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DOCTORAL DISSERTATION

The Appreciative Experience of Dance as Art: A Conceptual and Empirical Investigation

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Dedication

To my teachers and supervisors, who inspire me to reflect about this art, follow my intuition, and transcend it. And to all dance lovers, my partners in crime, who share the sheer pleasures of dance.

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Abstract

Despite the growing research on dance appreciation in psychology and philosophy, there is no comprehensive interdisciplinary approach, and there are still pending areas that merit further study. Based on current theoretical perspectives and research approaches, this project identifies two main areas of conceptual and methodological gaps. One refers to the conceptual definition of dance and dance appreciation assumed in psychological research. The other concerns the dance stimuli and the operational definitions used in previous research of dance appreciation. Overall, these two gaps result in a problem with the ecological validity of previous research approaches. To overcome this limitation, two types of methodology are adopted in this study: conceptual analysis and empirical correlational methods.

The first part of the dissertation addresses the conceptual gap by developing a new conceptual framework of dance appreciation through two studies that analyse the concepts of dance, and dance appreciation. The underlying assumption guiding most of psychological research is that appreciation is identical to liking, and that the experience while perceiving dance movement counts as the same as an experience of appreciating dance as an artistic object. These assumptions are unwarranted and not responsive to the nature of dance as art phenomena and dance appreciation as a subtype of art appreciation. While there is a conceptual overlap between liking, aesthetic experience and art appreciation, closer inspection reveals that the distinction between them is conceptually and psychologically significant. Therefore, previous research approaches are grounded on a category-mistake, they confound the aesthetic and the artistic domains, and are based on oversimplified definitions of both dance and dance appreciation.

The conceptual framework developed in part I is applied in part II, that consists in two empirical studies that design a scale of dance knowledge in an online survey (Study

I), and explore the dimensionality of dance appreciation and the effect of expertise in two contemporary dance performances (Study II). Finally, conclusions and guidelines for future research are provided.

Resumen

A pesar del creciente interés por investigar la apreciación de la danza en Psicología y Filosofía, no existe un enfoque interdisciplinario integral, y todavía hay áreas pendientes que merecen un estudio más profundo. Basándome en las perspectivas teóricas actuales en Psicología del arte y Filosofía de la danza, en este proyecto identifico dos lagunas del conocimiento sobre apreciación de la danza. Una, a nivel conceptual, se refiere a la definición de la danza y la apreciación de la danza asumida en la investigación psicológica. La otra, a nivel metodológico, se refiere a los estímulos de danza y las definiciones operativas de apreciación utilizadas en investigaciones anteriores sobre la apreciación de la danza. En general, estas dos lagunas dan como resultado un problema relacionado con la validez ecológica de los enfoques de investigación anteriores. Para superar esta limitación, en este estudio se adoptan dos tipos de metodología: análisis conceptual y métodos empíricos correlacionales.

La primera parte de la tesis aborda la brecha conceptual desarrollando un nuevo marco de apreciación de la danza a través de dos estudios que analizan los conceptos de danza y apreciación de la danza respectivamente. Los enfoques de investigación anteriores se basan en un error categorial: confunden los dominios de lo estético y de lo artístico, y se basan en definiciones demasiado simplificadas de la danza y su apreciación. La suposición subyacente, que guía la mayor parte de la investigación psicológica, es que la apreciación es idéntica al agrado o preferencia, y que la experiencia de percibir un movimiento de danza cuenta como el mismo tipo de experiencia que se da cuando apreciamos la danza como un objeto artístico. Estas suposiciones son injustificadas y no responden a la naturaleza de la danza como fenómeno artístico ni a la apreciación de la danza como subtipo de apreciación del arte. Si bien existe una superposición conceptual

entre el agrado o preferencia, la experiencia estética y la apreciación del arte, una inspección más detallada revela que la distinción entre estos tres fenómenos es conceptual y psicológicamente significativa.

En el capítulo 2, propongo una definición de danza como esquema cognitivo que permite la contextualización del objeto de percepción como un artefacto artístico. Para ello distingo tres niveles de descripción de la danza (como movimiento, como acción y como arte) y analizo de qué manera cada uno de estos niveles permite o no acomodar distintos casos de danza que van desde movimientos y acciones que perceptualmente reconocemos como danza hasta obras de danza postmoderna. A lo largo de este análisis, destaco el rol de la intencionalidad artística para definir la danza como arte (nivel 3) y acomodar casos atípicos que son danza a pesar de que perceptualmente las acciones y movimientos no se puedan identificar como tal.

En el capítulo 3, abordo la cuestión de la naturaleza de la apreciación de la danza, y en concreto, propongo una caracterización del estado psicológico de apreciación de la danza como una experiencia apreciativa de arte ("art appreciative experience") que comparte rasgos con la noción más general de experiencia estética y con la apreciación del arte. En este capítulo propongo una distinción entre los aspectos reactivos y reflexivos de la experiencia apreciativa de arte.

Por un lado, los aspectos reactivos se relacionan con el procesamiento sensorimotor y la evaluación hedónica que provocan respuestas típicamente automáticas e involuntarias. La investigación en psicología de la danza se ha centrado principalmente en el estudio de estos aspectos, y lo ha hecho principalmente a través de estímulos simples que no son obras de arte, y operacionalizando la apreciación como juicios de preferencia o agrado.

Por otro lado, los aspectos reflexivos implican una búsqueda de sentido con el objetivo de comprender el objeto de percepción como un artefacto artístico. Los aspectos reflexivos implican un compromiso activo del sujeto más allá de la percepción del objeto y las reacciones afectivas que provoca. En la filosofía de la danza, autores como Graham McFee (2011) defienden que para poder hablar de una apreciación artística genuina de la danza es necesario que exista comprensión, y para ello se requiere una correcta categorización de la categoría artística a la que pertenece (por ejemplo, géneros, estilos…). Este enfoque defiende además la superioridad de los aspectos reflexivos sobre los reactivos, sobre todo el rol de la comprensión y el conocimiento conceptual. Basada en el cognitivismo estético, propongo una versión descriptiva, no normativa de este argumento. En vez de considerar la superioridad de los aspectos reflexivos sobre los reactivos, defiendo una visión comprensiva de la experiencia de apreciación que incluye ambos aspectos. Teniendo en cuenta que los aspectos reflexivos de la experiencia han sido desatendidos en la investigación psicológica en danza, y en el modelo de apreciación de la danza más completo a día de hoy (Orgs et al. 2016), describo los aspectos reflexivos de la experiencia basándome principalmente en modelos elaborados para artes visuales (por ejemplo, Bullot & Reber, 2013; Leder et al. 2004; Pelowski et al., 2017, Cupchik, 2014), así como conceptos de la filosofía de la danza (McFee, 2011) y de las artes performativas (Davies, 2011). En concreto, propongo el concepto de actitud interrogativa ("interrogative attitude") definido en base a una orientación cognitiva (hacia el objeto) y dinámicas metacognitivas (auto-reflexión y autoevaluaciones sobre la propia capacidad para comprender el objeto).

El marco conceptual desarrollado en la parte I se aplica en la parte II, que consiste en dos estudios empíricos que diseñan una escala de conocimiento de la danza (Estudio

I), y exploran la dimensionalidad de la apreciación de la danza y el efecto de la experticia en danza (Estudio II).

En referencia al estudio II, basándome en el modelo de apreciación de la danza (Orgs et al., 2016), que hipotetiza dos dimensiones (tono hedónico y arousal), y en la distinción de Cupchik (2014) entre modos de involucración reactivos y reflectivos en arte ("reactive and reflective modes of engagement with art"), predijimos que las dimensiones de apreciación de la danza implicarían tanto aspectos reactivos como reflexivos, y que estas dimensiones se mantendrían estables a través de obras de distinto contenido.

Respecto a las dimensiones, los resultados presentan evidencia de dimensiones más reactivas (Engagement, Arousal) y dimensiones más reflexivas (Unity) en los juicios de la danza. Este resultado es compatible con las dimensiones incluidas en el modelo de apreciación de la danza de Orgs et. Al (2016), y ofrece apoyo indirecto a la visión comprensiva de la apreciación de la danza desarrollada en la parte I, que defiende que los aspectos cognitivo-reflexivos son también características definitorias de la experiencia apreciativa.

Además, las tres dimensiones se obtuvieron en dos obras de danza de diferente contenido, a pesar de que las personas percibieron de manera distinta el contenido de cada una de las obras (como demuestra el análisis de frecuencia de las palabras que los participantes propusieron para describir cada obra en un formato de pregunta abierta), y a pesar de que percibieron las obras como distintas en relación a las dimensiones. Este resultado sugiere que la relevancia psicológica del resultado, en tanto que las dimensiones parecen reflejar regularidades psicológicas.

Respecto al efecto de la experticia, el estudio II distingue tres aspectos, la experiencia en danza, el conocimiento sobre danza y la comprensibilidad. Nuestros resultados no encuentran efectos de experticia en relación al conocimiento ni a la

experiencia, mientras que la comprensibilidad sí muestra una relación significativa con la dimensión involucramiento (Engagement), tal que a más comprensibilidad, los juicios basados en la dimensión compromiso son más altos.

El último capítulo consiste en una discusión general de los resultados conceptuales y empíricos, en los que se dan pautas para futuras investigaciones, así como para la elaboración de un modelo de la experiencia de apreciación de la danza como arte.

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GENERAL INTRODUCTION

Overview

This introduction starts with preliminary comments to introduce contemporary dance, art appreciation, the main psychological approaches to art appreciation, and contemporary dance appreciation (section 1). After that, I expose the practical, theoretical and methodological reasons (section 2), and gaps of knowledge that justify the present study (section 3). Based on those gaps, the research objectives are presented (section 4).

1. Preliminaries

1.1. Brief introduction to contemporary dance

Dance is the art of human movement, and one of the so-called performing arts (together with music and theatre), their common feature being "practiced in a performance space and that is offered for some sort of audience or spectator appreciation" (Bresnahan, 2015). Even if dancing is a universal cultural practice, as ancient as the oldest human culture, the roots of what became the art of dance, as understood nowadays in the Western art tradition, are specifically traced back to court dancing forms that developed into ballet, modern and contemporary dance.[1]

[1] The main difference between artistic and non-artistic dance is understood here in relation to the concept of "artistic performance" (Davies, 2011a). This concept will be exposed in chapters 2 and 3 of part I. Until then, it suffices to keep in mind that even if the limits between artistic and non-artistic forms of dance are blurred, there is a broad distinction between dance tied to non-artistic functions (religious, ritualistic, social, therapeutic…) and artistic dance performed with appreciative purposes (being appreciated by others as an artistic performance). This study is concerned with the appreciation of dance art, therefore, I will use "dance" and "the art of dance" indistinctively to refer to artistic dance, unless it is necessary to make explicit the difference between artistic and non-artistic forms, in which case I will be clear about it, calling the former artistic dance and the latter dancing, or non-artistic dance.

The history of the art of dance is basically the history of ballet, until the end of 19th century. During the 18th century the notion of dance as an autonomous art appeared, particularly in relation to Jean Georges Noverre's *Lettres sur la danse et sur les ballets* (1760).[2] During the 19th century, traditional ballet forms were rejected by dancers like Isadora Duncan or Martha Graham, giving birth to modern dance. This questioning, and eventual rejection of traditional assumptions about what art is and should be, is general across other various artistic disciplines, and gives birth to what is generally called contemporary art.

Contemporary dance, literally speaking, refers to dance art that is produced in the present time, but the term is more commonly used to refer to those forms of contemporary art that are dance, i.e. those forms of dance that appeared in the context of the broader contemporary art phenomenon, around the mid-20th century. Contemporary dance is a broad or "umbrella" term that covers a variety of dance forms and styles that share features with contemporary art and cannot be readily classified as either ballet or modern, and the origins of this type of dance are linked to artists like Merce Cunningham, Pina Bausch, or Anne Therese de Keersmaeker, and styles like postmodern dance, contact improvisation, Butoh, etc.

Some of the defining features of contemporary art, including contemporary dance, are that it rejects the concept of beauty, and/or is thought provoking, or puzzling. Contemporary art typically challenges the observer with objects which are not readily accessible as beautiful, and/or which are even disturbing or ugly, such that it is impossible to appreciate them by just their beauty. Instead, some contemporary art works are created

[2] This work grounded the traditional conventions of what the art of dance should be, providing guidelines of how this artform should be appreciated.

with the main intention of provoking reflection, and cognitive effects; e.e. create new knowledge, make people reflect about the world we live in, and reflect on ourselves.

In general, the cognitive function of art and the reflective mode of engagement for which it calls are defining features of its appreciation. In the words of the philosopher and cognitive scientist Alva Noë, artworks function as "strange tools" for investigating ourselves, and this includes looking for conflict, confrontation, or intervention in our beliefs system (Noë, 2015). The cognitive function of art becomes more evident in art cases that are less dependent on aesthetic pleasure or perceptual beauty, or cases which are particularly cognitively effortful because they are cognitively puzzling and require knowledge for being recognized and understood as art; for instance, readymade art (like Marcel Duchamp's *Fountain,* 1917), or task dances (like Yvonne Rainer's *Room Service*, 1963).[3] Getting the point of those, and other contemporary art cases require grasping the self-referential aspect of art itself, understanding the artwork as a product of a broader historical chain of artistic artefacts, and a net of institutions that generate conventions, standards and norms that dictate what is art dance (and what is not), and how it should be appreciated.

1.2. What is art appreciation?

According to the Oxford English dictionary the colloquial meaning of "appreciation" is "pleasure that you have when you recognize and enjoy the good qualities of somebody/something", while in academic english, "appreciation" is defined as "understanding and enjoyment of the good qualities of something" (Oxford

[3] *Room Service* is post-modern dance piece, first performed in 1963, which consists in people moving a mattress, as well as "climbing up a ladder to a platform and jumping off" (Carroll & Banes, 1982, 37).

University Press, n.d.),[4] There are two relevant features of these definitions for the context of art appreciation.

First, appreciation have objective and subjective components. Appreciation is subjective to the degree that it is grounded on the experience (of a subject) in interaction with an object. Yet, appreciation has a cognitive orientation ("a mind-to-world direction of fit"; Beauquel, 2013), the appreciative response refers to something external to the appreciator, it entails the recognition or attribution of a quality to something (the object of appreciation).[5] Thus, appreciation is also objective to the degree that it attributes o recognizes properties of an object.

Second, appreciation is a value-laden activity, it involves evaluation, and typically positively-laden evaluation. The notion of art appreciation is strongly linked to affective processing, hedonic value and pleasure-based evaluations. For instance, the Encyclopedia of Aesthetics defines art appreciation as "the act of apprehending a work of art with enjoyment" (Olson, 1988). In psychology of art, art appreciation is defined as involving enjoyment and understanding of art, including affective and cognitive responses (Munro, 1963). In cognitive science, art appreciation has been defined as "positive appraisal of a work of art" in contraposition of a negative appraisal, which would be a "depreciation" (Prinz, 2011, 71), which is similar to the definition by dance philosopher Renee Conroy: "a positive disposition toward an art object" (Conroy, 2013a, 208). These definitions (Olson, 1988; Munro, 1963; Prinz, 2011; Conroy, 2013a), are examples of what I call the "broad" view of appreciation, which is, overall, the type of view that I defend in this

[4] Other senses of "appreciation" are: 1. a full understanding of something, such as a topic or problem, and of what it involves (synonym of awareness); 2. understanding and enjoyment of the good qualities of something ; 3. a piece of writing or a speech in which the strengths and weaknesses of somebody/something, especially an artist or a work of art, are discussed and judged; 4. the quality of being grateful for something; 5. increase in value over a period of time (Oxford University Press, n.d.).

[5] By "object" is meant, in general, the intentional object of the experience, what the experience is "about", not necessarily a physical object, like a painting, but also an event, such as a dance performance.

work. In the context of the philosophy of art, there is a narrower sense of art appreciation, where art appreciation means "sizing up" (Carroll, 2016), or "analysis" (Kivy, 2005); i.e. grasping, attributing particular properties to an artwork. This analytic sense of appreciation is related to a more technical (less popular) use of the term which is frequent in the context of art criticism, or philosophy of art. I have called it the "reflective" view of appreciation, in contrast to the "reactive" view, because this view leaves out reactions, and responses such as emotions or liking, and focuses only on the reflective aspects. In contrast, the comprehensive view I propose includes a great variety of responses to art (emotional, and cognitive responses, enjoyment and understanding, positive appraisals of art such as liking it, believing it is a good piece of art, judging it as beautiful, etc.).

These two features of appreciation, the subjective-objective orientation and the value-laden aspect, can be combined in different ways, giving more emphasis to the subjective or the objective ground of appreciation, and considering different types of values (e.g. hedonic, cognitive…). For instance, art appreciation can be defined as mainly grounded on "subjective" grounds (related to the appreciator's experience), or more "objective" grounds (related to the object's properties), and artistic valuation can be considered mainly as a question of enjoyment (hedonic value) or understanding (cognitive value).

On the subjective-side of the spectrum, value is placed on the subjective feeling that accompanies the evaluation of art, and appreciation can be defined as an experience of value in the interaction with art objects. The experience of artistic value can then be explained in psychological terms applying a general theory of the experience of value, for example, the experiential account of value by Higgins (2006), as I propose in chapter 3 (section 4.5.1). On the objective-side, appreciation is concerned with the recognition and attribution of value to art objects, with the objectivity of this value is emphasized,

artistic value is not dependent on anyone's particular experience of it. This objectivist sense of art appreciation comes from the Latin "appretiare"; i.e. "fixing" the value of something, usually, a price. This emphasis on the objectivity of appreciation is common among analytic philosophers of art (e.g. Carroll, 2016; McFee, 2011).

To sum up, art appreciation in a colloquial or popular sense means "liking", and involves a pleasurable subjective feeling in response to art objects, while in a more technical sense, it may refer to enjoyment and/or understanding. As we will see in section 2.6, psychological research in dance has assumed the popular sense of appreciation as liking, focusing on the enjoyment component, at the expense of understanding. I call it, the "narrow-reactive" view of dance appreciation. In contrast, the "narrow-reflective" sense of appreciation assumed by some analytic philosophers of dance is well-summarized by the slogan "no appreciation without understanding",[6] which places greater emphasis on the analysis and comprehension of the objective value than on the individual, subjective experience.

In this project, I develop a conceptual framework for dance appreciation that combine aspects from reflective and reactive views of art appreciation with insights from empirical studies in art appreciation. I can advance that my proposal is a *comprehensive* view of appreciation, insofar dance appreciation is defined as involving both enjoyment and understanding, including affective, emotional and cognitive responses and appraisals, typically (yet not necessarily), with a positive hedonic tone. My purpose is characterizing the more reflective, cognitive aspects (related to the "understanding" component of dance appreciation that previous psychological research has neglected), without falling into a narrow-reflective view. In particular, I will focus on "aesthetic cognitivism" (the claim

[6] The formulation of the slogan "no appreciation without understanding" is proposed by Conroy (2018, 106) referring to McFee's cognitivist notion of dance appreciation.

that artworks are objects fit of understanding), and reformulate this idea in cognitive psychological terms; i.e. describing the mental state of appreciating with understanding, which is characterized by the activation of art cognitive schemata, the attribution of artistic intentionality, and higher-order processing that tries to make sense of what is seen as an artistic artefact. I will devote part I of the dissertation to the conceptual development of the notion of dance and dance appreciation in relation to cognitivism.

1.3. Psychological approaches to art appreciation

The psychological research of art appreciation can be traced back to Fechner, Berlyne and Martindale, where the main goal was: "to relate preferences to properties of the works of art or other objects that are presented" (Berlyne, 1971, 12). This traditional approach assumes a universalist and bottom-up approach: the aim is to formulate general principles governing aesthetic perception, and the experience is studied from below, with an emphasis on stimulus properties (Vartanian, 2014, 25).

This approach seeks biologically-based explanations, appealing to brain systems and processes, and natural selection mechanisms that explain their function and evolution. For instance, the evolution of dance has been associated it with courtship and mating, and current theories of the function of dance contend that dance "evolved to provide the individual with a tool to increase sexual success, pleasure, or affective experience or to enhance social cohesion and communication" (Christensen et al., 2017, 9).

Another example of this type of explanation would be one that traces the origin of art back to early human-manufactured tools, which are made with certain shapes not because these shapes provide a functional advantage but because they are more pleasing to the eye, and this in turn is explained by universal perceptual principles that developed in this way due to evolutionary advantage.

Another psychological approach to art appreciation is provided from a developmental perspective. From a developmental psychology view, art appreciation is conceived as a skill that follows learning principles and stages of development (i.e. "aesthetic development"; Housen, 1999, 2007). There are models that propose a learning developmental scheme in a Piaget-like style describing the sequence of stages of aesthetic development (e.g. Housen, 1999, 2007; Parsons, 1987). From this view, the development of our ability to appreciate art follow some predictable patterns ("stages"), and the development of this ability requires exposure to art, and deliberate (self-reflective) practice, which gradually lead to increased levels of understanding, acquiring art-knowledge, and developing expertise as art appreciator.

As outlined within a framework for the psychology of aesthetics (Jacobsen, 2006), domain specificity may be considered an important aspect. Taken all together, an explanation of dance appreciation in psychological research should be consistent with both evolutionary and developmental views. On the one hand, it shouldn´t contradict what we know about dance's evolution such as how humans' evolved capacities to perceive other human movement as aesthetically pleasing, or how we attribute emotions and intentions to the actions of others.[7] On the other hand, art appreciation is something we may "learn" and become better at, so dance appreciation cannot be simply explained by natural evolution of certain perceptual and affective capacities that explain how we find pleasure in the perception of human movement.

Evolutionary explanations propose general principles that govern aesthetic experiences in general, with natural objects (such as a starry sky), and artistic artefacts (such as *Swan Lake*). Those principles do not differentiate between art and non-art, they are common across art and non-art objects. An evolutionary explanation is relevant to

[7] For a more detailed exposition see Christensen, Cela-Conde & Gomila (2017) and Orgs et al. (2016).

understand why we find certain dances beautiful, but the evolutionary functions of dance are insufficient to account how we appreciate dance as an artform. To account how we learn to appreciate dance as an artform requires attention to how we develop understanding with art, and our way to understand art (as art itself) has evolved along history. The next section briefly exposes the historical evolution of dance appreciation, and propose how they can be explained from a psychological perspective.

1.4. From traditional to contemporary forms of dance appreciation

Humans have evolved a paradoxical relation with art: it seems useless, sometimes pointless, it is not even necessarily beautiful any more, and sometimes boring, yet it profoundly influences us. There is a common belief that contemporary art, including contemporary dance, is particularly "hard to read" or "understand". Psychologically, there are two general reasons that may explain this difficulty: 1) appreciating art, in general, is a skill that we learn, and we have not yet learned to appreciate contemporary dance, and 2) contemporary art (including contemporary dance) is more unfamiliar , more provocative, and therefore more cognitively-challenging than traditional forms, therefore it asks for more "contextualization" and triggers more cognitively effortful paths for appreciation which involved deliberate processing (Graf & Landwehr, 2015, 2017).[8]

During the 18th century the conventions and criteria to appreciate art were tightly related to those of beauty. In this historical context appeared the infamous formalist claim, *l'art pour l'art*: art should be appreciated for its own sake, by the aesthetic experience it affords, without need to appeal to further additional explanations on the intention of the

[8] From a dual-process perspective, the appreciation of dance can be understood as a joint function of stimulus-driven automatic processing and perceiver-driven controlled processing (e.g. Cupchik, 2014; Graf & Landwehr, 2015, 2017; Orgs et al., 2016). The initial automatic processing generates basic outputs upon which subsequent controlled processing may approve or intervene. The activation of controlled deliberate processing depends on various factors, including the complexity and typicality of stimuli, such that simple, familiar stimuli are less likely to trigger the move from default processing to deliberate processing, while complex, unfamiliar stimuli are likely to trigger this move (Graf & Landwehr, 2015, 2017).

artist, the context of production and so on. The aesthetic merit of art accounted for the artistic merit of the artwork. The art of dance (at the time, ballet) was not an exception to the rule. On the side of artists, ballet was created and performed in accordance with the aesthetic principles of harmony, proportion and grace. Likewise, on the side of spectators, to be a good judge meant to be able to appreciate how those aesthetic principles were embedded in the performance.

Contextualizing a dancework of any kind (traditional or contemporary) with. An explanation likely enhances our appreciation of it, but the aesthetic appreciation of dances like ballet is in principle accessible without further explanation, or as Fechner put it "the impression created by the picture [in our case ballet] is (…) developed more fully by (such) an explanation but does not rely on it entirely" (Fechner, 1876, pp. 140-141 as cited in). This is not to say that all the traditional danceworks of ballet are simple and can be fully appreciated without any additional explanation, while all contemporary danceworks are complex and provide puzzling experiences which require explanation. Instead, what I mean is that in contrast with more familiar dance domains (like ballet), contemporary dance may more often require such contextualization and explanation for being appreciated.

To illustrate this point, and assist those readers without experience with dance performances of different genres, a somewhat exaggerated comparison can be made between the experience of ballet and contemporary dance.

On the one hand, the experience of appreciating ballet can be psychologically explained as requiring, roughly, what a beautiful starry sky asks for in being appreciated, in the sense that it requires the viewer to find aesthetic pleasure in its perception. The appreciation of traditional danceworks, for instance, of classical ballet, relies on letting yourself being absorbed by the aesthetic experience of its beautiful forms. In cognitive

psychology this type of appreciation can be explained by the processing fluency theory (Reber et al. 2004).

In contrast, contemporary dance is not necessarily aesthetically pleasing, pleasant or beautiful, as ballet used to be, and its appreciation may often rely on processing "disfluency"; e.g. an incongruency that activates further search for meaning. The experience with contemporary dance sometimes resembles a cognitive activity of puzzle-solving, it engages our problem-solving cognitive abilities, and self-reflection without promising un-puzzlement, resolution, cognitive closure or answer. An additional explanation about the work helps many times to deal with contemporary danceworks, simply because we are less familiar with this type of art.

Taken all of the above together, ballet typically presents aesthetically pleasing properties and the appreciation of ballet, while contemporary dance is less accessible, sometimes puzzling, and not necessarily aesthetically pleasing. Correspondingly, an explanation of how we appreciate ballet may rely more on general principles of aesthetic perception proposed by previous psychological approaches (see section 1.3), but this is an insufficient explanation of contemporary dance appreciation. Appreciating contemporary dance may be less dependent on our default naturally-evolved capacities for perceiving beauty in human movement, and more dependent instead on the appreciator deliberately engaging in an active questioning about the object, assuming an "interrogative interest" towards it (Davies, 2011a), trying to make sense of the object during the experience. In this dissertation, I propose that an account of dance appreciation requires the inclusion of higher-order top-down cognitive factors related to understanding (Bullot & Reber, 2013; Carroll; 2016; Leder et al., 2004; McFee, 2011).

2. Justification

There are at least four reasons that justify this project, aesthetic education (section 2.1), dance practice (2.2), the development of interdisciplinary research in dance appreciation (2.3), and gaps in knowledge in previous research (exposed along section 3).

2.1. Learning to appreciate

The applied reason that justifies this topic relates to the promotion of aesthetic education in contemporary dance. One way to contribute to develop effective educational strategies for contemporary dance audiences is to understand better what happens at the psychological level when audiences engage with and judge this artform, and what means to become a good aesthetic judge of dance.

Previous studies have explored how dance expertise affects judgements about dance (e.g. Calvo-Merino et al., 2008; Cross et al., 2011; Kirsch et al., 2013; Kirsch et al., 2015). Overall, most psychological studies on dance expertise focused in dancer's expertise (expertise as a dance practitioner), and proceed by contrasting the reactions to dance stimuli typically between groups of novices (non-dancers) and experts (dancers) (Kirsch et al., 2016), or study the effect of familiarity with dance in groups of novices by manipulating the degree of of visual and motor experience, and comparing those who training in movements (e.g. visual or physical trtaining) with novices without training (Kirsch & Cross, 2015; Kirsch et al., 2013). There are two limitations with this overall approach.

First, the skills and knowledge to appreciate art are developed along a continuum (Housen, 1999, 2007; Parsons, 1987;), therefore treating expertise only as a discrete two levels variable is an inadequate way to operationalize it. Second, and more importantly,

the expertise of a practitioner (e.g. a dancer) does not necessarily equate with the expertise of an appreciator (e.g. a critic). Developing expertise as practitioner requires extensive motor experience (dancing), while developing expertise as appreciator crucially involves expertise of a different kind (whether or not they have motor experience). Expertise as appreciator requires a knowledge base particular of the domain of art appreciation, which practitioners may not have (Kolbetz & Kaufman, 2014, 97), and this knowledge base is developed, by attending to dance performances (visual experience), and acquiring conceptual knowledge about dance, for instance reading about history and styles (conceptual experience). In this sense, becoming an expert art appreciator involves developing skills to appreciate art "with understanding" (Bullot & Reber, 2013), and acquiring "cognitive mastery" in the domain of art (Leder et al., 2004), as well as art knowledge, such as conceptual knowledge about art history, art categories and styles (Smith & Smith, 2006). This type of expertise in art appreciation, based on understanding and related to cognitive mastery and conceptual knowledge, is underexplored in the psychological study of dance.

Taken together, these two questions invite to re-consider what means to appreciate dance as art, and reflect on how dance expertise has been conceptualised in empirical research. The question is then, what does it mean to appreciate dance with understanding? What factors are relevant to characterize appreciation based on understanding? Is it just a question of becoming knowledgeable about dance? These topics will be addressed theoretically in part I (namely in chapters 2 and 3), and then empirically in the two studies of part II. In chapter 3, I claim that when it comes to appreciate dance as art, understanding plays an important role, and appreciation goes beyond and above mere aesthetic preferences. The first is an online study that develops a scale to measure conceptual knowledge about dance, and explores the relation between dance knowledge and three

types of dance experience (motor, visual and conceptual experience). The second is a field study that investigates some dimensions of dance appreciation as well as explores the relation between those dimensions and different facets associated with expertise in dance appreciation (prior dance experience, knowledge, and comprehensibility).

2.2. Dance practice

The second reason that justifies the topic and research approach relates to my background in contemporary dance, psychology, and cognitive science. This dissertation synthesizes what I have learned about dance appreciation from artistic, philosophical and psychological views, both, from a first-person and a third-person perspective. After my M.A. dissertation, entitled "An-agent centered approach to dance improvisation", my interest re-oriented from the first-person perspective (as dancer) to the observer's perspective (as appreciator). The focus of this study is the appreciator's state of mind from a cognitive science perspective, not the artistic practice of dance per se (which is the province of dance studies[9]). However, the approach of this project is influenced by dance practice in the following way.

Dance practices (together with art institutions and communities) constitute what is called the "Danceworld" [10]: the general cultural frame of dance, which generates the codes, norms and conventions that establish "the art-status" and "artistic value" of something as dance (McFee, 2011 277). In particular, the concepts and values existing in the Danceworld are relevant for a cognitive science approach to dance appreciation insofar they constitute the conceptual and normative frames that we apply to understand

[9] Dance studies is an interdisciplinary field which focuses in the analysis of dance artworks and practices. Dance practices include creative, performing, and appreciative practices.

[10] I took the term "Danceworld" from McFee (2011). The Danceworld is composed by "choreographers, producers, dance theater owners and so on: and, in particular (other) dance-critics and dance-theorists" (McFee, 2011, 275). On my view, the Danceworld involves artistic practices in relation to dance (developed by dancers, and choreographers), appreciative practices (developed by audiences and critics).

what dance is (e.g. the concept of dance as art), how we interact with dance objects (e.g. what scripts, and schemata we apply), and generally why dance is valued for (dance appreciation), such as the principles, conventions, norms and standards that shape the way we conceive, create and enjoy dance for. If the goal of the study of dance appreciation is to understand the real phenomena, an adequate theory on dance appreciation cannot simply sidestep cultural, and historical factors that affect how people conceive dance, and why they appreciate dance as an art.

For all that, dance practice is conceived in this dissertation as a source of validity, in two different ways. On the one hand, an adequate theory of dance appreciation must recognize real dance practices as a significant source of construct validity, and this is why, I include real dance practices as one, among other, criteria to evaluate the adequacy of scientific and philosophical theories of dance appreciation (how exactly this will be done is exposed in page 53). On the other hand, the adequacy of any account of dance appreciation should be empirically tested against real dance appreciative practices, which is why I engage in empirical studies (and not only in conceptual analysis, as philosophers of dance), and why I emphasize ecological validity, understood as the degree to which the results of a study can be generalized to real-life settings.[11]

2.3. Interdisciplinarity

There has been an active attempt at bridging scientific research and philosophy of art in the domain of dance (Seeley, 2014b). Some antecedents of interdisiciplinary research in dance which mixes psychology and philosophy are the philosophical accounts on dance that are empirically informed (i.e. they discuss or interpret

[11] Ecological validity defined as: "the degree to which results obtained from research or experimentation are representative of conditions in the wider world (…). For example, ecological validity may be threatened by experimenter bias, oversimplification of a real-world situation, or naive sampling strategies that produce an unrepresentative selection of participants" (Orne, 2015).

empirical findings in relation to their ideas), and psychological research inspired by philosophers' suggestions. Among philosophical accounts on dance that are empirically informed, we find the seminal work of Sheets-Johnstone (1966), and more recently, the work of Hagendoorn (2004, 2005, 2011), Montero (2006a, 2006b, 2012, 2013, 2016), as well as Carroll and Moore (2008), Carroll and Seeley (2013), and Seeley (2013, 2014b). From the mentioned empirically informed accounts, the work of Montero on the relation between dance expertise, proprioception and aesthetic experience of dance has had probably the biggest resonance in empirical research, namely in neuroscience (e.g. Kirsch, Drommelschmidt & Cross, 2013; Kirsch, Urgesi & Cross, 2016), but also in psychological research (Vukadinović & Marković, 2012, 2017).[12]

Despite those antecedents, there is still some resistance among researchers to combine methods and concepts from philosophy of art and psychology of art, and a conceptual framework that synthesizes the main current models and theories from those fields is still pendant in the domain of dance appreciation.

Regarding the first, there are various reasons that explain the resistance between philosophy and psychology of art which explain the resistance between philosophy and psychology of dance too, including methodological reasons (mainly concerning the aprioristic tone of the philosophical method of conceptual analysis), and ideological reasons (regarding the narrowness of some views on what is nature of art appreciation, mainly on the philosophical side) (Seeley, 2014b). The present research aims to go beyond those resiences and adopts both, empirical research methods and conceptual analysis, while assuming what I will call a comprehensive or integrative view on the

[12] See "Dance and Cognitive Science" (Bresnahan, 2019) for more references of empirically informed philosophical accounts of dance appreciation.

nature of dance appreciation (synthesizing concepts from psychology and philosophy of dance into a coherent frame).

Regarding the second, the conceptual understanding of "dance appreciation" still conceived differently by psychological and philosophical disciplines. Psychology research typically follows a common sense or ordinary interpretation of what means dance appreciation, and equates aesthetic preference to dance appreciation. The underlying assumption guiding the majority of psychological research is that appreciation is identical to liking, and that the aesthetic experience while perceiving dance movement (i.e. a hedonic experience, related of sensory pleasure) counts as the same than an experience of appreciating dance as an artistic object. These assumptions are unwarranted and not responsive to the nature of dance-as-art phenomena, and dance appreciation as a subtype of art appreciation, and therefore the experience of appreciation as an art experience. In particular, the main current model of dance appreciation (Orgs et al., 2016) fails on giving sufficient conceptual constraints for delimiting dance appreciation as artistic phenomena, in other words, as a subtype of art appreciation. Philosophical accounts of dance appreciation can further contribute to psychological research in dance by complementing previous conceptualizations of dance appreciation, and guiding psychological research.

Philosophical insights on dance appreciation can complement the theoretical elaboration of psychological models on dance appreciation in a general sense, offering "a philosophical framework for discussing dance, while seeking to improve our thinking not so much about a particular performance, but about the concepts and theories that we apply to theatre dance in general" (Carter, 2003, 139). In this work, I focus on some concepts presented in analytic philosophical accounts of dance appreciation which offer valuable insights to elaborate a conceptual framework for dance appreciation. For instance, the

distinction between liking and art appreciation (Carroll, 2016), the conceptualization of dance appreciation as art appreciation, and the description of art appreciation as i) a normative or value-laden activity (Carroll, 2016; Davies, 2013; McFee, 2011), and ii) a cognitive activity that involves a "mind-to-world" or cognitive direction of fit (Beauquel, 2013), the assumption of an "interrogative interest" towards the artistic object (Davies, 2011a), and the mobilization of concepts and knowledge during the experience of dance (Elgin, 2010; McFee, 2011). Apart from providing helpful concepts that can complement psychological theories, philosophical accounts of dance appreciation can guide empirical research in concrete ways, for instance, the notion of "artistic performance" (Davies, 2011a) may guide empirical research by posing constraints on stimuli of choice, and the position known as "aesthetic cognitivism" (Carroll, 2016; Carter, 2003; McFee, 2011) suggests the central relevance of a set of variables for empirical studies in dance appreciaion, such as understanding and knowledge.

For all that, this dissertation builds on previous interdisiciplinary work in dance, by assuming a cognitive science perspective[13] which combines insights from psychology and philosophy into a conceptual frame to study dance appreciation that is helpful to guide empirical research.

2.4. The primacy of beauty and preferences

Although empirical aesthetics of dance is broadly concerned with explaining dance appreciation, the main focus of psychological research in dance has been explaining how we perceive beauty in dance, not how we appreciate dance as art. The current state of the field is the result of a concern on aesthetic perception and evaluation, more than about theoretizing dance art itself. Overall, research approaches to dance

[13] Cognitive science defined broadly as "the study of how organisms acquire represent, manipulate, and use information in the production of behavior" (Seeley, 2014b, 47).

appreciation still roughly equivalent to that of Daniel Berlyne's seminal work in empirical aesthetics (1971), assuming a universalist, bottom-up approach, with the goal of uncovering the processes that underlie aesthetic preferences for dance and the relation of those preferences to stimuli features.

Cognitive neuroscientific research has primarily investigated dance appreciation as an aesthetic preference, trying to elucidate the processes and neural mechanisms underlying hedonic valuation of dance stimuli (see Orgs et al., 2018 for a recent literature review of this research approach). The most common operational definition of dance appreciation are beauty ratings and liking, and most research attention has focused on the identification of factors that affect ratings of beauty and preference, for instance, what features we find aesthetically pleasing in a dance performance,[14] or how dance expertise affects processing and evaluation of dance (e.g. Calvo-Merino, et al., 2010; Calvo-Merino, Glaser, Grezes, Passingham, & Haggard, 2005; Calvo-Merino, Jola, Glaser & Haggard, 2008; Christensen, Gomila, Gaigg, Sivarajah & Calvo-Merino, 2016; Kirsch, Drommelschmidt & Cross, 2013; Orgs, Hagura & Haggard, 2013).

The most comprehensive model of dance appreciation to date, the neurocognitive model by Orgs et al. (2016) proposes a biologically-driven and is based on the review of empirical evidence on how our brain responds to dance movement stimuli.[15] For instance, the effects of motor and visual experience in aesthetic judgements are explained in terms

[14] To name a few, it has been found that audiences enjoy perceiving relations between music and dance (Howlin, Vicary & Orgs, 2018) or the synchronicity among performers (Vicary, Sperling, von Zimmermann, Richardson & Orgs, 2017), as well as virtuosity and spectacular movements, for instance, big vertical and horizontal displacements or whole-body movements (Calvo-Merino, et al., 2008), and movement with higher amplitude, faster turning, higher jumps, and balances maintained longer (Torrents, Castañer, Jofre, Morey & Reverter, 2013).

[15] In dance appreciation research, biologically-driven explanations have been favoured over culturally-driven explanations, with rare exceptions, such as investigations informed by cultural psychology (Vukadinović & Marković, 2012, 2017). For instance, Vukadinović & Marković, (2012) found appreciation depends on the dance stylistic category: in ballet, people enjoyed the fluent delicacy of movement, while their enjoyment of flamenco was mainly about expressivity and emotional responses.

of the neural functioning behind dance aesthetic experience, such as the perceptual, affective and sensorimotor processing underlying the observation of dance movement (Orgs et al., 2018).

2.5. The primacy of experimental control over ecological validity

Imagine that you are in the context of a lab and you are presented with a decontextualized stimulus in which you can recognize human motion such as jumping,[16] a displacement,[17] twists,[18] or a port de bras.[19] As an experimental task, you are asked to judge those stimuli in terms of their beauty, how much you like them, and other questions like, how difficult is to perform those movements, your neural activity is measured regarding how each of those ratings correlate between them, with the type of stimuli, and with the brain activity when movements are most-liked least-liked. In nutshell, this is the typical lab experiment in dance neuroaesthetics.

It is likely that, at least if you have been educated within the frame of western culture, your perceptual and cognitive capacities allow you to recognize those stimuli as "dance", and maybe as a familiar category of dance, "ballet". This categorization is readily accessible, meaning that you don´t need to be an expert or a knowledgeable person about dance, instead, you categorize what you see as dance because the exemplar you are presented with a prototypical case. In a lab setting, with no contextual cues, the categorization of this stimuli as dance depends strongly on the prototypical concept of dance. Following Seeley's Our perceptual capacities are sensitive to sensorimotor "cues" diagnostic for familiar dance categories, such as ballet, (Carroll and Seeley, 2013; Seeley,

[16] Jumping: https://www.youtube.com/watch?v=q3SPO_8cpp8
[17] Displacement: https://www.youtube.com/watch?v=vM7bo3O_SXU
[18] Twist: https://www.youtube.com/watch?v=iovEg2fbW_c
[19] Port de bras: https://www.youtube.com/watch?v=fl0QVlklafU

2013), and this categorization likely involves a comparison with other exemplars of movement patterns registered in semantic memory, together with conceptual knowledge such as your prototype concept of dance, which likely include standard properties of ballet movement motion, like elongated lines, effortless appearance, gracefulness and fluency.

Evidence obtained on research situations like that is informative to understand what affects how participants attribute hedonic value to movement (e.g. what they like most and least in kinematic features of human movement), the perceptual and affective processing of human motion in general, and how people process movement that looks like prototypical dance in particular. However, virtually every type of movement can potentially be part of a dance, and any kind movement can be framed and appreciated as dance. As far as contextual cues are given for the appreciator to frame what she sees as dance, as demonstrated by the Judson Dance Theatre postmodern task dances that were constituted by ordinary movements like moving a mattress (Carroll & Banes, 1982).

If the aim of an empirical study is to understand the experience of how we make sense of dances as art, decontextualized short clips are insufficient. The neural response registered in the typical lab situation above would be the exactly same if participants are presented a perceptually indistinguishable stimuli that is not art, such as movements extracted from a rhythmic gymnastics' routine. The typical research design in dance neuroaesthetics ignores whether the conditions that allow people to frame something as art were satisfied. Recognizing something as aesthetic movement is a cue to recognize dance art forms, but clearly insufficient for many instances of contemporary dance. Art framing is a necessary condition to ensure that what has been measuring in our study is relevant for the problem of art experience in dance. A way to solve to this problem is using danceworks, or at least longer clips of contemporary dance should be presented as stimuli. It does not mean that dance empirical research should only use genuine artworks.

Different aims call for different means, and the method and stimuli of used for one purpose (study hedonic valuation of dance) may be not valid and directly transferred to other purposes (study the art experience of dance).

The evidence obtained in the typical lab situation is directly relevant for the problem of hedonic valuation of human movement, but appreciating an object as "art" involves not only finding more or less pleasure on its perception, but also trying to make sense of it, questioning what is "the point" of it all. We approach artistic objects as a particular category of object type, and those objects are not simple sensory stimuli, we recognize them as artistic artefacts (i.e. objects or performances designed by humans to serve artistic functions; Bullot & Reber, 2013).

A decontextualized clip of dance that lasts a few seconds has little chance of being conceived as a dance artwork. To be sure that subjects frame those moving agents as artifacts entails not simply showing stimuli that look like dance movement but giving participants cues to contextualize the stimuli as an artistic artefact, such that the appreciator engage with stimuli as a cognitive stimulus. Considering danceworks as initial stimuli ensures art framing and also, the temporal unfolding and sequential order of different processes through time in iterative cycles (Leder et al., 2004). The time course and temporal order of processing stages is central to understand the "process-driven articulation of psychological elements" in art appreciation (Pelowski, Markey, et al., 2017, 81). Christensen and Jola (2015) adapted the multi-stage model of Leder et al. (2004) to dance, by outlining the stages and processes implied in watching dance.

To sum up, a focus on the study of perceptual and affective processing of dance movement alone, cannot tell the whole story about what means to appreciate dance as art, and what are the relevant dimensions for processing and judging something as an artistic performance of dance. The question now is what to make of this fact to develop our

understanding of how we appreciate dance as art? To begin with, we need to critically consider the ecological validity of previous research, and examine the assumptions that lead researcher to operational and conceptual definitions of dance appreciation in terms of aesthetic judgements of beauty and preferences.

2.6. The broad and the narrow views of dance appreciation

Dance appreciation has been approached by assuming either a broad or a narrow view. A broad view includes a great variety of responses and aspects as part of dance appreciation (e.g. pleasure, excitement, enjoyment, reflection, understanding …). A broad position is assumed by philosophers of dance such as Bresnahan (2017), Conroy (2013a) or Montero (2006a, 2012, 2013). From this perspective, the appreciation of dance entails "a positive disposition toward an art object" (Conroy, 2013a, 208). A broad view includes appreciation of those without substantial knowledge, or experience with the art of dance ("innocent eye" in terminology of Bresnahan, 2017), and also the appreciation of people with extensive practical experience with the art of dance, such as dancers, critics or people that engage in "the sort reflective interpretation that is used in critical analysis critical" (Bresnahan, 2017). As a result, broad views of dance appreciation include a wide range of processes and responses, that goes from enjoyment to sophisticated artistic understanding.

A narrow view restricts dance appreciation to some of its multiple manifestations and dimensions. I have distinguished two types of narrow views about dance appreciation, the narrow-reactive view, that focuses on pleasure (hedonic tone) and excitement (arousal), and equates appreciating dance with aesthetic preference, and the narrow-reflective view that focuses on cognitive aspects and equates appreciating with critical analysis.

Examples of narrow views can be found in psychology and philosophy research. The narrow-reactive view is typically presumed by psychological research in dance appreciation, and the narrow-reflective is typical of dance philosophers that hold a cognitivist position of dance appreciation.

The narrow-reactive view of appreciation "accounts for responses in which feelings of pleasure and excitement are of primary importance" (Cupchik, 2014, 69), and focuses on the study of elementary processes of appreciation, that correspond to what Bullot and Reber (2013) call "basic exposure" mode of appreciation, such as perceptual representation, attentional tracking of observable features, or automatic elicitation of emotions (Bullot & Reber, 2013, 128).

Psychological research on dance appreciation has assumed the narrow-reflective view, and aspects related to basic expose, perceptual and affective components of dance appreciation, and hedonic evaluation, while leaving out appreciation based on understanding, meaning elaboration, or reflection. The most comprehensive model of dance appreciation, the model of aesthetic appreciation of dance by Orgs et al. (2016), defines dance appreciation is a perceptually rewarding experience that results from the interaction of hedonic tone and arousal processing, and mentions that the observer can assume an "explicit aesthetic strategy" depending on the level of expertise (Orgs et al., 2016, 2), yet it does not incorporate artistic understanding as a relevant variable, neither the role of other relevant variables for art appreciation, such as artistic value, reflection or art-knowledge.

According to some philosophers of dance (e.g. Carroll, 2012; McFee, 2011, 2013), there is a fundamental conceptual distinction between showing a preference for dance and appreciating dance as an art: the latter requires understanding, and responses like enjoyment, pleasure or liking are left out from what means to appreciate dance as an art.

Instead, appreciating art concerns whether something succeeds as an artwork which depends on objective reasons beyond aesthetic preference.

From a narrow-reflective view, dance appreciation is: a) domain-specific; i.e. dance appreciation is a subtype of art appreciation, b) a cognitive process that is based on understanding, defining understanding in an intellectualized sense, related to tasks proper of critical analysis (Carroll, 2016; McFee, 2011), and the adequate application of "art categories" (Walton, 1970), which are a type of a particular type of concepts that are specific of the artistic domain. This link of appreciation with understanding is related to the philosophical position known as "aesthetic cognitivism", that will be explained in the following section.

From a narrow-reflective perspective, most of previous psychological research on dance appreciation relies on a fundamental category-mistake: it studies the aesthetic appreciation of dance movement, not the artistic appreciation of dance as art. In particular, the model of dance appreciation (Orgs et al., 2016) fails to account for dance appreciation as a subtype of art appreciation because it neglects features which are specific of the artistic domain, such as the nature of appreciation as a value-laden activity, or the role of understanding. As a result, the current approach of psychological research presents problems of transferability, from understanding pleasurable perception of dance movement to understanding dance appreciation as art.

The narrow-reflective view of appreciation is that in which "viewers approach artworks as multilayered structures" (Cupchik, 2014, 70), questions related to the "artistic understanding" mode of appreciation (Bullot & Reber, 2013, 130), such as the assessment of artistic value, theory-based reasoning about the purpose or value of an artwork work, and other tasks proper of art criticism. From the narrow-reflective view, appreciation

entails identifying the artistic purpose of a piece, and evaluating whether the artistic choices of the artist are adequate to realize its purpose (Carroll, 2016).

Through this work, I develop a broad conception of dance appreciation that includes a variety of responses (related to both understanding and enjoyment) and levels of appreciation (including the appreciation of innocent-eyes and of people with dance knowledge and experience). My integrative view builds on previous philosophical accounts of dance appreciation that assume a broad view of dance appreciation (e.g. Bresnahan, 2017, Conroy, 2013a; Montero, 2006a), and contributes by providing a psychological and empirically-based description. As we will see in chapter 3, dedicated to the nature of dance appreciation, my integrative view avoids the problems of previous psychological research (narrow-reactive) by incorporating understanding and other cognitive variables. At the same time, my integrative view avoids the problem of the narrow-reflective that assumes normative aesthetic cognitivism (i.e. attributes a normative force to cognitive aspects), by developing a cognitivist position in a descriptive manner.

2.7. Aesthetic cognitivism: normative and descriptive

Applied to dance, aesthetic cognitivism is the idea that dances have cognitive value; i.e. that they can be made sense of, that they are intelligible (objects of understanding). I have distinguished two forms of cognitivism depending on the normative or descriptive force. Normative cognitivism is based on the technical and narrow sense of appreciation as a critical activity, and prescribes that understanding is necessary for something count as dance appreciation in the first place (e.g. Carroll, 2016; Davies, 2011a; McFee, 2011, 2013). This view conceives understanding as the right application of art categories. Showing a preference for a dancework does not entail understanding it, therefore, from

this perspective, “liking” does not count as appreciating dance. Descriptive cognitivism describes art appreciation as depending on understanding.

The present work focuses on descriptive cognitivism, the claim that higher-order cognitive processing related to understanding influence appreciation of dance. Unlike normative cognitivism, descriptive cognitivism does not prescribe what appreciation should be, it does not require the right application of art categories for something to count as appreciation. Descriptive cognitivism is compatible with multi-stage psychological models of appreciation (Leder et al., 2004) that propose appreciation is both affectively and cognitively based, and underline the importance of both types of processing as fundamental.

To recapitulate, this section has exposed the state of the art in dance appreciation, and we have seen that 1) dance appreciation can be construed in two ways, broadly (positive appraisal) and narrowly (no appreciation without understanding and sizing up), 2) the role of understanding in appreciation has not been studied in psychological research, and 3) it is an open question how to construe the role of understanding in appreciation, descriptively and/or normatively.

The present work contributes with an integrative definition of dance appreciation that includes elements of engagement, enjoyment, and integrates the role of understanding in the form of descriptive cognitivism. First, in contrast with normative cognitivism, my definition of dance appreciation is integrative (allows enjoyment to count as appreciating dance), as my defence of cognitivism does not have a normative character, but a descriptive character. Second, unlike most psychological research (that equates appreciation with preference), my definition of appreciation incorporates aesthetic cognitivism, and the distinction between preference and appreciating with understanding (defending the second is not fully explained by the first).

2.8. Top-down cognitive processing in dance appreciation

In general, psychological research in dance appreciation has leaned towards the study of "reactive" aspects of dance appreciation related to the hedonic valuation of stimuli, such as automatic perceptual, somatic and/or affective reactions; and overlooked "reflective" aspects related to the active cognitive involvement of the perceiver, such as cognitive reflection or meaning elaboration. An exception to is provided by anecdotal evidence in cognitive psychology research on reflective processes and responses in dance, particularly addressing the cognitive interpretation of dance (Hanna, 1983; Glass, 2005; Glass & Stevens, 2005; Stevens & Glass, 2005; Stevens & McKechnie, 2005; Stevens, McKechnie, Malloch, & Petocz, 2000).

At the theoretical level, top-down cognitive processing in dance appreciation has been approached by from. dual-process perspective (Orgs et al., 2016) or as part of multi-stage processing (Christensen & Jola, 2015). Regarding the first, dance appreciation is conceived as resulting from the combination of implicit aesthetic processing and the explicit aesthetic strategy of the observer (Orgs et. al., 2016, 21), the latter involving perceiver-driven, deliberate cognition: "The observer has little control on the perceptual mechanisms and processing", but "deliberately chooses an explicit strategy of aesthetic appreciation that may favor either fluency or novelty/complexity" (Orgs et al., 2016, 19). From this view, the choice of strategy of appreciation depends on "how much cognitive effort the spectator is prepared to invest into decoding the movement message" (Orgs et al., 2016, 20), and the level of expertise of the appreciator: novices will favour less effortful strategies (fluency-based appreciation) and experts more effortful strategies.

One limitation of this proposal is that the level of cognitive effort is not only relative to the actual degree of expertise of the beholder, but also likely depends on the coping potential of the beholder, in particular, the degree of comprehensibility (Silvia,

2013a), defined as the subjective appraisal about one's own ability to understand something (how easy o difficult one finds to understand something). Another limitation is that it does not describe top-down cognitive processing that does not require an explicit strategy on the side of the observer, for instance, iterative cycles related to sense-making during the stage of cognitive mastery, as described by multi-stage models of art appreciation (Leder et al., 2004; Pelowski, Markey, et al., 2017). Christensen and Jola (2015) described the stages of cognitive processing in dance appreciation, by applying multi-stage processes proposed by the model of Leder et al. (2004) to the case of dance. While Christensen and Jola (2015) complements Orgs et al. (2016) proposal, insofar it includes a more detailed description of cognitive mastery stage processes, the underlying conceptual understanding of dance appreciation is basically the same than in the case of Orgs et al. (2016) model, insofar dance appreciation is defined as liking, and both models conceive appreciation as an essentially reactive activity, something which happens automatically in the presence of dance stimuli: "since aesthetic appreciation processes are inherent, aesthetic experiences are always attendant when exposed to watching dance" (Christensen & Jola, 2015, 249-250).

This dissertation builds on previous cognitive psychology approaches to dance appreciation (Christensen & Jola, 2015; Glass, 2005; Orgs et al., 2016; Stevens & Glass, 2005), and aims to go a step forward in the development of a cognitivist perspective, insofar I integrate the cognitive-semantic dimension[20] of the experience in the conceptualization of dance appreciation. Along part I of this dissertation, I will defend that top-down reflective aspects are not secondary to perceptual, motor and affective

[20] By cognitive-semantic dimension is referred roughly what philosopher Richard Shusterman (1997), and other following him (Chatterjee & Vartanian, 2014; Pearce, et al.,2016) identify as one of the three dimensions of aesthetic experience, namely, the dimensions related to the meaningfulness of the experience.

processing, but a primary, defining characteristic of appreciation, without which we cannot explain domain-specific features, such as artistic understanding (Bullot & Reber, 2013). In response, I develop a conceptual framework that defines dance as cognitive schema, and the mental state during dance appreciation as a cognitively active experience that involves an interrogative attitude of questioning about the object (Davies, 2011a) and processes related to artistic understanding, such as artefact cognition (Bullot & Reber, 2013).

3. Gaps in knowledge

Based on what has been said until now about the state of the art in dance appreciation, this section identifies the gaps in knowledge of previous research that will be addressed by this dissertation.

To begin with, we have seen that there has been a growing interest in the study of dance appreciation in psychology and philosophy, yet no comprehensive approach from an interdisciplinary perspective that synthesizes theories and method from both perspectives. This study addresses dance appreciation from an integrative view that incorporates the tools and perspectives of philosophy and psychology (this integrative view will be presented in detail in chapter 1 of part I).

Taken together psychological and philosophical literature on dance appreciation, a common concern is the ecological validity of previous psychological research on dance appreciation. Concerns about the ecological validity of dance psychological research have already been expressed by psychologists (Christensen & Jola, 2015; Jola et al., 2011) and philosophers alike (Conroy, 2013a; Davies, 2013, 2014; McFee, 2011). Overall, those concerns with ecological validity bring forth the discussion on the ways in which dance appreciation should be studied in the future and how to interpret previous

findings. For instance, what does the previous body of research on what we like about dance, if anything, tell us about how people appreciate dance as an art? To what extent are previous findings transferable to understanding how people appreciate danceworks in real contexts? If the goal of a model of dance appreciation is to understand how people appreciate danceworks in real situations, which view, broad or narrow, should guide the conceptual definition adopted by empirical research? Which aspects, if any, of the narrow-reflective view should be incorporated into a conceptual framework of dance appreciation? These issues are worthy of exploration because the definition of dance appreciation assumed by research has consequences for the design of future research, the kind of questions it tries to answer, and the interpretation of previous studies, in particular, regarding their generalizability. The present study addresses these questions.

The starting point of my proposal is to identify two types of gap in previous research that cause those problems of validity: methodological, and theoretical. The straightforward, methodological gap refers to the type of stimuli in psychological research. Another methodological gap refers to current operationalizations of dance appreciation and expertise. This study addresses these gaps by choosing danceworks as stimuli, operationalizing dance as artistic judgements and expertise as knowledge, experience and comprehensibility (empirical studies I and II).

More importantly, these methodological gaps relate to deeper theoretical gaps regarding how dance and dance appreciation are conceptualized. First, pertaining to the choice of stimuli for studying how people appreciate art, it is pertinent to reflect on the ontological status of dance as objects of artistic appreciation. In contrast to dance as movement, an object of perception, appreciation of dance as art object should be guided by reflection on the stimuli as artworks, which in turn invites prior reflection on what defines the state of mind in our encounters with art in the particular case of

dance. This reflection is illuminating for the psychological understanding of dance appreciation, because it shows what makes the difference between perceiving movement and conceiving of something as a dancework.[21] Second, the way of operationalizing dance appreciation should be guided by prior reflection on what it means to appreciate dance as art, with artistic understanding, and what the experience of appreciating dance is like.[22]

In what follows, I have further analysed the theoretical assumptions that cause difficulties when it comes to generalize lab results to explain the real phenomena of dance appreciation. I have identified three main problematic assumptions made by previous psychological research and accounts on dance appreciation:

1) The so-called "aesthetic-artistic confound" [23] (previous research in dance appreciation has neglected th distinction beyween the aesthetic and artistic realms, assuming aesthetic preference equates with dance appreciation).

Previous research in dance aesthetic appreciation identifies dance appreciation with aesthetic preference, and does not distinguish an aesthetic experience (with dance) and dance appreciation (as a case of art appreciation, therefore, as an art appreciative experience). However, there are relevant differences between those concepts: a) art appreciation goes beyond liking (we may appreciate the quality of a dance piece as "art" despite the fact that we don´t like it); and b) art appreciation does not necessarily equate an aesthetic experience with dance (for instance, we may have an aesthetic experience

[21] I will build on this idea in the chapter dedicated to the definition of dance (chapter 2 of part I), when I distinguish between dance as an aesthetic action and artistic performances of dance.
[22] These two issues, the notion of dance appreciation and what defines the experience of appreciating dance, will be developed in detail in chapter 3 of part I when I introduce the notion of appreciative experience and describe the aesthetic and cognitive features of this experience.
[23] This terminology is proposed by Bullot & Reber (2013, 164) to refer to "theoretical assertion that identifies the aesthetic domain with the artistic domain, or at least significantly obscures their differences" Bullot & Reber (2013, 164).

watching our little kid dancing, and it does not mean we have appreciated it as art). We will see at length along chapter 3 how those concepts (liking, appreciating something as art, having an aesthetic experience) are related and differentiated. For now, it suffices to make clear that there are relevant distinctions between them, and that there is a need of conceptual clarification in the field of dance appreciation.

2) An over-simplified definition of dance as art and dance appreciation (neglecting artistic understanding and historical and developmental evolution of dance appreciation).

Previous research focused on biological evolution and evolutionary explanation of the phenomenon of dance appreciation, while it neglects the cultural evolution, and historical and developmental explanation. As a result, the model of dance appreciation (Ogs et al., 2016) cannot explain how conventions, practices and standards have changed along history (i.e. the shift from traditional to contemporary art appreciation), neither how people learn to appreciate and understand art. In contrast, the emphasis of my account is placed on cultural evolution, and correspondingly, on historical and developmental explanations.

Contextualist perspectives (Bullot & Reber, 2013; Davies, 2011a; McFee, 2011; Carroll & Banes, 1982) can be applied to describe the role of art-historical context in dance appreciation, and aesthetic development views (Housen, 1999, 2007; Parsons, 1987) are must be considered to understand dance appreciation in relation to the evolution of artistic understanding. Correspondingly, these two perspectives explain how dance appreciation evolves a) at the individual level (as a learning process, following the stages of aesthetic developmental; Housen, 1999; Parsons, 1987); b) at the historical level (as a construct determined by historical contingencies; Bullot & Reber, 2013). In order to integrate the historical and developmental perspective, I will propose to define dance as

a cognitive schema; a conceptual structure that is acquired through learning or developmental process in our experiences appreciating dance, and that also evolves through history (see page 75).

3) The picture of dance appreciation as a rather passive response to movement, a reactive and almost automatic activity which can be studied with decontextualized non-artistic stimuli.

Overall, previous research in dance appreciation has favoured a bottom-up approach to dance appreciation, focusing on how perceptual and affective processing was affected by dance stimuli features. Previous research is mostly relevant to describe a "basic exposure" to dance stimuli (Bullot & Reber, 2013, 128), and processes based on a "reactive mode of engagement with art" (Cupchik, 2014, 69). However, reducing psychological research on dance appreciation to a matter of hedonic valuation, we are covering just one layer of a multi-layered phenomenon, leaving out for instance, artistic understanding (Bullot & Reber, 2013), and the "reflective mode of engagement with art" (Cupchik, 2014, 70). As a result, empirical approaches and psychological theories in dance appreciation present limitations to account dance appreciation as a subtype of art appreciation.

To address those conceptual gaps in research, a conceptual definition of dance appreciation should: 1) avoid the aesthetic-artistic confound, 2) incorporate a contextualist and developmental perspective, and 3) recognize the complexity of dance appreciation as artistic phenomena; i.e. conceiving of dances as artistic artefacts, which are complex multilayered stimuli, such that when viewing an artistic performance, observers actively try to make sense of the object as an artistic artefact. This project aims to develop a conceptual framework for the study of dance appreciation that overcome the limitations identified in the following way: 1) being responsive to the distinction between

artistic and aesthetic appreciation at different levels, in particular, considering separately the main dimensional variables that underlie dance appreciation (i.e. dance, art appreciation, and aesthetic experience); 2) conceiving the observer as actively engaged in cognitive elaboration, therefore, giving relevance to the role of higher-order cognitive factors related to sense-making (Leder et al., 2004), artefact cognition and artistic understanding (Bullot & Reber, 2013; McFee, 2011); 3) incorporating contextualist perspectives in the definition of dance and dance appreciation (Carroll & Banes, 1982; Davies, 2011a; McFee, 2011).

4. Research objectives

The general purpose of this project is to contribute to the understanding of how our mind works to appreciate dance. With this general goal, two objectives are formulated:

Objective 1. Provide a conceptual framework for the study of dance appreciation

This objective relates to the following questions: What is dance art appreciation? What is necessary for appreciating dance as art? What happens in the minds of dance spectators when they appreciate dance? How can we define the mental state that occurs during dance appreciation?

Method

This objective is approached theoretically, by means of the method of conceptual analysis of central concepts involved in dance appreciation (dance, art appreciation, aesthetic experience, art appreciative experience). The goal of traditional, paradigmatic conceptual analysis is to provide definitions of concepts, by trying to make explicit its conditions of application and relations to other concepts (Margolis & Laurence, 2019); i.e., a priori analysis of a concept by offering various definitions that are tested against potential

counterexamples. However, the primary goal of this method is not always the provision of a closed definition, nor the investigation of which cases are or are not covered by each concept. Conceptual analysis cam be used as a precursor of, or to offer guidance for empirical research, for instance, by showing how concepts should be modified, or what new concepts should be adopted in the place of an old one, given the practical context in which the concept is used. In this research, conceptual analysis is applied to offer adequate conceptual and operational definitions of psychological constructs related to dance appreciation, and to guide the empirical research.

Objective 2. Apply the conceptual framework to the empirical study of dance appreciation

This objective relates to the following questions: What are the psychological judgement dimensions that constitute dance appreciation? How can we operationalize dance expertise? How do different types of experience with dance (visual, motor, conceptual experience) relate to knowledge about dance? Does dance expertise affect audience responses to contemporary dance, and if so, what causes the difference?

This objective is approached empirically, by means of two correlational studies in part II. In study I, a measure of dance knowledge is designed and validated. Study II explores the dimensions behind people's appreciation of dance and whether different facets of expertise (having more or less extensive experience, knowledge and comprehensibility) affect how we evaluate dance.

5. Thesis organization

The thesis is divided into two parts. The first part develops the conceptual framework for dance appreciation and consists of three chapters. Chapter 1 contextualizes the research approach adopted in this project, and provides two desiderata for an adequate account of dance appreciation which will be applied to evaluate previous

theoretical accounts of dance appreciation along the next chapters. Chapters 2 and 3 expose general fundamentals for defining dance and the experience of dance appreciation. These general fundamentals are the definition of dance as art (chapter 2), and the definition of art appreciation (chapter 3).

The empirical part of the dissertation (Part II) consists in two chapters that correspond to two empirical studies, one for designing and validating a knowledge-based measure of dance expertise (chapter 4), and the other to explore the dimensionality of dance appreciation and the effect of expertise (chapter 5). Those chapters are organized in four sections: introduction, method, results and discussion. Those two chapters correspond to two submissions for journal publication. While those chapters can be read on their own, the framework that they build upon and help to develop belongs to the overall dissertation.

The last chapter consists in a general discussion that comments on the main contributions and limitations of the dissertation, and provides guidelines for further work. The dissertation finishes with a list of bibliographical references and six appendices, corresponding to research ethics, questionnaires of studies I and II, videos of the danceworks used in study II, the property-based approach and a list of tables and figures.

General research question	How does our mind work to appreciate contemporary dance?	
	PART I	**PART II**
Objective	Provide a conceptual framework for the study of dance appreciation	Apply the conceptual framework to the empirical study of dance appreciation
Studies	**The definition of dance** What defines dance *as art*? How can we apply the definition of dance to empirical research?	**Knowing about dance: The Dance Aesthetic Fluency Scale and the relation between knowledge and dance experience** How can we measure dance knowledge? How do different types of experience (visual, motor, conceptual) relate to conceptual knowledge about dance?
	The nature of dance appreciation: An experience-based approach What is dance appreciation? What happens in the mind of dance spectators when they appreciate dance? What is the experience of appreciating dance like? What is the role of understanding in appreciation?	**Appreciating with understanding: The dimensionality of dance judgements and effects of expertise** What are the psychological judgement dimensions that constitute dance appreciation? Does dance expertise affect audience responses, and if so, what causes this difference?
Method	Conceptual analysis	Correlational studies

PART I: A CONCEPTUAL FRAMEWORK FOR DANCE APPRECIATION

Chapter 1.

Between philosophy and psychology: An integrative approach

Overview

This chapter presents the integrative approach, from philosophy and psychology, that will be applied in the coming chapters to develop a conceptual framework for dance appreciation. In order to contextualize the interdisciplinary study of dance appreciation, the philosophical and psychological approaches to the study of art are briefly introduced (section 1), as well as the debate of the role of empirical evidence in the particular case of dance appreciation (section 2). Then I explain how these approaches are combined and applied in this dissertation. The basic idea is to proceed by setting constraints for the conceptualization of the phenomenon of study. Those constraints (empirical and conceptual) are presented in section 3. To finish, I formulate two minimal desiderata for an adequate account of dance appreciation (section 4), and explain how those desiderata will be applied to the analysis of the two concepts I think are fundamental for an account of dance appreciation (dance and dance appreciation).

1. Introduction

The present study is situated in the intersection between empirical aesthetics[24] (from here, "EA"), and the branch of philosophy of art that studies dance art, usually known as the philosophy of dance as art, what I will call "PDA" for short.

PDA conceives dance appreciation as a subtype of art appreciation, and as a normative domain (related to artistic value). To date, analytic PDA has been mainly

[24] Empirical aesthetics defined as the branch of psychology dedicated to studying the nature of beauty, aesthetics, art, artistic production, aesthetic experience, and audience responses to artworks in a broad range of media. In current practice the field includes research from cognitive, perceptual, social, physiological, and clinical psychology, as well as cognitive and affective neuroscience (Seeley, 2014a).

concerned with ontological and normative questions (e.g. what makes something dance? what constitutes a dancework in contrast to mere movement? what makes something good dance? what conditions determine the rightness/correctness of artistic judgements), and proceed by reflecting on the conditions for the conceptual definition of dance phenomena (e.g. under what conditions movement becomes dance; or whether dance appreciation is the same or not as enjoying dance and/or appreciating dance's beauty). Overall, PDA is more concerned with conceptual boundaries and the accuracy of concepts than with the description of dance appreciation as a mental state, the processes that underlie it or the factors that affect it. The emphasis on description is proper of EA, at the expense of a focus on normative and conceptual matters.

In general, EA uses empirical methods to address two different research problems: (a) the problem of valuation, or how the human mind appraises sensory objects, and (b) the problem of art experience, or how the human mind appreciates art (Skov & Nadal, 2020). The present study is concerned with the second research topic, the art experience, and approaches it from a cognitive science perspective, meaning that the focus is on the mental state during the art experience, and studies it in an interdisiciplinary way, mixing philosophical and psychological methods, theories and concepts.

While philosophical and psychological approaches to dance appreciation share their object of study, they have different aims, scopes, ambitions and methods (Seeley, 2014b).[25] In general, while philosophers search for the "best" or the "correct" response to art, and try to answer to questions about art based on careful reasoning, psychologists look at how ordinary people respond to dance, without raising the question of what is the correct answer (Winner, 2018). An interdisciplinary account to appreciation adds value

[25] For more information on the relation between the goals, and methods of aesthetics and empirical aesthetics, see, for example (Seeley, 2014b).

to both, the philosophical and psychological understanding of dance appreciation mainly because it deals with this tension. The main challenge is not providing closed responses and empirical evidence on dance appreciation, but being fair to the challenges posed by research from each perspective. This chapter exposes exactly what this tension consists in, and how the present work deals with it when integrating psychology and philosophy to address dance appreciation. Before I move on to explain how exactly philosophy and psychology are combined, some preliminary comments must be made on the potential and limits of this interdisciplinary combination, and particularly, on the role of psychological scientific research to address dance appreciation.

2. The debate on the relation between dance and cognitive science

The relation between philosophical and scientific approaches to dance is itself a topic of increased interest, as demonstrated by publications such as the symposium "Dance art and science" published by the Journal of Aesthetics and Art Criticism in 2013,[26] or the inclusion in 2019 of a section entitled "Dance and Cognitive Science" in the entry for the philosophy of dance in the Stanford Encyclopedia of Philosophy (Bresnahan, 2019). In particular, a hot topic at debate on this context is the role of empirical evidence in conceptual accounts of dance appreciation, namely discussing the role of empirical evidence from early studies in neuroaesthetics of dance.[27]

Facing the question of what is the role of empirical evidence in dance accounts, some philosophers assume an optimistic position that advocates for, and/or engages with empirical work in dance appreciation to elaborate their theories on dance appreciation

[26] The symposium "Dance art and Science" includes contributions by Carroll and Seeley (2013), Conroy (2013a), Conroy and van Camp (2013), Davies (2013), McFee (2013), and Montero (2013). For more information on the debate on the role of scientific research in dance aesthetic accounts see also Davies (2011b, 2014).

[27] In particular, research in dance neuroaesthetics by Beatriz Calvo-Merino (e.g. Calvo-Merino, Glaser, Grèzes, Passingham & Haggard, 2005; Calvo-Merino, Grèzes, Glaser, Passingham & Haggard, 2006; Calvo-Merino, Jola, Glaser & Haggard, 2008; Calvo-Merino, Ehrenberg, Leung & Haggard, 2010).

(Bresnahan, 2017; Carroll & Moore, 2008; Carroll & Seeley, 2013; Montero, 2006a, 2006b, 2012; Seeley, 2011, 2013). Others are sceptical about whether experimental research in dance appreciation is relevant to understand how we appreciate dance (Conroy, 2013a; Davies, 2013; McFee, 2013), and some of them (Davies, 2013; McFee, 2013) are openly pessimistic, and they claim empirical work is not relevant to understand how we appreciate dance "as an art".[28] The present project assumes an optimistic position but concedes there are good reasons to be sceptical about previous empirical approaches to dance appreciation.

On the one hand, I defend that empirical work has been, and is relevant for the elaboration dance appreciation accounts, and I conceive philosophical and psychological perspectives as complementary: together offering a more comprehensive picture of the topic. On the other hand, among the reasons to be sceptical, one is the lack of ecological validity of some experimental research in dance appreciation. Previous psychological approaches to dance prioritized and maximized experimental control, at the expense of ecological validity as demonstrated by the type of stimuli, operational definitions of appreciation and research context (liking and beauty ratings of short clips of dance stimuli projected in lab settings). This raises the question of whether evidence obtained in those situations can be generalized to understand the art experience involved in real situations of appreciation of artistic dance.

The lack of ecological validity in EA of dance has been discussed by authors from this field, such as Christensen and Jola (2015) who proposed researchers engage in various actions to overcome this problem: "(i) to define more thoroughly what they mean by 'dance' when using dance stimuli, (ii) to design their stimuli according to a theory of

[28] Here I follow Davies's terminology (2013) to classify positions in the debate of the role of empirical evidence in accounts of dance appreciation in optimistic/pessimistic views.

what dance is that also bears the scrutiny of dance experts (only in this way can one be certain to test the responses to the 'the real thing'), and finally (iii) to embed their studies in the general framework of empirical aesthetics." (Christensen & Jola, 2015, 254). Following Christensen and Jola (2015), one way to enhance validity is to critically consider what are the dimensional variables that underlie concepts central in dance appreciation research, which is the topic of the next two chapters.

In the next section, I address three concerns with the validity of experimental work in dance appreciation, analyse the problematic assumptions that underlie them, and briefly expose how they are addressed in this dissertation.

3. Three concerns with validity of psychological research in dance appreciation

3.1. The oversimplification of the object of study

Previous psychological research in dance appreciation assumed a reductionistic approach,[29] without a prior robust conceptualization of either dance or appreciation. This is problematic because, without sound conceptualizations, the explanatory force to explain the real phenomena is decreased (Christensen & Jola, 2015). The oversimplification of the conceptualization of dance appreciation in psychological research is well reflected by the typical operational definition of dance appreciation as liking and beauty ratings, which equates aesthetic judgements of dance stimuli with art appreciation, therefore, relies on the aesthetic-artistic confound. This oversimplification of dance and dance appreciation is also reflected in the model of dance appreciation (Orgs et al., 2016) that doesn't distinguish whether the input is a dancework or a

[29] Following Christensen and Jola, reductionism in scientific research is: "the assumption that complex systems can be reduced to their individual elements without changing the relevant conceptual properties of the elements as they were originally present in the complex system" (Christensen & Jola, 2015, 225).

decontextualized short movement stimulus, nor between hedonic valuation and the experience of dance as art.

As we will see in the following chapter on the definition of dance, psychologists have relied on a common-sense definition of dance which is based on perceptual properties of dance (what dance movement typically looks like), ignoring basic contextual properties of dance (how something is contextualized as dance, which depends on what is accepted as dance in a given art-historical context). As anticipated by Christensen and Jola, "the difficulty for the scientist resides especially in understanding what exactly makes dance *dance*, and not just a motor pattern" (Christensen & Jola, 2015, 253), and "much work has yet to be done on understanding the relevant dimensional variables" (Christensen & Jola, 2015, 226). In the next chapter, I will show why perceptually manifest properties alone are insufficient to define dance as art, instead, attribution of artistic intentionality is required because dances are not just movement stimuli (something to be perceived) but, mainly, artistic artefacts (an event designed to be understood as dance art).

Current explanations of dance appreciation have focused exclusively on preference and beauty, which makes them insufficient to cover the phenomenon of dance appreciation as a subtype of art appreciation. If we reduce the psychological explanation of dance appreciation to a question of beauty or liking dance movement, we are not only committing a categorial error (equating hedonic and artistic valuation), but we are also missing many cases of dance appreciation. First, we are missing all those cases where a dance is considered pretty but fails as an art piece (i.e. high beauty ratings yet low evaluation of the quality of the piece as art), and the converse, when a dance artwork is ugly, unpleasant or overtly challenging but a great piece of art. Second, we are missing a potential discrepancy between liking something (even if you know the artistic quality is

poor) and recognizing something is a good piece of art (even if you personally don't like it).

In conclusion, previous research in dance psychology relied on reductionist approaches, and oversimplified definitions of dance and its appreciation that do not capture their complexity as art phenomena. This concern with the oversimplification of art phenomena requires more than methodological actions in relation to stimuli choices, but conceptualizations of art experiences that reflect their cognitive complexity:

> What is needed from scientific aesthetics now is not so much a change in means as in ends. It needs to shift its primary purpose from studying how formal features of art and other objects elicit preferences to explaining the psychological and neural mechanisms underlying people's active creation of meaningful art and aesthetic experiences. (Nadal, Gallardo & Marty, 2018, 2)

The present work dedicates extensive attention to this issue and develops definitions of dance and dance appreciation. To formulate those definitions, one strategy is to look at what experts on the topic have identified as the main features, e.g. how the main variables behind our concepts of dance and dance appreciation have been conceived by theorists and researchers. A complementary strategy is to ask real audiences to judge dance and look at the dimensions that emerge from their responses. This project adopts both strategies and goes from the conceptual definition of dance and dance appreciation (chapters 2 and 3) to the empirical study of the dimensional variables behind dance appreciation (chapter 5).

But before going into the definitional business, it is necessary to understand better what the assumptions are that led to problems in previous definitions of these constructs. The next two sections discuss two of those problematic assumptions, which are related to the aesthetic-artistic confound, and the neglect of context.

3.2. The aesthetic-artistic confound

In the philosophy of art, there is a general consensus that "aesthetic" refers to the beautiful and the sublime whereas "artistic" is not limited to beautiful or the sublime. In the psychology of art, there is more confusion on the scope and limits of the aesthetic and art, and consequently on what aesthetic/artistic appreciation is an appreciation of, whether there is a difference between appreciating something aesthetically (i.e. as an aesthetic object) or artistically (i.e. as an artistic object), and if there is a difference, where the difference exactly lies.

The "aesthetic-artistic confound" is the term proposed by Bullot and Reber (2013) to refer to the confusion and lack of distinction between the aesthetic and the artistic in the psychological study of art phenomena. The risk of the aesthetic-artistic confound is that: "the problem of art experience becomes focused on how art elicits aesthetic pleasure, and the problem of valuation becomes focused on special categories of objects—artworks—or emotional processes—aesthetic emotions— that determine the aesthetic experience" (Skov & Nadal, 2020, 2).

The distinction between the artistic and the aesthetic means that there are two research topics that can be differentiated: hedonic valuation and art experience. The first cover questions about how stimuli acquire hedonic value in relation to sensory pleasure and the latter refer to questions about art experience (Skov & Nadal, 2020). Previous psychological research in dance appreciation equated the dance art experience with hedonic valuation of dance.

There are various ways to distinguish the aesthetic-artistic, and the relation of these two domains with other large and unwieldly concepts like "art" and "beauty" have been largely debated by philosophers. A deep discussion on the conceptual clarification of these notions may have well deserved a dissertation on its own, but it falls out of the

scope of this work. In a nutshell, I follow the most straightforward definition to define the domain of the artistic, and conceive it simply as that which is related a specific category type of objects (artistic objects). Regarding the aesthetic, most contemporary psychological accounts relate aesthetics to sensory pleasure, the workings of the hedonic system and the induction of positive hedonic feelings in relation to perceptual experiences.

To sum up, previous psychological research in art typically falls into the aesthetic-artistic confound, and equates aesthetic preference with art appreciation, assuming that hedonic valuation and art experience are two sides of the same coin. In order to solve this problem, Pearce et al. (2016) defended that art experience and hedonic valuation should be addressed by two different fields of study: the formation of sensory pleasure is the province of the cognitive science of aesthetics (which is not limited to art objects), and questions about art experience are the domain of cognitive science of art, with this experience going beyond pleasure or beauty. Leaving aside the discussion of whether or not two disciplines should be distinguished, a conservative conclusion is that these conceptual domains should be differentiated, yet this distinction has not been drawn in dance psychological research. In order to address this issue, I will come back later (in chapter 3) to the aesthetic-artistic confound, and propose a distinction between concepts of each domain such as "aesthetic experience", "art appreciation" and "art appreciative experience".

3.3. The neglect of context

The neglect of context in psychological research is reflected in various ways. To begin with, on the type of dance stimuli typically used in psychological research, and

the overall setting of the typical lab study in dance research.[30] When a person participates in empirical studies involving dance stimuli, more often than not she is presented with segmented, impoverished, decontextualized videos of isolated movements that last a few seconds, shown on a computer, depicting a person performing academic dance movement. There is anecdotal evidence that shows an effect of the context of real-life performance, in comparison to video presentation, in dance judgements (Vukadinović & Marković, 2012, 2017). Also, the observation of isolated actions has likely a different effect than the impact of these actions contextualized within a choreography (Christensen & Calvo-Merino, 2013, 82).

These issues can be partially solved methodologically by incorporating "the co-presence of performer and spectator" (Christensen & Jola, 2015, 224), and using whole choreographies as stimuli. However, what I (and others like Conroy, 2013a) find more problematic from this experimental approach is not the lack of the general real-life performance context nor the duration of stimuli per se, but the conceptual understanding that grounds this research approach. The assumption guiding previous studies is that participants in laboratory settings regarded those stimuli as artworks, yet this assumption is challenged by empirical evidence that show participants in lab studies often do not classify visual artworks as artworks, and those classifications affect their evaluations (Pelowski, Gerger, et al., 2017). There are no equivalent studies on what guides people classifications of dance stimuli as artworks and how that affects their judgements, but it seems reasonable to expect similar results than those found in visual arts. If this is so, evidence gathered with decontextualized stimuli cannot explain how we appreciate dance art beyond a mere "basic exposure" or reactive mode of engagement (i.e. perceptual

[30] For an overview of typical dance stimuli and research context in EA studies see Christensen and Jola (2015).

representation, attentional tracking of observable features, or automatic elicitation of emotions; Bullot & Reber, 2013, 128).

At the very least, the presentation of an artistic object (in this case a dance artistic performance) as a unit in itself provides the most basic context for the viewer to understand that what she is watching is an artwork. Otherwise, we cannot warrant that what we are measuring is an art experience and how participants appreciate art, because art appreciation involves "inquiries into the making, authorship, and functions of artworks" (Bullot & Reber, 2013, 123). Even at the level of basic processing, current models for visual art propose that our responses to art depend on how the brain integrates reward signals into context-dependent perceptual responses (Leder et al., 2004; Bullot & Reber, 2013), which in turn depend on a complex interplay of perceptual, affective and attentional networks that are also influenced by art-historical context.[31]

In response to that, the empirical study II of this dissertation takes place in a real artistic context in order to address the contextual neglect of previous psychological research. However, an adequate solution for the contextual neglect requires more than methodological adjustments in the concrete physical circumstances of the presentation of stimuli. A solution to this neglect entails also a reflection on what are the conditions that are necessary for the viewer to frame a set of stimuli as an artistic artefact, and whether or not those conditions are met during a display of a set of stimuli that looks like dance movement. As we will see along the next chapter, I engage in that reflection, particularly in what concerns the act of framing an object ir event as an artistic artefact, which I describe in cognitive psychological terms as the application of cognitive schema which

[31] The art-historical context understood as the general frame of art in a given historical moment, comprising cultural, social and historical factors (Bullot & Reber, 2013)

are context-dependent in the domain of art; also known as art cognitive schema (Solso, 2003).

4. Empirical and conceptual constraints

In this section, I describe the empirical and conceptual constraints considered in the definition of dance appreciation along the next chapters. Psychological and philosophical accounts of dance appreciation sometimes clash, particularly when it comes to establish clear-cut distinctions between the aesthetic and the artistic. However, psychological and philosophical accounts of dance appreciation often complement each other, providing descriptions from different angles, and at different levels of analysis. Psychological research provides tools to investigate how we experience art, and reveals what affects people's responses, while philosophical accounts question what means to appreciate art, or what is dance, providing conceptual tools and distinctions to interpret psychological findings and formulate new hypotheses about how people conceive, appreciate and experience art. This dissertation tries to take advantage of both perspectives for providing a more comprehensive picture.

In particular, this interdisciplinary perspective is reflected at two levels: a methodological level and a theoretical level. At the theoretical level, the interdisciplinary approach becomes evident in the references that constitute the theoretical framework, and in the questions that motivate this research, which originate from a double interest in: a) philosophical questions about what characterizes the art of dance, or what is the nature of the experience of dance appreciation; and b) the workings of the mind and the processes and responses that constitute our experiences with art. In response, the theoretical background to answer those questions includes and contrasts philosophical and scientific

perspectives.[32] However, note that this study is not concerned with normative issues of art appreciation (how one should appreciate art), which is the province of normative theories of philosophy of art and art criticism. Instead this work focuses on descriptive issues about how the mind works in its interaction with art, such as what is distinct of the aesthetic experience while appreciating dance, or what are the dimensions behind people's artistic judgements.

Regarding the method, the interdisciplinarity is reflected in the adoption of a combined methodology from philosophy (conceptual analysis) and psychology (empirical research using surveys, and quantitative statistical analysis). To note, an interdisciplinary approach implies not only an expansion in the theoretical and methodological resources, but also involves a commitment to conclusions that are not based on precarious grounds according to both disciplines (Currie, 2003; Stokes, 2009). This commitment is reflected in a series of constraints set by each discipline:

> Philosophy of art is a tool that can be used to model the appreciative practices of an artistic community, the practices out of which the artistic salience of the expressive, aesthetic and semantic content of a work emerges. Just as valid psychological theories that model the computational processes governing our interactions with artworks are strong constraints on the adequacy of any philosophical theory of art, valid models for art critical and appreciative practices in ordinary interactions with artworks are strong constraints on the adequacy of any psychological theory. (Seeley, 2014b, 49).

The challenge of an interdisciplinary approach to dance appreciation is to make sense of the relevant empirical evidence, incorporate conceptual distinctions, and integrate them into an adequate psychological approach of dance appreciation. To do this, I have distinguished two types of constraints, empirical constraints derived from

[32] In particular, I have based my analysis on the examination of the accounts of dance appreciation in EA and PDA (Beauquel, 2015; Bresnahan, 2017; Carroll & Banes,1982; Carroll & Seeley, 2013; Conroy, 2013a; Christensen & Jola, 2015; Davies, 2011a, 2013, 2014; Orgs et al., 2016; McFee, 2011, 2013; and Montero, 2013).

psychological evidence, and conceptual constraints derived from philosophical analysis. On the side of psychological research, the empirical constraint concerns evidence on the psychological processes and neurobiological mechanisms behind dance experience: how we perceive, process, and evaluate dance stimuli. Psychological evidence generates constraints on philosophical reflection insofar as one should consider the best empirically-based theories available to date in order to understand the phenomena of study.[33] Here, I have considered models for appreciation of visual arts (Bullot & Reber, 2013; Leder et al., 2004; Pelowski, Markey, et al., 2017), the model of aesthetic appreciation of dance (Orgs et al., 2016), and psychological studies on audience responses to contemporary dance (e.g. Glass, 2005; Vukadinović, 2011, 2013, Vukadinović & Marković, 2012, 2017).

On the side of conceptual analysis, the main constraint relates to the conceptualization of dance and dance appreciation as art phenomena, and the main conceptual constraints include: the distinction between the aesthetic and the artistic (that has been mentioned in this chapter and will be further developed in the following chapters on the definition of dance and dance appreciation), and the two minimal desiderata that I will expose in the next section.

5. Minimal desiderata for an account of dance appreciation

In response to what has been said along this chapter on the problem with the validity of previous research, and the conceptual constraints, I have formulated two minimal

[33] This constraint is rather conservative, and its formulation is based on Davies' discussion regarding "the Quinean idea that philosophical reflection must be grounded in the best empirical theories available because our justified beliefs get their credibility from the relationships in which they stand to other threads and nodes in our web of belief" (Davies, 2013,199).

desiderata that aim to maximize the validity of my account of dance appreciation, while considering constraints posed by conceptual analysis.

The function of these desiderata is to assist conceptual analysis of the next two chapters. they are used as a tool to guide theoretical elaboration[34] of the definition of dance and the nature of dance appreciation. Note that these desiderata are minimal; meaning that they are necessary, but not sufficient conditions to be met for an adequate account of dance appreciation. In this sense, these conditions pose boundaries to conceptual analysis, but they do it in a rather conservative way, posing only minimal restrictions to define what counts as dance and dance appreciation.

Through the following chapters, each desideratum will be explicitly mentioned each time they are applied. The two minimal desiderata or conditions for an adequate account on dance appreciation, are formulated as follows:

Desideratum 1: An adequate account of dance appreciation should be inclusive: recognizing the variety of dance forms as they are practiced and appreciated. This means that an adequate account of dance appreciation should 1) be responsive to the reality of dance appreciation as it is practiced, such as core Danceworld practices and values (see section " Dance practice" of the Introduction); 2) be flexible enough to leave open the door for future creation of new forms of dance and ways to appreciate it. Given the great diversity of dance forms, and the fact that existing forms are in constant evolution, it is reasonable to expect that new dance forms, and new forms of appreciation may appear in the future. To accommodate the diversity and dynamicity of dance and its appreciation,

[34] In this sense, these two desiderata are similar to the conditions for an account of dancework ontology (Conroy, 2013b, 105), but here desiderata are applied to a different topic, and adapted to meet the particular objectives of this dissertation.

the definitions of dance and its appreciation would rather be broad, inclusive and flexible than narrow, restrictive and rigid.

Desideratum 2: An adequate account of dance appreciation should be informative: make it possible for a well-informed judge to identify "dance" or "dance appreciation" from different phenomena. Adequate definitions should be helpful to discriminate related, yet different phenomena. This means that, an adequate account of dance appreciation should not force us to conclude that most cases are indeterminate, or that it is too difficult to practically identify what is dance or dance appreciation. Indeterminacy and practical problems that make impossible judging whether a case is to be classified as dance or dance appreciation should be the exception, not the rule.

As result of the fulfilment of these two requirements, an adequate account of dance appreciation should allow: i) the inclusion of a diversity of forms of dance (both common and atypical dance forms); ii) the inclusion of a diversity of responses as part of appreciation (both affective and cognitive responses); and iii) to discriminate dance and dance appreciation as artistic phenomena, maintaining core aspects of artistic phenomena; such as being intentional and shaped by socio-historical context.

Chapter 2. The definition of dance

Overview

The goal of this study is to provide a definition of dance that is conceptually robust and useful for empirical research.[35] The starting point is recalling the desiderata for an adequate account of dance appreciation, which are reformulated in the context of a good definition of dance (section 1), and distinguish three levels of description of dance events (section 2). I propose to understand the concept of dance as cognitive schema (section 3), and incorporate contextualist perspectives by drawing on "aesthetic contextualism" (Bullot & Reber, 2013; Carroll & Banes, 1982; Davies, 2011a; McFee, 2011), in order to overcome the limitations of previous definitions of dance in psychological research. Finally, I apply the concepts developed over the course of the chapter in a thought experiment and discuss how the proposed definition may contribute to the study of dance appreciation.

1. Conditions for a good definition of dance

The objective of this chapter is to develop a definition that is conceptually informed, and empirically useful, while at the same time complies with the two desiderata I gave in section 5. I will briefly comment what these conditions entail and how they will be applied.

First, in order to be useful to psychological research, the definition should consider the psychological counterpart of a conceptual definition of dance, and particularly, the attributes that characterize the prototypical representations of dance. This means that, for a definition to be useful for empirical research, it does not need to be a clear-cut definition, it would be sufficient to provide a characterization of the most well-

[35] Note that the aim is not to canvass in depth all types of dance definitions throughout history. For a review of definitions of dance see Bresnahan (2019) and Beauquel (2015).

established cases of dance, while allowing some fuzziness or indeterminacy in borderline cases.

Second, recalling the first desideratum, an adequate account of dance appreciation should be responsive to real dance practices, and to the reality of the history of the art. Applying this desideratum to the definition of dance entails that the artistic status of certain forms of art as "dance" has already been established by Danceworld practices and art-historical facts, meaning two things: i) it is not the role of researchers (psychologists or philosophers) to decide what counts as dance, and ii) researchers must attend to what is already established as dance by the Danceworld. The role of researchers is to be fair to the reality of dance as art phenomena when providing their definitions of dance. For instance, there are certain historical categories of dance, like ballet, modern, postmodern or contemporary dance that must be accommodated by any definition.

The definition of dance should be open to change, because new danceworks are continuously being created, and artists try to innovate, and eventually challenge what was previously assumed about what constitutes a dancework. Applying the first desideratum to the definition of dance, a good definition of dance should be inclusive, meaning that it should cover prototypical and atypical forms of dance, leaving scope for future historical changes.

The second desideratum: an adequate account on dance appreciation should not force us to conclude that many cases are indeterminate, or that it is too difficult to practically identify what is dance. Indeterminacy and practical problems that make judging whether a case is to be classified as dance appreciation impossible should be the exception, not the rule.

Applying the second desideratum to the definition of dance, a good definition of dance should be discriminating enough (to be informative) in order to capture all relevant

cases of "dance", while at the same time distinguishing "dance" from similar but different phenomena. In particular, a good definition should distinguish between a) dance and perceptually similar phenomena, like aesthetic sports (e.g. rhythmic gymnastics), and b) artistic dance and non-artistic dance (e.g. social dance that is mainly performed with the purpose of social interaction, such as dancing in a pub). To be informative, some criteria should provide constraints, such that the definition is useful. In particular, here I will consider empirical constraints (regarding empirical evidence on action-categorization processes behind our categorization of certain movements as dance), and conceptual constraints (regarding what differentiates dance as art from non-artistic forms of dance).

2. Levels of description of dance

> The difficulty for the scientist resides especially in understanding what exactly makes dance dance, and not just a motor pattern.
>
> (Christensen & Jola, 2015, 253)

Throughout the discussion, I will distinguish three levels of description of dance events: 1) as human bodily movement, 2) as individual or group actions and 3) as artistic performances. Correspondingly, I propose that the categorization of something as dance involves three types of processes related to each level of description: perception of bodily movement (level 1), action observation (level 2) and art framing (level 3)[36] (see Table 1). The relation between these levels can be understood as inter-dependence, meaning that the processes at the most basic levels of description (movement and action levels) constrain what can plausibly be attributed at the third level (as artistic performance). At the same time, the attributions made at the third level (dance as artistic performance) are a constraint on what is perceived at the most basic levels of description. In the next

[36] For a description of processes underlying art framing see Pelowski, Markey, et al. (2017).

section, I will briefly cover the basic features that define dance at levels 1 and 2, and then I will focus on what else is required to define the particular case of dance art (level 3).

Table 1. Three Levels of Description of Dance and Mental Processes Associated to Each Level

Levels of description	Processes
1. Dance as aesthetic movement	Perception of bodily movement
2. Dance as aesthetic action	Action observation
3. Dance as art	Art framing. Artefact cognition

2.1. Dance as aesthetic movement and aesthetic action

A simple definition of the activity of dancing, in general, is to conceive it as human aesthetic bodily-movement.[37] In this sense, we speak of dance as the art of human movement, because human movement is the basic "vehicle" through which we define, identify, categorize, appreciate and experience dance, in the same way that the vehicle in a literary work is mainly linguistic, and in music, the vehicle is sound. Therefore, at the most basic level of description dance is constituted by patterns of physical bodily movement. Movement kinematics present space, time, force and structural features, and different movement kinematics allow the viewer to attribute different emotional,[38] social and action features to dance movements.[39] For instance, from slower human movement, observers may infer emotional expression of sadness, and synchronized movement may be interpreted as a sign of group cohesion (Vicary et al., 2017).

[37] Another example of a definition of dance in similar terms, as aesthetic movement, is provided by Beardsley that considers something as dance "when a motion, or sequence of motions, does not generate practical actions, and is intended to give pleasure through perception of rhythmic order" (Beardsley, 1982, 35).

[38] For a description of mechanisms by which affective experiences are elicited in observers during the experience of dance see Christensen et al. (2016).

[39] For a characterization of processes and neural responses underlying movement perception and action observation when watching dance movements see Calvo-Merino (2015) and Orgs et al. (2016),

To categorize movement stimuli as a person/s who is/are dancing, we require not only to perceive human bodily movement but to perceive it as the particular kind of action that belongs to the set of things particular to dance. In particular, to categorize stimuli as dance, human bodily movement-based actions should have an aesthetic character, that is, as having an aesthetic goal (being something made for its own sake) and/or aesthetic properties.[40]

In psychological terms, having an aesthetic goal relates to the process of goal attribution to the action that is characterized by the "inefficiency" of the movement-goal (i.e. the lack of an external goal, the goal being perceived as the action itself, Schachner & Carey, 2013).[41] Schachner and Carey (2013) concluded that the inefficiency of the movement-goal is at the core of our way of conceiving something as dance, even if the perception of both dance and non-dance actions relies on the same type of efficiency-based goal inference (we infer the goals of observed actions by calculating their efficiency as a means to external effects, like reaching an object or location). It is in this basic sense that we perceive dance as distinguished from ordinary actions, which usually have a practical intent.

Apart from the absence of practical intent, dance movement can be recognized for being organized in an aesthetic way, presenting "aesthetic properties", and for giving rise

[40] The nature of aesthetic properties, and the distinction and relation between non-aesthetic and aesthetic properties is a debated topic in philosophy. For my purpose, non-aesthetic properties are considered as basic, first-order, objective properties (like the duration of the performance, or the number of dancers), and aesthetic properties are more complex, second-order, response-dependent properties (like being expressive, elegant, or beautiful).

[41] Schachner and Carey (2013) investigated the perception of dance-like actions, looking at how we perceive movement-based action in general and what allows us to conceive of them as dance or not. She conducted two experiments. The results of the first experiment show that: i) for dance-like actions adults consistently inferred that the agent's goal was simply to produce the movements themselves, and ii) this inference was driven by the actions' inefficiency as a means to external goals. The author concluded this inefficiency effectively ruled out external goals, making movement-based goals the best explanation.

to aesthetically-pleasing experiences during the perception of movement.[42] Regarding "aesthetic properties", dance movement is typically characterized by properties like expressiveness[43] and musicality. By musicality it is meant generally that movements present musical qualities, like rhythm or melody. By expressivity it is meant that movements' qualities are presented "in an intensified way", such that "if (…) there is more zest, vigor, fluency, expansiveness, or stateliness than appears necessary for practical purposes, there is an overflow or superfluity of expressiveness to mark it as belonging to its own domain of dance" (Beardsley, 1982, 35). According to this, a person can "see" that something is dance just by looking at it, if the action is based on human bodily movement and present musicality of expressivity, then it is dance. In other words, according to this, perceptual experience is sufficient to distinguish between human movement that is dance and not-dance.

In sum, considering what has been said until now, a definition of dance can be formulated in terms of level 1 and level 2 descriptions: dance is bodily-movement action that has an aesthetic character, perceived as having an aesthetic goal and/or aesthetic properties (expressivity and/or musicality). As it stands, this definition covers most standard cases of dance by appealing to perceptual features; features that are accessible by perceptual experience. However, this definition is inadequate for defining dance as art for at least two reasons.

First, the criterion of aesthetic character is not sufficient to define dance art from non-artistic dance, such as dancing in a pub, neither to discriminate dance from other aesthetic-movement based activities that are not dance, for instance, aesthetic sports like rhythmic gymnastics. As stimuli, dance art can be perceptually indistinguishable from

[42] For instance, Beardsley (1982, 34) suggests that "what transforms motions into dance is a particular intention that accompanies them: the intention to perform the motions for the sake of pleasure".
[43] "when a motion or sequence of motions is expressive, it is dance." (Beardsley, 1982, 33).

non-artistic dance and gymnastics, meaning that these three cases they may share the exact same movement kinematics, and all can show aesthetic properties like being expressive and musical. This suggests that the crucial difference between dance art and other movement phenomena that is not dance, or that it not artistic dance is not how the movement looks, but how we frame the stimuli as art (artistic framing).

Second, there are some counterexamples of artistic dance that cannot be covered by this definition. To begin with, as a matter of definition, dance needs not be emotionally expressive or involve music. Indeed, some forms of dance seek minimal or no emotional expression and are performed with no music[44] or counter to music, using breath and other non-musical rhythms for the tempi of the performance. Therefore, neither expressiveness nor musicality are necessary to define dance.

Moreover, certain cases of dance art cannot be characterized as dance in terms of level 1 and 2 descriptions alone; i.e. by appealing to perceived features of motion, and/or aesthetic goals attributed to the action. Sometimes the movement itself may not display an aesthetic goal,[45] for instance, task dances like Rainer's *Room Service* (1963); a piece in which one of the central parts consists in the activity of carrying a mattress. Sometimes, an overt or readily visible movement may not be a necessary criterion either, for instance, in a static dance like Steve Paxton's *Smalldance*[46].

In conclusion, dancing, as a general activity, can be characterized as movement-based actions that have an aesthetic character; presenting an aesthetic goal and/or presenting aesthetic properties, yet we cannot define dance art appealing to perceptual or action features alone. What defines something as dance art is not only how the actual

[44] For example, Yvonne Rainier, *Trio A* (1934): https://www.youtube.com/watch?v=_vHqIMFDbQI
[45] For a detailed exposition of why aesthetic properties and like expressiveness are neither necessary nor sufficient to define dance art see Carroll and Banes (1982).
[46] *Smalldance* by Steve Paxton: https://vimeo.com/19001115

movement or action looks like, as shown by the exceptions and caveats for postmodern and anti-aesthetic dance mentioned. Something else, beyond level 1 and level 2 descriptions, is required to identify dance as art. To describe dance as art, an additional level of complexity entails conceiving dance an "art artefact" (Bullot and Reber, 2013), and among different types of art artefacts, dances are a type of art artefact which I will call "artistic performance", following Davies (2011a). To complement the basic definition of dance as aesthetic movement and action, the next section introduces the concept of artistic performance.

2.2. Dance as artistic performance: artistic intentionality

Dances are not only movement and action, but "performances" understanding that "to perform is to act in a certain way for the attention of those who are or may be observing" (Davies, 2011a, 6). Following Davies, the performer differs from the mere agent in that "she intends for her actions to be appreciated and evaluated, and thus is consciously guided in what she does by the expected eye or ear of an intended qualified audience" (Davies, 2011a, 6). This means, on the side of the performer, that there is a performative intention, whatever is done, it is guided by the expectation that the performance will be regarded in a distinctive way by the audience. In particular, performances which are intended to be regarded as art are artistic performances:

> What makes something an *artistic* performance is not, per se, the elements of which it is composed or the way in which those elements are put together, but how the assemblage of the elements that make up the artistic vehicle is intended to function in the articulation of content. It is in virtue of these distinctive ways of articulating content that artistic performances must be *regarded* in a distinctive way. (Davies, 2011a, 16, emphasis in the original)

Applying this to the case of dance, dance can be defined as artistic performances which call for attention to movement in a distinctive way which is characteristic of art

experiences. What this distinctiveness of art experiences consists in will be explained in detail in the next chapter, when I introduce the notion of art appreciative experience.

For now, it suffices to illustrate this idea with some examples of how artistic performances call for a different way of looking in order to appreciate them with understanding. Take for instance the case of task dances exposed in the last section, such as *Room Service*. In this piece, the activity does not call attention as an ordinary task of moving a mattress would do, but as an intentional display of ordinary movement to be regarded as dance. In the same way, to understand *Smalldance* (see footnote 46) is crucial to see this apparent static posture as an intentional display of micro-movement of balancing and adjusting to gravity to be regarded as dance. Getting the point of those works entails that audiences pay attention to movement in a different way to which they look at movement in everyday movement perception, searching for an intention. If the observer attributes artistic intentionality to those events, they are no longer perceived as an ordinary task or an static person, but as the product of a particular type of intentional activity, that of creating dance art. In other words they are "framed" as art, and that involves a search for intention, which in the case of dance may refer at least, to two types of intention.

We can distinguish two types of attributions of intentionality in dance: [47] the intentionality attributed to the particular action/s of the dancer/s and the intentionality of the whole dancework (artistic intentionality) as an artistic piece. Regarding the first, the attribution of intentionality to the bodily movement of agents (perceiving them as actions) is based on basic, largely automatic mechanisms of goal attribution (Schachner & Carey, 2013), and can be explained in terms of mechanisms of actions observation (level 2). We

[47] In general, the attribution of intentionality entails something was made someone; i.e. that there is agency involved behind the resulting object (Bullot & Reber, 2013).

cannot easily avoid our tendency to perceive persons as performing actions when we perceive humans executing movements. In this sense, we can say that, dance is the art for which humans are particularly "well-equipped". This quasi automatic attribution of intentionality to human actions is commonly exploited by choreographers to articulate artistic content, for example, in the interaction between two dancers we can infer they are being collaborative vs. antagonistic, or synchronous, etc.

Additionally, and what is characteristic of the third level of description of dance, is the intentionality attributed to the dancework as a whole when the appreciator tries to make sense of it. For instance, when someone says that a dance piece has the intention of rejecting the canon of modern dance expressivity, the appreciator perceives the dance as aesthetic movement and action, and additionally, as art. This act of perceiving something as art can be generally called "art framing", and I propose it is essential to describe what is distinct about the way we engage with dance as art, and therefore to conceptualize the experience of dance as an art experience. When a movement is perceived as art, it is no longer perceived just like any other movement stimulus, but as something to be understood. In other words, any dance artistic performance has a double nature: as something to be perceived (a perceptual stimuli) and something to be understood (an artistic artefact). Adding this third level of description, we can understand *Room Service* as a piece that intentionally exploits this double nature of dance: insofar the appreciation of this piece is not readily available in terms of the perceptual appearance of movement and actions (levels 1 and 2), the appreciator is somehow invited to question whether perceptual appearances are essential or not for something to be dance, and maybe reflect on what actually constitutes dance as dance.[48] I propose to address this question in

[48] In the next chapter, I will introduce the concept of "interrogative attitude" to refer to this idea that appreciators engage in a kind of metacognitive questioning about how to make sense of the artwork.

cognitive psychological terms, defining dance as a cognitive schema which involves art framing. In the next section, I shall develop the concept of dance as a cognitive schema, defining cognitive schemata in general, as mental representations that guide perception in a particular context or domain, in this case, the domain of dance art.

3. The concept of dance as a cognitive schema

The concept of dance can be conceived of as a cognitive schema constituted by mental representations stored in semantic memory. Schemata are part of one's mental framework representing knowledge; i.e. the representation of a cluster of interrelated concepts in a meaningful organization (Solso, 2003, 223). Understood as part of semantic memory, schemata are "knowledge representations" (Schendan, 2012, 355) which are constructed from multiple life episodes, in a sequential way. Multiple schemas can be combined to predict and anticipate how our experience in a given context will unfold over time. Such a sequential knowledge representation is known as "a script" (Schendan, 2012). In this sense, schemata have two main functions, representational (represent an object, event or idea, as well as relationships between concepts) and framing (provide context in which experiences are structured and understood) (Solso, 2003, 223-224).

The ontological nature of a schema is unclear, but a reasonable option is conceiving them as mental structures that involve generic abstract knowledge that interacts with new informational inputs as proposed by Marty (1987). We may think of our schema for dance as depending on innate capacities together with knowledge acquired from experience. On the one hand, we have our perceptual capacities for movement perception and hedonic processing, such that we can find pleasure in the perception of movement. On the other, our art schemata is likely constructed through artistic experiences of all kind, and our schema for "dance art" in particular, by generalizing

across our experiences of attendance to dance performances, through which we construct a conceptual structure to comprehend the next attendance to a dance performance.[49] The dance art schema is part of the spectators' background knowledge that enables them to understand an event as a dance artistic performance (Davies, 2011a).

Applying it all to the domain of dance art, the features of the dance art schema comprise what has been said about the third level of description presented above ("dance as artistic performance). In this sense, our experiences with art can be understood as framed by generic schemata for art (art schemata), and our experiences with the art of dance as framed by schema of the artistic performances of dance (dance art schema). Therefore, dance art schema likely overlaps with other schemata, such as that of dancing in general (as a cultural and social activity), other performing arts (theatre, music, performance…), and bodily-movement practices which are not artistic dance (aesthetic sports like rhythmic gymnastics, sport dance, martial arts…).

3.1. Prototypical and atypical representations of dance

Schemata refer to representations of generic knowledge, they contain typical properties and relations among those properties, not a detailed exhaustive list of features about specific objects or events. There are some prototypical features or attributes that are typically representative of dance cognitive schema. These prototypical cues would typically count "in favour" for calling something dance, such as the fact that performers move in expressive ways without showing recognizable goals. The schema for a dance event may typically include objects (human bodies), roles (performer, audience), contextual features (a performance set, a stage with a proscenium arch) and scripts

[49] The ontological nature of a schema is unclear, here I am conceiving them as mental structures and subyacent processes that involve generic abstract knowledge that interacts with new informational inputs as proposed by Marty (1987).

(looking towards the stage, sitting in silence). The prototypical features of the cognitive schema of dance comprise attributes which are common to our generic schema for "dancing", as an activity that may have various functions (e.g. cultural, social, artistic etc.). Those features relate to what I have called above aesthetic movement and aesthetic action (level 1 and level 2 des criptions), so the generic dancing schema involves human movement (therefore it may involve motor schemas), and atribites like "expressive", "beautiful", "aesthetic", "graceful", "rhythmic" and the like.

There is another set of cues which are "neutral", meaning they do not count in favour or against for something to count as dance, for example, that the movement take place in a group or individually, it can be performed by women or men, and agents may wear any kind of clothing. Finally, there are also cues that count "against" calling something dance because they contradict the prototypical features of the dancing schema. Those features correspond to atypical cases of dance, such as when performers don't move, or they move showing practical recognizable goals (e.g. moving a mattress).

In the next section I focus on the schema applied in artistic performances of dance, the dance art schema, and particularly on the features it shares with art schemata (such as the idea of artistic intentionality) that allow us to categorize dance as an artistic artefact (i.e. as an object or event designed by humans to serve artistic functions; Bullot & Reber, 2013). The purpose of this is to _____.

3.2. Framing dance: creating context

3.2.1. Art framing

It is reasonable to expect that dance art schema function as any other type of schemata, guiding top-down processing that allows to comprehend events. Applying dance art schema may involve both, activating mental representations (e.g. of

"dance", and "art"), and the scripts that guide our actions in performing art contexts (e.g. our schema for an artistic performance, or particularly for "dance" artistic performances).

Regarding the latter, the dance art schema can function as a "frame", contextualizing our encounters within objects in a particular domain and guiding our perception and understanding in those situations. In this sense, applying a dance art schema involves framing something as dance art, i.e. creating context for perception in a particular domain.

For example, dance art schema may inform our expectations of the features of the object of our perception, and ground potential inferences, interpretation and understanding of the object perceived. The inferences, interpretation and capacity of understanding determines which properties are relevant in a particular domain.

3.2.2. Contextualism

The central idea of contextualist perspectives is that works of art are artefacts (objects produced by human invention at a particular time and place), and their status and functions as art cannot be conceived apart from the socio-cultural context in which the artefact is created (e.g. Bullot & Reber, 2013; Davies, 2011a). Contextualism in art claims that contextual contingencies (e.g. socio-historical, institutional, etc.) play an essential role in the production of art and in the appreciation of particular artefacts as works of art. Applied to the definition of dance, contextualism entails that dance is not defined by perceptually manifest properties, but defined by contextual properties that allow us to "frame" something as dance. There are many proposals

regarding what are the relevant contextual variables to define something as art,[50] and studies in visual arts show there are variations between subjects in the strategies adopted for art framing (Pelowski, Gerger, et al., 2017).[51] If we integrate contextualism in a definition of dance, there are two broad theoretical implications:

1) For something to count as dance, the way in which an event is contextualized may be as important as how the movement looks. Framing is particularly important to understand cases of atypical dance pieces. For instance, in a piece like *Room Service* that consists in ordinary movements "the context of the event in which movement is situated is more salient than the nature of the movement itself in determining whether the action is dance" (Carroll & Banes, 1982, 37). In the case of dance appreciation, I have distinguished two relevant and mutually dependent types of framing, the choreographic framing (how choreographers present the movement to an audience) and appreciative framing (how any given appreciator applies schemata in order to contextualize the movement as dance).

Choreographic framing refers to how the movement is presented to an audience such that appreciators can attribute artistic intentionality behind the way in which the movement is presented. In this case the framing refers to how the movement is contextualized for being appreciated as dance. For instance, in the case of *Room Service*, the presentation of movements in a proscenium stage "transforms an ordinary working

[50] Among the contextual variables that are relevant to defining something as art are included factors related to the particular circumstances in which the artwork is presented. and other broader contextual variables, like institutional variables (e.g. understanding "Art" as the field of museums and curators that form the Art institution) and historical variables (such as the broad art-historical context).

[51] For the purpose of this chapter, there is no need to commit to a specific contextualist theory, nor to discuss how strategies for art framing in dance may differ from art those strategies found in visual arts. In principle, contextual variables that are relevant to define something as art may be applied to the case of dance, and strategies followed by participants to frame something as a visual artwork, may resemble the strategies from framing something as dance art too.

(the sort of thing whose kinetic intricacies usually go unnoticed or ignored) into an object of close scrutiny" (Carroll & Banes, 1982, 38).

Appreciative framing would be the observer's counterpart to the choreographic framing. The appreciator's framing of something as dance depends on assuming there has been such framing on the side of the creator. In this case the act of framing refers to how the movement is perceived by the audience as organized with an artistic intention.

2) Contextualism entails the centrality of an intentional relation between the actions that give rise to the creation and performance of the dance and the art-context in which it occurs. The intentional relation has a psycho-historical nature. On the one hand, the intentional relation is psychological because it occurs as part of the mental states of an agent or group or agents, and those mental states guide the actions that occur while creating a dance, and performing it. Each dance is the product of a particular creation process (e.g. improvisation, choreographed, mixed, choreographed with music or without, choreographed for being filmed, etc.), and the way in which a dance is produced responds to the particular circumstances of its creation, including what is historically and culturally conceived of as dance art, or as dance of a certain category (e.g. a particular genre, style or technique).

On the other hand, the intention is constrained by history, meaning that the intention refers to what has been accepted up until a certain point in history as "dance". In this sense, intentionality is not simply equated with the particular belief, plan, or willingness to create "dance". An observer may come to see things as dance depending on how movement is framed for her, with the condition that she is ready (or disposed) to frame it as such. Regardless of the intentions of a particular agent, whether or not what she does can be conceived of as dance depends not simply on her decision to be so, but

requires that it is the right time for this to be possible, for example, postmodern dance would have not been considered as dance (nor art) in the 16th century.

4. How might art schemata affect appreciation?

4.1. Expertise and dance schema sophistication

The particular cognitive schemata each observer holds depends on her expertise in a given domain. Therefore, the cognitive schema of dance held by an observer can be more or less elaborate depending on their level of expertise in the domain of dance art, and could likely be placed on a continuum of "sophistication" with dance theorists, or critics arguably at one extreme, and lay people without dance knowledge at the opposite extreme. The prototypical representation of dance, will likely guide how non-experts, and particularly, "innocent-eye" participants (people with little or no exposition to dance artworks or artworks of a particular style) frame dance, for instance, someone who has never seen contemporary dance before. In contrast, the representation of a knowledgeable person will be complex and include atypical representations from rare exemplars that are historically accepted as dance (e.g. "task dances").

In relation to the three levels of descriptions introduced above (movement, action and artistic performance), and the three types of processes (movement perception, action perception and art framing), it is likely that innocent-eye categorizations of something as dance are mainly shaped by information provided by level 1 and 2 processes (movement perception and action perception), such as prototypical representations of dance and/or dance-action categorizations in terms of movement inefficiency, as explained above. For experts, categorizations are likely more influenced by level 3 processes related to art framing. For instance, the inefficiency of the action may likely be weighed against cues

specific of the artistic domain, such as stylistic, and authorial cues (e.g. cues that suggest the observed action pertains to a particular dance style or is the work of a particular choreographer), as well art art-historical (cues that contextualize the object of appreciation as a task dance from the 1960's).

4.2. Selective perception

According to Bullot and Reber (2013), when art schemata are applied (art framing), our perception is guided by expectations which are specific to the domain of art. For instance, perception is guided by a search for perceptual cues with semantic value (a search for meaning, an attempt to make sense of the object), and by inferences proper to artefact cognition. In this sense, art framing is roughly equivalent to Davies' notion of "artistic regard" (Davies, 2011a, 15) that is characterized for an interrogative attention or "interrogative interest" in what is being presented (Davies, 2011a, 186). The observer questions how the performance is presented as a meaningful object for observers to perceive and seeks to make sense of the object of perception being disposed the way it is.

4.3. Epistemic motivation

Framing something as art also entails, typically, a motivational disposition towards the object, a willingness to "persist in looking… when otherwise [they] would be tempted to pass onto something more meaningful." (Parson, 1987, 74). According to Parson this disposition is explained because art viewers assume a "faith in the artist"; i.e. that artists present us with meaningful artworks (Parson, 1987, 74). Instead of a "faith in the artist", we can speak about hedonic expectations regarding the cognitive value of art. This is important for understanding how we find our experiences with cognitively challenging art rewarding, in other words, how do we attribute cognitive value to art.

On the one hand, artworks are cognitive stimuli, and can be understood as attentional engines (Seeley, 2014b), in the sense that they are designed to direct attention to certain aspects in order to grasp or find sense in the artistic content. This explains some ways in which artistic content gets articulated: cues will be used by the observer to discriminate parts or properties of artworks, establish relations between them, grasp a general structure and integrate properties and their relations into a coherent representation.

On the other hand, artworks are also particularly complex, ambiguous, informationally rich and semantically multilayered stimuli (Cupchik, 2014, 64). Given artwork's multilayered semantic content, many opportunities for cognitive elaboration are afforded: the resolution of ambiguity at a certain point of processing may not lead to cognitive closure (interpretation) but instead ground expectations of higher levels of comprehension, which may result in keeping us motivated to further elaboration.

Artworks are expected to be meaningful and challenging stimuli, which means they typically afford cognitive insight, so we expect artworks to be stimuli with epistemic value. This expectation allows us to tolerate high levels of ambiguity, and motivates the search of sense in complex, uncertain, unfamiliar stimuli as artworks. Finally, this motivation to spend cognitive resources in finding sense in artworks can be explained in relation to a general drive towards search for meaningful information, to make sense of information in the environment (Biederman & Vessel, 2006).[52] The rewarding value of finding sense is typically exploited and challenged in art contexts. This explain why we go back to artworks that are not aesthetically pleasing but cognitively challenging. In

[52] Biederman and Vessel (2006) expose the neural mechanisms and evolutionary advantage that explain why finding sense in ambiguity is in itself rewarding.

other words, it explains why we have an overall hedonic expectation in our encounters with art, we expect art to offer rewarding experiences (Menninghaus et al., 2017).

4.4. Enhanced evaluation: the value of art

Finally, art schemata can also exert a direct influence on our appraisal of artistic objects. Art framing is related to higher ratings of beauty (Locher, Smith & Smith, 2001) and liking (Pelowski, Gerger, et al., 2017).[53] Art framing also allows people to enjoy more negatively-valenced images, showing higher liking ratings for negatively-valenced images thought to be art compared to those thought not be art (Gerger et al., 2014).

5. Applying dance art schema

As demonstrated by the type of stimuli and dance definitions assumed in psychological research[54], definitions of dance in that field assume dance can be defined based only on levels of descriptions 1 and 2: as an aesthetic action. Those definitions presuppose that the features that make dance "dance" can be grasped by means of perceptual experience alone, i.e. how the movement looks. In other words, those definitions assume an essentialist view of dance based on perceptual criteria.[55] Those definitions also rely on prototypical or canonical representations[56] of dance, as it is well demonstrated by dance stimuli libraries used in research (Christensen, Nadal, Cela-Conde & Gomila, 2014; Christensen, Lambrechts & Tsakiris, 2019),

[53] The study by Pelowski, Gerger, et al., (2017) showed that preference ratings for images classified as art were about 20% higher than for images classified as not art.
[54] See Christensen and Jola (2015) for an overview of definitions of dance and stimuli used in psychological research.
[55] An essentialist definition based on perceptual criteria assumes that what makes something dance are perceivable manifest features of the movement itself.
[56] A canonic representation is a mental image which has been formed through your experience with members of a category (Solso, 2003, 240).

where dance is equated with an agent doing things like jumping,[57] displacement,[58] twists,[59] a port de bras[60] and the like.

Defining dance in this way presents two main problems. One is that it is conceptually inaccurate, the other is that it grounds an oversimplified conception of dance appreciation as a passive, perceptual experience (dance appreciation as perceiving dance movement-actions).

First, defining dance in an essentialist way for how it looks (based on perceptual criteria alone) is conceptually inadequate for two reasons:

1) It leaves out many instances of dance (not satisfying desideratum 1), for example, "task dances" like *Room Service*, that consists in a group of people moving a mattress. Agents wear ordinary clothes, and perform ordinary movement in a mundane way. What makes *Room Service* dance lies not in the perceptual features of the movement itself, because the movement is not perceptually different to everyday movement. What allows us to recognize *Room Service* as dance lies the way we look at it: how we frame the movement as an artistic artefact, the product of artistic intentionality. Cases like *Room Service*, may be puzzling for the lay observer who approaches contemporary dance in the first place, but this does not make these cases secondary or less "dance" than other easily recognizable examples, like ballet or modern dance, they *are* dance, and the prototype of dance of a particular style, known as "postmodern dance".

Ordinary movements, like standing, walking, or sitting down, can be part of a dancework, but may also constitute the whole dancework. Steve Paxton's *Satisfyin' Lover* (1967) is an example: it is a piece that consists in ordinary people, wearing ordinary

[57] Jumping: https://www.youtube.com/watch?v=q3SPO_8cpp8
[58] Displacement: https://www.youtube.com/watch?v=vM7bo3O_SXU
[59] Twist: https://www.youtube.com/watch?v=iovEg2fbW_c
[60] Port de bras: https://www.youtube.com/watch?v=sN7a6WOunJo]

clothes, doing everyday actions, like walking, sitting and standing. Yvonne Rainer's *Room Service* (1963) involves dancers moving a mattress on a stage, with no more care or expressiveness that anyone would put into such a task. As Carroll and Banes remark in their comment on *Room Service*: "The point of the dance is to make ordinary movement qua ordinary movement perceptible. The audience observes the performers navigating a cumbersome object, noting how the working bodies adjust their muscles, weights, and angles" (Carroll & Banes, 1982, 37).

If a dance piece can look like anything, including ordinary movement and tasks, then dance cannot be defined only by the perceptual features of movement; i.e. perceptual criteria alone are insufficient to define dance. This is in direct tension with definitions assumed in psychological research as they are exclusively based on perceptual criteria and descriptions of dance events in terms of level 1 and 2 (as movement and action).

2) It does not distinguish dance from perceptually similar phenomena. Perceptual properties of dance may be common to other things that are not dance, like gymnastics and other aesthetic sports, or martial arts. As a result, those definitions that put all the weight on the manifest perceptual properties of dance encounter problems for a lack of specificity, they are not discriminating/informative enough (not satisfying desideratum 2).

Finally, considering only perceptual criteria to define dance is not only inaccurate from a conceptual perspective, but also from a psychological perspective, because it leads to a misrepresentation of the variety of cues considered by observers when framing somethings as dance "art" and oversimplifies the audiences' appreciative activity as no more than passive perceptual processing.

Contextual cues are likely relevant for activating a dance schema and attributing artistic intentionality. For instance, contextual cues may function as triggers for causal

reasoning about the creative process behind a particular art object, or for inferences that allow intention recognition in art appreciation (Bullot & Reber, 2013). For all that, I defend the relevance of considering both, perceptual and contextual factors to explain how people apply dance art schema to stimuli.

The next section describes how the concepts developed in this chapter can be applied in empirical research. A thought experiment[61] is proposed to illustrate how schemata may be useful to explain how we appreciate dance as art. Specifically, the objective is to help understanding of the relevance of the framing function of dance art schema in dance appreciation: framing allows to discriminate between how we appreciate dance as art vs. how we appreciate similar phenomena that involve aesthetic actions but are not dance.

5.1. Thought experiment: Dance vs. gymnastics

As perceptual stimuli, dance and rhythmic gymnastics (RG) may look the same (i.e. descriptions of dance and RG at level 1 and 2 may be identical). RG training includes dance training, namely in academic ballet dance ("danse d'école")[62]. Both, dancers and gymnasts, mark, perform, repeat, memorize, evaluate their own and others' movement-sequences, and create step-sequences by disposing discrete units of movements and positions. Literally, the movement of a RG routine typically includes the execution of dance "lexicon"[63] (codified dance movement). Both dance and RG

[61] A thought experiment is a "device of imagination" that propose a hypothetical scenario to investigate an aspect of reality (Brown & Fehige, 2019).
[62] Academic dance is the dance that is performed in dance classes or studies, usually with the purpose of improving technique. Danse d'école refers to academic dance in the case of classical ballet (The Oxford Dictionary of Dance, n.d.).
[63] Lexicon refers to the codified steps, movements and positions of a particular dance category. For example, the ballet lexicon includes the positions of ballet) and (e.g. triplets, an exercise of Graham's release and torso contractions, or side-falls).

can be beautiful, graceful, and expressive, typically demand the performer to "go into the music", and display technical brilliance and virtuosity.

If we have some previous experience with RG we can expect it to be graceful, expressive, show "musicality", and virtuosity. Our capacity to judge and form inferences and interpretations about the performance is influenced by how much we know about RG, and the goal we attribute to RG. For instance, imagine your expectations are met during the experience, and you end up impressed by the technique, and the "pulchritude" of the execution, because the gymnast does not commit any mistake and performs difficult movements. Acknowledging this may ground your inferences that the gymnast is going to win the gold medal.

If we have expertise as appreciators of RG, we would additionally know that there are two types of broad scores to evaluate RG, the execution score (for which lack of mistakes is essential) and the final disposition score, the latter including what is called the "artistic score" (based in music and choreography), and the "difficulty score" (based on skilfulness). In this case, you have more solid ground to infer whether the gymnast is going to win the gold medal. If we attend to RG and dance solely as perceptual stimuli, it seems that the difference between the appreciation of an aesthetic sport (like RG) and dance is if any, subtle.

The difference between the appreciative experience of dance and RG is not attributable to perceptual criteria alone, it lies somewhere else; in how the object is framed as dance art. In other words, in how we contextualize our perception of the particular way of disposing the movement in one way or another as responding to a particular kind of intentionality.

When we look at RG, we contextualize or frame it as a sport. Our cognitive schema for, say "rhythmic gymnastics" informs our expectations of the features of the

performance. A different frame is considered in the appreciation of dance, and this frame sets different expectations, and inferences and interpretations of what is seen to differ.

The perception of danceworks is culturally framed as an experience of "dance", and movement is perceived as an artistic performance (the product of artistic intentionality). This act of framing entails the perceiver assumes an interrogative interest regarding how the content is articulated by means of the perceived object. In other words, the appreciator typically assumes the dance piece is susceptible to understanding.[64] In contrast, this assumption, and this interrogative interest is unnecessary to appreciate RG, because gymnastic exercises are not typically made to be appreciated in this way.

Cognitive schemata of dance and RG share some aspects, but each schema grounds different inferences, interpretations and understanding. In artistic dance (i.e. outside of dance competitions) there is nothing to win, and technique may be impressive, but it is a means not an end.[65]

While technical mastery and perfection in the execution are goals of academic dance and RG, technical mastery is (at least ostensibly, although there is some debate about this in dance circles, particularly in formal kinds of dance where the levels of technicaly proficiency are so high that its hard to say whether or not they become revered for themselves) a means towards a goal in dance; a technical achievement in not the goal of the performance itself. Technical mastery might be a pre-requisite for a correct performance of most dances, but a display of virtuous technique is definitely not, unlike RG. In dance, a performance with minor technical errors may be appraised higher than a perfect execution which "says nothing" to the observer, for instance, because it looks too

[64] This position is called "aesthetic cognitivism", which will be developed in the next chapter.
[65] The dancer Silvie Guillem says: "Technical perfection is insufficient. It is an orphan without the true soul of the dancer", quote from Christensen et al. (2019)

acrobatic and mechanical, thus inexpressive. An artistic performance may require an (academically) "incorrect" execution of steps for expressive purposes, for example, some steps may be required to be really fast and not too polished, such that performing them otherwise would go in detriment of making an adequate artistic rendering of the piece (Morris, 2013).

For all that, future research that aims to address what psychologically constitutes people's experiences with dance *as art*, should go beyond what entails perceiving dance movement (as a perceptual stimulus), but considering what psychological processes and constructs allow to see movement as art.[66] "Cognitive schemata" fits well as a psychological construct to explain how art framing occurs, because cognitive schemata frame our perceptual experiences, contextualizing the perception of certain kinematic properties as responding to an artistic intentionality, and set expectation particular of a domain (e.g. dance artistic performances).

Finally, in the case of dance, unlike in the case of RG, it would be relevant to question whether the dance style we are watching, for instance to understand whether and how the dance performance subverts the conventional way of doing dance, while this type of inference is largely irrelevant to appreciate RG. Stylistic considerations may be at stake in RG evaluations, but the relevance of stylistic categorization is not as central as in the case of dance evaluations.

6. Conclusion

The present chapter's contribution has been to provide a definition of dance that is conceptually sound and comprehensive, by considering both empirical and conceptual constraints. In particular, this chapter contributes to previous research by providing a

[66] This idea is already present in Danto: "to see something as art requires something the eye cannot descry — an atmosphere of artistic theory" (Danto, 1964, 477).

definition of dance that is both integrative, reflecting the plurality of forms of dance, and the complexity of dance art phenomena, and informative, allowing to distinguish dance from similar phenomena (i.e. it satisfies desiderata 1 and 2).

One of the virtues of this definition is that it overcomes limitations of previous definitions of dance assumed in psychological research. A second virtue of the proposal developed here is that it is well-suited for psychological research. On the one hand, our proposal is responsive to processes which will likely guide how lay people apply the concept of dance, because it considers the nature of our processes of action categorization (e.g. inefficiency of movement), and therefore, the psychological significance of canonical representations of dance. At the same time, by incorporating art schemata as a domain specific construct, the proposal allows for varying degrees of sophistication in dance categorization, from lay people that contextualize in terms of basic action categorization processes to an expert appreciator that likely apply a complex and interrelated set of representations of various categories of dance.

Finally, a third contribution of this study refers to the inclusion of the role of intentionality and contextual criteria. Incorporating those aspects in research entails that dances are not simply defined as perceivable stimuli; they are, instead, artistic artefacts (Bullot & Reber, 2013, 126), artistic performances (Davies, 2011a), the result of intentional activity, and as art objects, dances are not perceived just as any other movement stimulus.

This is relevant to assist the choice of stimuli for researchers interested in how dance is appreciated as an artistic object, and set a new agenda of research in dance appreciation. As stated by Christensen and Jola, "the definition of dance provided by the authors is critical because it indicates the key features on which the selection and creation of the stimuli were based and it further highlights which features of the stimuli were

relevant for the research." (Christensen & Jola, 2015, 227). The definition of dance considered by psychological research considered only perceptual criteria, focusing attention on how movement "looks like" (e.g. perceptual properties of movement). The addition of contextual criteria recognizes the relevance of framing such as where, when and how the object or performance is or was presented. Acknowledging perceptual and contextual factors is psychologically relevant because both influence whether people apply their dance art schema, and believing something is art has an impact on the experience and evaluation of the object in question.

Chapter 3. The nature of dance appreciation: An experience-based approach

1. Introduction

This chapter investigates the nature of the psychological state that constitutes dance appreciation, by synthesizing philosophical and psychological insights into this topic. The aim is to characterize the experience of appreciation as a psychological construct that can be empirically studied.

We can begin by drawing a distinction within the two set of questions that guide this inquiry. A first set of questions concerns the phenomenology of appreciation and focuses attention on dance appreciation not as a concept but as an experience: What happens in the mind of spectators when they appreciate dance? What is the experience of appreciating dance like? Answering them requires attending to the phenomenal features that typically characterize experiences which occur while appreciating dance, and searching whether there is any common feature that characterizes those experiences.

A second group of questions is about the conceptual boundaries of dance appreciation as a subtype of the broader phenomena of art appreciation, for instance: How does appreciation relate to other responses such as liking or understanding dance? What does it mean to understand or to "get" a dance piece? Is understanding necessary in order to appreciate dance as art or does it suffice to enjoy it? Is it the case that only knowledgeable people can appreciate dance, or is dance accessible to everyone? Answering these questions requires considering how different appreciative phenomena relate and differ. To do this, it is necessary to distinguish among different facets of appreciation, for instance, hedonic aspects such as "aesthetic pleasure" or "liking" and cognitive aspects such as "understanding", and see how they relate to each other.

Before we move on to the exposition, I would like to briefly recall where the dissertation stands now in relation to these questions. In the Introduction, I identified two sets gaps in previous research approaches. Some gaps are methodological, and refer broadly to the ecological validity of previous research, for instance, concerning the type of stimuli used or the operational definition of dance appreciation (e.g. asking participants to rate their liking or beauty in the face of short decontextualized stimuli). We have also seen that psychogical research in dance appreciation has generally adopted a bottom-up approach to the study of appreciation (looking at how different movement features affect the aesthetic evaluation of the viewer).

A second set of gaps concerns the conceptual definition of dance appreciation in psychological research, which identifies dance appreciation with aesthetic preference for dance (liking or beauty ratings). Overall, the way in which dance appreciation has been studied by psychological research presuposes a conceptualization of dance appreciation as a rather passive, reactive and almost automatic response to dance movement, and a decontextualized process that involves mainly hedonic valuation of movement stimuli.

The approach of psychology research in dance appreciation is at odds with conceptualizations of dance appreciation in some philosophical accounts (e.g. Carroll, 2016; Davies, 2011a; McFee, 2011). In contrast to psychological research, philosophical accounts approach dance appreciation in a top-down manner which departs from a distinction between the domains of the aesthetic and the artistic, and claim that there is a fundamental difference between appreciating dance as an artistic object and liking it. The latter entails finding pleasure in the perception of a dance and attributing aesthetic value to it (e.g. beauty, grace, elegance and the like). The former entails understanding the artistic purpose behind the piece and fixing the artistic value, considering things like whether the artist's choices are adequate to achieve the purpose of the piece. According

to philosophical accounts, appreciating dance as an art is a cognitive, reflective, and normative endeavour, not a matter of being attracted to art or having a positive attitude towards it, nor simply of experiencing its beauty.

The present chapter discusses and integrates those philosophical insights to develop a new conceptualization of dance appreciation. The goal is to develop a conceptualization of dance appreciation that overcomes the identified gaps in psychological approaches (see page 30) including:

a) An over-simplified definition of dance appreciation. In general, current psychological models of art appreciation, including models of dance appreciation, assume what Silvia describes as an "impoverished meaning" of art appreciation and experiencing art that "for the most part, are thought to be mild pleasant experiences, the sort of low-intensity states that are idealized by Western cultures that value emotional control and positive experience" (Silvia, 2013b, 157).

b) Reliance on a category mistake, assuming that the artistic and aesthetic domains are equivalent (i.e. the so-called aesthetic-artistic confound), thus equating aesthetic preference with art appreciation. Psychological research in dance appreciation has conceptualized dance appreciation as aesthetic preference, measured it as liking or beauty ratings, and has not used, for the most part danceworks as stimuli (artistic objects).

In the previous chapter, I started to address these gaps. I distinguished three levels of description of dance (as movement, as action, as artistic performance), and proposed that a key concept to understanding the complexity of the appreciation of dance as artform (vs. merely perceiving an aesthetic stimulus), is that of artistic intentionality. Insofar as artistic objects are artistic artefacts (objects or performances created by agents with an

artistic goal), our appreciation of art entails perceiving the artistic object as the product of intentional activity, so for example, trying to make sense of it, by applying the cognitive schemata of art, which are domain specific (e.g. the cognitive schema of "dance art").

In this chapter, I build on the conceptual foundations sketched in the previous chapter. In this case, my proposal is concerned with two issues: the conceptual definition of dance appreciation, and the phenomenological characterization of the experience of appreciation as an art experience. The way to proceed follows the same pattern as in the previous chapter: First, I provide some prior conceptual clarifications and then I elaborate my own proposal.

I start by describing three perspectives to address dance appreciation (psychological, critical, contextualist) in relation to the three basic elements involved in dance appreciation (person, object, context), and define dance appreciation as the psychological state that emerges from interaction between the appreciator, the dancework and the context of the performance.

After that, I set the scope and limits of the conceptual definition of appreciation. To do this, I review previous notions of appreciation and discuss them in the light of the two desiderata for an adequate account of dance appreciation (which were exposed in page 53), and the distinction between broad and narrow views of appreciation (which was introduced in page 23).

Finally, in section 4 I propose the concept of dance appreciation as an art appreciative experience, which I contextualize in relation to the problem of art experience. I characterize the art appreciative experience as having some features common to aesthetic experiences (i.e. a sensory experience that involves hedonic valuation), abut I focus on the characterization of this experience as "art" experience. To

characterize the features of art appreciative experience as an art experience, I apply the notion of experience of value (Higgins, 2006), and describe cognitive features of the appreciative experience, such as art understanding, and reflection.

2. Elements involved in dance appreciation: Person, object and context

Dance appreciation is a multifaceted phenomenon, which can be approached from many different angles, emphasizing different aspects, and perspectives.[67] Despite the complex network of influences that define dance appreciatio, a simplified and general description is to conceive as the result of the interactions between stimulus-, person- and situation-related influences (Jacobsen, 2006). Correspondingly, I propose that in its most basic formulation, there are three main elements involved in dance appreciation, the individual, the object and the context. Depending on which element we pay attention to, different aspects of appreciation are emphasized (or neglected), and different questions arise. The next sections briefly expose three perspectives related to each of these elements: the psychological perspective (focused on the person), the critical perspective (focused on the artwork), and the contextualist perspective (focused on the context).

2.1. Contextualist perspectives

A contextualist perspective to dance appreciation gives rise to questions like: How does the context affect the way that people appreciate dance? To what extent is appreciation a contextually embedded process? What is understood by "context" in dance appreciation is open to many interpretations but, generally, contextual factors refer to the time and space where appreciation takes place, including anything from

[67] For instance, Jacobsen (2006) proposes there are seven perspectives which can, and should eventually be adopted in the psychological study of art, which are diachronia, ipsichronia, mind, body, person, content and situation.

the broad cultural and historical context to the concrete performance set, and its features as a physical and social space (e.g. the typical co-presence of other audience members, or whether there is a stage, or another form or defined performance space that separates audience and dancers).

Examples of contextualist perspectives in philosophy of dance are those accounts that highlight the role of choreographic framing (Carroll & Banes, 1982), and categories of art (McFee, 2011). In psychology of art, the contextualist perspective is represented by the psycho-historical framework for the science of art appreciation (Bullot & Reber, 2013), that is elaborated for visual arts, yet, it may be in principle applicable to dance.

Finally, in psychology of dance, there is anecdotal empirical evidence on contextual effects of life-dance performances in judgements about dance (Jola & Grosbras, 2013; Vukadinović & Marković, 2012, 2017), which basically suggest people enjoy more live performance compared to the video presentation. This chapter does not intend to elaborate a full contextualist theory to explain the general effect of life-performance or any other particular contextual effect. Instead, for the purpose of defining dance appreciation, it suffices to provide a definition that is consistent with current empirical evidence, while incorporating the basic idea defended by contextualist models in psychology of art (Bullot & Reber, 2013) and contextualist approaches to dance appreciation (Carroll & Banes, 1982; McFee, 2011). In the last chapter, I formulated two broad implications of contextualism for a definition of dance (see page 69). For the case of defining dance appreciation, contextualism entails that the nature of appreciation is that of a situated process that depends on aspects of the physical, social, historical, cultural, economic and/or political.

2.2. The psychological perspective

If the focus is the person, the emphasis is placed on factors related to the individual beholder of the experience (psychological factors). From this perspective, attention focuses on the experience (psychological states and processes) during dance appreciation, which can be studied by means of judgements emitted by appreciators, and questions like what kind of mental state characterize dance appreciation, what dimensions underlie judgements about dance, and, what processes underlie the experience of appreciation.

The experience induced in the individual arises from the interaction of context, person and object. There is a myriad of factors that shape the appreciator's experience, including factors related to the beholder of the experience (e.g. personality traits, level of knowledge about dance, prior exposure to dance…), the dancework (with a particular content and particular properties, pertaining to one or more styles or genres…), and the context of the performance (the physical and social space of the dance performance as well as the broad art-historical context). However, the focus of this chapter is not the effect of any particular factor on the experience, but the general characterization of the experience itself.

There are, at least, two levels of description of this experience: the personal level (accessible by introspection) and the sub personal level (not accessible by introspection; processes, neural mechanisms, neural systems, and so on). My discussion is informed by the review of models of art appreciation, namely by the psycho-historical model (Bullot & Reber, 2013), and dual-process perspectives (Cupchik, 2014; Graf & Landwehr, 2015, 2017). However, the focus of my discussion is on the personal level of description, not on the underlying processes that psychologically constitute the experience, nor on the

neural correlates.[68] My inquiry is specifically focused on the nature of the psychological state of appreciation itself. In this sense, my proposal starts from the same concern expressed by Prinz:

> There has been a considerable amount of work on what makes an artwork worthy of appreciation, and less, it seems, on the nature of appreciation itself. These two topics are related, of course, because the nature of appreciation may bear on what things are worthy of that response, or at least on what things are likely to elicit it. So, I will have some things to say about the latter. But I want to focus in this discussion on appreciation itself. When we praise a work of art, when we say it has aesthetic value, what does our praise consist in? This is a question about aesthetic psychology. I am interested in what kind of mental state appreciation is. What kind of state are we expressing when we say a work of art is "good"? (Prinz, 2011, 71)

A potential limitation of a psychological approach to the experience of appreciation is an excessive emphasis on the subjectivity of appreciation (meaning broadly, those aspects of appreciation that are experienced as "personal", "private" or not accessible "from the outside"). In this sense, an approach focused on the experience risks reducing appreciation to a purely subjective endeavour. without given due consideration to critical and contextualist perspectives along with psychological ones.

2.3. The critical perspective

When the focus is on the object (the properties[69] of the dancework), relevant questions to the characterization of appreciation are the following: How do we ascribe properties to dance? What kind of properties are relevant to the appreciation

[68] For cognitive psychology models that describe the multiple stages and processes behind of aesthetic experiences with visual art and connects them with neural correlates, see Leder et al. (2004) and Pelowski, Markey, et al. (2017). For an application of multi-stage models (Leder et al., 2004) to the case of dance appreciation see Christensen and Jola (2015). For an alternative, yet compatible description of the processes involved in dance appreciation also from neuroscience view see the model for dance appreciation by Orgs et al. (2016).

[69] Here "property" is used as a synonym of "feature": "an attribute of an object or event that plays an important role in distinguishing it from other objects or events and in the formation of category judgments" ("feature", APA Dictionary of Psychology, 2020).

of dance? What is the relation between basic properties (e.g. properties that characterize physical movement) and complex properties attributed to danceworks (e.g. "beautiful")?

The focus on the object highlights the objectivity of appreciation, the aspects related to the definition of the object as art, or the properties of the object, regardless of the perception of it by any particular person. This approach is typical of art criticism or education in art analysis, and philosophers of dance like McFee (McFee, 2011) or Carroll (Carroll, 2016), who put critical analysis at the core of their definition of appreciation.

In contrast to psychological perspectives, a critical perspective focuses on the characterization of the dancework (e.g. the properties the object, and how different kinds of properties relate between them) not on the psychological state of dance appreciation.

The critical perspective gives primacy to the analysis of the object on its own terms, the principles that allow the discrimination of artistically-relevant properties, and fix the artistic value of a piece. From this point of view, appreciation can be defined as the activity of grasping and/or attributing properties to danceworks, which may occur regardless of whether we have had a direct experience with a work of dance.

For instance, as students on a course in "dance appreciation", our teacher could illustrate for us different dance genres, the historical context in which they appear, identify the art-relevant properties that we should pay attention to when we encounter a dance of a particular genre, or guide our attention towards the significance of a feature we did not notice. Those principles or guides may (or may not) be applied by appreciators in their future encounters with dance, but what is important from this perspective is the dancework, not the experience with the dancework.

3. The boundaries of dance appreciation

3.1. Conditions for a good definition of dance appreciation

As the reader may remember, in the previous chapter, I proposed an integrative framework for dance appreciation, one that synthesizes basic philosophical and psychological insights about what we know about dance appreciation to date (i.e. empirical and conceptual constraints[70]). In the context of this integrative approach, I proposed, two desiderata or minimal conditions to be met for an adequate account of dance appreciation (see page 53).

Recall that my first desideratum for an adequate account of dance appreciation is that it should be responsive to real dance practices, and the second desideratum is that it should be informative and not make it practically impossible for a well-informed judge to identify the phenomena as appreciation of dance artworks.

Therefore, a good definition of dance appreciation should favour broad and inclusive views of what dance appreciation is (i.e. broad enough to be inclusive of dance practices), and discriminating enough to be informative on the particularities of dance appreciation as a subtype of art appreciation.

With these desiderata in hand, the next sections review previous notions of dance appreciation psychological and philosophical research. To do this, I will develop the distinction between broad and narrow views of appreciation exposed in the Introduction (page 23).

[70] For an exposition of empirical and conceptual constraints see, section "Empirical and conceptual constraints" in chapter 1 of part I.

3.2. Broad and narrow views of dance appreciation

A broad view of appreciation includes a great variety of responses (understanding, aesthetic experiences, personal preference, artistic preference, fixing the artistic value of something, artistic judgements of the piece as beautiful, graceful, elegant, interesting, entertaining, agreeable, pleasurable, and the like) and studies appreciation in relation to diverse processes (perception, emotion, hedonic valuation, semantic processing, etc.). For instance, Munro defines art appreciation as "how people perceive, understand, and otherwise respond to works of art; how they use, enjoy and judge them" (Munro, 1963, 268). Munro's proposal requires some amendments to apply it to dance appreciation,[71] yet, overall, it is a good starting point for the inclusive view of appreciation that I intend to develop. In the following paragraphs I will comment on two aspects of the broad view of appreciation: the primacy of an overall positive appraisal, and the distinction between the valence of the psychological state and the valence content of the object.

To begin with, in a broad view of appreciation, appreciation is not conceived as a "neutrally-valenced" state. Appreciating art in a broad sense means having an overall positive appraisal, a positive attitude towards an art object. From this perspective, the nature of appreciation, as a psychological phenomenon, is characterized by a positively-valenced state which has the behavioural counterpart of motivating an approach to the object, to "engage" with it, and show "a positive disposition toward an art object" (Conroy, 2013a, 208). The negatively-valenced manifestation of appreciation is depreciating something: showing a negative motivational disposition of (a tendency to avoid or disengage with the object of appreciation).

[71] For instance, the "use" of artworks does not seem applicable to the case of dance appreciation.

Secondly, it is possible to have a positive appraisal of the artistic object (an overall positively-valenced state) while the content of the object is negatively-valenced. As we will see later, in the second empirical study, where the content of one of the dance performances is described in negatively-valenced terms (using words like "angst", "death" or "pain"), yet the overall appraisal of the piece is still positive. Our engagements with art are typically guided by "hedonic expectations" (Menninghaus et al., 2017). A hedonic expectation does not imply that the hedonic content of the psychological state during appreciation is positive itself (the content can be sad, disgusting, or fearful, as in sad music, gore and horror movies).

This understanding of appreciation is the default definition at play in psychological models (e.g. Leder et al., 2004; Menninghaus, et al., 2017; Orgs et al., 2016) and is also widely accepted among contemporary philosophers of dance (e.g. Conroy, 2013a, 2019; Bresnahan, 2017; or Montero, 2006b, 2013). As an example of this characteristic of the broad sense, take Olson's definition of art as "the act of apprehending a work of art with enjoyment" (Olson, 1988).

In contrast to broad views, narrow views of appreciation restrict appreciation to one of its multiple manifestations and dimensions. I have distinguished two types of narrow view, one that equates appreciating with liking (narrow-reactive), other that equates appreciating with critical analysis (narrow-reflective). Table 2 summarizes the typical responses and modes of engagement associated to each narrow view.

Table 2. Broad and Narrow Views in Relation to Reactive and Reflective Modes of Response and Typical Responses Associated with Each Mode of Response

Broad

Narrow-reactive	**Narrow-reflective**
Reactive, impulsive, typically automatic and unconscious	Reflective, deliberate thought, typically consciously and controlled
• "Being moved" by art • Liking, enjoyment • Automatic elicitation of emotions	• "Sizing up" art • Art understanding • Interpretation

Examples of narrow views can be found in psychology and philosophy research, yet the narrow-reactive view is typically presumed by psychological research in dance appreciation, and the narrow-reflective is typical of analytic dance philosophers that hold a cognitivist position.

Psychological literature equates dance appreciation with aesthetic preference (liking), and previous research in dance has focused almost exclusively on the "reactive mode of engagement with art" (Cupchik, 2014, 69), or "basic exposure mode" of art appreciation (Bullot & Reber, 2013, 128), characterized by processes like perceptual representation, basic syntactic and semantic processing, or automatic elicitation of emotions; while leaving out the "reflective mode of engagement with art" (Cupchik, 2014, 70), that involves artistic understanding and is characterized by processes such as theory-based reasoning about the content, form and function of the artwork, etc. (Bullot & Reber, 2013, 128).

In contrast to psychological research, the narrow-reflective view of some dance philosophers focuses only on the most intellectualized sense of appreciation, related to critical analysis (McFee, 2011), or "sizing up" (Carroll, 2016). From this view,

appreciation entails identifying the artistic purpose of a piece, and evaluating whether the artistic choices (in the case of dance, the choices of choreographers an dancers) are adequate to realize its purpose (Carroll, 2016).

In the following two sections I expose the main problems with narrow views, and start to sketch my proposal of an integrative view. My proposal builds on the insights gained from the exposure of the limitations of narrow views to develop a comprehensive and inclusive view. We will see that, in contrast to the subjectivity of the narrow-reactive view and its neglect of higher order processing, the narrow-reflective view of appreciation highlights the cognitive orientation of appreciation, which focuses more on the object of appreciation, and less on the person's experience of appreciation. This focus on the object has the benefit of highlighting one important dimension of art appreciation neglected in previous psychological research: the objectivity of dance appreciation. Therefore, my integrative view incorporates those aspects (cognitive orientation and objectivity), while avoids the problems of the narrow-reflective view.

All these concepts will be further exposed and elaborated in due time, for now, the next section explains the main problem with the narrow-reactive view (equating appreciation with liking), and how I propose to overcome those limitations.

3.3. The problem with the narrow-reactive view: Liking art vs appreciating art

Liking and appreciating art are closely related yet distinguishable concepts. If we understand liking and appreciating art as attitudes, we can expect them to be consistent most of the time. As a general rule, we typically tend to avoid dissonance between attitudes towards an object, which in the case of art appreciation means we typically tend to value highly those pieces of art we like, and like those pieces we consider good art. At the same time, there is room for distinction between liking and appreciating art.

One may be able to recognize what makes *Swan Lake* a master piece, yet personally dislike it. And the other way around, one can like the choreography of a hit summer dance, yet recognize it is a really bad piece of art.

This section exposes how art appreciation is conceptually distinguishable from liking, and why the distinction between liking and appreciating is psychologically relevant. Basically, it is relevant to reflect distinct features of art appreciation which are domain specific (i.e. specific of the artistic domain), such as: 1) the developmental nature of appreciation (appreciation is something we learn); and 2) the complexity of appreciation as a value-laden activity (not reduced to hedonic valuation).

3.3.1. Aesthetic development

The distinction between liking and appreciating art is important from a developmental perspective, and it is a mistake to simply reduce one to the other. As exposed in section 2.1, we learn to appreciate art, and our evolution in art appreciation follows a developmental schema along the lines of learning the rules in that art-specific doman. According to models of aesthetic development (Housen, 1999; Parsons, 1987), in initial stages of development, appreciation is basically based on personal preferences and we then later develop the ability to appreciate art with understanding, guiding our attention to artistically-relevant properties and basing our judgements on them.

There is a sense in which we can learn to recognize the value of art as something objective and independent of our personal taste. Imagine you are instructed by someone to show you why one piece is better than other. As a result, it is possible that your understanding of a piece's value changes (e.g. we understand the reasons that objectively make *Swan Lake* a masterpiece, or we understand the reasons that make a summer hit

choreography a really bad piece), yet the personal, subjective attraction towards the piece may remain the same.

Liking is a matter of personal preference, which may or may not be affected by a heightened understanding of the artistic quality of something. Preferences are based on a more reactive and affective response, while attributing artistic value to something admits a higher degree of objectivity and reflectivity.

This example is intended to show that we can be directly instructed to guide our attention to features which are artistically relevant and discover relations between them, and recognize the artistic value of something, in a way in which we cannot simply be directly instructed to like something, or feel joy with it. We either like it or we don't. The connection between liking and appreciating art is strong, yet it seems stronger than what actually is, maybe because trying to analyse and judge art in an objective matter is cognitively effortful.

In the next section, I comment on an example from a real empirical study in psychology, to show why it is necessary to consider objectivity and reflectivity of appreciation.

3.3.2. Judging dance: subjectivity and objectivity in dance appreciation

In a series of empirical studies conducted by Reason and Reynolds (2010), participants were asked to describe their experiences with danceworks under different conditions. One of the conditions was with music, and another without music, which allowed attention to be focused only on the dance, and highlight the physical aspects of dance, such as breathing sounds, the muscles of the dancers, etc.

Results showed high individual differences in how some properties of danceworks were valued by participants. As an example, we will consider how two participants

referred to the same quality of the dance (the perceived effort in dancer's movements, the "corporeality" of movement, which I relate to the property of being "visceral") and valued it in opposite ways.

As we will see, both participants grasped and highlight the same property of the dancework (i.e. being visceral), yet their evaluative criteria in considering it a merit or demerit for the overall evaluation of the piece were opposite. For Nicole, the viscerality of the dance was a demerit, for Don a merit. Their subjective experience also differed: Nicole felt "uncomfortable", while Don was "interested".

On the one hand, Don, reported that he loved watching "the beads of sweat thrown off the forehead as they turned round"; and the intensity of the silence. He considered the sheer physicality of the dance as an artistic merit as "you can see the hard work, you can feel the hard work that's gone on there" (Reason & Reynolds, 2010, 69). In contrast to Don's interest in the sweat and effort of the dance, Nicole felt "uncomfortable" when there was no music as "it was too intimate", "too close" …. "I didn't want to feel like that." (Reason & Reynolds, 2010, 69). She considered the sheer physicality of the dance an artistic demerit: "Do you actually need to see the hard work? I mean for me, I think that life itself is so hard and everybody is working really hard, do we actually, when we come and see art, do we need to see all the sweat and the tears and the exertion ..." (Reason & Reynolds, 2010, 69).

Both positions are warranted in their property ascription, and if those appreciators were asked for reasons to support their judgements, Don might have reported that he valued the effortful movement appearance because it provided him a sensation of connection with the dancers' physicality. Nicole might have reported that she did not like effortful appearance, because it was too "intimate" and "close", or because it provoked in her discomfort and tension.

The authors of this study explained the discrepancy between the spectators as a difference in the personal preference of each appreciator for engaging in either escapist vs. sensualist encounters with dance. Nicole preferred dance that allows her to "evade" herself, while Don's preference related to "sensuality". However, there is more to learn from the case of Don and Nicole than that they simply differ in their preferences (liking it) and in their affects and artistic judgement on the piece.

Imagine a post-performance situation in which Don and Nicole explain the reasons for their judgements to each other. If they are able to articulate their reasons, and both are reasonably open to assuming the other's point of view, they may learn something new, namely something about how to appreciate dance, a different way of seeing the same property of dance, which they may apply to future encounters with dance.

To be able to understand the other's perspective, they have to assume a distance between their personal preference and the assessment of the dance piece's overall value, as a piece of art. They must differentiate between their personal preference and their judgements that fix the artistic value of something. Their preference may likely remain the same, but listening to each other, they may learn a different way to evaluate the same property of dance either as an artistic demerit or merit.

This example is intended to illustrate three features of dance appreciation:

1) The great inter-individual variation in artistic judgements, and how strongly the overall evaluation of a dance piece is influenced by subjective factors and personal preferences.

2) The cognitive orientation of dance appreciation (Beauquel, 2013). A cognitive orientation meaning a "mind-to-world" direction of fit, in the sense that appreciation involves attributing properties to an external object. The cognitive orientation contrasts

with the conative orientation of other mental states, like a will or a desire: "we will or desire what does not yet exist, and our desire is satisfied if the world provides what we want" (Beauquel, 2013, 25), thus the direction of fit is "world-to-mind", the will or desire depends on the subject.

Recognizing the cognitive orientation of appreciation entails that there is common ground in "what" we appreciate, and at least to some degree, it is shareable with others. Despite the interindividual variation in preferences, there is a common (and shareable) ground for judgements. Nicole and Don may disagree on the type of dance they prefer and what they desire in a dance piece (conative orientation) but both recognize and refer to the same property of the dance piece, which means there is a common ground for their ascriptions (cognitive orientation).

For all that, without denying the centrality of the subjective experience, reducing dance appreciation to the study of preferences leaves out questions related to cognitive orientation such as under what conditions it is possible to speak of "knowledge" about aesthetic matters, what Kieran calls "aesthetic knowledge" (Kieran, 2011).

3) An appreciator can (potentially) assume a psychological distance between her preference and judgements fixing the overall artistic value of a dance. Preferences are not the whole story for appreciation, but simply one among other types of artistic judgements. Some judgements (like preferences) are more subjectively based, while other are more objective and/or descriptive; they depend on whether the object possesses certain properties or not (e.g. being visceral is a property based on the perceived effort of the movement). According to the models of aesthetic development exposed above, we learn to fix the value of artistic objects, by learning to recognize their properties.

For all that, I defend the need to develop an approach to dance appreciation that goes beyond liking. First, because reducing appreciation to liking is conceptually

inadequate, appreciating art is not necessarily a purely subjective endeavour, and second because considering dance appreciation beyond liking is psychologically relevant.

On the one hand, the inclusion of the objectivity and reflectivity of appreciation is important for psychological research in order to consider the developmental dimension of appreciation, and opens up a line of research guided by questions like the following: What are the psychological foundations of art expertise? What does it mean to appreciate an artistic object with understanding? How can we develop a subtler evaluation of the object in its own terms (i.e. by looking at its properties, not at our preference for certain features)? On the other hand, distinguishing liking from other appreciative responses opens up the study of artistic value in dance, and the possibility for discussions about the psychological foundation of dance art value, and the particularities of what makes danceworks valuable beyond the pleasure and entertainment they provide.

All these questions are secondary for the narrow-reactive view, yet they are at the core of the nature of appreciation as a complex value-laden activity, and our complex relation to art which is not reduced simply to liking or disliking it.

3.3.3. The complexity of artistic value

There is a sense in which the simple status, or categorization of something as "art" entails the object has some value, but it is not clear what artistic value consists in. Art can be valuable for many reasons, including the economic market reasons, being part of a particular cultural heritage, and psychological reasons, such as the joy or subjective feelings it provides. Leaving aside economic and cultural factors, the focus here is only on the psychological factors of the value of art.

Psychological research on art appreciation typically sidesteps and avoids any question related to artistic value,[72] with the exception of Reber (2008). This avoidance is problematic because the question of artistic cannot be marginalised from art appreciation without incurring a severe loss of explanatory force. First, because it neglects the nature of art appreciation as an essentially value-laden activity, second, because the explanation of value in art is domain-specific (i.e. a psychological explanation of artistic value cannot be achieved by directly applying the criteria of other domains, such as hedonic valuation).

For all that, a comprehensive psychological account of dance appreciation should explain *how* we appreciate art (e.g. what properties we attribute to it, what is the experience of appreciation like, what processes underlie this experience, what types of judgement are, how our skills of appreciation evolve with experience, etc.), without losing sight of *why* we consider art experiences valuable in the first place (what principles guide our attributions of artistic value). At the very least, aspects of how we appreciate art must be considered together with a more basic question that refers to why we appreciate art (i.e. what is artistic value? what is worthy about our encounters with art?).

To sum up, we have just seen that the main limitations of the narrow-reactive view are that: i) it does not differentiate liking art from appreciating art, ii) it is not responsive to the developmental nature of art appreciation as something we learn to do, and iii) neither to the objectivity and normativity involved in art appreciation. A comprehensive account of dance appreciation should go beyond the narrow-reactive view that sees appreciation as liking, in order to reflect the developmental nature and objectivity of appreciation: We can learn to fix the value of a dancework, despite not liking it.

[72] For an exposition of the reasons for this avoidance see Leder (2014, 119-120).

A potential solution to overcoming these limitations may be the conception of liking as essentially different from appreciation, and focusing instead on the developmental nature, the objectivity and normativity of appreciation. This is precisely what cognitivist views of appreciation propose by describing appreciation as a kind of reflective engagement with dance (vs. the reactive engagement presupposed by the narrow-reactive view). From this view, learning to aappreciate art means, among other learning to "fix" the value of artworks (Carroll, 2016, 7).

As we will see in the next section, adopting a cognitivist perspective allows us to integrate these aspects neglected by the narrow-reactive view. However, adopting a too narrow view that focuses only on those reflective aspects (narrow-reflective view) is not without problems either. I first expose the virtues of adopting a cognitivist approach and then the problem of a narrow-reflective view.

3.4. The virtue of aesthetic cognitivism: Integrating reflective aspects of dance appreciation

Cognitivist views of dance appreciation defend that dance functions cognitively (Elgin, 2010), has cognitive value (Carter, 2003), and generally emphasize the role of "understanding" in dance appreciation (Carter, 2003; Elgin, 2010; McFee, 2011). In this context, understanding refers to intellectual comprehension or "cognitive understanding" (Carter, 2003, 124), and is defined either in a broad way, as "an epistemic achievement" (Elgin, 2010, 2), or in a more specific way, as the ability to deploy adequate art categories during the experience of watching dance (McFee, 2011).[73] Overall, the cognitivist view of dance appreciation relates to the

[73] In contrast with aesthetic cognitivism would be the position of *aesthetic sentimentalism*, which emphasizes only the affective dimension of art appreciation: "appreciation is an emotional response" (Prinz, 2011, 71).

philosophical position known as “aesthetic cognitivism” that claims art objects are “fit objects of understanding” (McFee, 2011, 19).

Aesthetic cognitivism argues that appreciators deploy their cognitive background (e.g. concepts) during the experience of watching dance, in other words, that appreciation goes beyond mere perceptual reactions. The simple perception of the object, while necessary, is insufficient to constitute appreciation (McFee, 2011, 238-241).

The overall idea of aesthetic cognitivism corresponds roughly to what researchers in empirical aesthetics term “appreciation of art based on understanding” (Bullot & Reber, 2013, 130), and covers various aspects related to “cognitive mastery” (Leder et al., 2004), “aesthetic fluency” (Smith & Smith, 2006), “cognitive fluency” (Belke, et al., 2010), “conceptual fluency” (Grag & Landwehr, 2015, 2017), “conceptual expertise” (Orgs et al., 2018), and “proficiency” in art (Bullot & Reber, 2013, 130).

In psychological literature, artistic understanding is described as “perceiver-driven processes” (Graf & Landwehr, 2015) that operate at a “deliberate cognitively controlled level” (Belke, Leder, & Carbon, 2015) and relates to what has been generally coined “system 2” (Kahneman, 2003). Appreciation of art based on understanding has been described in relation to processes of sense-making and meaning elaboration of the input of experience (Leder et al., 2004), such as: “reflecting about self-referential aspects of art; understanding personal or social meaning of an artwork; recognizing the relation among medium, style, and content; grasping the significance in art-historical or art-critical contexts, and so on” (Pearce, et al.,2016, 269).

A relevant difference between philosophical and psychological cognitivist perpsectives is the descriptive/normative force attributed to the role of understanding in art appreciation. Correspondingly, I have distinguished two forms of aesthetic cognitivism: descriptive cognitivism and normative cognitivism.

Psychological research includes understanding as part of the comprehensive description of the cognitive functioning behind appreciation. Cognitivism has here a descriptive function, it simply describes the cognitive dimensions behind our appreciation of art, and the role of top-down higher order processing. From this viewpoint, understanding and cognitive reflection are part of appreciation, alongside emotional and perceptual responses.

In contrast to the descriptive view, for some authors in the philosophy of dance (e.g. Carroll, 2016; McFee, 2011), understanding has normative force, it prescribes what counts as appreciation. Here, appreciating with understanding refers not simply to a reflective mode of engagement with the object, but additionally, requires an "adequate" comprehension according to some norms or standards of what is valuable in art.

To speak of understanding (from a normative cognitivist view) it is not sufficient that the appreciator tries to make sense of the piece, employing concepts during appreciation; it requires the application of the right concepts. On McFee's view, for example, the opposite of appreciating dance is not disliking it, but misunderstanding; i.e. applying the wrong concepts during dance perception.[74]

Also, liking or enjoyment is not part of what it means to appreciate art, because it has nothing to do with the normativity of appreciation, the idea that art appreciation is a value-laden activity that entails attributing artistic value to something, such that there are right and wrong ways to do it, and the right ways are linked to cognitive and analytic responses, while affective or emotional responses are beyond the scope of proper art appreciation. This is why I have called this view the "narrow-reflective" view.

[74] McFee uses the term "mis-perception", instead of "mis-understanding" to refer to the same idea (McFee 2011, 14-18).

As an example of this normative interpretation of cognitivism, consider how Carroll (2016) defends the superiority of this view over "appreciation-as-liking" (i.e. what I have called the narrow-reactive view):

> Appreciation-as-liking appears to be at odds with the possibility of acknowledging that an artwork possesses value, while also asserting that it is not to one's liking, either because one dislikes it or is merely indifferent to it, appreciation-as-liking is a less promising account of "appreciation" than appreciation-as-sizing up since appreciation-as-sizing up denies the idea of any necessary logical or necessary psychological connection between fixing the value of an artwork and liking or being attracted toward it. (Carroll, 2016, 7).

3.5. The problem with the narrow-reflective view: Normative cognitivism

The main problem of the narrow-reflective view is that it is unnecessarily narrow in the range of responses it admits as appreciation. Why should we restrict appreciation to a cognitive achievement, and leave out from appreciation affective responses, liking, or enjoyment? In contrast with Carroll's quote above, I propose that it is not necessary to leave out liking responses as appreciative responses, but it is sufficient to accept that both, liking and sizing up are some, among many different manifestations of art appreciation. Liking is a common manifestation of how non-experts and experts experience an artwork as valuable, and sizing up another, which is probably more common among experts. These responses differ in that liking is based on more subjective, personal, and affective reasons, while sizing up an artwork entails analysis and art knowledge, but both are two legitimate ways in which people recognize and acknowledge the value of an artwork. As we will see later (page 129), I propose to conceive appreciation, broadly, as an experience of value, and artistic value as a mix of cognitive, hedonic, and expressive value. From this view, a natural move is admitting that there are many forms of appreciation, including understanding, and enjoyment.

I concede, in accordance with the cognitivist of Carroll (2016) and McFee (2011), that there are good reasons to establish a conceptual distinction between different types of responses, for instance, between liking and fixing the artistic value, between hedonic evaluation and artistic evaluation. However, one thing is to say that there are different levels of expertise and sophistication in art appreciation, and other is to say that what non-experts do does not qualify as appreciation. The cognitivist view tend to rely too heavily on the kind of responses that are proper to art criticism to set the limits of what means to appreciate dance, but this is an ideal model of what appreciation should be, not how it is.

Unlike the narrow-reflective view, I defend that, once the conceptual distinction between different types of responses is established at the conceptual level, it is possible (and according to desideratum 1 for an adequate account of dance appreciation, see page 53) to be inclusive in definitions of dance appreciation, which in this case means admitting a variety of responses that can be legitimately included as appreciative responses, regardless of the level of expertise.

The second problem with this narrow-reflective view is that it assumes we already know what the right understanding is, when maybe, most of what we know about what means "dance understanding" is what we have been told about how art should be understood and appreciated for. However, there are reasons to doubt about this assumption. Firstly, it is not clear which or whose criteria determine the correctness of understanding in dance appreciation (should we simply trust dance critics?). Also, there are good reasons to question anyone's self-proclaimed criteria of correctness for the correct understanding of art, because we are biased in our self-attributions of epistemic authority in aesthetic matters.

To begin with, debates on art are highly influenced by social desirability and status, in the form of "snobbery" and an overestimation of the "epistemic authority" in

aesthetic issues (Kieran, 2011), which means we tend to assume we know why we attribute value to certain forms of art and art pieces beyond others, yet we underestimate the degree in which our judgements are biased. Any criteria proposed about what is worthy, and correct in art, and its appreciation is likely biased by psycho-social, political, religious, economic and cultural factors that are independent of artistic matters. Take for instance, the influential framework of Hegel's philosophy of art, in which he omits dance from the canon of major art forms because dance is deprived of the cognitive value he prescribes for major artforms: "We do not dance in order to think about what we are doing; interest is restricted to the dance and the tasteful charming solemnity of its beautiful movement" (Hegel, 1835; retrieved from Carter, 2003, 129). According to Carter, Hegel's view of the lack of cognitive value in dance is directly related to its sensual or bodily character: dance is "too closely bound to the body, and thus to the sensuous material world, to be effective for communicating rational self-understanding." (Carter, 2003, 129).[75] Regardless of the reasons that led Hegel to exclude dance as an artform, this example simply wants to show that what still an influential and respected view of what is valuable in art, and what means understanding art may be not applicable today to the case of dance art.

If we look at dance insiders' discourse, of particular relevance to them for understanding dance is its connection to sensual and corporeal aspects. An observer may become "captivated by a work of dance art in virtue of the way in which it resonates with her bodily" (Conroy, 2013a, 208), and some judgments about the quality of a dance performance are made on the basis of our bodily responses to it. For instance, when "reaching our viscera" is the key goal of a choreographic creation, our bodily responses

[75] A step forward would be considering the reasons behind this view of cognitive values and rationality as both superior and opposed to hedonic values and corporeal sensuality, and how all that connects with the traditional connection of dance's values with feminity.

to the piece may be a way of "affording us greater insight into the embodied character of the art form and the tactics deployed by choreographers" (Conroy, 2013a, 208). What dance theorists points out is not that the corporeality of dance is all there is to understand about a dancework, but that aesthetic interest in the human body and its movement is a central aspect of why and how people appreciate the art of dance. Here is dance critic Arlene Croce illustrating well this idea:

> The mysterious drama of this dance ["Event No. 95"] is unique in the Cunningham repertory at the moment […]. One is entertained solely by the formal values of dancing—by what Cunningham in his Town Hall lecture described as "the passage of movement from moment to moment in a length of time. […]. Those who aren't disposed toward this dry sort of interest probably shouldn't risk a night at Westbeth, but those who get pleasure from the sheer physical act of dancing and from its cultivation by experts will find their pleasure taking an endless variety of forms, and, several times in the course of an evening, they may even be moved to ecstasy. (Croce, 1978, 50–51).

In line with Conroy and Croce, I consider it reasonable to accept there is a sense in which appreciating dance with understanding does not entail intellectual understanding, but responding to it in a "bodily", "visceral" way. Dance appreciation is influenced by somatic states, such as bodily feelings, and those bodily feelings may be qualified as: a) pleasure/displeasure; b) bodily manifestations of particular emotions (e.g. feeling anxious) and diffuse affective states (such as being moved, or excited); c) sensorimotor responses to perceived movement qualities. Regarding the latter, some common examples are rhythm contagion (e.g. feeling of getting "caught" by the rhythm, sometimes manifested in toe-tapping or head movements), and bodily feelings such as a feeling of suspension (e.g. in the middle of a jump or series of *portés*, as in *Giselle*'s Act II Pas de deux[76]), and feelings tahat involve muscular tension, for instance in response to

[76] Giselle's Act II Pas de deux: https://www.youtube.com/watch?v=ql3o-1eSdbQ

fast, intricate and very demanding movements[77] or in response to an overt manifestation of effort (e.g. Butoh dance[78]).

As an appreciators of painting colours learns to make sense of the artistic medium of painting (e.g. visual aspects like colours and forms), dance appreciators learn to make sense of the artistic medium of dance (e.g. sensual and corporeal aspects of human movement qualities such as tension, suspension, rhythm, and the like). In this sense, bodily experiences (e.g. sensations, feelings of how movement feels like) are part and parcel of dance expressivity. Thus, there is a sense in which bodily experiences may pave the way for artistic comprehension of dance, for instance, allowing to understand the scope and limits of human movement as medium for artistic expression. In this sense, appreciating dance with "understanding", entails not simply intellectual understanding, but approaching dance as the art is an exploration and expression of our nature as embodied agents (Beauquel, 2013). If, sometimes, what means understanding dance may be better captured by how we engage with human movement in a reactive (bodily) way, that by how we engage in a reflective (intellectual) way, then what means to understand dance is not restricted to how we engage with dance by means of intellectual comprehension, neither by sizing up.

Note that my argument here is that appreciation is a complex and multi-layered response that includes cognitive and corporeal integrated (but not necessarilty separable) elements. Therefore, my argument does not entail that all there is about dance understanding is exhausted by one type of engagement. All that suggests that there is, at the very least, a sense of understanding dance that it is not fully captured by intellectual

[77] See, for example, Williams Forsythe's *In the middle somewhat elevated* (1987): https://www.youtube.com/watch?v=HqS4Gh1lMGA

[78] For examples of Butoh dance see Kazuo Ono's performance: https://vimeo.com/14766580 or Imre Thormann's performance https://www.youtube.com/watch?v=9ms7MGs2Nh8

engagement or cognitive comprehension. If there is a relevant sense of what it means to understand dance that goes beyond a reflective intellectual engagement, then I do not see why it should be excluded from a comprehensive view of dance appreciation. Therefore, the narrow-reflective view fails in not being inclusive of relevant dance appreciation phenomena, not satisfying my first desideratum.

Overall, what has been discussed about what means to appreciate dance with understanding is problematic only for normative forms of cognitivism, because they prescribe a normative role of understanding. Therefore, normative cognitivism must face the question: Whose or which criteria can we trust to determine where is the line between correct and incorrect dance understanding? Do these criteria respond to artistically relevant matters or to some type of bias towards considering certain types of values for art as the ideal models according to which dance should be understood too?

I do not have a definite response to those questions but, considering the diversity on the ways to conceive what means understanding in the context of dance appreciation, a cautious position is leaving open the door, in principle, for a complex, multi-leveled, inclusive view about what, if any, those criteria of may be. At this point of theoretical development about dance appreciation, there is more to gain trying to accommodate and being responsive to diverse forms of conceiving where the particularities of dance's artistic value lies. Therefore, my cautious decision is constraining aesthetic cognitivism as descriptive claim, because in this way is compatible with an inclusive view of dance appreciation. Such a inclusive view contemplates a variety of paths to appreciate dance with understanding, including sizing up, critical understanding, and other forms of comprehension that are less intellectual than experiential (e.g. the comprehension of sensuality and minded corporeality as part of dance's value).

To sum up what we have said until now. First, for setting the boundaries between dance appreciation and other phenomena, I analysed various concepts related to art appreciation such as liking and understanding, their relation to the two narrow views. Along the way I have claimed in favour of a comprehensive view that synthesizes insights from narrow views and integrates them in a comprehensive way. The resulting accounts defines appreciation by incorporating reactive aspects (typically related to more subjective responses such as liking, enjoyment, etc.), and reflective aspects (typically related to objective matters such as understanding the artistic value of something beyond personal preference).

In the following section I further develop the conceptualization of dance appreciation, focusing now on developing the concept of dance appreciation as an experience. This proposal builds on the broad view of appreciation, and offers ways to overcome the limitations of narrow views mentioned. In particular, we will see that, instead of avoiding the question of artistic value, I approach appreciation as an experience of value. And to avoid the problem of cognitivism as a normative claim, I develop a cognitive position in a descriptive way.

4. An experience-based approach

An experience-based approach to dance appreciation is based on the premise that we (typically) need to have an experience with a dancework in order to appreciate it, and we can individuate our experiences with dance as events distinguishable from the ordinary, continuous stream of experience. The objective of the following sections is the characterization of this experience as a psychological construct.

There are various ways to individuate or delimit the scope of this experience (i.e. how do we define the limits of this "unit" that is an experience of dance appreciation?).

One way involves the characterization of this unit as a psychological phenomenon (what is this experience like? how does it relate to and differ from other similar phenomenon?). Another way to delimit this experience relates to its temporal scope (how long does the event last?). I will explore both ways along the following paragraphs.

Firstly, the psychological characterization of dance experience is rather elusive, as every person's experience will present peculiarities that result from the complex and unique interaction of the object (with particular properties), the context (cultural, historical, physical, etc.), and the beholder of the experience, with a myriad of potential sources on individual difference (e.g., personality, prior experience with dance, dance knowledge, personal relation with the performers), a part from the particular space occupied by each member of the audience that offers a slightly different perceptual perspective of the dance. In this sense, each experience is "unique" insofar it will be slightly different for each appreciator, each dance piece, and each particular context.

However, regardless of the obvious sources of variation, there are common patterns, regularities or features that typically define this type of experience, such as: a) an aesthetic phenomenal profile (an intense attentional focus, a subjective sense of "flow", getting lost or absorbed, a self-rewarding motivational profile, etc.), and b) cognitive components related to higher-order cognitive functioning, such as reflection, and sense-making. The first set of features are common to so-called aesthetic experiences. The second set is typical of art appreciation (appreciation of artistic objects) and art experiences (experiences of artistic objects). In the next sections I define aesthetic experience and art appreciation, and finish with a definition of dance appreciation as an art appreciative experience.

4.1. On the notion of aesthetic experience

Aesthetic experiences are psychological events evoked within a person through his/her perception which involves hedonic valuation of a sensory stimulus. This event can be characterized as a mental state (e.g. Bullot & Reber, 2013) and as a composition of psychological processes (e.g. Leder et al., 2004).

As a mental state, aesthetic experience is characterized as "emergent states, arising from interactions between sensory-motor, emotion-valuation, and meaning-knowledge neural systems" (Chatterjee & Vartanian, 2014, 371). Nowadays, it is broadly accepted that there is a continuum between the psychological processing mechanisms involved in our aesthetic experiences and those involved in "ordinary" psychological processing that involve perceptual, cognitive and affective processing (Chatterjee & Vartanian, 2016).

As a composition of processes, it is defined as multi-stage processes by which sensory information (i.e. perceptual representations of a given sensory stimulus) acquires (i.e. is imbued with) hedonic value. "Hedonic value" may comprise several distinct variables, such as pleasure (pleasantness), preference, or utility which can be measured by verbal ratings, as well as reward value and incentive value (Skov & Nadal, 2020). The "hedonic tone" is the operationalization of hedonic value; i.e. the verbal expressions used to measure hedonic value, such as rating scales of the degree of pleasure/displeasure, preference (liking/disliking), or beauty/ugliness. In the case of aesthetic experiences with art, those scales (pleasure, preference, beauty) are commonly called "aesthetic judgements".

Aesthetic experiences present typically a positive hedonic value that is not linked to any particular utility. The positive valence of aesthetic experience means that we are inclined to maintain this experience or the beholder feels attracted towards the object (in contrast to be repulsed by it). There is a tendency to keep on looking at it, with this

motivation, typically, not responding to any concrete practical purpose. In this sense, the aesthetic experience is characterized by phenomenal features like focused and maintained attention on the object, and a but being maintained for its own sake. I will comment later on more detail on these phenomenal features of aesthetic experiences (sustained attention and self-sustaining motivational profile), but for now, just notice that these features of aesthetic experience are also present in psychological and philosophical definitions of aesthetic experience. For instance, Pearce et al. (2016) provides a psychological definition of aesthetic experience as a: "perceptual experience evaluative and affectively absorbing (though possibly not satisfying particular motivational desires), in individually and culturally meaningful ways" (Pearce el at., 2016, 269). In a similar vein, Shusterman (1997) characterizes three dimensions of aesthetic experience: an evaluative dimension (involves a valuation of an object), a phenomenological dimension (involves a subjective feeling or savour, a drawing of one's attention), and a semantic dimension (a meaningful experience, not a mere sensation).

The traditional way of defining aesthetic experience conceive it as one special or extraordinary type of experience, linked to fine arts and/or requiring a refined "taste", or a special, "sense for beauty". Art objects are among the most common source of aesthetic experience, to the extent that some definitions of art start from the notion of aesthetic experience (e.g. Beardsley, 1969; Dewey, 1934). However, the contemporary notion of aesthetic experience defines aesthetic experiences as a spectrum of different sensory experiences that involve hedonic valuation (Pearce, et al., 2016), which occur during sensory perception of non-artistic objects too (e.g. when you watch a beautiful landscape from the top of a mountain). In this sense, aesthetic experiences are "hedonic experiences"; i.e. pleasure–pain experiences (Higgins, 2006). Note that saying that aesthetic experiences are hedonic experiences does not mean that the experience itself is

necessarily felt as pleasurable or involves positive emotions. For instance, when we watch a horror movie or listen to sad music, overall, we are inclined to maintain our attention (the experience is positively valenced), yet we also experience negative unpleasant feelings (e.g. negative emotions like fear or sadness).

4.1.1. Aesthetic experience of dance

In the domain of dance appreciation, psychological theorties of dance appreciation (Christensen & Jola, 2015; Orgs el al., 2016), as well as psychological research on this topic (e.g. Calvo-Merino, Jola, Glaser and Haggard, 2008; Hagendoorn, 2011; Vukadinović & Marković, 2012, 2017) define the experience of dance appreciation as a form of aesthetic experience and particularly, in the way I have just outlined, as a positive hedonic experience.

Aesthetic experiences of dance may occur with dances that are artworks or not, and they may involve art appreciation or not. For instance, watching someone dancing in a pub, or the experience of participants in neuroaesthetic studies when they are presented point-light stimuli qualify as aesthetic experience of dance but they are not cases of "art appreciation", and the object of those experience are not artworks. Moreover, even if there is a dance artwork involved in the experience, the experience does not automatically qualify as art appreciation. For instance, the experience of the dancer while performing a dance piece, this may qualify as an aesthetic experience of a dancework, but the dancer is likely more concerned in executing the choreography and/or being expressive, than in the appreciation of the artwork.

The appreciation of a dance artwork involves hedonic valuation of a sensory object, but there is also something else involved other than hedonic valuation as well.

Take for instance the following example of an experience with contemporary dance, which is a description of Maguy Marin's *Umwelt* (2004), by Anna Pakes:

> The dimming of the house lights focuses attention on the still darkened stage, although awareness of the others in the auditorium and its quieted bustle does not entirely fade. From the stage, the sound of several people taking five or six measured footsteps in unison, then stopping, momentarily precedes the lights (stage and house) fading quickly up to reveal nine performers. They stand, facing out, dressed in ordinary clothes (shirt and jacket, jumper and skirt, different colors), steady gaze directed at the audience. They stand in the gaps between a series of reflective slabs, each of the same regular dimensions, slightly wider and taller than the performers themselves. Behind the performers is a further line of panels cut from the same material. After a brief pause, the space darkens.
>
> When the stage lights come up again, the world has changed: a strong wind now blows across the stage, and a roar of noise fills the theater. The performers emerge in twos, threes, or fours to walk slowly in an arc before disappearing once more behind the reflective panels, which are now bending and distorting in the stage wind. The walking forms a seamless flow, with one pair or group emerging and relaying another as it vanishes. Each time they appear, the performers sport a new item of clothing (a dressing gown, a feathered headdress, a white doctor's coat) or carry a different object (a torch, a sandwich, a crown, a doll), and perform a different action (shining light on the floor, eating, carrying a pot plant, shaking the baby). Sometimes, the action involves another performer rather than an inanimate object (a fist fight, a passionate kiss). Some actions are ordinary (reading a newspaper, donning sunglasses, putting on a coat), some extreme (shooting a gun, dragging a dead pheasant along the ground with one's teeth, kicking the baby across the floor). There is no apparent connection between actions in terms of their sense, though objects and items of clothing periodically reappear forging a formal link between the instances of their use. Some are thrown away, to form a gradually mounting pile of debris downstage. But the reiteration of certain objects, as well as the pacing and relayed groupings of the movement also create a sense of structure, and a formal coherence, if not narrative or thematic cohesion. After a time, attention wanders and alights on a cable stretched across the front of the stage, between two spools, one at each side of the space. The cable is (automatically) being gradually unwound from one spool on to the other, in the process dragging across strategically placed strings. This is the source of the roar of noise, which both dominates and forms a constant backdrop to the stage action. When the whole cable has unwound, the noise (perhaps also the action and the howling wind) will stop.

> In the meantime, it continues, uninterrupted though punctuated by the occasional drama (a violent slap, a flash of nudity, a contemptuous discarding of one of the objects) amid the unfolding sequence of everyday images. (Pakes, 2011, 33-34).

This example illustrates some characteristics that are proper of the domain of art appreciation, which are not necessary in the domain of aesthetic experience alone. For instance, the beholder tries to analyse, interpret and give sense to what she is watching, and the attitude of the beholder is better described as involving an interrogative interest towards the object (Davies, 2011a, 186) than as being simply a pleasurable experience. In other words, there is a cognitive orientation towards the object (i.e. a mind to world direction of fit) (Beaquel, 2013).

In order to differentiate those aesthetic experiences of dance that do involve art appreciation, from those that do not, I propose to call the first "art appreciative experiences". The next section defines "art appreciation", and describes two features which are specific of the domain of art appreciation: the attribution of artistic value (which goes beyond hedonic value), and the cognitive components of this experience sketched in the previous paragraph related to sense-making, understanding, and the interrogative interest.

4.2. On the notion of art appreciation

Art appreciation involves the analysis, interpretation and evaluation of an artistic object (Kivy, 2015). Therefore, in contrast to aesthetic experiences, art appreciation involves a specific set of objects categories that are historically and culturally categorized as "art". Therefore, artistic dance appreciation, as subtype of art appreciation, refers to those objects that are categorized as dance "art". Also, in contrast to the centrality of the positive hedonic features of aesthetic experience, note that art appreciation goes beyond issues related to hedonic value.

In psychology, art appreciation refers to "how people perceive, understand, and otherwise respond to works of art; how they use, enjoy and judge them" (Munro, 1963, 268). Typical examples of art appreciation are those of interpretive critical exercise, such as commenting on the features and artistic value of *Swan Lake*, and also other situations that involve judgements about artistic objects in which a person grasp and ascribe value and/or properties to artistic objects. In psychological research, those verbal expression (known as artistic judgements), are the most common measure of art appreciation and include the ascription of artistic value (e.g. the degree in which a work of art is good/bad), or properties (e.g. simple, complex, familiar, beautiful, interesting, coherent, etc.) to artworks.

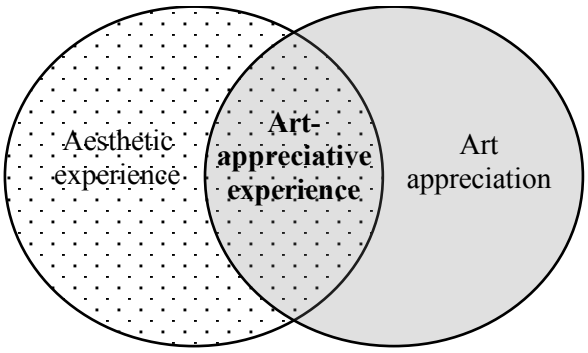
Also, note that artistic objects are cultural artefacts (i.e. they are made with a purpose or intention), and are commonly categorized in different disciplines or artforms (e.g. dance, music, theatre), and styles (e.g. ballet, modern, contemporary). Therefore, some typical cases of artistic judgements involve not only ascription of properties, but also interpreting the artwork's content and intention, art categorization, etc. For instance, Martha Graham's *Lamentation* can be interpreted as an expression of angst, and this piece is an example of the dance category modern dance, and how in this type of expressivist modern dance the primary properties sought for aesthetic and artistic value the expressivity of movement, in contrast to other stylistic categories, like ballet in which the primary value is typically the form and grace of movement lines, and also in contrast to postmodern dance, in which movement is often intentionally non-expressive and ordinary in order to place value on making us aware of the usual gap between art and life or to strip away the artifice of art and focus on the bare qualities of human movement.

Art appreciation involves questioning the significance or meaningfulness of the artistic object. For instance, when you watch a ballet piece some typical properties you

can grasp in this style of movement is being effortless, fluent, delicate, elegant, against gravity and the like, and you may recognize the significance of those properties as trying to convey a distance from ordinary life, and particularly the elevated realm of the divine, the ethereal, or magic. In contrast, when you watch Butoh you will notice features like being effortful, non-fluent, brutal, spasmodic, or in favour of gravity, and if you may understand them as conveying the horror of nuclear war.

There is a relevant difference between art appreciation and aesthetic experiences of art. As illustrated in Figure 1, there is art appreciation beyond aesthetic experience and vice versa; aesthetic experiences may occur beyond the appreciation of art. The same applies when the object of the experience is dance. As exposed above, an aesthetic experience with dance may occur with any type of dance stimuli and involves hedonic valuation. In contrast, the experience during art appreciation of dance occurs with artworks and typically involves, but may not, hedonic valuation. Indeed, some of the hedonic valuation that comes from art appreciation may arise from the cognitive awareness of being in the presence of a great work of art – there are hedonic values and pleasures that attend cognitive ones.

Figure 1. Art Appreciative Experience Understood as the Intersection Between Aesthetic Experience and Art Appreciation



For instance, consider the situation in a class of dance appreciation, listening to the teacher's explanations the historical significance of a style, what is the purpose of a

particular piece and how the artist attempts to realize it. In this situation you are instructed on how to fix the value of an artwork, by means of grasping and attributing art-relevant evaluative properties to dance. All that qualifies as dance (art) appreciation, yet it does not necessarily qualify as an aesthetic experience of dance, and there is not necessarily any hedonic valuation involved.

As objects of study, aesthetic experience and art appreciation intersect in the study of the experience of appreciation of artworks, but they can be different phenomena. However, note that previous psychological research in dance appreciation does not make this distinction between aesthetic experience that involves art appreciation and aesthetic experience that does not. Therefore, I propose the notion of "art appreciative experience" to differentiate the particular subset of aesthetic experiences of dance that are at the same time art experiences (experiences of dance artworks) and involve art appreciation.

4.3. Definition of art appreciative experience

Art appreciative experience is the psychological event evoked within a person through their perception of an artistic object which involves both hedonic valuation and artistic judgements (i.e. judgements about artworks, such as grasping/attributing value and properties to artworks). It is the type of experience we refer to when in ordinary talk we speak of our experience watching dance performance and we refer to this as a distinct experiential event that has a beginning and an end, and is separated from what experienced before and after the event.

The temporal limits of this experience of dance appreciation may not be precise and clear (Does the dance experience start with entering the venue and sitting down, or in the dark instant before the curtain goes up? Does the experience cover the full duration of the dancework or is a meaningful part of it sufficient? And what is a meaningful part

in the first place?). However, there are limits to this uncertainty, and typically, in most cases, the duration of the experience covers the temporal extension of the performance, the time we spend watching the dance performance. Therefore, examples of dance-art appreciative experiences are the psychological states that occur while you watch a ballet dancework and you grasp the delicate beauty of its movement, but also the experience of Butoh dance when you perceive its brutality. As we have seen in the previous sections, art appreciative experiences may also involve an active inquiry about the intention or the purpose of the dance in relation, for instance, to the historical context in which the dance is created, or the personal situation of the artist.

To finish, I would like to make some comments about the reason of my terminological choice of "art appreciative experience", instead of following common practices in previous research that called it simply "aesthetic experience". This distinction is not a mere terminological gloss, and the reasons behind it are not limited to mere convenience for delimitating my object of study. As mentioned earlier, the distinction between the aesthetic and the artistic domain is relevant, first, to avoid the "aesthetic-artistic confound" which has pervaded the scientific study of art in general (Bullot & Reber, 2013), and second, for advancing the psychological understanding of the particularities of our experiences with art (i.e. the problem of art experience) as something related, yet different from the problem of hedonic valuation. (Pearce et al., 2016; Skov & Nadal, 2020). As we will see in detail in Study II, this conceptual distinction is also relevant for the operational definition of dance appreciation as a subtype of art appreciation; i.e. it should be operationalized in terms of artistic judgements (judgements about art), including the attribution of particular properties to artworks (e.g. this piece is beautiful, coherent, profound, balanced, etc.), and overall appraisals about an artwork (e.g., it is a master piece), etc.

In the following sections, I will first describe art appreciative experience as an aesthetic experience and then as an art experience. Regarding the first, I will comment on the phenomenal features that art appreciative experience shares with aesthetic experiences in general. After that, I focus on two characteristics of appreciative experiences as an art experience, in particular as involving: a) an experience of artistic value (i.e. the quality as a good/bad art) that involves attributing hedonic value (i.e. pleasure/displeasure, liking/disliking, beauty/ugliness and the like) but also cognitive value (e.g. the degree of meaningfulness, profundity, coherence); and b) cognitive aspects, such as an interrogative attitude (a mental state of questioning about the object), and art understanding (processes of sense-making). The reason why dance experience is an art-appreciate experience of the narrower kind is that the kind of dance on which this dissertation is focusing is (as mentioned earlier) artistic dance rather than social, therapeutic, somatic-awarenss and other kinds of dance that is made and enacted for reasons other than artistic purposes.

4.4. Appreciative experience as aesthetic experience

In this section, I describe the phenomenal features that art appreciative experience shares with aesthetic experiences. By doing that, I assume that what we know about aesthetic experiences can, in principle, illuminate the description of our experience appreciating dance artistic performances in particular.

4.4.1. Phenomenal features of aesthetic experience

There is a myriad of characterizations of aesthetic experience, yet most of them highlight either one or both of the following aspects: a) a self-rewarding or autotelic motivational profile (Dokic, 2016), b) an intense attentional focus, related with a sense of "unity" (Beardsely, 1969), of being "lost" in the experience, or getting

absorbed into a "flow" state in the sense of Csikszentmihalyi (1990). I comment on these two aspects (unity and self-reward) in the following paragraphs.

Take for instance Beardsley's account of aesthetic experience:

> A person is having an aesthetic experience during a particular stretch of time if and only if the greater part of his mental activity during that time is united and made pleasurable by being tied to the form and qualities of a sensuously presented or imaginatively intended object on which his primary attention is concentrated. In my idea of a unified experience the percepts are integrated with affects of various kinds. (Beardsley, 1969, 5).

Beardsley proposes a list of features that characterize aesthetic experiences, including sustained attention (fixed upon the object), "intensity" (roughly, the phenomenological counterpart of what we would call nowadays "activation" or "arousal"), and "unity". By unity is meant a high order of "coherence" and "completeness" in the experience, with coherence referring to relations between elements such that there is a continuity between the development of elements, and one thing leads to another and completeness referring to the overall balance of impulses elicited by the object (e.g. opposing tendencies that feel counterbalanced), and a pattern of expectation-and-fulfilment (e.g. a musical passage that arouse the expectation that certain musical elements are to follow (Beardsley, 1969, 8).[79]

Unity is also present in Dokic's (2016) definition of aesthetic experience as a state that emerges from the unified interplay of non-aesthetic processing. According to Dokic, instead of being a type of attitude, aesthetic experience is a mode of internal organization of non-aesthetic processes (e.g. perceptual, affective, evaluative and semantic processing). Aesthetic experiences are characterized by the emergent unified way in which the internal mode of organization processing takes place.

[79] Beardsley description of unity in relation to coherence and completeness, and the description of those features rely on Dewey's account as present in *Art as experience* (Dewey, 1934),

Apart from unity, another feature of aesthetic experience is that it has a characteristic motivational profile, reflected when we speak of aesthetic experiences as valuable "for their own sake", meaning that they have no clear practical or action-oriented value, the maintenance of the state of attention is not directed to another end or future time. Instead, aesthetic experience has a self-rewarding or "autotelic" aspect (Dokic, 2016), meaning that the flow or subjective sense of fluency is somehow self-fulfilling, or motivational by itself.

The rewarding aspect of this state can be related to what in the psychological literature is known as "fluency", defined as the subjective ease of mental operations which has an inherent hedonic positive effect that influences aesthetic judgements and relates to factors, such as familiarity (Reber, Schwarz & Winkielman, 2004). This "fluency" of aesthetic experiences is also similar to "flow" states (Csikszentmihalyi, 1990), however, flow states typically involve a behavioural counterpart, and is typically associated with contexts of being fully immersed in an activity, such as writing. In contrast the aesthetic experience is typically not linked to an overt behavioural counterpart, and the flow state is sustained by the sole perception of the object, such that it is the perceptual appearance of the object itself promotes selective attention.

Another characteristic of aesthetic experiences is that typically involve a lack of sense of agency, and is strongly characterized by reactive or stimuli-driven aspects, such as how the object grabs attention, which are mainly determined by external conditions and the properties of the stimuli. In this sense, the deliberate control an observer may exert over this reaction is limited: "I can try to exercise all my mental capacities, for instance, to be emotionally responsive to a given work, but if the work does not sustain that response, I will not be successful in trying to have an aesthetic experience of it" (Goldman, 2013, 330). Note that here Goldman suggests a tension between what dual-

process perspectives would call reactive or stimuli-driven aspects and reflective or perceiver driven aspects of the experience with art.

In the particular case of aesthetic experiences with art, these experiences are in one sense "active" experiences, and in another sense "passive". According to Goldman, "one must be captured or 'grabbed' by an artwork in order to have an aesthetic experience of it, and one cannot normally successfully will to be so fully engaged" yet at the same time the experience is "fully active, involving (…) all mental faculties operating in concert" (Goldman, 2013, 330). I will come back latter to this dual nature of experiences with art, and comment on the perceiver-driven aspects of aesthetic experiences with art in relation to the reflective system proposed by dual-process models. For now, simply notice that, the contrast between a reactive mode of engagement, that is typical of aesthetic experience with non-artistic objects (e.g. when you contemplate a beautiful starry sky, but also when you are presented a stimulus of dance that last 5 seconds inside a lab) and the reflective mode of engagement, that is typical of an aesthetic experience with artistic objects (e.g. when you watch a contemporary artwork which is not familiar or complex, therefore, cognitively challenging).

To sum up, appreciative experiences can be described as aesthetic experiences insofar they involve: 1) focused attention, with a sense of unity and getting absorbed, being "lost" in the experience or an overall sense of lack of agency and 2) a self-rewarding profile, which may be afforded by the fluency of processing, and is typically accompanied by a subjective feeling of flow with no behavioural counterpart.

Once we have seen the features of aesthetic experiences that are shared by appreciative experiences, the question is then, what makes art experiences distinct to other aesthetic experiences? I the following two sections I propose a two-fold response to this question. One of the features that characterizes experiences with art is the involvement of

artistic value (as distinct from hedonic value), the other refers to a set of cognitive features related to art understanding. I address first the more general question of artistic value, and distinguishing other sources of artistic value beyond pleasure (hedonic value), such as being meaningful (cognitive value). This will lead us to zoom in the question of aesthetic cognitivism, and the description of cognitive aspects of appreciative experiences (i.e. artefact cognition, sense-making, reflection, and the interrogative interest).

4.5. Appreciative experience as experience of art

4.5.1. An experience of artistic value

The appreciation of art is a value-laden activity, involving the attribution of artistic value, "fixing the value of an artwork" (Carroll, 2016). Artistic value can be approached in different ways, and art can be valuable for many reasons beyond psychological ones, and the experience it provides. With this aim, I start from the definition of artistic value in terms of experience, as proposed by Reber (2008), which sees the experience of artistic value as a contextualized evaluation of an artistic object. In this sense, "it is not the experience per se that counts, but an experience informed by the context in which this art was made, about the intentions that are behind this piece of art, and the history that led to these intentions" (Reber, 2008, 368). I am aware that a decontextualized description of the experience of artistic value, without considering the properties of the object is necessarily partial and insufficient, yet I will not consider here the contextual factors, nor the object, because the specific interest of my discussion on artistic value is not developing a model of artistic value, but simply to further characterize the appreciative experience as an experience of value, finding out what experiential aspects characterize appreciative experiences as experiences of experiencing something as having artistic value. The ultimate aim for engaging with this topic is illustrating the complexity of

artistic value, and proposing a way to approach it from the perspective of a promising account of value in general (Higgins, 2006), complementing it with the distinction of various sources of artistic value (hedonic, emotion, understanding) proposed by Graham (2005).

Following Higgins (2006), in a general sense, value can be defined as the worth, or importance attached to something, or more concretely, the principles that guide social and individual attributions of what is worthy, or important in a domain. In a psychological sense, value is defined as "an experience of how intensely one is attracted to or repulsed from something" or "an experience of strength of motivational force", with the strength of the motivational force, in turn, being influenced by the "strength of engagement" (Higgins, 2006, 456). Therefore, the value experience has both direction and strength. The directional component of the value experience alludes to "attraction vs. repulsion", and the strength component to the intensity of attraction or repulsion; i.e. whether the experience of attraction (or repulsion) is relatively weak or strong (of low or high positive value) (Higgins, 2006, 440).

In any experience of value there is engagement or a disposition towards the object; in Higgins' terminology, motivational force experience. In the case of artistic value, this idea of engagement or motivational force relates to what Menninghaus et al. (2017) calls hedonic expectation about our encounters with art; i.e. the idea that our encounters with art are expected to provide a rewarding experience. However, note that this expectation does not entail that the target itself (the art object) presents a positive hedonic nature; think for example of negative-valenced art, such as an unpleasant horror movie, or an anxious dance piece. This distinction relates to what has been discussed above in relation to the need of distinguishing the problem the problem of hedonic valuation and the problem of art experience, and here, the distinction seems relevant once again. Putting it

this time putting in Higgins' and Menninghaus' terminology: one thing is saying that there is a hedonic expectation about our experiences with art (there is, typically, a motivational force towards the object), and quite another to say that the experience of (artistic) value itself is reduced to a hedonic experience.

The natural question is then, what makes the experiences that art affords us so valuable? What it means to experience something as having artistic value? In what sense is art psychologically valuable? Reber (2008) points out that one way to approach these questions is looking at the specific criteria, conventions, standards or principles that guide people's assignments of value to art objects. Once we have this list of criteria, we can then look for commonalities between those criteria and judgements made by appreciators. In this sense, we would be looking at artistic value as criteria or rules followed by appreciators for finding artistic value, which may be anything from conventions followed by art criticism, to common sense views of what is worthy in art. In any case, there are three potential limitations to this approach.

First, we think we know why we consider worthy the art we take as master pieces worthy, and why we depreciate the art for which we have the lowest regard, yet it seems that overall, we are extremely bad at recognizing what we really appreciate art for.[80] All sorts of subconscious factors "from status cues and subliminal familiarity to social signals influence appreciation and judgement" (Kieran, 2011, 32). The criteria for what people may identify as worthy in art are likely to show bias related to social desirability and status (e.g. snobbery, saying high art is worthier that lower art just because it is associated with higher social status), and familiarity (e.g. saying that the art we are more familiar with is better).

[80] For a review of empirical work on socio-psychological distorters of aesthetic judgements see Kieran (2011).

Second, apart from psycho-social biases (that may be common to art and other domains), the conventions of what is worthy about art is context-dependent, they are particularly tied to specific cultural and historical contexts, vary highly among artistic disciplines and even between stylistic categories of the same artistic discipline. Artistic conventions are tied to particular cultural and historical contexts, for instance, the criteria for what is artistically worthy in ballet is shaped by what has been considered beautiful in Western culture, and what is considered worthy in art by the model of fine arts developed in the 18th century. However, those conventions may be not directly transferrable to what is nowadays considered worthy in the art of dance. For instance, we have seen how Hegel, one of the most influential figures in the establishment of the fine arts systems, disregards artistic merit of the whole discipline of dance because it is related to the body and lower senses, and not with reason. From what we have seen in the example provided of Nicole and Don, contemporary audiences may, or may not agree with that. Also, criteria change between dance styles, the ideal model of what is worthy in ballet displays a supernatural corporeality, against gravity, in an ethereal, light, effortless way, which is different from the ideal of modern dance, or flamenco, being openly expressive, strong, and passionate.

But, despite the complexity, context-dependence and high variability of artistic value conventions, there are also recurrent general patterns of art appreciation that show some stability over history. To start with, even if we are not quite sure what the value of art consists in, our encounters with art are generally guided by the assumption that they are valuable in some sense (i.e. the assumption that art experiences are experiences of value). Therefore, a recurrent pattern is that art appreciation typically involves the experience (or at least the expectation) of art objects as having some value.

Regarding the psychological reasons of why art experiences are valuable, there are recurrent general patterns on the kind of reasons why people value art that present some stability over history and across cultures, and probably among different artforms. According to Graham (2005), there are three main ways to conceive artistic value: aestheticism (i.e. the idea that the value of art lies in its capacity to give pleasure), expressivism (i.e. the idea that the value of art lies in its capacity to facilitate the expression of emotion) and cognitivism (i.e. the idea that the value of art lies in its capacity to be a source of understanding). Following Graham, there are three reasons that may explain why we experience art as valuable. One reason why we may find art valuable is because it is engaging, and, typically, art provides aesthetic pleasure (e.g. it has hedonic value, affords hedonic experiences). Another parameter that explains why we attribute value to art relates to its expressive value, it affords emotional or affective expression (e.g. creating art serves to express emotions, and appreciating art involves emotional responses, whether positive or negative). Finally, art has cognitive value, meaning that it is epistemically valuable (i.e. it is meaningful, affords understanding, cognitive insight or epistemic achievement).

Applying Graham's classification to an experiential account of artistic value, we can distinguish three potential sources of artistic value (hedonic, expressive and cognitive): 1) art entertains and provides pleasure (hedonic value), 2) moves us affectively to affective processing (expressive value), and 3) teaches us, meaning that we learn from art (cognitive value). This classification is coherent with how current authoritative psychological models of art appreciation (Leder et al., 2004; Bullot & Reber, 2013) describe the appreciative experience at the subpersonal level. These models differ of the particular description of the mechanisms behind art experiences, but coincide in assuming the relevance of the three psychological domains mentioned by Graham (i.e.

pleasure, emotion, and understanding). The three sources of artistic value can also be related to dual-process models (e.g. Cupchik, 2014; Graf & Landwehr, 2015, 2017), for instance, by relating hedonic and affective values to reactive engagement and cognitive value to reflective engagements.

As noted above, the development of a model of the interactions between hedonic, expressive and cognitive values goes beyond the scope and purpose of this project. It is reasonable to suspect that things are quite complex, however, I would like to provide an example of how hedonic (pleasure) and cognitive (understanding) sources of artistic value may interact in an experience of dance appreciation. Consider again the example of Don and Nicole above. Nicole claimed "it was too intimate", "too close" and that she "didn't want to feel like that." And she added: "Do you actually need to see the hard work? I mean for me, I think that life itself is so hard and everybody is working really hard, do we actually, when we come and see art, do we need to see all the sweat and the tears and the exertion ..." (Reason & Reynolds, 2010, 69).

Following Higgins (2006) there is room for variation in how the direction and strength of the experience of value combines to determine the experience of value of a particular piece for each particular person. For instance, take the experience of Nicole. To begin, she explicitly stated that she has a hedonic expectation of her encounters with dance, but her expectation is not met. Instead, Nicole reports unpleasant feelings, and no meaningful cognitive insight that accompanied or compensated those unpleasant feelings (i.e. displeasure was not compensated with understanding, or cognitive value). As a result, her experience of artistic value has an overall negative direction; i.e. the directional component of the experience of value (the motivational force) is negative. However, note that the strength component was not sufficiently intense as to motivate an action in response (e.g. going out from the theatre). Also, note that this overall appraisal is not

entirely based on the properties of the object (the corporeality of the dance), but on how those properties are subjectively experienced by Nicole's as unpleasant. The experience of value of Don is determined by the same objective properties, but in contrast to Nicole, he reports feeling interest (a knowledge-emotion) about "the beads of sweat thrown off the forehead as they turned round", accompanied by cognitive insights (e.g. he reports it allows him to understand "the hard work that's gone on there"). As a result, he values the piece is an positive way.

Overall, the interferences between cognitive and hedonic value is a common scenario in dance (art) appreciation, in which hedonic values may interfere with cognitive values in different directions. Imagine it is the first time you watch a Butoh dance (see footnote 78). The overall direction and motivational force of your experience may likely be negative, I have seen people so repulsed as to leave the performance space. This overall negative hedonic experience is not compensated for by the cognitive value, at least, until you understand it. Once you understand, for instance, that this type of dance originated after the Hiroshima and Nagasaki bombs and the artistic intention of expressing that dance cannot just ignore what has happened and still celebrating beauty, but expressing the horror of nuclear war, you may start to comprehend the profundity of the piece. Eventually, the cognitive value of the experience may become so strongly positive that it compensates for the negative hedonic tone of the piece, and your overall appraisal of the piece could might become extremely positive.

A final comment about this proposal is required before we move on to the next issue. There are other potential ways to approach artistic value in psychology, which go beyond the question of artistic appreciation that occupies me here. To name just two, from a clinical psychology perspective art can serve therapeutic functions (e.g. art creation can be useful to express repressed feelings or ideas); and from a social psychological point of

view, artistic value can be related to social status, political and moral values (e.g. higher and lower forms of art are commonly linked to higher and lower social classes, and art is used as a tool for persuasion and moral indoctrination). These two cases can be seen as complex manifestations of the three basic sources of artistic value identified here in a particular context (e.g. an art therapy intervention, a political campaign) with a particular goal (e.g. increasing self-knowledge, attracting potential voters, manipulation, persuasion, etc.).

To sum up, I applied Higgins' notion of value to address appreciative experiences as experiences of value, that has direction and a strength component, and involves the complex combination of various value sources, including those related to the hedonic value attributed to the piece (which are likely based on processes like hedonic valuation, as well as aspects related to the cognitive value of the piece, for example, whether the piece is meaningful for the beholder, or in other words, whether it has cognitive value, and may be a source of understanding). This last idea, that dances has cognitive value, concerns the thesis of aesthetic cognitivism (e.g. Carter, 2003; Conroy, 2013a; McFee, 2011). I have already argued for the need of incorporating a cognitivist view in dance appreciation, commented the problems of normative cognitivism (page 108), and argued for a descriptive form that describes, yet does not prescribes understanding. In the next section, I develop further the central idea of aesthetic cognitivism, that appreciating involves understanding, and propose a psychological description of this notion.

4.5.2. Cognitive features of appreciative experience

This section exposes cognitive aspects that are specific of the art appreciative experience as an art experience: understanding (section 4.5.2.1) and reflective aspects (section 4.5.2.2).

4.5.2.1. Art understanding

In a general sense, understanding can be defined as comprehension or "meaning-making", the faculty of organizing and interpreting the information acquired from the senses, as opposed to the purely intellectual operations or higher reason (Bauer and Schwan, 2018). In the case of art understanding, current models of art appreciation in cognitive psychology, such as multi-stage models (Leder et al., 2004, Pelowski, Markey, et al., 2017), and contextualist models (Bullot & Reber, 2013), highlight the relevance of art understanding in appreciation. While those models differ on the processes and mechanisms of art understanding,[81] they agree in conceiving art understanding as a process of finding meaningfulness in artworks, and describe art understanding in relation to higher-order top-down cognition (in contrast to bottom-up perceptual mechanisms).

In the domain of philosophy of dance, Carter proposes a definition of dance art understanding as involving "feeling and willing as well as the organizing structures that evolve out of consciousness and are shared through the dance" (Carter, 2003, 141). This definition can be complemented with the description of the process of creation of meaning and finding sense proposed by multi-stage models, which is characterized as higher-order cognitive elaboration that proceeds in iterative cycles, through multiple processing stages with increasing meaning-elaboration (Leder et al., 2004, Pelowski, Markey, et al., 2017). In multi-stage cognitive models, art understanding occurs in the later stage of "cognitive mastery" in which "top-down executive consideration" is given to elements uncovered in bottom-up processing, and all information collected in prior stages is combined to form

[81] For instance, Bullot and Reber (2013) conceives artistic understanding in relation to causal-inference processing, and theory-based reasoning based on stylistic classification (Bullot & Reber, 2013, 130-132), while Leder et al. (2004) relate it to "cognitive mastery", involving top-down, cognitive elaboration, for instance, hypothesis-testing, problem-solving processing or meaning-attribution (Leder et al., 2004; Pelowski, Markey, et al., 2017).

"one coherent meaning" (Pelowski, Markey, et al.,2017, 89). This processing repeats several times, and each iterative cycle of cognitive elaboration produces more complex representations of artwork's content are formed in (Pelowski, Markey, et al., 2017, 89), and culminates in the "creation of meaning, associations, evaluations and the model's first outcomes [emotion and judgement]" (Pelowski, Markey, et al., 2017, 89).

In the psychology literature, a relevant distinction is made between art understanding and art interpretation so that "understanding" is more general and "interpretation" a more specific and analytic endeavor. Bauer and Schwan (2018) relate "understanding with respect to apparent or direct meaning" and interpretation to "higher, abstract meaning" (Bauer & Schwan, 2018, 202). These authors use the distinction in the context of the discussion of their studies in art expertise, and comments that, both experts and laypersons may come to art understanding, but "while experts conclude this understanding in a structured way of focusing their attention on specific content, revealing and contrasting meaning in various attempts of interpretation" (…) "laypersons instead come to an understanding that is offered on the very surface of content" (Bauer & Schwan, 2018).

An important factor for defining art understanding is the relation with art knowledge. The accumulation of art knowledge may likely influence art understanding, but a high degree of accumulated knowledge itself is not sufficient to art understanding (if this knowledge is not applied), neither necessary. Note that, in this sense, my definition of art understanding differs from from Bullot and Reber (2013), which imply art-knowledge is a necessary condition for art understanding: "appreciators have artistic understanding of a work if art-historical knowledge acquired as an outcome of the design stance provides them with an ability to explain the artistic status or functions of the work" (Bullot & Reber, 2013, 130).While I agree that higher-order knowledge-based processing

is always involved in art understanding, I (with others like McFee, 2011; and Winters, 1998) defend that having acquired art knowledge is not a necessary condition for art understanding. In this sense, art understanding is not simply a question of the having acquired art knowledge, "for someone may know certain things (in that way, correctly be said to have mastered those concepts) and yet be unable to mobilize his/her concepts in experiencing the object" (McFee, 2011, 243). In the same line, Winters says that "looking at and appreciating works of art are more a matter of sensitivity than of accumulated knowledge" (Winters, 1998, 1).

For all that, I propose that art understanding, in its minimal most basic sense, can be defined as a perceiver-driven aspect of art appreciation that involve semantic (i.e. knowledge-based) processing, and is characterized by sense-making, meaning by "sense-making" roughly "meaning-making" (in the sense of Bauer & Schwan, 2018), which can be described in psychology as the cognitive elaboration which proceeds in iterative cycles of cognitive elaboration (Leder et al., 2014). Thus, art understanding does not require a sophisticated interpretation, or a high degree of art knowledge. Instead, as we will see in the following section, what is needed for art understanding is trying to comprehend the object by assuming an interrogative attitude towards the object (the interrogative attitude).

4.5.2.2. Reflection and the interrogative attitude

A dual process perspective of art appreciation (e.g. Cupchik, 2014; Graf & Landwehr, 2015, 2017) highlights the duality of reflective and reactive aspects of the experience and the processes behind the experience; viz. faster, automatic, bottom-up processing and slower, controlled, and top-down processing. The duality has been described as two "modes" of engagement, reactive and reflective (Cupchik, 2014); as a joint function of stimulus-driven automatic processing and perceiver-driven controlled

processing (Graf & Landwehr, 2015, 2017), or generally as "top-down processing" (e.g. Leder et al., 2004).[82]

From a gestalt psychology perspective, Cupchik speaks about a "reflective mode of engagement with art" in which appreciators "approach artworks as multilayered structures and accommodate to their distinctive meanings" and try to form a coherent interpretation (Cupchik, 2014, 70).

From a cognitive psychology view, the reflective mode of engagement involves what is known as "bottom-up" or perceiver-driven processing (Graf & Landwehr, 2015, 2017), which requires the perceive becomes actively involved in cognitive elaboration. The activation of controlled and deliberate processing depends on various factors, which typically include the complexity and typicality of stimuli (Graf & Landwehr, 2015, 2017). Simple, familiar stimuli are less likely to trigger the move from default processing to deliberate processing, while complex, unfamiliar stimuli are likely to trigger this move. An example of reflective processing would be processes of inference, such as building on cues perceived in the object for considering the intention of the piece (Bullot & Reber, 2013).

The dichotomy between reactive and reflective modes likely lies in a continuum, instead of being categorically different forms of engagement; as proposed by Cupchik (2014). Empirical evidence supports the idea that the experience of art involves multilevel processing that continuously integrates types of information, including perceptual, affective, and cognitive information (Leder et al., 2004; Pelowski, Markey, et al.,2017)[83].

[82] The focus here on the personal level of description, meaning that the interest on reactive and reflective aspects is mainly as experiential features that can be accessed by introspection. My aim is not providing a detailed sub-personal level description of mechanisms, neither on potential explanations of their interaction (e.g. parallel and competitive, default-intervention, and the like).

[83] Leder et al. (2004) is a multi-stage model that addresses the interplay between different stages in art appreciation, integrates bottom-up and top-down factors and addresses contemporary art particularities. It was designed for visual art, but the mechanisms proposed in principle are transferable to dance appreciation.

However, regardless of whether the reactive-reflective dichotomy reflects the workings of two systems, I have found this dichotomy is useful for drawing a contrast between what dance empirical research has focused in until now (the reactive mode —stimuli driven, explained by arousal and hedonic tone), and the contribution of aesthetic cognitivism (focusing on the reflective mode —perceiver driven, knowledge-based, understanding). Putting it another way, what distinguishes the reflective-view from reactive-view of dance appreciation is the role of understanding, and the predominance (or not) they assigned to the active and reflective engagement of the appreciator.

On the one hand, the more "passive", impulsive or typically uncontrolled aspects of experience may correspond to the what has been called the reactive mode of engagement with art (Cupchik, 2014), and the reactive mode of response can be explained by the interaction of the two basic dimensions proposed by Berlyne; arousal and hedonic tone (Berlyne, 1971). The psychological mechanisms and processes behind this reactive mode can be characterized as stimuli-driven, automatic processing (Graf & Landwehr, 2015, 2017), and early stages of perceptual analysis, implicit memory integration, classification and, the interaction with affective states (Leder, et al.,2004).

On the other hand, the reflective mode of response (Cupchik, 2014) involve active cognitive elaboration that goes beyond simple reactions. The more "active", meaning by that, deliberate or controlled aspects of the experience find correspondence with top-down observer-driven processing (Graf & Landwehr, 2015, 2017), and/or higher-order cognitive elaboration (Leder et al., 2004). Following Leder et al. (2004), we can describe the dynamics involved in active and reflective mode of engagement with art, as processing loops in which individuals engage when they wonder about the meaning of art, and these loops can occur several times and can be pleasing in themselves, the autotelic nature of which is a key factor for the aesthetic experience, as mentioned earlier.

Therefore, according to Leder, reflection may lead to both, better understanding and augmented pleasure (Leder et al., 2004).

The basic feature of the reflective mode of engagement is that the perceiver needs to assume an active role towards the object, which, at the processing level, involves the intervention of a system or type of processing, that is characterized by controlled and/or deliberate processing (in contrast to non-controlled, automatic); and slower a more effortful processing (e.g. investing cognitive resources in iterative cycles of information elaboration; Leder et al., 2004); in contrast to the fast, reactions or impulsive responses.

Psychology and philosophy of dance literature propose various reflective aspects that can be involved in the art appreciative experience of dance such as: cognitive interpretation (Glass, 2005) and the assumption of an explicit deliberate strategy of appreciation (Orgs et al., 2016); "sizing up" a piece (Carroll, 2016). In the following paragraphs I comment the empirical study on cognitive interpretation in contemporary dance, by Glass (2005), and then finish with the exposition of the concept of art appreciative experience as an "interrogative attitude".

In an study on cognitive responses to contemporary dance, Glass (2005) found six types of interpretation: thematic, narrative, symbolic, based on style, personal interpretation and description, with a predominance of interpreting the work as representing a theme (45.3%), or a symbolic interpretation (33.3%), some drawing on a plot narrative (15.5 %), others simply describing the dance (8.9 %) and a few referring to the style (5.4 %) or a reference to a personal auto-biographic memory (3.9%). Looking at the results of this study, thematic interpretation (the interpretation of the thematic content of an artwork; e.g. what a dance is about) seems the most common type of interpretation. Therefore, we may think that it is a promising feature to describe art appreciative experiences. However, closer inspection reveals that thematic interpretation of what a

dance is about is not strictly present in all appreciative experiences. For instance, there are danceworks without representational content or theme, such as some of the dances created by of Merce Cunningham, and the so-called abstract ballets from of George Balanchine. It is in this sense that we can say that sometimes in dance appreciation, "there need not be anything to understand" (Hagendoorn, 2011, 357), meaning by that that there is no "theme" or topic to interpret.

The fact that a dancework does not represent a theme does not prevent the tendency of audiences to try to make sense of it (search for meaning). Even for non-representational dance, when a dance has no meaning in the strict sense (i.e. it lacks semantic content), psychologically, danceworks can be treated by the beholder as interpretable, meaningful, and with semantic significance, simply because this is how we approach artistic artefacts (Bullot & Reber, 2013). This tendency to search for meaning in art may lead to over-interpretations; interpretations which are not necessary (and sometimes inadequate) to appreciate certain works. A dancework may be a pure aesthetic exercise which represents nothing else beyond itself, in which case there is nothing to understand (in the strict sense of intellectual or cognitive interpretation). In any case, this "presumption of interpretability" entails a cognitive attitude towards the artistic object as something, allegedly, meaningful, and this type of cognitive attitude is a characteristic feature of our encounters with art (while it is less typical in other aesthetic experiences, for instance, with natural objects like a landscape).

While thematic interpretation may or may not occur art appreciative experiences with dance, some degree of reflection is always be present in art appreciative experiences, at least insofar the perceiver approaches towards the object trying to comprehend, and make sense of it. As an example of how reflection may appear in introspection, take the description Pakes above (see section 4.1.1):

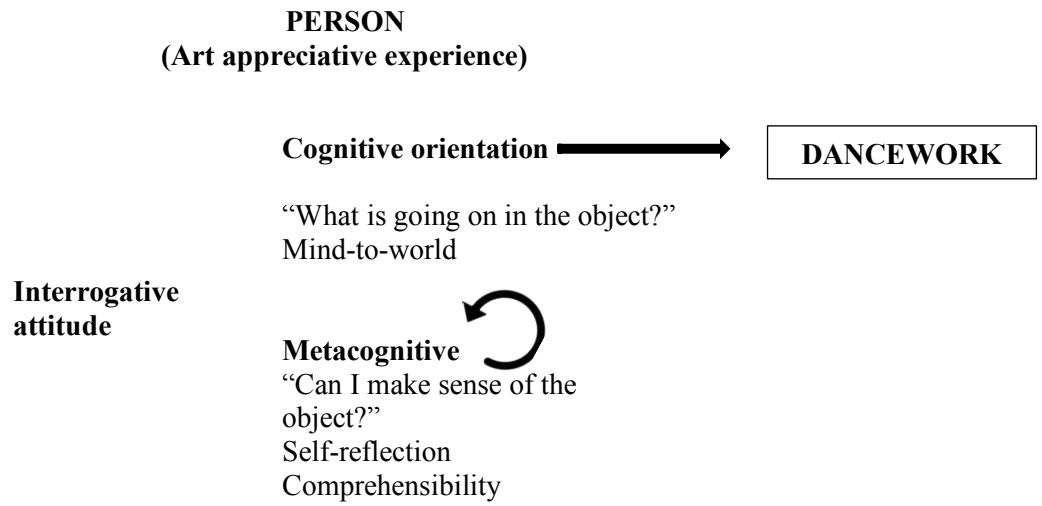
> The performers emerge in twos, threes, or fours to walk slowly in an arc before disappearing once more behind the reflective panels, which are now bending and distorting in the stage wind. The walking forms a seamless flow, with one pair or group emerging and relaying another as it vanishes. Each time they appear, the performers sport a new item of clothing (a dressing gown, a feathered headdress, a white doctor's coat) or carry a different object (a torch, a sandwich, a crown, a doll), and perform a different action (shining light on the floor, eating, carrying a pot plant, shaking the baby). Sometimes, the action involves another performer rather than an inanimate object (a fist fight, a passionate kiss). Some actions are ordinary (reading a newspaper, donning sunglasses, putting on a coat), some extreme (shooting a gun, dragging a dead pheasant along the ground with one's teeth, kicking the baby across the floor). (Pakes, 2011, 33-34).

I would like invite the reader to see Pake's descriptive example with new lens, applying the concepts discussed until now. To begin with, this experience qualifies as an art appreciative experience, and involves features of both art appreciation and aesthetic experience. This experience shares features typical of aesthetic experiences, such as the attention focus, and the overall motivation to keep on looking to the object, yet it is not necessarily the typical experience of beauty: there is no reference to the dance as beautiful or as a particularly pleasurable object. In this sense, the attitude that defines this cognitive state is better described as a cognitive attitude than as hedonic one; i.e. an attitude of questioning about the object. and the overall attitude is better described as an attempt to make sense of what is happening than as an experience of pleasure. I have called this attitude "an interrogative attitude"

In relation to what has been said in the previous section about the definition of "art understanding", note that the perceiver here may not fully understand why dancers are moving the way they do at every moment, or what is "going on" in the dance; nor forming a closed interpretation of the work's message, content or symbol. However, this experience is reasonably a case classified as a case of appreciation with understanding. In this case, understanding requires simply that the beholder assumes an attitude of

"interrogating" the object, searching for sense and comprehension[84]. This is what I have called an interrogative attitude (see figure 3).

Figure 2. Art Appreciative Experience Characterized as Interrogative Attitude



The interrogative attitude has a "cognitive orientation" (from mind towards the object, Beaquel, 2013) and involves meta-cognition in the form of a wondering-like state, trying to make sense of the object.

Regarding the first aspect of metacognition, "self-reflection", it refers to top-down processing involved in sense-making which, as proposed by multi-stage models, results in an emergent synthesis in each cycle of cognitive elaboration (Leder et al. 2004). In the psychology of art, the role of self-reflection in the conceptual definition of art appreciative experiences has also been defended by Pearce et al. (2016), who claim that what distinguishes aesthetic experiences with art, in contrast to others, is the role of cognitive-semantic processing, such as: "reflecting about self-referential aspects of art; understanding personal or social meaning of an artwork; recognizing the relation among medium, style, and content; grasping the significance in art-historical or art-critical contexts, and so on" (Pearce, et al.,2016, 269). At the experiential level, the relation

[84] A similar description idea is what Davies calls "an artistic regard" that entails the perceiver approaches art with an interrogative interest (Davies, 2011a, 186).

between self-reflection has been and interrogative interest has been highlighted by others, for instance, in Carlson (2000), when she writes about aesthetic appreciation:

> Essential to aesthetic appreciation is active engagement, involving cognitive and emotional interaction between the appreciator and the object of appreciation. An important aspect of this engagement is a kind of dialogue between appreciator and object in which the latter explicitly or implicitly poses certain questions or problems and the former finds the answers or solutions. Such finding of answers or solutions typically takes the form of coming to realizations about the nature of the object of appreciation. This process of realizing is at the heart of aesthetic appreciation; it employs the imagination so as to produce that unique combination of admiration and awe that is central to aesthetic experience. (Carlson, 2000, 197; as cited in Dokic, 2016).

Regarding the second aspect of metacognition, "comprehensibility", it refers to cognitive appraisal of comprehensibility, defined as self-evaluations regarding your "coping potential" for understanding something. In art appreciation, comprehensibility has been studied as an appraisal about your own resources and ability to cope with the comprehension of the object (Silvia, 2013a). Empirical research has explored the role of comprehensibility to explain different responses of experts and non experts to complex art (Silvia, 2013a). Results suggest that this variable may be particularly relevant in cases of art appreciation in which when one is challenged to comprehend it, either because it is difficult, unfamiliar… As discussed in the Introduction, typical features of contemporary dance are precisely being provocative, unfamiliar, and challenging, therefore, comprehensibility may be a promising factor to operationalize expertise in relation to what I have called along this section the minimal of basic sense of art understanding (trying to make sense of the object). For all that, I include comprehensibility as one of the measures of expertise in the empirical study that explores "appreciating with understanding" (chapter 5).

5. Conclusion

The experience-based approach developed along this chapter conceives dance appreciation as an art appreciative experience; a subtype of aesthetic experience that involves art appreciation, therefore, presents features which are specific of art responses. The conceptual definition of dance appreciation as an appreciative experience satisfies the two desiderata proposed in chapter 1: It conceives dance appreciation in an inclusive way (a comprehensive view that includes reactive and reflective aspects) and is informative (distinguishing liking, aesthetic experience, hedonic valuation, art appreciation, artistic value and hedonic value). As a result, my account on dance appreciation as art appreciative experience includes what are commonly accepted as appreciative responses (including both enjoyment and understanding), while being responsive to conceptual distinctions between the aesthetic and the artistic domains, as they apply to experiences with dance.

On the one hand, as an aesthetic experience, the art appreciative experience presents features that are typically related to the aesthetic phenomenal profile (e.g. attentional focus, flow, or an autotelic motivational profile). On the other hand, as an art experience, the art appreciative experience presents particularities specific of the artistic domain, one relates to the experience of artistic value (which included hedonic and cognitive value), the other to cognitive aspects of art experiences (art understanding and reflection). As a result, my account presents a descriptive version of aesthetic cognitivism (McFee, 2011), which claims appreciating dance is a matter of understanding, defining understanding as knowledge-based processing that entails an interrogative attitude.

The next part of this dissertation applies the experience-based, comprehensive and cognitivist view of dance appreciation developed along this chapter to the empirical investigation of the art appreciative experience. First, in line with the experience-based

approach, the empirical part assumes a top-down perspective that conceives dance appreciation as a lived experience, in contrast to a bottom-up approach focused on objects' properties. Second, in line the comprehensive view of appreciation, dance appreciation is operationalized as evaluations related to the reactive mode of engagement (e.g. judgements of preference, pleasantness, or beauty of the dance) and the reflective mode (e.g. responses related to the content, profundity, or coherence of the dance). Finally, giving that appreciating with understanding is something we learn to do through our encounters with art (page 12), the cognitivist view is explored in relation to various facets of expertise in the domain of art appreciation (knowledge, understanding and experience). The first empirical study designs a scale to measure dance knowledge and its relation to dance experiences. The second study explores how understanding, dance knowledge, and previous experience with dance affects dance appreciation.

PART II: EMPIRICAL STUDIES

Chapter 4. Knowing about dance: The Dance Aesthetic Fluency Scale and the relation between knowledge and dance experience[85]

Abstract

The present work aims to design and validate a scale to measure dance knowledge and explore the relations between dance knowledge, different types of dance experience (visual, motor, conceptual) and demographic variables (age and education). The design is based on the Aesthetic Fluency Scale (Smith & Smith, 2006), literature review, and expert consultation. The validation of the Dance Aesthetic Fluency Scale (DAFS) was carried out by means of an online survey (N= 151). The 14-item scale shows high reliability (Cronbach α= .94). Factor analysis supports a unidimensional structure with one factor explaining 69.73% of total variance. Limitations of the present study and prospects for future research are discussed.

Keywords: dance, aesthetic fluency, scale, art expertise, dance expertise, conceptual expertise, art knowledge, DAFS, conceptual fluency, art appreciation,

[85] This study was carried out in collaboration with Sonia Abad-Hernando and Beatriz Calvo-Merino. A version of this chapter was submitted for publication in the journal *Empirical Studies of the Arts.* Fernandez-Cotarelo, A., Abad-Hernando, S., Gil de Montes, L. Korta, K. & Calvo-Merino, B. (2020). Knowing about dance: The Dance Aesthetic Fluency Scale and the relation between knowledge and dance experience.

1. Introduction

Dance is a fine art present in nearly every culture around the world. However, people know little about dance. While being a knowledgeable expert in dance is not necessary to enjoy a dance performance, knowing about dance affects how it is appreciated. For instance, a postmodern dancework consisting in people moving a mattress (like Yvonne Rainer's *Room Service,* 1963), cannot be fully appreciated if the audience does not conceive of it as an artistic performance. Previous studies in other artforms, such as paintings, show that knowing about art affects its appreciation (e.g. Bimler, Snellock & Paramei, 2018; Bullot & Reber, 2013; Leder, Gerger, Brieber & Schwarz, 2014; Silvia, 2013a). In the dance domain, while philosophers have emphasized the role of conceptual knowledge in dance appreciation (McFee, 2011; Conroy, 2013a; Davies, 2013), it has not as yet been empirically studied.

The present work focuses on the role of knowledge in dance appreciation. To do so, we need to develop instruments that allow a reliable measurement of dance knowledge. The first objective of this study is creating and validating a dance knowledge measure. The second objective is to investigate how dance knowledge relates to different types of experience with dance and individual demographic factors (i.e. age and education). To do this, in the following sections we will introduce: 1) the notion of "aesthetic fluency", 2) dance expertise in relation to knowledge and experience, 3) knowledge as a fluency factor, and 4) the hypothesis of our investigation into dance aesthetic fluency.

1.1. Aesthetic fluency

Smith and Smith (2006) introduced the notion of "aesthetic fluency" as "the knowledge base concerning art that facilitates aesthetic experience in individuals" (Smith & Smith, 2006, 5) and proposed a model of how knowledge about art develops, and a scale for

measuring it (Aesthetic Fluency Scale, AFS). According to Smith and Smith (2006) the development of aesthetic fluency works roughly like the development of language, we gradually acquire vocabulary through continued exposure to language, and we increase our aesthetic fluency through experiences with art. Aesthetic fluency has been found to be positively linked to age and frequency of art activities (Smith & Smith, 2006; Atari et al., 2018). This result contrasts with Housen's (1999) model of aesthetic development, in which each stage of aesthetic education is not linked to age, but to the amount of exposure to art, suggesting that experience with art is the most relevant factor in developing expertise.

The Aesthetic Fluency Scale (AFS) developed by Smith and Smith (2006) measures aesthetic fluency by asking participants to evaluate their degree of familiarity with a list of terms from an artistic domain. Originally a 10-item scale with terminology from visual arts, the AFS has the virtue of being easily adapted by adding items related to a particular artform. The AFS has been used in several studies, providing evidence for its validity as a measure of art expertise in diverse art domains (Silvia & Nusbaum 2012; DeWall, Silvia, Schurtz, & McKenzie, 2011; Silvia, 2007; Silvia & Barona, 2009; Silvia & Berg, 2011; Silvia, Martin, & Nusbaum, 2009). There are validated versions of the scale for the domains of film (Silvia & Berg, 2011) and American literature (Silvia & Nusbaum, 2012). Here we propose an adapted version of the AFS to the domain of dance, resulting in the Dance Aesthetic Fluency Scale (DAFS).

1.2. Dance expertise: Visual, motor and conceptual

Expertise in an artform is constituted by prior experiences with that artform and by the knowledge accumulated in those experiences. Psychological accounts of visual art agree on considering both art experience and art knowledge as central dimensions of art expertise (Bullot & Reber, 2013; Leder, Belke, Oeberst, & Augustin, 2004; Leder &

Nadal, 2014; Pelowski, Markey, et al., 2017; Smith & Smith, 2006; Specker et al., 2018). Previous studies found the significant correlation between art experiences and art knowledge, showing that the more art experience, the more knowledge (Atari et al., 2018, Smith & Smith, 2006; Specker et al., 2018).

Orgs et al. (2018) have suggested that dance expertise is characterized by conceptual knowledge about dance, on the one hand, and perceptual (visual) and motor experience with dance, on the other hand. Previous research from experimental psychology and cognitive neuroscience in the domain of dance have investigated the concepts of visual and motor expertise, providing evidence on expertise effects in the processing and evaluation of dance at the neural, (Calvo-Merino et al., 2005; Calvo-Merino, Jola, Glaser & Haggard, 2008; Kirsch, Drommelschmidt & Cross, 2013; Orgs, Hagura & Haggard, 2013), cognitive (Calvo-Merino, Ehrenberg, Leung & Haggard, 2010) and physiological levels (Christensen, Gomila, Gaigg, Sivarajah & Calvo-Merino, 2016). However, conceptual expertise in dance, defined as the expertise related to conceptual knowledge, has not yet been explored. A relevant difference between declarative forms of knowledge ("know-that") and procedural forms ("know-how") (Ryle, 1946) can be made here. While knowing how to dance is mainly a matter of motor experience and procedural knowledge, knowing about dance requires accumulating declarative knowledge about dance through perceptual and conceptual experiences with dance, but it does not require motor experience dancing.

1.3. Knowledge as a fluency factor

One way to explain the influence of knowledge in art appreciation is to conceive of it as a processing fluency factor. Following the fluency-based approach (Reber, Schwarz and Winkielman, 2004), fluency is defined as the subjective ease of mental operations which has an inherent hedonic positive effect that influences aesthetic judgements and relates to

factors, such as familiarity. It is unclear how exactly, by which precise mechanisms, knowledge facilitates aesthetic experience. We propose it can promote both, perceptual and conceptual fluency. On the one hand, knowledge can promote perceptual fluency during the processing of artworks: knowledge about one artistic domain (e.g. art cognitive schemata stored in semantic memory) promotes familiarity within the perceived object, which facilitates cognitive processing when perceiving an object in that domain.

In addition to promoting perceptual fluency, knowledge could plausibly work as a conceptual fluency factor. Conceptual fluency, defined as the ease of deriving meaning form stimuli (Topolinksi & Strack, 2009; Whittlesea, 1993), has been less studied than perceptual fluency, but it has been related to aesthetic interest towards complex artworks (Graf & Landwehr, 2015, 2017). Ball, Threadgold, and Marsh (2018) showed that conceptual fluency mediated beauty judgements of paintings, particularly when evaluating complex (perceptually disfluent) stimuli. Silvia's (2013a) study found the cognitive basis for appraisals of interest is different in people with knowledge about art.

Regardless of the particular mechanisms behind the influence of knowledge (perceptual and/or conceptual fluency), it seems reasonable to admit that knowing about art provides familiarity, and familiarity typically enhances fluency. Therefore, knowledge can be conceived as a facilitator of aesthetic experience, in line with Smith and Smith (2006) notion of "aesthetic fluency".

1.4. An investigation into Dance Aesthetic Fluency

According to Smith and Smith (2006), the nature of aesthetic fluency is reflected by a unique dimension of knowledge acquired through gradual exposure to art. For this reason, they predict items of the AFS fit better with a unifactorial structure rather than "a set of individual factors each relating to different sub areas of art" (Smith & Smith, 2006, 9). To date, the two studies that have explored the structure of aesthetic fluency have found

evidence that supports the unidimensional structure of this construct (Smith & Smith, 2006; Atari, Afhami & Mohammadi-Zarghan, 2018). The present study explored whether this is also the case for dance, and we predicted that dance aesthetic fluency would show a single primary dimension.

The development of aesthetic fluency has both a perceptual and a conceptual base (Smith & Smith, 2006), such that more experience with art, should lead to the accumulation of more knowledge about art. We wanted to investigate the relation of dance aesthetic fluency with the three types of experience posed by Orgs et al (2018). To do this we distinguished conceptual experience (reading about dance), visual experience (watching dance) and motor experience (dancing). We predicted that the three types of dance experience are significantly and positively interrelated between them, and with the dance aesthetic fluency scale.

We further wanted to explore whether dance experiences are differentiated in the strength of their relation with dance aesthetic fluency in two ways. To begin with, the relation of dance practice with knowledge was explored by comparing people that practice dance (attend dance classes) and people that don't. By "dance practice" we refer to attendance of dance classes, that involve visual (watching dance) and motor experience (dancing), as well as exposure to dance "concepts". We expected that people that dance would show higher dance aesthetic fluency than people who do not dance. Because practice involves listening to teachers about dance terms and vocabulary, dance practice should naturally lead to the acquisition of declarative knowledge about dance.

However, dancing (motor experience) per se should not lead to accumulation of declarative knowledge about dance. Instead, accumulation of declarative knowledge only requires exposure to danceworks (i.e. visual experience watching dance) and particularly, exposure to dance terms and vocabulary (i.e. conceptual experience, like reading).

Therefore, we predicted conceptual experience was related to knowledge acquisition, and this the relation would not be explained by visual or motor experience alone, such that the relation of conceptual experience to knowledge would remain significant and positive when controlling for visual and motor experience.

Finally, we wanted to explore how other demographic variables like age and education, and behavioural variables, like experience, may modulate dance aesthetic fluency. Surprisingly, Smith and Smith predicted global education would only be marginally related, if at all (Smith & Smith, 2006, 10). In contrast, Housen (1999) suggested that it was the exposure to art what matters most to the accumulation of knowledge, not age. In this study, we explored this idea in the dance domain, and investigated whether age, education and the three types of dance experience (visual, motor and conceptual) predict dance aesthetic fluency.

2. Method

To design and validate the scale of dance aesthetic fluency we followed a two-phase process. We used the existing scale for aesthetic fluency as a starting point and adapted it to reflect dance art knowledge. In the second phase we conducted an online validation study with 151 participants. We will now first present the first phase of development of the scale, followed by the survey administration for the validation and the main results.

2.1. Phase 1: Development of the Dance Aesthetic Fluency Scale (DAFS)

Item generation. The items of the DAFS were generated in cooperation with psychology researchers and dance art history scholars. Specifically, the identification and description of the domain and the first pool of items was proposed by a psychologist and three experts in dance history. To articulate the domain "dance art-knowledge" we

defined dance as a performing, theatre or concert art that is "practiced in a performance space and that is offered for some sort of audience or spectator appreciation" (Bresnahan, 2017, 2019), and focused on art-knowledge of dance as it is conceived by the history of Western art tradition. The origins of this tradition are typically traced back to the Renaissance and court dancing forms that developed into ballet. The historical evolution of this tradition leads to the appearance of modern dance in the 19th century, and continues in our times, with contemporary dance forms.

For the selection of items, we considered two criteria: 1) domain representativeness: items should represent canonical figures, concepts, and styles of dance history as an artform; 2) representativeness of different ranges of knowledge: the list should include more popular terms and more specialized terms. The first pool of items included 20 canonical figures and concepts in dance history (ballet, modern, postmodern, contemporary, Carlos Blasis, Marius Petipa, Serge Diaguilev, Vaslav Nijinsky, George Balanchine, Alicia Alonso, Isadora Duncan, Martha Graham, Anna Pavlova, Merce Cunningham, Pina Bausch, plié, pas de bourré, pointe, release, contact).

For the generation of items of dance experience, we consulted other validated scales of art experience (i.e. Chatterjee et al., 2010; Specker et al., 2018). These scales included formal art experiences (e.g. formal training in art) and informal art experiences (e.g. visiting museums) and were originally made for visual art. Some adaptations were done in those items to be sensitive to dance experiences, and we included the distinction between visual, motor and conceptual dance experience proposed by Orgs et al. (2018).

Evaluation by experts. We recruited a panel of five dance experts different to those who proposed the first pool of items. They all met the general expertise criteria of 10 years of extensive and continued experience, in this case either as a professional dancer, a teacher, or a dance scholar. One expert has more than 10 years of professional dance

scholarship. Of the other four dance experts, all had more than 10 years of professional experience as dance teachers, one of which also had more than 10 years of experience as dancer.

The panel were told that the objective of the study was to create a scale to measure dance art knowledge. The domain of "dance" was described and specified as shown in the previous section. They were told to evaluate the adequacy of each item by reference to the two criteria we used to select the items; i.e. domain representativeness and representativeness of different ranges of dance knowledge. They were invited to suggest other items they considered important.

To the question "Is this term representative of dance history?" they answered yes or no, and there was the possibility of making comments in an open text box. The group of experts agreed that all items were representative of the domain (all panel members gave positive answers to the list of 20 items), and did not propose any new item. The final list of items was extracted from a discussion session between the members of the panel and validated by them. The list included three general categories (ballet, modern, contemporary), figures across all three genres (Vaslav Nijinsky, George Balanchine and Alicia Alonso for ballet; Isadora Duncan for early modern dance, Martha Graham for classic modern dance; Merce Cunningham and Pina Bausch for contemporary dance), and four technical terms (two terms representative of ballet: plié, pas de bourrée, and two that are representative of modern-contemporary practice: release and contact).

A pre-test (N=15) was conducted via online survey in Qualtrics to test the material, both for the items of dance knowledge and for the items of dance experience, and we recorded the average time of completion of the survey. Participants reported no problems on the interpretation of any of the questions, and time for completion was on average 5 minutes.

2.2. Phase 2: Survey administration

Participants. Data was collected via an online survey in Qualtrics from a sample of N= 151 selected from a pool in the distribution service Prolific with a sample of UK respondents. We considered APA's recommendation for Best Practices in Conducting Crowdsourcing Research, including an attention check, and ensuring not underpayment. The online validation study was approved by the Psychology Research Ethics Committee at City, University of London. All participants accepted to voluntarily answer the questionnaire and were paid for their time £6.00/hr.

A total of 156 participants answered the questionnaire, from which five were excluded due to not passing the attention filter.[86] An additional check was applied by comparing the age and education responses of participants in our survey to the information they provided as part of their Prolific profile. The match between these two sources ensures no participant has provided random answers to the questionnaire, and offered support for the quality of the gathered data. The sample consisted of 57.7% women; 39.1% men; 1.4% non-binary (59 male, 87 females, 2 non-binary), with ages between 18 and 63 (M=30.66, SD=9.95).

Education level was measured asking for the highest level completed in the following scale: 1-No formal qualifications; 2-Secondary school/GCSE; 3-College/A levels; 4-Undergraduate (BA/BSc/other); Graduate (MA/ MSc/MPhil/other); Doctorate (PhD/other). 56% of the sample were graduates (had achieved higher education qualifications above A level), 17.9% had of secondary school qualifications (GCSE or equivalent), and 24,5% had achieved qualifications of A level standard or equivalent. There is one missing response to this question, which implies a 0.7% of missing data.

[86] The attention filter was included just before answering the DAFS as an item "It's important that you pay attention to this study. Please select 'Strongly Disagree'."

Comparing the distribution of education in our sample with data on the education level of UK working age population (aged 21 to 64) published by the Office for National Statistics (2017), shows roughly the same distribution of the variety of education in the same age spectrum, with a moderate bias towards over-qualification in our sample.

Finally, the demographic data included a question asking whether the participants were professional dancers, hobby dancers, scholars, or critics, and if they were, a question regarding what style and for how long they have practiced dance was displayed. There were 4 professional dancers, 45 hobby dancers, and 102 no dancers. There were no scholars or dance critics in the sample.

Measures

Dance Aesthetic Fluency Scale. All participants completed the 14 items of the DAFS (the items were: ballet, modern, contemporary, Vaslav Nijinsky, George Balanchine, Alicia Alonso, Isadora Duncan, Martha Graham, Merce Cunningham, Pina Bausch, plié, pas de bourreé, release and contact). Participants rated each item on a 1–5 scale (1 - I have never heard of this artist or term; 2 - I have heard of this, but do not really know anything about it; 3 - I have a vague idea of what this is; 4 - I understand this artist or idea when it is discussed; 5 - I can talk intelligently about this artist or idea in art).

Dance Experience. We asked participants for weekly time committed to dancing/reading/watching dance in order to measure motor/conceptual/visual experience respectively, in the following scale: 0-None; 1-Some time, but less than 10 minutes; 2-Between 10 minutes and 1 hour; 3-Between 1 and 5 hours; 4-More than 5 hours.

3. Results

The results on the psychometric properties of the Dance Aesthetic Fluency Scale will be presented first, followed by the results of the relationship between DAFS and the three types of dance experiences, and the model of dance aesthetic fluency.

3.1. Properties of the Dance Aesthetic Fluency Scale

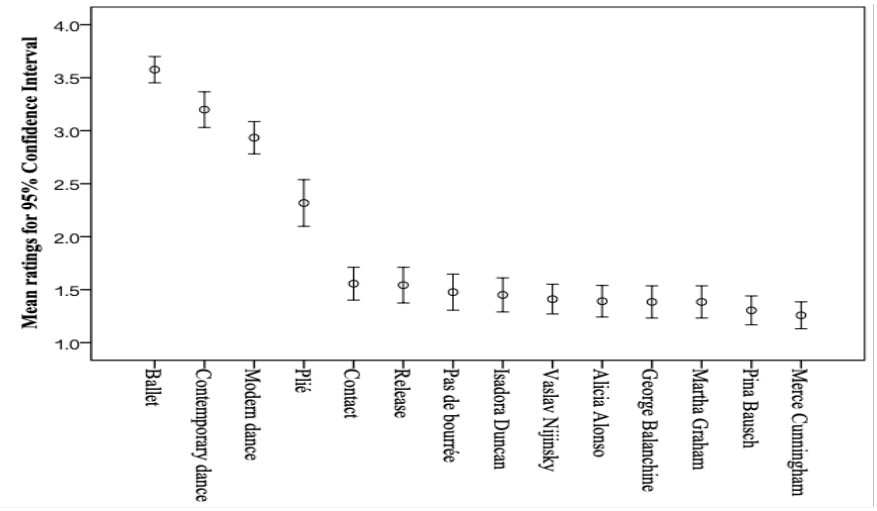
The descriptive statistics (see Table 3) of the 14 items of the Dance Aesthetic Fluency Scale were calculated with the responses of all participants.

Items	*M*	*SD*
Pas de bourrée	1.48	1.06
Pina Bausch	1.30	0.85
Ballet	3.58	0.77
Contemporary dance	3.20	1.05
Alicia Alonso	1.39	0.92
Modern dance	2.93	0.95
George Balanchine	1.38	0.94
Plié	2.32	1.37
Isadora Duncan	1.45	1.00
Release	1.54	1.05
Merce Cunningham	1.26	0.79
Contact	1.56	0.96
Martha Graham	1.38	0.94
Vaslav Nijinsky	1.41	0.87

Table 3. Descriptive Statistics for the 14-items DAFS

Figure 3 shows a plot of the mean knowledge levels of the dance artists, styles and terms with a 95% confidence interval about the mean. This plot reveals that most participants profess fairly good knowledge about ballet (M=3.58, SD=0.77), contemporary (M=3.20, SD=1.05), modern dance (M=2.93, SD=0.95) and plie (M=2.32, SD=1.37) while less knowledge is professed about all the other terms.

Figure 3. Knowledge Ratings of the 14-items DAFS



Dimensionality of DAFS. To examine the dimensional structure of the scale, we conducted an exploratory factor analysis (EFA). Prior to carrying out the factor analysis, we verified our data was suitable for EFA. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.93, above the commonly recommended value of 0.6. The sample size also met the general conservative cut-off for this type of analysis of 10:1 participant-to-item ratio (Nunnally, 1978). Bartlett's test of sphericity was significant and indicated that the correlations between items were sufficiently large for EFA ($p<.001$). Given these overall indicators, factor analysis was deemed to be suitable with all 14 items.

A principal-axis Exploratory Factor Analysis was conducted to identify the underlying factorial structure of the Aesthetic Fluency (2). We chose EFA with quartimax rotation because we expected to detect an overall factor, and this method maximizes the squared loadings and makes each item load more strongly onto a single factor. We expected an overall factor based on the theoretical definition of the construct "aesthetic fluency" (Smith & Smith, 2006). The results of previous studies using the aesthetic fluency scale show stronger evidence for an interpretation of the factorial structure of aesthetic fluency as unidimensional rather than as multidimensional (Smith & Smith, 2006; Atari, et al., 2018).

The two factors with the highest load extracted by EFA showed eigenvalues of 8.21 and 1.56, which explain 64.73% of the total variance (56.28% and 8.46 % respectively). Recommendations for interpretation of EFA results (Guadagnoli and Velicer, 1988) suggest a cut off of four or more loadings of at least 0.6 regardless of sample size in order to consider a factor as reliable, which supports the interpretation of a unique primary factor. According to Tabachnick and Fidell (2014) and Comrey and Lee (1992) the guidelines to interpret factor loadings are: 0.32 (poor), 0.45 (fair), 0.55 (good), 0.63 (very good) or 0.71 (excellent), all 14-items showed adequate loading in the primary factor (see Table 4). The scree plot criterion provides evidence for an interpretation of a unique factor structure (see Figure 4). Overall, these results support the argument for a single factor.

Table 4. Factor Analysis Results for Dance Aesthetic Fluency Scale

Items	Component 1	Component 2
Pas de bourrée	.81	.11
Pina Bausch	.87	-.06
Ballet	.47	.68
Contemporary dance	.49	-.41
Alicia Alonso	.86	.61
Modern dance	.47	-.09
George Balanchine	.88	.38
Plié	.55	-.06
Isadora Duncan	.81	.14
Release	.78	-.07
Merce Cunningham	.82	.19
Contact	.64	-.03
Martha Graham	.90	-.28
Vaslav Nijinsky	.78	.07

Figure 4. Scree Plot of the 14-items DAFS

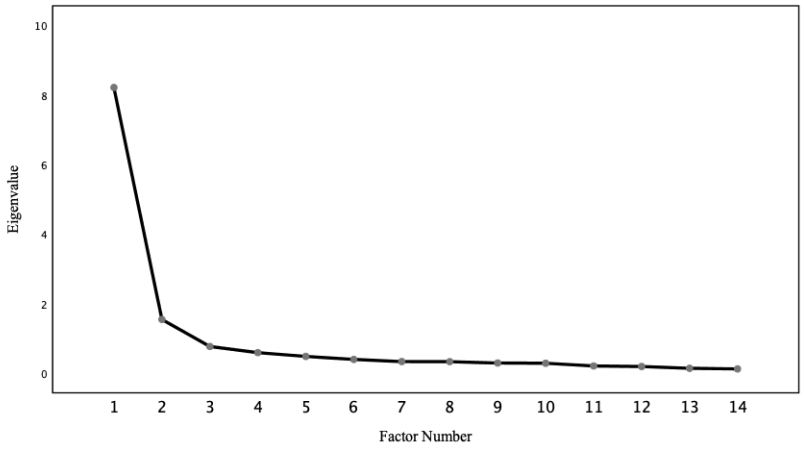


Figure 4. Screeplot of the 14-item DAFS showing the eigenvalues on the y-axis and the number of factors on the x-axis. The point where the slope of the curve clearly levels off would indicate the number of factors that should be generated by the analysis.

Finally, the internal consistency of the scale was examined using Cronbach's alpha. The alpha for the 14 items suggests high reliability; Cronbach $\alpha = .94$. No substantial increases in alpha could have been achieved by eliminating any item.

3.2. Relation between DAFS and dance experience types

In order to explore the relation between DAFS and the three types of dance experience (visual, motor, conceptual) we conducted Pearson correlations. Composite scores were created for DAFS based on the mean of the 14 items. Then, we carried out Pearson correlations between DAFS and all three types of experience. As showed in Table 3, all types of dance experience significantly and positively correlated between them ($r_{visual\text{-}conceptual}=.60$, $p<.01$; $r_{visual\text{-}motor}=.50$, $p<.01$; $r_{motor\text{-}conceptual}=.42$, $p<.01$) and with DAFS ($r_{DAFS\text{-}visual}=$. $r=.58$, $p<.01$; $r_{DAFS\text{-}motor}=$. $r=.43$, $p<.01$; $r_{DAFS\text{-}conceptual}$ $r=.72$, $p<.01$).

In order to explore if the relation between conceptual experience and DAFS relation was maintained when controlling for the other types of experience, we considered

three partial correlations between DAFS and conceptual experience that included as covariables only visual experience, only motor experience and visual and motor experience together.

Table 3. *Correlations Between DAFS and Dance Experience Type*

Variables	Visual experience	Conceptual experience	Motor experience
Conceptual experience	.60**	1	
Motor experience	.50**	.42**	1
Average DAFS	.58**	.72**	.43**

*** p <.01.*

First, the relation between DAFS and conceptual experience was still significant when visual experience was introduced as a covariable (r=.57, p<.01), when motor experience was introduced as a covariable (r=.66, p<.01), and when both visual and motor experiences were introduced as co-variables (r=.55, p<.01). This result suggests that conceptual experience explains DAFS variability, even when controlling for visual and motor experience. Overall, this result supports the argument that conceptual experience is differentiated from visual and motor experience in its relation with DAFS.

3.3. Differences between dancers and non-dancers

In order to investigate the relation between dance practice and DAFS, we compared DAFS scores between dancers and non-dancers. A new variable was created to distinguish between two groups (dancers and non-dancers) depending on whether they reported being dancers or not. The group of dancers included those participants that considered themselves "dancers", either professional or hobby, and showed diversity in the styles and years of practice (see *Table 5*). The group of non-dancers included those that self-described as non-dancers (neither professional, nor hobby).

According to our predictions, dance practice was expected to lead to the accumulation of dance declarative knowledge, such that the group of dancers have likely accumulated more declarative knowledge than non-dancers, and therefore would show significantly higher scores in the DAFS than non-dancers. A non-parametric test was chosen for the analysis due to the data being ordinal and showing different distributions with unequal sample sizes between dancers (N = 49) and non-dancers (N = 102). A Mann-Whitney U test was conducted to compare DAFS in dancers (Mdn = 1.93) and no dancers (Mdn = 1.57). The difference between dancers and non-dancers in DAFS scores was significant ($U = 1326.50$, $p < .001$), in line with our predictions.

Table 5. *Characteristics of Styles of Dance Practiced by the Group of Dancers*

		Frequency (%)
Professional dancer		4 (2.6)
Hobby dancer		45 (29.8)
Dance styles?	Ballet	5 (3.3)
	Contemporary dance	8 (5.3)
	Modern dance	10 (6.6)
	Social dances	16 (10.6)
	Ballroom dance	3 (2.0)
	Belly dancing	2 (1.3)
	Hip hop	4 (2.6)
	African dance	1 (0.7)
	Other	5 (3.3)
How much time practicing dance?	Less than one year	12 (7.95)
	Between 1 and 5 years	15 (9.93)
	More than 5 years	19 (12.58)
	Other	3 (2.0)

3.4. Relation between DAFS and demographic variables

In order to explore the relation between age, education and DAFS we conducted a Pearson correlation. There was a significant positive correlation between DAFS and

age (r_{age}=25, p<.01), and between DAFS and education ($r_{education}$=.40, p<.01), suggesting that older people and more educated people had higher knowledge of dance.

Regression Analysis

In order to explore how DAFS was predicted by demographic variables (age, education) and the three types of experience with dance (visual, motor and conceptual), we carried out a regression analysis. A hypothesized model to predict DAFS was explored using multiple regression analysis on DAFS, including as predictors visual experience, motor experience, conceptual experience, age, and education. Due to exploratory model building, our model selection procedure relied on Stepwise Regression, specifically adopting the Backward approach. This approach resulted in the estimation of two models, the first including all predictors and the second (which corresponds to the optimal model) excluding Age (see Table 5). The model was significant, R^2: .56, $F(4, 141) = 44.06$, $p<.01$. The selected model explained 55.6% of variance. The Model equation was: Predicted DAFS = .279 + .129 x Education + .189 x Visual experience + .448 x Conceptual experience + .067 x Motor experience. Conceptual experience exerted a stronger influence (β = .469) compared to Visual experience (β= .256), Education (β = .202) and Motor experience (β = .107).

Table 5. *Regression Analyses of Dance Aesthetic Fluency on Age, Dance experience and Education*

Variable	B	SE B	β	t
Education	.11	.04	.20	.3.50***

Visual experience	.19	.05	.26	3.49***
Motor experience	.07	.04	.11	1.66
Conceptual experience	.43	.07	.47	6.57***

$p < .001$ for the model. R-square for the model = .544.
** $p = .01$. *** $p < .001$.

4. Discussion

The goal of the present study was to design a validated measure of dance knowledge, in order to start investigating the role of knowledge in dance appreciation, and to extend the emerging research on "aesthetic fluency" (Smith & Smith, 2006) to the case of dance.

The resulting 14 item Dance Aesthetic Fluency Scale was submitted to an online validation survey. The items of the scale were subjected to an EFA, and the results supported an interpretation of the factorial structure as consisting in one single primary factor. This was consistent with previous findings from factorial analysis carried out on Aesthetic Fluency Scales in other domains (Smith & Smith, 2006; Atari et al., 2018). Overall, the process of design and the results of the online validation support the reliability and adequacy of the psychometric properties of the scale to be used in empirical research. This result contributes in extending research on the Aesthetic Fluency Scale (Silvia & Nusbaum 2012; DeWall, Silvia, Schurtz & McKenzie, 2011; Silvia, 2007; Silvia & Barona, 2009; Silvia & Berg, 2011; Silvia, Martin & Nusbaum, 2009, Atari, et al., 2018), and filling the need for instruments in order to open up a line of research on the role of knowledge in the appreciation of dance.

We also explored the relations between knowledge about dance, practicing dance, and having various types of dance experience. People who dance, even as a hobby, tend be more knowledgeable about dance, and so are those who have some experience with

dance (visual, motor or conceptual). This is consistent with previous studies which found time devoted to art correlated with higher art knowledge and art interest (Smith & Smith, 2006; Specker et al., 2018). Our findings also suggest of different types of experience have a distinct weight in acquiring knowledge about dance. To acquire knowledge about dance, the influence of conceptual and visual experience seems particularly strong, in comparison with that of motor experience. Overall, this result suggests that attending dance classes reflects a general interest towards dance. People that attend dance classes, not only devote more time to dancing (motor experience) but also tend to engage more with dance at other levels, reading more about dance, and watching more dance, which eventually leads to the accumulation of knowledge about dance. However, reading about dance and watching dance is what contributes most to the acquisition of dance knowledge, not so much motor experience per se. This interpretation is also consistent with the results of the regression model: motor experience was included in the model but was not a significant predictor. Overall, this suggest DAFS may be able to discriminate declarative knowledge ("knowing dance") and procedural knowledge ("knowing how to dance").

Therefore, this scale could be useful to open up the study of different types of knowledge art expertise in dance appreciation. This may be relevant for studies who use dancers as expert dance appreciators, which is the most common practice in empirical aesthetics, because it may allow measurement, study or control of the potential influence of this variable.

Also, in comparison to strategies that study art expertise using extreme groups, the DAFS allows studying art expertise as a continuous variable, which may do better justice to the reality of the complex background that spectators may bring to dance performance.

The analysis of regression on dance Aesthetic Fluency showed education, visual and conceptual experience emerged as significant predictors of scores on DAFS. This result suggests some particularities in the effects of age and education in the acquisition of dance knowledge.

First, regarding education, the result of education being a significant predictor of DAFS contrasts with previous findings in visual art, in which education (Smith & Smith, 2006; Silvia, 2007) was not related to aesthetic fluency.

Another potential explanation for this finding would appeal to a general effect of education into having higher levels of general culture in general, including knowledge about dance in particular. This, in addition to dance's neglect in the formal educational curriculum, can explain the contrasting results. Unlike knowledge about other arts, like visual arts, dance is usually not part of the standard education curriculum, thus, it is likely that participants had no minimal background dance knowledge provided by education. While for other arts a minimal background knowledge is achieved in compulsory lower education levels, minimizing the effect of the highest level of education. An additional explanation is that more educated people have more economic and social opportunities to engage with dance art and accumulate dance knowledge, than less educated people, for example, educated people may have more interest in, money for and/or social circles that lead them to attend to read about dance and see dance in theatres. Finally, differences between the current sample, which shows a moderate bias towards over-qualification, and that of museum visitors (Smith & Smith, 2006), or students (Silvia, 2007) could account for this contrasting result. It may be that there was an effect of social desirability in more educated people. While previous research found low prevalence of socially desirable answering on the Aesthetic Fluency Scale in psychology and art students' samples

(McKibben and Silvia, 2017), social desirability could have led online participants with high education to overclaim their level of knowledge.

Regarding age, this variable was positively related to DAFS, in line with Smith & Smith (2006) and Atari et al. (2018), but, in contrast it was not a significant predictor of Aesthetic Fluency. Our result is consistent with Housen's (1999) theory of aesthetic education, in which each stage depends on exposure to art, in our case, dance experience, but not on age. Older generations may have accumulated more dance knowledge over time, but younger generations have had access to more information overall, including dance information, by means of the use of internet, and social media. This finding may be explained by the mediation of education. It is not simply that older people had more time to accumulate knowledge, but that they had more time for achieving higher levels of education and, as we have seen above, education predicts being more knowledgeable about dance. In any case, the relevance of these results to the relation between demographic variables and dance knowledge is an open empirical question which may be worthy of future research. For instance, comparing whether expertise development follows the same path across different artforms, and exploring how the effect of age and education on knowledge depends on the level of integration of each artform in the educative curricula.

Limitations of the current study are worth mentioning. First, the correlational nature of the study restricts the possibility of drawing directional conclusions about, for example, the relation between age, education and knowledge. A second limitation is the lack of probabilistic sampling, and the use of an online survey. On the one hand, this research design prevents generalization of results to the general population, and implies a sampling bias towards people with internet access. On the other hand, an online survey implies a lack of environmental control which may affect the sanity of data gathered in

online survey conditions. This limitation was partially addressed by the use of the platform Prolific, which ensures that no participant can repeat the questionnaire or is underpaid, and the inclusion of an attention filter. A final limitation is the focus on Western dance art history, which makes the questionnaire less suitable to be used with non-Western participants.

Taken together, our findings provide an adequate knowledge-based measure of art expertise to the domain of dance and contribute to the extension of the research on dance expertise to the conceptual type of expertise. One way to contribute to a future in which dance is better appreciated may start with an understanding of how we learn to appreciate it. We hope the DAFS will be useful to researchers interested in starting to explore the role of knowledge in dance appreciation, and also to those interested in the design and test of educational strategies that enhance audience engagement.

Chapter 5. Appreciating with understanding: The dimensionality of dance judgements and effects of expertise[87]

Abstract

This study explores the dimensionality of dance appreciation, and the effect of expertise-related variables (experience, knowledge, and comprehensibility) on dance appreciation. Two performances of contemporary dance with different content (positively- and negatively-valenced) were used as stimuli. The audience provided evaluations of each dance piece in three ways: open-ended questions, appraisals of liking and artistic quality, and judgements regarding dance properties. Results revealed that: (a) three dimensions (Engagement, Arousal and Unity) emerged from factor analysis of judgements regarding dance properties, explaining 67.01 % of variance in dancework 1, and 63.36 % in dancework 2, (b) the factor solution remained stable between works, (c) participants judged differently the content of each piece both in open-ended questions and scales of judgement dimensions, (d) comprehensibility affected evaluations in Engagement, people with higher comprehensibility evaluated both pieces as higher in Engagement than people with lower comprehensibility. The extracted factor structure and results are discussed, and suggestions about future studies are proposed.

Keywords: dance appreciation, artistic judgement, dimensionality, expertise, comprehensibility

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1. Introduction

Contemporary dance may often be puzzling, and typically defies understanding. Works of contemporary dance are often unfamiliar, complex, ambiguous and semantically multi-layered, making their appreciation challenging. A key question to advance the psychological understanding of audience responses to contemporary dance is what kind of dimensions underlie the experience of dance in an audience context?

Earlier psychological investigation of contemporary dance audience responses suggests that the artistic experience of contemporary dance involves emotional engagement, in terms of valence and arousal (Stevens, 2005; Stevens, Malloch, McKechtiie, & Steven, 2003; Stevens, Schubert, et al., 2009; Stevens, Vines, & Schubert, 2009; Vines, Schubert, & Stevens, 2007), and cognitive interpretation (Glass, 2005; Stevens & Glass, 2005)

Regarding the first, the most comprehensive model of dance appreciation to date, elaborated by Orgs et al. (2016), proposes arousal and hedonic tone as dimensions of dance appreciation, based on the traditional distinction between interest (arousal-based responses) and pleasure (hedonic-based responses) as dimensions of aesthetic experience (Berlyne, 1971). This approach to dance appreciation departs from conceptualizing it as an aesthetic experience (i.e. based on hedonic valuation of sensory stimuli) which can be operationalized as aesthetic judgements (e.g. preference, liking, beauty ratings…).

While this approach may be helpful for understanding the aspects of the artistic experience related to aesthetic pleasure, it seems insufficient for capturing the complexity of our experiences with art, and in particular those cases which involve an interpretive challenge, such as contemporary dance. Arousal and valence may suffice to explain more basic, reactive modes of response to art (Cupchik, 2014), such as the emotional

engagement during a dance performance (Stevens, 2005; Stevens, Malloch, McKechtiie, & Steven, 2003; Stevens, Schubert, et al., 2009; Stevens, Vines, & Schubert, 2009; Vines, Schubert, & Stevens, 2007). However, these two dimensions may fall short in the attempt to explain those aspects of the experience related to a reflective mode of response to art (Cupchik, 2014).

Additionally, the artistic experience of contemporary dance is characterized by cognitive reflection attempting to make sense of the piece, as demonstrated by evidence showing spectators engage in cognitive interpretation, and enjoy the opportunity to reflect on their interpretation, regardless of their level of dance expertise (Glass, 2005; Stevens & Glass, 2005). This result suggests that for both experts and novices, the interpretive puzzles afforded by contemporary dance are part of what it is appreciated, and contemporary works are appreciated "for the opportunities one can see in it to reward repeated attention in pursuit of deeper understanding" (Conroy, 2013, 208).

From a cognitivist perspective, this pursuit of understanding can be described as high order cognitive dynamics involving iterative cycles of increasingly complex mental representations (Leder et al. 2014). From a development perspective, capacities to appreciate art with understanding evolve following a sequential path of learning stages, through which art expertise is developed (Parsons, 1987).

The purpose of this project was to explore the dimensions of dance appreciation, and the effect of various facets of expertise on those dimensions. The challenge is to make sense of the artistic experience of contemporary dance as a cognitively challenging experience that may involve both, aesthetic pleasure and a search for understanding.

The following sections of this introduction introduce the theoretical framework that contextualizes this research whichdifferentiates aesthetic/artistic judgements, reactive/reflective modes of response, and aims to explore the dimensions behind artistic

judgements of contemporary dance, and the effect of various facets of dance art expertise (in relation to experience, knowledge and understanding) on those dimensions.

1.1. Aesthetic and artistic judgements

In psychological research, the experience of dance appreciation is typically defined as aesthetic experience, which can be operationalized as aesthetic judgements, such as judgements of beauty, or aesthetic preference. This approach is adopted, for example, by dance neuroaesthetics research, to address issues like how sensory-motor, and cognitive and affective processing relate to dance aesthetic evaluations (Calvo-Merino, Jola, Glaser & Haggard, 2008; Kirsch, Drommelschmidt & Cross, 2013; Orgs, Hagura & Haggard, 2013). From a dance neuroaesthetics perspective, the model of dance aesthetic appreciation (Orgs, et al., 2016) proposes that there are pleasure-based judgements (e.g. beauty, pleasantness), and arousal-based judgements (e.g. interestingness, complexity), and this distinction is based on Berlyne's two classic dimensions, of valence and arousal (Berlyne, 1971). However, it is unclear whether these dimensions of aesthetic experience are transferable to the case of artistic experiences, i.e. experiences with artworks. A relevant distinction here refers to the aesthetic and the artistic, in relation to two types of dance judgements.

During the eighteenth century, the connotation of the aesthetic focused strongly on the concepts of beauty and art, and the use of the term "aesthetic" became strongly linked to the domain of art. The link between a type of object (artistic object) and an alleged distinct type of experience (aesthetic experience) remains present in our everyday talk about art, and in discourses and research in scientific psychology. This identification of the aesthetic and the artistic in the scientific study of art experiences, what Bullot and Reber (2013) call the "artistic-aesthetic confound", has no basis in current scientific understanding. In recent psychological research, researchers have claimed that the

aesthetic and the artistic should be conceptually distinguished in the study of art experience (Pearce, et al. 2016; Skov & Nadal, 2020). Psychological research in dance appreciation has also confused the study of the aesthetic and the artistic, as suggested by authors like Davies (2013, 2014) and McFee (2011).

For all that, we (and others like Vartanian, 2014) distinguish aesthetic judgements and artistic judgements. Aesthetic judgements are evaluations of stimuli based on a sensation (sensory-based evaluations) which typically entail pleasantness and the ascription of canonical aesthetic properties, like beauty, elegance, attractiveness, or grace (Menninghaus, 2019). Aesthetic judgements can refer to works of art, but also to non-artistic objects, like natural landscapes, people, theories.... In contrast, artistic judgements refer to evaluations of a particular type of object category (works of art), and involve the ascription of a wider variety of properties, including canonical aesthetic properties, but also other properties, like complexity, coherence, being interesting, or exciting.

According to this classification, some artistic judgments are aesthetic and others not, depending on whether they are based on a sensation (Vartanian, 2014). For instance, a beauty rating of a dancework is an artistic judgement, because it refers to a dancework, but it is not necessarily an aesthetic judgement, because it may be based on the memory of an experience of beauty, instead of the sensation.

1.2. Reactive and reflective modes

As a type of art appreciation, dance appreciation involves the interaction of a perceiver with an art artefact (i.e. a dancework) in an artistic context. Insofar as a dance is perceived as an "art artefact", defined as a product of human agency made with the intention of being regarded and appreciated as art (Bullot & Reber, 2013),

spectators approach the work not only as a display of movement, but as an artistically meaningful unit, a unified whole which responds to artistic purposes.

From a dual-process perspective (Cupchik, 2014; Graf & Landwehr, 2015, 2017), dance appreciation can be understood as a joint function of reactions (stimulus-driven automatic processing) and reflection (perceiver-driven controlled processing). The initial automatic processing generates basic outputs upon which subsequent controlled processing may approve or intervene. The activation of controlled deliberate processing depends on various factors, which include the complexity and typicality of stimuli; such that simple, familiar stimuli are less likely to trigger the move from default processing to deliberate processing, while complex, unfamiliar stimuli are likely to trigger this move (Graf & Landwehr, 2015, 2017).

Following the distinction between reactive and reflective modes of engagement with art (Cupchik, 2014), the two Berlynean dimensions of arousal and hedonic tone explain the reactive mode of response to art, in which feelings of pleasure and excitement are of primary importance. Additionally, a reflective mode of response requires an active involvement of the perceiver to form a coherent interpretation of the artwork (Cupchik, 2014). The psychological processing characteristic of the reflective mode involves what multi-stage models of art appreciation call cognitive mastery, corresponding to later stages of art processing that involves deliberate processing, and iterative cycles of cognitive elaboration of the representations of the artistic object producing higher-order cognitive representations (Leder, et al., 2004; Pelowski et al., 2017). When facing complex artworks in an unfamiliar genre, such as contemporary dance, it is reasonable to expect that deliberate processing is activated and viewers adopt a reflective mode of engagement with the artistic object.

1.3. Contemporary dance

Contemporary dance can be defined as works in which "the major medium is movement, deliberately and systematically cultivated for its own sake, with the aim of achieving a work of art" (Stevens, McKechnie, Malloch & Petocz, 2000, 1). Contemporary works are typically unfamiliar, complex and semantically multilayered (Stevens & McKechnie, 2005), meaning that they likely trigger a reflective mode of response (Cupchik, 2014), the viewer trying to come to understanding.

In support of this claim, empirical evidence shows that contemporary dance spectators try make sense of the dancework through various interpretative strategies (Glass, 2005; Reason & Reynolds, 2010). Glass (2005) found that 88.7 % of spectators formed a cognitive interpretation. This body of evidence suggests that when judging contemporary danceworks, viewers engage in higher-order cognitive elaboration of the stimuli for making sense of them. Thus, in the artistic experience of contemporary dance, the reflective mode is likely the norm not the exception. If this is the case, then the dimensions of this experience may not be exhausted by the traditional reactive dimensions.

In sum, dimensions of dance appreciation are likely to include aspects related to reactivity (arousal, valence; Berlyne, 1971) and aspects related to reflectivity (forming coherent interpretations; Cupchik, 2014). The dimensions of valence and arousal proposed by the dimensional model of dance appreciation (Orgs. et al., 2016) seem insufficient to account for the complexity of the experience of contemporary dance.

The present study built on the model of dance appreciation (Orgs et., 2016), and audience research in contemporary dance (Glass, 2005; Grove, C. Stevens, & S. McKechnie, 2005; Stevens & McKechnie, 2005; Vukadinović & Marković, 2012, 2017)

to explore the dimensions behind judgements of contemporary dance appreciation (objective 1).

To address this objective, we adopted the methodological approach of previous studies on the dimensionality of the dance experience which operationalize dance appreciation through self-report ratings over which factor analysis is performed (Vukadinović & Marković, 2012, 2017). Our hypothesis was that artistic judgements about dance would reflect reactive and reflective aspects of appreciation, with reactive aspects reflecting processing dimensions of hedonic tone and arousal (Orgs et al., 2016), and reflective aspects reflecting higher-order cognitive elaboration, meaning-making, and understanding (Leder et. al 2004).

Previous studies on the dimensionality of the experience of dance found stability in those dimensions across works with different content, even if danceworks were assessed differently in regards to each dimension (Vukadinović & Marković, 2012, 2017). In the same vein, while audience responses to contemporary dance typically involved a reflective mode of searching for meaning, those responses differed widely on their content, as shown by the high variability on the assessment of the content of the work (Glass, 2005). Taken together, those results show that dance judgements do not entirely rely on stimuli specific content properties, and meaning attribution is not a specific feature of the dance stimuli, but a feature that characterizes the observer's activity while appreciating contemporary dance (Solso, 2003).

In sum, a relevant question in the study of the dimensions of dance appreciation concerns the regularity of dimensions of appreciation across works with different content, and the question of whether dimensions behind dance judgements depend only on the perceived content of the dancework or, on the contrary, those dimensions reflect psychological regularities across danceworks with different content.

We wanted to investigate whether dimensions behind dance judgements are stable or not across works of different content (objective 2). To address this objective, we chose two contemporary danceworks with different content, and assessed whether people perceived differences or similarities between them in two ways, that is by comparing how people assessed each work in regards to each dimension, and with open questions in which people attribute five words to the dancework. We expected that audience responses would reflect differences in their assessment of the content of each dancework (Glass, 2005; Vukadinović & Marković, 2012, 2017), yet remain stable in judgement dimensions even across danceworks with different content (Vukadinović & Marković, 2012, 2017).

1.4. A naturalistic approach

There has been some concern about the ecological validity of previous research in dance appreciation that assumed a bottom-up reductionistic approach to dance appreciation (Christensen & Jola, 2015). Empirical evidence supports the claim that ecologically valid performances significantly affect appreciative judgments as well as the sensori-motor responses of audiences (Jola & Grosbras, 2013; Jola et al., 2012). In the visual arts, a study by Pelowski, Gerger, Chetouani, Markey and Leder (2017) showed that participants in lab studies often did not classify visual stimuli that were artworks as artworks, and also that whether they classify something as art affected their evaluations.

To enhance ecological validity, dance stimuli libraries have been created, consisting of clips of naturalistic dance stimuli (Christensen, Nadal, Cela-Conde & Gomila, 2014; Christensen, Lambrechts & Tsakiris, 2019). However, when the objective is to maximize ecological validity, isolated clips of dance presented in a lab are insufficient. To avoid problems of ecological validity in dance research, Christensen &

Jola (2015) recommende. What is required is the co-presence of performer and audience, and the choosing of dance stimuli with high artistic quality (Christensen & Jola, 2015).

Previous studies in dance appreciation have used danceworks as stimuli (e.g. Jola, Abedian-Amiri, Kuppuswamy, Pollick, & Grosbras, 2012; Jola & Grosbras, 2013; Reason et al. 2016; Reason & Reynolds, 2010, Stevens & Glass, 2005; Stevens, et al., 2009; Vines, Stevens & Schubert, 2019; Vukadinović & Marković, 2017). Some studies found a significant effect of the context of a live performance (Jola et al., 2012; Jola & Grosbras, 2013; Vukadinović & Marković, 2017), such that, when watching live performances rather than videotaped ones, dance observers experienced increased enjoyment and immersion in the works (Jola & Grosbras, 2013, Vukadinović & Marković, 2012, 2017), and the enjoyment ratings across different dance forms (in particular, ballet, Indian dance) were less varied compared to the videotaped condition (Jola & Grosbras, 2013).

This study adopted a top-down perspective, and investigated the lived experience (Jola, Ehrenberg & Reynolds, 2012) in the context of an artistic performance of dance (Glass, 2005; Jola & Grosbras, 2013; Jola, Pollick & Grosbras, 2011; Pakes, 2011; Reason & Reynolds, 2010; Reason et al. 2016; Vukadinović & Marković, 2012, 2017).

1.5. Expertise in art appreciation: experience, knowledge, and comprehensibility

Expertise in art appreciation has been defined as consisting of information that supports the cognitive processing of art (Leder et al., 2004), as proficiency in the appreciation of art with understanding (Bullot & Reber, 2013), and measured as knowledge related to a particular domain of art appreciation, or "aesthetic fluency" (Smith & Smith, 2006). Dance expertise involves art-related knowledge in the form

of conceptual knowledge about dance (Orgs et al., 2016), as well as prior experience with dance, in the form of visual experience (Jola & Grosbras, 2013) and/or motor expertise (Kirsch, Dawson, & Cross, 2015).

Regarding the role of prior experience with dance, empirical evidence consistently shows an effect of experience with dance on aesthetic judgements about simple dance stimuli in lab studies (e.g. Calvo-Merino, Grèzes, Glaser, Passingham, & Haggard, 2006; Kirsch, Drommelschmidt & Cross, 2013; Orgs, Hagura & Haggard, 2013). However, it is unclear to what extent the effect of prior dance experience on aesthetic judgements is directly transferable to artistic judgements of dance because, despite the fact a defining feature of art expertise is the ability to deal with complex art objects (Belke, Leder & Carbon, 2015), and evidence showing that art expertise effects are particularly strong when facing complex art (Hekkert & van Wieringen, 1996; Locher, Smith & Smith, 2001), prior dance experience did not significantly affect contemporary dance artistic judgements (Glass, 2005). A potential explanation for this disparity of results is that people with extensive dance experience may have evolved their expertise as dance practitioners (e.g. motor expertise as dancers), but not necessarily as dance art appreciators, with the latter involving deliberate practice in the particular domain of art appreciation, the acquisition of a specific knowledge base and cognitive capacities for art understanding.

Art-related knowledge is possibly the most studied variable on expertise research in art (e.g. Leder, Carbon, & Ripsas, 2006; Mullennix & Robinet, 2018; Silvia, 2007; Smith & Smith, 2006). The role of this variable in dance art appreciation is underexplored, but previous studies by Glass (2005) and Stevens and Glass (2005) found no effect of pre-performance information (either generic information about contemporary dance and ballet styles or specific information about the piece) on audience responses to

contemporary dance, neither on their enjoyment nor on their tendency to interpret the work.

Taken all together, this suggests that dance experience and conceptual knowledge about dance per se may not directly affect dance artistic judgements. Beyond, experience and knowledge, some authors highlight the role of capacities for understanding art, claiming that becoming an expert in art appreciation is mainly a matter of developing art understanding (Carroll, 2016; McFee, 2011). In the domain of dance art appreciation, "understanding" has been defined as the ability to deploy or apply concepts during the experience of watching art (McFee, 2011), and distinguished from conceptual knowledge about dance, as "someone may know certain things (in that way, correctly be said to have mastered those concepts) and yet be unable to mobilise his/her concepts in experiencing the object" (McFee, 2011, 243).

In models of visual art appreciation, understanding has been conceptualized in relation to the abilities to deal with cognitive processing of art (Leder et al., 2004). From this perspective, the distinction between experts and novices in their level of art understanding entails differences in their coping potential, and particularly in comprehensibility, as explored by Silvia (2005, 2013a). Comprehensibility is a subjective appraisal of coping potential, people's evaluation of their own resources and abilities to understand something (Silvia, 2005, 2013a). It can be operationalized by asking people to consider whether they are able to understand art. Studies in visual arts (Silvia, 2005, 2013a; Silvia & Berg, 2011) found experts and novices differ in their perceived capacity to understand, and this self-evaluation affected their artistic judgements of interest. Experts show higher interest for complex art (Hekkert & van Wieringen, 1996; Locher, Smith & Smith, 2001), and studies found that comprehensibility relates with experts' interest in complex art (Silvia, 2005, 2013a; Silvia & Berg, 2011).

Finally, regarding the relation between art expertise, understanding and liking, Leder et al. (2014) predicts that expertise should affect deeper levels of cognitive processing related to cognitive mastery and understanding. In the domain of dance, Carroll (2016) and McFee (2011) propose the idea that art expertise should involve differences in art understanding, and additionally suggest that the effect of art expertise should be qualitatively different from the effect of merely liking dance, because having evolved capacities for understanding dance is independent of showing a preference for dance. In support of this claim, Leder et al. (2006) and Mullennix and Robinet (2018) found ratings of understanding were higher for those with higher expertise, but expertise did not affect liking judgments, i.e. there was no difference in liking ratings between novices and experts.

To sum up, more work is needed in order to understand how expertise as appreciator affects audiences' responses, and further study is needed to clarify what and how particular aspects of expertise (knowledge, experience, comprehensibility) affect artistic judgements. Taken together, previous research suggests that: 1) becoming an expert in art appreciation is a matter of developing capacities for understanding (Housen, 2007; Parsons, 1987), and not a matter of preferences (Carroll, 2016; McFee, 2011); 2) the degree of prior dance experience or accumulated conceptual knowledge about dance may be insufficient *per se* to explain expertise in the particular domain of dance art appreciation (Stevens and Glass, 2005), but only insofar as they lead to increased understanding; 3) the capacities for understanding, measured as comprehensibility may be a promising factor to investigate expertise in art appreciation, as previous studies showed experts and novices differ in comprehensibility, and it affected art interest (Silvia, 2005, 2013a; Silvia & Berg, 2011).

The third objective of this study was to explore the effect of three facets of expertise (experience, knowledge and understanding) on dance appreciation. We expected that art expertise affected judgement dimensions related to interest (Silvia, 2005, 2013; Silvia & Berg, 2011), such that higher ability to comprehend should relate to higher interest (Silvia, 2005, 2013; Silvia & Berg, 2011), and this effect of expertise should not be explained by judgements of preference alone (McFee, 2011).

2. Method

This study was approved by the ethics research committee of the University of the Basque Country (UPV- EHU; (M10/2019/271), and authorized by the organizer of cultural dance events of the cultural centre Tabakalera, in Donostia - San Sebastián.

2.1. Sample

A convenience sample (N = 76; 37 women, 36 men, and 3 of indeterminate sex) comprised attendants to dance performances with an average age of 42.11 years (SD = 11.13). Education level was measured by asking for the highest level completed. 61.3% of the sample were graduates (had achieved higher education qualifications above A level), 37.3% had secondary school qualifications, and 1.3% had achieved primary school qualifications.

Exposure to dance was measured by asking participants to provide the number of years of experience as spectator, amateur/professional dancer or critic. Most participants had relatively little exposure to dance, 58.9% of the sample (43 participants) declared having less than 10 years of exposure as spectator or amateur dancer, and among them, 24 subjects had no prior exposure to dance at all. Among those who had more than 10 years of exposure to dance, only 5 had experience as a professional dancer. Three subjects

did not respond to the question of years of experience in dance which means a rate of 1.6 % of lost answers for this question.

2.2. Materials

A questionnaire with two parts was administered. The first part was completed by participants before the performance, gathering demographic background (e.g. age, education, gender), and questions on dance expertise. The second part was completed after the performance and gathered various types of dance judgements (including preferences, open-questions, judgments about dance properties).

Dance expertise

Measures of dance expertise included ratings of (a) comprehensibility, (b) dance experience, and (c) dance knowledge.

(a) Comprehensibility was measured by three items, asking people to evaluate their own resources and abilities to understand art (Silvia, 2005, 2013). We included one self-evaluation of dance understanding ("I consider that I understand about dance") measured on a 5-point scale (1-Totally disagree, 2- Disagree, 3- Neutral, 4- Agree and 5-Totally agree), and two of knowledge ("What do you think your knowledge of dance history is?", and "What do you consider to be your knowledge about art, aesthetics or art philosophy?) measured on a 5-point scale (1 = None, 2 = Low, 3 = Medium, 4 = High, 5 = Very High). The reliability of the scale, as measured by internal consistency, was adequate (Cronbach α=.71). The final score on comprehensibility was the mean.

(b) Dance experience: the Art Experience scale of Chatterjee et al. (2010) was adapted from a previous study to measure time devoted to dance experience (Cronbach α=.76). Three items ask about weekly frequency of dance experiences ("Throughout the week, how much time do you usually spend dancing in a studio or class? / reading

something related to dance? / watching live dance?") and are evaluated on a 5 point-scale (1-None, 2-Less than one hour, 3-Between 1 and 2 hours, 4-Between 2 and 5 hours, 5-5 hours or more). Another item asks about the frequency of attendance to dance performances ("How often do you see live dance (theatre, street, halls...)") and is evaluated with a 5-point scale (1-Almost never, 2-Every year, 3-Every 6 months, 4-Every month, 5-More than once a month). In the present study, we added a fifth item: "How often do you see dance videos (Youtube, films...)" measured by a 5-point scale (1-Almost never, 2-Every year, 3-Every 6 months, 4-Every month, 5-More than once a month). The final score of this scale was the mean. The reliability of the final 5 items scale was adequate (Cronbach α=.80).

(c) Dance-knowledge: Dance Aesthetic Fluency Scale (DAFS). The aesthetic fluency scale (Smith & Smith, 2006) is a standardized measure of art-knowledge which has been used in several studies and various artistic domains (DeWall, Silvia, Schurtz, & McKenzie, 2011, Silvia, 2007; Silvia & Barona, 2009; Silvia & Berg, 2011; Silvia & Nusbaum 2012). The final score is the mean. The aesthetic fluency scale was adapted to the case of dance in another study (Fernandez-Cotarelo, et al. 2020) as a 14-item scale that was adequate (Cronbach α=.94). In the present study reliability of the scale was also adequate (Cronbach α=.95).

The DAFS is made up of 14 items concentrated around ballet, modern and contemporary styles (ballet, contemporary dance, modern dance, Alicia Alonso, George Balanchine, Isadora Duncan, Merce Cunningham, Martha Graham, Vaslav Nijinsky, Pina Bausch, plié, pas de bourrée, release, contact). Items are preceded by the instruction: “a series of artists, terms and concepts related to dance are presented. Please evaluate your level of knowledge about each item by marking with an (x) the box that best corresponds to your position”. Each item is evaluated on a scale of 1 to 5 points (1 = No knowledge.

I have never heard of this artist or term; 2 = I have heard of this, but I don't really know what or who it is; 3 = I have a vague idea about what or who it is; 4 = I understand this artist, discipline or concept when discussing it; 5 = Good knowledge, I can talk about it competently).

Dance appreciation: three types of judgement

To assess dance appreciation, three types of judgement were included: preference, open-ended question, and judgements about dance properties. Preference was operationalized in two ways, as personal preference (liking) and artistic preference (artistic quality). Liking was measured by the item: "Please indicate with one (x) your opinion about the work" (1-I didn't like it at all, 7-I liked it a lot). Artistic quality was measured by the item "Regardless of your personal preference, please evaluate the artistic quality of the work" (1-very bad, 7-excellent). In the open-ended question, participants were asked to write 5 words to describe the dance.

In judgements about dance properties participants were asked to consider particular features of each dance piece and rate them on bipolar semantic differential scales. Semantic differential scales have been previously used to assess the dimensionality of judgements about painting (Marković & Radonjić, 2008), architectural objects (Marković & Alfirević, 2015; Marković, Stevanović, Simonović, & Stevanov, 2016), and dance (Vukadinović & Marković, 2012). We followed the overall methodological approach of those studies. However, unlike previous studies in dance, the generation of dance descriptors did not rely on linguistic production in a specific language (Vukadinović & Marković, 2012).

In order to avoid that our descriptors reflected linguistic artifices of the particular language in which they were produced, we followed Berlyne & Ogilvie's (1974) approach, using two criteria for item selection: 1) a theory review of literature on dance

and art appreciation (Graf & Landwehr, 2015, 2017, Leder et al. 2004; McFee, 2011; Orgs et al. 2016; Pelowski et al., 2017), and 2) items used in earlier studies that employed semantic differential for measuring dance appreciation (Vukadinović & Marković, 2012).

A list of items was generated in order to cover five relevant aspects of dance appreciation. A first subset covered hedonic tone, and included items associated with pleasure (pleasant-unpleasant, agreeable-disagreeable), and canonical aesthetic properties (beautiful-ugly, elegant-vulgar). A second subset covered arousal (calming-stimulating, lethargic-exciting, familiar-unfamiliar, simple-complex). A third subset covered interest (interesting-boring; entertaining-tedious). And a fourth subset dealt with the cognitive-aesthetic properties that require higher-order processing and cognitive elaboration (including coherent-incoherent, balanced-unbalanced and superficial-profound).

The final pool of items consisted in a total of 13 Osgood-type 7-point scales, anchored by pairs of antonyms at each extreme. The items were translated into Spanish under the supervision of a professional translator and two native speakers with bilingual competence. These scales were preceded by the explanation: "Pairs of words with opposite meanings are presented. Please assess the extent to which the following words fit the dance you have just seen."

2.3. Stimuli

There are a multitude of individual, stimuli, and contextual variables that influence the experience of dance viewers including visual, action and social features (Orgs, et., 2016, 2018). Previous studies on dance appreciation have focused on maximizing experimental control over ecological validity (Christensen & Jola, 2015), removing from dance stimuli narrative, costume and music (e.g. Calvo-Merino et al. 2008). In contrast, this study assumed a naturalistic approach, the stimuli and context of

presentation tried to maximize ecological validity, following guidelines by Christensen & Jola (2015).

Following Christensen & Jola (2015), and Vukadinović & Marković (2017), a first concern was maximizing ecological validity attending to: a) the context of presentation (selecting a fully ecologically valid context), and b) the quality of performance (selecting pieces created and performed by professionals and presenting them as they were conceived by artists, respecting the original choreography, costume, and music).

To minimize the effect of familiarity with the pieces, we selected novel pieces of contemporary dance. Research shows that we apply preconceived ideas about dance when judging familiar styles, like ballet (Reason & Reynolds, 2010), thus we chose pieces without stylistic similarity to ballet (i.e. no ballet technique, narrative, plot, pantomime, or ballet clothing).

Description of the danceworks

The first piece, dancework 1, was a contemporary dance duo, *Out of the blue*,[88] choreographed by Maria Andres and performed by Maria Andres and Denis Martinez. It lasted 15 minutes. The hedonic content of the piece was positive, described in the handout as: "a fresh and playful work that appears from the need to enjoy the pleasure of free movement, disconnect and break up with routine and what is established, with one objective, that the audience enjoys, that they smile, applaud and feel the rhythm of excitement that work leads to." The dancework was accompanied by electronic music, with an overall positive hedonic tone.

[88] Teaser of *Out of the blue*: https://www.dropbox.com/s/0frp1qrcyc31bmf/OutoftheBlue.mov?dl=0

The second piece, dancework 2, was a contemporary dance solo, *Reset*,[89] by the choreographer Noemi Viana, performed by herself. It lasted 25 minutes. The overall hedonic content of the piece was negative. It was accompanied by the song "Todos los fuegos", by Muskulo, which criticizes how society neglects the suffering of anonymous victims ("they all die today hidden among the death toll"[90]), and speaks about situations of social inequalities as if they had happened to famous artists (e.g. "Jorge Luis Borges was born black and a slave, he never learned to read, he doesn't know how to write, there is no Aleph, nor stories about Funes the Memorious"[91]).

2.4. Procedure

A pilot study (n=21) was conducted in order to test materials, and the reliability of the DAFS replicated results of previous findings in English in an online study (Cronbach α=.95). No problems of comprehension were found. These results suggested scales were adequate.

The study was carried out on August 18, 2018 at 18:00, in an open terrace space in the cultural center Tabakalera (Donostia - San Sebastián), and the performances were free. Materials were arranged in advance (chairs, music equipment, space to complete questionnaires, and pens).

Participants were not informed that a study was taking place before arriving to the event, and they were not given any remuneration for participation. As participants arrived at the setting, they were asked if they wanted to participate in a dance study. Only adults were asked to take part. If they agreed to take part in the study, the following instruction was added: "it is crucial for the study to read the instructions with attention, responses

[89] Full performance of *Reset*: https://www.dropbox.com/s/v5y4qsvanewsqe8/Reset.mov?dl=0
[90] "Todos mueren hoy escondidos entre las cifras".
[91] "Jorge Luis Borges, nacido negro y esclavo, no aprendió nunca a leer, no sabe escribir, no existe el Aleph, ni relato alguno sobre Funes el Memorioso".

are not right or wrong as far as they are sincere and individual" (particularly important when a group of people arrived together). If they had any doubts, they could ask questions at any point.

Before seeing the dancework, participants answered the first part of the questionnaire (demographic information, experience and knowledge), taking around 10 minutes. After seeing each dance piece, participants answered the questions about the dance they had just seen. After the second dance piece, during the final return of questionnaires, some participants commented they enjoyed the opportunity to "reflect" on the piece.

3. Results

First, to explore the dimensional structure subjacent to dance judgements, a factor analysis was carried on the bipolar scales. Second, to explore whether people evaluated differently each piece in relation to the emergent judgement dimensions we carried out t-tests. Third, to assess whether people represented each piece differently, we conducted a descriptive analysis of the most frequent words assigned to each piece. Finally, to explore whether there was an effect of expertise (experience and knowledge) on dimensions of dance judgements, we conducted a correlation analysis.

3.1. Dimensionality of dance appreciation

The first objective was to explore the dimensions behind judgments of dance properties. For this purpose, an exploratory factor analysis of dance judgments was carried out independently for each piece. The method used for factor extraction was in both cases the principal components analysis with Varimax rotation and Kaiser

normalization. Prior to the analysis, it was determined whether the data fulfilled the assumptions for the factor analysis with Bartlett's and Kaiser-Meyer-Olkin tests.

Dancework 1

KMO measure indicated good sampling adequacy for factor analysis (KMO = .77). Bartlett's test verified that there were sufficient correlations between items ($\chi 2$ (78) = 424.02 p<.001). Therefore, the two assumptions for factor analysis were satisfied.

From factor analysis of dancework 1, there emerged three factors. The three factors explained 69.37 % of the total variance (36.08% of the variance was explained by factor 1, 19.59%, by factor 2 and 13.70% by factor 3). shows the results of this analysis with the items with highest weight in each factor, following as inclusion criteria loadings greater than .40.

Table 6. Loadings of the Items with the Highest Factor Weight for Dancework 1 and Dancework 2. Cronbach's α is Reported for Each Factor

	Dancework 1			Dancework 2		
	1	2	3	1	2	3
Items	Engagement	Arousal	Unity	Engagement	Arousal	Unity
interesting-boring	.82			.77		
entertaining-tedious	.84			.79		
agreeable-disagreeable	.90			.83		
pleasant-unpleasant	.88			.78		
calming-stimulating		.72			.85	
lethargic-exciting	-.58	.65			.78	
familiar-unfamiliar		.88			.71	
simple-complex		.65			.66	
profound-superficial			.50			.69
balanced-unbalanced			.71			.75
coherent-incoherent			.72			.85
beautiful-ugly	.73		.41	.67		
elegant-vulgar	.76			.66		
Cronbach's α	.73	.78	.61	.89	.79	.74

Dancework 2

KMO results indicated data was suitable for factor analysis (KMO=.78), and Bartlett's test showed that correlation coefficients were not all zero ($\chi 2(78) = 385.99$,

p<.01). Therefore, the two assumptions required for factor analysis were satisfied. Three factors emerged from factor analysis, explaining 66.16 % of the total variance (28.38% of the variance was explained by factor 1, 21.34% by factor 2 and 16.44% by factor 3). shows the percentage of variance explained by each factor and the factor load of the items with more weight in each dimension, following as inclusion criteria that had a load greater than .40.

Reliability analyses were conducted for the items included in each factor. In dancework 1, the internal consistency of factor 1 showed a substantial increase (from α=.73 to α=.91) by deleting the element "lethargic-exciting". This item also presented cross-loading between factors, so we assigned it to the factor with the higher load (factor 2). These results showed good internal consistency for all dimensions (see table 1).

The first factor was labelled Engagement and includes: interesting-bored, tedious-entertaining, pleasant-unpleasant, agreeable-disagreeable, beautiful-ugly, and elegant-vulgar. Engagement captures a positive attitude of involvement with an attraction towards the object in terms of pleasure (pleasant, agreeable), interest (interesting, entertaining) and aesthetics (beautiful, elegant).

The second factor includes: calming-stimulating, lethargic-exciting, familiar-unfamiliar, simple-complex. We labelled this factor Arousal (Berlyne, 1971; Orgs et al., 2016) because it refers to activation and collative variables (Berlyne, 1971).

The third factor includes balanced-unbalanced and coherent-incoherent. Additionally, in dancework 1, this factor included the item "beautiful-ugly", but given it had a higher weight and adequate interpretability in Engagement, for posterior analysis we included it in Engagement. This factor covers higher-order cognitive elaboration of the object as a whole, and it was labelled Unity because it includes adjectives referring to

the sense of unity, completeness, high order of coherence or balance, perceived in artworks (Beardsley, 1969).

Relation among judgement dimensions

We created six variables, one for each dimension of each dancework, by calculating the mean, and reversed all items of Engagement and Unity to facilitate interpretation. In order to explore the relation between dimensions of each dancework we conducted a correlational analysis.

For dancework 1, there was a significant positive correlation between Engagement and Unity ($r=.37$, $p<.01$), Arousal and Unity ($r=.27$, $p<.05$), but not between Engagement and Arousal ($r=.24$, n.s.). For dancework 2, there was a significant positive correlation between Engagement and Unity ($r=.35$, $p<.01$), Engagement and Arousal ($r=.43$, $p<.01$); and Arousal and Unity ($r=.31$, $p<.05$).

To sum up, in accordance with hypothesis 1, dimensions of dance judgements included more reactive (Engagement, Arousal) and more reflective dimensions (Unity). Taking together, the results of factor analyses showed a high degree of similarity in the factor composition, which suggests a stable subjacent structure for the judgements dimension (Engagement, Arousal and Unity).

3.2. Differences between dancework 1 and dancework 2

Differences between judgement dimensions

We have seen the factorial solution is common to both danceworks. Now, we are going to explore whether there are differences in the evaluations people make of danceworks 1 and 2. To explore whether there are differences in the evaluations people make of each dancework in relation to the judgement dimensions, we

conducted three t-tests for related samples, one for each dimension (Engagement, Arousal and Unity), using dancework as a repeated measure variable and each judgement dimension as dependent variables.

Results showed that participants judged significantly higher Engagement for dancework 1 (M=5.62, SE=0.15) than dancework 2 (M=5.24, SE=0.15, t(53)=2.10, p<.05). Arousal was judged significantly lower for dancework 1 (M=4.83, SE=1.24), than dancework 2 (M=5.29, SE=0.16) t(52)=-2.10, p<.05) . There was no significant difference in how participants judged Unity in dancework 1 (M = 4.92, SE = 0.12) and dancework 2 (M=5.10, SE= 0.17), t(52) = -1.00, n.s).

Overall, these results suggest that people tended to evaluate dancework 1 and dancework 2 differently in terms of Engagement and Arousal, but not in terms of Unity.

Differences in the content of dancework 1 and dancework 2

To assess whether people perceived differently the content of danceworks 1 and 2, a descriptive analysis of the frequency of words that participants produced in the open-ended question was performed for both. To illustrate the different content, we produced two word-clouds with the software Iramuteq. Each word-cloud represented the most frequent words produced by participants in relation to each dancework (see).

Figure 5. Word-cloud for Dancework 1 (left) and Dancework 2 (right).

From the observation of the word clouds, it can be inferred that dancework 2 displayed an overall negative hedonic tone, evidenced by words like “angst” (n=8),

"oppression" (n=5), "death" (n=4), "fight" (n=4), "pain" (n=4), "war" (n=3), "impotence" (n=3), "confusion" (n=3), "apocalypse" (n=2), and "darkness" (n=2). In contrast, there was an overall more positive hedonic tone in dancework 1, evidenced by words like "union" (n=10), "sexual" (n=10), "aesthetic" (n=4), "original" (n=6), "support" (n=4), "security" (n=3), and "fun" (n=3). In conclusion, this result suggests that the content of each dancework was represented differently by participants.

3.3. Effect of expertise on judgement dimensions

We created three variables for expertise, based on the mean ratings for the scale for dance experience, dance knowledge, and comprehensibility. In order to explore whether there was an effect of expertise on judgement dimensions (objective 3), we conducted an analysis of correlation which included experience, knowledge and comprehensibility as measures of expertise, and the three judgement dimensions (Engagement, Arousal and Unity) for dancework 1 and dancework 2. No significant relation was found between judgement dimensions and knowledge, neither with experience. Regarding comprehensibility, results showed a significant positive correlation between comprehensibility and Engagement for both, dancework 1 ($r = .28$, $p < .05$) and dancework 2 ($r = 34$, $p < .01$).

In order to test whether the relation between Engagement and Comprehensibility was maintained when controlled for preference (liking and artistic quality), two partial correlation analyses were conducted, one between Comprehensibility and Engagement, controlling for preference and artistic quality judgements of dancework 1, and another between comprehensibility and Engagement, controlling for preference and artistic quality judgements of dancework 2. For dancework 1, results showed that the correlation between comprehensibility and Engagement remained significant when controlled for

liking and artistic quality (r=.29, p<.05). For dancework 2, results showed the correlation between comprehensibility and Engagement remained significant when controlled for liking and artistic quality (r=.32, p<.01).

Overall, this result is in accordance with our prediction that expertise should relate to understanding, such that higher comprehensibility should affect interest. There was a positive significant relation between comprehensibility and interest (Engagement), with more comprehensibility related to higher Engagement in both danceworks. The more people consider they can comprehend, the more they judge the piece as engaging. Also, the relation between Engagement and comprehensibility seems not to be explained by people's ratings of how much they liked the dancework or considered it good, which supports the hypothesis that expertise effects should not be explained by mere preference.

4. Discussion

The purpose of the present study was to identify the dimensions of dance appreciation and explore the effects of various facets of expertise in dance appreciation. We will first discuss our findings regarding the composition of dance appreciation dimensions and then the effect of expertise.

4.1. Judgement dimensions: Engagement, Arousal and Unity

The starting point was the operationalization dance appreciation as artistic judgements from a top-down and dual-process perspective, as a process that involves stimuli-driven (reactive) aspects as well as perceiver-driven (reflective) aspects. This approach contributes to previous research (which focused on a bottom-up approach to aesthetic judgements), by providing a new and more comprehensive view of dance appreciation. This perspective presents the additional benefit of interpretability of results, unlike previous research on the dimensionality of dance judgements in which

the generation of dance descriptors relied on linguistic production in a particular language (Vukadinović & Marković, 2012), which likely reflected linguistic artifices of the particular language in question.

The first objective was the investigation of the dimensions underlying dance judgments. Results showed that three dimensions (factors) underlie people's judgements: Engagement (descriptors: beautiful, elegant, pleasant, interesting, entertaining, agreeable); Arousal (descriptors: stimulating, exciting, unfamiliar, complex); and Unity (descriptors: coherent, profound, balanced).

The three dimensions corresponded to different domains of dance appreciation. First, Engagement covered a positive attitude towards the object, and may refer to states of positive valence or attraction towards the object. This dimension reflects the affective base of art appreciation, in line for instance, with Prinz's (2011) account of art appreciation as an affective state that consists in a positive appraisal.

Second, Arousal covered activation and excitement in relation to complexity and unfamiliarity. This finding is consistent with the characterization of Arousal as related to features like informational complexity and novelty (Graf & Landwehr, 2015, 2017; Leder et al., 2004; Orgs et al., 2016; Silvia, 2006, 2012). In contrast to the dimensional model of dance appreciation (Orgs et al., 2016), our results suggest no direct correspondence between arousal and interest. This finding suggests that the relation between arousal and interest is likely more complex than anticipated by the dimensional model of dance appreciation. Further investigation may reveal under what conditions, arousal and interest converge and diverge in artistic judgements. A promising framework to study this issue is provided by theories of appraisal that predict that interest consists in appraisals of novelty (unfamiliarity and complexity) and appraisals of coping potential (the ability to understand the new, complex thing) (Silvia, 2005).

Third, Unity refers to the formation of a Gestalt, and covers higher-order cognitive elaboration of the object as a whole. The emergence of Unity is in accordance with top-down approaches to art appreciation that highlight sense-making and meaning elaboration (Leder et al., 2004), and the role of knowledge-meaning networks in aesthetic experiences with art (Chatterjee & Vartanian, 2016; Pearce et al., 2016).

Overall, the results provide a better insight into the structure of dance artistic judgement, and complement current models of dimensions of dance judgements (Orgs et al., 2016). The results of our investigation into dimensionality support our hypothesis that dance artistic judgement dimensions cover reactive and reflective response modes (Cupchik, 2014). The more reactive dimensions, Engagement and Arousal, resemble the two well-established dimensions of Hedonic tone and Arousal posited by Berlyne's (1971) and applied to dance appreciation by Orgs et al. (2016). Unity suggests that people engaged in higher-order, cognitive representations of the work's content when they judged dance, go beyond the more reactive modes of response that characterize Engagement or Arousal.

The second objective was to explore whether dimensions were stable across danceworks with different content. Our results revealed the same three dimensions generalized across danceworks with different content, despite the fact that each dancework was described and evaluated differently by participants both, by free association, and in their evaluations in relation to the judgement dimensions.

On the one hand, the captured underlying regularities behind people's judgements are not the sole property of the stimuli, but instead characterize psychological dimensions behind people's judgements. This supports the internal validity of the dimensions, and the stability of dimensions as psychological constructs that generalize across danceworks with different content. On the other hand, dimensions showed the sensitivity required to

discriminate between different content. Overall, this result supports the psychological significance of these dimensions which generalize across content, and at the same time discriminate between content.

Several unresolved theoretical issues are raised by this research. One interesting issue is the relation between affective and cognitive processing in the evaluation of danceworks with different affective content. The content of dancework 1 was described in positive affective terms in the open-ended question, and judged higher in Engagement, while the content of dancework 2 was evaluated in negative affective terms, and judged higher in Arousal. Interestingly, there was not a significant difference in people's overall appreciation of each dancework (i.e. how much they liked the dancework and considered it a good piece of art). The average liking and artistic quality ratings were high for both danceworks, as demonstrated by the scores in a 1-7 scale on how much people liked each dancework ($M_{dancework1}$=5.70; SD=1.35; $M_{dancework2}$=5.49; SD=1.39); and considered them as good pieces of art ($M_{dancework1}$=5.70; SD=1.35; $M_{dancework2}$=5.70; SD=1.21). This suggests that the overall appraissal of a dance piece is not fully explained by the positive/negative tone of the affective content, otherwise, the negative content of the second piece would lead to a less positive evaluation of that piece. This suggests that the relation between the overall appreciation of art and the affective tone of the art piece is not direct.

A potential explanation for the complex relation between the affective content of art and our overall appraisal of it is provided by the model of Menninghaus et al. (2017) which predicts that the processing of the positive and negative affective content of artworks is mediated differently by two cognitive mechanisms that allow distancing from or embracing of the affective content of artworks. Our results suggest that Engagement and Arousal discriminate between the positive and negative affective content of the work,

and we interpretedthat these two dimensions reflect more reactive aspects of appreciation. When presented with artworks that induce negative emotions, Menninghaus et al. (2017) predicts arousal will be higher, which would explain higher Arousal in dancework 2, and that appreciation of such artworks requires a psychological distancing prior to embracing their content. The "embracing" mechanism relates to pleasure and enjoyment, which would explain higher ratings in Engagement for the positive dancework. In a study of affective reactions to dance (Christensen et al., 2016), valence but not arousal, was related to physical parameters of movement, however Christensen et al. (2016) used a library of normalized dance stimuli, not danceworks. This may suggest that, differences in the level of arousal evoked by negative and positive dance may emerge only given a high level of complexity or meaningfulness of the artistic stimuli, such that cognitive mechanisms of distancing are activated. Future work may test whether Engagement and Arousal can discriminate positively and negatively-valenced works, and explore how affective processing of dance, in terms of valence and arousal, is modulated by cognitive factors, such as mechanisms for embracing and distancing.

Overall, our results on dimensionality make theoretical and methodological contributions by providing a new picture on the dimensionality of dance appreciation from a dual-process perspective. Our three scales, corresponding to Engagement, Arousal and Unity, can be used in future studies to measure each dimension, and assess differences among observers, contexts and danceworks. Additional research is needed to clarify the nature of the Unity scale, and develop it further. It would be interesting to see if results are transferable to different dance styles, or to other artforms, like painting, theatre, or music. For instance, future study may test whether the same dimensions emerge in other dance styles and remain stable across different dance contents, or how dimensions are affected by different contents and/or styles (e.g. it may be that the sensitivity of

dimensions to dance contents is even stronger when applied to two dances of differing styles).

4.2. Expertise in appreciation: the role of comprehensibility

The third objective was to explore the effects of various facets of expertise on appreciation. Expertise was operationalized as experience, knowledge and comprehensibility. The main finding is that, for both danceworks, comprehensibility was related to the dimension of Engagement, such that the higher people considered their own ability to comprehend, the higher they evaluated their engagement with the object. Also, the relation between comprehensibility and Engagement stayed significant when controlling for preference, suggesting that the effect of understanding on engagement is relatively independent from whether people liked the dance and found it good art. This interpretation is consistent with empirical evidence that found no difference in "liking" ratings between novices and experts (Leder et al., 2006, Mullennix & Robinet, 2018). Overall, the effect of expertise we found can be better interpreted in terms of cognitive appraisals, rather than in terms of purely affective or evaluative appraisals (liking, judging it as good). This is in line with Silvia (2013), who found that experts had a different cognitive appraisal structure for interest to novices, and expert interest was characterized by higher comprehensibility.

Taken together, our findings contribute to the scarce literature on dance expertise as appreciator (Orgs et al., 2018), suggesting comprehensibility has a relevant role in dance appreciation: Spectators who perceive themselves as capable of understanding dance perceive danceworks as more engaging. It would be interesting to investigate in the future the relation between comprehensibility, experience, and knowledge; exploring, for instance, whether critics are similarly influenced by their own beliefs on how capable

they are to understand art. Future research could also address to what extent each of those facets of expertise affects appreciation of other dance genres, or other artforms.

We did not find expertise effects in terms of prior dance experience, in line with previous studies in contemporary dance (Glass, 2005), nor knowledge. This lack of effect of experience and knowledge suggests that expertise as appreciator requires more than mere exposure to art that leads to the accumulation of knowledge. In real audiences, where the majority of people are not experts, the effect of art expertise on judgments may depend more on people's own appraisal of their cognitive resources and ability to understand dance, rather than on how knowledgeable they are, or on the amount of previous experience they have had with dance. Our finding is compatible with Winters' proposal that "appreciating works of art is more a matter of sensitivity than of accumulated knowledge" (Winters, 1998, 1), and with "aesthetic cognitivism" (McFee, 2011), that defends the thesis that dances are objects of understanding, and appreciating dance with understanding is a complex endeavour that cannot be explained simply by dance experience, accumulation of knowledge, nor by preference.

4.3. Conclusion

This study identified dimensions of dance appreciation and explored the effects of dance expertise in judgement dimensions. Our results suggest that there are three dimensions which may underlie artistic judgement of dance: getting involved with the piece (Engagement), being aroused by it (Arousal), and forming a coherent representation (Unity). While the level of dance knowledge or experience may not have a strong impact on those dimensions, we found that people's appraisal of comprehensibility relates to Engagement, conveying that one's own ability to understand dance may affect how much pleasure, interest, and beauty one will find in dance. This suggests that a potential strategy to promote audiences' engagement

may be not simply providing them informational sessions, but intervening in audiences' confidence in their current ability to understand dance.

GENERAL DISCUSSION

The general goal of this dissertation is to explain what happens, in fact, during an audience's experience of dance. This two-part dissertation adopts a cognitive science perspective to provide a theoretical account of dance appreciation, and empirically explores expertise, dance appreciation and the effect of the former on the latter. The resulting account conceives the concept of dance as a cognitive schema (chapter 2), and dance appreciation as a psychological state (the art appreciative experience) characterized by reflective (e.g. sizing up, cognitive interpretation…) and reactive responses (e.g. being moved, enjoyment…) (chapter 3). Dance appreciation can be operationalized by means of judgements, and the second empirical study explores the dimensions behind judgments of two contemporary dance performances, as well as their relation to expertise (chapter 5), applying the measures of expertise developed in chapter 4. This chapter assesses the results with respect to the two objectives of the thesis (sections 1 and 2), it discusses the theoretical implications of my account of dance appreciation (section 3), interdisciplinarity (section 4), and the limitations of this work (section 5).

1. Conceptual contributions

The first objective of this thesis is to elaborate a conceptual framework for the study of dance appreciation. By creating a theoretical framework for dance appreciation, this project contributes to scientific theorizing of dance appreciation with a conceptually robust account that is coherent with current models and evidence in the dance domain, and suitable for empirical study. The theoretical framework developed here has various implications for the psychological study of dance appreciation.

First, the study of aesthetic experiences involving dance movement does not equate to the study of art appreciative experience. Like other aesthetic experiences involving dance movement, the dance art appreciative experience involves sensory-motor perception and hedonic valuation. However, I have argued that, while there is a conceptual overlap between liking, aesthetic experience and art appreciation, their distinction is conceptually and psychologically significant. This argument builds on the position of some authors in philosophy of dance (e.g. Davies, 2013, 2014; McFee, 2011) which were skeptic about psychological research in dance appreciation, among other things, because psychological research confused the study of the aesthetic and the artistic. Instead of concluding that psychological research is irrelevant for an account of dance appreciation, I tried to develop a conceptualization of dance appreciation that incorporates this distinction. In particular, I proposed a set of features that distinguish the psychological state of appreciating dance as art from the more general concept of aesthetic experience. In brief, unlike a purely aesthetic experience, an art appreciative experience: i) is defined in relation to a category of objects (artistic artefacts), and in the case of dance it occurs in interaction with a dance artistic performance; and ii) is characterized by features specific to the artistic domain (e.g. dance art schemata, artistic value, art understanding) and what I have called an interrogative attitude, that involves a cognitive orientation towards the object, as well as metacognitive self-reflection with the goal of making sense of the artistic object.

The distinction between aesthetic and art appreciative experiences allows to differentiate two sets of relatively independent research topics in the psychological study of dance appreciation: one refers to the hedonic valuation of dance movement (aesthetic experiences with dance), the other concerns the art experiences, and the artistic valuation of dance artistic performances. If this is true, researchers should proceed with caution in

the generalizing of evidence from the hedonic evaluation of dance movement to the understanding of the art experience of dance, because empirical evidence regarding the former, may not always be directly relevant to advancing knowledge of the latter. The same argument has been recently defended by authors like Pearce, et al. (2016) or Skov and Nadal (2020), who argued that the aesthetic and the artistic should be conceptually distinguished in the scientific study of art experiences.

A second implication of the distinction between aesthetic and art appreciative experiences is that research approaches used to study the former are not necessarily adequate for understanding the latter. In this sense, the distinction of three levels of description of dance (as movement, as action and as artistic performance) is useful to decide whether an art appreciative experience took place or not. For the study of the art appreciative experience, participants should be given enough cues to assure that the object of perception is framed as an artistic artefact, while this is not required to study the aesthetic perception of dance movement.

1.1. A cognitivist view of dance appreciation

The notion of appreciative experience contributes to psychology and philosophy of dance by providing a cognitivist characterization of dance appreciation that elaborates the role of factors like understanding, dance knowledge, conceptual experience, and comprehensibility. My proposal adds to cognitivism in philosophy of dance (McFee, 2011) and cognitive psychological theories of dance appreciation (Orgs et al., 2016; Christensen & Jola, 2015). On the one hand, I reformulate aesthetic cognitivism in psychological terms (the philosophical claim that states that dances are fit objects of understanding, McFee, 2011) , by describing dance appreciation in terms of understanding. However, the version of cognitivism I propose diverges from, and dialogues with McFee's thesis in various aspects: 1) the role (descriptive or

normative) of cognitive aspects of appreciation, 2) the definition of understanding in the context of dance appreciation, and 3) my empirically-oriented motivation and engagement with psychological literature for describing the cognitive aspects of appreciation.

Regarding the first, a crucial difference between normative and descriptive cognitivism is on the conception of normativity in relation to cognitive aspects (e.g. dance categories, dance understanding…). Normative cognitivism assigns a normative role to cognitive aspects. It sets standards for what appreciating with understanding should be. A proponent of normative cognitivism requires the right application of a particular type of concepts (art categories) for speaking of appreciating with understanding. My descriptive form of normativism does not do this.

The version of cognitivism developed here describes how people's cognition deals with dances to make sense of them, regardless of art criticism standards of what is the right understanding, and regardless of whether a state of full comprehension is achieved or not. I based descriptive cognitivism on the notion of interrogative attitude (see Figure 2), which accepts that the experience of appreciating dance with understanding may occur even if the appreciator does not achieve a state of comprehension, make full sense of what is going on, or achieve a cognitive closure of any sort. In other words, the appreciation of dance with understanding involves an epistemic attempt, whereas an epistemic achievement is not necessary.

In contrast to normative cognitivism, my definition of dance understanding admits a minimal sense of appreciating with understanding that involves only an attempt to make sense of the dance; hence, the right application of dance categories is not a necessary condition for appreciating with understanding: a beholder may have no knowledge about a style of dance, or may categorize it wrongly as modern dance when it is indeed

contemporary dance, yet this does not preclude this person from appreciating dance with understanding, in the sense that I, and others (e.g. Bresnahan, 2017; Conroy, 2013) define it. In this dissertation I argue that there are multiple forms of dance understanding, and some do not involve intellectual understanding (see section 3.5), nor the right application of dance categories.

My defence of cognitivism subscribes to the overall cognitivist claim that dances are fit objects of understanding (McFee, 2011), but I do not engage with the debate of what right or wrong understanding might be, which, for example, is the whole point of developing aesthetic cognitivism for McFee. Unlike McFee's formulation of aesthetic cognitivism, my motivation to engage with aesthetic cognitivism is to address a conceptual gap in previous psychological research and compensate for the overall neglect of aesthetic cognitivism in current empirical research in dance psychology study.

In brief, my argument is that reflective aspects (related to cognitive elaboration and understanding) are necessary to define dance appreciation, and should be included alongside reactive aspects (related to hedonic and affective reactions), when characterizing dance appreciation. In contrast, McFee's cognitivism ignores reactive aspects as irrelevant to appreciation of dance as art (although he would not deny that we do care about these aspects as dance lovers and audience members), and assumes the superiority of cognitive aspects (i.e. conceptual knowledge and understanding) over others (feelings, and more, generally, what I have called above hedonic or affective aspects) in the definition of dance appreciation.

My cognitivist picture of dance appreciation adds to the psychology of dance in two ways: 1) by proposing processes and variables for a future cognitivist model of dance appreciation, such as dance art schemata, art framing, conceptual knowledge, art categories, artefact cognition, understanding, or appraisals of comprehensibility; 2) by

describing the interrogative attitude as an experiential aspect of the cognitive dimension[94] of dance appreciation.

2. Empirical contributions

The second objective of this thesis is to apply the conceptual framework elaborated in the first part to the empirical studies of the second part. This section starts by assessing how the second objective of the thesis is achieved, by explaining two ways (a direct and an indirect way) in which the conceptual framework is applied in the empirical part. After that, I suggest potential applications of the empirical results in three domains: a) in practice, for developing strategies to promote audience engagement, ii) in research, providing new measurements of expertise and dance appreciation, iii) in theory, for the further development of the conceptualization of expertise and dance appreciation.

The conceptualization of dance appreciation developed in the first part is applied in two different ways to the empirical part. The most direct application occurs in the second empirical study, which explores the dimensions of dance appreciation. The conceptualization of dance appreciation as involving reactive and reflective aspects relates to the distinction between reactive and reflective modes of engagement with art (2014), with the former being characterized by the two classic Berlynean dimensions (arousal and hedonic tone) and the latter by higher-order cognitive elaboration. From a dual-process perspective (Cupchik, 2014; Graf & Landwehr, 2015, 2017), a reactive mode of response can be linked to system 1 (faster, automatic, intuitive, less cognitively

[94] "Cognitive dimension" refers roughly to what other authors call the "meaningfulness" of aesthetic experience (Pearce, et al., 2016), or the semantic dimension of aesthetic experience (Shusterman, 1997).

effortful) and a reflective mode of response to system 2 (slower, deliberate, rational, more cognitively effortful).

The result of this study presents evidence for two dimensions related to reactive modes of engagement (Engagement, Arousal), which can be explained by the traditional Berlyne's dimensions (hedonic tone and arousal) included in the model of dance appreciation by Orgs et.al (2016). Additionally, we found a third dimension, which we interpreted as "Unity" and related it to cognitive-reflective aspects. This result offers partial support for the comprehensive view of dance appreciation developed in part I, insofar as it suggests that cognitive-reflective aspects should be included as primary defining characteristics of dance appreciation.

A more indirect application of the conceptual framework to the empirical part refers to the cognitivist perspective and my focus on cognitive-reflective aspects of the empirical part. My focus on cognitive-reflective aspects of appreciation is part of my overall defence of aesthetic cognitivism, a perspective which argues that cognitive-reflective aspects are a defining characteristic of the art appreciative experience, which in turn guides the choice and definition of variables, like conceptual expertise, dance conceptual knowledge, and comprehensibility. The first study addresses conceptual knowledge about dance in relation to different types of dance experiences (visual, motor, and conceptual), providing an instrument to measure dance knowledge that is used in the second study. The second study explores how various facets of dance expertise (knowledge, experience, and comprehensibility) relate to the judgement dimensions underlying the appreciative art experience.

The second empirical study also proposes dance expertise has a multifaceted nature (involving experience, knowledge, and understanding) and explores the effect of expertise in dance appreciation in regards to these three aspects. Surprisingly, there was

no significant effect of knowledge or prior dance experience on dance appreciation, such that neither being knowledgeable or experienced in dance affected judgement dimensions. What we find instead is that understanding, measured as comprehensibility, relates to the dimension of Engagement, such that the higher comprehensibility the more appreciators tend to engage more towards the object of appreciation. In sum, our result suggests that audiences' engagement seems to be less affected by the degree of knowledge or prior experience with dance, than by whether participants conceive themselves as able to understand dance.

Any interpretation of this result should be taken with extreme caution. On the one hand, this result is by no means conclusive, given the exploratory nature of the study. On the other hand, the operationalization of comprehensibility (with only three items) and the conceptualization of this variable in the context of dance appreciation are deficient, and insufficient to form any closed interpretation of this result. Yet, regardless of those limitations, this unexpected result on the effect of expertise is suggestive of a potential practical application in the promotion of people's engagement with dance.

Our result suggests that the confidence that appreciators have on their own ability to understand dance affects how audiences engage with dance. Thus, an effective strategy to promote audiences' engagement may be to intervene on their degree of comprehensibility (for instance, by encouraging audiences to recognize their current resources and ability to make sense of dance), instead of (only) intervening on the degree of knowledge (e.g. with pre-performance informational sessions). Future research may test the potential benefit of an intervention based on enhancing comprehensibility, for instance comparing the effect of comprehensibility-based interventions with the effect of knowledge-based interventions (such as informational sessions), and the effect of the combination of both types of interventions. Informational sessions could be further

divided into sessions that provide a concrete contextualization of the piece, or general information (e.g. general knowledge about dance history), and the difference in dance knowledge pre- and post-performance could be controlled by using the DAFS developed in the first empirical study of this dissertation.

The empirical work of this dissertation provides new measures of dance art expertise and dance appreciation which may be applied in future research. Regarding expertise, previous research typically conceptualized dance expertise in terms of practitioner experience (as dancer), without considering whether the dancer has conceptual expertise in dance or not. Empirical study I provides a measure of dance knowledge that can be used to operationalize conceptual expertise in dance, and also to explore the role of conceptual knowledge in dance appreciation, for instance, the relation between conceptual knowledge and understanding (e.g. comprehensibility) or the effect of conceptual knowledge on cognitive (e.g. cognitive interpretation) vs. affective responses to dance (e.g. emotions).

Regarding dance appreciation measures, previous operationalizations of appreciation are focused on hedonic measurements (asking whether the movement is beautiful, pleasant, or liked). Although aesthetic judgements are a good overall indicator for aesthetic preferences and aesthetic experiences, results of empirical study II reveal that artistic judgements about dance are more complex than a matter of preference, and the dimensions that underlie those judgements are not fully captured by typical hedonic measurement of beauty and the like. Overall, these scales of expertise and judgement dimensions can be applied to study individual differences in dance expertise and dance appreciation. The second empirical study does not find evidence of individual differences in terms of knowledge, but there is a relation between comprehensibility with the Engagement of appreciators. Also, results of this study show that people differ

remarkably in their judgements about danceworks with different content, but the dimensions (Engagement, Arousal and Unity) underlying their judgements across danceworks with different content remain stable, emphasizing the psychological significance of those dimensions.

Finally, regarding the theoretical application of the results of the empirical part, the main conclusion is that much work is needed for an adequate integration of the conceptual framework within the empirical study of dance appreciation. Taken together results from both studies offer only weak and indirect support to one of the claims developed in part I; my defence of the relevance of including cognitive-reflective aspects in the conceptualization of the experience of dance appreciation (such as comprehensibility). However, more research is needed to understand what determines individual differences in cognitive appraisals of comprehensibility in dance, and on the effect of knowledge.

Overall, results of the empirical part open more questions than they close, and invite further reflection on both the conceptualization of dance appreciation developed in part I, and on how expertise is defined and studied in the context of dance art appreciation. For instance, the effect of expertise in terms of comprehensibility, but not in terms of knowledge may suggest that being knowledgeable about dance may be not as central to the explanation of dance appreciation as it is assumed by proponents of the narrow-reflective view (e.g. McFee, 2011). At the very least, being knowledgeable seems to be not particularly relevant to explaining audiences' engagement in our study. This result is compatible with the concept of "interrogative attitude" that I developed in part I, yet further theoretical development is required to fully define this attitude and explain how it relates to each of the various facets of expertise studied in the empirical part.

In the next section, I further develop the theoretical application of the results of this project, taking together the conceptualization developed in part I and the empirical results of part II, and proposing a way to integrate them in a future model of the art appreciative experience that complements current models of dance appreciation (Christensen & Jola, 2015; Orgs et al., 2016).

3. Implications for a theory of dance appreciation

This section discusses theoretical implications for a future model of the art appreciative experience and offers guidelines for future research. Table 7 illustrates how the theoretical implications to be commented along this section contribute to prior research in dance appreciation, and how they can be incorporated in future models.

Table 7. Contributions for a Model of Dance Appreciation

	Previous research	**New model**
Input	- Neglect of artistic status of object - Research stimuli: Mostly short videoclips, photographs and point light videoclips, some live performance	- Danceworks - Three levels of description: movement, action, artistic performance
Processing	Focus on reactive aspects, hedonic valuation, sensory-motor, affective processing	Incorporates cognitive-reflective aspects related to art understanding
Output	Aesthetic judgements, preference, emotions	Artistic judgements: preference, artistic value, dance properties, interpretation…
Time perspective	Temporal unfolding of the individual experience: stages of processing	- Individual experience - Developmental stages (expertise evolution) - Historical evolution
Contextualist perspective	- Neglect of historical and cultural factors - Research context: Mostly lab settings, emphasis on experimental control	- Incorporates historical and cultural factors - Naturalistic setting, emphasis on ecological validity

First, a future model of the art appreciative experience of dance, as developed here should include the following elements at the input, processing and output levels:

a) As *input* of the model, dance artistic performances; and correspondingly, on the side of the viewer, art framing (through the application dance art cognitive schema processes) and artefact cognition (e.g. attribution of intentionality).

A central point of my proposal is the defence that dance artistic objects are processed differently than non-artistic objects. This dissertation has questioned the generalizability of results from non-artistic to artistic dance objects (e.g. from short dance movement clips to danceworks). A topic for future research would be to explore what strategies people follow to classify a movement stimulus as art or not art. If insights on

people's art framing effects in visual art (Pelowski, Gerger, et al., 2017)[95] can be transferred to the case of dance art, we can expect that art classifications are not automatic and affect our judgements. Therefore, given that categorizing an object of perception as art influences our evaluations of that object, future research in the appreciative experience of dance appreciation should assure art framing (the recognition of the perceived object as art).

A further step would be to investigate the effect of art framing in judgements of dance. The confirmation of art framing effects of the kind found in visual arts is replicated in the case of dance, it would call into question the assumption guiding previous research in dance appreciation (that recognizing something as dance leads directly to the attribution of an artistic status to the stimuli), and the overall conception of dance appreciation as essentially passive, stimuli-driven and reactive. Moreover, the effect of art framing in dance would mean evidence in favour of the cognitivist conception of dance appreciation defended here, which highlights the role of cognitive schemata, and describes the experience of appreciation as requiring an active involvement of the appreciator.

b) As *processing dimensions*, reactive dimensions (hedonic tone, arousal) and corresponding phenomenal features (e.g. pleasure/displeasure, attraction/repulsion, bodily feelings like tension/relaxation, a sense of suspension/earthiness…); alongside cognitive-reflective dimensions, related to art understanding and reflection (e.g. cognitive appraisal of

[95] In a study by Pelowski, Gerger, et al. (2017) participants were asked to classify images of diverse artworks as works of art, and also to rate their liking for them. In 75% of trials, participants did not believe abstract paintings were artworks. Readymade sculptures were not classified as artworks on more than 50% of trials. Ratings for images classified as art were about 20% higher than for images classified as not art. Therefore, framing influences how the brain implicitly classifies, represents, and evaluate the object, such that the whole appraisal and understanding of the object is affected.

comprehensibility, cognitive interpretation, iterative cycles of sense-making, theory-based reasoning for the classification of styles, …) and phenomenal features related to higher order cognitive representations and meaning elaboration (e.g. "unity", "coherence", "profundity", "authenticity"…);

c) A wider variety of *outputs* beyond aesthetic judgements and emotions, for instance, judgements about the overall artistic value of the piece, and critical analysis based on "sizing-up" (Carroll, 2016) different dance properties and relating them to their artistic purpose, also open evaluations, interpretations…

Additionally, a future model of dance appreciation should incorporate temporal and contextualist perspectives in the conceptualization of dance appreciation.

Regarding the temporal perspective, it should cover at least three levels: the level of the individual experience, the level of ontogenetic development, and the historical level. At the psychological, individual level, the temporal unfolding of the art appreciative experience can be studied by describing the different stages of processing of dance, for instance, by further developing the proposal of Christensen and Jola (2015), who apply older versions of multi-stage models (Leder, et al. 2004), which can be complemented with actualized versions of this type of models (Pelowski, Markey, et al. 2017).

At the ontogenetic or developmental level, dance appreciation has been defined here as a learning process that follow the stages of aesthetic development (Housen, 1999; Parsons, 1987). Current models of dance appreciation do not include developmental explanations. In this sense, my scale on dance knowledge may be a useful tool to investigate how the conceptual structure of dance knowledge is acquired through experiences, and whether developmental process in our experiences appreciating dance.

At the historical level, my account defines dance as a psycho-historical construct (a cognitive schema) that evolves through history (see page 75), and correspondingly, the ways in which dance is appreciated as affected by historical contingencies (Bullot & Reber, 2013). In contrast to previous research in dance appreciation, which focus on biological evolution and evolutionary explanations of dance appreciation and neglected the role of socio-historical factors, my conceptual account emphasizes cultural and historical evolution of dance and its appreciation, and incorporates a psycho-historical contextualist perspective in the study of dance appreciation, therefore contributing to previous models on.

Unlike previous psychological research in dance appreciation, this study incorporates a contextualist perspective (Bullot & Reber, 2013; Carroll & Banes, 1982; McFee, 2011) in various ways: a) theoretically, defining dance appreciation as a context-sensitive process, and incorporating factors that are dependent on the art-historical context, such as dance schemata and art framing, or generally, the role of social conventions (e.g. the "Danceworld"), and b) methodologically, advocating naturalistic research. To further develop a contextualist account of dance appreciation, future models of dance appreciation can apply contextualist models of visual art appreciation (Bullot & Reber, 2013). For instance, the contextualist perspective can be incorporated by studying the role of art schemata (and related scripts), in contextualizing the art experience, and how it affects our judgments of dance (e.g. we can compare evaluations of participants of movements that are framed in different ways, for instance, when ordinary movement is framed as "post-modern dance", or when explanation layers of explanation are given to contextualize this movement, such as, an explanation of the rejection of virtuosity or spectacle by postmodern dance, etc.)

However, it is important to make clear that cultural biases are present in research that assumes contextualist perspectives, and my research is an example. A limitation of my account of dance appreciation is that it is influenced by how Western culture conceives nowadays the history and canon of dance art, and this historical and cultural bias is well reflected by the selection of items in the scale of dance knowledge, which are guided by what the western "Danceworld" (McFee, 2011) includes as representative figures of dance art history. Future models of dance appreciation should incorporate socio-cultural and historical variables that integrate other cultural perspectives. For instance, future research may extend the Dance Aesthetic Fluency Scale to cover artists, terms, and styles beyond Western canonical forms of dance. Another area of future research are cross-cultural comparisons, for instance, to test the reliability of my account of dance appreciation by exploring whether results about dimension of dance judgements are replicated with samples from other cultures. And yet another area of future research may involve a cross-cultural comparison, for instance with a non-western sample, to explore whether results about dimension of dance judgements are replicated with samples from other cultures.

4. Interdisciplinarity

This section discusses the contribution of interdisciplinarity at two levels, theoretical and methodological, and finishes with some comments on the potential and limits of interdisciplinary research in dance appreciation.

The interdisciplinarity of this project involved a mix of theoretical perspectives and methods from philosophy and psychology. Regarding the first, theoretical level, the main contribution consists of an elaboration of a new conceptualization of dance appreciation from a cognitive science perspective which synthesizes and is coherent with current philosophical and psychological theories of dance appreciation. Rather than

assuming that dance appreciation is aesthetic preference of human movement (as it is the common practice in psychology), I apply conceptual distinctions from philosophy of dance, to overcome concerns with the theoretical definitions of dance and dance appreciation in psychological research. The resulting definitions satisfy the two desiderata for an adequate account of dance appreciation: they are inclusive (desideratum 1), including typical and atypical forms of dance, and cover responses proposed by both narrow-reactive and narrow-reflective views of dance appreciation; and, also, they are informative (desideratum 2), overcoming the deficiencies of previous psychological research, for instance, by avoiding the category-mistake of previous psychological research that confounds the aesthetic and the artistic (Bullot & Reber, 2013).

Regarding the second, methodological level, the interdisciplinary contribution of this project relates to the application of methods from philosophy and psychology to the study of dance appreciation; i.e. conceptual analysis and empirical studies. The conceptualization of dance appreciation as an art appreciative experience contextualized the empirical work of part II, and empirical evidence provide insights to be considered in contrast to the conceptual framework developed in part I.

Taken together the results from philosophically-inspired part I, and psychologically-inspired part II, and the limited scope of the conclusions that can be drawn considering both parts together, motivates reflection on the debate in philosophy of dance regarding the role of empirical evidence in accounts of dance appreciation.

In the philosophical debate on the role of empirical evidence in dance appreciation accounts, various positions can be distinguished. The moderate pessimist (Davies, 2013) concedes that empirical work can be indirectly relevant to understanding the causal mechanisms behind dance perception, but not to understanding art appreciation itself. The extremely pessimistic view (McFee, 2011, 2013) argues that empirical work is irrelevant

to understanding how people appreciate dance. The fundamental thought behind pessimistic positions is that dance appreciation has been studied as a question of preference, when it is in fact a normative domain about the artistic value of dance and understanding, which cannot be studied with the tools of psychology.

Unlike previous psychological research, I take the rationale of pessimists seriously, and recognize that is that psychological accounts of dance appreciation depart from a biased conceptualization of dance appreciation-as-liking (i.e. the "narrow-reactive" view of appreciation) which leads researchers to focus too much on hedonic valuation and sensory-motor processing, too little on the role of higher-order processing, and nothing on artistic valuation. However, unlike pessimists, this scepticism is accompanied by an optimistic view of the role of empirical evidence in dance appreciation, arguing that empirical evidence can be informative for the conceptual understanding of how we appreciate dance. This combination of scepticism-optimism leads to the identification of a series of conceptual and methodological gaps that cause problems with the ecological validity of previous psychological research. However, it also takes the first steps towards a solution to this problem: i.e.. the development of a conceptual framework for dance appreciation and the application of it to empirical research.

The interdisciplinarity of this project contributes to the debate on the role of empirical evidence in the conceptual understanding of dance appreciation in various ways. Firstly, the present project is an example of how conceptually-informed empirical research can proceed in the study of dance appreciation. For instance, in the design of empirical studies taking seriously conceptual distinctions by philosophers of dance, which are not included in previous psychological research, such as the distinction of

hedonic valuation (liking) and artistic valuation (artistic value), or the distinction of various facets of dance expertise (knowledge, dance experience and comprehensibility).

Secondly, this project is itself a piece of evidence in favour of the optimist view in the debate on the role of empirical evidence, insofar as it exemplifies the relevance that empirical research may have for the assessment of issues that originate in conceptual debates. For instance, the second empirical study explores the question of artistic value in relation to understanding, and issue that is typically highlighted by pessimists, who defend that there is a dramatic, qualitative distinction between liking dance and fixing the artistic value of dance, and predicts this difference should appear on judgements of people who has knowledge about dance, and therefore can approach it with understanding. Inspired by the considerations of pessimists, empirical study II did not ignore or dismissed the difference between liking and fixing the artistic value of value for the operational definition of appreciation, and apart from including two types of overall appraisal of the piece (one about how much they liked the piece, another about whether it was good art or a bad art), we also highlighted the objectivity of the latter, insofar as participants are explicitly asked to judge the artistic value regardless of their personal preference.

Our results suggest that, despite the conceptual distinction between preferences and judgements about artistic quality, audience's preferences may be a good indicator of judgements about artistic quality. However, our results do not allow to establish conclusions on this regard. Future research that aim to test this question may engage on comparisons between evaluations of experts (critics) and non-experts, using "good" and "bad" artworks as stimuli, and testing the degree in which preferences determine artistic value judgements in both groups.

In conclusion, the interdisciplinary perspective of this project allows the identification and discussion of flawed assumptions by psychological research, as well as

the integration of philosophical insights into the conceptual understanding of dance appreciation, and the empirical exploration of dance appreciation under these conceptual coordinates. In relation to the debate on the role of empirical evidence in accounts of dance appreciation, the empirical approach of this project exemplifies various ways in which empirical research can be suggestive for further elaboration of theories of dance appreciation, namely, by exploring whether distinctions in the significance of certain concepts are reflected at the psychological level in the responses of real audiences.

Taken together, conceptual and empirical results suggest that despite a conceptualization of appreciation as liking is based on flawed assumptions, this inadequate conceptualization by itself, does not necessarily force us to a pessimistic position, neither to conclude that previous empirical research about dance preferences is irrelevant or invalid to understand how we appreciate dance as art. Further research is needed to understand the scope and limit of a valid transference of knowledge from research on hedonic valuation of dance to understand artistic valuation of dance, and under what conditions the first type of evidence is relevant and informative for the latter. In principle, some results of previous empirical research may be informative to understand artistic valuation of dance, for instance, those that consider naturalistic stimuli.

5. Limitations

A conceptual limitation of this study relates to the conceptualization of "art" in relation to various concepts like "understanding" ("art understanding", "artistic understanding" and "appreciation with understanding"), "interpretation", "value" and "engagement". In the context of art appreciation, these concepts are used differently in psychological and philosophical disciplines, and my conceptual definition of those concepts did not take into consideration the variety of uses of

those concepts, particularly in the literature on the philosophy of art. This is part and parcel of interdisciplinary work, which "necessarily faces myriad challenges of accommodating different vocabularies, priorities, and goals" (Cross, 2015, 204). However, in future research, I will integrate the theory of art that informs my research (a contextualist historical definition of art in the vein of Levinson, 2007), and further develop those concepts which would benefit from more nuance and refinement.

Another limitation of this study refers to the neglect of the role of brain processes, and somatic aspects, as presented by dance neuroscience research. At the conceptual level, my account recognizes the role somatic aspects in appreciation, as I argue that there are non-intellectual forms of dance understanding, and propose they can be based on bodily experiences and somatic responses (see page 108). However, the present study has not dealt with issues of somatic or biological aspects, or neural correlates. Future research may investigate biological aspects related to conceptual expertise. In visual art, a study by Leder et al. (2014) found that experts showed attenuated affective responses as measured by facial electromyography (EMG). Future research may study the effect of conceptual knowledge in affective responses, for instance exploring whether conceptual experts (dance critics), non-experts, and motor experts (dancers) differ on their affective response from when exposed to positive/negative valenced danceworks.

This study is also restricted regarding the operational definition of dance appreciation, and particularly, on the choice of descriptors used in the second empirical study. To overcome this limitation, future research should investigate whether other descriptors and dimensions of dance judgements might be added. To do this, I have sketched a property-based approach (see Appendix 5) that can be used to explore other types of properties related to the cognitive dimension.

Regarding the judgement dimension, future research should further develop the conceptualization of Unity, or reconsider its significance, as interpreted here, because the weight of this dimension is remarkably lower than the other two, and the interpretation of this dimension as a reflective dimension may be contentious, given that cognitive-reflective aspects are also involved in Engagement (e.g. interest). In general, future research is needed to develop a more nuanced operational definition of dance appreciation, covering more types of evaluations. For instance, the evaluation of artistic value in this work corresponded to a single item, regarding how good/bad art was the artwork, and that is clearly of limited applicability . An optimal operationalization of the evaluation of artistic value should include various items, not a single overall appraisal of the artistic value of a piece, and subscales that explore the relation of artistic value with aspects like epistemic value (e.g. how meaningful, insightful or understandable was the piece), aesthetic value (e.g. how beautiful was the piece), and emotions (e.g. felt affective responses by the audience, and perceived affect, as shown by the dancers).

There are also various limitations of empirical study I, concerning the lack of experimental control. How to determine the right balance between methodological rigor and ecological validity is an open issue common to all psychological research. This study enhanced ecological validity, in response to concerns about the limited ecological validity of laboratory studies in psychology of art in various domains, such as dance (Christensen & Jola, 2015), music (Scherer et al., 2019) and visual art (Pelowski, Forster, et al., 2017). However, an inherent limitation of the lack of experimental control is that it impedes the generalization of the results beyond the research context of the study. Future research is required to assess whether results are replicated in controlled conditions which manipulate variables like the style of the dance (e.g. classical, modern, contemporary), or the co-presence of the dancers (e.g. life vs video). Experimental research may also address

the reliability of the findings in relation to comprehensibility (the significant and positive correlation between comprehensibility and Engagement). The correlation we found between comprehensibility and Engagement cannot be considered as a benchmark finding because Engagement includes descriptors related to interest, and comprehensibility has been conceptualized as one of the cognitive appraisals underlying interest (Silvia, 2010, 2013a). Future research should further investigate the relation between interest, comprehensibility, and engagement.

6. Conclusion

The present research investigates dance appreciation integrating insights from psychology and philosophy into a coherent theoretical frame, and applies this frame to the empirical study of dance appreciation. The conceptual work on dance appreciation synthesizes psychological and philosophical approaches, providing a conceptual framework that may be applied to model the art appreciative experience of dance. The empirical work provides scales of dance knowledge and dance judgement dimensions that can be used in empirical research. Overall, this work can be used as common ground for interdisciplinary research, and hopefully lead to future projects beyond discipline boundaries.

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Appendices

Appendix 1. Research ethics

Both empirical studies were approved by research ethics committees, which gave favorable reports regarding the procedures for informed consent, confidentiality, and justification of the studies.

The first empirical study was conducted during my training period as a visiting student at the Cognitive Neuroscience Research Unit in the Psychology Department at City University of London, under the supervision of Calvo-Merino, and it was approved by the Psychology Research Ethics Committee at City, University of London (ETH1819-1177).

The second empirical study was conducted in the International Centre of Contemporary Culture, Tabakalera (Donostia), approved by the organizer of the dance event, Ana Barrantes (NODE), and approved by Comité de Ética en la investigación con Seres Humanos (CEISH-UPV/EHU), (M10/2019/271).

Appendix 2. Questionnaire study I

Welcome to our research study! We are interested in understanding dance expertise. Before you decide whether you would like to take part it is important that you understand why the research is being done and what it would involve for you. Please take time to read the following information carefully and ask us if there is anything that is not clear or if you would like more information.

What is the purpose of the study? To create a questionnaire that measures dance art knowledge.

Why have I been invited? There is no particular criteria for participation in this study.

Do I have to take part? The participation in this study is voluntary and you may withdraw at any stage of the study without penalized or disadvantaged in anyway. It is up to you to decide whether or not to take part. If you do decide to take part you will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

Expenses and Payments The overall study will approximately last 5 minutes. Payment of £6.00/hr will be provided (£0.50)

What will I be asked to do? To answer an online questionnaire on dance experience and knowledge.

What are the possible disadvantages and risks of taking part? There are no disadvantages or risks associated with this type of study.

What are the possible benefits of taking part? This research studies the role of knowledge in dance appreciation, by taking part you make it possible for studies of this topic to be conducted.

What will happen when the research study stops? It is unlikely that the research will stop but if this happens the data will be erased.

Will my taking part in the study be kept confidential? The data is annonymous and only the researcher will have access to the data. The data is not shared with any third parties. The data will be stored on University's computers.

What will happen to results of the research study? The results of the study will be used in the PhD of Aida Fernandez Cotarelo and erased 10 years after the its publication.

What will happen if I do not want to carry on with the study? You may withdraw from the study at any time and without giving a reason.

Who has reviewed the study? This study has been approved by City, University of London Psychology Research Ethics Committee Further information and contact details. We welcome the opportunity to answer any question you may have about any aspect of this study or your participation in it. You can contact the investigator: Aida Fernandez Cotarelo (Aida.Cotarelo@city.ac.uk). Data Protection Privacy Notice: What are my rights under the data protection legislation? City, University of London is the data controller for the personal data collected for this research project. Your personal data will be processed for the purposes outlined in this notice. The legal basis for processing your personal data will be that this research is a task in the public interest, that is City, University of London considers the lawful basis for processing personal data to fall under Article 6(1)(e) of GDPR (public task) as the processing of research participant data is necessary for learning and teaching purposes and all research with human participants by staff and students has to be scrutinised and approved by one of City's Research Ethics Committees. For more information, please visit: www.city.ac.uk/about/city-information/legal

What if I have concerns about how my personal data will be used after I have participated in the research? In the first instance you should raise any concerns with the researcher, but if you are dissatisfied with the response, you may contact the Information Compliance Team at dataprotection@city.ac.uk or phone 0207 040 4000, who will liaise with City's Data Protection Officer Dr William Jordan to answer your query. If you are dissatisfied with City's response you may also complain to the Information Commissioner's Office at www.ico.org.uk

What if there is a problem? If the research is undertaken in the UK if you have any problems, concerns or questions about this study, you should ask to speak to a member of the research team. If you remain unhappy and wish to complain formally, you can do this through City's complaints procedure. To complain about the study, you need to phone 020 7040 3040. You can then ask to speak to the Secretary to Senate Research Ethics Committee. City holds insurance policies which apply to this study. If you feel you have been harmed or injured by taking part in this study you may be eligible to claim

compensation. This does not affect your legal rights to seek compensation. If you are harmed due to someone's negligence, then you may have grounds for legal action.

Thank you for taking the time to read this information sheet. By clicking the button below, you acknowledge that:

- the project was explained to you, and you have read the participant information sheet - the information will be held by City as data controller and processed to be analysed and written up as part of a PhD thesis and a submission for publication. Public Task: The legal basis for processing your personal data will be that this research is a task in the public interest, that is City, University of London considers the lawful basis for processing personal data to fall under Article 6(1)(e) of GDPR (public task) as the processing of research participant data is necessary for learning and teaching purposes and all research with human participants by staff and students has to be scrutinised and approved by one of City's Research Ethics Committees.

- the information you provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party. No identifiable personal data will be published. The identifiable data will not be shared with any other organisation. - your participation is voluntary, that you can choose not to participate or withdraw at any stage of the project without being penalized or disadvantaged in any way.

- the information will be used only for the purpose set out in this statement and your consent is conditional on City complying with its duties and obligations under the General Data Protection Regulation (GDPR).

- you agree to the arrangements for data storage, archiving, sharing. agree to the use of anonymised quotes in publication.

○ I consent, begin the study (1)

○ I do not consent, I do not wish to participate (2)

End of Block: Informed Consent

Start of Block: Does not consenIf you do not wish to participate in this study, please ***return*** *your submission on Prolific by selecting the 'Stop without completing' button.*

End of Block: Does not consent

Start of Block: Record participant IDs

Prolific ID Please enter your Prolific ID:

End of Block: Record participant IDs

Start of Block: Demographics / screener validation

What is the highest education level you have completed?

- ○ No formal qualifications (1)
- ○ Secondary school/GCSE (2)
- ○ College/A levels (3)
- ○ Undergraduate degree (BA/BSc/other) (4)
- ○ Graduate degree (MA/MSc/MPhil/other) (5)
- ○ Doctorate degree (PhD/MD/other) (6)

What is your age?

What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ No binary (3)

What is your first language?

- ○ English (1)
- ○ Spanish (2)
- ○ Arabic (3)
- ○ Chinese (4)
- ○ Hindi (5)
- ○ French (6)
- ○ German (7)
- ○ Other (8) _____

End of Block: Demographics / screener validation

Start of Block: Inconsistent screening responses

Display This Question:

If Welcome to the research study! We are interested in understanding dance expertise. Before you... , I consent, begin the study Is Not Displayed

This is an *optional* block, which you can use to remove participants who fail to answer your validation questions consistently with their Prolific prescreening responses.

You are ineligible for this study, as you have provided information which is inconsistent with your Prolific prescreening responses. Please **return** your submission on Prolific by selecting the 'Stop without completing' button.

End of Block: Inconsistent screening responses
Start of Block: Dance experience

How knowledgeable would you say you are with regard to dance?

- ○ Extremely knowledgeable (1)
- ○ Very knowledgeable (2)
- ○ Moderately knowledgeable (3)
- ○ Slightly knowledgeable (4)
- ○ Not knowledgeable at all (5)

On average, you attend dance performances (theater, street performances…) about once every:

- ○ Almost never (1)
- ○ year (2)
- ○ 6 months (3)
- ○ month (4)
- ○ week (5)

In the **average week**, how much time in total do you spend **watching** dance?

- ○ None (1)
- ○ Some time, but less than 10 minutes (2)
- ○ Between 10 minutes and 1 hour (3)
- ○ Between 1 and 5 hours (4)
- ○ More than 5 hours (5)
- ○

In the **average week**, how much time in total do you spend **reading** something that is related to dance art (articles, reviews, books..)?

- ○ None (1)
- ○ Some time, but less than 10 minutes (2)
- ○ Between 10 minutes and 1 hour (3)
- ○ Between 1 and 5 hours (4)
- ○ More than 5 hours (5)

In the **average week**, how much time do you spend dancing?

- ○ None (1)
- ○ Less than 10 minutes (2)
- ○ Between 10 minutes and 1 hour (3)
- ○ Between 1 hour and 5 hours (4)
- ○ More than 5 hours (5)

Are you (or have you been) any of the following options?

- ☐ Professional dancer (1)
- ☐ Hobby dancer (2)
- ☐ Dance critic (3)
- ☐ Dance scholar (4)
- ☐ None of the above (5)

Display This Question:
If Are you (or have you been) any of the following options? = Hobby dancer
Or Are you (or have you been) any of the following options? = Professional dancer

What type of dance style do you practice?

- ☐ Ballet (4)
- ☐ Contemporary dance (3)
- ☐ Modern dance (5)
- ☐ Social dance (informal group dance or partner dance that is made mainly for the enjoyment of the partners - rather than to meet the criteria of a dance school or an audience, some examples are social ballroom, folkloric dance, swing, tango, latin...) (1)
- ☐ Competitive ballroom dance (oriented to dancesport or performance- some examples are latin, tango...) (2)
- ☐ African dance (6)
- ☐ Hip hop (7)
- ☐ Belly dance (8)
- ☐ Other (9)

Display This Question:
If Are you (or have you been) any of the following options? = Dance critic and/or Dance scholar

How long have you been a dance critic?

- ○ Less than one year (1)
- ○ Between 1 and 5 years (2)
- ○ More than 5 years (3)
- ○ Other (4) _____

How long have you been a dance scholar?

- ○ Less than one year (1)
- ○ Between 1 and 5 years (2)
- ○ More than 5 years (3)
- ○ Other (4) _____

[Attention_check]
It's important that you pay attention to this study. Please select 'Strongly Disagree'.

- ○ Strongly disagree (1)
- ○ Somewhat disagree (2)
- ○ Neither agree nor disagree (3)
- ○ Somewhat agree (4)
- ○ Strongly agree (5)

Please tell us how much you know about the following artists and art ideas:

	I have never heard of this artist or term	I have heard of this but don't really know anything about it	I have a vague idea of what this is	I understand this artist or idea when it is discussed	I can talk intelligently about this artist or idea in art
Pas de bourrée	○	○	○	○	○
Pina Bausch	○	○	○	○	○
Ballet	○	○	○	○	○
Contemporary dance	○	○	○	○	○
Alicia Alonso	○	○	○	○	○
Modern dance	○	○	○	○	○
George Balanchine	○	○	○	○	○
Plié	○	○	○	○	○
Isadora Duncan	○	○	○	○	○
Release	○	○	○	○	○
Merce Cunningham	○	○	○	○	○
Contact	○	○	○	○	○
Martha Graham	○	○	○	○	○
Vaslav Nijinsky	○	○	○	○	○

In what degree do you agree with the following statements:

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	-2	-1	0	1	2
I understand about dance					
I am an expert in dance					
I am knowledgeable about dance					

Appendix 3. Questionnaire study II

ESTIMAD@ ESPECTADOR@:

Le invito a colaborar en una investigación sobre danza respondiendo al presente cuestionario. Cumplimentarlo no le llevará más de 10 minutos y ayudará a conocer cómo apreciamos la danza. Sus respuestas, voluntarias y anónimas, se usarán exclusivamente para fines de investigación. En caso de querer obtener más información, puede ponerse en contacto con la investigadora responsable de este proyecto: Aida Fernández Cotarelo (Instituto de Lógica, Cognición Lenguaje e Información de la Universidad del País Vasco) en el correo: aida.fernandez@ehu.eus.

¡Gracias por su colaboración!

INSTRUCCIONES

El cuestionario consta de tres partes:

PRIMERA PARTE: Preguntas sobre su experiencia en danza.

SEGUNDA PARTE: A rellenar después de la actuación OUT OF THE BLUE: se pedirá su opinión sobre lo que ha visto.

TERCERA PARTE: A rellenar después de la actuación RESET: se pedirá su opinión sobre lo que ha visto.

Por favor, lea con atención cada pregunta y tómese el tiempo que necesite para responder. No hay respuestas buenas ni malas, pero es importante que conteste de forma honesta. Una vez cumplimentado, entregue el cuestionario en la mesa de investigación. Si tiene alguna duda solicite ayuda a la investigadora.

Edad:____ **Sexo:** Femenino ( ) Masculino ( ) Indeterminado ( )

Nivel más alto de educación que haya completado:

Sin estudios ( ) Bachillerato, grado medio o superior ( )

Primaria ( ) Grado universitario, licenciatura ( )

Secundaria (ESO, o equivalente) ( ) Máster/ Doctorado ( )

Por favor, indique el NÚMERO aproximado de sus años de experiencia como:

Espectador@ de danza:	
Bailarin@ aficionad@:	
Bailarin@ profesional:	
Coreógraf@:	
Profesor@ de danza:	
Crític@ y/o teóric@ de la danza:	

PRIMERA PARTE

Por favor, para cada afirmación o pregunta marque con una (x) la casilla que mejor identifica su posición:

	Totalmente en desacuerdo	En desacuerdo	Neutral	De acuerdo	Totalmente de acuerdo
Me considero un@ expert@ en danza	(1)	(2)	(3)	(4)	(5)
Considero que entiendo sobre danza	(1)	(2)	(3)	(4)	(5)

Por favor, marque con una (x) la casilla que mejor identifica su posición:

1. ¿Cuál considera que es su conocimiento sobre historia de la danza?

Ninguno (1)	Bajo (2)	Medio (3)	Alto (4)	Muy alto (5)

2. ¿Cuál considera que es su conocimiento sobre arte, estética o filosofía del arte?

Ninguno (1)	Bajo (2)	Medio (3)	Alto (4)	Muy alto (5)

3. ¿Con qué frecuencia suele ver danza en vivo (teatro, calle, salas…)?

Casi nunca (1)	Cada año (2)	Cada 6 meses (3)	Cada mes (4)	Más de una vez al mes (5)

4. ¿Con qué frecuencia suele ver videos de danza (youtube, películas…)?

Casi nunca (1)	Cada año (2)	Cada 6 meses (3)	Cada mes (4)	Más de una vez al mes (5)

5. A lo largo de la semana, ¿cuánto tiempo suele pasar bailando en un estudio o clase?

Ninguna (1)	Menos de una hora (2)	Entre 1 y 2 horas (3)	Entre 2 y 5 horas (4)	5 horas o más (5)

6. A lo largo de la semana, ¿cuánto tiempo suele pasar leyendo algo relacionado con la danza?
A lo largo de la semana, ¿cuántas horas suele pasar leyendo algo relacionado con la danza?

Ninguna (1)	Menos de una hora (2)	Entre 1 y 2 horas (3)	Entre 2 y 5 horas (4)	5 horas o más (5)

7. A lo largo de la semana, ¿cuántas horas suele pasar viendo danza en vivo?

Ninguna (1)	Menos de una hora (2)	Entre 1 y 2 horas (3)	Entre 2 y 5 horas (4)	5 horas o más (5)

A continuación, se presentan una serie de artistas, términos y conceptos relacionados con la danza. Por favor evalúe su nivel de conocimiento sobre cada un@ marcando con una (x) la casilla que mejor se corresponde con su posición (1- sin conocimiento; 5- buen conocimiento)

	Sin conocimiento. Nunca he oído hablar de este artista o término	He oído hablar de esto, pero no sé realmente qué o quién es	Tengo una vaga idea sobre qué o quién es	Comprendo este artista, disciplina o concepto cuando se discute sobre ello	Buen conocimiento. Puedo hablar sobre ello de manera competente
Ballet	1	2	3	4	5
Danza contemporánea	1	2	3	4	5
Alicia Alonso	1	2	3	4	5
Danza moderna	1	2	3	4	5
George Balanchine	1	2	3	4	5
Plié	1	2	3	4	5
Isadora Duncan	1	2	3	4	5
Release	1	2	3	4	5
Merce Cunningham	1	2	3	4	5
Contact	1	2	3	4	5
Martha Graham	1	2	3	4	5
Vaslav Nijinsky	1	2	3	4	5
Pina Bausch	1	2	3	4	5
Pas de bourrée	1	2	3	4	5

Aquí termina la primera parte del cuestionario.

Por favor, no dé la vuelta a la hoja todavía.

A continuación, tendrá lugar una obra de danza. Por favor, preste atención a la obra, y cuando haya terminado puede virar la hoja y continuar respondiendo al cuestionario. GRACIAS ☺

2

SEGUNDA PARTE: "OUT OF THE BLUE"

Si ha visto **"OUT OF THE BLUE"** La Rutan Dantza, María Andresto, por favor responda a las siguientes preguntas.

Si ha visto **"RESET"** Anakrusa, Noemí Viana diríjase por favor a la **página 5.**

1) **Por favor, señale con una (x) su opinión sobre la obra (1- no me ha gustado en absoluto, 7- me ha gustado mucho):**

1	2	3	4	5	6	7
No me ha gustado en absoluto						Me ha gustado mucho

2) **Al margen de su preferencia personal, por favor evalúe la calidad artística de la obra (1- muy mala, 7- excelente)**

1	2	3	4	5	6	7
Muy mala						Excelente

3) **Nos gustaría saber qué le sugiere esta obra. Por favor, escriba al lado de cada número, una palabra o idea que le haya sugerido la obra que ha visto:**

1:_____

2: _____

3: _____

4: _____

5: _____

4) **Por favor, marque con una (x) el grado en el que cree que estas palabras se ajustan a la obra de danza que acaba de ver. (1- nada; 4-mucho)**

	Nada	Algo	Bastante	Mucho
Fluida	(1)	(2)	(3)	(4)
Orgánica	(1)	(2)	(3)	(4)
Excitante	(1)	(2)	(3)	(4)
Apasionada	(1)	(2)	(3)	(4)
Sensual	(1)	(2)	(3)	(4)
Rítmica	(1)	(2)	(3)	(4)
Discordante	(1)	(2)	(3)	(4)
Improvisada	(1)	(2)	(3)	(4)
Sutil	(1)	(2)	(3)	(4)

5) Para terminar, se presentan parejas de palabras con significado opuesto. Por favor, evalúe en qué medida se ajustan las siguientes palabras a la danza que acaba de ver.

Interesante	1	2	3	4	5	6	7	Aburrida
Entretenida	1	2	3	4	5	6	7	Tediosa
Agradable	1	2	3	4	5	6	7	Desagradable
Placentera	1	2	3	4	5	6	7	Molesta
Calmante	1	2	3	4	5	6	7	Estimulante
Letárgico	1	2	3	4	5	6	7	Excitante
Familiar	1	2	3	4	5	6	7	Novedosa
Simple	1	2	3	4	5	6	7	Compleja
Equilibrada	1	2	3	4	5	6	7	Desproporcionada
Coherente	1	2	3	4	5	6	7	Incoherente
Profunda	1	2	3	4	5	6	7	Superficial
Hermosa	1	2	3	4	5	6	7	Fea
Elegante	1	2	3	4	5	6	7	Vulgar

Este es el final de la segunda parte del cuestionario.

A continuación tendrá lugar la obra "RESET", Anakrusa, Noemí Viana.

Sería de gran ayuda si pudiese quedarse a verla, prestar atención, y continuar con el cuestionario.

En caso contrario, puede entregarlo en la mesa de la investigadora.

Gracias por su colaboración.

**Para recibir información sobre los resultados de la investigación puede dejar sus datos de contacto:

Nombre y apellidos:
E-mail:

TERCERA PARTE: "RESET"

Si ha visto **"RESET"** Anakrusa, Noemí Viana, por favor responda a las siguientes preguntas.

4

1) **Por favor, señale con una (x) su opinión sobre la obra (1- no me ha gustado en absoluto, 7- me ha gustado mucho):**

1	2	3	4	5	6	7
No me ha gustado en absoluto						Me ha gustado mucho

2) **Al margen de su preferencia personal, por favor evalúe la calidad artística de la obra (1- muy mala, 7- excelente)**

1	2	3	4	5	6	7
Muy mala						Excelente

3) **Nos gustaría saber qué le sugiere esta obra. Por favor, escriba al lado de cada número, una palabra o idea que le haya sugerido la obra que ha visto:**

1:_____

2: _____

3: _____

4: _____

5: _____

4) **Por favor, marque con una (x) el grado en el que cree que estas palabras se ajustan a la obra de danza que acaba de ver. (1- nada; 4-mucho)**

	Nada	Algo	Bastante	Mucho
Fluida	(1)	(2)	(3)	(4)
Orgánica	(1)	(2)	(3)	(4)
Excitante	(1)	(2)	(3)	(4)
Apasionada	(1)	(2)	(3)	(4)
Sensual	(1)	(2)	(3)	(4)
Rítmica	(1)	(2)	(3)	(4)
Discordante	(1)	(2)	(3)	(4)
Improvisada	(1)	(2)	(3)	(4)
Sutil	(1)	(2)	(3)	(4)

5) **Para terminar, se presentan parejas de palabras con significado opuesto. Por favor, evalúe en qué medida se ajustan las siguientes palabras a la danza que acaba de ver.**

Interesante	1	2	3	4	5	6	7	Aburrida
Entretenida	1	2	3	4	5	6	7	Tediosa
Agradable	1	2	3	4	5	6	7	Desagradable
Placentera	1	2	3	4	5	6	7	Molesta

5

Calmante	1	2	3	4	5	6	7	Estimulante
Letárgico	1	2	3	4	5	6	7	Excitante
Familiar	1	2	3	4	5	6	7	Novedosa
Simple	1	2	3	4	5	6	7	Compleja
Equilibrada	1	2	3	4	5	6	7	Desproporcionada
Coherente	1	2	3	4	5	6	7	Incoherente
Profunda	1	2	3	4	5	6	7	Superficial
Hermosa	1	2	3	4	5	6	7	Fea
Elegante	1	2	3	4	5	6	7	Vulgar

Este es el final del cuestionario. Si ha terminado de responder, puede entregarlo en la mesa de la investigadora.

¡Muchas gracias por su colaboración!

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Appendix 4. Videos of danceworks used in study II

Teaser of dancework 1: *Out of the blue* (2018). Choreographed by Maria Andres. Performed by Maria Andres and Denis Martinez.

https://www.dropbox.com/s/0frp1qrcyc31bmf/OutoftheBlue.mov?dl=0

https://vimeo.com/344680183

Dancework 2: *Reset* (2018). Choreographed and performed by Noemi Viana.

https://www.dropbox.com/s/v5y4qsvanewsqe8/Reset.mov?dl=0

Appendix 5. A property-based approach

A property-based approach can benefit or complement psychological approaches (or more generally experience-based approaches) in order to integrate the objectivity of appreciation and its cognitive orientation. Of course, these issues (how we attribute properties to dance and how we experience dance) are strongly interrelated, and considering both sides of appreciation offer a more comprehensive view of the phenomena. Here, I will expose a tentative development of this property-based approach by applying Walton's notion of art categories (Walton, 1970) which provides a useful (and in the case of dance, unexplored) framework to explain the relation between properties and dance categories.

The starting point of a property-based approach is conceiving of dance appreciation as the attribution of dance properties; i.e. dance appreciation consists not in describing the features of the experience, but on characterizing first dance properties (e.g. types of properties, relations between them…) and then, how they are grasped and attributed.

From a property-based perspective, art appreciation refers to the ascription of dance properties. Following Kivy, this ascription may involve analysis (e.g. describing the kinematics of a dance piece), evaluation and/or interpretation of the object (Kivy, 2015). Also, the ascription of aesthetic properties (second-level properties) is relative to what is variable / standard / contra-standard, in relation to a particular art category (e.g. a dance genre). As we will see later, examples of standard properties of dance are: human movement, artistic performance, expressivity, musicality, identifiable genre. Examples of variable properties of dance are: genre categories, clothing, lighting, music. And examples of contra-standard properties of dance are: inexpressive movement, tasks (everyday ordinary movement), static, mostly speaking performance.

Types of dance properties

There are a great variety of properties that can be perceived in dance performances, yet we tend to perceive certain sets of properties according to certain categories:

> Swan Lake is beautiful. It is delicate, graceful, enchanting. Martha Graham's Night Journey is not. It is riveting, harrowing, horrifying, often ugly. Yvonne Rainer's Trio A isn't even that. Being utterly pedestrian, it does not play on the emotions at all. But it is intriguing. Taken together these three dances raise questions: What is dance up to? What does it do and how does it do it? Night Journey discredits the thesis that the end of dance is beauty. Trio A discredits the thesis that the end is affective engagement. Possibly dance as such has no end. Different works and different styles pursue different ends.
>
> (Elgin, 2010, 81)

This quote mentions three categories of dance genres, ballet (*Swan Lake*), modern dance (*Night Journey*) and contemporary (*Trio A*). Each of those categories is characterized by a set of perceptually distinguishable properties, which embody or respond to the different aesthetic goals. For instance, the ideal for classical ballet relates to delicacy and grace, such that ballet movement is characterized by smooth and elongated lines, and the use of weight against gravity (first-level properties). This allows the movements to look ethereal and light, in consonance with the ideals of delicacy and grace. In contrast, modern dance pursues expressivity, such as expressing human life struggle, and movements are characterized by angularity and a use of contraction and release in movement such that a more powerful and dramatic look is achieved.

Following Walton (1970, 2020), aesthetic properties can be conceived as perceptual and context-dependent. They are perceptual insofar as those properties are there, in the performance, to be perceived, appreciated and valued, and they are context-

dependent in the sense that the properties of artworks vary according to the category in which those works are contextualized (Walton, 1970, 2020).

This context-dependence feature is relevant for psychological research in dance appreciation, insofar as it entails that dance categories affect dance appreciation by contextualizing or framing our perception of dance, for instance, in guiding attention to certain features and not others, and providing a reference for what it is relevant to look at in each case.

Following Sibley (2004 [1959]), I have distinguished two levels of properties of dance, first-level and second-level.

First-level properties are basic objective qualities of dance, including the physicality of bodily movement, the spatiotemporal and physical substrate of dance. These properties can be described in an objective fashion, in the sense that they are properties of dance as an object in terms of the action (what is being done), the context (when, where…), the number of elements (how many dancers, groups, movement phrases, motifs…), the relation between elements (e.g. how dancers' movements relate to each other, such as synchrony, antagonism, mirroring…; and also choreomusical relationships like "Mickey Mousing" the music, counterpoint, incongruency, indifference…), the dynamics of movement (how dancers move, the kinematic qualities of their movement), etc. First-level properties are the "bricks" or constituents on which we base the attribution of second-level properties, like beautiful, elegant, profound…

Second-level properties depend on, but are not reduced to, first-level properties (e.g. an objective description of physical features of movement). Second-level properties are "response-dependent" properties ("phenomenological"), meaning they refer to how things appear in experience. Second-level properties are also *context-dependent*, in the sense that they depend on lower-level contextual properties.

Regarding first-level properties, we can distinguish two main types: kinematic properties (related to the physical of movement, including movement dynamics and structural properties of dances), and contextual properties (related to the context where the action takes places, including historical properties). These basic properties of dance are traced back to what dancers' do, their physicality, their actions, and the particularities of the nature of human biological movement, such as being subject to gravity, being bipedal, having two eyes to the front, higher on the body, and so on and so forth.

Movement dynamics or kinematics can be described in terms of bodily-movement properties (e.g. Laban movement qualities), spatio-temporal relations (for instance, presenting a choreographic structure), and relations with other physical media (namely choreomusical relations, but also choreo-lighting, etc.). There are multiple ways in which kinematics can be organized, and those multiple types of organization can be generally called "choreographic devices", including things like repetition, accumulation, travelling, contrast, variation of levels between floor, medium, standing…, etc. These devices may be directed at both, bodily-movement properties (shape, time, body part, direction, space…) or whole phrases of movement (choreographic structure).

In the most basic case, a dance solo without music, kinematic properties, refer roughly to the "choreography", including both, the "content" of the choreography (bodily-movement qualities), and the "form" (the structural properties of the choreography). In this context, kinematic properties are roughly correspondent to the dancer's actions, and what Arnheim calls the "tools of the dancer", such as "the awareness of tension and relaxation within his own body, the sense of balance that distinguishes the proud stability of the vertical from the risky adventures of thrusting and falling" (Arnheim, 1976, 89).

Apart from the dancers' actions, order and complexity deserve special mention, because the balance of these properties is central to aesthetic experience. Complexity and order are multidimensional concepts and have both, an objective and a subjective component (Van Geert & Wagemans, 2019). Objective complexity and order refer to the degree of complexity and order that is physically present in a certain stimulus and can be described in an objective fashion, for instance, in terms of symmetry, numbers of elements…. In particular, objective complexity refers to the quantity and variety of elements, and objective order to the structure and organization in the stimulus. There are various types of order (similarity grouping, symmetry, alternation/iteration, systematic alteration/gradient, etc.) which may relate to various dimensions, like "orientation, color, size, shape, spatial composition/configuration, etc." (Van Geert & Wagemans, 2019, 6).

Contextual properties are included as first-order properties of dance because any given dancework, at the most basic level, is not a structure of movement dynamics in a vacuum, but *contextualized* physical movement (McFee, 2011; Carroll & Banes, 1982). As Levinson would put it: "No work is an island" (2007, 4), trying to convey roughly the idea that art cannot be understood independent of "other art" but depends on a historical tradition in the production of art.

In the same way, human movement is dance only in relation to a particular set of contexts, including both the broader art-historical context, and the particular circumstances of creation and presentation of the movement. These two types of context are closely related.

First-order properties have in common that they are "objective", meaning they can be ascribed regardless of whether a particular individual responds to them or not. In the same way that kinematics covers basic facts about human biological movement facts, contextual properties depend on historical and circumstantial facts. For instance, it is a

matter of fact that nowadays, postmodern dance is dance, because it has been historically-recognized as such. Finally, a second common features between first-order properties is that they are the base, or grounds that allow the ascription of second-order properties.

Among second-level properties, I focus on aesthetic properties, because they are a particularly relevant type for the study of dance appreciation as it is approached here (appreciation that occurs during the experience of watching dance).

Depending on the nature of the response of the observer, second-order properties can be distinguished in a continuum from more perceptually-based to more conceptually-based. In this sense, second order properties include properties that can be directly perceived - fluent, beautiful, expressive - and others which may not be directly perceptible, but require some cognitive-elaboration or reference to some context to attribute them to dance, such as being profound, coherent, or original.

In Sibley's terms (1959) aesthetic properties are non-condition governed, in the sense that there are no non-aesthetic criteria that is sufficient ground for attributing an aesthetic property. This means that, while there are non-aesthetic features which typically co-vary with the certain aesthetic properties, for instance, a sad dance tends to be slow, this does not imply that all slow dances are sad, or that all sad dances are slow.

Being *response-dependent* properties does not mean that they are automatically perceived in the artwork. For instance, the recognition of properties like "original" depends on external contexts (e.g. art-historical contexts) and the consideration of originality is also relative to the observer's art schemata, and prior exposure to the artform is particularly important. In 2020, minimalist dance may seem original for an uninformed audience member, but maybe not for a person who has seen a thousand endless minimalist dances up to this point. However, in the historical context of the 1970's, a minimalist

dance was original regardless of the level of expertise, because it presented novelty compared to typical dances of the era.

Second-order properties are dependent on first-order properties, like the period of history in which a dance is produced and presented, but their ascription is also *relative* to conditions endogenous to the observer, for instance, in terms of her knowledge about dance history, and her previous experiences with art and dance.

Regarding the relation between second order properties and first-order ones, Hagendoorn gives an example of how first order properties (the number of dancers and their genre), affects expressive properties attributed to dance: "In dance it matters a great deal whether a duet is danced by two male, two female or a male and a female dancer. If a duet is danced by a male and a female dancer it is almost inevitable to see it as an unfolding relationship between a man and a woman." (Hagendoorn, 2011, 381).

Artists also use choreographic devices to manipulate first-order properties to allow the attribution of certain second-order properties, for instance, by directing attention to different feet kinematics, focusing attention on different aspects that ground the attribution of different second-order aesthetic properties:

> We have feet, two of them, although it is the fantasy of certain dance forms to pretend otherwise. Classical ballet keeps removing one foot from the ground or both together, as if to suggest that the classical dancer's element is other than earth. In tap dancing, the body has multiple feet covering ground; in flamenco, its compressed bipedal forcé drills to the center of the earth. But the triumph of bipedalism is in social dances like the waltz and the tango. Here the illusion is of four feet pretending to be two. The waltz, with its three-beat phrase, makes a drama of balance. Weight is continually suspended, as if it could somehow be abolished, leaving us free to float. The tango, in four beats, offers no such incentive to keep moving. As an image of destiny, it is tragic rather than poignant, a dance in which we confront our mortality, luxuriate in it, but do not transcend it. (Croce, 1985, p. 280)

This classification of dance categories is presented in the following table:

Type of property		Characteristics	Examples
First-level properties	Kinematic	a) Bodily-movement properties, (spatial, formal, structural, style…); b) Choreographic properties; (Spatial, formal, structural…); c) Choreomusical properties, … etc.	Laban qualities (combination of effort, motion energy, speed, direction, body part), objective complexity objective order, choreographic devices (travellings, transference of weight, elevations, turns, spirals, predominance of legs and/or arms, stillness, falls, releases, drops, body shapes, group formation, shapes), objective order, objective complexity…
	Contextual	Historical, intentional, context of creation, and presentation…	Improvised, choreographed…
Second-level properties	Response-dependent	Perceptual-fluency factors	Beautiful, expressive, harmony, chaotic, tempestuous, balanced…
		Conceptual-fluency factors	Beautiful, expressive, harmony, chaotic, tempestuous, balanced… semantic properties (absurd, original, critical, contradictory, paradoxical, profound, coherent…)

Dance categories

Speaking about dance, Cohen proposes that: "Any real genre is usually characterized by the presence of more than a single unity . . . If we cannot define a core, perhaps we can distinguish some outer limit. . . " (1983, 340-9). This idea of an "outer limit" resembles closely Walton's concept of categories of art: "to perceive a work's membership in a category, to perceive the feature(s) that qualify it as a member (or an apparent member), is what it is to perceive its gestalt, to perceive it in that category" (Walton, 2020).

Appreciators perceive artworks under certain categories (of art), but categorization does not simply entail a recognition of membership of a class, it also affects the perceptual experience of artworks. Recognizing that a dance is ballet is not enough to perceive it under a certain category. Instead, he proposes we watch dance in the ballet category, which means we watch a ballet gestalt. The experience can be described as a ballet experience (Walton, 2020).

Walton follows Sibley's distinction between first-level (non-aesthetic) and second-level (aesthetic) properties and proposes "that which aesthetic properties a work seems to have sometimes depends partly on which historical categories it is perceived in". He characterizes both types of property as follows:

> A work's perceptual properties include 'aesthetic' as well as 'non-aesthetic' ones -- the sense of mystery and tension of a painting as well as its dark coloring and diagonal compositions: the energy, exuberance, and coherence of a sonata, as well as its meters, rhythms, pitches, timbres; the balance and serenity of a Gothic cathedral as well as its dimensions, lines, and symmetries. Aesthetic properties are features or characteristics of works of art just as much as non-aesthetic ones are. They are in the works, to be seen, heard, or otherwise perceived there. Seeing a painting's sense of mystery or hearing a sonata's coherence might require looking longer or listening longer or harder than does perceiving colors and shapes. But these qualities must be discoverable simply by examining the works themselves if they are discoverable at all. (Walton 395)

Walton includes general categories such as music, art, and theatre, and more specific categories, like genres, or styles, and argues that each category can be ascribed in relation to standard, variable, contra-standard. Standard properties are those that typically count towards something being a member, like a particular genre or stylistic category of dance.

From a psychological perspective, we can re-interpret the notion of standard properties as those features that function like cues to identify something as being an

exemplar of a category. In this sense, if there is a set of standard properties in relation to the category "modern dance", this set of properties can be used to identify the "prototypical" mental representation of "modern dance" (the "canonical" representation).

The set of standard properties of the category "modern dance" resembles the set of features that characterize prototypical representations of modern dance. Correspondingly, contra-standard properties can be conceived as those that defy or contradict the prototypical representation of a category. For the categories "ballet" or "modern dance" some contra-standard properties include movement performed by a non-human agent, no-movement, ordinary, pedestrian or everyday movement, a performance which consists mostly in speaking, etc. These are contra-standard properties that tend to disqualify the performance as "ballet" or "modern" dance. Contra-standard properties function as cues for identifying a deviation from the canonical representation of a category.

Finally, variable properties are those features that do not count either in favour or against categorizing something as pertaining to a category, and they do not challenge, neither characterize the canonical representation of any art category. The presence of plot, the clothing, lighting and music, the dancers' characteristics like the number of dancers, their age, gender, or race… all those are variable properties of dance categories. The following table illustrates standard, variable, and contra-standard properties of three dance categories (ballet, modern and contemporary).

The combinations of standard, variable and contra-standard properties constantly evolve, leading to the creation of new categories. What was standard in one genre may become variable in another and what is contra-standard now may evolve into standard in the future. For instance, some of the contra-standard properties of ballet and modern

dance (no-movement, ordinary or inexpressive movement) became standard properties of the (later) category, "post-modern" dance, which is a subtype of the genre "contemporary dance".

Category		Examples
Ballet	**Standard**	Stylized movement, turnout, elongated lines, smoothness, lightness, weight against gravity, "ballet vocabulary", dancing on pointes, tutu, graceful, enchanting, beautiful, elegant, virtuous, "musical", delicate, plot, narrative, theatrical, dance-cum-music…
	Variable	Kinematic properties (within ballet vocabulary), scenery…
	Contra-standard	Ugly, disturbing, ordinary…
Modern	**Standard**	Stylized movement, expressive, dramatic, theatrical, tempestuous, modern technique (contraction, release, weight in favour of gravity), dance-cum-music, representational
	Variable	Kinematic properties (constrained by modern vocabulary), clothing, scenery……
	Contra-standard	Inexpressive, ordinary…
Contemporary dance	**Standard**	Hybridization of styles, heterogeneity, experimental character, recognizable contemporary dance style (e.g. Gaga, Butoh, danstheater, minimalist)
	Variable	Stylized movement, technique, ordinary movement, clothing, music, scenery……
	Contra-standard	Standard canonical genre; e.g. "standard ballet", "standard modern"

Appendix 6. List of tables and figures

List of tables

List of figures