CREATIVITY, EMOTIONS AND THE ARTS:

RESEARCH, APPLICATION AND IMPACT

**FUNDACIÓN
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REPORT
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INDEX

PRESENTATION

Iñigo Sáenz de Miera

Fundación Botín's General Director

Fundación Botín has been investigating for the past 10 years the impact that arts and emotions have on the development of creativity, in collaboration with Yale University. What's more, in the last 5 years, we have applied the knowledge generated to Centro Botín's programme and, in collaboration with the IE Foundation, we have created indicators to measure this impact. This report summarises the outcome of all these years of work, offering the concrete results of Centro Botín together with other international experiences, also very significant, that have inspired us and illuminated our path.

Centro Botín is an international art centre with a social mission: to take advantage of the capacity of the arts to develop creativity and contribute to generating economic and social wealth. Because art generates physical, psychological and social well-being, stimulates our senses, helps us to get to know and understand one another better, develops imagination and empathy, social skills, encourages reflection and critical thinking... and much more besides. At Centro Botín we have focused on the potential of the arts to make us more creative, because creativity, understood as the ability to overcome challenges and solve problems, is key to the evolution and development of society.

We can all be creative, but we need motivation and attitude to want to be so; the ability to look around us from a different perspective, to surprise ourselves, imagine, think and dare to do things in new ways. And in all this process there is a key ingredient that makes the difference: emotions. Different emotional states make us look at reality in different ways, and good management of emotions that appear in the creative process is key to doing this successfully. The arts excite us and art centres can teach us to exploit and manage those emotions to be more successful in our creative process, whatever it may be.

If you think that all this may make sense, continue reading, because in this report you will find the research, practical applications, impact and the international experts that have turned our initial hypothesis into a thesis, although there is still a long way to go.

In October 2019 Centro Botín held the *International Conference on Creativity, Emotions, and the Arts*[1]. For 3 days, experts from around the world presented their research and discussed the relationships between the arts, emotions and creativity in the field of health, education, art and business. A few months later the pandemic struck, so we took advantage of that time to continue researching, writing up and updating some of the results presented at that conference, and other new findings. In a world in need of creativity more than ever, Centro Botín's social mission made even more sense.

And here is the result, an international report with 14 scientific contributions which we wanted to present in 5 blocks to make its content more approachable. Nevertheless, the reality is that each of the chapters can and should be read separately. We have also added a space to the end of each chapter so that you can note down your own learnings, reflections, doubts and conclusions.

The report begins, just as it should, with valuing creativity. Thanks to the texts of Rowe, together with Kaufman, Glaveanu and Corazza, the major functions of creativity are presented respectively in the present and in the future: from how creativity in art can be used to give meaning to life, through offering the arguments why creativity can change the world for the better, to ending with a reflection on the future, as our survival will be very closely linked to our creative ability.

Below we present 4 articles that explain the research work carried out by Fundación Botín in collaboration with Yale University and IE Foundation, its practical application in Centro Botín and the results of measuring its impact.

The collaboration with the Yale Center for Emotional Intelligence began in 2012, generating a theoretical model that explains the role of emotions in the creative process and the way in which arts help us to develop our creativity (*Arts and Emotions - Nurturing our Creative Potential,* Fundación Botín, 2014). Zorana Ivcevic, Yale researcher, now shows us in this report, how emotions arouse and fuel creativity and innovation, and how this knowledge is the basis for developing creativity using the power of emotions. Described next, in the article by Ivcevic and Hoffmann, are the courses that have been created and implemented for the very first time at Centro Botín combining the teaching of creativity and emotional intelligence through the arts for children, families, adolescents and adults, explaining their execution, evaluation and the impact they have generated individually. For example, after participating in these courses, adolescents and adults experienced a change in their attitude and way of thinking

[1] Check the videos and contents of this Conference by scanning this QR code

in terms of creativity and emotional intelligence. Both children and adults showed a higher frequency of creative behaviour, as well as a significant improvement in the generation of original answers in creative tasks, among others.

In turn, the collaboration with the IE Foundation that began in 2018 has focused on two aspects of the measurement of Centro Botín's impact: firstly, as explained in the text by Gabaldón and Zimmermann, we wanted to know the impact of its programme on the social activity of those groups that repeatedly enjoy our artistic, cultural and training activity. For this a survey was produced whose conclusion, among others, is that Centro Botín allows its visitors to change their viewpoint on reality and modify aspects of their personal and professional lives. In addition, there is a greater impact on the creativity of visitors the more visits they make to the Centre. This study shows Centro Botín as an example of how art centres can be a vehicle for cultural transmission and personal transformation.

Finally, and once the impact of Centro Botín's programme is known at individual and group level, we still need to know its long-term impact: the way in which the activity of Centro Botín can influence the development of the creativity in the Cantabria region as a whole. In the final article of this block, Patricia Gabaldón, researcher at IE University, presents a new measurement model and a new *Creativity Indicator in Cantabria*, which allows us to know the current situation of the creative sector in Cantabria and its recent evolution, as well as to take future medium and long-term measurements to discover and monitor the fulfilment of Centro Botín's mission.

In the third block of content we talk about the benefits of art and the changes that are taking place in museums and art centres in terms of the role that they play. Specker and Pelowski look at how art affects our emotional life and makes us more prosocial, and how these changes can persist in our daily lives after leaving the exhibition space. López Fdez. Cao explains how art can heal the soul and reflects on the therapeutic power of creative activity taking us on a tour of the evolution of art as a therapy through to Art Therapy in Spain today. Gokcigdem considers the role that art centres, museums and other learning platforms play in the development of empathy and creative imagination, both of which are necessary to tackle humanity's increasingly complex problems. To finish, Gardner explores the major impact that museums have on the public and the need for them to evolve and adapt to social changes that are occurring, especially by encouraging empathy and equality.

The fourth block contains two articles linking the arts, emotions and creativity with childhood and youth. Drake and Grossman show how children's spontaneous drawing, used as a form of distraction, serves as a strategy to improve unpleasant moods. If art can improve the mood of students, and it is proven that academic performance improves if their mood is good, unstructured artistic activities should be present in classrooms. Next, the study by Prieto, Ferrando and Ferrándiz analyses the link between emotional intelligence and creativity in students, offering a greater understanding of that relationship.

We end this report with a valuable contribution from Roni Reiter-Palmon in the field of business, arguing why creativity has been recognised as one of the most important skills for professionals in the 21st-century by the World Economic Forum, and the importance of leaders in the team culture, organisation and in generating a creative and psychologically secure climate.

There are still many unknowns, a long way to go and, above all, many people to convince that arts, and therefore art centres, have a huge potential to fulfil the social function of generating well-being and development. Specifically, a potential to enhance creativity, which is a key aspect for human evolution and all types of wealth generation.

Hopefully the work over the past few years and this report, albeit a minor contribution and a small step, will help to inspire other art institutions to meet the challenge of exploring a new more social way of understanding art, as a means to help develop people and society; to define any type of social mission, as well as a specific strategy and impact indicators that help measure achievements, beyond the number of visitors and which also, in turn, help to improve the processes.

We thank all the researchers and authors of the texts for their support and contribution to this report, as well as the trust placed in the Centro Botín project. And especially thanks to you, for your attention and interest, for supporting the importance of arts in the development of society, and for helping us to share and disseminate this report among your colleagues and contacts. We look forward to seeing you soon at Centro Botín.

Santander, November 2022

One major starting point is that such creativity – particularly creativity in the arts – can serve as a source of meaning in one's life. In this chapter, we will explore and apply this concept to the performing arts

HOW DIFFERENT LEVELS OF CREATIVITY IN THE ARTS CAN HELP ACHIEVE MEANING, LEGACY, AND SYMBOLIC IMMORTALITY

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"What are the two most important days in my life? The day you were born, and the day you realize why you were born."
Anita Canfield (1985, p. 43)

When many people think of creativity, they think of a genius – a Billie Holiday, Rod Serling, or Frida Kahlo. It is relatively straightforward to think about the benefits of creative genius; it benefits society both in present day and for generations to come. But creativity encompasses a wide spectrum of talents and skills. The Four C model (Beghetto & Kaufman, 2007; Kaufman & Beghetto, 2009) offers a developmental trajectory of creativity, proposing four categories.

First comes mini-c creativity, or the personally meaningful thoughts and insights someone may have leap into their head at any point. Mini-c can be anything from a child solving an algebraic proof on her own for the time to someone tinkering with a recipe to make it spicier to making up a bedtime song on the spot for a small child. Such ideas may not be met with appreciation by others; indeed, some fancies may not even be articulated. But mini-c still represents the type of imagination and intuitions that are enjoyable and fulfilling by themselves and can lead to bigger contributions. With enough feedback, growth, and understanding, some can continue to evolve into little-c, or everyday creativity (Kaufman & Beghetto, 2013).

Little-c creativity are the songs, inventions, or artworks or other creative ideas that can be appreciated by others. Although such work is often still primarily done for one's self, one's family and friends, and perhaps one's local community, it has much to offer. Such creations are the bread and butter of county fairs, coffee shops, local galleries, and street exhibitions. Think of a tasty churro at the Chocolateria San Ginés or a beautiful abanico or a poet giving a public reading of her latest decima. Little-c creative works

would not be typically considered fully professional, but with enough deliberate practice and effort, little-c can become Pro-c – professional creativity.

For example, recent conceptions of meaning include three components: coherence, purpose, and significance (Martela & Steger, 2016)

At the level of Pro-c creativity, someone is making a contribution to work in their discipline, whether they are a writer, scientist, artist, designer, business person or another profession (even if that contribution is a very small one). A published novel, a funded scientific experiment, a produced musical – even if they only propel the field the tiniest bit forward (e.g., Sternberg, Kaufman & Pretz, 2001), such a creator still has demonstrated creative expertise. A Pro-c creator, with generations of time and a lasting legacy, can then become the very type of genius– or Big-C – with which we began the article.

What of the lower levels of the Four C Model? How can we discuss the specific benefits that can help such mini-c and little-c creators? One major starting point is that such creativity – particularly creativity in the arts – can serve as a source of meaning in one's life. In this chapter, we will explore and apply this concept to the performing arts. The connection between creativity and meaning can take multiple forms. For example, recent conceptions of meaning include three components: coherence, purpose, and significance (Martela & Steger, 2016). Kaufman (2018) links these three aspects to time, with coherence representing our past; purpose being our present; and significance linking with our future.

Coherence is our ability to understand and make sense of our past – can we see our actions and responses as being defendable? Can we understand past decisions, even if we would not make

them again? There are so many aspects of our lives that are out of our control and often are a source of negative emotion. Everyone makes mistakes and loses opportunities or loved ones. The deeper question is if we can reflect and understand and – ideally – grow and blossom from such tragic circumstances (Forgeard, 2013). The performing arts can help achieve coherence in that assuming different roles can yield insights into one's past decisions and make them resound in a new way. For example, consider a young opera singer portraying the title role of Britten's *Albert Herring*. Herring's character arc takes him from being an obedient and subservient young man to finally allowing himself to enjoy life and assert his independence. The singer assaying Herring may gain an understanding into the importance of autonomy (e.g., Ryan & Deci, 2000) that allow him to forgive himself for past choices that may have otherwise seemed selfish (such as pursuing a career in the arts in the first place).

Significance as an aspect of meaning refers to whether we can enjoy our lives in the moment. Do we consider our current existence a positive one? Do we have love, joy, social interactions, and a high quality of life? Maybe we experience what Csikszentmihalyi (1990, 1996) called Flow, in which we get engaged and entranced in a favorite activity to the point of losing track of time. The act of performing live in front of an audience often gives a similar rush of the excitement that comes with matching an area of personal skill with a sufficient challenge. Indeed, many performers are motivated by this feeling of Flow and passion (Martin & Cutler, 2002).

The third component of meaning, purpose, is connected to our hopes and dreams for the future – in our own lives and even beyond. There are many different types of goals, of course, and many are purely personal (such as having a family or traveling the world). Other goals are more career-oriented and different heights one may want to achieve (such as performing on Broadway). Purpose is often intertwined with the concept of symbolic immortality (Lifton, 1979). We

are aware of our eventual death and passing from this world. How is it possible to let go of this knowledge and not catastrophize and endlessly worry? One way, as Lifton (2011) notes, is to find alternate ways of metaphorically living forever. Some achieve this symbolic immortality by focusing on children or embracing spirituality. Other ways can be found in the performing arts and other forms of creativity.

There are both hedonic and eudaimonic pathways to coping with mortality or distress more generally (Disabato, Goodman, Kashdan, Short, & Harden, 2016; Tov & Lee, 2016). Hedonia is seeking out pleasure and shorter-term joys. These can include the Flow-like excitements discussed earlier, as well as the rush of applause and praise. The power of hedonism can be to distract one's self from death; indeed, the arts can improve your mood simply by distracting you from negative thoughts (Drake & Winner, 2012; Drake, Coleman, & Winner, 2011; Drake & Grossman, this volume).

Most relevant for purpose are the eudaimonic, long-term benefits. These encompass a deeper sense of contentment and well-being based on psychological attributes that include self-acceptance, positive relationship with others, mastery of life challenges, personal growth, and sense of autonomy or agency to influence our lives (Ryff, 1989; 2014). Awareness of death also plays a role here, but it can be in different ways. One can appreciate the gentle positives by remembering the capricious nature of being. Taking the eudaimonic pathway to its most extreme is to consider one's eventual legacy after death and reconciling with it.

The most straightforward way to think about legacy is to assume a Big-C perspective (Kaufman & Beghetto, 2009). Certainly, genius lives on (Simonton, 2009). In the world of musical theatre, many of the greatest creators are long dead. Richard Rodgers and Oscar Hammerstein, George Gershwin, Cole Porter, and Frank Loesser for example, have all been dead for more than

forty years. Yet *Oklahoma!, Porgy and Bess, Kiss Me, Kate,* and *Guys and Dolls* continue to be performed all over the world. Many readers would be able to hum a tune from all of these shows.

However, what constitutes Big-C creativity (as opposed to Pro-c) can be quite subject to random and almost chaotic factors. The Systems theory of creativity suggests a method behind the seeming madness of what is remembered and what is forgotten in the world of the performing arts and creativity more broadly (Csikszentmihalyi, 1999). The success of any creative product comes from an interaction between the person (creator), the field (the gatekeepers and decision-makers, such as music critics), and the domain (the totality of those who work in a certain area, such as musical theater discussed here, and their consumers or audiences). The product made by the person, barring a subsequent revision, tends to stay the same. A production of *Romeo and Juliet* may decide to use costumes and sets from the 1930s or to have everyone use a Southern accent – but rarely does Mercutio defeat Tybalt, cutting the story short.

Our influence on others – family, children, friends, students, or anyone – can be our best hope for a legacy that gives us symbolic immortality

In contrast, critics and audiences are always changing. Over time, people get older and then-retire (or die) while new ones take their place. Decisions made about the best work in a particular year may not hold up today. For example, in 1991, *The Will Rogers Follies* won the Tony Award for Best Musical (and five additional awards that year). It ran for nearly one thousand performances and had a successful national tour. However, it is rarely performed today and has not had a major revival. In contrast, the musicals that lost the Tony Award that year include *Once on This*

Island, Miss Saigon, and *The Secret Garden.* All three are regularly produced around the world at major venues. *Miss Saigon* has been recorded multiple times and has had many successful tours. *Once on This Island* was not only revived on Broadway but won the Tony Award for Best Revival of a Musical. *The Secret Garden* continues to be a regularly performed in the United States. The critics and audiences regarded *The Will Rogers Follies* quite highly in 1991, but subsequent generations are less entranced. In contrast, the losing nominees continue to captivate modern tastes. It is entirely possible that in another thirty years, tastes will have shifted even further.

For every *The Magic Flute* or *Much Ado About Nothing* that continues to resonate and charm people hundreds of years after their creation, there are countless works that once were enjoyed and are long-forgotten. Maybe they have been relegated to footnotes because of changing styles, shifting values, topical references that were lost to history, or simply bad luck. Certainly, there is some relationship between a work's current recognition and the level of its initial success (Simonton, 1998). Most Tony Award winners, for example, are still at least somewhat well-known.

Aiming to be Big-C and find meaning by having your creative work continue to be your legacy after your death is risky. It is more akin to deciding to never go to the dentist and instead trying to convince your teeth to be straight and cavity-free. It might work, but it is not a good bet. If every reader were to make a list right now of all of the living creators who they believe will be remembered 100 years from now, we would bet nearly anything that several of them will be long-forgotten.

What we argue is that the best path to symbolic immortality is for a creator to focus on mini-c or little-c (Beghetto & Kaufman, 2007). The impact we have on other people is crucial to every aspect of our life. Indeed, recent theories emphasize the role of groups, audiences, and interactions in the creative process and product

(Glăveanu, 2013; Kaufman & Glăveanu, 2019). Our influence on others – family, children, friends, students, or anyone – can be our best hope for a legacy that gives us symbolic immortality. Some of the best advice to an aspiring creator can be to start where you are. Grow locally. Join and support regional creative centers and activities. If one's talent and passion are met with luck and opportunity, then it is possible to ascend to greater heights. But if that is not in the cards, there will be still that local influence. Such an impact can linger and remain, even if it is with those who know and love you.

We will end by describing paintings in each of the authors' residences. The first author has paintings by his late mother in his apartment. Some are aesthetically beautiful and others are not. All are replications of other paintings which are actual Big-C contributions, such as the works of Goya, Picasso, or El Greco. The second author has two paintings of flowers by his late grandmother in his living room that anchor the room. Objectively, all of these paintings are little-c creativity at best. No museum is clamoring to display them. If the authors saw any of them for sale by an anonymous artist, there would be no desire to add the work to our collections. But for each of us, the paintings are a reminder of a loved one. They make us smile when we see them. They are legacies that grew from personal connections but are rooted in lower-level creative contributions. They are seen as both art and as memories – and this combination can be the most powerful type of symbolic immortality that one can attain.

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IT'S YOUR TURN

Our lived experiences and what we get from them are truly valuable. Reading this text is one of them. We invite you to bring your views to this report and make it unique and valuable for you. After each article you have the opportunity to capture your thoughts. Feel free to write, draw, make a diagram or try your own formats so that the conclusions that you have drawn after reading the articles are not lost.
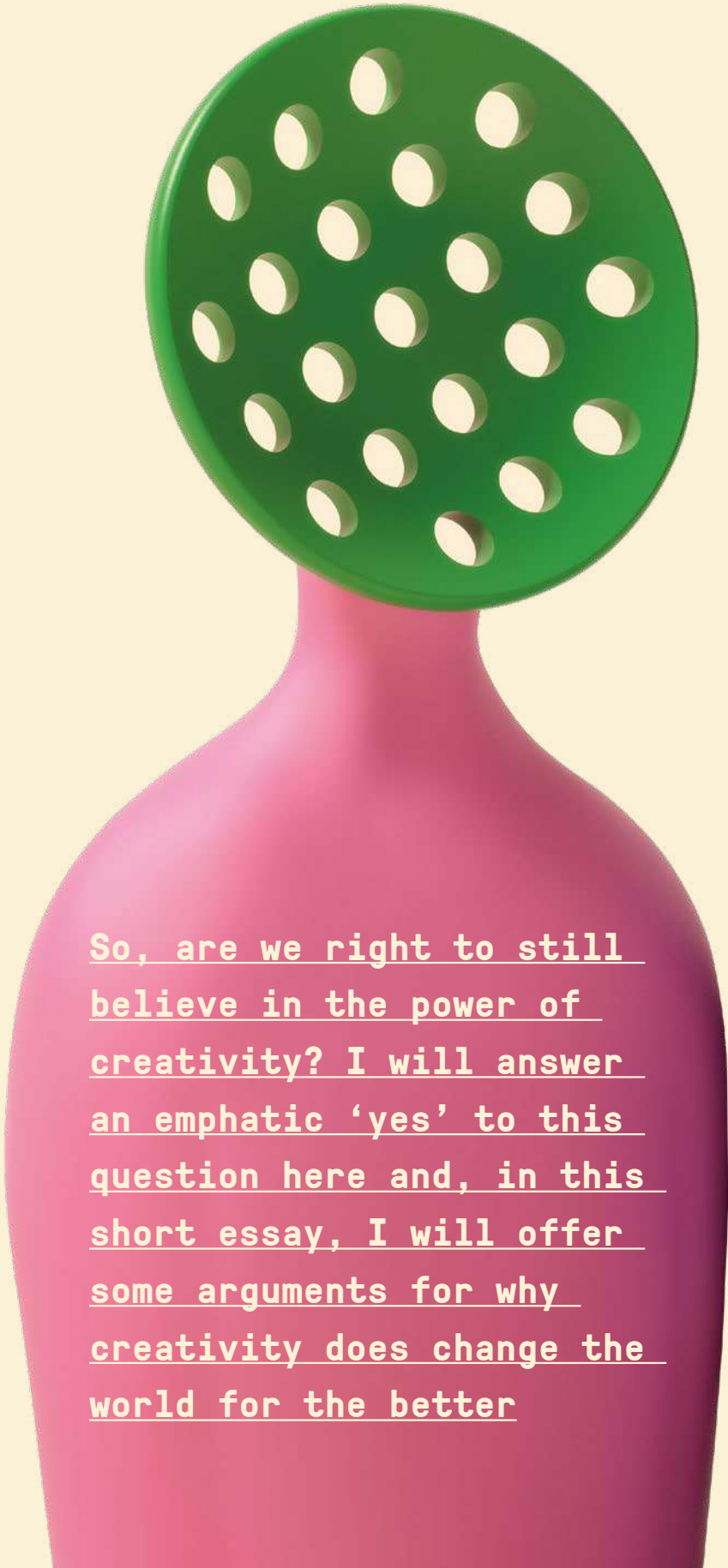
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Texto español

English Text

So, are we right to still believe in the power of creativity? I will answer an emphatic 'yes' to this question here and, in this short essay, I will offer some arguments for why creativity does change the world for the better

CREATIVITY CAN CHANGE THE WORLD, AND CHANGE IT FOR THE BETTER

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There is a general excitement today about creativity, an excitement that made it one of the buzzwords of the 21st century in a wide range of areas, from education to business, from the home to the public sphere (Mason, 2017). In all these areas the hope is that creativity can bring about change and, most of all, positive change. But this optimism is met by a harsh reality. In education, a standardized curriculum and evaluation works against individual expression (Noddings, 2013). The survival instinct of businesses is to follow tried and tested solutions rather than go for radical innovation (Lahlou & Beaudouin, 2016). And in society as a whole, creativity does change the world but often in ways that destroy the environment, increase inequality and exploit the poor and marginalized (Sierra & Fallon, 2016). So, are we right to still believe in the power of creativity?

I will answer an emphatic 'yes' to this question here and, in this short essay, I will offer some arguments for why creativity does change the world for the better (see also Kaufman & Glăveanu, in preparation). This is not a romanticized view of creative people, nor is it an idealized account of social change. If we do agree that creativity brings about change than the question is *how* it does this. And if this change is meant to be positive, we need to ask ourselves *why* this is the case. And why sometimes this potential doesn't come true or, worse, why it fails altogether to deliver the good expected of it.

Creativity has been described across time in many ways, most of them pointing us towards the individual or, even more narrowly, towards individual minds and brains. Terms often associated with creating include genius, inspiration, insight, 'out of the box' thinking, combinatorial thinking, intrinsic motivation, openness to experience, so on and so forth. All these notions, for as useful as they can be to describe parts of what it means to create, run the risk of building a highly individualistic image of creativity. There is no denying that the person, the mind and the brain all contribute greatly to creative expression, but there would be no creative expression without other people, the material world, and culture.

Individual and society don't stand in opposition to each other when it comes to creating for as much as scientific and lay beliefs want to emphasize the struggle of creators against gatekeepers and the norms and conceptions of their time. Such a partial image forgets that the same creators belonged to a society and a culture, that they competed with some people and groups but collaborated with others, and that their skills and knowledge could only be shaped within a social context. An individual focus is legitimate, an individualistic one that reduces everything to the individual is not (see Glăveanu, 2014).

Why does this matter here? Because the change brought about by creativity looks very different from a purely individual versus a sociocultural lens. The former glorifies the person of the creator (discoverer, leader, inventor, etc.) and considers that the arrow of change always comes 'from the inside' and transforms the external world. The latter proposes a *bi-directional* view of change in which people co-create their society and where culture doesn't represent an obstacle for creativity but an indispensable resource.

To change the world, we need to see it differently first, and be inspired by this difference

This difference matters because it tells us something about when to expect change and how to cultivate it. In the first case, one needs to either wait for or look for those special individuals who have the vision and the power to shape the world. In the second one, change is a much more pervasive phenomenon born out of actions and interactions that transform how we see the world, on a daily basis. The vectors of change don't go simply from person to world but intersect those of other people and even those coming from objects, places, and institutions. Creativity changes the world not because of extraordinary people fighting to persuade ordinary ones that society shouldn't be static, but because extraordinary *and* ordinary people live in worlds already open to emergence, to change, and to the future (de Saint-Laurent, Obradović & Carriere, 2018).

There is something about the ordinary nature of change that needs to be unpacked here. If creativity is intrinsic to living in societies populated by other people with other views, skills, and types of knowledge, then change itself becomes a mundane phenomenon. Creativity doesn't transform a static world, but one that

is in a constant process of changing. As such, creators don't initiate change out of nowhere as much as they *direct* those dialogues and interactions that intensify social transformation. These are the exchanges and interactions that open up new ways of seeing the world, new perspectives on reality and new points of view in the social arena (Glăveanu, 2015).

To the question of how exactly creativity changes the world, the simple answer is that it does so by *cultivating difference and promoting open-mindedness about alternatives*. Without the capacity to even envision alternatives, supported by the creative process, the possibility of change disappears. Taken for granted assumptions and ways of doing things remain in place and, most importantly, remain unquestioned. What creativity does, in its most simple form, is to challenge these assumptions, whether it is the idea that children should always draw within the lines or that neoliberalism is the only option for 21st century economies. To change the world, we need to *see* it differently first, and be *inspired* by this difference. And, in order to see things differently, we need to be in dialogue with other people who necessarily have different experiences and aims than us.

But is this change always good? On a surface level, we can clearly see how multinationals that destroy the environment and oppress local communities, politicians who stoke the flames of nationalism to attract new voters, or bankers who earned fortunes even during a devastating financial crisis, all demonstrate some form of creativity. This creativity can be shrewd, selfish and destructive, but in each case new ways were found to make profit and different alternatives considered to hide this profit or squash criticism. This kind of actions are studied today within the growing field of malevolent creativity (Cropley, Kaufman & Cropley, 2008) and unwise creativity (Sternberg, 2001), oblivious to its consequences. But are these the best examples we have of creativity?

To decide this, we should return to the different paradigms I mentioned above. In the 'lone genius versus the world' view, it is very much within the realm of creative action to revolutionize society for either good or ill. Since the person with his or her abilities matters, judging if something is creative depends on the unique characteristics of the creator and the creation. Conversely, in the sociocultural paradigm, process and context greatly determine what is considered creative. If the creative process, for instance, is built on recognizing and valuing differences of opinion between different social actors and groups, then it can be argued that those who create outcomes that are destructive for others fail to engage with or respect the perspective of these others. Should creators engage with all perspectives at all times? This is clearly an impossibility. But if creativity changes the world then reflecting on the nature of this change and its implications should be part and parcel of the creative act. This engagement doesn't mean that all creative outcomes will end up being ethical, but that *ethics and creativity* are not as separate from each other as individualistic approaches would make us believe (see also Moran, Cropley & Kaufman, 2014).

To take the example of art as a creative activity, the social impact of artistic expression comes precisely from creators' ability to *re-present the world* for their audience. And this re-presentation is both based on being able to de-center from one's point of view and understand the world as other people do, and, at the same time, to construct ideas, objects and installations that invite a multitude of perspectives. Inherently, art opens up to new, alternative interpretations that, especially in the case of social and political art, are meant to *put into question the status quo*.

The creativity of art doesn't then stop at the moment of production, but it extends to interpretation. Audiences are invited by artists to construct their own meanings and experience in the face of an artistic outcome. In the

process of changing the world, art starts by changing our perception of it. In particular, it opens up new possibilities for thinking about what is possible, even if the possible being envisioned is not always probable. In the case of activist art, the different world being proposed to viewers, utopian or dystopian (or both at the same time), might be radically different than the world that is. And it is in the space created by this difference that the world appears as *malleable and open to change*. Enacting this change requires new forms of creative action (Harrebye, 2016).

This dynamic is associated by a variety of emotions. While an individualistic account places emotion inside the person, within a physiological or experiential inners sphere, the sociocultural view recognizes them as *relations* established between self and other, person and world. Emotions accompany creative action and a special class of emotional states are involved in those creative actions that produce change. *Wonder* and *hope* are two examples of these states that, while technically more than emotions per se, represent complex, affect driven ways of relating to one's environment.

Wonder opens us to other ways of seeing reality by making what is familiar to us unfamiliar (Glăveanu, 2020 a). Closely connected to surprise, doubt, awe and curiosity, wonder invites us to contemplate other ways of thinking and of being in the world. Hope invests these ways with anticipation and optimism (Solnit, 2016). The optimism of hope is not an unrealistic one, because hope is concerned with the possible rather than the real. To hope, even against all odds, means to be able to perceive reality differently and to trust that reality can indeed change. Wonder and hope are possibility-enabling emotional states in that they encourage us to accept ambiguity and not knowing while being excited about what can emerge from them. They are, as such, also favorable for creative expression given the fact that creative people usually take some distance from how things 'are' to envision

how they 'could be' all along remaining hopeful about the possibility of change.

An emotion that is often possibility and creativity restricting is *fear*. While highly adaptive when confronted with dangers we need to escape from, fear tends to narrow our range of options rather than expand them. When experiencing fear, we close down possibilities in order to act on our emotion and either fight or take flight. We also don't allow ourselves to think about the experience of others or try to understand it. Fear, unlike wonder or hope, focuses us mostly on our own state of mind and our survival (Shah, 2013). This is why, for instance, nationalist and populist politicians are eager to create climates of fear – fear for the future, fear of the other, fear of change[1].

By portraying migrants and refuges, for example, as a real danger for society, discussing them in terms of 'invasion' or 'infection', they cultivate a state of mind that rejects rather than understand. Instead of wondering about the experience of others and trying to empathize with them, one's mind is already made up (Glăveanu, de Saint Laurent & Literat, 2018). Instead of being hopeful about diversity and the future, one becomes resentful and nostalgic for imaginary times when communities had no strangers or foreigners within them. Unsurprisingly, the rejection of difference and diversity is not conducive for creativity. The latter, as I argued here, depends on being able to decenter from one's position and take multiple perspectives, especially the perspective of others. Nationalism and populism encourage us to only take the perspective of people 'like us', reducing the chances of ever changing one's mind.

Art and emotions are important to reflect on because they contribute to changing the world through creativity. If creating re-presents so-ciety and makes us see it anew, sometimes in radically different ways, than artistic means are necessarily used to achieve this. And this process is both driven by emotion and results in it. The last important question to raise is how we can *mobilize* the transformational capacity of emotion and the arts to sustain creative actions that produce positive social change. In other words, how creativity, emotion and art can contribute to building and maintaining *societies of the possible* (for more details about this notion see Glăveanu, 2020 b).

Fear, unlike wonder or hope, focuses us mostly on our own state of mind and our survival

All societies belong, to some extent, to the realm of the possible. Even the most constraining ones, like totalitarian regimes, are not devoid of hope, anticipation, and utopia. On the contrary, the more normative social contexts invite mundane forms of creativity as a coping mechanism and, on the long term, cultivate the imagination of resistance. To resist power and authority requires more than courage, it requires the freedom to engage with the possible within a world of impossibilities, especially the impossibility of change.

What fosters this engagement with the possible at the heart of every human community is *difference* – the difference between that various individuals and groups within society experience, know, and want (Glăveanu, in 2020 b). Without such differences, there would be no need for communication, for creativity or for change. Indeed, if self and other would think the same thoughts, feel the same emotions and act in identical ways, there would be no opportunity for change and no resources to achieve it. It

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[1]   It is to be noted here, however, that fear itself is not always an emotion with negative consequences: it does adapt us to our environment and can become an engine of pro-social action when coupled with other emotions (e.g., anger at social injustice and hope for a better future).

is the need to understand, manage and make the most out of differences that moves societies forward. This in itself is a quintessentially creative process. It requires open-mindedness, perspective-taking, and wondering about the worldview and the position of others. Without these preconditions, change can take place, but it is change that is predictable, oftentimes unwelcomed and short lived. In order to harness the power of creativity for social transformation, we need to welcome its role – that of making us *aware that human society is always open to change and to the future*. That our societies are, at all times, societies of the actual and of the possible. And that the latter transforms the former.

Societies of the possible are not an idealized notion since they are never perfect. It is precisely because of their imperfections – conflicts, inequality, pandemics, exploitation of others and the environment – that we need society to be a realm of possibility and of change. Creativity, I tried to argue here, represents a key engine of change and, when true to its origins in difference and dialogue, an engine for positive change. This might sound like a utopian vision in a world that is severely threatened by xenophobia, nationalism and environmental destruction. But perhaps this is exactly the time to put forward this vision. Creativity can change the world! But will it? The sociocultural approach encourages us not to wait for a savior type of figure to come and produce this change for us. On the contrary, it empowers us to consider the role each one of us has in producing change from whatever position we occupy within society, in interaction with others. In the end, the real power of creativity is that of bringing us together in a joint effort to build the world not *as is*, but as it *could be*.

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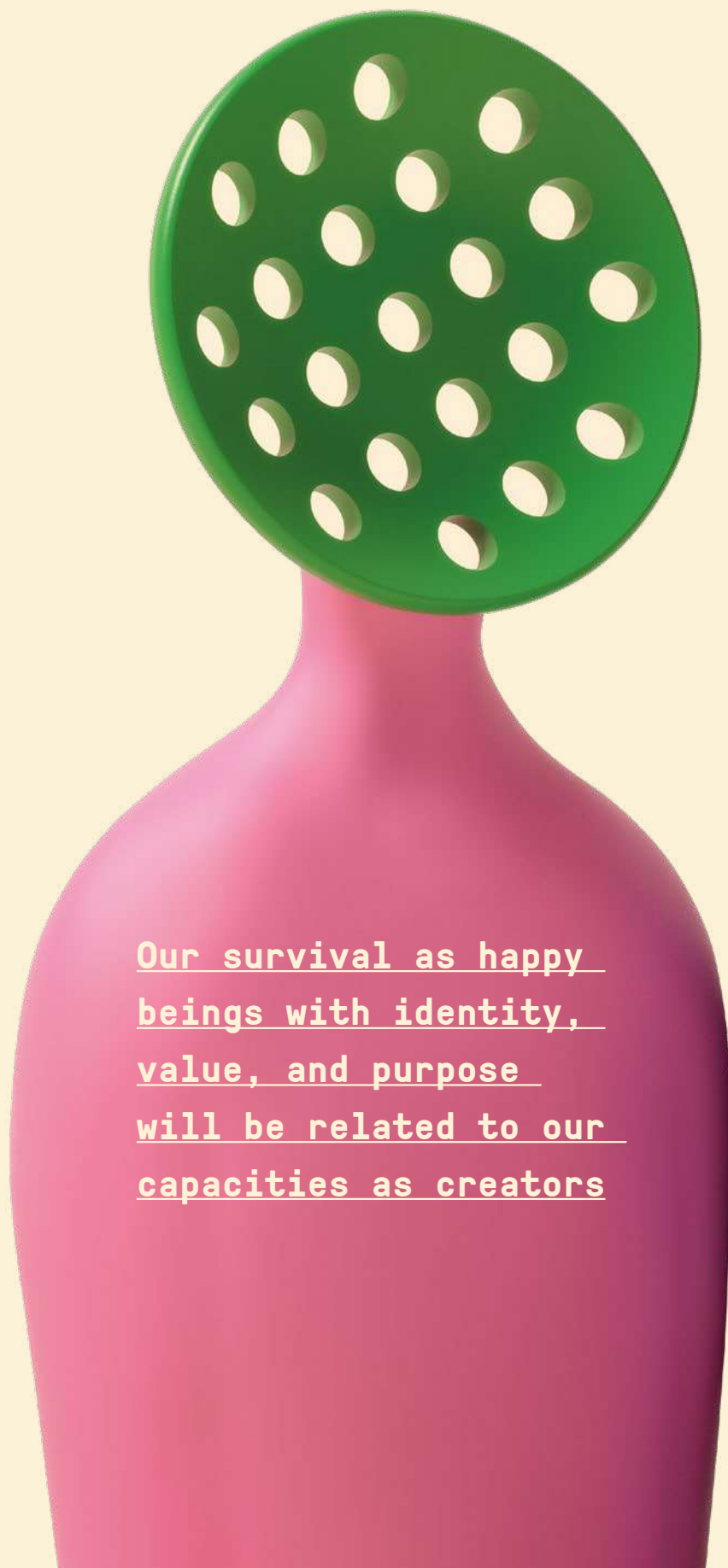
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Our survival as happy beings with identity, value, and purpose will be related to our capacities as creators

CRAFTING THE FUTURE:
The role of creativity in the Post-Information Society

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THE TRANSITION TO THE POST-INFORMATION SOCIETY

More and more, the evolution of our society appears to be essentially dictated by technological innovation, affecting individual behavior, social habits and networks, economic prosperity, as well as political discourse. Taking a broad understanding of the term "technology", encompassing all products of human ingenuity since the advent of the stone-tool industry in pre-historic times (Harmand et al., 2015), one could argue that this has always been the case, throughout the trajectory of Homo Sapiens. While this may well be true, there are some elements that allow us to say that the situation we are living today, leading to the advent of the so-called Post-Information Society, is actually unprecedented in manifold ways. In particular, we consider four aspects related the pace of change, the level of connectivity, the advent of artificial intelligence, and the insurgence of pandemic diseases.

The first element we need to consider in the forthcoming technological evolution is the speed of the process, which is so high that significant changes in devices and systems now occur every few years. Taking the example of cellular telephony, we have a new standard every 10 years (1G in the 80's, 2G in the 90's, 3G at the turn of the millennium, 4G in the 10's, and now 5G), with devices that need to be changed every 2 years or so, while a single model resists on the market only around 6 months. The smartphone, a device that has had a dramatic impact on our lives, is only 15 years old, and has since become a constant part of the everyday routine of nearly everyone that lives in developed countries. It is not an exaggeration to say that the smartphone is a part of our body and of our minds, producing physical suffering when its batteries run out or, even worse, when we forget it at home. As could be expected, the forecast is that this frenetic pace of change is only going to increase (Brynjolfsson & McAfee, 2014). This is not only a source of stress on the population, but given that the characteristic time constants are significantly smaller than a generation span, it implies that younger people are more up-to-date than the elderly, who would however be supposed to be listened to for their wisdom, for their experience in life. This form of "flipped-competence" between generations has never occurred before in history.

Connectivity is the second element we need to discuss: the revolution brought in by information and communication technologies (ICT) has turned the Industrial Society upside down, substituting standardization with personalization, and time/space concentration with distribution, leading in turn to economic globalization. Supply chains are today so complex that traceability of goods is a priority in many sectors, such as for example the food chain. From the point of

view of knowledge sharing, the pervasive level of connectivity afforded by accessing the Internet means that anyone can have access to every domain of knowledge with nearly zero latency. Information is a commodity. Unfortunately, both true and false facts are equally accessible, but nonetheless the possibilities for continuous learning throughout one's life are unprecedented. In the Post-Information Society, the level of connectivity is foreseen to grow by several orders of magnitude through the introduction of the Internet-of-Things (IoT), with trillions of interconnected devices not intended to be controlled by humans but by machines. The trends is therefore towards a world of completely interconnected humans and "thinking" objects, i.e. machines with a capacity for information processing. This leads directly into our next paragraph.

The forecast is that by 2030 personal laptops will have the computing power of a human brain, and by 2050 they will become equivalent to the collection of all brains in the human species

Our third focus of attention considers in fact the come of age of artificial intelligence. Indeed, the idea that machines could become expert systems, with an ability to learn and then produce work not completely pre-determined by the human side, has been with us since the start of the era of cybernetics, i.e. since the middle of the XX century. But even though some evidence of the machines' potential was present in the last century (e.g., consider the case of artificial chess players), it always seemed that the promise/menace of thinking machines was confined to the realm of science fiction movies. However, the situation is becoming quite different today, as we are entering the age of the Post-Information Society. Computational power has become cheaper and cheaper, and more and more compact. The forecast is that by 2030 personal lap-

tops will have the computing power of a human brain, and by 2050 they will become equivalent to the collection of all brains in the human species. Clearly, having the availability of such machines will pose serious challenges to the role of humans in the Post-Information Society.

The final aspect we want to give attention to is that of pandemic diseases. This might seem unrelated to the previous points, but actually it is not. Certainly, it is the subject of dramatic current discussion: at the time of writing, the entire world is being struck by a pandemic diffusion of the Covid-19 virus, and many countries are in lockdown, including Italy. The virus had its origin in China, in the region of Wuhan, a center of production for innumerable companies in the Western world, a consequence of the globalization brought about by ICT in the Information Society, producing a serious hit to our way of living: suddenly, several supply chains were interrupted, causing enormous difficulties for industries with headquarters in continents far away form China. Soon after, Covid-19 was unfortunately exported outside of China by the super-intensive transportation system of people and goods, and several populations have been forced to be confined to remain at home. Restaurants, cinemas, museums, and all other forms of services considered to be "non-essential" have been shut down, along with sports events and championships (e.g., the Tokyo Olympic Games and the Euro-2020 football cup have both taken place in 2021). In the space of but a few days, university and school lecturing has been transformed from "physical" to "virtual", smart working from home has become the norm, and the few categories of workers who must continue to go to work, since they provide essential services (first and foremost doctors, nurses, pharmacists), are considered to be heroes. And here we are: due to the pandemic, virtual life has taken over reality! Travel is drastically reduced, professional and family reunions are online events, and everyone is getting accustomed to the adoption and use of sophisticated technological means for teleconferencing. Among the many consequences of

the pandemic diffusion of Covid-19, we are witnessing an acceleration spike in the transition from the Information to the Post-Information Society.

SURVIVING: THE ROLE OF CREATIVITY

One fact should become apparent from the previous discussion: in the turmoil of this frenetic technology-driven and pandemic-pushed evolution of our society, there is a necessity to redefine identity, value, purpose, and wellbeing. Identity in the Industrial Society was largely defined by one's professional role. This does not hold anymore in the Information Society (and even less it will in the Post-Information Society), whereby we all share facts, knowledge, expertise, and any gap in competencies can be filled in a time interval which is orders of magnitude smaller than it used to be only a few tens of years ago. In the limit, thanks to the pervasiveness of networks and devices that extend our minds well beyond their biological limits, *we will all tend to know all things*. This is clearly an exaggeration, but it points to a major paradigm shift in society: what makes a difference, what dignifies the human being, cannot anymore be related to the static possession of knowledge, which becomes a commodity, but only to the creative transformation of that shared knowledge into new ideas with a potential for originality and effectiveness, in accordance with the dynamic definition of creativity (Corazza, 2016). Thus, more and more our identity will be given by our self-esteem as creators, and by our capacity to work together as co-creators; value will be associated to the outcomes of creative processes to be dynamically estimated across times and cultures; purpose will be given by creative goals, both in our professional and everyday activities; wellbeing will be related to living within a state of organic creativity (Corazza, 2017; Corazza, 2019a), defined as those conditions, attitudes, and actions that bear the potential to be at the same time productive in socio-economic terms and conducive to human happiness. Unless one believes that the future of the human species will not involve professional duties (a utopian scenario in which machines would work and humans would enjoy a life of pure leisure), the only form of work that will continue to have meaning and value will involve the use of creative abilities. And even in times of emergency, such as those caused by the pandemic diffusion of viruses, it will be the creative abilities of humans that will help us to find solutions to the big and small problems caused by both sanitary dramas and less critical but more diffuse confinement effects on the psychic wellbeing of populations.

The above discussion should leave no doubt about the fact that I believe that the role of creativity will be nothing less but fundamental in the Post-Information Society. For this reason, it is an absolute and urgent necessity to give a scientific standing to the study of creativity, with a thrust towards the conception of a new discipline, with its own theoretical framework, its principles, methodologies, and practices, with applications to all domains of knowledge. And clearly, the education system should be quickly reformed in order to allow the parallel development of both intelligence and creativity in all pupils at all ages, with the support of emotional intelligence underpinning both constructs. The long-standing question of the relationship between intelligence and creativity must be addressed and resolved, identifying those time-domain and exploration-domain dimensions that allow to clarify where the two constructs overlap and where they actually differ. This will give clear indications for the design of the education system of the near and far future, with the goal of harnessing the human with all of his/her creative qualities, to be extended through a collaboration with hyper-intelligent and hyper-connected machines, a collaboration that in no way should ever degenerate into the dominance of machines over humans. Our survival as happy beings with identity, value, and purpose will be related to our capacities as creators, and there is no time to lose in working for this transition in the education system. One fundamental choice that

has to be made in bringing creativity inside schools and universities is represented by the trade-off between the horizontal approach and the vertical approach. Briefly, the horizontal approach foresees that creativity enters *all* subjects, to change both the professor's way of teaching and the student's way of learning. On the other hand, the vertical approach considers creativity to be a discipline of its own, with its specialized curriculum, its theory and practice. Only when these general principles are understood should one develop domain-specific applications in the arts, science, and technology subjects. While there are clearly pro's and con's to both approaches, we believe that profound awareness of the importance of creativity shall and will lead to the realization that the vertical approach is the more effective way to go.

CONCLUSION: A DYNAMIC UNIVERSAL CREATIVITY PROCESS

The previous discussion might give the impression that the importance of creativity in our society is only contingent to the modern technological developments and trends. However, this is far from being correct in my view, because an anthropocentric discussion about the importance of creativity is actually very limited. As discussed in (Corazza, 2019b), creativity is the founding principle of the entire evolution of our cosmos, with a reach that goes well beyond that of the human species. All episodes of creativity are interconnected into a Dynamic Universal Creativity Process (DUCP) that encompasses four layers of complexity: the material layer, with emergent trajectories that are both original and effective and lead to the expansion of the number of galaxies (now estimated at two trillions) and their related materials; the biological layer, with emergent species and behaviors leading to the expansion of flora and fauna diversification on Earth (the only eco-system we have been able to know and study so far); the psycho-social layer, our own domain as Homo Sapiens and the only layer of complexity in which we believe we can identify intentionality that is not necessarily

teleological; and finally the artificial layer, where machines are endowed with the capacity to generate works of art, works of literature, etcetera, with a connection that becomes weaker and weaker towards the humans that programmed the machine. Therefore, in view of the dynamic theoretical framework which is provided by the adoption of the DUCP model, it is immediate to conclude that a push towards creativity in our species is not a recent necessity but more simply a fulfillment of our role in the universe.

This cosmological vision of creativity has an important predecessor in the process philosophy conceived by Alfred North Whitehead, well described in his book entitled Process and Reality (Whitehead, 1929/1978). In process philosophy, where all entities are interconnected and it is absurd to try to isolate points in space or time, all of universal reality can be explained starting from three philosophical constructs: multiplicity, unity, and creativity. Multiplicity is constituted by the indefinite collection of particles that make up our universe, which are instant by instant interconnected into a single unity of existence, thanks to creativity. Indeed, it is a creative act to bring together the multiple into an ever changing unity, which is original instant by instant and effective as the only possible reality to which we belong. Whitehead concludes therefore that creativity is the ultimate principle of metaphysics.

In a time of distress, it may be beneficial to take away our attention from the problems of this planet and give space to cosmological meditation. Fortunately, this leads to the same land where a more materialistic discussion of our societal problems has led us: the land of creative existence.

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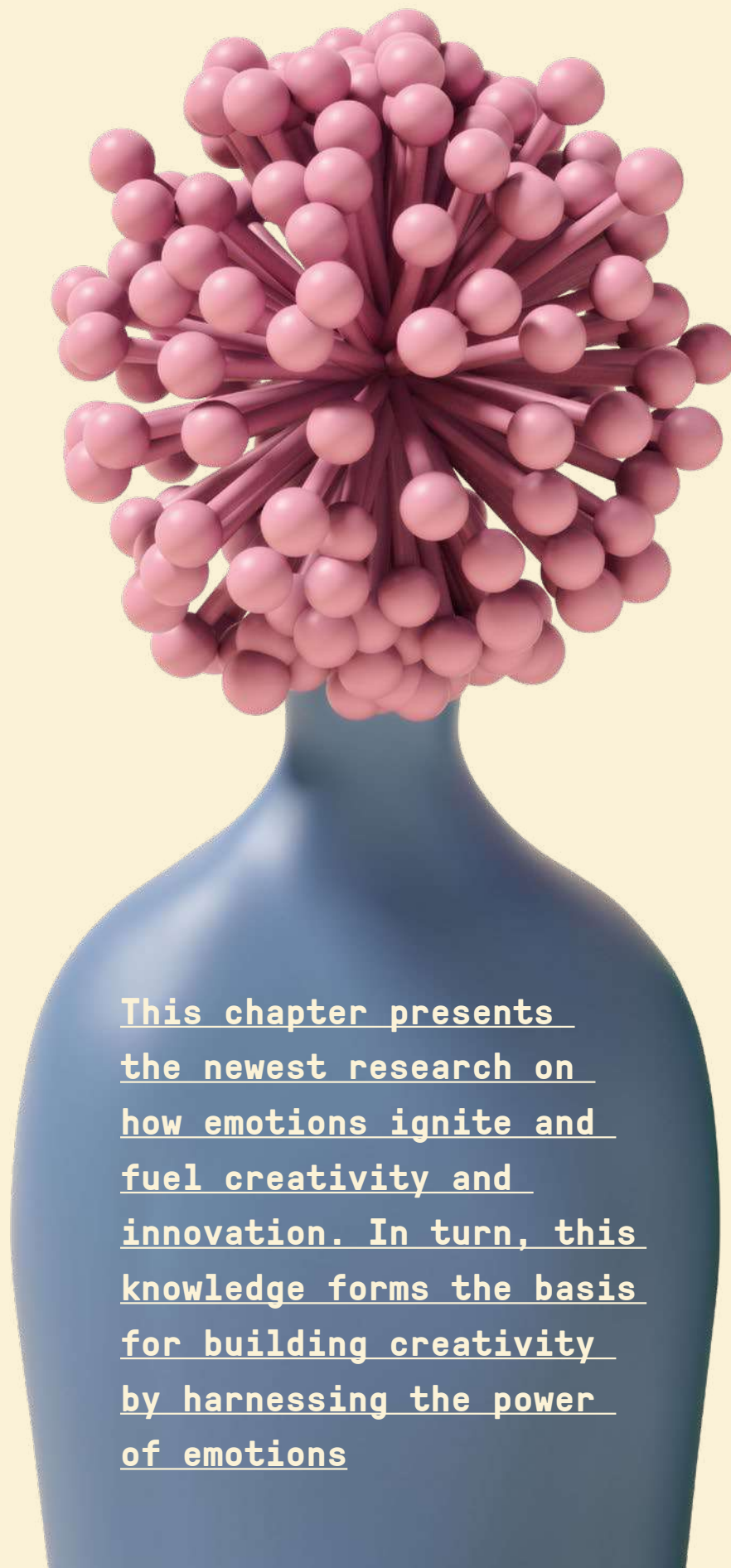
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This chapter presents the newest research on how emotions ignite and fuel creativity and innovation. In turn, this knowledge forms the basis for building creativity by harnessing the power of emotions

EMOTIONS IGNITE AND FUEL CREATIVITY

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Creativity and emotion skills are crucial for success in the changing world. The World Economic Forum in its report on the future of jobs examined key skills for 2020 and beyond. Several groups of creativity-related skills (creativity, originality, and initiative; analytical thinking and innovation; complex problem solving; reasoning, problem solving, and ideation) and emotion-related skills (emotional intelligence; leadership and social influence) made the list. That is, 6 of the 10 skills on the list referred to creativity and emotions. Moreover, this was a substantial change from the list of top skills in 2015. Creativity skills climbed up the list and more conventional skills, like quality control, dropped from the list.

If emotion and creativity skills are key for the future, the question becomes how are these skills related. We need to understand the role of emotions and emotion-related skills in creativity, as well as consider how we can build and support emotion skills and creativity. This chapter presents the newest research on how emotions ignite and fuel creativity and innovation. In turn, this knowledge forms the basis for building creativity by harnessing the power of emotions.

WHAT IS CREATIVITY?

In everyday life when considering creativity, people tend to have an art-bias (Runco, 2008; Runco & Pagnani, 2011; Sawyer, 2012). For example, Glăveanu (2011) examined what symbols people associate with creativity and asked them to rate their own creativity. Most common symbols were related to the arts (e.g., paintbrush and colors, musical notes) and people tended to rate their own creativity more highly if they had experiences in drawing and playing music. Similarly, creativity was rated as more essential for artistic professions (e.g., acting, writing, painting) than for any other professions (e.g., engineering, philosophy, cooking; Glăveanu, 2014).

Scholars define creativity as "the interaction among aptitude, process and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context" (Plucker, Beghetto, & Dow, 2004; p. 90). This definition stresses both individual building blocks of creativity – creative aptitude (or creative thinking ability), creative process – and environmental or social aspects that hinder or support creativity. Importantly, this definition puts the focus on a creative product that is both original and meaningful or useful. As such, creativity is not only found in thinking or generating ideas, but requires transformation of ideas into performances or products.

Although researchers agree on the definition of creativity, they most commonly study only one aspect of it – creative thinking or creative idea

> *Creativity is broader than thinking. Picasso did not only have an idea for Guernica, but he made it*

generation (e.g., Baas, De Dreu, & Nijstad, 2008). Creative thinking tests measure originality and flexibility in thinking and the number of ideas generated. Performance on these tests predicts real life creative behavior and achievement (e.g., King, Walker, & Broyles, 1996; Torrance, 1988; Wolfradt & Pretz, 2001), but understanding how people come up with ideas does not necessarily help us understand how they take their ideas from representations in their heads through acting, doing, and making into something tangible. Here, we acknowledge the importance of creative thinking and idea generation, but primarily focus on creativity observable in work, achievement, and everyday behavior.

WHAT EMOTIONS HELP CREATIVITY?

Research on creativity and emotion for a long time asked what emotion states help and what emotion states hurt creative thinking. In these studies, people are first induced to feel either positive moods (e.g., by being shown comedy clips) or negative moods (e.g., by being shown clips of crying children) and then asked to complete tests of creative thinking, such as coming up with ideas for different uses of everyday objects (tin can, brick). A reliable finding emerged that those in positive and energized moods tend to come up with more ideas and more original ideas when compared to those in negative moods (Baas et al., 2008).

These studies examined a specific aspect of creativity, coming up with ideas in response to a given problem. What they show is that positive, happy moods can benefit creative idea generation. But creativity is broader than thinking. Picasso did not only have an idea for Guernica, but he made it. We can stand in front of it and experience its power. Even in laboratory studies

on creative thinking, when people are allowed time to think of ideas beyond a few minutes, the benefit of positive mood for creative thinking disappears. After analyzing dozens of studies conducted across more than a quarter century, Baas et al. (2008) concluded that "to make a difference in creative performance, manipulating mood states is not very effective and is unlikely to produce clear and visible changes in creativity" (p. 796).

Instead of asking what emotions make people think more creatively in short laboratory tasks, we can examine what emotions are involved across the creative process. We conducted a study of artists – painters and sculptors, writers, composers, choreographers – in which we asked them to describe emotions they experience at different stages of their work. When asked about emotions that appear in creative inspiration, positive emotions like love, happiness, and joy were prominent. But so was sadness, an unpleasant or negative emotion, as well as nostalgia, which is a mixed emotion, comprised of fondness and melancholy (see Figure 1).

In contrast, when asked about emotions that appear during the day to day work of creating and transforming ideas into products – short stories, paintings, choreographies, or something else – frustration is the most prominently mentioned emotion (see Figure 2). Why? By definition, creativity is hard. There are obstacles when doing something original because there is no blueprint based on prior experience. Negative evaluations of the work are common, from colleagues, critics, audiences, or oneself. Joy, happiness, and excitement happen in daily work of creating, but the picture is more complex than the laboratory studies suggest.

Of course, creativity does not exist just in the arts. What emotions accompany creativity in work more generally? In a study of close to 15,000 people across all industries in the United States, we examined what work-related emotions people who are most creative at work

describe in their own words. They tend to prominently mention being happy, but also bring up frustration and stress, even being overwhelmed (see Figure 3). The picture is similar to that of artists in their daily work of creation. There is not one kind of emotional experience that is associated with creativity and both positive and negative emotions are experienced in the course of creative work.

We examined the relationship between emotions and creativity in yet another way. This research asked how often people experienced a long list of specific emotions at work, both positive (e.g., interest) and negative (e.g., frustration). It was possible to distinguish four groups of people: (1) those who didn't experience a lot of emotions at work; (2) those who experienced a lot of positive and a lot of negative feelings; (3) those who frequently experienced positive emotions and rarely experienced negative emotions; and (4) those with frequent negative emotions and infrequent positive emotions. Creativity is low when people experience almost only negative emotion, but it is very similar for people who feel predominantly positive and both positive and negative emotions.

A NEW QUESTION: HOW CAN WE USE AND MANAGE EMOTIONS FOR CREATIVITY?

Emerging research and theoretical models of the role of emotions in creativity suggest that we might have been asking the wrong question. Instead of asking which emotions states help and which emotion states hurt creative thinking (or creativity more broadly), we should ask how different emotions – both pleasant/positive or unpleasant/negative – can be used and managed in the service of creativity. These are the skills of emotional intelligence – capacity to accurately perceive emotions in oneself and others, use emotions to help thinking and problem solving, understand nuances of emotions, causes, and likely consequences of emotions, and regulate emotions to serve one's goals (Mayer, Roberts, & Barsade, 2008; Mayer & Salovey, 1997).

Our study of artists illustrates how they use emotions to help creativity. Emotions can be used as fuel for different parts of the creative process. A music composer described expressing emotions in his piece, "I had just arrived at the home of my girlfriend. I was glad to be there, was feeling relaxed because our weekend was just beginning, and felt loving toward her and loved by her. I stood at her piano and just allowed all those feelings to flow through me into the relationship between my fingers and the piano, which I recorded on my iPhone." Emotions can also be used to convey information to others who are part of the creative endeavor, as described by one choreographer: "I tried to channel my negative emotions into constructive feedback for my cast, and I let my joy shine through on days I felt good about it."

Using emotions in the service of creative work does not happen only in the arts. For instance, entrepreneurs who are able to project enthusiasm (using animated facial expressions and body movement) are perceived as more passionate by potential investors and this in turn predicts their interest to fund the projects (Cardon, Sudek, & Mitteness, 2009).

Creative work is full of emotions – anxiety because of uncertainty of success, frustration because of obstacles encountered, focused happiness of being absorbed in the creative process – and these emotions have to be regulated so they do not overwhelm one's ability to make progress. Because people tend to be motivated by the enjoyment of creative work, this work can in itself be an emotion regulation strategy. A painter working on a series of small daily works described this as, "As I began to devote myself to the process, my fear and anxiety subsided. I began to feel calmer, more self-aware, more open to joy, more in touch with my emotions." But emotions also need to be regulated in order for one to do their best work and avoid being overwhelmed by strong feelings. A sculptor described regulating emotions by creating the conditions most beneficial to creative work when working on a painted

clay mask, "Before renewing the initial inspirational emotions, I had to create a 'zone' in which they could be evoked without the distraction of my current fluctuating emotion – in order to do this, I go into meditation briefly, and tune out my surroundings. I then create an atmosphere in my blank mind with music, or by feeling my work and soaking up the emotions embedded in its every inch." Another artist described a specific emotion regulation strategy, "[I] Set the work aside and let it simmer in my head. Returning to work after giving it some rest produces better results than trying to push into immediate completion."

Emotion regulation is important for creativity across different kinds of work, as well as for people of different ages. In a study of high school students, Ivcevic and Brackett (2015) found that those with potential for creativity (curious, open to new experiences) who were also more skilled at regulating emotions were more likely to be persistent in the face of obstacles and maintain passion for their interests, which in turn predicted their creativity. Discussing emotional intelligence of organizational leaders, Zhou and George (2003) described how leaders help employees regulate their emotions to achieve the best outcomes. Emotionally intelligent leaders can help employees better cope with unpleasant emotions, like working through frustrations and disappointments by reframing problems as opportunities or by identifying supports within their teams. They also need to help employees manage their strong pleasant emotions which could get in the way of creative goals. For example, leaders can help employees to realize that happiness after a brief brainstorming of ideas can lead them to prematurely settle on some solutions and not explore a full range of perspectives.

Research is starting to build a nuanced picture of the role of emotions and emotion skills in creativity. Creativity requires potential in the form of creativity-general skills (e.g., finding interesting problems) and domain specific skills (e.g., spatial abilities needed to be an architect or a mechanical engineer). An individual has to face the unnerving blank canvass or computer screen, generate ideas, evaluate the ideas and choose the best one to develop into performances or products. Throughout this process, there are hurdles to overcome.

Emotions happen during the whole creative process, from deciding whether to engage in challenging open-ended projects through making and presenting one's work. But emotions don't just happen as if imposed on people. People have agency in relation to their emotions and can exercise this agency in the service of creativity. This happens on the individual level – we perceive our own emotions and those of others, channel our emotions to fuel and enrich our thinking and work, and we use strategies that maintain helpful emotions, intensify them, or change what we experience. Emotions and emotion skills also operate on the interpersonal and social level.

To examine the social influence of emotion skills we conducted a nationally representative survey of close to 15,000 workers across industries in the United States (Ivcevic, Moeller, Menges, & Brackett, 2020). The study examined four groups of variables: supervisors' emotionally intelligent behavior (e.g., how often supervisors notice if someone is feeling upset about a work decision; how often supervisors generate enthusiasm to motivate others); people's emotional experiences of work; extent to which they have opportunities to grow and make progress at work; and how often they are creative and innovative at work (e.g., contribute new ideas or original ways to achieve work goals). Results show that when supervisors act in emotionally intelligent ways, work climate becomes more positive and supportive. Those whose supervisors show emotional intelligence mention being happy three times more often than being stressed, and describe feelings of growth (e.g., challenged, fulfilled), feeling motivated and enjoying work, and feeling appreciated. By contrast, those whose supervisors do not show emotionally intelligent behavior most often mention being frustrated and

Emotions influence creative thinking and enable sustained creative action

stressed, as well as describe being angry (from being irritated, aggravated, annoyed, to mad) and unappreciated. The quality of relationships spills into feelings about work responsibilities. When supervisors show emotionally intelligent behavior, employees experience more opportunities for growth at work, feel more positively, and that in turn predicts higher creativity and innovation in what they do.

CONCLUSION

Creativity is fueled by emotions, as well as guided, directed, and shaped by emotion skills. Emotions influence creative thinking and enable sustained creative action. Importantly, there isn't one kind of emotion uniquely beneficial to creativity. Rather, emotional intelligence enables different emotions to be used and managed in the service of creativity. Crucially, both our own emotional intelligence and that of others around us can support creative work.

The knowledge of the role of emotions and emotional intelligence in creativity can be applied in programs that aim to enhance creativity. Creativity skills and attitudes can be taught and emotion skills can be taught. While much previous research teaching creativity skills focused on thinking and idea generation (Scott, Leritz, & Mumford, 2004; Tsai, 2013), we worked to develop and test programs at the Centro Botín (Santander, Spain) that use emotions to teach creativity and use the arts as the vehicle to achieve this goal. A series of courses for children, adolescents, adults, and families were developed and show success in developing creativity (Ebert, Hoffmann, Ivcevic, Phan, & Brackett, 2015a; Ebert, Hoffmann, Ivcevic, Phan, & Brackett, 2015b; Hoffmann, Ivcevic, & Maliakkal, 2018; Hoffmann, Ivcevic, & Maliakkal, 2020; Maliakkal, Hoffmann, Ivcevic, & Brackett, 2016; Maliakkal,

Hoffmann, Ivcevic, & Brackett, 2017). As such, this work illustrates Lewin's (1951) maxim stating that "there is nothing so practical as a good theory".

FIGURE 1
Emotions and the artistic process: Emotions in artistic inspiration
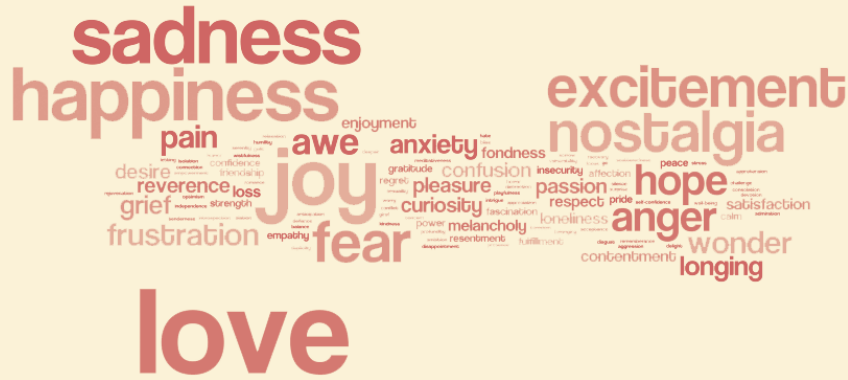

FIGURE 2
Emotions and the artistic process: Emotions in daily work of creation

FIGURE 3
Emotions and creativity at work: Emotions about work tasks for most creative workers

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What role can an
Art Center play
in preparing
people for the
future?

CREATIVITY, EMOTIONS, AND THE ARTS COURSES:
An Art Center at the Center

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INTRODUCTION

A study in 2001 found that museum-goers spend a mere 27 seconds looking at a work of art on average (Smith & Smith, 2001). This finding was then replicated, confirming that people give each masterpiece just a few seconds before moving on (Smith, Smith, & Tinio, 2017). When viewers do spend longer, it is often to take a picture of themselves with the piece. Of course, this is not true of every patron nor every piece of art. Studies such as these raise the question of what causes visitors to merely "taste" versus "savor" any given piece. Smith (2014) describes *the museum effect*: the way in which people use art as a springboard to engage in reflection and contemplation of things that are important in their lives. The model emphasizes that rather than examining how people interact with any single work of art, the visit should be considered as a whole. This leads to another question: what brings a person to an Art Center, and what about their experience brings them back? What kinds of personal benefits are gained from a visit to an Art Center, and how can Art Centers work to provide those benefits most effectively?

In a collaboration between the Yale Center for Emotional Intelligence and Fundación Botín, a set of courses were developed for the Botin Center, an Art Center at the heart of Santander, Spain. The courses focused on two constructs with critical importance for the 21st century: creativity and emotional intelligence. Creativity is defined as the generation of products (i.e. ideas, behaviors, objects, and performances), that are both novel and useful (Plucker, Beghetto, & Dow, 2004). While creativity is often equated with solely the fine arts (Glaveanu, 2011; 2014; Hoffmann, Ivcevic, Zamora, Bazhydai, & Brackett, 2016), creativity is actually present in almost all areas of human endeavor (e.g. finding a new way for your small business to save money; engineering an electric car). The term emotional intelligence was first defined as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Mayer, 1990) and popularized by Daniel Goleman in his 1995 book *Emotional Intelligence.* While there are several different conceptualizations, the ability model maintains that emotional intelligence is made up of four skills that can be learned and improved through training and practice: recognizing emotions, using emotions, understanding emotions, and regulating emotions.

In studies reported by the World Economic Forum on the future of jobs, both emotional intel-

ligence and creativity make the top ten list of skills most sought by employers, and both are recognized as "growing skills", meaning those still increasing in frequency of employer demand (World Economic Forum, 2016; 2018). It is logical that both creativity and emotion skills are increasingly viewed as important in the information age and world economy, where collaboration and innovation are key to company success and survival. Both creativity and emotional intelligence have been the goals of other intervention research, much of it based in schools (e.g. Brackett, Rivers, Reyes, & Salovey, 2012; Doron, 2017), but what role can an Art Center play in preparing people for the future?

What had not been done previously was to combine creativity training and emotional intelligence training and use visual arts as the medium

The connections between creativity and art are many, beginning with the simple fact that art-making is a creative process. Beyond this, we know that art-making can teach skills such as creative thinking, problem-solving, and evaluating the quality of ideas which can then be applied to everyday life (Winner & Hetland, 2011). Similarly, emotions are also integral to engaging with art, from curiosity while viewing an abstract sculpture, to frustration during a creative block. As with creativity skills, emotion skills learned through art appreciation and art-making (reducing anxiety before a performance by taking deep breaths, or using anticipated pride as motivation through positive self-talk) can be later applied to other areas of life. For those who are new to, unsure of, or uncomfortable with discussing emotional content, art serves as an inviting medium while allowing people to maintain personal distance if they choose

While creativity and emotion skills have both been taught through art before (Burton, Horow-

itz, & Abeles, 2000; Funch, Kroyer, Roald, & Wildt, 2012; Hetland, Winner, Veenema, and Sheridan, 2013), what had not been done previously was to combine creativity training and emotional intelligence training and use visual arts as the medium. Because emotional intelligence skills can enhance creativity, and engaging in the creative process is a way to build one's emotion skills, combining the two was not merely for efficiency, but because each can augment the other. Moreover, learning and practicing such skills while engaging with the visual arts would help people to gain strategies for savoring their experience and accessing the Art Center content in deeper ways.

COURSE FRAMEWORK

Four courses teaching creativity and emotional intelligence through the visual arts were developed and run at the Botin Center in Santander, Spain, each aimed at a different audience: (1) children, (2) adolescents, (3) adults, and (4) families. Professional facilitators were trained by the course creators. Each course was piloted with members of the Santander community, the results of which were published in academic journals (see Ebert, Hoffmann, Ivcevic, Phan, & Brackett, 2015a; Ebert, Hoffmann, Ivcevic, Phan, & Brackett, 2015b; Maliakkal, Hoffmann, Ivcevic, & Brackett, 2016; Maliakkal, Hoffmann, Ivcevic, & Brackett, 2017). The child and adult workshops were also tested experimentally (Hoffmann, Ivcevic, & Maliakkal, 2018; Hoffmann, Ivcevic, & Maliakkal, 2020). With results showing that each course was effective at achieving its intended goals, the Botin Center continues to offer the courses to the community at-large.

The courses collectively target the four skills of emotional intelligence: (1) recognizing emotions accurately in onself and others including decoding body language, facial expressions and tone of voice, (2) using emotions to facilitate creative thinking, including channeling feelings as inspiration and accessing emotional memories to brainstorm, (3) understanding the causes

of emotions, so as to distinguish between then and label them accurately, and (4) regulating emotions in healthy ways, by knowing and using helpful strategies. The courses also target three major skills in the creative process: (1) problem finding, including noticing, developing and clearly articulating opportunities for creativity (2) idea generation, when one comes up with many ideas, and (3) idea evaluation including comparing potential ideas for feasibility and viability and selecting the best one. Table 1 provides a breakdown of which skills are targeted in each course.

To teach and practice the target skills, a set of techniques were identified (Figure 1). Some strategies focus mainly on enhancing creativity (e.g. associative thinking, revisiting creative decisions, perspective shifting, exploration, and thinking unconventionally), while others focus mainly on enhancing emotional intelligence (e.g. reflecting through journaling, relaxation techniques, positive reappraisal, building an emotion vocabulary). Finally, other techniques address both creativity and emotional intelligence (e.g. sustained art observation, role-playing, accessing emotional memories, using symbol and metaphor).

Courses were designed with a spiraling pedagogy, such that repeated use of techniques and strategies built skills over time. Furthermore, all courses were designed to follow several best practices uncovered in the field of creativity training. Scott and colleagues (2004) reviewed 70 creativity training programs and made a set of recommendations, including that courses should be based in the cognitive activities that underlie creative efforts, that courses should be lengthy and challenging, should apply to 'real-world' cases, and should give participants the opportunity to apply what they learn. These criteria were used in the design of the courses, including decisions about length, number of sessions, and the use of wrap-up discussions to aid generalization of learning, both about creativity and emotions, to participants' lives.

The courses also sought to shift the participants' attitudes. Creative thinking and creative behavior are crucially influenced by one's attitudes towards creativity (Basadur, Graen, & Scandura, 1986). The courses sought to confound any potential negative attitudes (e.g., brainstorming is a waste of time; creativity is reserved for geniuses) that might have been present in the participants. The same is true for emotional intelligence, where the course sought to enhance participants "emotions matter" mindset (i.e., that emotions are information and that all emotions, both pleasant and unpleasant, can be useful), and make clear that emotional intelligence can be developed at any age (Brackett et al., 2012; Cejudo & Latorre, 2015; Greenberg et al., 2003; Rivers, Brackett, Reyes, Elbertson, & Salovey, 2013).

COURSE PROCEDURES

Child Course

The child course consisted of six 75-minute sessions based around exploration and art-making. The first five sessions each focused on an emotion theme: happiness, sadness, anger, fear, and calm. Sessions began with an introductory activity (e.g. say how you are feeling using a color or metaphor), followed by an art observation exercise related to the emotion of the day (e.g. observing a sculpture that depicts anger). Children then engaged in art-making, starting with time for exploration (e.g. tinkering with the materials), then time for art creation (e.g. making spiky sculptures to represent anger), and ending with time for sharing their work. Guided by the research on the importance of play for social and emotional development (Singer, Golinkoff, Hirsh-Pasek, 2006), and play's relationship with creativity (Hoffmann & Russ, 2016; Russ, 2014), opportunities for play and playfulness were built into the introductory activties (e.g. tossing a beach ball during introductions), art observation scavenger hunts, art-making, and guessing games while sharing out their work. The last session was a showcase of the student's artwork for their families. Children

were encouraged to use emotion-laden memories to generate ideas for art projects, and to discover through experience a central tenet of creative thinking - that first ideas are generally not the most creative. Through wrap-up discussions each session, children learned how the same emotion and creativity skills could be applied to their everyday lives (i.e. when thinking of a birthday present for a friend).

Adolescent course

The adolescent course consisted of six, 75-minute sessions, all beginning with a water coloring and journaling activity, followed by an art observation and/or art making activity, and ending with a photographic portrait making activity. The watercolor journal emphasized emotion perception and understanding; adolescents would paint a solid page on the left-hand side of their journals, providing opportunity and space for reflection and decompression from their day. They would then go into the exhibition space to find a piece of art that symbolized their current emotion state, reflect further, and write about their emotions on the right hand side of the page. Each session, the journaling activity added a new technique to enhance emotion understanding skills. For example, session three asks the teens to use metaphorical language to express their feelings (e.g. feeling sunny, stuck in the mud, etc).

Each session the adolescents also produced portraits, working in pairs to take pictures that best represented themselves as an individual, with weekly variations. Photographic portraits were selected as the medium to reflect both that identify exploration and formation is the developmental task of adolescence (Erikson, 1950; 1968), and the ubiqiuty of smart phones and selfie culture beginning in 2013 (Soerjoatmodjo, 2016). Session one and two involved unconventional perspectives (reflected in glass, through a fence, extreme close-up), while week three focused on metaphors for the self (a tree, a shadow, a crack in the pavement). Week four translated social emotions (e.g., accepted,

lonely) into photographs, and the fifth session aimed to capture multiple characteristics of the personality. At the end of each session, participants selected a single photograph to add to their portfolio. The final session reviewed all the techniques used for idea generation, and reflected on the creative process as a whole.

Adult Course

The adult course was made up of eight 60-minute sessions. Sessions were designed to stimulate curiosity and reflection through art observation, thought-provoking questions, and open discussion. Session one introduced participants to sustained observation of artwork, and asked them to begin noticing and understanding their own emotional reactions while spending up to 15 minutes viewing a single piece. Sessions two

When one is experiencing a problem or challenge, going to the Art Center to reflect is one viable course of action

and three then gave adults more strategies to use during art viewing to sustain their attention to a single piece, by incorporating perspective shifting techiniques (i.e. adding new knowledge about an artist, physically viewing a sculpture from multiple angles, visualizing oneself inside the art).

From the fourth session onward, participants were asked to begin engaging with their unpleasant emotions (e.g. confusion, outrage, boredom) and using the information provided by their emotions to identify problems they were experiencing in everyday life (outside of the Art Center). Sessions five and six introduced associative thinking as an idea generation technique for bridging the gap between problem finding and problem solving. This involved finding a piece of art that represented a problem (same as session four), then finding a piece that represented the optimal outcome, then filling in the

gap. For example, a person might pick a piece of art depicting violence, and find it uncomfortable because they miss their active duty spouse. Then, find a piece eliciting warm, loving feelings. They might then identify the solution as resolving to write letters to their spouse more often. In the final two sessions participants were asked to think of the problem first and then find the art rather than the other way around. This emphasized the point that when one is experiencing a problem or challenge, going to the Art Center to reflect is one viable course of action.

Family course

The family course had the goal of building both parents' and children's skills through six 90-minute sessions. Sessions began with a family journaling activity, followed by art activities, and ending with an on-going collage project. Journaling was used as an opening, asking families to think about their everyday creative behavior since the previous session (e.g. decorated cookies, invented a new game, solved an interpersonal problem). This created space for family members to acknowledge and praise each others' creative efforts, and to shift their mindset away from believing that creativity is reserved for professionals or only exists in the arts.

Over the six sessions, families built a collage together representing their family's identity and story, responding to different themes, such as combining two elements to represent the uniqueness of their family (session three), or adding a representation of the silliest thing their family had done (session five). In session six, the collages were displayed and families engaged in a gallery walk. Activities were designed to help families break out of their habitual ways of thinking, to notice more opportunities for creativity, and to free themselves from unspoken rules or constricting assumptions. Families could experience the joys and challenges of working together, and in doing so, practice noticing their emotions, understanding the causes, and channeling those feelings into art-making.

PILOT TESTING

All four courses were subjected to pilot testing with participants from the Santander community, including twenty children (ages 6-12), thirty-seven adolescents (ages 13-18), twenty adults (ages 18-68), and twelve families (21 children, 22 adults). All courses were run by trained facilitators. These trials helped assess participant satisfaction with their experience and understand participants' perspectives on different aspects of the courses.

Across the courses, participants reported greater knowledge and skills related to both emotional intelligence and creativity. Children reported greater understanding of how emotions can be used to facilitate their thinking, and stated that they were less likely to settle on the first idea that came to mind. Likewise, adolescents reported a greater understanding that it is sometimes advisable to change directions even in the middle of a creative task. The vast majority of children (95%) also indicated learning new emotion vocabulary words, strategies to express themselves, and ways to know what others are feeling. Adolescents also reported improvements in their ability to use metaphors to explain their feelings, and awareness of their feelings when observing art. Adults reported more ability to maintain sustained attention when observing art, use multiple perspectives to understand art, and use imagination and visualization strategies. Adults, adolescents, and families all stated that they were leaving more confident in their abilities to solve problems creatively. Children and parents in the families course also agreed strongly with statements such as "I learned something new about my family and myself", and "This workshop has helped our family to be more creative".

Adolescents and adults reported shifts in their attitudes and mindsets. After the course, both endorsed a stronger belief that creativity and emotional intelligence can be improved with practice, and a greater acknowledgement of the

value of information provided by negative emotions than they had before the course. After the course, adults were more likely to believe that engaging with art was useful for self-understanding. Participants across all four courses reported high satisfaction with their learning experience. Children stated the most interesting components of the course were seeing the art, making their own art, and talking about emotions. Adults stated that learning about emotional intelligence skills was the most useful part of the course, and noticing their emotions in response to art was the most interesting. Finally, participants of all ages reported intentions to return to the Botin Center to view more art, interest in engaging in additional courses in the future, and a likelihood of recommending the courses to others.

EXPERIMENTAL STUDIES

After piloting, the child and adult courses were also subjected to experimental studies, including random assignment of participants to either be enrolled in the course or a waitlist comparison condition. These experimental studies used robust measures of creativity and emotion skills, including ability tests. Participants completed the measures not only before and after the course, but also 2-months later. This method allowed for stronger conclusions to be drawn about the effects of the courses.

Sixty-four children in grades 4 through 6 from primary schools in Santander, Spain participated in the study of the child course. Those children enrolled in the course showed significantly improved emotion skills at the two month follow-up, as well as a greater frequency of engaging in everyday creative behaviors compared to the control group. Moreover, children who completed the course showed significant improvements from before the course to afterwards in the number of answers given and the originality of those answers on two creativity tasks; however, those gains were not maintained at two-month follow-up. This lack of sustained gains

suggests a need to further examine dosage (number of session), duration (session length), and the need for consistent messaging across home, school, and the Art Center (see Hoffmann, Ivcevic & Maliakkal, 2020 for further discussion).

Art-based activities proved viable as a vehicle teaching emotional intelligence and creativity skills

Similarly, sixty-six adults were recruited from the Santander, Spain community to participate in study of the adult course. The course did not have an effect on the emotion understanding skills of those who participated. As noted in the publication of this study (Hoffmann, Ivcevic, & Malikkal, 2018), this result may have been due to a discrepancy between skills practiced in the course (i.e. understanding their own emotions) and the skills measured by the assessment (i.e. understanding the emotions of others). Participants in the course did however report engaging in significantly more creative behaviors after being in the course, and this effect was maintained at the two-month follow-up. The most notable improvement was that adults who took the course provided significantly more original responses on a problem finding task (e.g. You find yourself in a foreign city and need to find dinner. Restate the problem as many ways as possible starting with 'How can I...'). This effect on problem finding originality was the strongest at the two-month follow-up. This finding fits nicely with the fact that the course had a heavy focus on problem finding, and articulating those problems through the use of visual art.

CONCLUSIONS

The successful development and application of four courses on emotional intelligence and creativity, through the visual arts at the Botin Center, lead to several important conclusions. For one, art-based activities proved viable as a vehicle for teaching emotional intelligence and

creativity skills. Demonstrating that creativity skills can be improved is important, since people who believe their creativity can be improved tend to have higher confidence in their ability to think creatively, and solve problems more creatively (Karwowski, 2014; O'Connor, Nemeth, & Akutsu, 2013). Moreover, not only are Art Centers perfectly poised to provide such educational opportunities to the community, but in doing so, may create a more engaged citizenship, and one with higher potential for innovation and empathy (Ivcevic, Maliakkal, & The Botin Foundation, 2016; Kou, Konrath, & Goldstein, 2019). By showing people a new way to engage with the visual arts, through reflection and self-exploration, visitors begin to realize that Art Centers are a place to think, to connect, to gain perspective, and to problem-solve.

TABLE 1.
Targeted Skills for each Course

	Target Skill	Child Course	Adolescent Course	Adult Course	Family Course
EMOTIONAL INTELLIGENCE	Perceiving emotions	✓			
	Using emotions	✓	✓	✓	
	Understanding emotions	✓	✓	✓	✓
	Regulating emotions				✓
CREATIVITY	Problem finding	✓		✓	
	Idea generation	✓	✓	✓	✓
	Idea evaluation		✓		✓

FIGURE 1

Techniques for practicing creativity and emotional intelligence skills

CREATIVITY TECHNIQUES

EMOTION TECHNIQUES

Thinking unconventionally

Associative thinking

Revisiting creative decisions

Perspectice shifting

Exploration

Delaying judgement

Art observation

Accessing emotional memories

Using symbol/metaphor

Role-playing

Art-making

Self-reflection

Journaling

Positive reappraisal

Relaxation

Building an emotional vocabulary

Label and track emotions

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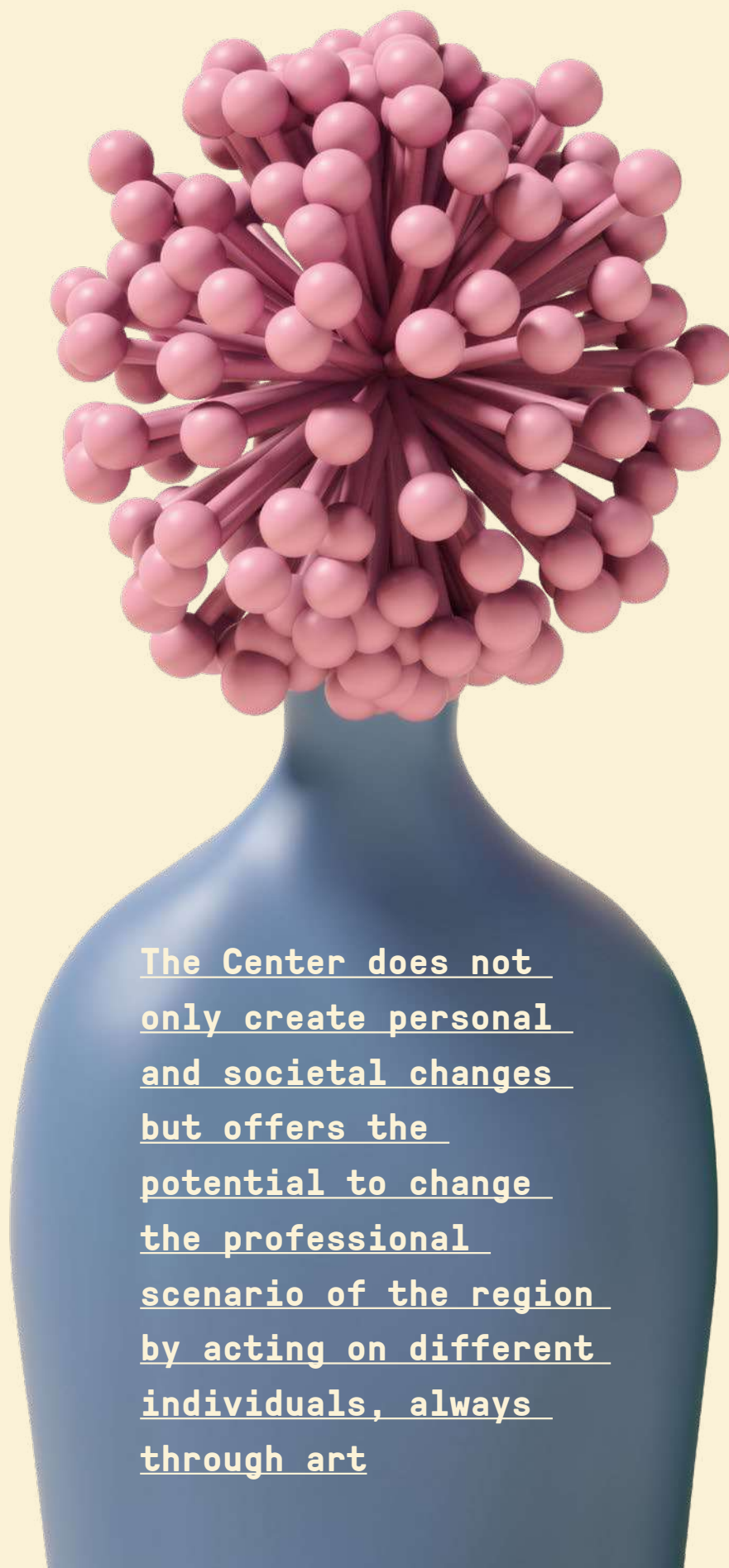
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The Center does not only create personal and societal changes but offers the potential to change the professional scenario of the region by acting on different individuals, always through art

CENTRO BOTÍN

And its influence on creativity and social change

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The Botín Center opened its doors on June 23, 2017 in Santander (Spain) and it´s the most important project of the Botín Foundation. The Botín Center is an art center that offers different activities intrinsically linked to the development of creativity, skills and the talent of its visitors, as illustrated in their mission statement: "The Botín Center is a center of art that aims to generate social development and wealth taking advantage of the potential of the arts to awaken creative capacity". The activities offered include not only traditional art exhibitions, but a whole range of cultural activities around the Center in the form of guided experiential visits, concerts, dance, theatre plays, film screenings, workshops and courses. Although the Botín Foundation has been actively participating and impacting on the artistic and cultural scene in Santander for many years already, the opening of the Botín Center in an impressive building designed by Renzo Piano, motivated the need to understand the impact these cultural activities may have on those who were visiting the Center.

The Botín Center's mission is to develop and foster creativity in the region. This mission locates the Center as a catalyzer between visitors and the region, being the vehicle to enhance the ecosystem in which creativity could emerge and flourish. As Sen (1999) and Nussbaum (2011)but so does the percentage of its people deprived of basic education, health care, and other opportunities, is that country really making progress? If we rely on conventional economic indicators, can we ever grasp how the worldâe(tm propose, the mission of museums and art centers should be intrinsically linked to the improvement of social welfare and the reduction of inequality. According to Amartya Sen, a "good society" is one formed by individuals with the freedom of action and of sufficient thought to choose which capacities they wish to develop to improve their well-being. Likewise, individual development becomes determined not only by economic indicators but also by social, relational and context indicators. Cultural activities, such as those developed in the Botín Center are recognized as engines of human development, understanding within this concept the improvement of people's well-being. Creative and cultural industries such as the one created in Santander by the Botín Center can be considered as "dynamic sources of innovation, growth and structural change in the new economy" (Throsby, 1994) where arts and culture have the potential to improve society.

The Botín Center, as an essential agent of the regional cultural scene, has the possibility of promoting the development of innovation and creativity, as well as the promotion of learning through shared experiences. The center with its exhibitions and activities, functions as a facilitator of peoples' capacity development, turning them into "active citizens", both inside and outside the art center, and making people capable of acting more freely, in a more creative way.

The study seeks to analyze how social creativity of visitors of the Botín Center develops based on the accumulation of the different experiences offered by the Center

The impact of art on people is not easy to measure, as it is subjective and generates dynamic processes of growth, making difficult to separate cause from effect (Landry, Bianchini, Maguire, & Worpole, 1993). The goal of this research was to understand the potential impact of art on its visitor. To investigate this, we used Garnet's (2002) framework, which identifies four distinct types of impacts of museums and art centers: personal, social, political and economic benefits. The private benefits, which are identified with Garnet's social benefits, are those related to the satisfaction produced by the aesthetic pleasure derived from art, as well as the development of abilities such as creativity and problem solving. We further draw on the work of Matarasso (1997) "The social impact of participation in the arts" which analyzes in a structured way these multiple social impacts derived from the individual or group participation in activities related to art. The classification of social effects of Matarasso allows us to evaluate the impact of activities at Centro Botín on visitors and their social lives. Questions on well-being, identity, social cohesion and personal development would frame the myriad of social impacts.

However, the effect of artistical activities and the development of innovation and creativity is not created overnight. The impact is dependent on exposure to these activities. A single visit to an art center will have limited effects on the behavior of individuals, while an increase in visits generates an increase in the frequency and intensity of the experience, and thus the impact

on the person, as explained by Csikszentmihalyi (1997). Creativity and the taste for creative and cultural activities develops through the frequency and intensity of participation and therefore, social impact depends on the frequency and intensity of access to cultural activities at the Botín Center, as predicted also by Becker & Murphy's Theory of Rational Addiction (2002). In this way, social impact, in the form of creativity, would behave as a learning process that grows in intensity with the number of visits to the art center, as proposed by Lévy-Garboua & Montmarquette (2002).

VISITING THE BOTÍN CENTER

Within this frame, the study seeks to analyze how social creativity of visitors of the Botín Center develops based on the accumulation of the different experiences offered by the Center. We understand by social creativity the process by which visitors to the Center accumulate experiences that allow them to change their perspective on reality, and thus, implement changes in aspects of their personal and / or professional life in order to improve their personal well-being and in the surrounding environment.

With the intention of developing an exploratory analysis on the impact of the visits to the Botín Center, we developed an online survey that included questions on sociodemographic information, previous exposure to cultural activities and cultural habits, and the perception of the different activities run by the Botín Center, based on Matarasso's lists of social impacts. This survey was launched in March 2019.

The Botín Center offers a broad loyalty program by which all the residents in the Cantabria region have the possibility to freely access the Center's exhibitions. There are other types of loyalty program schemes, called Amigos, by which depending on the age and fee, alternative activities and preferential and free access to the exhibitions as well as other provided. The survey was launched to all of these schemes, finally collecting 2,852

valid answers. This survey data offers an incredible opportunity to understand the impact created on visitors by participating in the Botín Center's activities.

The survey respondents, holders of different types of loyalty cards, were mainly residents in Santander or Cantabria, the majority of the them with either secondary or undergraduate studies as their highest educational level. Both men and women were equally represented in the sample, as well as working and retired participants. Although the mean age was around 54 years old, most of them were ranging between 36 and 65 years old. Participants showed a very active cultural life and attended exhibitions and cinema screenings quite frequently. Around 55% of participants had visited the Botín Center more than four times since its opening. From all the activities run in the Botín Center, a vast majority of participants had attended art exhibitions (90%), followed by concerts (30%). The remaining activities organized in the art center such as commented tours, experienced tours, dance and theatre plays, cinema projections, workshops and courses were less popular.

Participants were asked to confirm or deny whether visiting the center had had an impact on themselves for different aspects of social creativity. Half of them reported they had learnt how to value art better and that it had changed the lenses with which saw reality, 40% learnt to understand better the artistic process, 15% to channel their emotions towards more artistic actions, and close to 10% to use creativity in their daily life and in their professional life (see graph 1). The changes in seeing art differently and providing an alternative point of view for reality are particularly powerful instruments to see the effects of the visits to the Botín Center. It is also very interesting to see the incipient effect on professional changes, as the programs organized at the Botín Center are not intended to directly change this sphere of the participants' life.

In order to delve deeper into the potential impact of participation in the activities run at the Botín Center, the survey also asked questions on different aspects underpinning creativity development, such as the enjoyment of the experience, exploring new ideas, impact on well-being,

GRAPH 1

Answers to the different self-assessment questions on the impact of exposure to art.
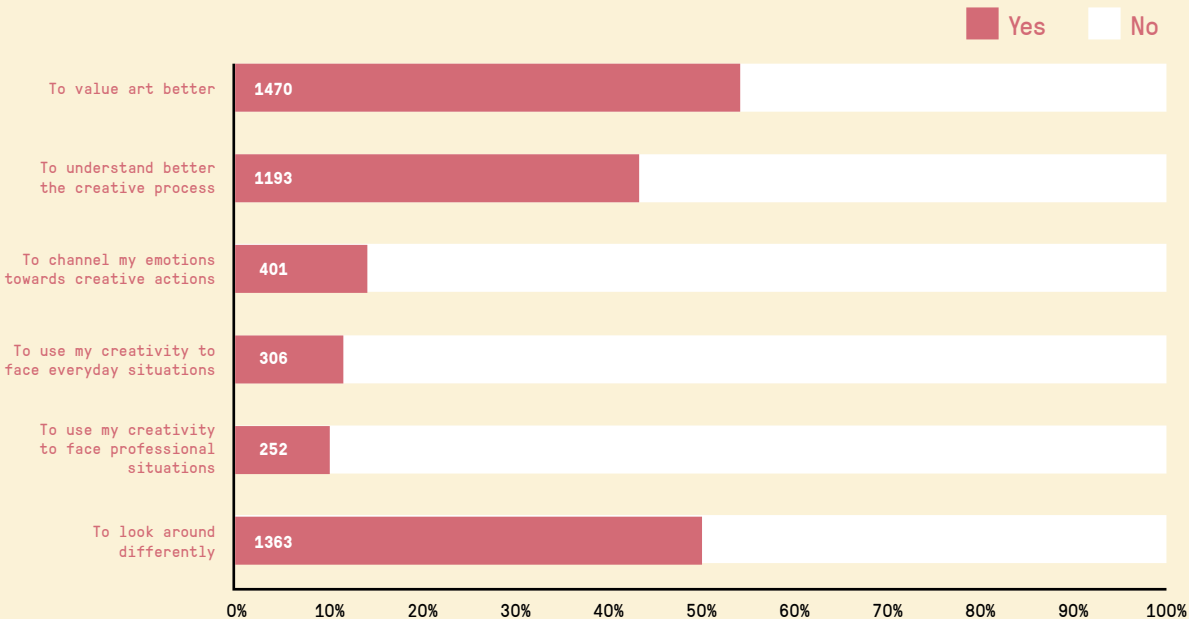
professional changes, proudness of Santander, meeting new friends, and interest of future activities at the Center. Although these categories are not asking directly about creativity, they do set the field to understand the social impact of creative activities.
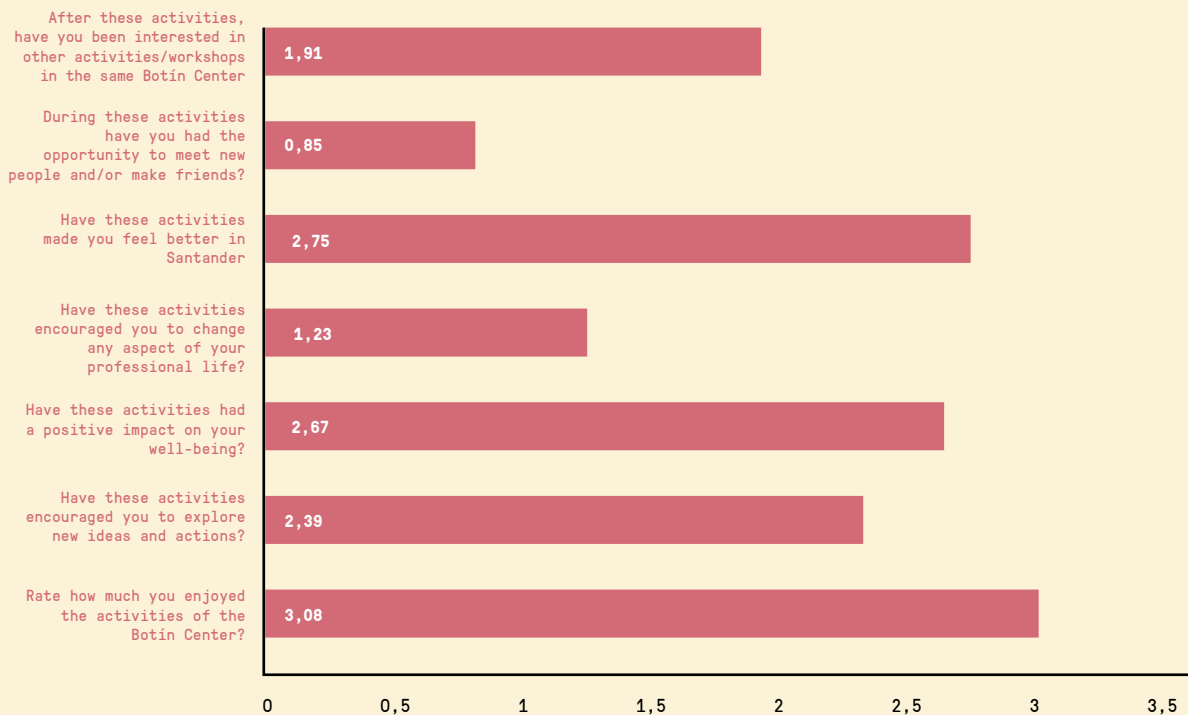
These answers show how participants valued the activities at the art center highly (i.e., on average over 3 on a scale with a maximum of 4), and consider that they have made them to feel better in Santander, have had a positive impact on their well-being and have pushed them to explore new ideas (see graph 2). These activities though have limited impact on peoples' professional life and on the possibility of making new friends. All these elements provide evidence to show that participation in the arts, more particularly in the Botín Center, offers wide and valuable benefits to participants, and most likely to the community they relate to.

However, the learning process in this behavior is very relevant, and so, it is necessary to see the evolution of these outcomes according to the number of visits. In order to measure this impact in an aggregate form, we average these seven variables into one, named social creativity, in order to understand the global effect, and find the scores depending on the number of visits.

Graph 3 shows how this social creativity proxy increases with the number of visits. As the number of visits in the survey is limited to five or more, we can see how the experience of participation seems to be different for those who had visited the Botín Center at different frequencies (one visit, two visits, etc.). The results confirm that social creativity is related to the number of visits. Additional visits to the Botín Center are linked to higher levels of social creativity.

GRAPH 2

Assessment of the average impact on various aspects of creativity perceived by visitors of the Botín Center

After these activities, have you been interested in other activities/workshops in the same Botín Center	1,91
During these activities have you had the opportunity to meet new people and/or make friends?	0,85
Have these activities made you feel better in Santander	2,75
Have these activities encouraged you to change any aspect of your professional life?	1,23
Have these activities had a positive impact on your well-being?	2,67
Have these activities encouraged you to explore new ideas and actions?	2,39
Rate how much you enjoyed the activities of the Botín Center?	3,08

GRAPH 3

Social creativity by the number of visits since its opening.
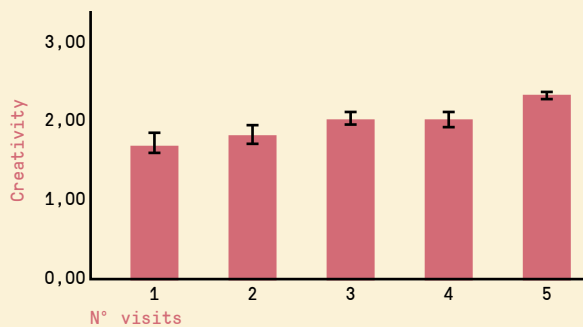
When disaggregating the social creativity element into the different variables, the trend on all of them is very similar (graph 4). When it comes to 'enjoyment of the activities', we can see how from the first visit to the Botín Center, the effect on enjoyment grows steadily. From the fifth visit on, visitors of the Botín Center report enjoyment above the level of 3 (being 4 the maximum).
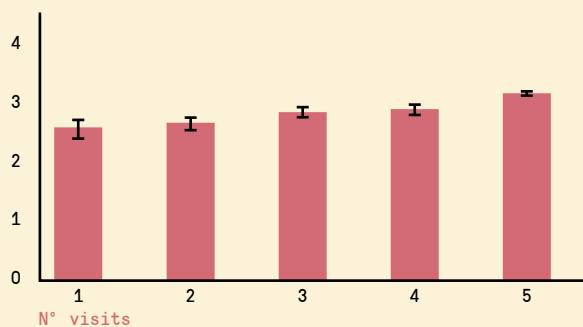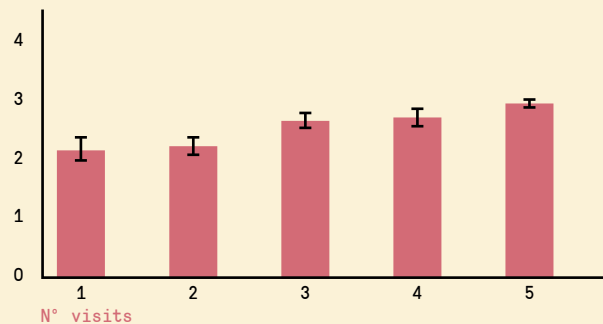
GRAPH 4

Answers to the question "how much have you enjoyed the activities of the Botín Center" by the number of visits since its opening.

One of the most interesting outcomes is the effect of the Botin Center on 'city proudness' (see graph 5. The visits to the Botín Center are closely related to the enjoyment and pride of the city of Santander. From the first visit to the Botín Center, the effect on pride of the city grows steadily with the number of visits. This element reaches very high levels, almost 3, from the fifth visit onwards.

GRAPH 5

Answers to the question "Have the Botín Center activities made you feel better in Santander?" by the number of visits since its opening.

Along the same lines, the visits to the Botín Center are closely related to the development of new ideas (see graph 6). From the first visit to the Botín Center, the effect on the possibility of exploring new ideas grows steadily with the number of visits.

GRAPH 6

Answers to the question "Through the activities of the Botín Center, have you been encouraged to explore new ideas and activities?" by the number of visits since its opening.
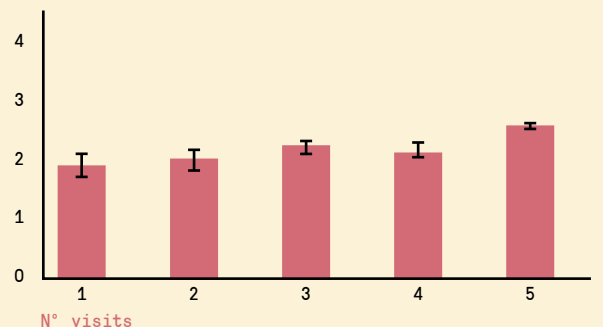
The activities of the Center have a low impact on the development of friendships (graph 7). However, from the first visit to the Botín Center, the possibility of meeting people and making friends grows with the number of visits.

GRAPH 7
Answer to the question "During the Botín Center activities, have you had the chance to meet new people and / or make new friends?" By the number of visits since its opening.

N° visits

Similarly, despite having a small impact on participants' professional lives, from the first visit to the Botín Center, the impact on the professional life of visitors grows with the number of visits (see graph 8).

GRAPH 8
Answers to the question "Through the activities of the Botín Center, have you been encouraged to change some aspect of your professional life?" by the number of visits since its opening.

N° visits

Finally, the level of well-being increases steadily from the first visit to the Botín Center with an average of around 2 for the first visit (see graph 9). As of the fifth visit, well-being reaches a level of 3 out of 4, which implies a growth of almost 20% in the well-being generated from the first to the fifth visit.
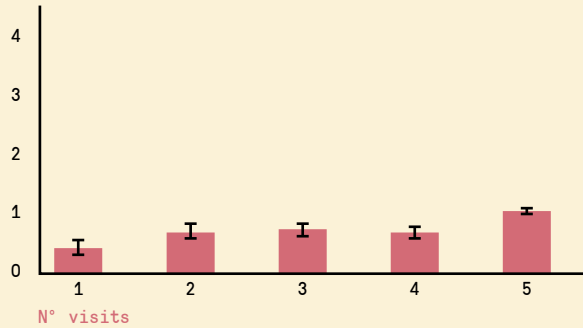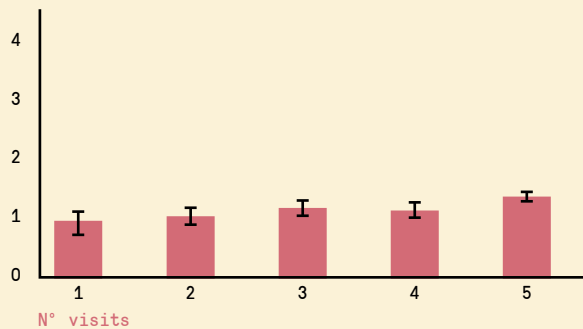
GRAPH 9
Answer to the question "Have the activities of the Botín Center had a positive impact on your well-being?" by the number of visits since its opening.
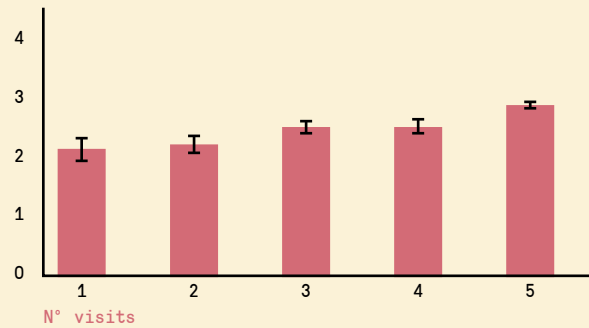
N° visits

The interest in the activities by the Botín Center increases steadily with the number of visits (see graph 10). While among those who visit only once the interest is relatively low, with the number of visits, the interest reaches the midpoint of the scale, 2.

GRAPH 10
Answers to the question "After the activities of the Botín Center, have you been interested in other activities carried out in the Botín Center?" by the number of visits since its opening.
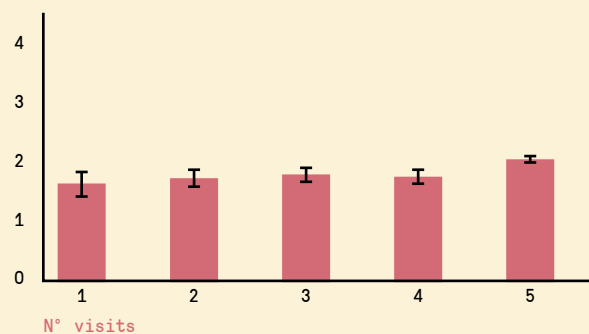
N° visits

CONCLUSIONS

From the detailed analysis of the different aspects that influence the visitors of the Botín Center after participating in its activities, it can be seen that visits to the Botín Center have a strong impact, 1) on the pride of belonging to the city of Santander, 2) on well-being of the participants and 3) on the possibility of exploring new ideas in their daily lives. In the same way, the number of visits seem to have a limited but interesting effect on professional life and the possibility of making new friends.

The results of this analysis, although exploratory in nature, show the link between the artistic activities developed at the Botín Center in participants' social creativity. The Center, via the interaction and participation in art, has direct effects on participants' creativity and well-being. This sense of pride and belonging shown in the survey indicates the importance of the Botín Center, and art in general, as catalyzers of these developments.

The Botín Center shows how art centers and museums can be vehicles of cultural transmission and personal transformation, as well as create capabilities and identities around the cultural infrastructure. The Center does not only create personal and societal changes but offers the potential to change the professional scenario of the region by acting on different individuals, always through art. The promotion of innovation through art and creativity is a potential side effect that the region could experience in the long term. Creativity is defined not only as the activation of curiosity or the ability to create, but also as the baseline for stimulating personal changes and authenticity, as well as well-being of participants that could enhance this ability to create.

However, creativity and the social impact of art need to be seen as a long-term venture. It is hard to see or make personal changes happening just after one visit. These changes require longer exposures to art and diversity of art. Art as an experiential good requires several visits, and probably alternative types of exposure, to the art center and its exhibitions and other activities to activate participants' personal changes in innovation. Therefore, the benefits of art exposure are linked to participation. In line with Becker and Murphy's approach, art and its effect become to experience the process of a rational addiction (Becker and Murphy, 2002), by which participants engage in the learning and change process and an active role on them.

The Botín Center has been able to engage its visitors in a process of change towards creativity and social change. The consequences of these changes will be seen in the future, but individual effects of it are already visible and are linked to the unique role of the Center in becoming an active catalyst for societal transformation through art and culture.

See the full report at www.centrobotin.org

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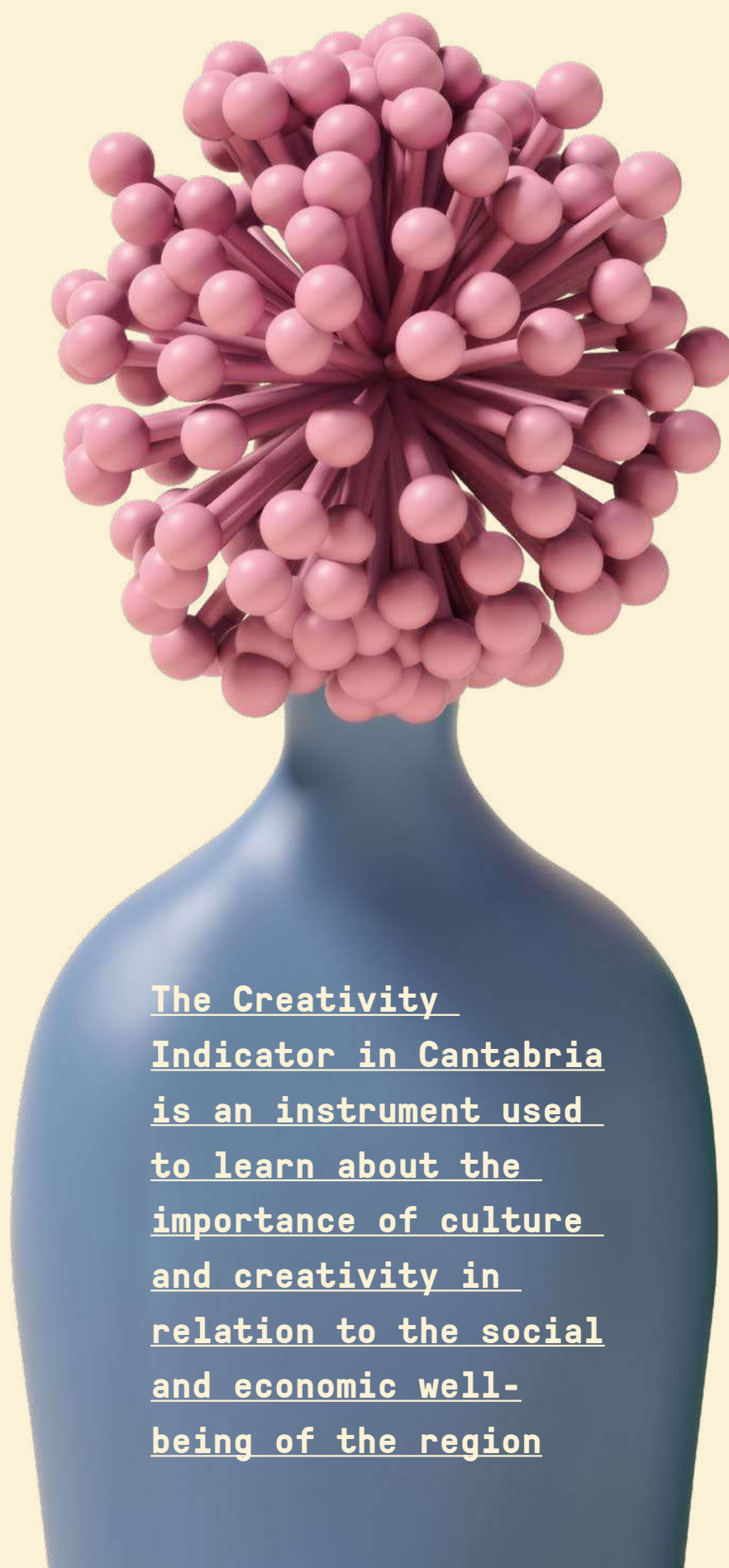
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The Creativity Indicator in Cantabria is an instrument used to learn about the importance of culture and creativity in relation to the social and economic well-being of the region

CREATIVITY INDICATOR IN CANTABRIA:

How important is the creative sector in the region?

Patricia Gabaldón

IE University, Madrid, Spain

Within the framework of collaboration between Fundación IE and Fundación Botín to learn about the impact of arts on the development of creativity, specifically the impact of the artistic and cultural programmes of Centro Botín, the purpose of the latest research conducted is to build a specific indicator for measuring creativity in Cantabria.

The Centro Botín's social mission is to take advantage of the capacity of the arts to develop creativity and contribute to generating economic and social wealth, so this indicator allows to know the current situation and recent evolution of the creative sector in Cantabria, in addition to making measurements in the medium- and long-term, which are essential for monitoring that mission.

The Creativity Indicator in Cantabria is an instrument used to learn about the importance of culture and creativity in relation to the social and economic well-being of the region. This indicator has been designed within the study to help identify the strengths and opportunities of the creativity industry in all regions and to compare various autonomous regions of Spain by using quantitative supply and demand data on the contribution from creativity and culture (consult the complete study at www.centrobotin.org). Measuring creativity requires multidisciplinary indicators, which can include not only the economic value of the industries that provide cre-

ativity but also indicators on use and enjoyment by the inhabitants of a region and by visitors.

The contribution made by creativity and culture to a region is consequently considered from a multidisciplinary perspective. This indicator therefore offers aggregate information that can be compared with other Spanish regions, in addition to structured information that allows learning about the contribution by each aspect separately.

Table 1 shows the various aspects that are included in the indicator. Each one of the sub-indicators is compared to the national average. They take a value of 1 when they are above the average and a value of 0 when they are below. The final indicator is composed of the percentage of these indicators that are above the national average.

Graph 1 shows the evolution of the *Creativity Indicator of Cantabria* In 2015, 24% of the indicators exceeded the average of Spain, and in 2019 the percentage rose to 39.5%.

Upon analysing how the Creativity Indicator in Cantabria is broken down in 2019, it can be seen in **graph 2** how each one of the sub-indicators (Artistic and recreational activities, Scientific and innovative activities, Cultural and creative consumption, Cultural life and Cultural infrastructure) behaves differently. All the indicators

related to artistic and recreational activities are positioned above the national average. On the other hand, the concentration in innovation and scientific activities, the quantity of cultural infrastructure per capita, the cultural and creative consumption and cultural life are below the national average and tend to drag down Cantabria's total score.

The results obtained from the first measurements of this new indicator show how the creative sector in Cantabria has grown considerably in recent years. Even though the region is still below the national average in creative initiative,

its positive evolution is very notable. In Cantabria, the cultural and creative sector represents a great contribution to the regional economy, not only in the form of value added but also in employment and investment. However, despite the fact that the industry of innovation is not one of the region's strengths, the importance and stability of the entrepreneurial presence is notable. Both the creative consumption and the cultural and creative habits of residents in Cantabria, as well as the cultural infrastructure, show certain signs of recent reactivation, although below the Spanish average.

FIGURES

Table 1.
Description of information sources used in each sub-indicator. Source: own compilation.
Source: own compilation

ARTISTIC AND RECREATIONAL ACTIVITIES	SCIENTIFIC AND INNOVATIVE ACTIVITIES	CULTURAL AND CREATIVE CONSUMPTION	CULTURAL LIFE	CULTURAL INFRASTRUCTURE
Supply	Supply	Demand	Demand	Supply
It includes the annual economic weight of artistic and recreational activities (R-U NACE Rev. 2) with respect to the entire economic activity of the region.	It includes the annual economic weight of scientific and innovative activities (M-N NACE Rev. 2) with respect to the entire economic activity of the region.	It records the average annual expenditure per family on cultural goods and services, in addition to that expenditure on mandatory and higher education.	It includes the annual participation of the population in cultural activities such as museums, plays or exhibitions during the last year.	It records the cultural infrastructure and offer that exist in the region, relative to its population
The variables that it includes are: Gross Value Added (GVA) Workers Income Gross Fixed-Capital Formation (GFCF)	The variables that it includes are: Gross Value Added (GVA) Workers Income Gross Fixed-Capital Formation (GFCF) Total Entrepreneurial Activity (TEA)	The variables that it includes are: Consumption of cultural goods Consumption of cultural services Expenditure on mandatory education Expenditure on higher education	The variables that it includes are: Attendance at museums Attendance at performing arts shows Attendance at theatre plays Attendance at dance shows Attendance at concerts Attendance at the cinema	The variables that it includes are: Cinema screens Theatre representations Concerts Dance events Museums

GVA: Gross Value Added: Value in the form of creation of goods and services from each industry, sector or country. The gross value added indicator shows the contribution to production processes (value added) by the producers of a region, while deducting intermediate consumption and taxes.
Gross Fixed-Capital Formation: The value of fixed assets acquired or produced in a certain period of time by various sectors, areas or industries.
TEA: Total Entrepreneurial Activity: Percentage of the population between 18 and 64 years of age who are entrepreneurs or who have created a new enterprise.

Chart 1

Evolution of the Creativity Indicator in Cantabria (unit: percentage).

Source: own compilation
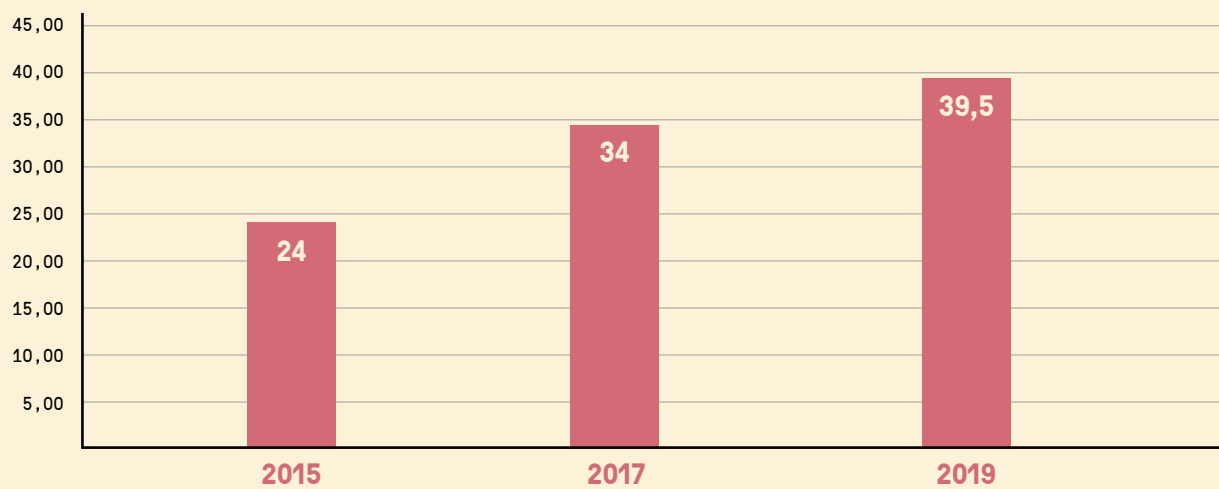
Chart 2

2019 Creativity Indicator in Cantabria broken down by activity.

Source: own compilation
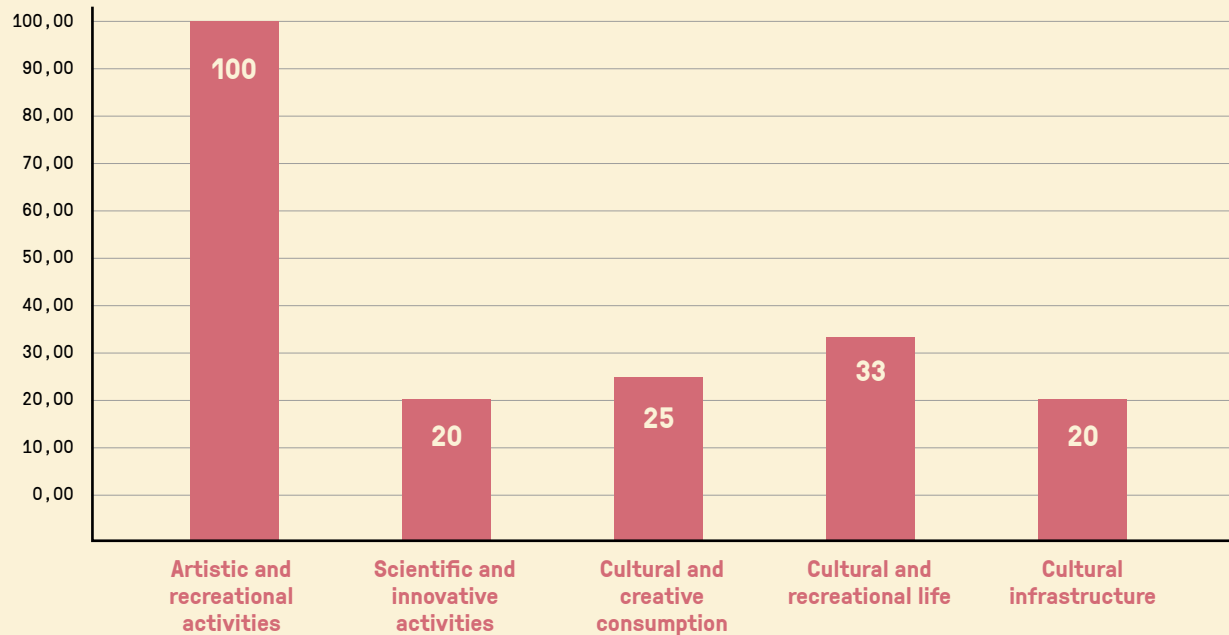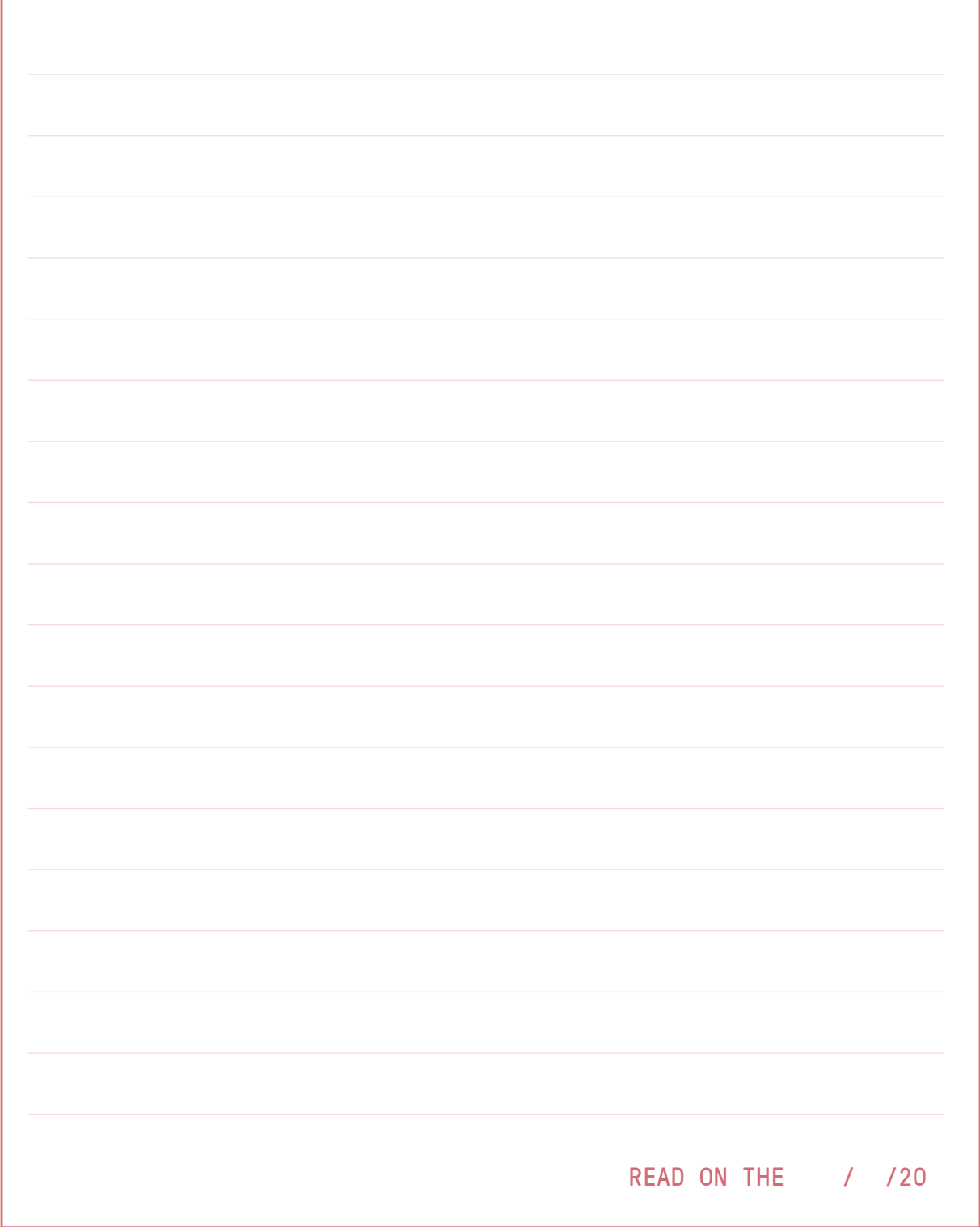
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That art experience is a complex emotional experience that can have lasting benefits when we return from the gallery to our everyday lives

HOW CAN ENGAGEMENT IN THE ARTS AFFECT OUR EMOTIONAL LIVES?

Eva Specker and Matthew Pelowski

University of Vienna, Austria

"The arts have an incredible potential for expanding interconnectedness, for reaching people, touching them, and increasing empathy and compassion in the world"
Olafur Eliasson

One major reason why many people enjoy visiting museums and engaging with artworks is that art can inspire strong emotions in us. Art can make us happy or excited, and it can make us recognize, appreciate, or feel sadness, loneliness, and melancholy. Art is often connected, increasingly so in recent research, to profound states such as awe, wonder, and the Sublime.

When we think of these emotional experiences with artworks, we may be drawn to memories of us standing alone before an artwork and being intensely moved. These experiences may be mainly individual, where the viewer is alone with the artwork. In contrast, when we think of emotions in everyday life, it becomes clear that we often share emotions. We cheer together in stadiums when our favorite sports team wins and friends give each other shoulders to cry on. At first glance this seems like a contrast: a rather internal aesthetic emotional experience on the one hand, and a shared social emotional experience in everyday life.

But, we think otherwise, we believe that art can serve as a communication tool to express feel-ings and thoughts, as well as to deliver messages, that are difficult to articulate in other ways, such as face-to-face or verbally (see also, Fraser & al Sayah, 2011). People seem to be connecting and communicating through the artwork. It is this emotional impact of art that is the focus of our chapter.

HOW CAN EMOTIONS BE SHARED THROUGH ART?

As the artist Eugène Delacroix (in Goldwater & Treves, 1958, p. 230) put it: an artwork is a "bridge between the mind of the [artist] and that of the spectator."

But, how does this work? What does such a bridge look like? Before diving into a detailed discussion of the studies we did in this direction, it is worth taking one step back and talking about some of the arguments around this topic:

First, we would note that recent models have suggested the importance of the presence and acts of the artist, specifically, The Mirror Model of Art (Tinio, 2013). This model proposes that artistic creation and aesthetic reception "mirror" each other. Though a full explanation of the model is outside of the scope of the current chapter, the connection that is made between the creation and reception process is not only an extension of the Mirror Model on previous models that have only focused on either the perception or creation

side, but also offers a gateway to understanding how emotion sharing can happen through art. Though the artist is not physically present, they are present in the artwork and so the artwork acts as a communication tool through which the artist and the viewer can share an emotional experience. Theoretically, there are in turn several options, which range in their intentionality, whereby artist and viewer might connect.

Though the artist is not physically present, they are present in the artwork and so the artwork acts as a communication tool through which the artist and the viewer can share an emotional experience

EMOTION SHARING AND EMPATHY

1 **Starting from a perspective of the artist explicitly trying to communicate emotions through their art**
   In this option, the assumption is that viewers can guess what emotions the artist is trying to convey. This represents a rather cognitive approach and is grounded in the idea that there are certain signs in artworks (e.g., people smiling) which the viewer can "read" as the artwork portraying a happy emotion. As such, the viewer is able to "read" the artists intentions (see also Gombrich & Saw, 1962, for an art historical argument). Though this can be paired with the viewer also feeling the emotion portrayed (e.g. happy) in the artwork, this not necessarily has to be the case. We can recognize emotions in others (or in art) without necessarily feeling the same. This is what is classically called *cognitive empathy*: the ability to recognize emotions in others.

2 **Starting from a perspective of the artist trying to make the audience feel certain emotions**

In this option, the assumption is that an artist can make the audience feel the desired emotions through their art. Much like the previous case, this does not necessarily mean that the viewer can also guess which emotion(s) the artist wants to communicate. The idea would just be that the audience feels the emotion(s) that the artist wants them to feel. This would typically be called *emotional empathy*: the ability to feel into someone or something else.

3 **Assuming a parallel process to emotion sharing in everyday life**
   In this option, the assumption is that artists and viewers spontaneously share emotions, much like people cheering together in a stadium. This is generally referred to as *emotion sharing*.

None of these three options is exclusive, rather, they represent different kinds of emotional processes. The first two both require intentionality, on both the part of the artist as well as the viewer: the artist must try to communicate an emotion and the viewer must try to pick up this emotion, either cognitively (first option) or emotionally (second option). The third is spontaneous emotion sharing and lacks intentionality. It does not require the artist to try to communicate emotion nor of the viewer to try to pick up this emotion, it assumes that people will spontaneously do this without conscious effort or awareness. As noted, these three processes are not exclusive, but rather are complementary emotional processes. We know these differing processes happen when people interact with other people. Now, we propose that they also happen when people interact with other people through art.

PUTTING IT TO THE TEST

We tested this idea in Pelowski, Specker, et al. (2020). Though we were definitely not the first to propose the possibility for emotion sharing through art, nor the first to attempt to test it—

though only a few brave souls have attempted this task, see Kozbelt (2006)—our study can be considered as the first adequate test of this idea due to several limitations of previous work such as not including the artist in the design (all limitations outlined in detail in Pelowski, Specker, et al., 2020). We wanted to investigate the three main options outlined above: 1) Can viewers guess which emotion the artist wants to communicate?, 2) Do viewers feel the emotions the artist wants them to feel?, and 3) Do viewer and artist spontaneously share emotions?

To test this, we asked three Master of Fine Arts (MFA) students of Florida State University (1 male, 2 female) to create one installation piece for a designated gallery space. When they finished the creation of the artwork, they filled out questionnaires on their own felt emotional experience when producing their artworks. Furthermore, they were also asked to identify which emotions they wanted the audience to feel. The artists reported different emotional intentions for their artworks. Artwork 1's artist suggested that they wanted others to feel happy, absorbed, moved, and awe. Artwork 2's artist noted stimulated, absorbed, moved, as well as anxiety, self-awareness, sense of being overwhelmed, chills, need to leave, loss of awareness, and shock. Artwork 3's artist noted a desired loss of awareness and a sense of brightness.

Afterwards all installation pieces were exhibited in the gallery space. During the exhibition, volunteers (37 in total) were recruited that reported on their felt emotions while interacting with the pieces, as well as their understanding of the artists intentions using the same questionnaire as was used to assess the artists. This procedure made it possible for us to match and compare the emotional experience of the artist to that of the viewer.

**1   Can viewers guess which emotion the artist wants to communicate?**
Yes! We assessed if viewers were able to correctly guess the emotions the artist tried to convey. As a first descriptive look at the data we looked at how often viewers guessed correctly: in this case meaning that both the artist and viewer indicated that the emotion was intended as well as that both the artist and the viewer indicated that the emotion was not intended. This led to a correct guess rate of 89.4% for Artwork 1, 73.4% for Artwork 2, and 89.6% for Artwork 3. To assess this statistically we used a sensitivity index (d') derived from signal detection theory, for each artwork and for each viewer. This measure (e.g., Dubal et al., 2014) accounts for participant differences in tendency to use "yes/no" as well as for differences in the number of artist-identified emotions between artworks. A d' score of 0 would represent total random guessing, meaning that a higher d' would indicate being better at guessing the artist intention. This analysis showed that viewers were good at guessing which emotions the artist tried to convey: mean d' for Artwork 1 = .78, mean d' for Artwork 2= .62, and mean d' for Artwork 3 = .63.

2   Do viewers feel the emotions the artist wants them to feel?
Yes! We assessed if viewers also felt the emotions the artist intended, apart from being able to guess the intended emotion. To do this we created an index of the magnitude of felt emotion (combined mean) for artist intended and artist not intended emotions per artwork. The results are illustrated in Figure 1. As can be seen, for Artwork 1 and 2 viewers felt intended emotions more than not intended emotions, however, for Artwork 3 this is not the case. This also nicely shows that being able to recognize an emotion does not mean that you also feel the emotion, since we know from the previous analysis that viewers were able to correctly guess the intended emotion of Artwork 3. Most likely, this suggests that making viewers actually feel emotions is rather hard to do and may be a marker of artwork quality.

GRAPH 1
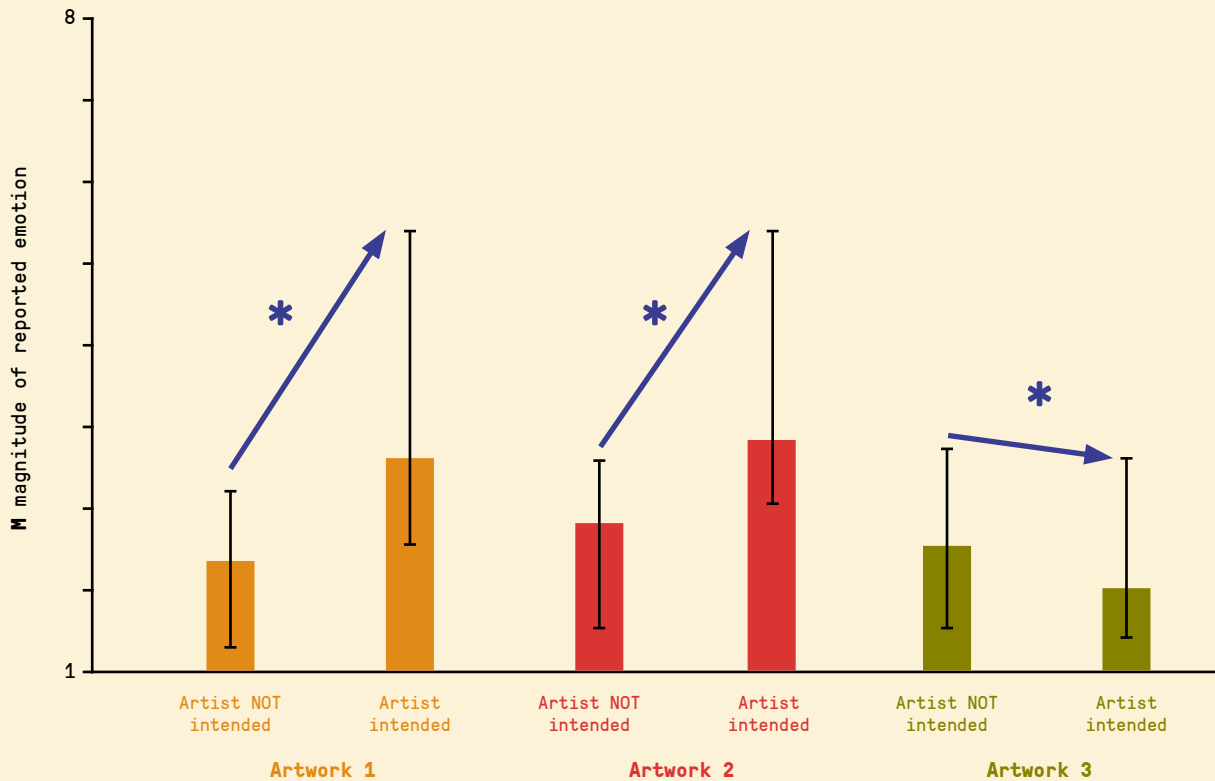
3 Do viewer and artist spontaneously share emotions?

Yes! We assessed if besides being able to recognize and feel the intended emotions, viewers also spontaneously shared emotions with the artist. To do this we correlated the artists felt emotions while making the art with the viewers felt emotions while viewing the art as a proxy for similarity of emotional experience. This showed significant correlations for Artwork 1 (r=.574) and Artwork 2 (r=.378), and a smaller, non-significant correlation for Artwork 3 (r=.300). This indicates that artists and viewers most certainly spontaneously share emotions through artworks, however, it also shows that the degree to which artist and viewer share emotions depends on the artwork, which, again, may be a marker of artwork quality.

In general, our findings show that all three emotional processes happen when viewers are looking at art: viewers can recognize the emotions artists are trying to portray, viewers feel the emotions that artists are trying to make them feel more than other emotions, and viewers and artists spontaneously share emotions through art.

WHAT ABOUT PROFESSIONAL ARTISTS?

One caveat to our study is that the art used was made by art students rather than by professional artists, and therefore of lower quality than art shown in big museums or renowned galleries. This may make the art "too obvious" in its emotional intention which could mean that our findings would not be generalizable to a "real" museum setting. For this reason, we set out to repeat our experiment in a world-renowned setting: the Venice Biennale.

In this study (Pelowski, Specker, et al. 2022) we used three artworks exhibited in the Italian Pavilion of the Venice Biennale in 2017. Unfortunately, we did not have access to the artists for
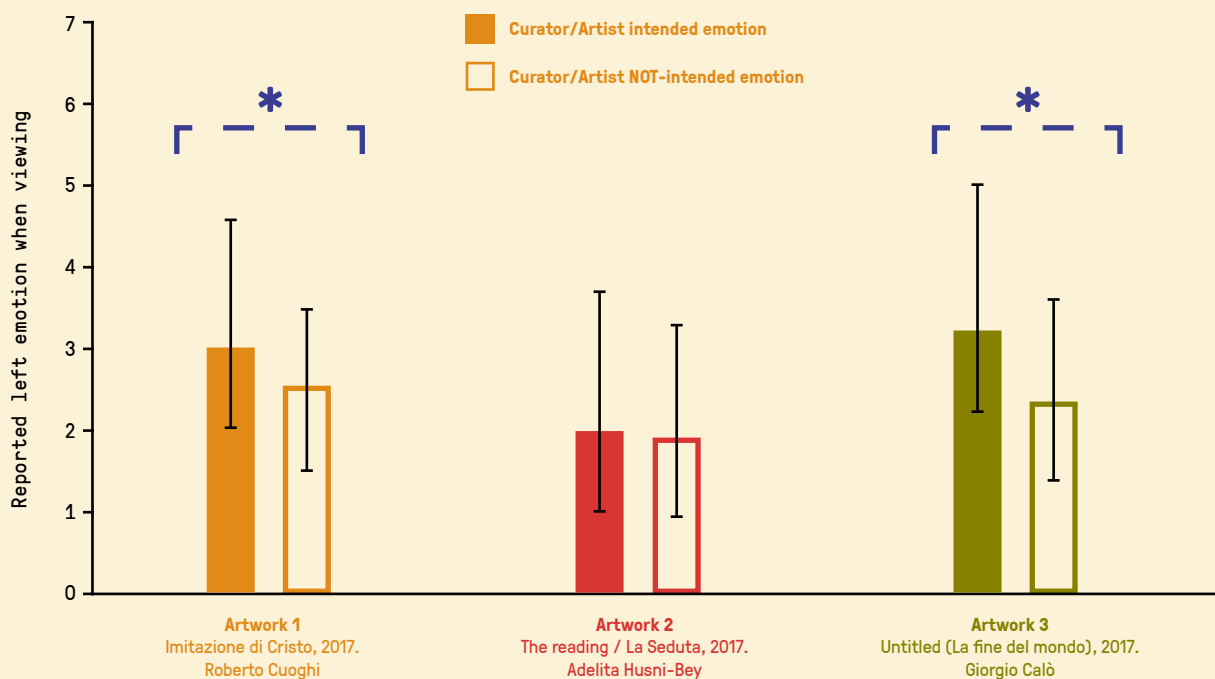
this study and, therefore, did not assess spontaneous emotion sharing. However, all three works— created by Giorgio Andreotta Calò, Roberto Cuoghi, and Adelita Husni-Bey—were commissioned for the Biennale to fit within a larger theme created by the curator (Cecilia Alemani). The exhibition was titled "Il Mondo Magico" (The Magical World), after a book with the same title by Ernesto de Martino, and had an overarching theme of magic and imagination. As written by Alemani (Biennale website: https://www.labiennale.org/en/art/2017/italian-pavilion): "For the invited artists, magic is not an escape into the depths of irrationality but rather a new way of experiencing reality: it is a tool for inhabiting the world in all its richness and multiplicity. [...] Like the rituals described by Ernesto de Martino, the works of the three artists stage situations of crisis that are resolved through processes of aesthetic and ecstatic trans- figuration." Furthermore, in the catalogue, the specific emotional intention of each artwork was outlined in detail, which we used as our basis to identify which emotions were intended by the artists. Artwork 1 was intended to arouse feelings of mysticism, reverence, and fear. Artwork 2 was intended to arouse feelings of empowerment, self-aware-

ness, and unease. Artwork 3 was intended to arouse feelings of vertigo, melancholy, and calm. The possibility of being able to identify the intended emotions, allowed us to assess if viewers could correctly guess the intention and also if they felt the intended emotions more.

To this aim, we recruited 113 participants (52 male, 60 female, 1 of non-binary gender identity) who were all visitors to the Biennale. Our results were comparable to our previous study. Again we found that viewers were able to correctly guess the intended emotion (d' = 0.487, correct guess rate = 79.2% for Artwork 1; d'=0.535, correct guess rate = 80.5% for Artwork 2; d'= 0.702, correct guess rate = 84.4% for Artwork 3). In addition, viewers also felt the intended emotions more (see Figure 2) than not intended emotions, though, again, only for two out of the three artworks.

Together, these two studies show that we can engage with art emotionally on varying levels creating a complex and rich emotional experience. However, in what other way can art engagement influence us? Can it also affect our emotional lives outside of an art context? Can it increase empathy and compassion in the world

GRAPH 2

Legend:
- Curator/Artist intended emotion (filled orange)
- Curator/Artist NOT-intended emotion (outlined orange)

Y-axis: Reported left emotion when viewing (0–7)

Artwork 1
Imitazione di Cristo, 2017.
Roberto Cuoghi

Artwork 2
The reading / La Seduta, 2017.
Adelita Husni-Bey

Artwork 3
Untitled (La fine del mondo), 2017.
Giorgio Calò

as the Olafur Eliasson quote at the beginning of this chapter would have us believe?

CAN ART AFFECT OUR EMOTIONAL LIVES OUTSIDE OF THE ART CONTEXT?

Some preliminary findings would say: "Yes!". A recent study by Kou, Konrath, and Goldstein (2020) using data from nationwide surveys that are collected from representative samples in the US showed that consuming art (such as viewing visual art but also e.g. watching a dance performance) makes people more pro-social.[1] Even more impressively, they found that the amount of time people spent consuming art (at time-point 1) could predict how pro-social people were 6 years later.

The authors did not find an influence of the type of art that people consumed (visual art, dance, literature, etc.) on pro-sociality. However, they did find that viewing art makes people more pro-social than making art. This may, at first hand, seem rather surprising: why would this be? We believe that the answer can be found in the previously discussed studies. Making art may require the artists to "dig into their soul" and then find a way to translate these emotions into art which can be an internally focused process. Viewing art, on the other hand, is necessarily a social process. It requires the viewer to try to understand the artist's message on a cognitive, emotional, or even unconscious level. This social act of viewing art may therefore lead to an increase in pro-sociality.

But, are there more ways in which art can "make us a better person"? Since this is a relatively new line of investigation, there is basically a lack of studies systematically investigating this question. A gap we have started to fill with a study conducted at the Dom Museum in Vienna in the summer of 2019 during the "Show me your

wound" exhibition (Specker, Cotter, Speidel, Leder, & Pelowski, forthcoming). This exhibition focused on both physical as well as mental wounds. We assumed that this theme of vulnerability may be especially suited to test if art can make us better in terms of empathy, pro-sociality1, and reduced xenophobia. Though at the moment of writing we are still in the midst of analyzing the data, our preliminary results show that viewing the exhibition made people less xenophobic, but not more empathic or pro-social.

To conclude, we have tried to show in this chapter how art engagement can affect our emotional lives, inside and outside the gallery. Showing empirical support for the fact that art experience is a complex emotional experience that can have lasting benefits when we return from the gallery to our everyday lives.

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1 Pro-social behavior is defined by Wikipedia as "intent to benefit other people or society as a whole [..] such as helping, sharing, donating, co-operating, and volunteering."

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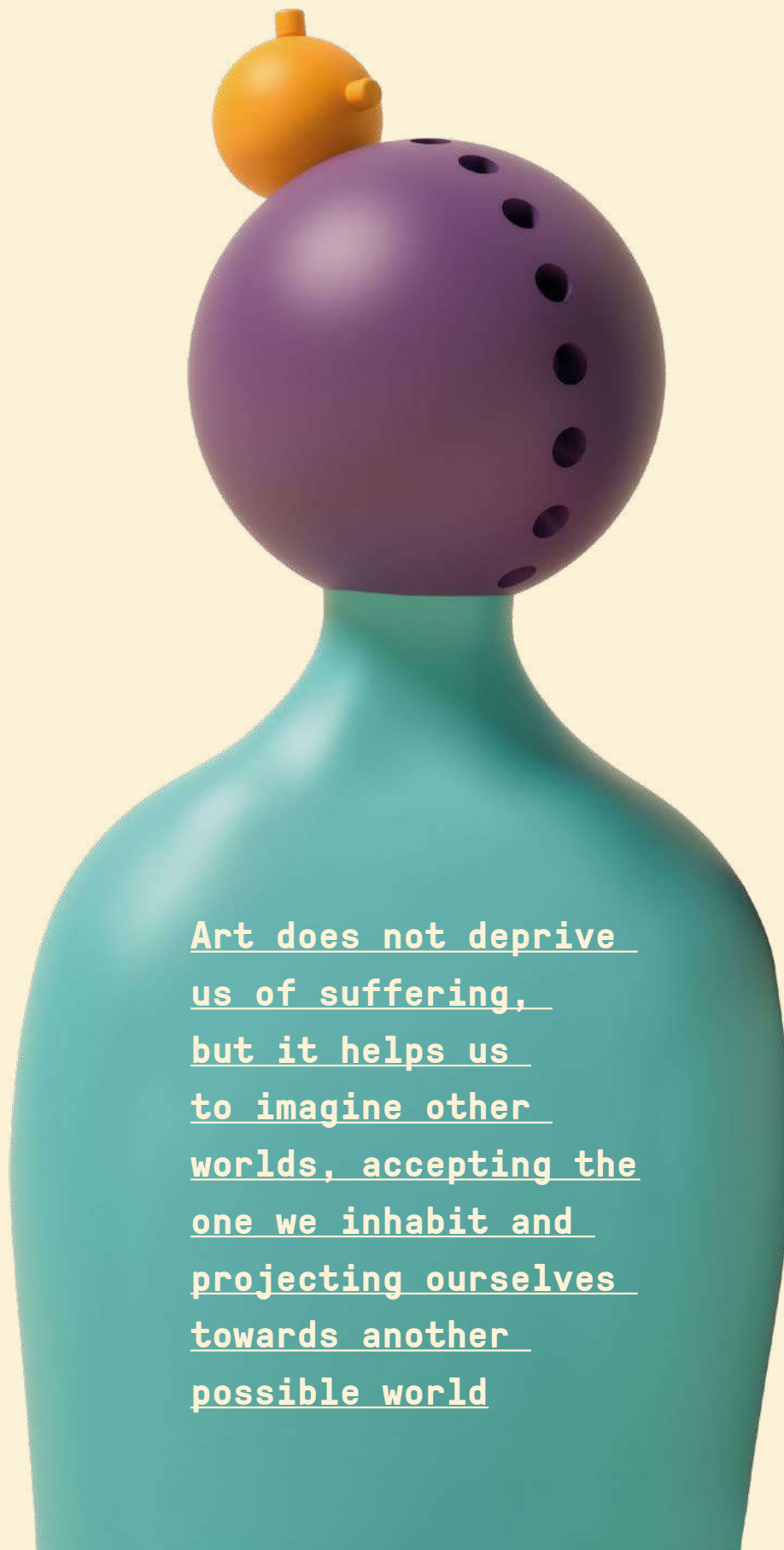READ ON THE   /   /20

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Art does not deprive
us of suffering,
but it helps us
to imagine other
worlds, accepting the
one we inhabit and
projecting ourselves
towards another
possible world

DOES ART HEAL?
Reflections on the therapeutic power of creative activity

Marián López Fernández Cao

Universidad Complutense de Madrid, Spain

The question of whether art heals does not have an easy answer. Perhaps the first thing we should ask ourselves is if we know what "to heal" means. Art does not heal a physical wound, or an illness such as hepatitis or cancer. It does not heal a blow to the head, but it helps to heal –or to be aware of– a blow to the soul. If we look up some of the meanings mentioned in the dictionary of the Royal Academy of the Spanish Language, we might stop at the following definition: *to heal is to make a person suffering emotionally to recover, or to make that suffering disappear*. How can art help a person suffering emotionally to recover? Can art help make that suffering disappear? Let's start by looking into the past to answer this question.

SOME PIONEERS OF ART AS THERAPY

Regina Lake. The pedagogy of art with evacuated children of the Spanish Civil War.
When the Civil War broke out in Spain in 1936, the governments of areas such as Madrid, Murcia, Barcelona, Cuenca or Albacete tried to protect boys and girls from the traumatic experience of the war by sending them to colonies far from the frontlines. There, they tried to live a life that would have been impossible had they been closer to the fighting: although separated from their families, they played, learned and drew. The drawings made by the minors who were taken under the wing by children's colonies of the ministry of education of the Spanish Republic show their lives before the outbreak of the war, during their stay in the colonies and about the war scenes that many had had the misfortune to witness. As the art therapist Ana Hernández, one of the researchers who helped rescue and document these drawings, points out, "providing a sheet of paper and some coloured pencils to children is one of the best medicines for psychic distress, not to mention a valuable testimony "(Hernández, 2006, p. 83). Hernández cites Freud as one of the first theorists to interrelate art, poetry and childhood in 1908:

> "Might we not say that every child at play behaves like a creative writer, in that he creates a world of his own, or, rather, he rearranges the things of his world in a new way which pleases him? [...] the child distinguishes the world of play quite well from reality, despite his affective attachment; and he likes to link his imagined objects and situations to the tangible and visible things of the real world. This linking is all that differentiates the child's 'play' from 'day-dreaming'. The creative writer does the same as the child at play. He creates a world of phantasy which he takes very seriously [...] "(Freud, 1908, p. 128)

Through one of her biographers, Carmen García Colmenares (2010), we know that Regina Lago (1897-1966), an art therapy pioneer, studied

Teaching and Psychology and furthered her training in Experimental Psychology at the J. J. Rousseau Institute of Geneva where she studied Experimental Psychology, Child Psychology and Psychometrics with key scholars such as Claparède or Piaget. Subsequently, Regina Lago was appointed head of the Pedagogical Organization section of the National Delegation of Evacuated Children and, later, Pedagogical Counsellor of the National Council of Evacuated Children. At the National Conference on Refugees, held in Valencia on September 13, 1937, Regina Lago reported on child evacuation in Spain, counting 159 school colonies with 12,027 minors and 406 family-owned colonies with 33,121 children under teacher supervision, which together with those yet to arrive, would amount to 100,000, according to their forecasts.

Evacuations outside of Spain soon commenced and the minors were taken in by international organizations. In addition to the 100,000 previously mentioned, another 32,037 evacuees taken abroad should be included (Alted, 1996, in Colmenares, 2010).

Regina Lago wrote in 1940 the work "La guerra a través de los dibujos infantiles" [The war through children's drawings] (1940, 422-436). This text is key because it is the first to propose boys and girls' drawings as a way of assessing the traumas to find repeating and changing features in the drawings, according to children's ages, that might help us understand the psychic assimilation and integration of the events. Of the 1,872 drawings collected, Regina Lago analysed 624, corresponding to minors between 6 and 14 years oldLago studied distress, absence, mourning and the integration of these emotional experiences into everyday life. This text was the first to reflect on the power of drawing to facilitate processing of difficult emotions and its benefits for children who are victims of traumatic episodes such as wars. Drawing has the ability to elaborate, structure and formally organize that which is internally disorganized.

Drawing has the ability to elaborate, structure and formally organize that which is internally disorganized

Friedl Dicker-Brandeis. Her work in the Theresienstadt ghetto.

Friedl Dicker-Brandeis was another art therapy pioneer who stated in 1940: "aesthetics is nothing more than another, thinner, skin that protects us against chaos" (in López Fdz. Cao, 2015). For years she engaged the children of the Theresienstadt ghetto in creative production, protecting them from the chaos of war, loss and desolation, and thus she developed a detailed pedagogy of [coping with?] emergency through art. Franz Cizek, the first professor that Friedl Dicker-Brandeis would have, was a great influence on her thinking. Like Freud, Cizek focused on the inner world and the unconscious of his students. Drawing was a way of externalizing traumas and complexes: "show me your soul, today!" he would tell his classes. Friedl's and Cizek's ways of thinking were masterfully combined (ibidem, ant.).

From Johannes Itten, a collaborator at the Bauhaus School, a pioneer in understanding art as a global and revolutionary movement with regard to art education, Friedl Dicker-Brandeis learned that art was a connection between word, sound, form, colour and movement and therefore it contributed to global harmony. The reality we perceive cannot be described simply: an understanding of its structures is required. Its skeleton is composed of simple forms and that is where support may be found for ideas to be accessed and studied.

Edith Kramer, considered another of the pioneers of art therapy, and a disciple of Friedl said about her: "No one in the world could have given me what she gave me, an understanding of the essence of things and a rejection of lies and artificiality. "(Edith Kramer, in Makarova, E., p. 20).

Theresienstadt was a fortress sixty kilometres north of Prague, where for a time the Nazis decided to confine Jews. A total of 140,000 Jews passed through Theresienstadt, of whom 88,000 were sent to death camps. In addition, more than 33,000 died in Theresiendtadt from diseases associated with poor living conditions. Friedl was assigned to the technical department along with other artists but, at her own request, she would be reassigned to the children's home, department L410, to teach art classes. There was an official ban on education, therefore these visits by teachers and artists were considered "cultural activities."

One of her students recalls: "Friedl talked to us about how to start a drawing, how to look at things, how to think spatially. How to dream about something, do something and fulfil our fantasies. We lived on the top floor and from there we drew everything: the sky, the mountains, nature."(Makarova, p. 25).

Friedl created teaching materials and she describes how she organized her classes thus: "One of them made a list and divided the children into groups, administered the materials and was responsible for them; others kept a field diary; others helped draw or sketch; there was always someone who brought materials from outside. All these activities were done in shifts. [...] The classes were not to make the children into artists, but to release and expand their creative energies and independence, to awaken their imagination, to strengthen their powers of observation and appreciation of reality." (Friedl D. B. in Makarova, p. 31). Friedl also worked with children with severe trauma who were in the infirmary. Her surviving companions recall how on one occasion Friedl received a group of boys and girls who had just witnessed their parents being shot in front of them. Still in shock, Friedl cried with them and little by little invited them to join the art workshop.

Friedl Dicker-Brandeis built on the legacy that had begun to be forged in Europe in education and especially in art education. The influence of Cizek, Itten and the Bauhaus was decisive. But only she was able to transform art schools by abandoning their elitist requirements. She succeeded in combining art and the new psychology and psychoanalysis so they could work together, helping to create a welcoming, safe and affectionate place for those minors who had gone through separation and loss in a violent, traumatic way.

Texts by students of Friedl who survived, manifest how that creative space became a safe space of affection and renewal for them. In those classes they felt their infinite possibilities were taken into consideration and they were treated as beings with a future.

The pioneering work carried out by Friedl Dicker-Brandeis in Theresienstadt and by Regina Lago in the children's colonies of Spanish Civil War evacuees, is linked to concept of art: artistic creativity as a space to be free and where freedom can be used to relate to life. This is linked to the idea of process and circumstances, where freedom meets the possibility that the yearned-for thing can happen. No boy or girl was alien to their circumstances, but art offered them clear ways to fight against fate, to express reality in an alternative way while they were alive and to creatively express their right to exist and deny death.

FROM JOHN DEWEY TO BRUNO BETELHEIM: ART AS AN ORGANIZED PSYCHIC EXPERIENCE

"Art as Experience" is a key book for understanding the reasons behind art, one that should be revisited from time to time. Dewey points out several aspects related to the concept of "experience". Experience occurs continuously because "the interaction of live creature and environing conditions is involved in the very process of living" (Dewey, or. 1934, 2008: p. 41). On each page, Dewey tries to distinguish between the commonplace experience and the special art experience, or "esthetic" experience. In the latter,

an authentic relationship is necessary –as opposed to one tied to automatisms– in which the subject and the object, the form and the matter, interact until an object is born as a result of the new relationship. In aesthetic experience, contact with the material used to create and the very act of creating individually makes the person become aware of the present: "the experience itself has a satisfactory emotional quality because it possesses internal integration and fulfilment reached through ordered and organized movement. This artistic structure can be seen immediately. In this sense, it is esthetic." (Dewey, or. 1934, 2008: p. 45)

This experience is directly related to the characteristics of the creative process indicated by the psychoanalyst Héctor Fiorini. According to him, by starting from what is given, what exists, the world, tensions are disorganized and reorganized, to render a new result – a creation that is produced by the interaction. Creating summons tensions and contradictions to give new forms to those tensions and contradictions; forms that may be housed inside the creator to be made fruitful.

The new organization of these forms is of vital importance. Artistic activity is much more than a cathartic and liberating expression of the unconscious, as Bruno Bettelheim pointed out, back in 1964. It is not a freeing of the unconscious, but rather a reorganization of unconscious tendencies, obeying creative skills and artistic discipline, that gives birth to the work. Creativity does not encourage the free release of the unconscious, but the opposite (Bettelheim, 1964).

In this sense, Bettelheim continues, what art education should show students is that the unconscious must not be repressed, since it is a source of great vitality, but it must be moulded. What is needed is disciplined work on the chaotic unconscious, to transform it into meaningful forms both for ourselves and for others." (ibid. Above.) The value of artistic education –like art therapy– and of all creative activity, compared to other subjects, does not simply lie in freedom

of expression, which in many cases is nothing more than regression –states Bettelheim– but in the opportunity for each person to integrate experiences of which they are not aware. Art, thanks to a unique dialectical process –because it refers to the deepest personal experiences– can be considered one of the most important forces to unite people without losing their individuality: "[art] allows them to share with others that which everyone considers higher, that which elevates them above everyday experience towards a more expanded vision of themselves. And it achieves this by making them feel, more than ever, distinctive and unique."(ibidem ant.) This aspect is fundamental – to feel part of a group without losing one's volition and freedom.

ART THERAPY IN SPAIN TODAY

Returning to the question that gives this article its name – Does art heal? – and looking at it from the perspective of what is being done in Spain, we can say that art therapy has been growing in our country. Since the 2000s, when the first master's degree on the subject was launched in Spain, more and more related university courses are being recognized and the number of organizations requiring art therapists in their work teams is growing too. An understanding of creative processes as methods for reflection, restructuring, reorganization, externalization and psychic elaboration has given rise to a vast interdisciplinary area of work which increasingly welcomes art therapists to their teams, be they educational, social, cultural or clinical.

For four years the Aletheia R&D project: arts, art therapy, trauma and emotional memory, has developed an archive of good practices, and has tested validated artistic intervention methodologies to help people who have suffered events with traumatic consequences[1], bringing together great professionals from interdisciplinary fields.

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1 See the work of the Aletheia project: Art, art therapy, trauma and emotional memory: https://www.ucm.es/aletheia/que-es-aletheia

In addition, the team researching applications for art in social integration: art, therapy and artistic education for inclusiveness (EARTDI) at the Faculty of Education at the Complutense University of Madrid, has been carrying out projects in both artistic education and art therapy for more than twenty-five years. We try, on the one hand, to restore dignity and the right to interact with culture and, on the other, to help them find their voices as creators of culture: people who are part of our community and who have been deprived of liberty, groups impoverished by economic and social inequality, and children threatened by an unjust system.[2]

Since 2003, we have entered Primary Education, trying to get art into the classroom through a concept called "situated biographies", which helps to put artists' questions, wishes and projects in context and which broadens and accompanies the pupils' creative processes. In this project, entitled "Possibilities of being through art,"[3] we try to make girls and boys become passionate, as artists of the past did, about art intimately linked to life. In all the projects there are artists who question the traditional image of genius from different perspectives. Through these educational projects we access interpretations of museum works by decentralizing our way of looking. We have discarded a hegemonic way of looking –that is, an androcentric, bourgeois and western approach– to rediscover other cultural actors and interlocutors that had been devalued by mainstream culture: expressions that come from more modest economic levels, from impov-

erished classes, from non-urban spaces, women, people from non-western latitudes or other ethnic groups, and all those groups that thought they had the right not only to participate in culture, but to contribute to it.

All the aforementioned projects have demonstrated the importance of art in the global development of the human being, its potential and the need for specialized training for the people who carry it out.

CONCLUSION

The aesthetic experience links us to life and guides us towards far-reaching experiences because it unites us to the world from different angles. Art, in short, is a cultural expression of individuals, women and men of any social or geographical origin, in response to an emotional and cognitive relationship with the world and with themselves, by means of a negotiation and ordering of the unconscious, a formal, perceptual and cognitive organization that allows them to understand and understand themselves, in a process of internalization and externalization. This brings humans an incredible potential and for this reason art is extremely important to their global development. Art has the ability to organize the human psyche, when it has been destabilized, into a new harmony. Art does not deprive us of suffering, but it helps us to imagine other worlds, accepting the one we inhabit and projecting ourselves towards another possible world.

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2   See the work being done in some of these projects: https://www.ucm.es/eartdi
    Ariadne Project: Art and Intercultural Integration: https://www.youtube.com/watch?v=hZBF-XGZXgI
    Group of young gypsies in the museum, with the collaboration of the Thyssen Museum: https://vimeo.com/146008503 and https://vimeo.com/145996693
    City, gender and empowerment project: https://www.ucm.es/divercity/diversidad-en-la-ciudad
    Gender and museums project: https://museosenfemenino.es/ http://www.mujerescambianlosmuseos.com/ and https://www.ucm.es/power/
3   https://www.editorialeneida.com/es/colecciones.html?page=shop.browse&category_id=11

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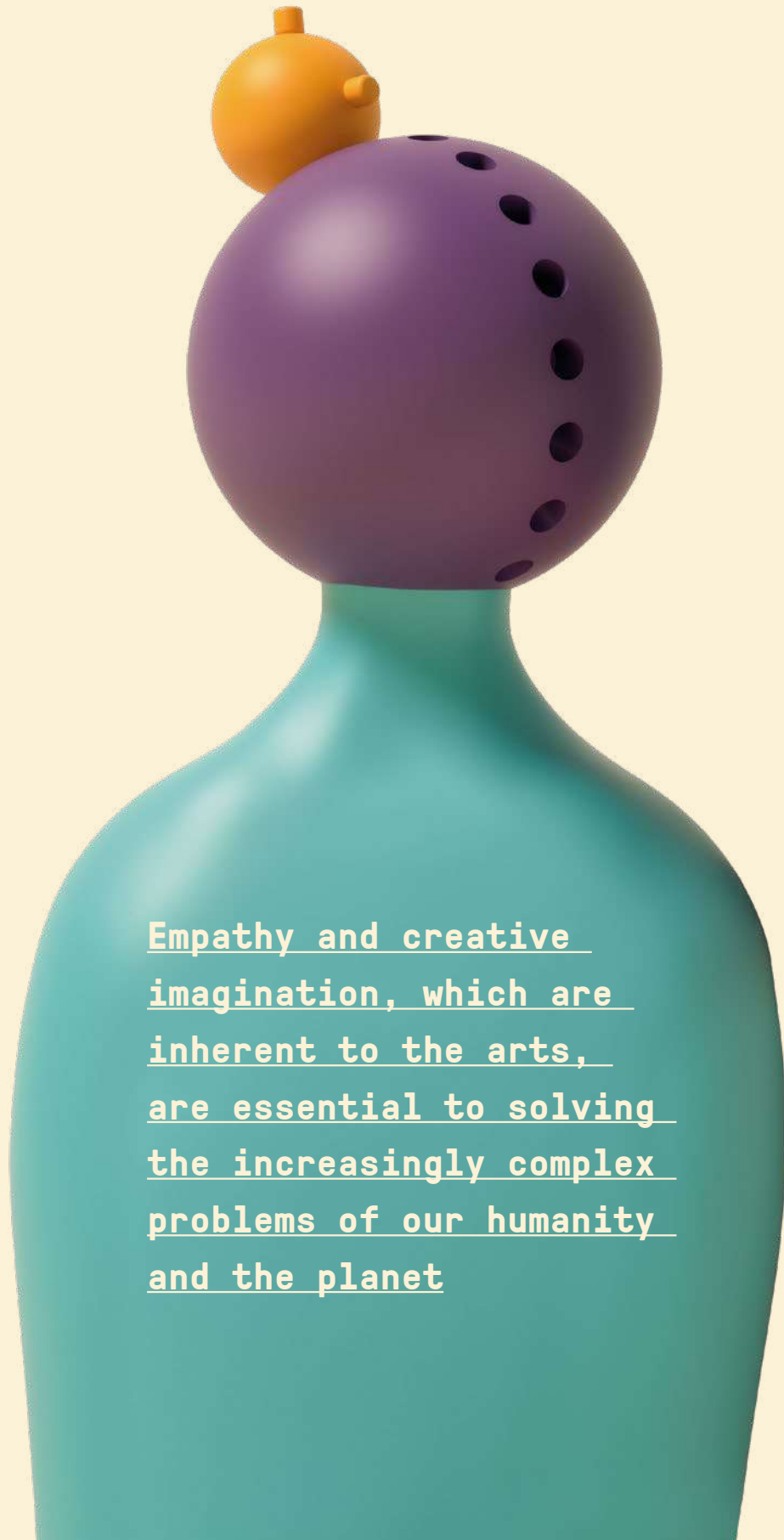
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Empathy and creative imagination, which are inherent to the arts, are essential to solving the increasingly complex problems of our humanity and the planet

HOLDING SPACE FOR EMPATHY AND CREATIVE IMAGINATION:
THE ROLE OF ARTS CENTERS, MUSEUMS, AND OTHER INFORMAL LEARNING PLATFORMS

Elif M. Gokcigdem

ONE: Organization of Networks for Empathy, USA

There is an increasing awareness that the complex problems facing humanity and the planet require more than academic knowledge and technical abilities. Empathy, creative thinking, emotional literacy, and communication skills, as well as filtering our actions through a compassionate worldview lie at the heart of any sustainable solutions.

At any given time and place, there are multiple ways of looking at and seeing a particular object, issue, or problem, as well as many ways that beings coexist and make sense of the universe. Informal learning platforms, including arts centers and museums that encourage us to understand, emotionally engage with, and contemplate this profound truth help us to become more responsive to the needs of those around us and of our environment. They can help us gain a perspective transforming lens that awakens our sense of connectedness to the Whole —all of humanity and the planet, through empathy.

Twenty years ago, at the turn of the millennium, the United Nations expressed determination to collectively solve many of our global development problems such as poverty, hunger, access to healthcare and education, economic inequality, and environmental sustainability. The fact that we continue to struggle to solve our increasingly complex problems might be an indication that perhaps it is not only a matter of lack of resources, but also our prevailing ego-centric worldviews that hold us back. It is critical to understand the forces that can cause us to shift our focus from our individual or in-group trenches, and instead inspire us to work collaboratively toward our collective wellbeing. Empathy, our inherent ability to feel the emotions of another, lies at the heart of those forces.

An understanding of the potential of empathy would help us explore it for its social applications as a perception altering lens with "triple-focus." Seeing the world through a lens of empathy allows us to face our own internal world of emotions, our ability or lack of ability to empathize, as well as our biases; so that we may recognize them in others around us; and finally, expand our circle of concern from those who are immediately around us to all of humanity including those others who we may never encounter, as well as the environment with all of its living and non-living beings.

The first step to disrupting our pattern of chronic empathy-deficit requires no less than undergoing a profound shift in perspective. This kind of cataclysmic shift can be caused by a major life-changing event such as giving birth or almost dying, or through the overview effect experienced by astronauts which results in a sense of awe and wonder and being a part of something greater than one's self. It can also be achieved

when one is faced with a major, real-life dilemma, requiring an immediate reprioritization of what is essential in life. At times like these we are forced to create new rules and paradigms to make sense of our existence within a completely new scenario.

In our global society, the time for such a perspective shift is now. We need to move from an ego-centric view of existence to a unifying worldview that values the wellbeing of all of humanity, the environment, and the planet's life supporting resources.

Although empathy is a vital element of our nature, our civilization has not created the essential spaces, practices, and supporting ecosystems where it can be intentionally nurtured

This is where arts centers and museums have a responsibility. Empathy and creative imagination, which are inherent to the arts, are essential to solving the increasingly complex problems of our humanity and the planet. They are also at the heart of positive behavior change, as well as how we make meaning, and find purpose in life through acts of compassion and altruism. As informal learning platforms, arts centers and museums are our civic commons and safe spaces uniquely equipped to encourage visitors to imagine, explore and experience our rich human heritage and our natural world firsthand. They have the capability to bring together different disciplines such as the arts, technology, and sciences to show how all living things are interconnected. By providing a safe space for dialogue, experiential learning, storytelling, awe and wonder, and contemplation, arts centers, museums, and other informal learning platforms are uniquely positioned to empower individuals to discover, ignite, and exercise their creative imagination and empathy

towards positive personal, environmental and societal progress.

CAN EMPATHY BE AN INTENTIONAL OUTCOME OF A MUSEUM EXPERIENCE?

Although empathy is a vital element of our nature, our civilization has not created the essential spaces, practices, and supporting ecosystems where it can be intentionally nurtured and unleashed towards the greater good. Yet research suggests that empathy can be taught, and that contact with people who are different from us in a safe, empathic way is a first step (De Waal, 2010; Keltner, 2009; Konrath, 2013).

With these thoughts in mind, in 2015, I reached out to different types of museums to find out how museums were identifying empathy, and whether they were considering it as an intentional outcome of a museum experience. The fifteen case-studies in *Fostering Empathy Through Museums* (Gokcigdem, 2016), revealed that there were three main avenues through which museums were thinking and employing empathy:

- As an institutional value that permeates the entire spectrum of a museum's operations from acquisitions to hiring,

- As an educational tool to design better exhibitions and programs with the specific goal of educating the public about a museum's collection and contents,

- As a human phenomenon, a life skill, and an intentional outcome of a museum experience that is worthy of exploration on its own.

While all of these avenues offer their own challenges and rewards, and are equally important, the least explored path, and the subject of this chapter is the third one: where, museums intentionally design experiences that foster empathy as a life skill. In this way, the museum isn't attempting to educate on a factual topic, but in-

stead enabling self-knowledge: an awareness of our ability to imagine what it is like to be another, our selfish and not-so-selfish tendencies, how we make meaning, and through which lens we make our everyday choices.

Empowering individuals to explore their own emotions and examine how they intersect with those of other people is more critical than ever. Three examples particularly stand out on this path:

1 A partnership between the Yale Center for Emotional Intelligence and the Botin Center in Spain offers a new way of engaging with art objects that emphasizes goals of emotional literacy, perspective taking, and creative thinking.

2 In Exploratorium's *Science of Sharing* exhibition, participatory engagement and social inquiry takes center-stage as individuals experience perspective change, participate in meaningful, yet playful dialogue, and learn the importance and implications of their choices in a safe, social setting.

3 In Dialogue Social Enterprise's immersive and truly perspective-shifting experiences of *Dialogue in Dark*, *Dialogue in Silence*, and *Dialogue with Time*, the visitor is both the subject and the object of the experiences.

These three examples are the results of multidisciplinary collaboration and scientific research, and collectively offer decades of wealth in terms of evidence-based ideas, tools, and insights from different countries and cultural contexts that could be further developed and adapted for a variety of informal learning settings.

Fostering Empathy Through Museums also brought attention to five common qualities that position museums as uniquely equipped platforms that can foster empathy (Gokcigdem, 2017):

1 **Holding a mirror to society:**
Through their social and educational mission, museums can provide a safe space for encountering our collective behavior, knowledge, complex histories, and values. By putting people in proximity to other people's lived experiences, the artifacts from their cultures, and their stories, museums can help us awaken to different realities and multiple perspectives that exist around us.

Museums can help us awaken to different realities and multiple perspectives that exist around us

2 **Storytelling and creating new narratives about our interconnectedness:**
Storytelling inspires empathy-building by allowing us to engage emotionally with the experiences of other people, even those with whom we may have little in common. Museums offer stories of people and places far away in place, time, or experience, in order to encourage understanding, empathy-building and more wide-ranging compassion. Telling stories from the point of view of the people and cultures featured can also increase our sense of shared humanity, as we see how others face fears, biases, and challenges similar to our own.

3 **Experiential learning through immersive experiences:**
To increase empathy, it helps not only to provide knowledge and stories, but to create experiences that engage us in other ways. Experiential learning is an effective way to increase learning in general, and empathy in particular. Museums help us to experience empathy by offering interactive exhibits that encourage more than an intellectual understanding. We often learn better when we are engaged with all of our senses; so providing sensory-rich experiences—or, sometimes,

strategically limiting our access to them to help us realize how much they shape our experience of the world—allows us to imagine different ways of being, which can help deepen the lessons of empathy imparted by museums.

Museums encourage contemplation of our world by providing a space where we can slow down and be with what is before us, without needing to perform in any way

4   Offering experiences of awe and wonder:
How might one go about changing habitual and entrenched perspectives and behavior toward others? This usually requires more than just information; it requires some kind of paradigm shift, often caused by a transformative life event or some kind of deep learning. For example, think of the "overview effect," experienced by astronauts seeing our planet from outer space for the first time. This experience induces a strong sense of awe, connectedness to something greater than themselves, and compassion for the whole planet. Museums can also foster experiences of awe and wonder, through art, science, spectacle, beauty, and complexity. Since awe has been tied to a sense of oneness with others and altruism, a museum's ability to foster awe can also help with the goal of increasing empathy and compassion.

5   Being places of contemplation:
Museums encourage contemplation of our world by providing a space where we can slow down and be with what is before us, without needing to perform in any way. Unlike many everyday settings where the goal is clear, people are invited to explore in museums on their own schedule, moving from exhibit to exhibit as they see fit, following their own in-

ternal guidelines. This naturally allows for a more contemplative and reflective experience. Through this reflection, museum patrons can achieve a deeper understanding of the viewpoints of others and recognize their own connection to all of humanity and the planet.

THE ALCHEMY OF EMPATHY

Designing informal learning platforms as "empathy gyms" (Zaki, 2019) —places that foster empathy as an intentional outcome in service of the greater good, requires an intentional approach. It also requires a deep exploration of our understanding what empathy is and what we wish for it to accomplish for our humanity and the planet. It is essential for these empathy gyms to allow their participants to tryout a new lens through which they can explore our interconnected universe.

My recent book: "Designing for Empathy: Perspectives on the Museum Experience" (Gokcigdem, 2019), proposes a new conceptual framework for looking at empathy through the lens of the "Alchemy of Empathy" —a list of ingredients that are known to create transformative perspective shift. This volume, comprising of twenty-three chapters contributed by multidisciplinary experts, poses three essential questions:

1   What is the "object" of our empathy; how do we define and perceive the "other"?
This question invites us to explore how our perception of the "other" might be filtered through the heart, brain, conscious experience, through our worldviews, as well as via artificial intelligence, and augmented and virtual reality experiences that might soon become a part of our natural sensory systems like sight, hearing, touch and smell.

Our individual predispositions such as our physiology and simply how our brains are wired, combined with socially constructed worldviews, opinions, expectations, and paradigms affect how we perceive the other. Our view of the other, in turn, calibrates our atti-

tudes towards people, the environment, and even our virtual communities. What are some of the filters that we use to view the other? When we look through them, how might these filters, such as a human heart or spirituality, brain, consciousness, a worldview, and altered realities affect our perception of the other? An understanding of these filters, how they are formed, and how we use them might be a good start to help us identify and remove bias and manipulation from our systems.

Empathy is anchored deep in our humanness. It is an innate survival skill that can be nurtured

2 **The Alchemy of Empathy: What are some of those ingredients that we often intuitively know that result in transformational experiences of perspective shift and empathy?** Empathy is anchored deep in our humanness. It is an innate survival skill that can be nurtured toward more nuanced and sophisticated levels of understanding of our place within the universe. To better explore the qualities of empathy, we need to go beyond conventional knowledge, and bring to table all types of knowing, knowledge, wisdom, and resources that our humanity can offer. *Designing for Empathy* presents a list that is titled the "Alchemy of Empathy," which includes: Intentionality, Intersectionality, Curiosity, Play, Vulnerability, Contemplation and Nuance, Proximity, Storytelling, Synchronicity, Awe and Wonder, Collective Journeying, Breaking Bread, Optimism and Hope...

An ability to identify and name these (and, other) ingredients, discover their scientific basis and their origins in our evolution, while observing how they perform on their own and collectively, their pitfalls and potential, can open up new pathways in design. When studying the case studies representing these ingredients, one quickly realizes that, they

are fluid like drops of water, where each drop harbors many qualities. One might encounter elements of vulnerability in play, and play in curiosity; or, awe in vulnerability, and vulnerability in proximity. They are also most potent when used in a variety of combinations vs. individually.

3 **What are the Scope and the Spectrum of our Empathy? The importance of positioning empathy as a cross-industrial shared value for the benefit of people and the planet.** Lack of empathy is a public health issue that permeates all aspects of our lives. When there is lack of empathy, its symptoms are manifested through individuals, institutions, societies and the environment. If one finger has a splinter, the entire body suffers. The ecosystem empathy requires for its nurturing should also be all encompassing. Perspective change, and attaining an empathic worldview or mindset that cares for the wellbeing of all, are not an on/off switch. Nurturing empathy and caring mindsets take time, strategy, effortful thinking, and constant nurturing by authentic role models and values lived and expressed in everyday life and through a multitude of platforms. Therefore, it is essential to adopt a collective innovation strategy supported by multidisciplinary research and collaboration. Exploring the scope and the spectrum of empathy allows us to take a closer look at the potential of empathy in shaping our institutions and systems, values and ethics, as well as influencing education, entrepreneurship, design and innovation, and societal progress.

The ideas and findings in this paper are work in progress. Empathy-Building Through Museums Initiative is the overarching platform where this work takes place in the format of books, workshops, seminars, and summits. As we grow more sophisticated in our understanding and deployment of empathy, we extend our healing solutions to all of humanity and the planet.

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The impact that museums
can have on our publics
is immense. Museums must
authentically change
from the inside out
and value and practice
empathy and equity

CHANGING MUSEUMS FOR A CHANGING WORLD

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The divisiveness in our world today around issues such as xenophobia, racial and gender inequities, immigration policies, LGTBQ rights, global warming, and numerous others, makes it clear that our failures to understand other people's feelings and perspectives are exacerbating prejudice, conflict, and inequalities. If we wish to develop, not only a more equitable society, but a happier and more creative one, we need to look outside ourselves and attempt to identify with and understand the experiences of others. This critical skill is called empathy, which "has the power to transform relationships, from the personal to the political, and create fundamental social change." (Kznaric, 2014)

The Minneapolis Institute of Art (Mia) believes in the power of art to spark curiosity and creativity, connect people across differences, engage our individual and shared values and foster empathy. Museums, with collections illustrating stories and expressions of humanity, are well poised to play a vital role in helping people connect in our increasingly fragmented world (Feldman, 2017). Created by humans, artworks are expressions of the lived experience, across time, media, and cultures. Mia's global collection includes 92,000 works spanning 5,000 years of history, offering a rich and complex range of material that can nurture a greater understanding of humanity and the self.

Over the last few decades, the world of museums has changed and, much like Mia, many institutions are expanding their thinking and practices beyond just collecting objects and focusing on their roles and responsibilities in and with their communities. In his seminal essay, "From Being about Something to Being for Somebody," Stephen Weil, the late Smithsonian Institution scholar, makes the case that museums must refocus their missions and priorities. He states that museums of tomorrow must be more than stewards of collections of objects and become "instruments for social change." (Weil, 1999).

Over 20 years later, Weil's vision continues to manifest in our institutions as our society and populations change. The "someone" that he referenced is drastically changing in the 21st century with the shifting demographics of the U.S. as well as global migration. In our globalized world, people from diverse cultures and socioeconomic backgrounds are interacting more than before. Empathy skills are crucial in forging and navigating relationships, which determine how we do in the classroom and in our careers. Empathizing helps us communicate, collaborate, lead, and problem solve. The deep relationships resulting from strong empathy skills have the potential to strengthen a community and build trust (Owen, 2015).

Mia is dedicated to creating positive civic impact by using the power of art to cultivate empathy. With the generous support of the Andrew W. Mellon Foundation, Mia established the Center for Empathy and the Visual Arts (CEVA) in 2017, and is leading major initiatives and partnering with academic institutions to research, develop, and test strategies and practices for cultivating empathy in an art museum setting.

WHY EMPATHY AND ART?

Art is an endeavor to understand and express the human condition, and engagement with artworks offers new ways of seeing, perspective-taking, and possibilities of changing the way we view and act in the world. Our understanding of empathy was born out of the visual arts. The German aesthetic philosopher Robert Vischer (1847-1933) coined the word *Einfühlung* (literally "feeling into") in 1873 to describe the projection of human feeling into an inanimate object, such as a work of art. The term was adapted by Theodor Lipps (1851-1914) , who postulated that the meaning of art did not arise from the work itself but was made essential by the viewer projecting themselves into the object. In 1909 the British psychologist Edward Titchener (1867-1927) translated the concept of *Einfühlung* into a new word: empathy. It comes from the Greek *empatheia*, meaning "in pathos," i.e. in passion or suffering. (Nowak, 2011, pp. 301-325)

Despite the fact that the concept of empathy developed in the visual arts, there is no scientific research that supports that engagement with art fosters empathy. CEVA, through partnerships with the University California, Berkeley, and the University of Minnesota, is leading initiatives to develop, test, and research interpretive strategies and exhibition practices for cultivating empathy, which is central to Mia's mission of "enriching the community."

As visitor-centered institution, Mia values the various perspectives and knowledge of our diverse communities and practices empathy by getting their input and feedback through surveys, focus groups, and listening sessions. On the national level, Mia is engaging multiple perspectives and cross-disciplinary expertise through events such as think tanks and labs. CEVA's first official program was a cross-disciplinary think tank comprised of social scientists, a neuroscientist, scholars, historians, artists, and technologists who convened to explore the role of the visual arts in cultivating empathy. In 2019, another interdisciplinary group gathered for Empathy Lab, which brought together experts from multiple disciplines to brainstorm and develop prototypes and strategies for fostering empathy through arts-based engagement. The ideas generated through both of these convenings continue to inform CEVA's work on exhibitions, interpretation, teaching practices, and interactive gallery experiences. Divergent thinking and elevating the voices and views of non-art and non-museum people are integral to changing our practices, expanding our audiences and impact.

MOVING AWAY FROM THE TRADITIONAL MUSEUM MODEL: MIA REACHES OUT TO THE COMMUNITY

As museums evolve to become more welcoming, reflective of and relevant to our increasingly diverse audiences, our institutions can no longer maintain the centuries-old status quo, which privileges Western ideals of race, class, and gender. We must begin to conceptualize a new museum, one that is empathetic to all the people who work within it as well as to the communities outside, and one that values varied perspectives and numerous sources of input, with a focus on those from marginalized communities. (Janeen Bryant, 2017) From the art collections housed in our museums and the ways these works are interpreted and displayed, to the staff-make-up and visitor experience, to the amenities we offer the public, to the exteriors and grounds of our buildings, our institutions must critically self-reflect and develop strategies for becoming more inclusive, equitable, and empathic.

Located amidst two of the most ethnically and racially diverse neighborhoods in Minneapolis, Mia's columned, colonial façade may seem elitist and intimidating to many people, including the residents of our neighborhood. Although admission to the museum is free of charge as are many of our programs, our data shows that many of our neighbors do not participate in museum activities. As a means of extending a warm, inviting message to our local communities, in 2017, Mia launched a brand campaign in the numerous languages spoken in Minneapolis—Hmong, Somali, Spanish, Ojibwa, Dakota, and English—stating, "We're free. Everyone is welcome. Always." This messaging outside of our building is a first step in empathizing with area residents and honoring their cultural backgrounds and native languages.

Inside our building, we are also making changes. Increasingly over the last few years, we have had requests for prayer spaces, especially with the growth in our Muslim population. Also recently, Mia has been mounting powerful, yet challenging exhibitions that have the potential to traumatize or retraumatize our visitors. It has become essential that we dedicate a quiet space for reflection, healing, and prayer. Working in consultation with an expert from the community, we developed a space that accommodates the practices of Muslim worshippers as well as people of other religions and with other needs.

Through partnerships with organizations such as the Islamic Resource Center and the Advocates for Human Rights, Mia is working with artists and community members to create experiences in which they share their stories and worldviews. Through talks, spoken word, poetry, and performance—audiences engage in exploring issues of Islamophobia, LGTBQ rights, race, and immigration. Centering the experiences and voices of historically marginalized people, Mia is beginning to shift the age-old Western paradigm by highlighting the talent, expertise, and contributions of artists and community members of diverse identities and cultures. One of

Our world is also becoming more complex, requiring people to think critically, collaborate effectively, and approach problems creatively

the goals for such programs is social bridging, defined as the connections that link people across a cleavage that typically divides society (such as race, or class, or religion). (Claridge, 2018) Such initiatives are crucial for building greater understanding among our increasingly diverse populations.

Our world is also becoming more complex, requiring people to think critically, collaborate effectively, and approach problems creatively. Researchers now believe that empathy might be a critical key to unlocking these skills (Bright Horizons Education Team, 2020). With a focus on fostering these 21st century skills, Mia in partnership with the National Museums Kenya, Nairobi, launched "Girls Design the World: Supporting Green Communities with STEAM" (Science, Technology, Engineering, Art, and Math). Through his joint initiative of the U.S. Department of State and the American Alliance of Museums, teens researched environmental issues in their respective cities, creatively addressed these challenges through the empathy-centered process of design thinking, and connected with one another through web-based discussions. Through travel exchanges, the young women were able to experience each other's worlds, and despite their geographical differences, they came to realize that they shared many things in common and learned a great deal about themselves. Through post-program surveys, 100% of the young women from Minnesota and 86% of the young women from Nairobi stated that they gained greater understanding of one another's cultures.

Creativity and discovery are not only for teens. Another key audience for Mia and our empathy

work is older adults. Numerous studies show that this population often experiences social isolation, depression, and boredom. Creative aging—a set of practices that leverage the benefits of making, sharing, and engaging in the arts— fosters the mental, emotional. and physical health and well-being of senior citizens." (Pietsch, 2019) Mia hosts a variety of such programs each year from day-long interdisciplinary art history study days, to street art/graffiti classes, to watercolor painting, to poetry, and music. These programs offer social and connective opportunities for older adults as they learn artmaking skills and art history. These offerings are open to our members, and with a focus on accessibility, we host many of these classes at community partner organizations in our neighborhood, offering them free of charge.

Creative aging fosters the mental, emotional. and physical health and well-being of senior citizens

NEW PRACTICES FOR CULTIVATING EMPATHY IN EXHIBITIONS

Mia is also exploring empathy through exhibitions and interpretation. "Living Rooms," is an initiative in which the museum is reinvigorating our historic period rooms. In creating a dialogue between the past and the present, the museum is widening the conversation to include the missing narratives of historically marginalized people. *The Many Voices of Colonial America*, the 2017 reinstallation and reinterpretation of the 1872 Charleston Dining and Drawing Rooms, included the histories of enslaved Africans who cultivated rice on the South Carolina plantation and those of the Cherokee descendants of the owner, Colonel John Stuart. By adding stories and contemporary and historic artwork by Native American, African, and African American artists, as well as photographs and video inter-

views of living indigenous and diaspora artists and community members, Mia aimed "to encourage a greater connection between visitors and historic inhabitants' stories"

Findings of the evaluation funded by the National Endowment for the Arts, indicate that the reinterpretations of the rooms "had a positive impact on museum visitors, particularly concerning creating a connection to inhabitants' stories and stimulating surprise about the rooms' history and events." Before the reinstallation more people referred to the decorative arts objects and physical space and after the reinterpretation, 10% more participants compared their lives to the lives of the rooms' inhabitants (Ingram, 2017). Creating opportunities for human connections in gallery installations is one of the ways that Mia can foster historical empathy and impact today's audiences. (Gardner, 2019)

In 2018, Mia collaborated on timely and resonant exhibition focused on fostering greater understanding across difference. *Art and Healing: In the Moment*, featured artwork created in response to the deadly shooting of 32-year old Philando Castile, an African American man who grew up in Saint Paul, Minnesota. He was fatally shot on July 6, 2016, by police after being pulled over for a traffic stop. In the months after his funeral, artists across the community were motivated to make art to process their grief and begin healing, while also bearing collective witness to the tragedy of his untimely death. His family, moved by this generosity, approached Mia with a desire to publicly share these artworks.

As Castile's mother wrote in the introductory exhibition text panel, "I wanted to create something that is strong, spiritual, and educational. It should touch people's emotions and show hope and kindness. It is important to me that it helps develop conversations around injustices. I hope that when people engage with this exhibit, they begin to understand what it's like to be

a Black person in America. Black people in this country have been stereotyped for generations and have had to live in other people's concepts of who they are. I hope more people can begin to understand this struggle and join together to work against negative perceptions and biases. All things can change if we are able to transform our perceptions of who we are to one another."

Reactions to the exhibition were emotional and powerful. A response wall in the installation offered visitors the opportunity to express and share their thoughts and hopes: (Gardner, 2019)

Forgive our silence. Show us how to show empathy and change behavior.
Teach my son to see the person, <u>not</u> the color.
I feel moved to tears, yet uplifted by this art.
Grow my understanding, empathize, and act."
(Anderson, 2018)

Another exhibition that was curated and interpreted through an empathetic process is the 2019 *Hearts of Our People: Native Women Artists*. Over five years co-curators Jill Ahlberg-Yohe, Mia's associate curator of Native American Art and Kiowa artist, Teri Greeves co-created every aspect of the exhibition with nearly two dozen Native women. Both curators believed that including the perspectives of women from a multitude of tribal nations was crucial and necessary. As Greeves stated, "We asked for their help throughout the entire exhibition process, not just once during a meeting at the museum—and they very generously shared their knowledge." (Greeves, 2019) The advisors spoke positively of this long-term collaboration and acknowledged the process as reflective of Native practices, and they felt their input was heard and incorporated. Examples of this include the selection of the artworks, the themes of the exhibition, the inclusion of a Native Land Acknowledgment statement in the form of an artwork that welcomed people and recognized the Dakota people whose land Mia now occupies. Other input included the presence of Native offering baskets in the galleries

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and the translation of artwork label text into the Native languages of its makers.

The advisors also partnered with Mia's interpretive team to bring these women and their incredible stories to life and humanize the exhibition. Museum staff members traveled across the U. S. and Canada to interview, film, and record these incredible artists in their studios and homelands. Visitors could see the artists and hear their stories via large video screens and an audio tour, and their voices and presence infused the galleries. In post-visit interviews, visitors overwhelmingly said that they felt connected to the artists through the personal storytelling and narratives in the media content.

CONCLUSION

The impact that museums can have on our publics is immense. As *Hearts of Our People* shows, museums must authentically change from the inside out and value and practice empathy and equity. By honoring, respecting, and seeking various perspectives and expertise, including those of historically marginalized populations, art museums can engage with, inspire, and support our increasingly diverse communities. With the world changing at such a rapid pace, our institutions must authentically change as well. By critically reflecting on our traditional practices and challenging the status quo, museums have opportunities to become more resonate and relevant. As Stephen Weil, so eloquently stated, museums must be about and for somebody, and ultimately be "instruments for social change." (Weil, 1999)

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Understanding what activities may improve children's moods may help them cope with emotionally distressing situations

JENNIFER E. DRAKE AND ELIANA GROSSMAN

DRAWING WHEN FEELING SAD
What Do Children Draw Spontaneously When Feeling Sad?

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WHAT DO CHILDREN DRAW SPONTANEOUSLY WHEN FEELING SAD?

Children experience emotions on a daily basis. Whether sadness over a lost pet, exuberance over winning a game, or fear when confronted by a bully, children encounter a variety of emotionally arousing situations likely to generate an emotional response (Denham, 1998). With development, children learn to monitor, evaluate, and modify their emotional reactions (Thompson, 1994) and regulate their positive and negative emotions. Children who are able to regulate their emotions can then respond to their environment with emotionally competent behavior that promotes confidence in their abilities (Denham, 1998). Rather than pushing a bully, for example, emotionally competent children are likely to seek the support of an adult. Additionally, childhood regulation of negative emotions is associated with academic success, close relationships, and the absence of behavior problems (e.g., NICHD, 2004).

An important aspect of emotion regulation is learning which strategies to use when confronted with an emotionally arousing, stressful situation. As adults, we possess knowledge of cognitive and behavioral strategies that are most beneficial for a particular situation, yet children are much less likely to have such knowledge (Parkinson & Totterdell, 1999). Understanding what activities may improve children's moods may allow parents and educators to help them cope with emotionally distressing situations.

Children use a variety of strategies to regulate their emotions. One of the most common strategies is distraction (Skinner & Zimmer-Gembeck, 2007). While distracting themselves, children are not actively avoiding their feelings, but rather are focusing on something else to help them adjust their feelings. Children regulate their emotions primarily through behavioral distraction (e.g., playing games) but also through cognitive distraction (e.g., thinking about something fun). With development, children come to recognize that behavioral distraction is effective when it involves an absorbing activity that displaces negative thoughts with positive thoughts (Harris, 1989). An example of such a pleasurable activity may be drawing. Children are natural artists and, when given the opportunity, are highly absorbed in the act of drawing from a very young age (Gardner & Winner, 1982; Jolley, Knox, & Foster, 2000). When drawing, children are engrossed, focused, engaged, and playful. It seems likely then that engaging in this activity would help them regulate their emotions.

Testimonials from artists suggest that art may be beneficial for regulating emotions, as artists have often talked about art as if it were a form

of therapy. The sculptor Henry Ward Beecher said: "every artist dips his brush in his own soul, and paints his own nature into his pictures" (Beecher & Drysdale, 1887). In the current work, we were interested not only if drawing could be used to improve mood, but whether drawing improves mood because it allows us to express our negative feelings or because it distracts us from our negative feelings. Artists have talked about art as both a way to express and as a way

We found that drawing improved mood in children when used to distract rather than express their sad mood

to distract. Georgia O'Keeffe referred to art as a way to express: "I could say things with color and shapes that I couldn't say any other way – things I had no words for" (O'Keeffe & Bry, 1988). This self-expression view underlies the profession of art therapy. According to the American Art Therapy Association: "Art therapy is...based on the belief that ...artistic self-expression helps people to resolve conflicts and problems, ... reduce stress, ... and achieve insight" (American Art Therapy Association, 2017). Some artists have also described art as a form of distraction and as a way to shift their attention away from what pains them. Vincent van Gogh said: "It distracts me infinitely better than anything else" (Stone, 1969). The art-to-distract view is also consistent with some of the emotion regulation literature.

A growing body of research has examined the emotion regulation benefits of drawing and has shown that a single session of drawing (for about 10-15 minutes) improves mood in adults. For example, one study found that drawing improved mood more than copying shapes or a word puzzle (De Petrillo & Winner, 2005). Other work has examined whether mood benefits differ when using drawing to express versus distract. Researchers have found that drawing

something happy improved mood more than drawing to express or scanning a sheet of neutral symbols (Dalebroux, Goldstein, & Winner, 2008). Subsequent research examined whether drawing a neutral object, like a house or still-life, could also improve mood. Findings showed that the benefits of drawing also extend to neutral objects and that drawing can be used to regulate sadness (Drake & Winner, 2012) and anger (Diliberto-Macaluso & Stubblefield, 2015).

Our initial work has demonstrated that drawing can also improve mood in children ages 6 to 12 (Drake & Winner, 2013). In this 2013 study, we induced a sad mood by asking children to think of a time when they were really disappointed about something. We asked them to rate how they were feeling after thinking about the event and randomly assigned them to either use drawing to express or drawing to distract. The drawing to express group was asked to make a drawing about the event that they thought of in the moment. The distract group was asked to make a drawing of something unrelated to the event such as a house or tall building. After drawing for 5 minutes, we asked children to rate their mood again. We found that drawing improved mood in children when used to distract rather than express their sad mood. We also found that drawing to distract improved mood more than copying a line drawing. This suggests that having the ability to freely construct an image plays an important role in mood improvement.

The current study investigated what children draw spontaneously when upset. We first induced a negative mood by asking children to think of a time when they were upset. Then, we simply asked children to draw whatever they liked for 5 minutes, with no instructions on the content of their drawings. We then examined which emotion regulation strategy children engaged in when upset. Do children use drawing to distract and make themselves feel better by shifting their attention away from the disappointing event? Or do children draw something related to the disappointing event allow-

The current study investigated what children draw spontaneously when upset

ing them to express and release their feelings? Given that distraction is one of the most frequently used emotion regulation strategies by children, we hypothesized that children would use drawing to distract more often than drawing to express. We also examined the content of children's drawings and what they were thinking about when drawing.

OUR METHODOLOGY

We recruited children from children's museums, art museums, and summer camps in New York City. Research staff approached families with children between the ages of 6 and 12 as they were visiting the museum, explained the study to them, and invited their child to participate. Most children and their parents agreed to participate for a total of 85 participants. We worked with children in two age groups: 54 children from the ages of 6 to 8 (average of 7.8 years of age; 28 girls) and 31 children from the ages of 10 to 12 (average of 11.1 years of age; 17 girls). The racial and ethnic composition of the children reflected the diversity of Brooklyn, New York. We investigated the effects of drawing on emotion regulation in two age groups of children in order to test between two hypotheses. On one hand, younger children (compared to older children) may show a greater mood improvement after drawing because they are more absorbed in the activity and spend more time drawing than older children (Gardner, & Winner, 1982; Jolley et al., 2000). On the other hand, older children (compared to younger children) may show a greater mood improvement after drawing because they play a more active role in regulating their emotions than do younger children (Saarni, 1999).

To induce a sad mood, we asked children to think of a disappointing event. The experimenter said

the following to the child: "I want you to think of a time when you wanted something really good to happen to you and it didn't and you felt really upset and disappointed. I want you to close your eyes and think about how you were feeling when it didn't happen." Children were given one full minute to do this. They were then asked to recall the event to the experimenter. After the sad mood was induced, we gave children a piece of paper and markers and instructed them to draw whatever they wanted for 5 minutes. If they completed their drawing before 5 minutes had passed, we encouraged children to continue by asking them to add more details to their drawing. This ensured that the passage of time was consistent across children. Children's mood was measured before and after the sad mood induction and after drawing: we presented children with five faces that ranged from very sad to very happy and we asked children to select the face that best represented how they were feeling at that moment.

Once they completed their drawing, we asked children about their drawing experience. We asked children to describe what they drew and why they drew what they did. This allowed us to assess whether there are specific items children draw when in a sad mood. Children were also asked a series of follow-up questions (e.g., "What were you thinking about while you were drawing?") so we could examine whether drawing serves different functions (i.e., distract vs. express) when children are spontaneously instructed to draw after a sad mood induction. After the activity, we asked children how much they enjoyed the activity and how well they thought they did on the activity. Finally, we assessed how absorbed children were in the drawing activity by asking whether they forgot about the event while drawing or couldn't stop thinking about it.

OUR FINDINGS

We were interested in whether children's mood would improve when they engaged in a free

draw activity. First, we found that after thinking about the disappointing event, children reported feeling sad, demonstrating that the sad mood induction did indeed work. More importantly, we found that children's mood improved from before the drawing activity began to after the drawing activity ended, and mood improved more strongly for younger than older children. Regardless of age group, the majority (92.7%) of children used drawing as a way to distract themselves from the sad event they thought of.

We were also interested in what children would draw spontaneously when upset. While the majority of children made drawings to distract, the content of their drawings did differ by age group (Figure 1). Younger children were more likely to draw activities that they enjoyed or objects they felt competent drawing. One younger child drew roller coasters because the child "really liked roller coasters" (enjoyment) and another younger child drew flowers because the child was "good at drawing trees and flowers" (competency). Older children were more likely to draw items they had observed in their environment or had thought about. One older child drew a red flower because the child had "seen a lot of red flowers today" (observation) and another child drew flowers and a butterfly because the child was "thinking about summer" (thoughts).

When asked about what they were thinking about while drawing, about half of children in both age groups were thinking about creating their drawing. One 7-year old reported thinking about "the colors I was using" while a 10-year old reported thinking about "what to add to the drawing." Children also reported thinking about distracting events unrelated to the creation of their drawing. For example, one 8-year old reported thinking about "animals" while a 11-year old reported thinking about "being outside with my friends." Finally, we found that the children enjoyed drawing and rated the quality of their drawings as "pretty good" to "good." Children of both age groups were highly absorbed in the activity of drawing.

CONCLUSION AND IMPLICATIONS

Our work demonstrates that drawing improves mood even when children are given no instructions on what to draw. Children were more likely to use drawing as a form of distraction rather than expression. While drawing, children shift their attention away from the disappointing event, and this likely helps them to feel better. This work suggests that children do not need to be given specific instructions on the content of what to draw in order to reap the emotion regulation benefits of drawing. Children can simply be given the opportunity to draw. We do not know whether children intentionally used drawing to distract themselves or whether this occurred spontaneously.

We found that the benefits of drawing do differ by age group. While drawing improved mood for both younger and older children, younger children showed greater mood improvement. This may be due to fact that children become more critical of their drawing abilities as they age (Jolley et al., 2000). It also possible that the content of younger children's drawings might be related to their greater mood improvement. Younger children were more likely to draw things that they enjoyed or that they felt competent drawing, while older children were more likely to draw things that they observed or thought of. Drawing an enjoyable activity, like riding a roller coaster, may generate more joy and result in a better mood than drawing a flower observed in the child's neighborhood. Finally, we found that when drawing, the majority of children reported thinking about the content of their drawings (e.g., what colors to use, what to draw next). This suggests that children were engaged and focused on the drawing activity and were highly absorbed in the activity.

Our work supports the position articulated by the painter van Gogh: "It distracts me infinitely better than anything else" (Stone, 1969). Art helps us by taking us away, not by immersing us more deeply in what pains us. Distraction should

not be thought of as a mindless form of escape, but rather as an adaptive way of coping. When drawing to distract, children are engaging in a pleasurable activity that allows them to adjust and regulate their emotions. This work informs our understanding of how the near-universal childhood activity of drawing serves to regulate children's emotions – particularly the emotion of sadness.

It is well-established that academic performance is at its best when a child is in a positive mood, and we now know that the arts can be used to improve a child's mood

Improved understanding of how drawing helps children regulate their emotions has important educational implications. There is considerable controversy about how much emphasis schools should place on the arts in the curriculum. With the focus on testing and basic literacies, the arts have a limited presence and are often the first activities to be eliminated from the curriculum. This is short-sighted. It is well-established that academic performance is at its best when a child is in a positive mood, and we now know that the arts can be used to improve a child's mood. Furthermore, unstructured creative activities, like free drawing, are even less likely to take place in the classroom. Instead, art programs that do exist emphasize technique and direction following and often lack the unstructured activity that children might benefit from. Opportunities for unstructured artmaking should be included in the school day for two important reasons: the arts improve emotional well-being and, in so doing, they can improve academic performance.

Figure 1. Sample of children's drawings. Younger children drew activities they enjoyed (top, left) and items they felt competent drawing (top, right). Older children drew items they observed (bottom, left) or had thought of (bottom, right).

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Our work tries
to contribute to
understanding the
relationship between
EI and creativity

CREATIVITY AND EMOTIONAL INTELLIGENCE IN STUDENTS

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THEORETICAL FRAMEWORK ABOUT EMOTIONAL INTELLIGENCE AND CREATIVITY RELATIONSHIP

The relationship between emotion and creativity has been of interest since long before the concept of emotional intelligence emerged. Especially in early works, it has been hypothesized that mood disorders are associated with creativity outcomes. That view was supported by the Freudian approach and it is quite popular among non-academics. As Taylor notes "The notion that creativity is somehow related to psychopathology has become an axiom in Western culture. We are inundated with historical anecdotes, news stories, and popular media fuelling the stereotype of the suffering artist and the mad genius" (Taylor, 2017, p. 1.)

This type of research contradicts the humanistic view of creativity, in which creativity is associated with health, mental stability, and positive emotions (Tripathi, 2019). The most influential models of creativity from the 1980s give a relevant role to personal characteristics as well as to motivational factors (i.e. Sternberg & Lubart, 1995, Amabile, 1983; Csikszentmihalyi, 1997).

From those approaches, it is understood that mood can affect the process of creation. For instance, Amabile emphasizes the role of intrinsic motivation, which refers to enjoying the task at hand. Similarly, the state of flow described by Csikszentmihalyi, in which the person engages for long periods in a problem, frustration must be handled and boredom needs to be avoided. It is tacitly understood that dealing with emotions can provide a better creative outcome.

The emergence of the emotional intelligence (EI) construct in the early 1990s gives us a new approach to the study of emotions and creativity. Particularly, according to the Salovey and Mayer (1990) model, the emotional regulation branch was associated with a better management of mood states while doing a task. No less important was the thought facilitation branch (using emotions to facilitate the process of thinking), which helps with selecting the task to handle, depending on one's emotional state.

STUDIES FOCUSED ON EMOTIONAL INTELLIGENCE AND CREATIVITY

The main pathway in which EI is thought to impact creativity is by moderating the emotional state or mood. Thus, emotion affects the cognitive system and changes it. These changes make an individual see the issues from various approaches and think deeply and creatively about them. Positive mood states impact on individuals' attention by facilitating perception of diverse characteristics of the object included in a task, and enhancing the possibility of combining the different elements. Positive emotions

enhance creativity by facilitating access to positive material in memory (Zenasni & Lubart, 2008), increasing awareness and enhancing breadth and flexibility of thinking. People put into a positive mood produce more original word associations and perform more successfully on tests of creative ability than people put into negative or neutral mood states (Baas, De Dreu, & Nijstad, 2008). In addition, it has been proposed that an emotional link between concepts is crucial to coming up with creative metaphors (Lubart & Getz, 1997).

How EI impacts creativity is not an easy subject. For instance, high EI people can maintain a positive environment and indirectly increase their creativity performance (Isen, 1999), but also the environment can be modulated by others' EI. For example, by the teachers' EI or the team leaders' EI.

Most of the research that has been conducted on the relationship between EI and creativity has been carried out with special populations

The research on the relationship and impact of EI on creativity faces several challenges:

1 Whether we are studying a direct relationship or an indirect one. If we know that it is an indirect relationship between EI and creativity, then what other variables should be included in our study? Those variables will depend on the specific context. For instance, in the company context, variables such as self-motivation, organizational commitment, or leader and member exchange of information should be considered.

2 How emotional intelligence and creativity are measured. Are we using self-report questionnaires or performance tasks? According to Tu, Guo, Hatcher and Kaufman (2018) sig-

nificant relationships are found between EI and creativity when using self-report measures, but not when performance measures of creativity (i.e. divergent thinking tests) are used.

3 In which creativity domain can we find a relationship between creativity and emotional intelligence? In theory, the domain of emotional creativity should show higher relationships with emotional intelligence, although the scarce research on this domain does not corroborate this hypothesis.

4 What is the moderator effect of culture between creativity and EI? It has been suggested that individuals in collectivistic cultures are likely to define their identity based on membership in their reference group and adjust their behaviour to maintain the membership. Therefore, employees with higher EI in collectivist cultures may inhibit their creative ideas in order to not stand out (Lee, Scandura, Kim, Joshi, & Lee, 2012).

Most of the research that has been conducted on the relationship between EI and creativity has been carried out with special populations, such as software developers, staff members of the information technology industry, salespeople, etc. Nevertheless, we will focus on studies of the general population, or with student samples.

The Guastello, Guastello, and Hanson (2004) study was focused on the role of mental disease related to mood changes and the relationship between creativity and emotional intelligence. They took a sample of 412 undergraduate students enrolled in psychology courses. These students completed some tasks to measure cognitive creativity, personality traits, creative behaviour and cognitive style, and EI (using self-reports on the Schutte's scale). In addition, participants were asked whether they had depression or bipolar disorder, whether a family member had either, or if they had any other

mental health problems. In this study, emotional intelligence did not show any significant correlation with divergent thinking tasks (measures of cognitive creativity), but it did show some moderate correlation with the creative production reported in some areas (literature, theatre, and apparel design).

In this study, a significant effect was obtained for participants' treatment for mood disorders: ideational fluency – number of ideas generated – was greatest for people who completed their therapy and lowest for people who were currently in therapy. The highest scorers on creative production reported in different areas were in therapy and the lowest scorers were people who considered therapy, but did not undertake it. Similarly, the greatest flexibility of cognitive styles was found among people in therapy and the least flexibility was again found among people who considered therapy, but did not undertake it. Assuming that therapy can help participants dealing with mood switch, it could be concluded that subjects with higher emotional regulation perform better on creativity.

Assuming that therapy can help participants dealing with mood switch, it could be concluded that subjects with higher emotional regulation perform better on creativity.

The study conducted by Chan (2005) was a pioneering research on emotional intelligence, creativity and family hardiness (which refers to the internal strengths and durability of the family unit). The sample was composed of 212 gifted students from Hong Kong (China). They took a Chinese version of the Schutte Questionnaire of emotional intelligence; a Creativity Self-Rating Scale and a Family Hardiness

scale which assessed interdependence, support, and resilience of family members. Chan found that self-perceived creativity correlated substantially and significantly with both family hardiness and emotional intelligence. In addition, emotional intelligence could predict self-perceived creativity, social skills, utilization of emotions, and empathy. It was found that creative students could be more emotionally intelligent, and that they were more likely to come from families that mitigate the effects of stressors and demands.

Chan's study is important because it illustrated how the context can benefit creativity. Contrary to the hypothesis that cultures with greater cohesion may show less creative behaviour, this study shows that family cohesion and support, as well as parents' expectations, are important for creativity development.

Ivcevic, Brackett, and Mayer (2007) aimed to study the relationship between creativity and EI, focusing on emotional creativity. They conducted a set of three studies with undergraduate participants. In the first two studies, participants were tested for cognitive creativity, emotional creativity, EI (using an ability test), cognitive intelligence (using the SAT scores on verbal and mathematics tests), behavioural creativity (using a poem composition performance task), and personality traits. In both study 1 and study 2, emotional intelligence measured with an ability test did not significantly correlate with cognitive creativity, nor with emotional creativity. Significant correlations were found between ability to perceive emotions (one of EI abilities) and preparedness and effectiveness components of emotional creativity (in study 2). The authors conclude that even when a direct relationship was not found, it could still be speculated that emotional intelligence is relevant for creative performance in specific domains that require the manipulation of emotions, such as acting on stage. But also, emotional intelligence could be relevant for those people that suffer from frequent mood swings.

Dadvar, Mohamadrezii, and Fathabadi (2012) conducted a study aimed at identifying the relationship between emotional intelligence and creativity. A total of 214 high school students in Iran participated in this study. Their EI was measured with a self-report questionnaire and their creativity was measured with a creativity inventory. The authors examined the correlations between 15 facets of EI and creativity. The results showed significant correlations only for the following facets: assertiveness, self-esteem, self-actualization, and problem solving. Most correlations were weak.

Sandhu (2014) aimed to study the impact of EI on creativity and analyse some demographic variables that may affect creativity. A total of 100 undergraduates from science majors and 100 undergraduates from commerce majors in Haryana (India) participated in this study. They completed a creative test similar to Torrance Test of Creative Thinking; and a 34-item EI scale. It was found that students with high emotional intelligence scored higher on creativity that students with lower EI.

Thus, the findings in this study are consistent with the theories associating EI components with a better creative performance

Tripathi (2019) aimed to understand the nature of EI and creativity. The sample consisted of 100 undergraduate students across Kolkata (India). Torrance Test of Creative Thinking and an EI questionnaire (assessing self-awareness, self-regulation, motivation, social awareness, and social skills) were administered. A weak correlation between self-reported creativity and EI was found.

The study conducted by Tu et al. (2018) aimed to examine the relationship between EI and general and domain specific creativity. A sample of 281 Chinese undergraduates completed an EI scale, a creativity test (measuring divergent thinking), and the Kaufman Domains of Creativity Scale. Although EI demonstrated no relationship with divergent thinking, moderate correlations were found between EI and self-reported creativity. EI positively predicted all five domains of creativity on the self-report measure – everyday, scholarly, performance, scientific, and artistic creativity. Thus, the findings in this study are consistent with the theories associating EI components with a better creative performance.

At Murcia University, researchers Prieto, Ferrando, and Ferrándiz (2020) looked into the relationship between creativity and EI using a sample of 187 gifted students in secondary education. Students completed the Torrance Test of Creative Thinking and an EI questionnaire. It was found that the intrapersonal dimension of EI – ability to be aware of oneself, to understand one's strengths and weaknesses, and to express one's feelings – was the one that showed the strongest correlation with creativity, and could modestly predict creativity. In addition, they compared the EI of gifted students, who are said to be highly creative, with non-gifted students. Gifted students scored higher in general positive mood (comprising optimism and happiness) and adaptability (ability to manage change, including problem solving and flexibility, both traits of creativity). Contrary to what was expected, the data did not show differences between gifted and non-gifted students, neither in other dimensions (intrapersonal, interpersonal, stress management and general mood) nor in the total EI score.

SOME CONCLUSIONS

Our work tries to contribute to understanding the relationship between EI and creativity. The review of the literature shows that the strength of association between EI and creativity is mediated by the type of measure (Tu et al., 2018; Xu, Liu, & Pang, 2019). It is speculated that the association found when using self-reports is due

to a statistical artefact. But, it is worth keeping in mind that Tu et al. (2018) did correct for such error, and positive effects on all domains of creativity measured by the Kaufman scale were still found.

In addition, it was found that empathy (a component of EI) predicts creativity; that is, people who scored high on the "reading the mind in the eyes" test (EI measure), scored high on creativity markers established for a humour-production task using cartoon captions (Geher, Betancourt, & Jewell, 2017).

It could be that EI is important to be creative in some specific domains that are linked to the interpersonal relationship (i.e. actors, humourist, teachers, etc.)

A final remark should be considered; even when divergent thinking tests seems to be the best option to measure creativity in an objective way, they do measure a potential for creativity, and not actual creative achievements. Even so, the divergent thinking tasks still continue to be the most suitable for primary school children.

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Creativity has been recognized as one of the most important skills required by the workforce of the 21st century (World Economic Forum, 2016)

LEADERSHIP, CREATIVITY, AND EMOTIONS:

Psychological Safety and Creating a Climate for Creativity

Roni Reiter-Palmon

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Organizations often face complex problems where simple or routine solutions will not work. Instead, these problems require creative or innovative ideas or solutions. The 21st century has seen a dramatic increase in global expansion and competition, economic fluctuations, and increasingly complex use of technology. These changes have forced organizations to adapt to new environments, anticipate changes in consumer demands, and better predict future challenges. Creativity and innovation are also critical to success in most other organizations including non-profits, educational institutions, and social service agencies. These challenges require organizations to innovate and be creative (Ford & Gioia, 1995; Shalley et al., 2004; West et al., 2004). In fact, creativity has been recognized as one of the most important skills required by the workforce of the 21st century (World Economic Forum, 2016).

Most often, these obstacles and challenges are too complicated to be solved by a single individual, or even a team of individuals with similar expertise and backgrounds. Thus, teams that are more diverse in their backgrounds and experience are better able to overcome challenges (Kozlowski & Bell, 2008). Teams are increasingly used by leaders to solve problems and overcome challenges faced by the organization because teams allow diverse perspectives, increased knowledge, and expertise (Harvey, 2014; Kozlo-

wski & Bell, 2008; Mesmer-Magnus & DeChurch, 2009). However, teams face many challenges to being creative, especially interdisciplinary teams (Reiter-Palmon et al., 2013).

In this chapter, the focus will be on functionally diverse teams, as most creative work happens in these types of teams. Functional diversity refers to diversity based on educational background, knowledge, role in the organization and other aspects specifically related to the position one has in the organization. Team diversity influences both the social and emotional underpinnings of these teams. Importantly, I will argue that a key emotional aspect of enabling team creativity is that of psychological safety. Finally, I will address how leaders can facilitate psychological safety in diverse teams and therefore foster creativity.

One important effect that team diversity has is that team members will have different knowledge and expertise. It has been suggested that these differences are what allows an interdisciplinary team to be more creative (Hulsherger et al., 2009). As team members have access to different knowledge and information, and possess a variety of skills, abilities, and expertise, problems may be evaluated from multiple perspectives, and a more complete and creative solution can be developed. The preceding discussion suggests that the benefits afforded

by team functional diversity and team member creative potential are not straightforward. It is not enough to assemble teams that include creative individuals and that are diverse or interdisciplinary. Teams must be able to capitalize on these advantages. De Drue, Nijstad, Bechtoldt, and Baas (2011) have suggested that both cognitive and social processes play a critical role in team creativity and innovation. Specifically, based on the Motivated Information Processing model, they have suggested that while cognitive aspects associated with diversity may lead to increased creativity, social processes must be in place to ensure that teams can take advantage of the cognitive diversity and cognitive processes of the team. However, these differences in perspective and knowledge also provide ample opportunity for misunderstandings, difficulty in communication, difficulty in developing trust and positive relationships, and increased conflict and negative emotions (Reiter-Palmon et al., 2011). These negative aspects of team social processes have also been found to be related to less effective team functioning, and lower creativity in teams (Reiter-Palmon et al., 2011).

Creative teams are characterized by high trust among team members and a sense of psychological safety (Burningham & West, 1995; Edmondson, 2004; West & Anderson, 1996). Psychological safety has been defined as the belief that it is safe to engage in interpersonal risk-taking in the workplace (Edmondson, 1999). When individuals are psychologically safe, they feel that other team members will respect them, engage in constructive conflict, can be themselves and speak freely, and are able to experiment and take risks. It is important to note that a psychologically safe team is not one where people are being nice for the sake of being nice. In fact, the definition suggests that team members may disagree and conflict may emerge. Psychologically safe environments encourage open communication which can lead to disagreement, but also focus on constructive ways of addressing the disagreements.

Psychological safety has been linked to team member willingness to discuss information openly and freely (Salas et al., 2005). In addition, psychological safety has been found to encourage employees to take initiative, make suggestions, and to facilitate the implementation of innovation (Burke et al., 2006; Edmondson, 2004). Further, psychological safety has been linked to information and knowledge sharing (Carmeli et al.,2010; Hu et al., 2018). These findings suggest that psychological safety influences the motivation of team members to engage in behaviors that lead to creativity and innovation (Frazier et al., 2017). Similarly, the research on climate for creativity has found that a climate of psychological safety facilitates the creative performance of teams and individuals (Amabile & Gryskiewicz, 1989; Ekvall, 1996; Hunter et al., 2007).

A climate of psychological safety facilitates the creative performance of teams and individuals (Amabile & Gryskiewicz, 1989; Ekvall, 1996; Hunter et al., 2007)

Team psychological safety also influences communication patterns and the behavior of team members. Research indicates that when feeling psychologically unsafe, individuals are more likely to develop a defensive orientation and are less likely to display creativity and innovative behavior at work (Nicholson & West, 1988; West & Richter, 2008). In addition, when psychological safety is low, disagreements and misunderstandings over ambiguous information are more likely to be interpreted in a negative way, resulting in negative responses from team members and often leading to conflict (Curseu & Schruijer, 2010; Salas et al., 2005). This may be particularly important for interdisciplinary creative teams, as diversity may lead to increased incidents of misunderstandings, disagreement, and difficulty in developing trust. Research suggests that

trust is more easily developed in teams that are homogenous (Curseu & Schruijer, 2010).

Psychological safety has also been found to be an important antecedent of learning in organizations (Carmeli et al., 2009; Edmondson, 1999, Harvey et al., 2019). Learning requires that employees feel comfortable identifying mistakes and discussing ways to improve performance. Open and honest discussion, information exchange, constructive conflict, and the ability to take interpersonal risk are all characteristics of the necessary reflection that preceeds learning (Reiter-Palmon et al., 2020; Tjosvold et al., 2004), all of which characterize psychological safety.

Open and honest discussion, information exchange, constructive conflict, and the ability to take interpersonal risk are all characteristics of the necessary reflection that preceeds learning

One conclusion emerging from the research to date is that psychological safety may be viewed as an overarching construct that encompasses many of the social processes that have been found to be critical for creative teams. Many of the social processes that have been shown to be important for team creativity such as collaboration, communication, effective conflict resolution, and knowledge sharing are all influenced by psychological safety or are antecedents of psychological safety (Edmondson & Lei, 2014; Reiter-Palmon et al., 2011).

LEADERSHIP AND PSYCHOLOGICAL SAFETY

Leaders have a significant role in developing, transmitting, and maintaining team and organizational culture, including a culture of psychological safety (Edmondson, 1996; Schien, 2010). Leaders influence the development of psycho-

logical safety culture through the effect they have on multiple social processes indicated in the previous section. Specifically, leaders can create a culture of psychological safety by facilitating effective collaboration between team members. One way in which leaders can facilitate collaboration is through encouragement of team members to participate in team discussion and information sharing (Reiter-Palmon et al., 2011). Team members may be hesitant to share ideas if they feel competitive with other individuals in the group or feel there is a risk that others on the team may steal their ideas and present them as their own (Kahai et al., 2003). Similarly, information sharing as part of the collaborative process can be quickly halted if one team member dominates the discussion, thus preventing others from participating or contributing their ideas and perspectives. Leaders can encourage collaboration and information sharing by creating an environment where team members are willing to share ideas and knowledge, feel safe in contributing without negative consequences, feel that their ideas and perspectives will be valued, and feel empowered to participate in the problem solving process. Further, leaders can ensure that all team members can participate in the discussion and that one member is not overly dominating or that other members avoid participating. Leaders can further encourage participation in teams by modeling open communication, providing recognition to individuals for their contributions, and ensure that the team environment is conducive to idea sharing. Leaders should also monitor team communication to ensure that no one member dominates the conversation. Further, the leader may have to monitor communication to ensure team members are supportive of one another and encourage reticent team members to participate when needed (Farris, 1972; Nembhard & Edomondson, 2006; Paulus et al.,2001).

Other research highlights the role of leaders in developing psychological safety through not being overly critical of errors and mistakes (Hu et al., 2018). Discussion of errors and mistakes

can easily become a session where blame is assigned (Allen et al., 2019). Leaders that signal that making mistakes is acceptable, will lead to increased psychological safety. It has been suggested that humble leaders, those leaders that openly admit their own shortcomings and mistakes, are likely to develop a culture of psychological safety (Hu et al., 2018). This is particularly important in understanding how leaders manage conflict, as discussion of errors and mistakes can also lead to conflict between team members. However, not all conflict is detrimental to psychological safety. Therefore, leaders must be careful in managing conflict, allowing healthy and constructive disagreements, typically focusing on task conflict, while eliminating or minimizing relationship conflict.

Teams that are made up of diverse individuals may have very different views on how to approach a problem and how they share information, thus leaders are in a critical position to monitor and facilitate appropriate communication (Fairchild & Hunter, 2014). Furthermore, creative individuals are often independent, competitive, and critical, making it more likely that these teams may see higher levels of conflict due to personality differences (Feist, 1998; Silvia et al., 2011). Leaders are responsible for creating an environment conducive to task conflict to promote idea generation and evaluation, while ensuring that relational conflict does not detract from the creative process. By creating an environment of safety, individuals know they can trust their leader and trust each other with their ideas and perspectives.

Furthermore, leaders are often looked to as a role model on appropriately handling conflict (Fairchild & Hunter, 2014). Leaders therefore can influence team conflict by setting expectations for appropriate interactions and ways to handle conflicts that arise between group members (Salas et al., 2008). Lee, Lin, Huan, Huang, and Teng (2015) found that task interdependence tends to reduce relational conflict. Task interdependence requires individuals to collaborate to complete a task or reach a goal and leaders play a vital role in facilitating the team in working together to reach a goal. Additionally, leaders must ensure that there are appropriate levels of task conflict, as too high of levels are detrimental. This requires leaders to monitor communication and facilitate understanding of where each team member is coming from when making suggestions. Leaders are responsible for ensuring that team members appropriately understand others' contributions and reach a shared understanding of the problem in an effort to work collaboratively (Reiter-Palmon et al., 2013). When team member interactions become tense, leaders should facilitate positive resolutions to disagreements to ensure that relational conflict does not manifest (Reiter-Palmon et al., 2013).

Several specific leadership styles have been found to facilitate psychological safety. For instance, transformational leaders focus on empowering individuals and ensuring their personal growth, which leads to higher levels of trust with the leader and perceived support (Carmeli et al., 2014; Zhou & Pan, 2015). Servant leadership, referring to leaders who put the needs of followers first, similarly builds a feeling of group safety and community where individuals can share information and perspectives, thus bolstering team creativity (Schaubroeck et al.,2011). Likewise, ethical leaders create an environment of trust and cooperation, which facilitates information sharing and increases creativity (Avey et al.,2012; Boies et al., 2015; Carmeli et al., 2013; Tu et al.,2019). Finally, leader inclusiveness, which refers to leaders that invite and appreciate contributions from team members, has been found to improve psychological safety (Nembhard & Edmondson, 2006). All these leadership styles focus on careful attention by the leader to the needs of the followers and treating followers humanely and positively.

CONCLUSION

In this chapter, I have reviewed the literature related to psychological safety and its importance

to creativity and innovation. Further, I make the argument that psychological safety can be seen as an overarching, critically important, concept, that summarizes all the various aspects of team social processes that facilitate creativity and innovation in teams. These social processes such as effective collaboration and communication, knowledge and information sharing, and conflict resolution, all are outcomes of psychological safety. Finally, the chapter reviewed what leaders can do to facilitate the development of psychological safety in teams. Behaviors such as role modeling effective and supportive communication, ensuring participation, and addressing conflict are important in the development of psychological safety. Most importantly, leaders who treat their subordinates with respect, tolerance and are supportive, develop a culture of psychological safety.

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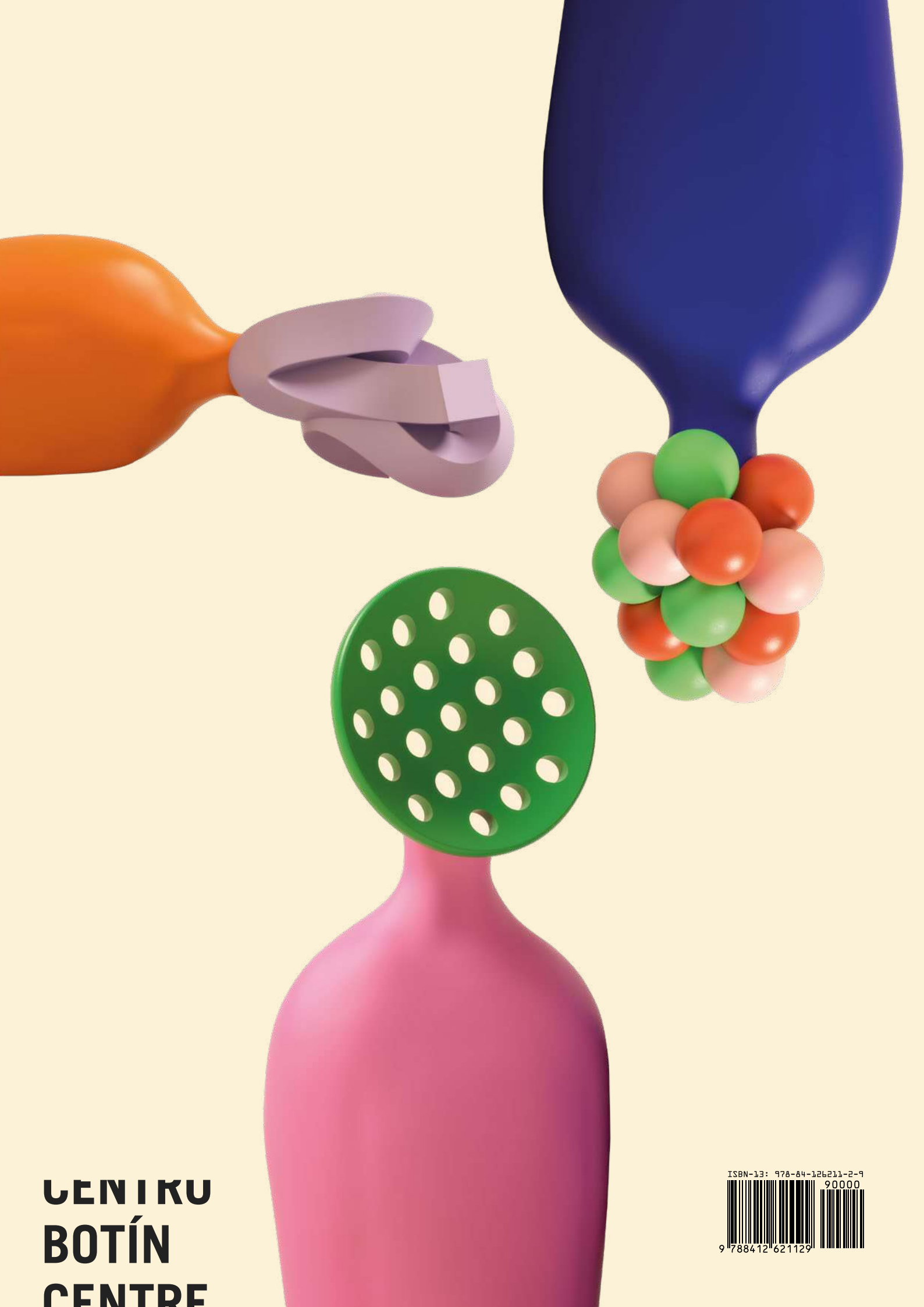
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