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# Professional Dancers Describe Their Imagery: Where, When, What, Why, and How

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# **Professional Dancers Describe Their Imagery: Where, When, What, Why, and How**

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In-depth semistructured interviews were conducted with 14 male and female professional dancers from several dance forms. Interviews were primarily based in the 4 Ws framework (Munroe, Giacobbi, Jr., Hall, & Weinberg, 2000), which meant exploring Where, When, Why, and What dancers image. A dimension describing How the dancers employed imagery also emerged. What refers to imagery content, and emerged from two categories: Imagery Types and Imagery Characteristics. Why represents the reason an image is employed and emerged from five categories: Cognitive Reasons, Motivational Reasons, Artistic Reasons, Healing Reasons, and No reason – Triggered Imagery. There were also large individual differences reported regarding What images were used and Why. Many new insights were gained, including several imagery types and reasons not commonly discussed in sport and exercise.

Research over the last decades has significantly advanced our understanding of imagery in sport. For instance, a number of studies have shown that imagery can enhance athletic performance (for a review, see Murphy & Martin, 2002). The knowledge base of exercise imagery has also grown, suggesting that imagery may affect both exercise motivation and the quality of the exercise experience (e.g., Hausenblas, Hall, Rodgers, & Munroe, 1999; Short, Hall, Engel, & Nigg, 2004). In comparison, little systematic research has focused on imagery in dance, even though it has been suggested that imagery is an integral part of dance training (e.g., Overby, 1990).

As described by Hays (2002), sports and performing arts do differ from one another, but are also similar in many ways. For example, both athletes and dancers train their bodies to their fullest potential, striving for high standards of both technique and fitness. As pointed out by Overby (1990), however, there appears to be a difference in how the dance and sport contexts perceive the word “imagery.” Sport imagery research is usually centered on images of oneself, depicting imagery as a

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form of mental practice that enables rehearsal of skills, situations, and feelings in one's mind (for a review, see Murphy & Martin, 2002). By contrast, dance images seem more metaphorical in nature. These images have been referred to as "indirect" because they do not directly depict skills and situations but instead involve external objects and ideas (Overby, 1990; Overby, Hall, & Haslam, 1998). For example, a ballerina might image herself being a swan for a performance of *Swan Lake*. Reflecting these different conceptualizations, research into dance imagery has taken separate approaches. Two studies used the Sport Imagery Questionnaire (SIQ; Hall, Mack, Paivio, & Hausenblas, 1998) to assess whether dancers' images are similar to those of athletes. Fish, Hall, and Cumming (2004) and Monsma and Overby (2004) both found ballet dancers to engage in images of skills, strategies, mastery, arousal, and goals. Several shortcomings were noted, however, when using the SIQ in dance. Although the SIQ is valid and reliable to use with athletes, internal reliability problems were found when it was given to dancers (Fish et al., 2004; Monsma & Overby, 2004). Moreover, the SIQ does not incorporate many of the images typically reported by dancers, such as metaphorical images. It is also possible that dancers engage in images mentioned in exercise imagery research, including appearance images (e.g., Giacobbi, Jr., Hausenblas, Fallon, & Hall, 2003; Hausenblas et al., 1999; Short, Hall et al., 2004). Thus, the SIQ probably does not capture the full spectrum of dancers' images.

By comparison, other dance imagery research has been done in isolation and with little reference to the wealth of sport imagery research. As such, these studies largely focused on metaphorical images (e.g., Hanrahan & Vergeer, 2000; Vergeer & Hanrahan, 1998). In Hanrahan and Vergeer's qualitative study (2000), for example, only two of eight categories described images comparable to those commonly discussed in other movement disciplines (e.g., imaging specific movements, imaging whole or parts of a dance). The remaining categories consisted of images that appear to be more specific to dance settings (e.g., imaging moving through water, filling up with color, a field of energy around the body).

In sum, no investigation to date has fully described the seemingly multifaceted phenomenon that is dance imagery. Consequently, the aim of the present study was to investigate dance imagery more thoroughly, using questions based in the existing dance, sport, and exercise imagery research. Hanrahan and Vergeer (2000) asserted that because dance images "are complex and holistic, qualitative enquiries into these questions appear suitable and further studies are suggested" (p. 250). We followed this suggestion, choosing qualitative interview methods to allow an in-depth investigation. Similar to many previous qualitative studies, elite level performers were purposively sampled (Patton, 2002), resulting in a sample of 14 professional dancers. Such sampling was done because elite performers are likely to have greater experience and knowledge of imagery use than lower level performers.

The basis for our investigation was the 4 Ws framework (Munroe, Giacobbi, Jr., Hall, & Weinberg, 2000). The 4 Ws refer to Where, When, What and Why mental skills are used and has been successfully employed to explore imagery in both sport (Munroe et al., 2000) and exercise (Hausenblas et al., 1999). Where relates to the location in which imagery is used, while When refers to the timing of imagery. What refers to imagery content, including characteristics such as the senses involved. Lastly, Why refers to the reasons for imaging. No study has yet

systematically considered all the 4 Ws of dance imagery. Moreover, the relationships between What images performers engage in and Why has never been explored in depth in any dance, sport, or exercise imagery study. This is important to consider because imagery researchers have warned against confusing imagery content (What) with imagery function (Why; e.g., Callow & Hardy, 2001; Short, Monsma, & Short, 2004). One reason is that a single imagery type can in fact be related to several outcomes (Calmels, D'Arripe-Longueville, Fournier, & Soulard, 2003; Evans, Jones, & Mullen, 2004; Fish et al., 2004; Nordin & Cumming, 2005; Short et al., 2002; Short, Hall et al., 2004; Short, Monsma, & Short, 2004). For example, dancers may image skills not only to learn and rehearse, but also to interpret their anxiety symptoms as being more facilitative (Fish et al., 2004). Thus, it is important to tease out imagery content (What) from function (Why). We therefore examined the relationships between imagery content and imagery functions as a secondary purpose.

In addition to the 4Ws, we also describe How dancers image, a construct that has not been specifically investigated in the literature. Therefore, it was not originally included in our interview guide, but instead emerged inductively through our analyses and refers to the processes employed by dancers to create and employ images. In sum, the purpose of the present investigation was to conduct an in-depth exploration of the imagery of professional dancers by investigating Where, When, Why, and What they image.

## Method

### Participants

Nine female and five male professional dancers participated in the study. Their ages ranged from 22 to 42 years ( $M = 30.00$ ,  $SD = 6.71$ ), and they had danced for 21.85 years ( $SD = 5.64$ ). They had been professionals for 7.61 years ( $SD = 4.63$ ) and typically danced from 7 to 60 hours per week, for 43.45 ( $SD = 6.40$ ) weeks per year. Three females and three males were classical ballet dancers, five females and one male were contemporary dancers, and one male was an Indian Kathak dancer. One participant trained as a dancer but now worked in the intersection of live art, performance, video, and contemporary dance. The contemporary dancers represented several different styles. All dancers resided in England at the time of the interview but represented 10 nationalities, lending the study greater cross-cultural validity.

### Procedure

**Pilot Studies.** To establish the suitability of the interview guide, four pilot interviews were conducted. Based on these interviews, minor changes were made to the wording of the questions. The process also served to improve the interviewers' familiarity with the interview guide and the technical procedures of the interview, as well as to enhance interview skills.

**Recruitment.** Various methods were employed to recruit our participants, including advertisements in a dance magazine and on an Internet message board for dance

artists, e-mail addresses from the Internet, and personal contacts. When 14 participants had been interviewed, a point of saturation was reached (i.e., information gained from additional interviews largely repeated that of previous interviews), and no more interviewees were recruited (Biddle, Markland, Gilbourne, Chatzisarantis, & Sparkes, 2001).

**Interview Procedure.** Interviews took place in a location chosen by each participant. Prior to the interview, participants received an information letter and consent was obtained, and White and Hardy's (1998, p. 389) definition of imagery was then read out to the participants:

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 then discussed. An interview guide ensured that the same questions were asked of all participants while still allowing the interviewer to use probes as necessary (Patton, 2002). Our guide was based on those used by Munroe et al. (2000) and White and Hardy (1998) and an imagery literature review. The guide can be obtained from the authors on request. Interviews were digitally recorded and lasted between 39 and 136 min.

**Data Analysis.** The recorded interviews were transcribed verbatim, resulting in 722 pages of text. These transcripts were read and then content analyzed by dividing them into meaning units (Côté, Salmela, Baria, & Russell, 1993). Meaning units are parts of text representing a single idea, and more than 5,000 such units were extracted. By moving from specific meaning units up to greater levels of abstraction, the meaning units were placed into hierarchical trees with other units of similar meaning. Both deductive and inductive reasoning were used (Patton, 2002). For instance, our interview guide represents a deductive analytical procedure because it was based on previous knowledge. An example is when a participant's response to the question Where they image was "at home," and this was coded into the dimension Where. By contrast, instances in which results fit better in a category emerging out of our analysis represent an inductive approach to understanding our data. The dimension How, which was not part of the interview guide, is an example of such inductive reasoning.

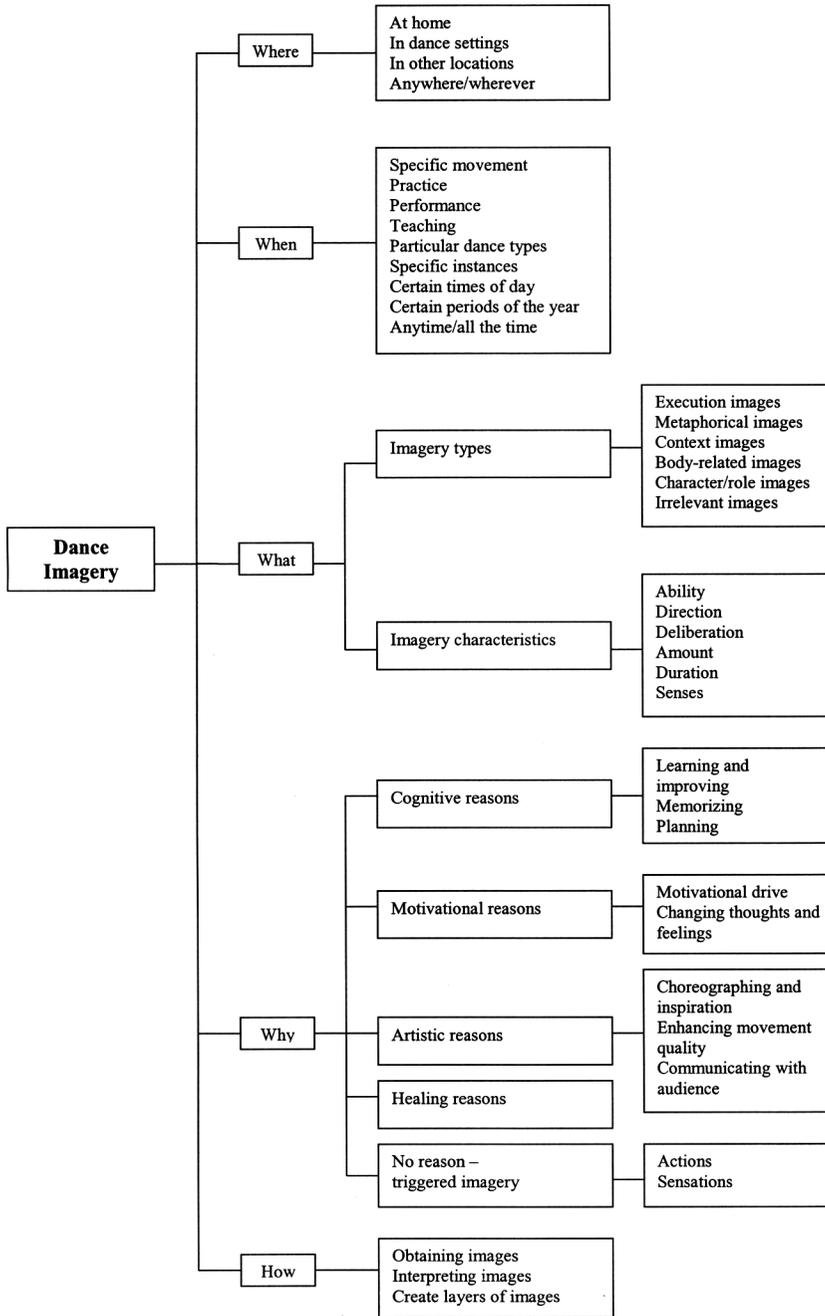
Theoretical saturation was reached when the text units fitted adequately into the hierarchical trees (Côté et al., 1993; Miles & Huberman, 1990). Similar to Hanrahan and Vergeer (2000), however, some meaning units were placed in several categories because dancers often described a combination of information. For example, a dancer might describe the content of an image (e.g., a pirouette) as well as characteristics of that image (e.g., the senses involved). In addition, it should be noted that our categories are not always mutually exclusive, but sometimes overlap. Nonetheless, we do not see this as a limitation, but as a natural result of trying to fit real-life rich description into somewhat artificial classifications.

**Validation and Triangulation Procedures.** Several methods helped establish the validity of our findings. First, one of the final questions in the interview guide ascertained that none of the dancers felt they were led by or influenced by the interviewer in any way. Second, debates and exchanges between the authors occurred after the transcriptions and during the content analyses. The second author read one-fifth (i.e., 3) of the transcripts and carefully scrutinized all meaning units created by the first author. This process aimed to ensure that every imagery-related idea in the transcripts had been extracted into a meaning unit, each meaning unit contained a single idea, and that units were appropriately named. Third, a consensus validation and triangulation test was created by placing all categories in a random order and having the second author independently arrange them into hierarchies. In-depth discussions regarding any inconsistencies further improved the hierarchies. Fourth, member checking procedures (Miles & Huberman, 1990) were employed by sending all participants their transcript prior to the analysis stage. They were encouraged to change any wording that had not come across as intended, and minor changes were obtained from four participants. Lastly, we provide quotes to illustrate the categories, allowing the reader to make his or her own judgment on our classifications (Sparkes, 1998).

**Frequency Counts.** Various opinions exist as to whether qualitative results should be presented with a frequency count or not, because such data may be both enlightening and misleading (e.g., Krane, Andersen, & Streaan, 1997). For instance, some imagery types may have been reported by only a few dancers because they are not prevalent in dance, or because there were no questions concerning such images in the interview guide. Although the interview guide was carefully prepared and quite extensive, many results arose inductively from our analysis and we can not be certain whether or not our results would have differed if other questions and probes had been included. As described by Hanrahan and Vergeer (2000), imagery use is highly personal so that no two dancers use exactly the same image for the same purpose. Moreover, we agree with Krane et al. (1997) that “In many cases, rare experiences are no less meaningful, useful, or important than common ones. In some cases, the rare experience may be the most enlightening one” (p. 215). For these reasons, a category was created even if it was made up of quotes from only one dancer. Frequency counts are included so that readers can observe how often categories were mentioned by the dancers, but we would like to point out that frequency is not necessarily indicative of importance (e.g., Gammage, Hardy, & Hall, 2001; Munroe et al., 2000).

## Results

Figure 1 presents the main categories that emerged from our analysis. While we report our results by their respective W for simplicity, it is important to note that the 4 Ws are not independent but often interact in various ways. For this reason, we present examples of such interactions throughout the results section. Most notable are the relationships between What and Why, and these are presented in a separate subsection.



**Figure 1** — Hierarchical Tree illustrating the dimensions Where, When, Why, What and How dancers image.

## Where

Four categories make up the dimension Where: (a) at home, (b) in dance settings, (c) in other places, and (d) anywhere/wherever. Eleven dancers reported imaging at home, for instance, because it made them feel comfortable and kept them free from distractions. Not surprisingly, 13 dancers also imaged in dance settings such as the changing room, the studio, in the wings before going on stage, and on stage. Ballet Male 1 gave the following explanation as to why imaging in the studio can be preferable to other settings:

Being in the studio is certainly an awful lot easier because you're in a work environment . . . Getting into first position facing the barre, and you're there, and you do it every day of your life: you know what's involved, you know what's coming and it puts you in a mental state . . . and it's easier to visualize things . . . because you're not having to prove to anyone other than yourself that you can perform it.

Ten dancers imaged in other locations, including various forms of transport (e.g., on a train), quiet places, and in places where movement was not possible. Finally, 10 participants said that imagery is something they engaged in anywhere or wherever. Contemporary Female 3 indicated that imagery has the potential to be used anywhere, but that the studio and at home are best: "Most usefully is in my home at night, and in the studio, I think . . . I actually apply it at those places. I consciously apply it at those places. The rest is fairly unconscious." Thus, the degree of deliberation involved in creating images can vary with time and place.

## When

Nine categories created the dimension When: (a) specific movement, (b) practice, (c) performance, (d) teaching, (e) particular dance types, (f) specific instances, (g) certain times of day, (h) certain periods of the year, and (i) anytime or all the time. At the most specific level, 11 dancers reported imaging before and during the performance of movements. Differences were reported, however, in the types of images (What) experienced: dancers typically imaged executing movements just prior to performing them, while metaphors were often imaged during movements. Imagery was also used more generally for practices (i.e., classes, rehearsals) and performances, and all participants imaged before, during, and after these instances. Again, the content (What) and the purpose (Why) often varied. For example, the dancers might image what they want to accomplish before a class or performance with reasons including planning, clearing their minds from distractions, and reducing anxiety. Five dancers avoided imagery before going on stage to keep the performance spontaneous or because imaging at this time might interfere with the automaticity of their performance.

During practices, imagery replaced physical movements when the dancers were tired, was a creative tool, or helped them learn and remember steps. By comparison, dancers might image during a performance to aid communication with the audience. In particular, dancers might image their character or use metaphorical images to express the intention of a piece. After practices and performances, dancers imaged

mainly to evaluate, to supplement physical practice, and for satisfaction. Several interviewees were teachers as well as performers, and six imaged before and during teaching. Before teaching, imagery was used to plan, while imagery during classes varied from metaphorical images to images of specific movements.

Seven dancers described how images can vary between dance types, and this was mainly due to differences in their underlying aims. For example, Contemporary Female 5 described ballet images as “much more sort of physical orientation things” to enhance the aesthetic look of the movement, while contemporary forms of dance used more images focused on the dancer’s internal experience. Several specific instances were also mentioned as important or typical for imagery. These could be associated with certain emotional states, such as when the dancer was relaxed (1 dancer), bored (1 dancer), or stressed (3 dancers). Other instances were when steps were forgotten (1 dancer), when the dancer was injured (1 dancer), did not want to be seen practicing physically (1 dancer), was tired (2 dancers), and was involved in important or difficult work (3 dancers). Little importance was attached to the time of day. All dancers indicated that their imagery varied across the year, with four dancers imaging the most during rehearsal periods and two imaging the most during performing periods. Others reported that it was imagery content that varied across the various periods rather than the amount. It seemed that imaging movements was most prominent in rehearsal periods, whereas images relating to characters or roles increased in performance periods. Finally, ten participants described their imagery as occurring anytime or all of the time.

## What

The dimension representing What the dancers imaged was split into imagery types and imagery characteristics. Because it was sometimes difficult to distinguish between image content and the senses involved in creating that image, we decided that anything mentioned as “the image” would be coded as imagery content. Sensory experiences mentioned in follow-up questions on sensory modalities or mentioned as a by-product of imagery content were coded under “senses.” Thus, images of sensations and of emotional feel are both focused on the senses they involve (i.e., an imagery characteristic) but are represented under imagery types because they represent the main content of an image to that particular dancer.

### Imagery Types

The six imagery types included (a) execution images, (b) metaphorical images, (c) context images, (d) body-related images, (e) character/role images, and (f) irrelevant images.

**Execution Images.** This category emerged from subcategories of skill-related images, planning and strategies, and scenarios. Skill-related images depicted specific skills (all dancers), sequences (all dancers), key points in a performance (e.g., entrance or exit to the stage; 9 dancers), or the spacing, placing, and timing of the dancer in relation to others and the music (3 dancers). Images of planning and strategy were mentioned by 13 dancers and involved imaging what a choreographer wants from them or other ways to optimize a performance. Included in this category are also goal images, which can be further described as imaging

working toward goals, goal focus, and goal length. Goal focus referred to three different types of goals. Three dancers mentioned outcome goals (e.g., “just imagine you’re the best of them all”; Ballet Female 1); five mentioned performance goals (e.g., imaging completing the 32 fouettés performed by the princess in Swan Lake; Ballet Female 3); and six mentioned subjective goals (e.g., “for me the goal is really being happy doing”; Female Live Artist). It is also notable that six dancers were uncomfortable with goal setting altogether, describing how it made them feel anxious and frustrated. Perhaps for this reason, only two dancers mentioned setting long term goals (e.g., for a career) while seven gave examples of short-term goals (e.g., for a particular class or show). Two types of scenarios were reported, with nine dancers mentioning future ones (e.g., previewing an upcoming performance) and seven citing scenarios that had already happened (e.g., reviewing a previous performance).

**Metaphorical Images.** All dancers provided quotes on metaphorical images, including images of color, objects that are not present, actions that cannot actually be performed, the environment, and themes. Images of color were mentioned by four dancers, with perhaps the best example being provided by the Kathak Male dancer: “my image is really that the space is turning completely red. And what you associate sometimes with red is either blood or heat, and it’s about heat.” Ten dancers imaged objects that were not actually present, with Contemporary Female 1 giving these examples: “big pillows of air underneath your arm . . . a piece of paper between your thighs to keep your legs together . . .” Nine dancers imaged actions that cannot actually be performed, such as projection, extension, lines, and geometry (e.g., “imagine your arms are touching either side of the room”; Contemporary Female 1), filling up (e.g., “filling my body with air”; Female Live Artist), grounding (e.g., “making your feet huge so you feel really grounded and rooted to the floor”; Contemporary Female 5), and forces/weight (e.g., “feel my body getting heavier and imagine that falling into the sand”; Contemporary Female 3). Twelve dancers engaged in images of metaphorical environments, including nature and fantasy locations and being an animal. Finally, four dancers mentioned metaphors that provided the underlying theme for a dance piece.

**Context Images.** Ten dancers sometimes included context within their imagery, including places and people. Images of places depicted such details as lights, floors, and objects, and images of people included the audience, other dancers, and imaginary people.

**Body-Related Images.** Within this category, the subcategories emerging were images of feeling, appearance, healing and injury, and anatomy. Images of feeling were physical or emotional in nature, with the former relating to images of muscular tension (2 dancers), arousal levels (12 dancers), and sensations (7 dancers). Sensation images relied on feeling without visual information, and Contemporary Female 2 gave an example: “feeling things like vomiting, without registering emotion in the face . . . the real kinesthetic feel of bile rising in my body made my body do certain things and affected my movement quality quite a lot.” All participants described images of emotional feelings, including love and enjoyment. Subtypes were images of nervousness (1 dancer) and of confidence and control (13 dancers).

Two types of appearance images were found, as captured by Contemporary Female 5: “So it’s this whole spectrum, I suppose, from just plain kind of vanity

to something that you feel that they need to understand about your character's development, or about the piece, or about . . . what you're doing." Seven dancers imaged their own appearance, while five imaged the appearance of a character/role. Six dancers imaged injuries and/or themselves healing, and seven mentioned images of anatomical ideas. For example, Contemporary Female 1 described how she imaged "each vertebrae rotating as you curve down the spine."

**Character/Role Images.** All dancers mentioned images of characters and roles, and these went above and beyond those related to appearance, such as the behaviors and emotions of a character. Even when dancers do not perform in narrative pieces and have a defined character, they may still image the qualities that they want to feature in their role. Examples included imaging being "sharp," "pointed," and "neutral" (Contemporary Females 4 and 5).

**Irrelevant Images.** The final type of images, mentioned by four dancers, was images irrelevant to dance. These may be deliberately employed, perhaps because the dancer is bored and wants to "take a mental holiday." Alternatively, these images can be intrusive, spontaneous, and debilitating, as in this example from Contemporary Female 5:

Sometimes in performance images sort of slip into your head, I think a lot. And some of them are very helpful and some of them are just a real pain . . . I mean, because they can be very distracting . . . I'm thinking about toast. And they're all looking at me and thinking I'm having a very emotional time with it. But actually, I'm thinking about toast. Which is horrible and can be very frustrating. It takes all the pleasure away.

## Imagery Characteristics

The category Imagery Characteristics emerged from quotes relating to (a) ability, (b) direction, (c) deliberation, (d) amount, (e) duration, and (f) senses.

**Ability.** Different facets of imagery ability emerged, including accuracy, vividness, manipulation ability, and difficulties. Thirteen dancers reported their images to be accurate depictions of real life and reasonably vivid in nature, but this depended on imagery type and sensory modality. Similarly, while eight dancers felt proficient at image manipulation and control, this was not the case for all dancers at all times. For example, circumstances such as being nervous could make imagery difficult. Along the same lines, imagery type and complexity could affect how easy an image was to control. As another example, Ballet Male 3 reported that "I think characterizations and stuff come a bit harder so it's not quite as clear, stuff like that. But imagining how something looks or how I should be doing something, I find that quite easy." This quote highlights how imagery ability might vary across different imagery types (e.g., character/role images vs. execution images). Other difficulties were related to how images were developed (7 dancers), sustained (9 dancers), and eliminated (6 dancers). For example, one dancer had difficulties eliminating images of pain when recovering from injury. Three dancers felt that imagery could only be used fully after acquiring the ability to perform the skill while four others felt that imagery could or had to precede the execution of some skills.

**Direction.** Images tended to be facilitative in nature. Indeed, quotes from 10 dancers created a subcategory indicating that problems could arise if one did not image. Ballet Male 3 illustrated it as follows: “if you couldn’t use it . . . I don’t think you could progress as much or express as much. With your movements.” Still, 13 dancers provided a remarkable number of quotes about debilitating images. Examples included overly complex metaphors or images disrupting the automaticity of a movement, with the latter representing an interaction between direction and when imagery is used. As mentioned above, five dancers felt that imaging could interfere with the automaticity of a performance. Thus, an image which directs attention to movement mechanics might be facilitative in training, yet debilitating before performing. Lastly, two dancers indicated that images can be neither facilitative nor debilitating.

**Deliberation.** Images ranged from being spontaneous to deliberate in nature. Twelve dancers reported spontaneous images that were not purposefully created, but all participants also used imagery in a more deliberate way. Contemporary Female 5 indicated that spontaneous images can be made deliberate for best effect: “Sometimes these things just play in your mind, but you use them constructively to improve the performance overall.”

**Amount.** The dancers engaged in a considerable amount of imagery, but this amount varied between individuals, imagery types, seasons, dance pieces, and even mood states. Four dancers felt that they should image more than they currently do. For instance, Contemporary Female 5 remarked, “I think that I’ve learnt to use them to an extent, but when I start to delve a bit deeper I realize that there is a huge, huge pool there that I don’t use as much as I should.” She also recognized that “quite simply the more you do . . . the better you are at it.”

**Duration.** Imagery duration related to how long it takes for an image to emerge, how long imagery is carried out, imagery speed, or how long an image is useful. For instance, imagery could be at faster than real-time speeds when quickly trying to memorize a sequence.

**Senses.** The dancers’ images tended to be multisensory, incorporating mainly visual and kinesthetic but also tactile and auditory sensations, and sometimes even gustation and olfaction. Perhaps the most interesting responses relating to visual imagery were obtained when discussing perspectives. Both the internal (11 dancers) and external (13 dancers) perspectives were mentioned, but responses were richer than the typical internal-external dichotomy. For example, two dancers saw themselves from above and/or diagonally, and three experienced the internal and external perspectives simultaneously. Switching perspectives was reported by eight interviewees, and it appears that switching might reflect an ability of experienced performers to employ the perspective that is most effective for a given task. Ballet Male 1 illustrated this in his example of switching when choreographing:

I thought “well, hang on a minute, if I’m thinking of it from this perspective . . . I’m not going to truly appreciate how it’ll look when . . . I’m standing out there.” So I had to kind of switch my perspective . . . And it helped a lot to kind of get a better idea of the patterns and the shapes that the dancers would

be in when I was doing it. . . . I had to switch it to really get a better idea . . . of how the choreography would look.

Three dancers reported “feeling it from an internal perspective but seeing it from an external” (Contemporary Female 2).

All dancers mentioned images of feel. In fact, 10 dancers found such images more prominent than visual images, or that they were both equal. The category was subdivided into internal feel, external feel, and other types of feel (e.g., feeling somebody’s presence), with internal feel including kinesthesia (13 dancers), physiological responses (e.g., changes in temperature and heart rate; 7 dancers); pain or being pain free (7 dancers); and rhythm (5 dancers). Five dancers reported experiencing kinesthetic imagery while watching others dance. External feel included texture (1 dancer) and touch (13 dancers).

To a slightly lesser extent, the dancers imaged sounds, including music (12 dancers), one’s own voice (e.g., in the form of self-corrections and verbal labels for movements, representing an overlap with self-talk; 7 dancers), the “singing” of material in one’s head (7 dancers), and silence (1 dancer). Smell and taste were mentioned by eight and six dancers, respectively, but most considered them to be unimportant or byproducts of other images.

## Why

The dimension Why included five categories: (a) cognitive reasons, (b) motivational reasons, (c) artistic reasons, (d) healing reasons, and (e) no reason given because imagery resulted from a trigger.

### Cognitive Reasons

**Learning and Improving.** Imagery was used for six kinds of learning and improving. First, they all imaged to help them understand or clarify what they were doing. Second, four dancers used images to help them change habits and incorporate corrections. Third, four dancers used imagery to aid their mental processing, for example by making a new piece “sink in.” Fourth, imagery supported physical practice in three ways: by making practice more efficient (6 dancers), being a physical practice substitute (e.g., when the dancer is tired; 3 dancers), and saving a dancer’s energy and body (3 dancers). Dance practitioners may be especially interested in Contemporary Female 3’s example of the latter:

I can use it to save my body and my energy—my actual physical body and physical energy—for a more useful rehearsal . . . and so therefore I can almost rehearse in my head. I can not waste other dancers’ time by doing rehearsals wrong. . . . I can save their time and my time. I can also make sure that the time I spend in the studio is most constructive, and I can lessen any damage to my body on stage by making sure that I’m fully prepared.

Fifth, 12 dancers imaged to evaluate their dancing in an effort to learn and improve. Lastly, nine dancers imaged to improve their body awareness, both internally (6 dancers) and externally (6 dancers). Internal body awareness includes

issues such as posture, balance, weight distribution or coordination, while external body awareness referred to imagery use to enhance placing on a stage, timing to the music, and spacing relative to other dancers.

**Memorizing.** Ten dancers used imagery to memorize. In fact, Contemporary Female 1 remarked that imagery was “essential so that when you’re on stage you’re not thinking about what you do you have to do next . . . you can be in real time because you don’t have to remember.” Thus, imagery to memorize also enabled this dancer to automate her skills.

**Planning.** Three subcategories of reasons for using imagery to plan emerged: adapting, problem solving, and goal setting. For two dancers, imagery helped them adapt to different performing environments. Eight dancers imaged for problem solving, such as how to approach a difficult move, and two dancers used imagery to aid their goal setting.

## Motivational Reasons

**Motivational Drive.** The term motivational drive is taken from Hardy, Gammage, and Hall (2001) who found that athletes use self-talk for this purpose. Eight of our dancers used imagery to increase their motivational drive, typically when work was hard.

**Changing Thoughts and Feelings.** All dancers reported that imagery could change thoughts and feelings, specifically mastery, arousal, and affect. Imagery use for mastery could, for instance, help a dancer to focus on the task at hand or change their focus (6 dancers). Contemporary Female 3 described the latter type well:

Sometimes when you’re learning a new skill, you can become bogged down by the physics of the movement. And sometimes it takes someone to say to you “try and just let the air come out of the top of your head.” And suddenly you’re not so much worried about your foot but you’re focusing on some other part of your body, and that will just allow the leg to do what it needs to do.

Mastery-related reasons for imaging also included helping a dancer feel prepared and in control (10 dancers), enhancing self-confidence (12 dancers), and reducing anxiety (12 dancers). With respect to arousal, dancers used imagery to get the right energy level (i.e., psych up or calm down; 6 and 11 dancers, respectively), create appropriate emotions (e.g., for oneself or the role one is portraying on stage; 10 dancers), and to prepare the body physically (4 dancers). Again, Contemporary Female 3 described this latter reason well:

I think you can prepare the muscles . . . I can feel my muscles twitching when I’m imagining something. I can feel them engaging. So therefore, if you think through something in terms of where you want energy to be, how much energy you want to use, how much energy you want to save . . . you can actually do that just using imaging. Physical imaging, not pictures in your head.

Lastly, imagery was used for changing affect. As such, the dancers imaged for their own satisfaction (3 dancers), for distraction purposes (3 dancers), and for fun (6 dancers).

## Artistic Reasons

**Choreographing and Inspiration.** Nine dancers used imagery to choreograph and to seek inspiration. For example, the dancers might use imagery for the “process of finding things you haven’t found yet. And images I think are very useful when you’re trying to find something” (Contemporary Female 5).

**Enhancing Movement Quality.** Ten dancers imaged to enhance movement quality, emphasizing that there is more to movement than technical execution. The following quote from Contemporary Female 3 illustrated this reason well:

When a choreographer would say “I want you to take your arm out to the side,” there’s a purely physical and abstract way of doing that, but to give the movement some flavor, or context, or textural layering, it sometimes helps if you have an image of . . . what you’re doing with your arm, which isn’t just moving your arm.

**Communicating With Audience.** Thirteen dancers imaged to communicate with their audience, with Contemporary Female 3 being particularly adamant about the importance of this process: “it all helps to . . . communicate. And I think if you’re not communicating when you’re on stage then you’re failing, really, so what’s the point?” Six subcategories related to audience communication emerged: imagery use to enhance aesthetic appearance, to develop and enhance characters, to make and keep material clear and alive, to give meaning and interest, to do what the choreographer wants, and because it is obvious if not imaging. Seven dancers employed imagery to enhance their aesthetic appearance. Contemporary Female 4 said “I will think about that and think, ‘ok, well when I looked at that that looked like this and I don’t want it to look like that so I’ll try this to make it look different’.” Twelve dancers imaged to develop and enhance a character, but the types of images used for this purpose often varied. A major type was character/role images, but images of emotional feel and of scenarios in which the dancer had experienced something similar to that of their character were also mentioned. Seven dancers imaged to make and/or keep material clear or alive, and four dancers reported imaging to give meaning to a dance (for the audience or for the dancer) or to help them accomplish what the choreographer asked them to do. Five dancers imaged because it was obvious if they did not. Contemporary Female 3 described it as follows:

I think if you don’t actually image it, it’s not going to convince anybody . . . you know, it looks . . . immature. And you can tell when someone . . . has moved their mind to where they are on stage, into another place. And they’re the people who are gripping. They’re the ones you look at; you don’t then look at anyone else.

## Healing Reasons

Imagery was used for four healing reasons, including rejuvenation and revitalization (1 dancer), spiritual healing (3 dancers), pain management (4 dancers), and injury prevention and recovery (6 dancers). Examples of images used for these purposes included some derived from Eric Franklin’s books (1996a, 1996b). These books

describe a multitude of different metaphorical and anatomical images and are a useful resource for dancers and teachers.

## Triggered Imagery

As mentioned above, images were not always deliberately created for a particular reason, but were sometimes experienced spontaneously in response to a trigger. The triggers reported by the dancers were either actions or sensations. However, because imagery triggers were not part of our interview guide but arose inductively from the interviews, it is likely that a multitude of other actions and sensations than those below may also act as imagery triggers.

**Actions.** Seven action triggers were identified. For instance, four dancers indicated that self-talk or talking with others can act as imagery triggers. The Contemporary Male dancer gave “break” and “collapse” as examples of imagery trigger words. Two dancers also found treatments such as Reiki (a form of “energy healing”) to be powerful imagery triggers. Moreover, two dancers had been encouraged to write down key features of a dance piece and found this to be a useful trigger. Reading was mentioned by two dancers as a trigger that could help create a character. Other actions triggers included watching others (3 dancers), breathing (1 dancer), and marking (1 dancer; i.e., using small hand or foot movements as cues to rehearse without full movements; see Starkes, Deakin, Lindley, & Crisp, 1987).

**Sensations.** Four sensations were considered triggers, including smells (5 dancers), tastes (2 dancers), sounds (e.g., music; 4 dancers), and visual stimuli (e.g., photographs, TV; 4 dancers). Three dancers reported anxiety as a trigger. For instance, Ballet Female 3 said that “as it gets close to the show in the rehearsal period I would start probably more. But I think that’s due to anxiety, you know, to getting nervous. It’s coming, the day is coming.”

## How

The dimension How consists of three categories: (a) obtaining images, (b) interpreting images, and (c) creating layers of images.

### Obtaining Images

This category describes different ways to obtain images, including from external stimuli, retrieving memories, and by creating triggers. The first category contains six dancers’ accounts of how they search for metaphorical images or find something in their environment that helps create a metaphorical image. Examples included photographs and examples from Franklin’s books (Franklin, 1996a, 1996b). Six dancers obtained images by retrieving memories in a process described by Contemporary Female 4 as “trying to connect back to situations, or a relationship, or something, and imagine that feeling.” Retrieving memories was deemed important for characterization and to make a performance convincing. As such, the process of retrieving memories (How) interacts with character/role images (What) and audience communication (Why). A third way of obtaining images was by creating triggers like self-talk, watching others, or by listening to music. Four dancers

obtained images in this way. Thus, while triggered imagery may be spontaneous, a dancer can also deliberately create a trigger to aid the imagery process. This represents an interaction between characteristics (deliberation; What) and the imagery process (creating triggers; How).

### Interpreting Images

This category contains quotes from three participants regarding how an image is translated into movement or feelings. It refers mainly, but not exclusively, to metaphorical images. The Kathak Male dancer referred to this process as “physicalising” an image, and gave the following example: “imagine a fish, starved, taken out of the water. And the way it flops, or kind of struggles for life, for water . . . that would be interpreted physically.”

### Create Layers of Images

The third and final category has to do with the creation of layers, and contains quotes from five dancers. Typically, layers were created by first imaging skills, and thereafter adding qualitative elements such as emotions and characterization.

## Relationships Between What Images Are Used and Why

As described in our introduction, a second aim of our investigation was to separate imagery types (What) and reasons (Why) to examine the relationships between these constructs. By doing so, it became clear that one image may serve several purposes and that several images may serve the same purpose. For example, all six imagery types mentioned were seen as capable of changing thoughts and feelings, and body-related images were experienced for almost every major reason mentioned. The qualitative nature of our findings also demonstrated that there are vast individual variations in perceptions of the imagery content—imagery function relationship. Due to space restrictions, a table of all types and all reasons cannot be presented, but the most important imagery types and reasons are presented in Table 1. In addition, examples of how four different imagery types may serve a singular purpose, namely learning and improving, will be presented. First, Ballet Male 3 gave an example of using execution images for this purpose: “. . . if I’m practicing a step. . . . If something is not working, trying to picture in my head how it should be, and then trying to find the balance between the two, to make it what it should be.” By contrast, Ballet Male 1 illustrated how metaphorical images may contribute to learning and improving: “. . . it’s . . . easier to relate to an 11-year old child of holding a beach ball than it is imagining your kind of broad shoulders. Using terminology like that might not be accessible.” Third, Contemporary Female 4 illustrated how learning and improvement could be accomplished through context images: “you can have an image of someone, a better performer . . . and you know how they do something and you try to figure out how it is that they’ve managed to do it.” Lastly, Ballet Female 1 explained as follows how she uses appearance images for learning and improving: “. . . unless you were born with the perfect body, you can’t quite achieve that. But . . . you try and have that image in your head, and feel as if you’re working towards it.”

**Table 1 Relationships Between Imagery Types (What) and Imagery Reasons (Why)**

Imagery Reasons	Imagery Types							
	Execution images	Metaphorical images	Context images	Body related images	Character/role images	Irrelevant images		
Learning & improving	X	X	X	X				
Memorizing	X							
Planning	X		X	X				
Motivational drive	X			X		X		X
Changing thoughts & feelings	X	X	X	X	X			X
Choreographing & inspiration	X	X	X	X				
Enhancing movement quality		X	X	X	X			
Communicating with audience	X	X	X	X	X			X
Rejuvenation & revitalization		X		X				
Pain management				X				
Prevent & help injuries	X	X		X				
Spiritual reasons		X		X				
Triggered from actions	X	X		X	X			X
Triggered from sensations	X		X	X				

*Note.* An "x" indicates that one or more dancers reported using that particular imagery type for that particular purpose.

## Discussion

We have shed some light on Where, When, Why, What and How 14 professional dancers image. Many findings are similar to the sport and exercise imagery literatures, such as the dancers imaging for training and performances and for cognitive and motivational reasons. By contrast, some aspects of imagery reported in our study are not commonly found in sport and exercise imagery investigations. As such, the potential roles of imagery during movement, metaphorical images, and triggered imagery in sport and exercise are all interesting avenues for future research. Metaphorical imagery might be particularly unfamiliar to athletes and exercisers, but its utility likely extends beyond dance contexts. Afremow, Overby, and Vadocz (1997), Hanrahan and Vergeer (2000), and Ruiz and Hanin (2004) have voiced similar opinions and offer several suggestions for how athletes may use metaphorical images. Sport and exercise instructors may also already use metaphors (Ruiz & Hanin, 2004) but not consider it to involve imagery. For example, a running coach might tell her athletes to imagine someone pulling them up by their hair to make them run "taller." Initial research investigating metaphors in sport has shown promising results (e.g., Efran, Lesser, & Spiller, 1994; Ruiz & Hanin, 2004), but further research is required to establish the impact that metaphorical images may have in different movement contexts. Still, given the overwhelming support for metaphorical imagery given by our participants, we believe that the use of metaphorical images in sport, exercise, and dance instruction should be encouraged.

Some imagery types and reasons appear more specific to dance, such as character/role images and the artistic reasons for imagery use. However, athletes from the aesthetic sports, such as gymnastics and figure skating, can likely also use imagery to enhance the artistic nature of their performance (Hanrahan & Vergeer, 2000). We agree with Overby et al. (1998) that "dance teachers and coaches could benefit from more sharing and dialogue concerning similarities and differences in training for performance and competition" (p. 324), and the present study could hopefully contribute to such dialogue. For instance, gymnastics coaches could "borrow" the metaphorical and anatomical images reported in the present study as well as those reported in other dance imagery writings (e.g., Franklin, 1996a, 1996b).

It was clear from our results that the various imagery dimensions were related to each other in a complex fashion. For instance, when an interviewee described an image, the reason for its employment was not obvious to the investigator. Therefore, it would have been misleading to assume that execution images (e.g., imaging a skill) were simply used to learn that particular skill. This oversight would have been made if skill images had been assumed to serve a cognitive specific function, which is often the case when skill images are investigated with the Sport Imagery Questionnaire (SIQ; Hall et al., 1998; for a review of SIQ research, see Murphy & Martin, 2002). Instead, a complex web of relationships between What images were engaged in and Why emerged. As an illustration, one dancer might image a skill to rehearse the skill, another to reduce anxiety, and a third as part of choreographing a sequence. Moreover, several imagery types were used for the same reasons. For example, images of skills, plans, metaphors, and emotions could all be used to enhance confidence. As such, our findings concur with recent evidence

suggesting that one image may serve several functions, and vice versa (Calmels et al., 2003; Evans et al., 2004; Fish et al., 2004; Nordin & Cumming, 2005; Short et al., 2002; Short, Hall et al., 2004; Short, Monsma, & Short, 2004). Researchers and practitioners should therefore not strictly use one particular imagery type for any particular purpose, but keep an open dialogue with participants and performers regarding what images they perceive as useful for their own purposes (Short, Monsma, & Short, 2004).

Another interesting aspect of imagery content that emerged was the characteristic of deliberation. Kosslyn, Seger, Pani, and Hillger (1990) and Vecchio and Bonifacio (1997) investigated imagery in everyday life and found that imagery is more often spontaneous than deliberate in nature. In our interviews, the dancers similarly reported engaging in both spontaneous and deliberate images. Giacobbi, Jr. et al. (2003) also found that exercisers experience fleeting images and that these could have positive effects. While deliberate imagery will probably have stronger effects than less structured imagery (e.g., Shambrook & Bull, 1999), no studies have systematically examined the frequency or effects of spontaneous images in dance, sport, or exercise.

A relationship with imagery direction should also be noted. Specifically, it is unlikely that debilitating images (e.g., imaging oneself falling over) will be used deliberately, but once present, debilitating images may be difficult to eliminate and may exert a damaging effect (Nordin & Cumming, 2005; Short et al., 2002). Another worthwhile research question related to debilitating images concerns movement automaticity. Several dancers reported avoiding imagery before going on stage or in other instances when imagery might make them attend to tasks that should be done "on autopilot." A similar opinion has been voiced by modern dancers (Hanrahan & Vergeer 2000; Vergeer & Hanrahan 1998), and Overby (1990) reported that imagery of skills can make a move too mechanical, while metaphorical imagery "takes them out of themselves; they let the particular movement happen" (p. 26). Direct investigations of When and What imagery types disturb or enhance automaticity would be of large applied value for both dance and sport.

Some limitations to our study deserve mention. Due to the small sample, it could be argued that our findings may be sample-specific. We have taken strides, however, to ensure that our findings are as generalizable as possible for qualitative research by recruiting dancers representing both genders and a variety of dance forms, age groups, and nationalities. The interviewer's prior knowledge of imagery could also have affected the results. Having an in-depth knowledge of imagery, the interviewer may have expected certain results to appear, which might have influenced the participants' responses. One way to tackle this issue is to carry out a bracketing interview to examine the interviewer's presuppositions. Although such an interview was not carried out, it was established that none of the participants felt led to respond in a particular fashion. Indeed, some dancers expressed their appreciation for the examples provided when they struggled with a concept. We also agree with the statement made by Krane et al. (1997): "It is unrealistic to expect any researcher to begin a study without the requisite knowledge to understand the phenomena under consideration" (p. 216).

The applied implications of our findings are plentiful. For instance, by reading about professional dancers' imagery use, dancers, teachers, and choreographers can be inspired to incorporate novel types of imagery into their work, including

anatomical, metaphorical, and character/role images. They can also learn about variables that affect imagery use, such as ability, deliberation, and direction. Moreover, information about How to image has clear application to real-life dance contexts. Instructors and performers from sport and exercise may also benefit from considering our unique findings regarding How to image, given that this construct is new also to sport and exercise. For instance, they might consider integrating various triggers into the training environment. Our study further indicates that several imagery types that are not commonly discussed in sport and exercise are frequently used by dancers to good effect, including metaphorical and anatomical images. Sport and exercise instructors could perhaps use our results to help them integrate such images into their sessions. Also, the similarities between sport, exercise, and dance imagery suggest that dancers may benefit from using imagery techniques developed in sport and exercise.

In conclusion, the present paper described Where, When, Why, What, and How professional dancers image. We believe that the results contribute to the literature by introducing several novel imagery-related constructs, including new reasons, types, and characteristics. The domain of dance imagery appears to be rich and understudied, with much valuable knowledge still to be gained for both research and applied practice. Certainly, our participants considered imagery to be important in their lives as professional dancers, as illustrated simply but effectively in the following quote from the Female Live Artist: “well, as far I understood, images are your tools. So that’s why I use images.”

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