The Development of Imagery in Dance
Part I: Qualitative Findings from Professional Dancers

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Abstract
A series of two studies was undertaken to investigate the development of imagery among dancers and how dance teachers might affect the imagery development process. The first study is reported here, the second in Part II. For the present study, in-depth semi-structured interviews were conducted with 14 female (n = 9) and male (n = 5) professional dancers from a range of ages and dance forms. The recorded interviews were transcribed verbatim and content-analyzed with NVivo 4.0. Results fell into three categories: Early Experiences, Teachers, and Imagery Changes. Findings included few dancers having been taught about imagery, and that dancers often preferred teachers who gave plenty of images so that each dancer could use images that suited his or her own needs. As dancers became more accomplished, imagery typically changed toward more frequent, complex, and kinesthetic images. Suggestions for further research and ideas for practical application are provided.

Imagery is often considered to be a psychological skill that is characteristic of high-level performance. For instance, a study of Canadian athletes found that those who performed at higher levels had accumulated more imagery practice than those who performed at lower levels after eight years of involvement. As a consequence of such research, it has been recommended that imagery should be a key component of training from an early stage. Despite such findings and recommendations, however, remarkably few studies have been performed into how elite performers develop psychological skills. Consequently, there has been a call for further investigation into this topic. An increased understanding of how imagery is taught and developed in high-level performers could give us valuable insights into preferred teaching practices, and eventually lead to guidelines to help teachers as well as dancers maximize the effectiveness of imagery.

As a related issue, little is currently known regarding the influence of teachers and coaches on the use of psychological skills among performers. The research that does exist has been mainly conducted in sports settings, leaving the context of dance especially under-investigated. Four sports investigations are nevertheless illustrative. First, a qualitative study found that cognitive skills, including imagery, helped elite swimmers interpret their anxiety symptoms as more facilitative in competitions. The swimmers gradually acquired these skills throughout their careers via relatively informal means, partly by listening to important individuals such as coaches, other competitors, and parents, and partly through self-discovery. In a second qualitative study, the development of psychological skills in U.S. Olympic medalists was examined. The athletes in this sample had sometimes been explicitly taught how to use imagery and other psychological skills. For the most part, however, their psychological skill development had been supported less directly by a variety of individuals, including coaches, teachers, family members, and friends. Their support took various forms, such as encouragement and modeling of desirable behaviors. Orlick and Partington documented similar findings with Canadian Olympians and reported that many of them "felt that they could have reached the top much sooner if they had worked on strengthening their mental skills earlier in their careers." A fourth study compared the psychological skills (including imagery) of national- and international-level gymnasts. Six international gymnasts and three national gymnasts had acquired their psychological skills naturally, while three other national gymnasts had participated in psychological skills training (PST). It was found that the international gymnasts had a more elaborate and wide-ran-
ing repertoire of psychological skills than their national counterparts. However, the PST program helped the three national gymnasts acquire skills similar to those employed by the international gymnasts. As a result, the quality and complexity of their imagery and other skills surpassed those of the three national-level gymnasts who had not received any formal training.

Research conducted thus far in sports seems to suggest that the acquisition of imagery skills by athletes usually occurs gradually, via different sources, and often indirect methods. Structured imagery training programs can improve this process, but are not the usual means by which athletes learn about imagery. By comparison, available studies suggest that dancers may learn about imagery in a slightly more direct manner. For instance, a comparison of the imagery instructional methods used by three groups of instructors found that dance teachers and figure skating coaches encouraged their performers to use imagery more than did soccer coaches before and during practices, as well as before performances. The similarities between the dance instructors and figure skating coaches are not altogether surprising given the artistic nature that is inherent to both activities. It should be noted that when Overby and colleagues described encouragement to use imagery, they were referring to concrete types of images, such as rehearsing skills and sequences in one's head. However, they also investigated the instructors' use of metaphorical images. These are more abstract, often referring to actions and sensations that may not be objectively possible, for example "moving across the floor as if moving through water," or "walking and turning as if there were no gravity to keep you earthbound." It has previously been found that dance teachers frequently give out such metaphorical images in classes as instructional cues or as inspiration for their students. To return to the direct comparison study done by Overby and colleagues, it was found that dance teachers used more metaphorical imagery than either figure skating or soccer coaches. This is an interesting finding because such images have been shown to improve performance, both for children and for student dancers. Yet, apart from the work done by Overby and colleagues, all of the aforementioned studies concerning imagery development have focused solely on concrete types of imagery, to the exclusion of metaphorical imagery types.

A third and final point to note from the results of Overby and colleagues was that none of the three groups of instructors (dance teachers, figure skating coaches, or soccer coaches) reported using imagery in an organized way. This is noteworthy because it has been suggested that imagery use should be structured and regular for best effect. Gould, Damarjian, and Medbery reported similarly unsystematic incorporation of mental skills into junior tennis coaching, despite more than half of their sample consisting of coaches with some sports psychology training. More encouragingly, Hall and Rodgers found that following a mental skills training program with figure skating coaches, the athletes coached by the participants reported that their lessons had improved.

Given these findings and the general lack of research into imagery development, two studies were undertaken. The broad aims of these studies were to enhance our understanding of how imagery develops in dancers, and to investigate the role of the dance teacher in a dancer's imagery development. Because the area is relatively under-investigated, qualitative methods were deemed suitable as a first step to explore imagery development in depth. Elite performers were chosen to participate in Part I because they are likely to have superior experience and knowledge of imagery compared to lower-level performers. As part of a larger qualitative study pertaining to dance imagery, we employed a sample of 14 professional dancers. The interview results pertaining to imagery development are thus reported in the present paper (Part I). To complement these findings with more generalized data, a second study was conducted. That study built on the findings of Part I by using a quantitative methodology to investigate imagery development with a large, heterogeneous sample, and the results of that study are presented in a separate paper (Part II).

In sum, the aims of the present investigation were to gain an understanding of how imagery develops in dance settings, and to explore the role of dance teachers in imagery development. In the study presented here, semi-structured qualitative interviews were conducted to get a first, exploratory insight into the topic.

**Method**

**Participants**

Fourteen professional dancers were recruited to participate in this study. Nine were female and five were male, and their ages ranged from 22 to 42 (M = 30.00, SD = 6.71). Six dancers worked in classical ballet, one in Kathak, and six in various types of contemporary dance. One participant no longer described herself as a dancer but as someone who integrates live art, performance and video with contemporary dance in her work. The sample had participated in dance for 21.85 years (SD = 5.64) and they had been professionals for 7.61 years (SD = 4.63). They first took up dance at 7.64 years of age (SD = 5.47).

**Materials**

Questions concerning imagery development were constructed for an interview guide based on the existing relevant literature in dance and sports psychology. These questions concerned the reasons why the dancers first began using imagery, whether they started to do so naturally or were explicitly taught, and how their imagery skills had developed across their careers. The role of the teacher, both when the dancers were younger and at the present time, was also explored. These questions concerned whether teachers gave out images in class, and whether teachers encouraged the dancers to image on their own. The use of an interview guide ensured that the same open-ended main questions...
were asked from all participants, while allowing the interviewer to use elaboration- and clarification-probes as deemed necessary. The interview guide can be obtained from the authors on request.

**Procedure**

**Recruitment**

Ethical approval for the study was first obtained from the relevant ethics review board. Participants were then recruited via personal contacts or email addresses found on the Internet, or in response to advertisements placed in a dance magazine or on an Internet message board for dance artists. After 14 participants had been interviewed, a point of saturation had been reached; that is, information gained from additional interviews largely repeated that of previous interviews. Consequently, no more participants were recruited.

**Interview Procedure**

Interviews took place in a location chosen by each participant, such as work places, homes, and public places. Prior to the commencement of the interview, participants received an information letter and gave informed consent. White and Hardy's definition of imagery was then provided to clarify the concept of imagery: "Imagery is an experience that mimics real experience. We can be aware of 'seeing' an image, feeling movements as an image, or experiencing an image of smell, taste or sounds without experiencing the real thing. Sometimes people find that it helps to close their eyes. It differs from dreams in that we are awake and conscious when we form an image." Any differences between the participants' and the interviewers' perceptions of what constitutes imagery were discussed before the interview commenced.

**Data Analysis**

The interviews were first transcribed verbatim and thereafter content analyzed with the qualitative software NVivo 4.0. Our procedure followed the recommendations by Côté, Saimela, Barra and Russell by first creating tags for each meaning unit. Units were then arranged with other units of similar meaning into hierarchical trees, gradually moving from the specific meaning units up to greater levels of abstraction. Both deductive and inductive procedures were used to analyze our data, and theoretical saturation was deemed to have been reached when the text units fitted adequately into the hierarchical trees.

**Validation and Triangulation Procedures**

To ascertain whether our findings could be considered valid, several steps were taken. With regard to the participants, we included a question at the end of each interview to help determine that none of the participants felt they were at all influenced by or led by the interviewer. Participants were also sent their interview transcript, allowing them to change any sentences that were not congruent with their intended meaning. Four participants returned their manuscripts with slight alterations.

With regard to the authors, the first author transcribed the interviews and performed the content analysis, and the second author read three (20%) of the transcripts when they had been coded into text units. Thereafter, both authors debated to establish that all ideas in the transcript had been extracted into text units, that each text unit represented only one idea, and that each text unit was suitably named. Lastly, the second author independently re-arranged the categories into hierarchies.

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**Figure 1** Hierarchical illustration of imagery development findings.
as she saw fit. Discussion about any inconsistencies resulted in slight changes to the emerging hierarchy of results.

Results

Presentation of Results

Three categories emerged during the analyses: Early Experiences, Teachers, and Imagery Changes. Each of these categories is described in detail below, and is also illustrated in Figure 1. It should be noted that this initial study aimed to explore and not to quantify the dancers' experiences. Accordingly, we do not report how many dancers mentioned each particular category in this study, because presenting frequency counts with small samples can be misleading, and frequency might wrongly be mistaken for importance. Indeed, the best teaching practice concerning imagery might be the most or the least common one. As a consequence, we use the system of “fuzzy quantifiers” employed by other dance imagery authors to illustrate our findings. Thus, “some” refers to 1-3 dancers, “several” refers to 4-7 dancers, “many” refers to 8-11 dancers, “most” refers to 12-13 dancers, and “all” refers to 14 dancers.

Early Experiences

This category emerged from responses relating to when the participants started engaging in imagery, how they learned, and their reasons for doing so. Most dancers had engaged in imagery since they were children or said it was something they had always done, although one said that she started while a dance student. Most of our participants had not been taught how to image, but several thought it would have been useful to receive more formal instruction. It should, however, be recognized that several of the participants found the concept of teaching somebody how to image somewhat foreign, because they felt imagery is something that occurs naturally. Contemporary Female #5 remarked: “I don’t necessarily think that there was any real need necessarily to explain how to mark through something in your head. Because you always had to.” Despite imagery often being described as a natural skill, however, a Contemporary Male dancer indicated that a difference sometimes existed in how dancers with many years of training memorized sequences compared to dancers who came to their integrated dance company with a less rigorous dance background. Despite being skilled movers, these disabled dancers sometimes struggled with retaining material, a problem the Contemporary Male thought might have to do with their proficiency in using imagery.

Several dancers were unsure why they started engaging in imagery, often because they considered imagery to be something that just came naturally to them. Only some participants were able to identify particular reasons for why they started to image, such as for learning or for choreographing. Some dancers had been encouraged to image by others, such as family, other dancers or teachers: “I just thought well, if that’s going to work and that’s going to help me do the pirouettes, then I’ll think about it.” So it really was directed from a teacher (Contemporary Female #2).

Teachers

Four categories emerged when analyzing interview quotes relating to dance teachers’ use and encouragement of imagery. These categories concerned the terminology that teachers used when referring to imagery, encouragement to image received from teachers, images given by teachers, and dancers’ opinions regarding teachers and imagery.

Terminology Used by Teachers when Referring to Imagery

Most participants reported that their teachers were unlikely to actually use the word “imagery,” but most often used other terms such as “visualize,” “think through,” “go through it in your head,” and simply “think about it.” It was also not always clear to the dancers whether their teachers were referring to imagery, to physical practice, or to marking. In the words of Contemporary Female #5: “I don’t know whether they specified whether you really thought through it in your head, or whether you just mark through it, or whether you kind of do a bit of both.”

Imagery Encouragement

Similar to findings by Overby and colleagues, imagery encouragement mainly referred to concrete types of imagery, such as rehearsing skills and sequences. Differences existed between our participants with regards to whether they had been encouraged to use such concrete images by their teachers. Contemporary Female #2 was one of the dancers who had received such encouragement: “As a student...we were advised to do that mental practice thing of—especially with pirouettes. I used to have a terrible time with pirouettes—and my teacher used to say, ‘Go away and think about it. Don’t just keep physically practicing it, just think about it, visualize it in your head, see yourself doing a pirouette.’ And that used to really help me.”

By contrast, Ballet Male #1 did not perceive imagery encouragement to be a common occurrence: “It will be something that possibly would be mentioned...probably quite rarely...Whilst you’re at school it’s more kind of direct corrections of what you’re doing wrong in performing a step rather than coaching the mental approach to it.” A response from many participants was that teachers and choreographers at the professional level simply take it for granted that dancers use imagery.

Images Given by Teachers

Again similar to Overby and colleagues, this category emerged from responses referring mainly to metaphorical images that were provided by teachers. It was found that metaphorical images were not frequently given to the participants by their current instructors, but this had been more frequent when they were younger: “When you were a kid it’d be like, you know, ‘blossom like a flower,’ or ‘open the hands to the sky...
and see all the stars'...It's really quite tangible metaphors' (Contemporary Female #4). Reasons why teachers used metaphors included to make it fun and interesting for children, to enhance understanding, and to enhance the quality of movements.

**Dancers' Opinions Regarding Teachers and Imagery**

It was noted by some participants that because imagery is an internal experience, it is impossible for teachers to know whether their students are actually using the images that have been given to them or not. However, many agreed that for this reason you should feed lots of images so that people can find whatever works for themselves (Contemporary Female #4). Indeed, several dancers still preferred instructors who gave plenty of images. To illustrate why this was important, Contemporary Female #1 gave the following example of a choreographer who did not use images to describe his movements: 'He just wasn't very...good at explaining, he'd just show it again and say, 'It's got to be...like this', or something, and you're like, 'Yes, but what is that,' 'Oh, I don't know, you just take your arm up.' And he'd be doing it in this amazing way, and you'd be like 'Well, but how, what does that mean?' And that's very frustrating, if somebody can't explain what they're doing.'

**Imagery Changes**

This category consisted of four subcategories, namely improvements in imagery, deterioration in imagery, changes in imagery types used, and strategies used to develop imagery.

**Improvements in Imagery**

Several dancers reported that their imagery had improved over time. For example, Ballet Female #1 reported increased complexity and control over her images: "How it has developed...I suppose that when I was a kid I could only imagine the movement. And very often I started imagining myself falling over and the stuff I didn't want to happen...And I suppose that now I've managed not only...it's like I can actually imagine watching myself if I want to, or I can imagine myself doing the steps. Or also I can imagine myself feeling what I'm meant to be interpreting or the character I'm meant to be. And putting them both together, like the movement plus the feel of it...I suppose that is the way it has developed, that before it was just a very crude form of movement."

Some participants further reported that their imagery had become more structured and deliberate. For example, Contemporary Female #3 provided the following quote: "My ability to use imagery...it's something that I wasn't aware was a skill. It was just something that I could do. I didn't know I could use it to help in rehabilitation until a Feldenkrais person pointed it out to me. But now that I am aware of it, I can use it to prevent injury, to help recover from injury, to help create material, to help create different layers of communication within the material that I make." Thus, although imagery came naturally to this participant, her imagery became more deliberate and wide-ranging following advice from a Feldenkrais therapist. In addition to increases in structure and deliberation, several dancers had increased their use of kinesthetic imagery: "more...sensations. We'll be collecting or conjuring up sensations of what the movement felt like" (Contemporary Female #4). Several participants had also increased their use of imagery. This was mainly in terms of frequency, but sometimes also in generality: "...that was in a ballet class, and I took it away and applied it to other things as well, that mental image of myself doing something" (Contemporary Female #2).

**Deterioration in Imagery**

In contrast to the above findings, Ballet Female #2 perceived her imagery use to have deteriorated in both quality and quantity since she was young. She explained this by "straying" from ballet for an interval in her teens: "...and then I went back to it and then I sort of realized it's still what I really wanted. But during that time I think that I lost all of that...good way of imagining."

**Changes in Imagery Types Used**

Decreases were also noted by several participants in the extent to which they engaged in certain types of imagery. For example, some dancers reported now using less imagery of metaphors, of their goals, and of their appearance than when they were younger. In accordance with the increase in image complexity noted above, images had also in several cases moved away from simpler "pictorial" images of steps and toward images of roles and characters. Ballet Male #2 felt that this was an imagery type that teachers and choreographers would use most at the professional level: 'I think it's more of trying to play the part you actually are. Not just doing the steps but actually doing the part as well...I mean, if you're Romeo in Romeo and Juliet, you can't just be...a guy dancing. You have to put a lot of feelings in it too. I would say that's the kind of imagery they would use.' Contemporary Female #4 reported an increased use of anatomical images: "From being more imagery of, say...moving like a tree or like a rose or like a princess, something like that, to actually becoming more anatomical connections through the body."

**Strategies Used to Develop Imagery**

Although not a part of our interview guide, a few examples of strategies used to develop imagery emerged inductively during the analysis stage. These included studying imagery, meditating, and receiving advice from other dancers.

**Discussion**

The present study investigated imagery development via interviews with 14 professional dancers. Similar to qualitative studies done in sports, many of these performers felt that imagery came naturally to them, while few had been formally taught how to image. Also similar to Gould and colleagues' study, some dancers...
were encouraged to image by others, such as teachers, family, or other dancers. Only some participants identified particular reasons for why they started using imagery, such as for learning or for choreographing. Moreover, it was noted that only three of the interviewees had received any dance or sports psychology training, and even then it was only from passing references or occasional workshops.

Some participants voiced a concern that imagery is an internal experience that cannot be taught, which might be due to a lack of awareness by dancers that imagery is a skill. While no such studies have yet taken place in dance, there is plenty of evidence from sports literature that athletes may improve their imagery through formal training programs. It has also been shown that coaches can enhance practice quality through undertaking a similar psychological skills training program. Other authors have noted that performing arts programs typically do not include psychological skills education, but that dancers could benefit greatly from its introduction. We encourage such imagery training for dancers and their teachers, but even in the absence of formal programs, dance teachers should be encouraged to use imagery. They can do this by giving out metaphorical images, by informing dancers that imagery is a skill that can be improved, and by encouraging dancers to mentally practice using imagery. Other dance imagery writers have also provided useful recommendations for how to develop imagery skills in dancers. However, the validity of these recommendations has not yet been investigated.

It appears that imagery structure and deliberation increased as the dancers became more experienced. This finding is in agreement with evidence that elite athletes have more structured and regular imagery sessions than novices. Because it has been claimed that imagery sessions need to be structured to be effective, increased structure in imagery teaching should probably be promoted. It has previously been shown that an imagery training program can help increase both the frequency and the structure of imagery practice. In addition to improvements in structure, our dancers typically experienced more multi-sensory or more kinesthetic images as well as greater image quality, complexity and control as they became more experienced. Again this resembles some previous findings in sports. Moreover, the dancers had generally increased their amount of imagery as they progressed. This concerns with the findings of Brassington and Adam, who showed that the more experienced soloists in ballet use more psychological skills, such as imagery, than the less experienced corps de ballet dancers. Bradley and Partington found that more advanced Highland dancers also engaged in more imagery than their lower-level counterparts. Similarly, a consistent finding in sports has been that elite athletes use more imagery than do non-elite athletes. What none of these studies have addressed, however, is whether the greater use of imagery on behalf of more skilled dancers is a result of their typically longer and more intense involvement in their activity compared to their less skilled counterparts, or whether other factors underlie this difference. We address this question further in Part II.

One of the factors that could affect a performer’s imagery use is the encouragement received from significant others. In the present study, individual differences existed as to whether the participants had been encouraged to image. Specifically, only some of them had received such encouragement, and many reported that imagery use was simply expected at the professional level, implying that encouragement was not necessary. However, a qualitative study with athletes suggests that encouragement does have a positive effect on the amount of imagery used, and this would be an interesting finding for future research to verify with dancers. Encouragement might also vary with activity type, for example, sports or dance, or experience level. Again, we explore further in Part II the issue of whether a relationship exists between imagery encouragement and imagery use.

Dancers also reported that teachers may influence the imagery process by providing metaphorical images in class. As young dancers most had received these types of images frequently, and it was suggested that enhanced understanding, interest, enjoyment, and movement quality were the reasons for giving such images. However, several dancers also reported that this teaching practice had declined across their career. By contrast, Overby has reported a more even distribution of images given to beginner, intermediate and advanced dancers. Given these discrepancies, the question of what is typical teaching practice can be better addressed by the quantitative data presented in Part II. The value of qualitative research is, however, highlighted through inductively-emerging data such as the quotes indicating that the dancers in fact reported a preference for teachers who gave plenty of metaphorical images. Thus, the use of a semi-structured interview approach to explore imagery development in dance yielded findings that were not anticipated, but that can have value both for further research as well as for applied dance psychology contexts.

In conclusion, we have shed some light on dancers’ imagery development, including their imagery experiences, the role of their teachers, and the changes in their imagery as they progressed. By using qualitative methods, we were able to explore these phenomena in depth and without imposing restrictions on the dancers’ responses. As such, our study also allows a more informed design of subsequent quantitative investigations, such as that reported in Part II. An interim conclusion that may be drawn from the interview findings is that imagery is perceived to be an important practice activity throughout the professional dancers’ careers, which also indicates the potential value of further study into the topic. In the words of Contemporary
Female #3, imagery is "...very, very helpful. In fact I wouldn't have got as far as I've got without it, really. You just...can't work professionally if you don't use it, I don't think. Not usefully, and not...you know, if you want longevity in a career, my God you have to look after yourself, and there's no point battering your poor joints if your brain can do it for you.”

References