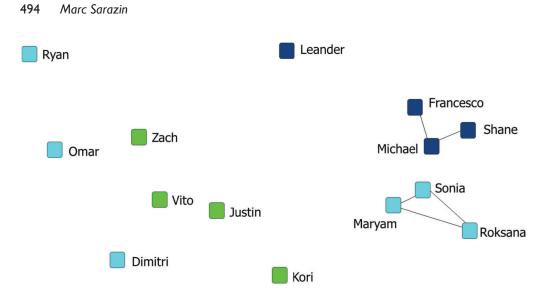
Figure 1: Reciprocal friendship network of the Strings B group during the first wave of quantitative measurements, before the music programme started (colours indicate the school classes of the students)

Lessons were relatively laborious in the group, and it quickly became known by staff members as a particularly difficult group. Consequently, as a way of motivating students to improve their behaviour, programme staff reminded students that they would be able to take their instruments home only when they were collectively 'wanting to learn'. They intimated that poor behaviour in the group would lead them to think that the group was not ready to receive their instruments.

This made students interdependent – the collective goal of taking instruments home depending on each student's behaviour, which was soon contested by some students. The following interview with Shane [male, Year 6] demonstrates this. The interview took place the day after a lesson in which staff members had made a reminder about the conditions for taking instruments home. Shane had reacted by telling them that they should make lists of students who were and were not well-behaved. I asked him to expand on this in the interview:

> Shane: Yes, those who are disruptive, and … who don't want to learn, well, we [should] write
>   [their names] down. For example, Matteo, he listens; me, I listen; Francesco, he doesn't
>   listen; Michael, uuhhm, in the middle. There. We [should] make a list; those who want
>   to learn are trusted and can bring their instruments home.

This excerpt suggests that, for Shane, his interdependence with other students is illegitimate. In the following weeks, students increasingly complained about not receiving their instruments, protesting that the staff members were not treating them fairly. The following vignette, taken from field notes from a music lesson two days after the above interview, shows this well:

> Lucy [the programme's local administrative lead] comes in early in the lesson, saying she has
> an announcement to make. In a firm voice she says, 'I'm not happy with this group, I'm told
> that there is a problem here, I keep hearing [negative] things about you, and I would like you
> to be moving forward.' The room quietens down. Lucy says, 'regarding when you will get your
> instruments' – students' faces brighten, namely Francesco's [male, Year 6] and Shane's – she says,
> 'it's up to you'. She says she doesn't know when they will get their instruments, but the Strings
> A group will be getting theirs in a few weeks. … The second she mentions this, Shane, Francesco
> and Michael [male, Year 6] exclaim 'Come on!', flinging their arms in front of them in indignation.
> Shane gets up immediately and starts putting his instrument away. Lucy asks him if he will sit

down with everyone else. Shane: 'We aren't trusted, I'd rather focus on my future career than play an instrument.'

Crucially, this vignette suggests that students did not see the interdependence that adults effectively created between them as an opportunity to 'think as a group' and collectively manage each other's behaviour, as some accounts argue might happen (for example, Govias 2011). Rather, it suggests that they saw it as unfair treatment in favour of the Strings A group. This instance therefore shows how student interdependence could not only be perceived negatively but also act against the building of the group cohesion that was so important in the case of the programme. In fact, there was relatively little growth in friendships – both reciprocated and non-reciprocated – in the group in the first six months of the programme. Of course, this is likely due to a complex range of factors. However, it suggests at minimum that the cohesion that the music-making was supposed to create had not yet materialized, even after most of the school year (see Table 1).

The vignette also shows how students' perceptions could lead to fierce behavioural reactions. In fact, Strings B lessons became increasingly laborious that month. Tensions reached a climax three weeks later, when Michael [male, Year 6] and Shane (both students whom the adults thought could drive the rest of the group forward if they wanted to) categorically refused to participate in a music lesson. This led Julie, the programme's pedagogical lead, explicitly to ask the students why they were acting so uncooperatively. Some of the reasons that the students gave – including being unable to change instruments because some instruments were too popular among other students, or the slow progress of lessons due to the need to wait for other students to be silent – also suggested that they resented depending on other students.

Although in this instance the interdependence created between students was relatively explicit, it was also created more implicitly, through the programme's policies of giving primacy to group learning and avoiding excluding disruptive students from lessons. Instead, music teachers were instructed to tell these students 'we need you'. The phrase, like the policies, both reified the music groups as unified entities and emphasized that each student was crucial for their group. By extension, they suggested that students also needed other students in their group, and so represented a more implicit form of interdependence.

Crucially, 'needing others' could entail very different experiences for students to what was intended by staff members. A vignette from an unusually tumultuous beginning of a flute lesson within the woodwind group demonstrates this well. The lesson occurred at a time when students were familiarizing themselves with their instruments and learning how to assemble them. It arose after a string of difficult lessons. This made Julie decide to attend the lesson to assist in its running:

> Camille [the flute teacher] asks the students to get in a circle, take out their mouthpieces and blow into them, one at a time, clockwise around the circle. When Melanie [female, Year 4], who is second, blows, Sonny [male, Year 5] and Federico [male, Year 4] comment on how the sounds she makes are horrible. The next student plays, and suddenly noises come from several other mouthpieces. This lasts for a few seconds, until an adult tells everyone to stop. Camille starts the activity again, this time going anticlockwise. However, by the time Melanie plays again – the boys once again make fun of her sounds – the noise has risen again. Julie thus tells the students to stop and put their mouthpieces down. However, Sonny refuses, arguing that Kayley [female, Year 3] has not put hers down either. Julie tries to reason with him for the next five minutes, while the rest of the group wait. Eventually, Camille decides to help students individually assemble their flutes. While she does this, other students have got up and are walking around the room making loud, shrill noises with their flutes. Federico goes to the microwave at the side of the room and makes it 'ding', exclaiming 'Just making my coffee!' A cacophony of noises emerges. After several minutes, Melanie storms out of the room and sits outside. A member of school staff follows her and asks what's wrong. She says, 'there's too much noise, my head is hurting!' as she starts crying.

In the vignette, the staff members interrupt the flute lesson several times because of the boys' insults towards Melanie, the high levels of noise and Julie's attempt to manage Sonny, a student who was known for his disruptive behaviour. The various noises and actions that students made could therefore not only directly impinge on students' eardrums and experiences, they could also cause interruptions that could stall students' musical learning. Yet, these interruptions were encouraged by the programme's policy of insisting on the integrity of the music groups and on group learning. Programme staff hoped that this policy would help students realize that they were all 'in the same boat' and that they needed to support each other in order to move forward. However, it could also turn the music group into a site where antagonisms could flare up. This was the case here for Melanie and Sonny, who were in the same school class and boarding house and had an antagonistic relationship at the time. Further, the policy of having several students with instruments in the same confined space could sometimes lead to levels of noise that music teachers found were unacceptably high and difficult to manage. Their need to manage both the antagonisms and noises instead of leading lessons could ultimately hinder the learning of some students.

Although by no means a typical lesson, this vignette shows how insisting on the primacy and integrity of the group, even when it was supposed to help students learn to co-operate, could sometimes lead students to be constrained and negatively dependent on other students' actions. Interestingly, after this lesson, the programme staff introduced a short period where the flute section within the woodwind group was separated into smaller groups rehearsing separately. Antagonistic pairs of students – including Melanie and Sonny – were separated. Flute lessons ran more smoothly during this period, and the flute section was eventually reunited. This strategy may even have contributed to the group becoming more cohesive, as indicated by the increase in friendships throughout the year (see Table 1).

Lessons learned from experiences of interdependence in the school

The above vignettes show how students could experience interdependence negatively. Further, they show how students could perceive it not as an incentive to collaborate and thus build group cohesion, but rather as a constraint, imposition or symptom of adult distrust. This raises the question of why students could interpret their interdependence so negatively, and why they did not see it as an opportunity to build positive relations with others.

One explanation for this may reside in the programme's school context. School staff at times also made students depend on each other in the groups in which they were embedded. However, they tended to frame this in terms of obtaining or avoiding negative outcomes. The following vignette, where Mathilde, a part-time Year 6 teacher, organized a relatively fun science lesson involving pair-work, shows how this could play out. Soon after students got into pairs, Mathilde protested that the students were making too much noise and made them change partners. However, when the noise rose again she told the students to stop everything, go back to their desks, and complete mathematics problems quietly and individually:

> As the students get started on this task, Mathilde explains that 'the whole class is at fault – you were all making noise even though there was nothing [to make noise about]. It's *because of the class* that you changed partners. Now you need to *act together* [emphases added] to get the science lesson started again.' Dylan [male, Year 6] and Paul [male, Year 6] accuse other students of causing this upset. Mathilde tells them 'don't add fuel to the fire'. A few minutes later, Kevin [male, Year 6] says something rude. Mathilde scolds him, and Kevin responds: 'I didn't do anything, and now I have to put up with the stupid things other people did.'

In the excerpt, Mathilde explicitly states that the students were collectively responsible for depriving themselves of their science lesson. This suggests that they depended on each other for bringing about this negative outcome – as Dylan, Paul and Kevin seem to understand. This event, along with a number of similar instances, may have led students to perceive interdependence mainly as a negative phenomenon, and even as a form of sanction.

However, this vignette does not explain why students did not see negative interdependence as something that they could prevent or influence themselves. In fact, paradoxically, Kevin, Dylan and Paul's words suggest that they were aware that they needed to act with other students to avoid these negative occurrences. So why did students not choose to do so?

It may be because of the school staff's pedagogy, which was influenced by their understandings of the notion of the *cadre* (literally 'framework'). The *cadre* was important in the French educational sphere; a number of stakeholders saw it as an essential part of the school environment, which made learning possible (see Obin, 2002). According to a report commissioned by the French national Ministry of Education, the *cadre* was 'a collection of rules, limits, prohibitions, norms, customs, habits, and attitudes which are prescribed by teachers … to students, to form a "container" for the psychological processes in play during the school's primary duties' (Obin, 2002: 188). For the staff in the current study, it was also an ensemble of rules and limits, as well as clear *repères* (landmarks or points of reference). These were necessary for creating an environment in which students would feel 'safe'. For the staff, it would promote student learning and mean that students would not act disruptively. Crucially, the staff were also seen as responsible for creating and enforcing the *cadre*. Further, for many among them, it needed to be relatively restrictive to be effective.

In effect, however, this interpretation of the *cadre* meant that staff were squarely responsible for managing students' behaviour and learning. Moreover, students proved to be aware that this was indeed not part of their own role. This was especially evident regarding 'collective punishments'. These punishments consisted of giving all students in the class the same punishment, regardless of their actions. Punishments were rare: they only happened when certain students had so thoroughly transgressed the *cadre* that only such a measure could restore order. They were considered deeply unfair by students, because although many students may have contributed to the transgression, they most often did so very unequally. More importantly for this paper, they epitomized negative interdependence, since students were made to depend on the actions of other students for receiving the punishment.

An interview with Michael and Lizzy [female, Year 6] shows how they did not see the collective punishment as something that should lead them to change their or other students' actions, despite their interdependence. The interview took place in December, following an incident in which Claudia, the new part-time teacher for the Year 6 class, had given her students a collective punishment in the absence of her classroom assistant:

Me: 'So, in your opinion, what does Claudia do [compared to the classroom assistant]?'

Michael: 'So, my opinion is that Claudia should be stricter.'

Lizzy: 'Yeah, or at least she's too nice with us.'

Me: 'And what does that mean, that she's too nice with you?'

Michael: 'It means that everyone messes around.'

Lizzy: 'It means that everyone messes around, and she doesn't shout, she tells us to do lines [a form of collective punishment] instead.'

This interview excerpt shows how Michael and Lizzy did not interpret the negative interdependence effectively created by Claudia as a chance to reflect on how they were

responsible for each other's behaviour. In fact, they spent the next minutes of the interview recounting how it was difficult not to 'join in' when other students were misbehaving. They saw the punishment as Claudia's fault for not being strict enough – that is, for not setting up a strong enough *cadre*. This suggests that the notion of the *cadre* was critical in students' perceptions that adult-created interdependence was not meant as a tool to help students act cohesively or improve their behaviour, but rather as an adult imposition arising because of adults' inability to manage them.

Further, there was evidence that the *cadre* shaped students' views of adults' roles in the music programme as well. The following excerpt from a storytelling interview with Roksana [female, Year 5], a student in the Strings B music group with a reputation for good behaviour, suggests this. It took place when students' contestations regarding the issue of taking instruments home were growing. In the interview, I had asked her to tell the story of the 'worst music programme session in the world':

> Once upon a time there were lots of children playing music, and then suddenly there were arguments between them. Shane and Michael [male, Year 6] were fighting, there were lots of yells … the music teacher couldn't stand us any more, nor could the other adults, and they were shouting, shouting, we weren't listening, and [laughs]. And the head teacher came, and … told us to calm down; she was the only one who could calm us down.

In this story of a dystopian music session, students do not seek to contain the fight that erupts between them – adults do. In fact, only the head teacher – the apex of authority and embodiment of the school *cadre* – is able to do so. The story, as an imaginative representation of Roksana's figured world (see Holland *et al.*, 1998), suggests that Roksana sees adults in the music programme as responsible for setting a *cadre* that allows them to manage students' actions, thus precluding the need for students to manage each other. In particular, adults seem to be responsible for managing conflict situations, which, as described above, could arise through some of the programme's policies which promoted student interdependence.

Conclusion

To summarize my findings, the music programme's pedagogy, from prioritizing the primacy and integrity of the group to making each student important in obtaining group outcomes, effectively created interdependence between students. Further, this interdependence could sometimes be experienced negatively by students. Likewise, students could see it not as an encouragement to act cohesively but rather as a constraint or adult imposition. Finally, a look at the wider school context reveals that interdependence tended to be framed negatively, and that it was informed by the notion of the *cadre*, which reinforced students' perception that adults, not students, were responsible for managing students' learning and behaviour, and in fact only made students depend on each other when they had failed to do so.

It is important to note that I am not suggesting that interdependence cannot be a positive phenomenon, nor that musical ensembles are incapable of producing positive experiences or building cohesive groups through interdependence. I am also not claiming that all schools or musical ensembles produce negative forms of interdependence. Nor am I asserting that interdependence was uniformly experienced negatively in the programme and school reported on here. Indeed, Table 1 shows that intra-music group friendships did increase in some groups. This suggests that the programme's pedagogy may also have had more positive effects on group cohesion.

Rather, by using a revelatory case study approach (Yin, 2014; Flyvbjerg, 2006), I uncover that student interdependence, as created through emphasizing group integrity and primacy and

through making students collectively responsible for certain outcomes, can be experienced negatively. I also show that it can have very real consequences for students' experiences, behaviour and social relations, and that students' experiences of interdependence in other settings can lead them to understand it very differently from what is intended. This runs counter to claims that collective music-making ensembles are unique in the interdependence that they create between students, or that this necessarily makes ensembles ideal for 'nurtur[ing] a number of essential values toward better community life' (Majno, 2012: 58) or for modelling the 'ideal civic relationship' (Booth, 2011: 24–5).

 This paper also has implications for the pedagogical use of interdependence as a means for building cohesive groups. I have shown that local views of the *cadre* led some students in my study to interpret their interdependence as an adult imposition. This arguably suggests that the wider school environment led these students to see themselves as actually depending on adults. This may have been critical in precluding the fostering of collective ownership and responsibility in students, which might have helped create group cohesion in the Strings B group. My findings therefore suggest that practitioners seeking to create cohesive student groups by making students interdependent should pay close attention to the settings in which students are embedded.

 One question that has so far been unexplored in this study is whether the conflictual relations in the Strings B and other groups were actually part of a necessary phase in the process of building group cohesion. Tuckman's influential theory on small group development, for instance, suggests that groups go through a period of 'storming' on the way to developing group cohesion (Tuckman, 1965; Tuckman and Jensen, 1977; see also Bonebright, 2010). During this period, the group experiences conflict and polarization around interpersonal issues while individuals try to resist the group's influence and task requirements. The events described above may conceivably fit such a description of 'storming'.

 However, some have called into question the assumption in the model that cohesion is a foregone conclusion in a group's development (see Gersick, 1988). Indeed, cohesion in the Strings B group improved little between the period reported to above and the end-of-year concert, after which the group was disbanded for the summer holiday. Furthermore, the ability of the model, and particularly of the 'storming' part of the model, to be generalized across small group settings has also been called into question (Cassidy, 2007). Although the model has been validated in a higher education setting (Runkel *et al.*, 1971), this setting is likely to be very different from the one of the present study.

 Nonetheless, this does not preclude that students' experiences of interdependence would have eventually led to group cohesion. However, the strength of the present study lies in showing how different processes interacted to shape the creation, or not, of group cohesion in specific situations. The fact that Strings B students experienced negative interdependence and no real increase in their group's cohesion, or that separating the flute group was followed by increases in intra-group friendships, is striking in this respect. Further, dismissing negative experiences of interdependence as a necessary 'phase' in group life is similar to assuming that any kind of group music-making produces positive impact. Both statements run the risk of making homogenizing assumptions that pay little attention to context, pedagogy and other factors that may significantly shape student experiences.

 I would argue that it may be more productive to investigate how different processes affect whether group cohesion is formed. This is what I have tried to do in this paper. Thus, the intention of my study is not only to further understandings of the implications of making students depend on each other. It is also to add nuance to current understandings of the processes through which collective music-making programmes, and educational interventions

more widely, contribute towards building social skills, social cohesion and wider outcomes. In particular, I hope this paper will encourage discussions considering different kinds of student contact (see, for example, Allport, 1954; Pettigrew and Tropp, 2006) and contextual factors (for example, Bronfenbrenner, 1979) in educational programmes.

As a single case study, this study cannot serve as a basis for generalization to the entire population of in-school collective music education programmes. However, some generalizations might, nonetheless, be made. The theoretical processes I uncover here can be the subject of analytical generalizations (Yin, 2014) to other contexts with similar characteristics, or where similar processes are at play (see Ragin and Becker, 1992). My study took place in a particular French school, where the notion of the *cadre* influenced school practices. However, the practical consequences of this notion for students – adults imposing relatively strict discipline, and therefore students seeing them as being responsible for managing groups of students – are likely to be found in many other schools and educational settings, in France and elsewhere. Equally, although my study only examined one music programme, it looked in depth at processes surrounding some aspects of its pedagogy, which may be generalizable to programmes with similar pedagogies. My vignettes may also enable naturalistic generalizations (Stake, 1995), which would in turn help determine which settings my findings can be generalized to.

Further research could therefore examine whether the theoretical processes detailed above are found elsewhere. Likewise, since my study only focuses on negative forms of interdependence, future research could productively study positive interdependence and how it interacts with students' social experiences. It could also look in more depth at the relations between different forms of interdependence, social skills and group cohesion. More widely, I hope that upcoming studies will investigate the links between specific set-ups, pedagogies and contexts, and the mechanisms producing positive outcomes in collective music-making settings and educational interventions. The present study sought to start filling this gap by looking at a specific instance of student interdependence in a collective music education programme. I hope it may provide a helpful springboard for such further research.

Notes on the contributor

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