


Intragroup processes and teamwork within a successful chamber choir

Melrona Kirrane, Cliodhna O'Connor, Ann-Marie Dunne & Patricia Moriarty


To cite this article: Melrona Kirrane, Cliodhna O'Connor, Ann-Marie Dunne & Patricia Moriarty (2016): Intragroup processes and teamwork within a successful chamber choir, Music Education Research, DOI: [10.1080/14613808.2016.1166195](https://doi.org/10.1080/14613808.2016.1166195)

To link to this article: <http://dx.doi.org/10.1080/14613808.2016.1166195>

 View supplementary material 

 Published online: 05 Apr 2016.

 Submit your article to this journal 

 View related articles 

 View Crossmark data 

Intragroup processes and teamwork within a successful chamber choir

Melrona Kirrane^a, Clíodhna O'Connor^b, Ann-Marie Dunne^a and Patricia Moriarty^c

^aDCU Business School, Dublin City University, Dublin, Ireland; ^bDepartment of Psychology, Maynooth University, Maynooth, Kildare, Ireland; ^cSchool of Business & Humanities, Dundalk Institute of Technology, Dundalk, Ireland

ABSTRACT

Despite the ubiquity of choirs across time and cultures, relatively little is known about the internal dynamics of these social systems. This article examines the group processes involved in a small European chamber choir. The research adopted a mixed-methods qualitative approach that combined individual interviews ($n = 13$) with ethnographic observation. Analysis described the group processes of the choir in relation to standard models of effective teamwork. The results suggest that certain dynamics of this choir lie beyond conventional conceptualisations of teamwork. Further conceptual and empirical research is necessary to develop a model of teamwork that can be applied to the conditions of performance-based teams and inform choral practice and training.

ARTICLE HISTORY

Received 7 June 2015
Accepted 22 February 2016

KEYWORDS

Choirs; action teams;
performance teams;
teamwork; qualitative

Introduction


Choirs have existed for hundreds of years, occupying a central position in the history of religion, politics and communities. Despite their ubiquity across time and cultures, relatively little is known about the internal dynamics of these unique social groups. This article adopts a mixed-methods qualitative approach to explore the group processes involved in a small European chamber choir. The analysis uses established models of effective teamwork to describe and conceptualise the choir's intragroup dynamics.

Choirs

A choir is composed of an ensemble of singers who sing together with or without supporting instruments. Choirs typically involve the blending of different musical parts, with the traditional voices being soprano, alto, tenor and bass. Choirs take many diverse forms. They can operate as informal, amateur groups or as formal structures involving highly professional performers. Choirs can also be classified according to the social location in which they are rooted (e.g. community choir, church choir) and the type of music they perform (e.g. gospel choir, folk choir).

There is a small amount of empirical research on the operation of choirs, which adopts several different foci. One strong theme within the choir literature has been the musical performance of choirs. In exploring the determinants of choral tone, research has identified vowel uniformity, vibrato, choral formation, placement of singers and use of performance cues as important factors (Aspaas et al. 2004; Atkinson 2010; Daugherty 2003). This research informs the practical elements of training and performance.

CONTACT Melrona Kirrane  melrona.kirrane@dcu.ie

 Supplemental data for this article can be accessed at <http://dx.doi.org/10.1080/14613808.2016.1166195>.

© 2016 Informa UK Limited, trading as Taylor & Francis Group

A second stream of choir research takes a more socio-emotional perspective, examining the effects of choir membership on participants. Choir participation has been linked to numerous positive outcomes. Research suggests that choir membership enhances the social and personal fulfilment of demographically varied populations (Hillman 2002; Kokotsaki and Hallam 2011; Livesey et al. 2012; Mellor 2013; Stacy, Brittain, and Kerr 2002), including those living in challenging circumstances such as prisons (Cohen 2009). Benefits that accrue to members include positive therapeutic effects (Eyre 2011), an enhanced sense of worthiness (Cohen 2012), positive mood effects (Clift and Hancox 2001; Valentine and Evans 2001), participation in a 'safe space' that facilitates social bonding (Parker 2010), and a general sense of well-being (Jacob, Guptill, and Sumston 2009; Kreutz et al. 2004; Tonneijck, Kinébanian, and Josephsson 2008). Interestingly, however, other research has suggested less desirable outcomes. Edwards (2005) suggests that choral singing promotes vocal constriction, limits the healthy growth of solo singing, and curtails interpretive imagination. A study by Steurer et al. (1998) identified choral singing as a cause of hearing loss, while Hampshire and Matthijsse (2010) suggest that the time demands of rehearsals and performance may result in members 'disconnecting' from their current social group resulting in a possible sense of isolation.

Many of the psychological effects of choir membership are likely to be related to their internal social dynamics, which form the focus for the third, much smaller stream of empirical research on choirs. This research has particularly focused on the central role of the conductor. Skadsem (1997) highlighted a relationship between conducting style and singers' mood, while Fuelberth (2004) investigated the effectiveness of conductors' gestures on choir performance. Poggi (2011) interprets the conductor's gestures and expressions as an embodied form of leadership, which communicate a range of literal and indirect requests to the group. Expanding on the conductor's leadership role, Poggi (2011) writes that the conductor's role is not merely to provide technical instruction, but to motivate the group by instilling a sense of self-efficacy and commitment to goal pursuit. Apfelstadt (1997) suggests that leadership skills are so important for effective conducting that models arising from leadership research should be absorbed into musical education. However, the literature on the conductor's leadership role remains primarily based around anecdotal observation and speculation, with little empirical evidence regarding the processes involved in effective leadership of choirs. Furthermore, very little research has looked beyond the conductor to examine the relationships that exist between singers or how the choir functions as a unitary team, rather than a collection of isolated individuals. The lack of insight into the social processes that characterise successful choirs restricts the literature's ability to inform choral training or to conceptualise the mechanisms through which choral membership affects individuals' social and psychological well-being. The current study seeks to contribute to choir research and practice by filling this empirical gap.

Action teams

To conceptualise the intragroup dynamics of successful choirs, it is useful to look towards social psychology, which maintains a strong tradition of research on the processes involved in teams and teamwork (Chan et al. 2010; De Jong and Dirks 2012; Kelly and Barsade 2001). This literature defines an effective team as one that is cohesive and composed of highly skilled members who endorse consensual norms of learning, share knowledge and build high-quality interpersonal relations (Cordery 2003; Katzenbach and Smith 1993; Sheard and Kakabadse 2002; West 2012). Teams are highly varied in their forms and functions. Increasingly important in organisational practice are *action teams*, which conduct 'complex, time-limited engagements with audiences, adversaries, or challenging environments in "performance events" for which teams maintain specialized, collective skill' (Sundstrom 1999, 20). In their focus on time-constrained performance events, choirs are often offered as a prototypical exemplar of action teams (Ishak and Ballard 2012). Despite the real-world significance of action teams, this group structure tends to be under-researched: Nielsen, Sundstrom, and Halfhill (2005) report that less than 4% of applied team research focuses specifically on action teams. The current study adds to this under-researched field.

Ishak and Ballard (2012) provide a typology of action teams, distinguishing between ‘contending teams’ (e.g. in sports), ‘critical teams’ (e.g. in military contexts) and ‘performing teams’ (e.g. musical ensembles such as choirs). These team-types are differentiated from each other in relation to the type of task involved, the timing of its performance, their focus, how success is evaluated and their reliance on improvisation (Ishak and Ballard 2012). While some research has investigated team dynamics within critical and contending teams (Chan et al. 2010; De La Torre-Ruiz, Aragón-Correa, and Ferrón-Vílchez 2011; Espevik and Olsen 2013; Mach, Dolan, and Tzafrir 2010; Pescosolido and Saavedra 2012; Salas, Bowers, and Cannon-Bowers 1995), comparatively little research has explored the internal dynamics of performing teams or facilitated a clear description of how teamwork operates within them. Most exploration of performing action teams has focused on orchestras, where (as in the choir literature) the most widely investigated topic is the leadership style of the conductor (Atik 1994; Boerner and Gebert 2012; Boerner and Von Streit 2007; Hunt, Stellutob, and Hooijbergc 2004; Koivunen and Wennes 2011; Wis 2002). A number of conductor attributes have been identified as significantly related to an orchestra’s performance, including personality (Pollack 1991), gesture (Ladkin 2008; Parton and Edwards 2009) and expressivity (Morrison et al. 2009). While this research enlightens issues that are generally applicable to musical collaboration, instrumental performance differs in many physical and psychological ways from vocal performance. Currently, the empirical literature provides no insight into how effective teamwork is achieved in choir-based performing teams.

Understanding effective team performance: analytic framework

What concepts from team research can inform an analysis of the social operation of choirs? The team literature is replete with models of team performance: a 2007 review revealed more than 130 such frameworks (Salas et al. 2007). Unfortunately, much of this literature suffers from conceptual confusion and measurement problems (Mohammed, Ferzandi, and Hamilton 2010). Currently, the most conceptually and empirically substantiated framework of teamwork is Salas, Sims, and Burke’s (2005) ‘Big Five’ model. This model distils the disparate team literature into five components of effective teamwork: team leadership, mutual performance monitoring, backup behaviour, adaptability and team orientation (Table 1). Salas, Sims, and Burke (2005) specify that these five components are supported by three additional coordinating mechanisms: shared mental models, mutual trust and closed-loop communication (Table 2). The co-ordinating mechanisms function to support the ‘Big Five’ by ensuring their continual alignment with ever-changing features of the wider environment. The Big Five model differs from other frameworks in its strong empirical foundation: it was derived from a rigorous review of the existing literature, which extracted only the components with the greatest empirical consensus regarding their effect on team performance. It is

Table 1. The ‘Big Five’ components of teamwork (Salas, Sims, and Burke 2005).

The ‘Big Five’ components of teamwork	Description
Team leadership	The ability to direct and coordinate other team members’ activities, assess team performance, assign tasks, develop team knowledge and skills, motivate team members, plan and organise, and establish a positive atmosphere
Mutual performance monitoring	The ability to develop common understandings of the team environment and apply appropriate task strategies to accurately monitor team-mate performance
Backup behaviour	The ability to anticipate other team members’ needs through accurate knowledge about their responsibilities. Includes the ability to shift workload among members to achieve balance during high periods of workload or pressure
Adaptability	The ability to adjust strategies based on information gathered from the environment through the use of backup behaviour and reallocation of intra-team resources. Altering a course of action or team repertoire in response to changing conditions (internal or external)
Team orientation	The propensity to take others’ behaviour into account during group interaction and belief in importance of team goal over individual members’ goals

Table 2. Three co-ordinating mechanisms.

Three co-ordinating mechanisms	Description
Shared mental models	An organising knowledge structure of the relationships among the tasks the team is engaged in and how the team members will interact
Mutual trust	The shared belief that team members will perform their roles and protect the interests of their teammates
Closed-loop communication	The exchange of information between a sender and a receiver irrespective of the medium

therefore a particularly sound foundation for an analysis of team dynamics, as evident from its application to settings as diverse as IT (Kay et al. 2006), education (Fransen, Weinberger, and Kirschner 2013), performance evaluation (Ohland et al. 2012) and medical contexts (Burke et al. 2004; Kalisch and Schoville 2012). However, little research has applied the Salas, Sims, and Burke (2005) model to performing action teams.

The current study

The current study seeks to enlighten the group dynamics involved in a successful choir. To gain an in-depth understanding of the naturalistic functioning of the choir, the research adopted a mixed-methods qualitative approach that incorporated ethnographic observation and structured interviews. Given the paucity of existing research on choirs as performing teams, it was necessary to establish a conceptual framework that could be used as a starting point for the qualitative analysis. Due to its empirical grounding and parsimonious nature, Salas, Sims, and Burke's (2005) model was selected as a conceptual framework to guide analysis of how accepted components of teamwork manifested in the choir. The aim was to describe the internal processes of the choir and establish whether the teamwork that manifests within a choir context is captured by standard models of team performance.

Methodology

Research context

The participants in this research were members of a European professional chamber choir founded in 1991. It has had three musical directors since its inception. Its purpose is to undertake diverse and challenging choral work and its recitals include both historical and contemporary pieces. Audience and critical reviews have frequently commended the performances of this choir as on par with their international peers. Vacancies in the choir are unusual and generally attract international competition. Applicants are selected into the choir by the CEO and conductor. Employment in the choir is on a part-time basis, averaging 17 hours per week, and members typically maintain additional employment.

At the time of the study, the choir included 13 singers (7 female, 6 male). There were four soprano voices, three alto voices, three tenor voices and three bass voices. The age profile of participants ranged from 34 to 55 years. Four of the singers had an international background.

Method

There were two elements to this qualitative study.

Choir observation

Three choir rehearsals were observed by two independent observers. Using a checklist based on the 'Big Five' framework and three co-ordinating elements, observers recorded verbal and non-verbal

interactions between choir members as they pertained to these elements. The checklist is available in Supplementary Information.

Interviews

Fourteen face-to-face structured interviews were conducted (13 choir members and the conductor) with each interview taking approximately 20 minutes. Questions addressed the eight elements of the Salas, Sims, and Burke (2005) framework – the ‘Big Five’ and the three co-ordinating mechanisms. Interviews were conducted in English, digitally recorded and transcribed verbatim. The interview schedule is available in Supplementary Information.

Results

Observation and interview data were combined for the purposes of analysis. Analysis examined the extent to which the ‘Big Five’ elements and the three coordinating mechanisms of Salas, Sims, and Burke (2005) could be identified within the data.

Big Five

Team leadership

This component refers to ‘the ability to direct and coordinate other team members’ activities, assess team performance, assign tasks, develop team knowledge and skills, motivate team members, plan and organise, and establish a positive atmosphere’ (Salas, Sims, and Burke 2005, 560). Data from both the interviews and rehearsal observations provided an interesting insight into how this operates within the choir. The conductor had a clear image of his leadership role, which he regarded as incorporating managerial and motivational elements. The choir largely agreed that the conductor held these responsibilities, but differed in their evaluations of how he implemented them.

The conductor defined his role as requiring him to direct and coordinate the singers, assess how the choir behaved as a unit, motivate the singers and plan their activities. He described his responsibilities as both logistical (e.g. to ‘select the singers and deputy singers and be responsible for concerts’) and aesthetic (to ‘nurture a generation of singers and raise the artistic standard of the choir’). The conductor also assumed responsibility for the social and emotional environment, stating, ‘we have a huge energy in the choir – we pursue excellence every day – every day we try to be the best at something – this is what artists do and we are artists – we have to be like this’. That energy was clearly visible during rehearsals. All members arrived early, appeared pleased to be there and demonstrated enthusiasm for the work ahead.

The conductor explained that he used rehearsals to manage and assess the choir’s performance, stating, ‘I am very precise in my demands of them’. Observations of the conductor’s behaviour during rehearsal confirmed this characterisation. The conductor began rehearsals immediately after greeting members. He explained his interpretation of each piece of music and clarified the implications of that for each singer. The conductor described his leadership style as autocratic and said ‘artistic decisions are always autocratic – it is my job to be so’. During rehearsals, any discussions between the conductor and choir members typically involved the conductor clarifying matters for the choir rather than a reciprocal exchange of ideas.

Interviews with members of the choir revealed differing perspectives on the leadership role of the conductor. Some choir members concurred that the conductor’s style was autocratic, and believed this to be appropriate and acceptable. For example, CM5¹ commented, ‘All decisions are made by the conductor and that’s how it should be’. Similarly, CM11 stated, ‘We have no say in the music but we do have a say in more minor issues such as clothes – but it should be autocratic like this’. However, other choir members were less positive about the autocratic leadership style, which they blamed for previous departures of singers from the choir. One bemoaned the lack of inclusion in decision-making, characterising the choir as ‘a dictatorship’. This comment was echoed by others,

who complained that ‘everything is left to the conductor – it is not democratic and there is little room for participation’ and ‘sometimes I feel like a minion in this choir compared to the conductor who is a dictator’.

Not all choir members described the choir as an autocracy. CM6 said ‘Decisions are taken by the conductor but objections are considered – singers have some say in the music.’ CM7 agreed, saying, ‘there’s a certain amount of democracy – we can sit and talk things out with management – we have no fear about speaking – it’s good to clear the air’. CM4 believed that ‘I have a great say in what goes on’, while CM12 asserted ‘when we can help with decision-making we have the option to do so’. Another choir member said, ‘we all have the opportunity to say something and we can choose to speak or not to speak – we can go to the conductor individually also if we wish’. Thus, the analysis showed that choir members diverged in their interpretations of the conductor’s leadership style: some perceived the group as autocratic, a feature which was alternately criticised and accepted, while others praised the democratic nature of the choir.

Mutual performance monitoring

Mutual performance monitoring refers to the ability to develop common understandings of the team environment and apply appropriate strategies to accurately monitor team-mate performance (Salas, Sims, and Burke 2005). Evidence from interviews indicated that mutual performance monitoring took place in a number of ways. The conductor afforded minute attention to each singer, and the singers in turn monitored the conductor for instructions and feedback, expecting him to demand high levels of performance. Indeed, his demanding style was regarded by many singers as a mark of brilliance. The singers also described performance monitoring that occurred amongst themselves. Interestingly, however, as discussed below, this monitoring was firmly focused by each singer on themselves rather than their colleagues.

The conductor clearly regarded the monitoring of the performance of choir members as a primary responsibility. The conductor maintained high expectations of choir members, explaining that ‘I insist that all singers fully prepare for rehearsals’ and ‘I expect all the singers to give me 110%’. During rehearsals, the conductor would interrupt the singers if he detected the slightest error. The conductor applied similar standards to himself and continuously appraised his own performance. While he stated that, ‘I am always very unhappy with what I do’, he added that, ‘I actually see this as something of a good thing in that it results in permanent improvement – it all concerns the pursuit of excellence and that is what we all want’.

Singers revealed that they too monitored the conductor’s activity and the extent to which he succeeded in improving their performance. CM13 observed, ‘Our conductor has a fabulous rehearsal technique ... he is the reason we are as good as we are’. Participants believed that the conductor bore responsibility for both good and substandard performance outcomes. CM6 said ‘Whether or not we reach perfection depends on the conductor’.

Despite the conductor’s responsibility for collective outcomes, the interviews showed that individual members accepted responsibility for monitoring their own performance and expected other members to do likewise. In rehearsals, when an error was made, the person responsible acknowledged their mistake by raising their hand in a gesture of ownership. This functioned to assure others that their error did not reflect a failure of self-monitoring. Singers expected dedication from themselves and their colleagues (‘The most important aspects of my behaviour, and that of my colleagues, is disciplined professionalism with a complete focus on the music’ [CM1]; ‘I expect complete concentration, dedication and responsiveness for our work from everyone’ [CM4]; ‘I expect of myself and all others total dedication to the music ... punctuality ... professionalism, conscientiousness and being completely prepared to contribute music of the highest quality’ [CM9]). Interestingly, however, singers never suggested they had a role in monitoring the real-time performance of other singers. Monitoring of self was the dominant finding to emerge from the data, rather than monitoring of fellow choir members (‘Whatever I expect from others, I expect to a greater extent from myself’ [CM8]).

Backup behaviour

This component refers to the ability to anticipate other team members' needs through accurate knowledge about their responsibilities. It includes the ability to shift workload among members to achieve balance during high periods of workload or pressure. Overall, the analysis suggested that backup behaviour was limited within this choir.

The primary reason for the absence of backup behaviour was that each member had a specific, defined role. All singers made a unique contribution and a successful performance rested on singers producing their own distinctive professional skill. Since no singer could take the place of another, workloads could not be redistributed. Singers did see individual members as bearing a responsibility to their colleagues, in ensuring that they were adequately prepared and hardworking ('I expect everyone to be on top of the piece of music under preparation' [CM11]; 'everyone pulls their weight ... – it's not all about how I want to do it – our performance is a joint effort' [CM5]). Overall, however, while it was recognised that individuals should accommodate and respond to the needs of others, there was little evidence of singers feeling they should take on work of other singers.

Backup behaviour from the conductor was present to some degree in that he prepared each singer to perform their roles effectively. Observations of the rehearsals showed him insisting on the constant repetition of a score until a satisfactory standard was achieved. This reflects the conductor's awareness of his responsibility to the choir, and could be regarded as his way of relieving performance pressure among choir members. However, at no point did the conductor take on the role of a singer or vice versa.

Adaptability

This component refers to the ability to adjust strategies based on environmental information or changing conditions (Salas, Sims, and Burke 2005). The environment of this choir was typical of many performing teams (Ishak and Ballard 2012) in its stable, predictable nature. The choir's task was always pre-determined with no improvisation. Choir members rarely changed. Performance events were carefully planned and took place according to a fixed, pre-arranged schedule. Songs were sung exactly as practiced during rehearsals.

The only changes that occurred within the choir were those that took place over the course of rehearsals as the singers achieved greater precision in execution of a score. Perfect performance was the clearly articulated goal. The main source of feedback in working towards that objective came from the conductor's instructions, to which singers were extremely responsive during rehearsals. The information provided by the conductor was regarded by the choir as critical to their performance; CM7 said 'our conductor is fabulous at managing our rehearsals – his input brings something from nothing to a highly polished piece very quickly'. Singers were adept at adjusting their performance in response to the conductor's comments.

During the interviews, it became apparent that one other source of external information was attended to and elicited performance adjustment, namely the performance standards of other choirs. These were regarded as a target to achieve. For instance, CM8 stated, 'we want to be on a par with EU, and especially German, choirs'. The need to respond to external competition and safeguard the professional reputation of the choir was felt particularly acutely by the conductor. It guided his operational decisions, such as the selection of new members ('It is my responsibility to ensure we have the best people so that this choir is an ensemble of the highest possible quality').

Team orientation

The final component refers to the propensity to take other people's behaviour into account during group interaction and to prioritise the team's interests over individual members. The team orientation of choir members was explicitly discernible in the data. This team spirit was constantly positioned as critical to the choir's success. For example, CM7 said, 'remembering that we are a team is central to how we sing ... being a team player is what this choir is all about'; CM13 reiterated that 'being a team player is what it's all about'; while CM5 considered that 'we all work as team ... that's the reason

why we are as good as we are'. The conductor articulated his personal sense of responsibility for the development of the team in describing the importance of developing the right mix of singers.

Prevailing literature on effective teams identifies a common team goal as centrally important to team performance. In the interviews, there was clear consensus regarding the desire to achieve world-class performance standards. For example, CM11 divulged that, 'we are very ambitious ... we want to be at the top ... we strive for perfection'. Similarly, CM6 said 'It's like we are going on a journey to reach high artistic standards ... higher than our choral peers'. In a similar manner, CM1 explained, 'our journey to where we want to be has crests and troughs but it's good to know that everyone's objective is the same'.

Interestingly, although perfection functioned as the overriding objective, several interviewees believed that perfection would always be elusive. For example, CM8 said 'but we are only as perfect as our weakest link ... we never reach perfection'. CM3 agreed, saying 'I certainly try to get as close to perfection as possible – it's challenging to aim for it and rewarding to get there – but I have to accept that we are never really perfect'. CM4 added 'There really is no such thing as a perfect performance ... there is always room for improvement – we could work on a piece for a month and there could still be more work we could do on it'. The comments of the conductor also echoed this sentiment, suggesting that 'No performance is perfect – I have never seen or heard a perfect performance'. The guiding goal of perfection was therefore more symbolic than realistically attainable.

Coordinating mechanisms

Shared mental model

A shared mental model exists when members of a team have a consensual understanding of their individual roles and how they interrelate. The data clearly showed the existence of a shared mental model among choir members. Individuals knew exactly what their unique function was and demonstrated strong agreement regarding appropriate conduct. For example, CM11's belief that 'the most important thing is for each of us to be eager to do a good job, to pay close attention to all that is going on and to demonstrate utter self-discipline to the task at hand' mirrored CM6's statement that 'being focused, accurate and having a desire to be excellent is critical and central to what we are about'. Similarly, CM8 reflected that 'being utterly attentive, delivering highly skilled musicianship, along with discipline and flexibility – this is what defines us'.

The conductor clearly saw himself as responsible for ensuring the choir met their performance objectives. He was fully aware of their desire to achieve world-class performance standards and was committed to facilitating this, stating, 'the choir (desire) to be an ensemble of the highest level in the country and if I don't deliver on this for them in terms of bringing out their best performance, then I have failed them'.

Interestingly, despite this shared sense of how choir members should act to achieve their common purpose, different members experienced varied emotional effects as they performed their roles. For some members, choir performance was an emotional experience that was deeply significant to them, while for others, performance was a professional activity that hinged on technical acuity. For example, CM10 said 'giving a great performance connects with me emotionally and I try to find this connection in every performance'; CM4 added 'I am always emotionally involved in my performance'; and CM5 expressed 'sometimes it gets too much for me and I would be crying off stage – I just love it so much'. On the other hand, CM2 stated, '... each performance is just another performance – it's what I do for a living'; while CM3 said, 'professionalism changes you – I have to put a cap on my emotions so that they don't run away with me'. Thus, team members shared a common cognitive structure but demonstrated different levels of emotional investment in the activity.

Mutual trust

The data left little doubt that a strong degree of trust existed among all choir members. Trust was frequently invoked as a critical factor in the choir's success. For example, CM9 said, 'trust is essential

for a good performance and we really trust each other – we know where we are with each other’; CM1 said, ‘contributing to a good atmosphere and making a distinct effort to get on with all other members is essential for us as a choir ... it builds trust’; while CM13 expressed, ‘trusting each other, being friendly and maintaining a nice atmosphere is really important’.

Trust was not only regarded as a valuable resource for relations between choir members, but was also considered a vital element of the relationship between the choir and the conductor. Choir members trusted that the conductor’s decisions and methods would optimise group outcomes (‘We trust our conductor and the drive he has for us’ [CM8]). The conductor echoed the singers’ emphasis on mutual trust, reflecting that ‘trust is what we are all about and underpins how the singers engage with each other and with me ... we are like trapeze artists without a net and I tell the singers this – trust is what we are all about’.

Closed-loop communication

The last component of this model refers to the exchange of information between a sender and a receiver, irrespective of the medium. Information exchange between choir members took place in a number of ways. Observations of rehearsals recorded a high volume of information being delivered from the conductor to the singers concerning the score under preparation. The conductor provided explicit and specific instructions as to how every detail of a score was to be performed, often singing a bar himself as an example. As one choir member said in the interviews, ‘he tells us when to breathe’.

Singers also delivered information to the conductor and to other singers during rehearsals, most particularly in the case of mistakes. When a singer made an error of any kind, they clearly signalled awareness of the error, which then allowed rehearsal to continue. Small discussions would also occur during rehearsals as a means of clarifying issues regarding the score under preparation. Evidence from the interviews suggested that there was a healthy level of communication between choir members and that these discussions generally resulted in positive outcomes. For example, CM7 said ‘if we have a problem within the choir we talk about it among ourselves and work it out’.

Interestingly, some choir members believed a hierarchy based on tenure and talent predicted involvement in this type of information exchange. They felt that singers with the best quality voices and/or those who the longest involvement with the choir were afforded more power in discussions. CM2 saw tenure as the most important factor (‘We should all have an equal say but we don’t – time in the choir is a big factor and not always vocal ability’), while CM1 concurred but believed it was moderated by perceived musical talent (‘people who have been here longer have the biggest say in what goes on but only if they are good musically too’). However, these hierarchies of differential influence were not universally apparent. For example, CM10 observed, ‘there’s no hierarchy – some speak and some don’t and there’s no difference between new and old members’. Thus while communication certainly took place among choir members, some saw it as a more sensitive matter than others.

Discussion

Action teams in general, and choirs in particular, remain under-researched in the group processes literature (Ishak and Ballard 2012). This study sought to remedy this empirical gap by exploring the intragroup processes that characterise a successful chamber choir. The qualitative approach adopted responds to Salas, Cooke, and Rosen’s (2008) call for research on how teams operate ‘in the wild’ and provides a naturalistic, ecologically valid insight into the day-to-day operations of a choir and the subjective experience of its members. The results help contextualise previous research on choir functioning by illuminating the psychosocial backdrop against which a choir coalesces as a team.

The analysis was guided by the ‘Big Five’ model of Salas, Sims, and Burke (2005), which provided a clear and parsimonious framework with which to conceptualise the intragroup processes that occurred within the choir. The analysis confirmed that in certain respects, the choir

functioned in ways consistent with standard conceptions of effective teamwork, as operationalised in the 'Big Five' model. In particular, team orientation and team leadership were clearly discernible within the data. The research suggested that on these dimensions, a choir operates like many other teams (Costa and Anderson 2011; Klein et al. 2011; Langfred 2004; McCollum, Bradley, and Chen 2013). It should be noted that there was no consensus regarding the nature and efficacy of the prevailing leadership style. However, this is not an unusual finding given the multi-faceted, sometimes paradoxical role of a conductor (Hunt, Stellutob, and Hooijbergc 2004) and the many different types of conducting styles described in the literature (Atik 1994; Boerner and Gebert 2012; Boerner and Von Streit 2007).

The three coordinating mechanisms that support the components of effective teamwork were also clearly discernible within the operations of this choir. The importance of mutual trust was explicitly highlighted many times by choir members, while a shared mental model regarding team members' role and purpose was also clearly valued by participants. This accords with previous research on the characteristics of choirs (Putnam 1993). Agreement regarding the final coordinating mechanism, closed-loop communication, was less uniform. Some choir members felt communication avenues were open to all members, whereas others felt these avenues were privileged to a select few. The presence of this type of hierarchy in a choir is not unusual (Welch and Howard 2002).

Despite the above corollaries with the components specified in Salas, Sims, and Burke's (2005) model, however, certain other posited elements of effective teamwork were less apparent within the data. For example, mutual performance monitoring involves the ability to develop and apply appropriate task strategies to accurately monitor team-mate performance. The data showed that the conductor closely monitored the performance of the singers and that singers monitored the conductor. However, although each singer closely monitored their own performance, they did not monitor each other. Evidence of adaptability (re-allocation of team-resources) and back-up behaviour (re-allocation of team roles among the team) was also limited. This is unsurprising when one considers the performance contingencies of the choir, which constitutes an inflexible environment wherein all individuals maintain highly differentiated roles. As such, adapting and re-allocating tasks are typically not necessary or desirable. The exception was the choir's ability to adapt their performance according to the instructions of the conductor. This adaptation reflected a continuous process of development in the pursuit of excellence, rather than transient reactivity to immediate conditions.

This analysis represents the first attempt at codifying a choir's intragroup dynamics, and therefore makes a substantive contribution to choral research and practice. The results provide a foundation for attaining deeper understanding of what makes for a successful choir and how choirs affect their members' psychosocial well-being. The qualitative case study design necessarily means results are preliminary and cannot be generalised to other choral groups. Nevertheless, the study provides a valuable and valid first insight into the internal dynamics of a choir, which can inform the design of future larger scale studies.

This future research should move beyond the conceptual paradigm provided by the Salas, Sims, and Burke (2005) model. While this framework provided a parsimonious tool for the first qualitative study of this topic, it may have restricted the scope of the analysis. This first attempt to extend the 'Big Five' model to performing action teams suggests that it may not adequately capture the dynamics of this team structure. Ishak and Ballard (2012) suggest that contending, critical and performance action teams are differentiated on a number of criteria. Specifically relevant to this study, a choir is distinctive in (a) its task goal, in that the choir's task is pre-determined rather than dynamic; (b) the evaluation of success, in that the choir is evaluated subjectively and by external agents and (c) the absence of expectations of improvisation. These differences serve to explain the results' divergence from previous studies of action teams, where all elements of the 'Big Five' were clearly discernible (Fransen, Weinberger, and Kirschner 2013; Henneman, Kleppel, and Hinchey 2013; Kalisch and Schoville 2012; Leasure et al. 2013; Lingard et al. 2012).

The results therefore have implications for the team literature as well as choral research and practice. In particular, the departure from previous findings sounds a note of caution about applying models of teamwork to different types of action teams without first considering the unique characteristics of the team in question. In the current case, the nature and process of choral performance introduce distinctive contingencies within which teamwork must operate. In order to achieve its objective of superior performance of a musical score in concert, a choir must adhere to a very strict protocol of performance, which inhibits the demonstration of certain 'Big Five' components. Firstly, the roles played by individual members are mutually exclusive: an alto is not best-positioned to monitor the performance of a tenor, which inhibits mutual performance monitoring, and neither can an alto sing the part of a tenor, which inhibits back-up behaviour. Secondly, choirs do not usually perform pieces differently in concert than prepared during rehearsal, and so the performance context of the choir proscribes environmental adaptability. Thirdly, each singer must submit to the directions provided by the conductor. Since these rigid features are common to most choirs, it is likely that the distinctive features of teamwork identified in this study also characterise other choral groups. Finally, certain components that *did* resonate in the data are necessary and inevitable consequences of the choir context; for instance, the presence of shared mental models is unsurprising when all members are working from notated scripts. As such, this component's presence in the data is not a particularly sensitive indicator of effective teamwork.

The results highlight the need for greater conceptual and empirical work in developing a model of effective team functioning that specifically reflects the contingencies of choral groups. This particular choir maintained an international reputation and was well-regarded by its audience and peers. It was also internally successful, with all members deriving enjoyment and fulfilment from their participation. Thus, it appears that the failure to satisfy all proposed components of effective teamwork did not compromise the choir's performance. These findings suggest that Salas, Sims, and Burke's (2005) model is unduly narrow for performance action teams, and that the elements of mutual performance monitoring, adaptability and back-up behaviour need further development to accurately reflect their operation within the confines of a professional choir.

The results of this investigation shed light on the operation of a professional choir, taking us inside the choir unit and illustrating its intricate practical, emotional and interpersonal dynamics. The findings provide a platform for further research on the operation of performance action teams. Given that existing models of teamwork fall short of describing a successful performance team, future research should seek to develop a model that accurately reflects a performance team's circumstances and conditions. This could then inform practice and training programmes for choir members.

Note

1. To protect anonymity, choir members are identified by a unique code.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Melrona Kirrane is a lecturer in Organisational Psychology at DCU Business School. She is Professor of Leadership at PNU, Riyadh. Her research interests include teamwork, leadership, diversity and the application of psychoanalytic principles to the analysis of organizations.

Clíodhna O'Connor is a social psychologist and Lecturer in the Department of Psychology, Maynooth University.

Anne Marie Dunne is a PhD scholar in the field of Organisational Psychology at Dublin City University Business School.

Patricia Moriarty received her PhD from Trinity College, Dublin. She is Head of School of Business and Humanities at Dundalk Institute of Technology.

References

- Apfelstadt, H. 1997. "Applying Leadership Models in Teaching Choral Conductors." *The Choral Journal* 37 (8): 23–30.
- Aspaas, C., C. R. McCrea, R. J. Morris, and L. Fowler. 2004. "Select Acoustic and Perceptual Measures of Choral Formation." *International Journal of Research in Choral Singing* 2 (1): 11–26.
- Atik, Y. 1994. "The Conductor and the Orchestra: Interactive Aspects of the Leadership Process." *Leadership and Organisation Development Journal* 15 (1): 22–28.
- Atkinson, D. 2010. "The Effects of Choral Formation on the Singing Voice." *Choral Journal* 50 (8): 24–34.
- Boerner, S., and D. Gebert. 2012. "Fostering Artistic Ensemble Performance: Exploring the Role of Transformational Leadership." *Nonprofit Management and Leadership* 22 (3): 347–365.
- Boerner, S., and C. Von Streit. 2007. "Promoting Orchestral Performance: The Interplay between Musicians' Moods and a Conductor's Leadership Style." *Psychology of Music* 35 (1): 132–143.
- Burke, C. S., E. Salas, K. Wilson-Donnelly, and H. Priest. 2004. "How to Turn a Team of Experts into an Expert Medical Team: Guidance from the Aviation and Military Communities." *Quality and Safety in Health Care* 13 (suppl. 1): i96–i104.
- Chan, P. S., R. Jain, B. K. Nallmothu, R. A. Berg, and C. Sasson. 2010. "Rapid Response Teams: A Systematic Review and Meta-analysis." *Archives of Internal Medicine* 170 (1): 18–26.
- Clift, S. M., and G. Hancox. 2001. "The Perceived Benefits of Singing Findings from Preliminary Surveys of a University College Choral Society." *The Journal of the Royal Society for the Promotion of Health* 121 (4): 248–256.
- Cohen, M. L. 2009. "Choral Singing and Prison Inmates: Influences of Performing in a Prison Choir." *Journal of Correctional Education* 60 (1): 52–65.
- Cohen, M. L. 2012. "Harmony within the Walls: Perceptions of Worthiness and Competence in a Community Prison Choir." *International Journal of Music Education* 30 (1): 46–56.
- Cordery, J. 2003. "Team Work." In *The New Workplace: A Guide to the Human Impact of Modern Working Practices*, edited by David Holman, Toby D. Wall, Chris W. Clegg, Paul Sparrow, and Ann Howard, 95–114. New York: Wiley.
- Costa, A. C., and N. Anderson. 2011. "Measuring Trust in Teams: Development and Validation of a Multifaceted Measure of Formative and Reflective Indicators of Team Trust." *European Journal of Work and Organizational Psychology* 20 (1): 119–154.
- Daugherty, J. F. 2003. "Choir Spacing and Formation: Choral Sound Preferences in Random, Synergistic, and Gender-specific Chamber Choir Placements." *International Journal of Research in Choral Singing* 1 (1): 48–59.
- De Jong, B. A., and K. T. Dirks. 2012. "Beyond Shared Perceptions of Trust and Monitoring in Teams: Implications of Asymmetry and Dissensus." *Journal of Applied Psychology* 97 (2): 391–406.
- De La Torre-Ruiz, J. M., J. A. Aragón-Correa, and V. Ferrón-Vílchez. 2011. "Job-related Skill Heterogeneity and Action Team Performance." *Management Decision* 49 (7): 1061–1079.
- Edwards, D. 2005. "Music Makers: Closing the Great Divide between Choral Conductors and Voice Teachers." *Canadian Music Educator* 46: 36–37.
- Espevik, R., and O. K. Olsen. 2013. "A New Model for Understanding Teamwork Onboard: The Shipmate Model." *International Maritime Health* 64 (2): 89–94.
- Eyre, L. 2011. "Therapeutic Chorale for Persons with Chronic Mental Illness: A Descriptive Survey of Participant Experiences." *Journal of Music Therapy* 48 (2): 149–168.
- Fransen, J., A. Weinberger, and P. A. Kirschner. 2013. "Team Effectiveness and Team Development in CSCSL." *Educational Psychologist* 48 (1): 9–24.
- Fuelberth, R. J. V. 2004. "The Effect of Various Left Hand Conducting Gestures on Perceptions of Anticipated Vocal Tension in Singers." *International Journal of Research in Choral Singing* 2 (1): 27–38.
- Hampshire, K. R., and M. Matthijsse. 2010. "Can Arts Projects Improve Young People's Wellbeing? A Social Capital Approach." *Social Science and Medicine* 71 (4): 708–716.
- Henneman, E. A., R. Kleppel, and K. T. Hinchey. 2013. "Development of a Checklist for Documenting Team and Collaborative Behaviors during Multidisciplinary Bedside Rounds." *Journal of Nursing Administration* 43 (5): 280–285.
- Hillman, S. 2002. "Participatory Singing for Older People: A Perception of Benefit." *Health Education* 102 (4): 163–171.
- Hunt, J., G. E. Stellutob, and R. Hooijbergc. 2004. "Toward New-wave Organization Creativity: Beyond Romance and Analogy in the Relationship between Orchestra-conductor Leadership and Musician Creativity." *The Leadership Quarterly* 15 (1): 145–162.
- Ishak, A., and D. Ballard. 2012. "Time to Re-group: A Typology and Nested Phase Model for Action Teams." *Small Group Research* 43 (1): 3–29.
- Jacob, C., C. Guptill, and T. Sumston. 2009. "Motivation for Continuing Involvement in a Leisure-based Choir: The Lived Experiences of University Choir Members." *Journal of Occupational Science* 16 (3): 187–193.
- Kalisch, B., and R. Schoville. 2012. "It Takes a Team." *The American Journal of Nursing* 112 (10): 50–54.

- Katzenbach, J. R., and D. K. Smith. 1993. "The Discipline of Teams." *Harvard Business Review*, 71 (March–April): 111–120.
- Kay, J., N. Maisonneuve, K. Yacef, and P. Reimann. 2006. "The Big Five and Visualizations of Team Work Activity." In *Intelligent Tutoring Systems*, edited by Mitsuru Ikeda, Kevin D. Ashley, and Tak-Wai Chan, 197–206. Berlin: Springer-Verlag.
- Kelly, J. R., and S. G. Barsade. 2001. "Mood and Emotions in Small Groups and Work Teams." *Organizational Behavior and Human Decision Processes* 86 (1): 99–130.
- Klein, K. J., A. P. Knight, J. C. Ziegert, B. C. Lim, and J. L. Saltz. 2011. "When Team Members' Values Differ: The Moderating Role of Team Leadership." *Organizational Behavior and Human Decision Processes* 114 (1): 25–36.
- Koivunen, N., and G. Wennes. 2011. "Show us the Sound! Aesthetic Leadership of Symphony Orchestra Conductors." *Leadership* 7 (1): 51–71.
- Kokotsaki, D., and S. Hallam. 2011. "The Perceived Benefits of Participative Music Making for Non-music University Students: A Comparison with Music Students." *Music Education Research* 13 (2): 149–172.
- Kreutz, G., S. Bongard, S. Rohrmann, V. Hodapp, and D. Grebe. 2004. "Effects of Choir Singing or Listening on Secretary Immunoglobulin A, Cortisol, and Emotional State." *Journal of Behavioural Medicine* 27 (6): 623–635.
- Ladkin, D. 2008. "Leading Beautifully: How Mastery, Congruence and Purpose Create the Aesthetic of Embodied Leadership Practice." *The Leadership Quarterly* 19 (1): 31–41.
- Langfred, C. W. 2004. "Too Much of a Good Thing? Negative Effects of High Trust and Individual Autonomy in Self-managing Teams." *Academy of Management Journal* 47 (3): 385–399.
- Leasure, E. L., R. R. Jones, L. B. Meade, M. I. Sanger, K. G. Thomas, V. P. Tilden, J. L. Bowen, and E. J. Warm. 2013. "There is no 'I' in Teamwork in the Patient-centered Medical Home: Defining Teamwork Competencies for Academic Practice." *Academic Medicine* 88 (5): 585–592.
- Lingard, L., M. Vanstone, M. Durrant, B. Fleming-Carroll, M. Lowe, J. Rashotte, L. Sinclair, and S. Tallett. 2012. "Conflicting Messages: Examining the Dynamics of Leadership on Interprofessional Teams." *Academic Medicine* 87 (12): 1762–1767.
- Livesey, L., I. Morrison, S. Clift, and P. Camic. 2012. "Benefits of Choral Singing for Social and Mental Wellbeing: Qualitative Findings from a Cross-national Survey of Choir Members." *Journal of Public Mental Health* 11 (1): 10–26.
- Mach, M., S. Dolan, and S. Tzafrir. 2010. "The Differential Effect of Team Members' Trust on Team Performance: The Mediation Role of Team Cohesion." *Journal of Occupational and Organizational Psychology* 83 (3): 771–794.
- McCollum, M., E. Bradley, and D. Chen. 2013. "Developing a Team Orientation through Team-level Reflection and Feedback." *Medical Education* 47 (11): 1136–1136.
- Mellor, L. 2013. "An Investigation of Singing, Health and Well-being as a Group Process." *British Journal of Music Education* 30 (2): 177–205.
- Mohammed, S., L. Ferzandi, and K. Hamilton. 2010. "Metaphor No More: A 15-year Review of the Team Mental Model Construct." *Journal of Management* 36 (4): 876–910.
- Morrison, S. J., H. E. Price, C. G. Geiger, and R. A. Cornacchio. 2009. "The Effect of Conductor Expressivity on Ensemble Performance Evaluation." *Journal of Research in Music Education* 57 (1): 37–49.
- Nielsen, T. M., E. D. Sundstrom, and T. R. Halfhill. 2005. "Group Dynamics and Effectiveness: Five Years of Applied Research." In *The Handbook of Group Research and Practice*, edited by S. A. Wheelan, 285–312. Thousand Oaks, CA: Sage.
- Ohland, M., M. Loughry, D. Woehr, C. Finelli, L. Bullard, R. Felder, C. J. Finelli, R. A. Layton, H. R. Pomeranz, and D. Schmucker. 2012. "The Comprehensive Assessment of Team Member Effectiveness: Development of a Behaviorally Anchored Rating Scale for Self and Peer Evaluation." *Academy of Management Learning and Education* 11 (4): 609–630.
- Parker, E. C. 2010. "Exploring Student Experiences of Belonging within an Urban High School Choral Ensemble: An Action Research Study." *Music Education Research* 12 (4): 339–352.
- Parton, K., and G. Edwards. 2009. "Features of Conductor Gesture: Towards a Framework for Analysis Within Interaction." Paper presented at the Second International Conference on Music Communication Science, Sydney, Australia, December 3–4.
- Pescosolido, A. T., and R. Saavedra. 2012. "Cohesion and Sports Teams A Review." *Small Group Research* 43 (6): 744–758.
- Poggi, I. 2011. "Music and Leadership: The Choir Conductor's Multimodal Communication." In *Integrating Gestures: The Interdisciplinary Nature of Gesture*, edited by Gale Stam, and Mika Ishino, 341–354. Philadelphia, PA: John Benjamins.
- Pollack, B. 1991. "The Effective Conductor: A Matter of Communication and Personality." In *Psychology and the Performing Arts*, edited by Glenn Daniel Wilson, 155–164. Amsterdam: Swets and Zeitlinger.
- Putnam, R. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, NJ: Princeton University Press.
- Salas, E., C. A. Bowers, and J. A. Cannon-Bowers. 1995. "Military Team Research: 10 Years of Progress." *Military Psychology* 7 (2): 55–75.

- Salas, E., N. J. Cooke, and M. A. Rosen. 2008. "On Teams, Teamwork, and Team Performance: Discoveries and Developments." *Human Factor* 50 (3): 540–547.
- Salas, E., D. E. Sims, and C. S. Burke. 2005. "Is there a 'Big Five' in Teamwork?" *Small Group Research* 36 (5): 555–599.
- Salas, E., K. C. Stagl, C. S. Burke, and G. F. Goodwin. 2007. "Fostering Team Effectiveness in Organizations: Toward an Integrative Theoretical Framework of Team Performance." In *Modeling Complex Systems: Motivation, Cognition and Social Processes: Nebraska Symposium on Motivation*, edited by R. A. Dienstbier, J. W. Shuart, W. Spaulding, and J. Poland, 185–243. Lincoln: University of Nebraska Press.
- Sheard, A. D., and A. P. Kakabadse. 2002. "From Loose Groups to Effective Teams: The Nine Key Factors of the Team Landscape." *Journal of Management Development* 21 (2): 133–151.
- Skadsem, J. A. 1997. "Effect of Conductor Verbalization, Dynamic Markings, Conductor Gesture, and Choir Dynamic Level on Singers' Dynamic Responses." *Journal of Research in Music Education* 45 (4): 509–520.
- Stacy, R., K. Brittain, and S. Kerr. 2002. "Singing for Health: An Exploration of the Issues." *Health Education* 102 (4): 156–162.
- Steurer, M., S. Simak, D. M. Denk, and M. Kautzky. 1998. "Does Choir Singing Cause Noise-induced Hearing Loss?" *International Journal of Audiology* 37 (1): 38–51.
- Sundstrom, E. D. 1999. *Supporting Work Team Effectiveness: Best Management Practices for Fostering High Performance*. San Francisco, CA: Jossey Bass.
- Tonneijck, H. I. M., A. Kinébanian, and S. Josephsson. 2008. "An Exploration of Choir Singing: Achieving Wholeness through Challenge." *Journal of Occupational Science* 15 (3): 173–180.
- Valentine, E., and C. Evans. 2001. "The Effects of Solo Singing, Choral Singing and Swimming on Mood and Physiological Indices." *British Journal of Medical Psychology* 74 (1): 115–120.
- Welch, G., and D. M. Howard. 2002. "Gendered Voice in the Cathedral Choir." *Psychology of Music* 30 (1): 102–120.
- West, M. A. 2012. *Effective Teamwork: Practical Lessons from Organizational Research*. Chichester: Wiley-Blackwell.
- Wis, R. M. 2002. "The Conductor as Servant-leader." *Music Educators Journal* 89 (2): 17–23.