



## Leisure activities, creative actions and emotional creativity

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### ABSTRACT

The general objective of this study was to assess the relationships between leisure, emotional creativity, creative actions, and self-perceptions about creative performances. The sample included 542 participants aged between 18 and 84 years. The instruments used were: (a) Shortened Spanish version of the Emotional Creativity Inventory (ECI-S) for emotional creativity; (b) Creative Actions Scale (CAS) for creative actions; (c) Kaufman Domains of Creativity Scale (K-DOCS) for self-perceptions about creative performances; and (d) a questionnaire for the collection of sociodemographic and leisure data. The results indicated that the actions defined as daily creativity were performed by the individuals with greater frequency. Participants who performed leisure activities achieved higher scores in creative actions and self-perceptions about creative performance. Participants showed greater emotional creativity while performing actions that imply creativity in everyday and scholar settings. People who participate in a committed way in leisure activities have higher scores in ECI-S (Preparedness and Novelty). The analyses indicated differences in the variables analysed according to sex. The observed relationships constitute a relevant contribution of the study to the field of daily and emotional creativity, generating interesting lines for further studies.

### 1. Introduction

Specialists in the field of research on creative processes have agreed in defining creativity as a complex action that occurs in a certain symbolic, social-institutional, and material context. It is constituted from the situation and the domain through which it is expressed (Glaveanu et al., 2019). The myths that associated the creative with extraordinary artistic manifestations seem to be banished in the light of current research suggesting that creativity can be developed in multiple and diverse domains (Hass et al., 2017), such as arts, sciences, sports, business, interpersonal relationships, and emotions. Some studies argue that individuals can be creative in activities related to daily life, work, or free time. Studies that have assessed everyday creativity (Richards, 2010), creative leisure (Hegarty, 2009; Hegarty & Plucker, 2012; Iwasaki, 2017), and emotional creativity (EC) (Averill, 1999; Ivcevic, Brackett & Mayer, 2007; Trnka, Zahradnik & Kuška, 2016) offer interesting theoretical tools to understand the diversity of domains and situations in which creative processes can develop.

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## 2. Associations between everyday creativity and leisure activities

Individuals resort to the so-called ‘everyday creativity’ (Ilha Villanova & Pina e Cunha, 2021) on a regular basis to solve in a unique way domestic, work, and academic situations, inherent to established routines. In this context, creativity is manifested in different actions of daily life that imply originality, divergence, and the search for alternatives. Furthermore, since everyday creativity often results on creative products or experiences that are personal, it is commonly assessed solely by their creators themselves or their inner circle (Ilha Villanova & Pina e Cunha, 2021). On the other hand, Hegarty (2009) defines creative leisure as those free-time activities in which individuals perceive that they are creative and free, and feel intrinsically motivated (create for the sake of creating). Creative leisure allows personal expression, self-fulfilment, and the experience of flow, losing the notion of time and space. According to this author, creative leisure allows personal development and is a health-promoting factor.

Previous studies have reported the existence of relationships between creativity and participation in leisure activities (Batey, Chamorro & Furnham, 2009, 2010; Hegarty, 2009; Hegarty & Plucker, 2012; Iwasaki, 2017; Wolfradt & Pretz, 2001). These studies indicated that individuals who participated in structured leisure time activities achieved higher scores in creativity measures, the latter being assessed by means of a divergent thinking test, creative activities, and a creative performance questionnaire. On the one hand, in organisational contexts, there has been evidence of the positive impact of leisure activities on the creative performance of employees (Davis et al., 2014). Likewise, in educational settings, Cotter et al. (2016) argued that participation in extracurricular leisure activities was a predictor of students’ creativity. In a recent study conducted with adolescents, Alfonso-Benlliure and colleagues Alfonso-Benlliure and colleagues (2021) concluded that those students who had experience in dramatic art obtained higher scores in the four dimensions of divergent thinking (fluency, flexibility, elaboration, and originality).

In Argentina, there were also studies that have indicated relationships between participation in leisure activities and creative performances in various areas of knowledge. Specifically, significant differences were observed in the Creative Actions Scale (CAS; Elisondo, 2021) between individuals who did not participate and those who participated in structured leisure activities. Those who participated obtained higher scores in all areas of the CAS (literature, plastic arts and crafts, science and technology, scenic arts, music, social participation, and everyday creativity) and in the total score of the questionnaire (Elisondo & Donolo, 2016; Elisondo, 2018). These results are in line with those obtained by Aranguren and Irrazabal (2012), who also found significant differences in the Creative Behaviour Scale between individuals who performed some leisure artistic activity and those who did not. The authors also found that those who participated in these activities obtained higher scores in the following subscales: Arts and Design; Literature and Music; and Body Expression.

## 3. Associations between emotional creativity and leisure activities

Understanding, regulating, and modifying recreating emotions are complex actions that demand creativity. That is why the relationship between emotions and creativity constitute a line of research with growing interest in the field of psychology and education, as evidenced in the extensive work conducted by Soroa et al. (2018). EC is a pattern of cognitive abilities and personality traits related to originality and adequacy of emotional experience (Ivcevic et al., 2007). It involves the particularly effective application of existing emotions or, on a more complex level, the modification of standard emotions to better meet the needs of the individuals or groups (Averill, 1999). Divergence from ordinary emotional experience is a key feature of EC, because it implies the ability to diverge from ordinary aspects and generate new emotional reactions (Ivcevic et al., 2007). Averill (1999) established three criteria to define EC, namely: novelty, i.e., variations of common emotions and generation of new emotions that are specific to the individuals; effectiveness, i.e., adaptation to the situations or beneficial consequences for the individuals or groups; and authenticity, i.e., honest expression of experiences and values. An additional condition for EC is emotional readiness, which reflects the understanding of emotions and individuals’ willingness to explore emotions.

Studies addressing EC and participation in leisure activities are relevant antecedents for the present study. Ivcevic et al. (2007) explored the relationship between EC and behavioural creativity, measured by the Artistic Activity and Artistic Expression and Appreciation scales. The authors concluded that EC was a skill that significantly predicted participation in the arts, and that EC could play a relevant role in participation in self-initiated artistic activities. They also observed that the relationship between EC and creative behaviour could be better understood by conducting further studies focused on creative activities in real everyday life.

Trnka et al. (2016) aimed to discover what types of particular creative leisure activities were related to EC. These authors observed significant correlations between EC –assessed using the Emotional Creativity Inventory (ECI) (Averill, 1999)– and the following creative leisure activities: writing; painting; musical composition; dramatic performance; and crafts. Going into more detail, we found five of the seven proposed types of creative hobbies that were significantly and positively correlated with the ECI score: (1) Writing poems or prose, including blogging (significant with  $p = 0.01$ ); (2) Painting: drawing pictures or other artistic activities (significant with  $p = 0.01$ ); (3) DIY: Do it yourself (significant with  $p = 0.01$ ); (4) Drama: performance of drama or dance improvisation (significant with  $p = 0.05$ ); and (5) Music: composing music or musical improvisation (significant with  $p = 0.05$ ).

## 4. Associations between creativity and sex

In the field of creativity, the differences related to sex have been studied considering different instruments and perspectives. Based on a systematic review of 133 publications, Nakano et al. (2021) concluded that there was no consensus regarding the existence or not of differences in creativity related to sex. The analyses indicated that the significant differences, or not, between men and women might vary depending on factors such as the sample involved, the type of creativity assessed, the use of different methods, and the culture in

which the studies were conducted. The authors suggested the need to consider that sex differences in creativity, if they existed, should be interpreted with some caution, given the diversity of methods, instruments, and samples involved in assessing this topic.

Regarding EC, the authors coincided in pointing out differences between men and women (Averill, 1999; Soroa et al., 2015; Trnka et al., 2016). A meta-analytic study with 35 assessments of EC conducted by Kuška et al. (2020) reported sex differences in the ECI among the most significant results, according to which higher total ECI scores were observed in women than in men. Specifically, women obtained higher scores in the three sub-scales (novelty, preparation, and effectiveness/authenticity) in the 35 studies assessed. According to the authors, the results revealed that women were more emotionally creative than men, suggesting that they more often perceived their own emotions as original, unique, unusual and unlikely, and thought more about their own emotional reactions. In addition, women paid more attention to other individuals' emotions, and had responses that are more effective in situations that required new or unusual emotional responses.

Regarding creative actions, there are precedents according to which differences between women and men have also been observed (Elisondo & Donolo, 2016; Paek & Runco, 2017). Diedrich et al. (2018) observed that women were more frequently engaged in creative activities in the Arts and Crafts domain and men had higher scores in the Science and Technology domain. Aranguren and Irrazabal (2012) found that women had significantly higher scores in the Body Expression domain and Art and Design domain. In a recent study, it was concluded that women had significantly higher scores in the Arts and Crafts, Literature, Everyday Creativity, and Scenic Arts domains. While men had significantly higher scores in the Music and Science and Technology domains (Elisondo, 2021).

## 5. The present study

Considering the advances in the studies addressing creative leisure, and everyday and emotional creativity, the goal of the present study was to assess the relationships between leisure, EC, creative actions, and self-perceptions about creative performances. It was also of our interest to assess possible differences related to sex in the variables analysed. To that end, we used the following instruments: the Shortened Spanish version of the Emotional Creativity Inventory (ECI-S) (Soroa et al., 2015) for EC; the Creative Actions Scale (CAS) (Elisondo, 2021) for creative actions; the Kaufman Domains of Creativity Scale (K-DOCS) (Kaufman, 2012) for self-perceptions about creative performances; and a questionnaire for the collection of sociodemographic and leisure data. Likewise, considering the suggestions of Ivcevic, Brackett and Mayer (2007) and Trnka et al. (2016), we incorporated real life leisure activities as an external criterion of interest in creativity studies. The present study aimed to deepen the understanding about the ways by which individuals develop creative processes, recognising the importance of leisure as a vital agent for the development of leisure time policies and programmes.

Despite the social relevance evidenced in studies pointing to the existence of relationships between creativity, health, and well-being (Benedek et al., 2019; Conner et al., 2018; Richards, 2010), to date there are no studies assessing the relationships between creative actions and EC. Finally, the present study also aimed to provide knowledge from geographical contexts far from recognised research centres, taking into account the considerations of specialists (Glavenua et al., 2019) regarding the dynamics of power within the field.

## 6. Method

### 6.1. Participants

The sample included 542 participants that were selected by convenience non-probability sampling, after considering the diversity of ages and education levels. Regarding sex, 57% were women and the rest were men. The participants' ages range between 18 and 84 years (18–25 years = 47%; 26–50 years = 37% and 51–84 years = 16%). Regarding the schooling achieved, 64% completed Higher Education, 28% High School and 8% Primary School.

### 6.2. Instruments

All participants answered ECI-S, K-DOCS and a sociodemographic-leisure questionnaire.

#### 6.2.1. ECI-S, shortened Spanish version of the emotional creativity inventory (Soroa et al., 2015)

ECI-S is a 17-item self-report questionnaire that provides information about: (a) Preparedness (e.g., "I think about my emotional reactions and try to understand them"); (b) Novelty (e.g., "I have felt emotions that other people probably have never experienced"); and (c) Effectiveness/Authenticity (e.g., "The way I express and experience my emotions helps me in my relationships with others"). Items are responded to on a 6-point Likert scale, with options ranging from 1 (strongly disagree) to 6 (strongly agree). Soroa et al. (2015) showed that the ECI-S has satisfactory psychometric properties: confirmatory factor analysis corroborated the three-factor structure of the original scale (Preparedness, Novelty, and Effectiveness/Authenticity) and dimensions showed adequate internal consistency (Preparedness:  $\alpha = 0.73$ ; Novelty:  $\alpha = 0.77$ ; Effectiveness/Authenticity:  $\alpha = 0.79$ ; and global EC:  $\alpha = 0.79$ ), and temporal stability. The study also provided external validation data based on the relationship between emotional creativity and emotional intelligence, cognitive creativity, personality, and sex. The results of the meta-analysis by Kuška et al. (2020) revealed excellent reliability for the total ECI score and acceptable indices for the subscales. They also showed that the ECI is a suitable research instrument to measure EC in different cultures; the reliability of the total score of the ECI was not influenced by the linguistic adaptation of the ECI.

### 6.2.2. CAS, Creative actions scale (Elisondo, 2021)

CAS is a Spanish self-report measure that assesses creative activities in seven domains: Literature, Plastic Arts and Crafts, Science and Technology, Scenic Arts, Music, Social Participation, and Everyday Creativity. The items refer to specific actions in each domain, recognitions of performance and involvement in groups and organizations. The CAS asks how frequently a certain activity has been performed in the past 10 years. Participants must choose on a Likert scale one of the following options: 1 (never), 2 (2–3 times), 3 (4–5 times), 4 (6–7 times), and 5 (always). The CAS is composed of 42 items, with six items for each domain. Elisondo (2021) reported that the instrument has adequate psychometric properties: satisfactory internal consistency ( $\alpha > 0.70$ ), correlations with K-DOCS and Biographical Inventory of Creative Behaviors (convergent validity), and the confirmatory factor analysis showed an adequate fit of the seven-domain model. The results also showed significant differences according to sex in some CAS domains.

### 6.2.3. K-DOCS, Kaufman domains of creativity scale (Kaufman, 2012)

K-DOCS evaluate self-perceptions about creative achievements in five domains: daily, academic, scientific/mechanical, artistic, and acting (including music and writing). Respondents must score each item by comparing their performance with people of similar age and life experience on a scale of 1 (much less creative) to 5 (much more creative). The instrument offers scores for each domain. Previous studies (Awofala & Fatade, 2017; Kaufman, 2012; Seng et al., 2016) reported internal consistency above 0.83 (Cronbach's  $\alpha$ ) in the five domains of the K-DOCS. The authors also indicated correlations between the K-DOCS, Openness to experience (Awofala & Fatade, 2017; Kaufman, 2012), and Creative self-efficacy (Seng et al., 2016).

### 6.3. Sociodemographic questionnaire

Participants answered a questionnaire about sociodemographic data (sex, age, schooling and residence) and leisure activities (type of activities, frequency and place of performance, etc.). The questionnaire includes open-ended questions and was created for the present investigation. Participants were asked to describe in detail the main activities that they develop in free time. From the data collected, people who carry out creative leisure activities were identified. We consider as creative leisure those artistic, cultural and social activities that people carry out in a committed way and with some frequency (at least 3 hours a week in the last year). These are activities that, according to the expressions of the participants, allow them to create, be free, feel motivated and live experiences of flow. In sum, we identified creative leisure activities considering the characteristics defined by Hegarty (2009): creation, freedom, motivation, self-realization, flow and personal development.

### 6.4. Procedure and analysis

The ECI-S, CAS, K-DOCS, and sociodemographic questionnaire were administered online. The participants gave their consent to participate in this research and publish the data. The research was designed according to American Psychological Association ethical principles (American Psychological Association, 2017). Descriptive statistics, Spearman correlations and Mann–Whitney U test were performed using SPSS 20 software.

## 7. Results

### 7.1. Descriptive analysis

In Table 1, we present the results of the descriptive analyses performed in each of the ECI-S, CAS and K-DOCS domains, and the total

**Table 1**  
Descriptive statistical for domains and total CAS; K-DOCS and ECI-S.

	M	SD	Min	Max
Plastic Arts and Crafts	9.40	3.54	6	26
Everyday Creativity	19.63	4.98	6	3
Music	7.03	2.93	6	3
Scenic Arts	8.71	3.68	6	24
Social Participation	8.90	4.19	6	28
Literature	7.02	1.99	6	19
Science and Tecnology	6.77	1.61	6	18
Total CAS	67.48	13.77	43	129
Everyday Creativity	39.79	6.30	11	56
Scholarly	34.10	7.93	11	56
Performance	25.86	9.48	10	50
Mechanical	23.32	8.14	9	45
Artistic	27.23	7.75	9	45
Total K-DOCS	150.31	26.46	73	234
Preparedness	13.27	3.33	3	18
Novelty	29.25	8.00	8	66
Effectiveness/Authenticity	24.80	5.63	9	36
Total ECI-S	67.33	12.50	22	111

**Table 2**  
Correlations between domains and total scores in ECI-S, CAS and K-DOCS.

	1.Prep.	2.Novel.	3.Effect.	4.TotalECI	5.Plas.	6.Every.	7.Scie.	8.Musi.	9.Social	10.Scen.	11.Liter.	12.TotalCAS	13.Self.	14.Schol	15.Perfor.	16.Mech.	17.Artis.	18.TotalKDOCS
1. Preparedness	1	,238**	,384**	,591**	,041	,206**	,037	,063	,186**	,102	,020	,189**	,348**	,342**	,077	,036	,177**	,276**
2. Novelty	,238**	1	,250**	,816**	,122*	,101	-,013	-,043	-,006	,025	,105	,077	,115**	,238**	,152**	,024	,201**	,219**
3. Effectivity/Authenticity	,384**	,250**	1	,712**	,065	,245**	-,105	-,038	,027	,061	-,057	,101	,374**	,282**	,144**	-,021	,210**	,280**
4. Total ECI	,591**	,816**	,712**	1	,119*	,234**	-,048	-,029	,058	,072	,045	,147**	,335**	,370**	,183**	,016	,270**	,340**
5. Plastic Arts and Crafts	,041	,122*	,065	,119*	1	,269**	,164**	,143**	,339**	,333**	,236**	,631**	,089	,234**	,166**	,123*	,452**	,322**
6. Everyday creativity	,206**	,101	,245**	,234**	,269**	1	,126*	,076	,360**	,208**	,134*	,647**	,151**	,232**	-,059	-,015	,121*	,112*
7. Science and Technology	,037	-,013	-,105	-,048	,164**	,126*	1	,050	,286**	,115*	,351**	,384**	-,002	,142**	,057	,233**	,002	,136*
8. Music	,063	-,043	-,038	-,029	,143**	,076	,050	1	,233**	,215**	,182**	,438**	,007	,143**	,364**	,070	,111*	,232**
9. Social Participation	,186**	-,006	,027	,058	,339**	,360**	,286**	,233**	1	,396**	,221**	,743**	,094	,237**	,075	-,033	,041	,120*
10. Scenic Arts	,102	,025	,061	,072	,333**	,208**	,115*	,215**	,396**	1	,238**	,643**	,018	,169**	,279**	,064	,142**	,218**
11. Literature	,020	,105	-,057	,045	,236**	,134*	,351**	,182**	,221**	,238**	1	,465**	-,106	,295**	,210**	,058	,152**	,202**
12. Total_CAS	,189**	,077	,101	,147**	,631**	,647**	,384**	,438**	,743**	,643**	,465**	1	,097	,351**	,233**	,084	,256**	,313**
13. Everyday creativity	,348**	,115**	,374**	,335**	,089	,151**	-,002	,007	,094	,018	-,106	,097	1	,307**	,094*	,075	,130**	,425**
14. Scholarly	,342**	,238**	,282**	,370**	,234**	,232**	,142**	,143**	,237**	,169**	,295**	,351**	,307**	1	,398**	,300**	,400**	,725**
15. Performance	,077	,152**	,144**	,183**	,166**	-,059	,057	,364**	,075	,279**	,210**	,233**	,094*	,398**	1	,407**	,439**	,754**
16. Mechanical / Scientific	,036	,024	-,021	,016	,123*	-,015	,233**	,070	-,033	,064	,058	,084	,075	,300**	,407**	1	,342**	,662**
17. Artistic	,177**	,201**	,210**	,270**	,452**	,121*	,002	,111*	,041	,142**	,152**	,256**	,130**	,400**	,439**	,342**	1	,707**
18. Total_K-DOCS	,276**	,219**	,280**	,340**	,322**	,112*	,136*	,232**	,120*	,218**	,202**	,313**	,425**	,725**	,754**	,662**	,707**	1

\*\*The correlation is significant at the 0.01 level (bilateral).

\*The correlation is significant at the 0.05 level (bilateral).

scores of the instruments. The CAS allowed observing that the participants performed creative actions more frequently in the daily creativity domain, and with less frequency activities related to science and technology. In the K-DOCS, the highest average scores were observed in everyday creativity, and the lowest in mechanics.

### 7.2. Associations between emotional creativity (ECI-S), creative actions (CAS), and self-perceptions about creative achievement (K-DOCS)

Studies that addressed relationships between EC (ECI-S) and creative actions (CAS) indicated significant correlations, although of low intensity, between preparation and daily creativity, social participation and total CAS. We also found significant and low-intensity correlations between novelty and art, effectiveness and daily. We observed correlations between total ECI scores, total CAC scores, and the areas of arts and everyday creativity. Correlations were also found between total scores of the CAC and preparation. Regarding the relationships between ECI-S and K-DOCS, significant correlations were observed between preparation, novelty, and effectiveness; between daily, school and artistic creativities; and also between novelty and effectiveness and performance. The highest correlations were those found between daily life and preparation, and between daily life and effectiveness. We also found significant correlations between the total ECI-S score and the daily, school, performance, and artistic dimensions. There were significant correlations between total K-DOCS and total ECI scores (Table 2).

### 7.3. Associations between leisure and emotional creativity (ECI-S), creative actions (CAS) and self-perceptions about creative achievements (K-DOCS)

The responses obtained in the leisure questionnaire allowed observing 65 individuals who actively participated in one or more of the following activities: crafts (n = 27); music (n = 15); volunteering and political activism (n = 10); textile design (n = 5); dance (n = 4); and various activities (n = 4). The rest of the individuals expressed not performing any activity or social activities (visits from family and friends, meetings with various groups, outings and walks with other individuals, etc.) or sporadic physical activity (walking, running, riding bicycle, etc.). The results indicated that the individuals who participated with commitment in leisure proposals obtained significantly higher scores in novelty and total ECI score. Regarding creative actions, those who performed creative leisure obtained significant scores in the total score of the CAC and in the areas of arts, music, and social participation. Regarding creative self-perceptions, those who performed creative leisure activities obtained significantly higher scores in the following domains of the K-DOCS, namely: mechanical/scientific; performance (writing and music); scholar; and everyday creativity (Table 3).

### 7.4. Differences according to sex between Emotional Creativity (ECI-S), Creative Actions (CAS), and self-perceptions about Creative Achievements (K-DOCS)

Women obtained higher means than men in the three dimensions and in the total score of the ECI-S. The differences were significant in effectiveness and in the total score of the ECI-S. In the CAS, the *t*-test indicated differences resulting from sex in arts and crafts, daily creativity, performing arts, music, and science and technology. Women scored significantly higher in arts and crafts, everyday creativity, and performing arts. Men achieved significantly higher scores in the domains of music, and science and technology. In the total score of the CAS, women obtained significantly higher mean scores than men. In the artistic domain of the K-DOCS, women obtained significantly higher scores than men, whereas in mechanics men achieved higher means (Table 4).

**Table 3**

Mean, standard deviation and Mann–Whitney U differences between “creative leisure” and “non-creative leisure” in ECI-S, CAS and K-DOCS.

	Non-creative Leisure		Creative leisure		Z (1602)	p	Effect Size
	M	SD	M	SD			
Plastic Arts and Crafts	9.17	3.28	10.67	4.56	-2.46	.01	-0.14
Everyday creativity	19.71	5.04	19.19	4.66	-0.66	.50	-0.10
Science and Technology	6.79	1.55	6.65	1.93	-1.25	.20	0.02
Music	6.73	2.14	8.63	5.25	-2.93	.00	-0.25
Social Participation	8.67	3.91	10.17	5.34	-1.99	.04	-0.24
Scenic Arts	8.56	3.63	9.48	3.87	-1.85	.06	-0.16
Literature	7.02	1.94	7.03	2.27	-0.54	.58	-0.00
Total CAC	66.68	13.41	71.84	14.99	-2.30	.02	-0.18
Everyday creativity	39.64	6.27	40.85	6.50	-1.98	.04	-0.08
Scholarly	33.85	7.92	35.98	7.87	-2.07	.03	-0.14
Performance	25.44	9.27	29.01	10.47	-2.59	.01	-0.20
Mechanical	23.60	8.15	21.15	7.85	-2.43	.01	0.13
Artistic	27.09	7.60	28.29	8.81	-0.84	.40	-0.06
Total K-DOCS	149.65	26.32	155.31	27.15	-1.44	.14	-0.11
Preparedness	13.20	3.37	13.80	2.92	-1.23	.21	-0.09
Novelty	28.94	7.90	31.65	8.38	-2.37	.01	-0.20
Effectivity/Authenticity	24.70	5.65	25.60	5.44	-1.08	.28	-0.09
Total ECI-S	66.84	12.44	71.06	12.46	-2.60	.00	-0.20

## 8. Discussion

The actions defined as daily creativity (organising personal and family life, entertaining a child, solving daily problems) are performed by individuals more frequently as these actions allow solving daily problems essential for the development of personal, family, and work activities. Being so, we aimed at gaining understanding regarding different aspects involved in the processes of daily creativity. For such a purpose, we examined the relation amongst creativity and leisure by measuring participants' Emotional Creativity (ECI-S, Soroa et al., 2015), Creative Actions (CAS, Elisondo, 2021) and the self-beliefs about Creative Achievements (K-DOCS, Kaufman, 2012). Hence, present study makes its greatest contribution to past research that indicates a positive relationship between leisure activities and creativity. In line to previous studies (Hegarty, 2009; Hegarty & Plucker, 2012; Iwasaki, 2017; Trnka et al., 2016; Wolfradt & Pretz, 2001), our findings suggest that carrying out leisure activities that imply some kind of creativity might be positively associated to some specific aspects of creativity. On the one hand, our results showed that individuals who develop creative leisure activities showed higher levels of self-reported creative actions in general compared to those who don't develop any creative leisure activity. Specifically, those participants who regularly carry out Creative Leisure Activities have obtained significantly higher scores in art, music, and social participation (CAS), as well as in school, performance, and mechanics (K-DOCS). These results are in line with those by Aranguren and Irrazabal (2012), who found statistically significant differences in the total score of the Creative Behavior Scale and in the subscales of Arts and design, Literature and Music and Body Expression among the participants who had developed any sort of artistic activities and those who had not. Furthermore being involved in serious leisure projects has been previously associated with higher scores on measures of creative abilities and achievements than people who seldom participate or do not participate in leisure activities (Elisondo, 2018). Thus, the present study contributes to the literature reporting differences in creative actions and self-reported creative behaviors across domains of creativity according to the participation in creative leisure activities. Most aspects of the creative behaviors (self / everyday, scholarly, performance and mechanical / scientific) measured using Kaufman's K-DOCS (2012), were significantly higher for participants whose leisure involve creative activities. Previous studies have also suggested that participants who develop creative activities in their daily lives regularly show higher creative achievements in the daily creativity (see Cotter et al., 2016; Dostál et al., 2017; Elisondo, 2021; Elisondo & Donolo, 2016).

A noteworthy conclusion is that emotional creativity might vary depending on the domains in which the creative behaviors occur. According to our findings, participants showed greater emotional creativity while performing actions that imply creativity in everyday or scholar settings, with its highest manifestation in the Preparedness dimension (e.g., "*Cuando tengo reacciones emocionales fuertes busco las causas que las provocan*" / "When I have strong emotional reactions I look for the causes that provoke them"). It was also observed that people who participate in a committed way in leisure activities have higher scores in the Novelty (e.g., "*Tengo experiencias emocionales que podrían ser consideradas como inusuales o fuera de lo común*" / "I have emotional experiences that could be considered unusual or out of the ordinary"; "*He sentido emociones que probablemente otras personas no hayan experimentado jamás*" / "I have felt emotions that probably other people have never experienced") and total dimensions of the ECI-S. These results are linked to those found by Trnka et al. (2016) who observed relationships between EC and the following leisure activities: writing, painting, musical composition, drama, and crafts. These results are also linked to those obtained by Ivcevic et al. (2007), suggesting an association between emotional creativity and participation in self-initiated artistic activities.

Another objective of the present study was to explore potential gender differences regarding Emotional Creativity (ECI-S), Creative Actions (CAS) and the self-beliefs about Creative Achievements (K-DOCS). On the one hand, the results showed that there are differences between males and females regarding their creative achievements in specific domains, such as craftwork, science and music. While females outscored in Arts and Crafts, Performing Arts and Everyday Creativity, males obtained higher scores in Music, Science and Technology. On the other hand, when it comes to participants' perceptions regarding their creative achievements, there also seems

**Table 4**

Mean, standard deviation and Mann–Whitney U differences between "creative leisure" and "non-creative leisure" in ECI-S, CAS and K-DOCS.

	Mujer M	SD	Hombre M	SD	Z (1602)	p	Effect Size
Plastic Arts and Crafts	10.27	4.01	8.25	2.36	-4.93	.000	.30
Everyday creativity	20.27	4.87	18.77	5.02	-2.79	.005	.28
Science and Technology	6.55	1.19	7.06	2.01	-2.78	.005	-0.12
Music	6.60	1.55	7.60	4.03	-2.12	.034	-0.16
Social Participation	8.96	4.27	8.81	4.09	-0.45	.652	0.01
Scenic Arts	9.35	4.04	7.85	2.94	-3.69	.000	0.20
Literature	7.03	2.04	7.02	1.94	-0.36	.717	0.00
Total CAC	69.07	13.74	65.38	13.59	-3.05	.002	0.13
Everyday creativity	40.01	6.27	39.48	6.34	-0.94	.346	0.04
Scholarly	34.48	7.84	33.59	8.04	-0.83	.403	0.05
Performance	25.83	9.37	25.90	9.64	-0.34	.731	0.00
Mechanical	21.53	7.72	25.74	8.10	-6.23	.000	-0.25
Artistic	28.78	7.59	25.12	7.48	-5.35	.000	0.23
Total K-DOCS	150.65	26.72	149.86	26.15	-0.21	.834	0.01
Preparedness	13.44	3.31	13.03	3.34	-1.48	.137	0.06
Novelty	29.78	7.90	28.54	8.08	-1.83	.066	0.07
Effectivity/Authenticity	25.47	5.51	23.91	5.67	-3.37	.001	0.13
Total ECI-S	68.70	12.16	65.49	12.75	-2.77	.005	0.12

to be a distinction between both genders. Specifically, females reported more actions in the artistic domain, while males did so in mechanics, coinciding with the results obtained by Dostál and colleagues (2017). Finally, we also found gender differences regarding participants' emotional creativity, in which women outscored men. Such a difference was statistically significant, and it was manifested mostly in the effectivity dimension. These results reinforce the general differences found between males and females regarding emotional creativity in previous studies (Aranguren & Irrazabal, 2012; Diedrich et al. 2018; Elisondo & Donolo, 2016; Elisondo, 2021; Paek and Runco, 2017; Soroa et al., 2015). The data found are consistent with those presented by Kuška et al. (2020) in the meta-analysis on gender and emotional creativity, women seem to be more emotionally creative than men as they obtain higher scores in the dimensions and in the total of the ECI.

### 8.1. Limitations, future lines and contributions

Certain limitations of present study are worthy of mention. On the one hand, the sample was selected for convenience, and therefore, the results obtained should not be generalized. Hence, in future studies it would be desirable to use probabilistic samples that allow generalization to larger populations. On the other hand, the instruments used to measure creative actions (CAS) and the self-perceptions about creative achievements (K-DOCS) do not assess people's commitment and dedication to creative activities. We propose incorporating complementary assessment batteries that measure the dedication of participants within the assessed domains. Limitations can be also observed in the indicators used to define leisure activities, and therefore, future studies should incorporate standardized techniques and consider analyzing potential differences according to the type of leisure activities. The results of the correlation analysis suggest a positive trend in which emotional creativity could be positively associated to Self-Reported Everyday Creativity and to Creative Actions. However, further research should be conducted to obtain more robust results that will lead to a better understanding of the correlation amongst Emotional Creativity, Self-Reported Everyday Creativity and to Creative Actions. Finally, we also found differences according to gender in the variables analyzed. It is also interesting in future research to incorporate other intervening variables (for example, personality and intelligence) and to consider diverse research groups and contexts to establish comparisons.

Despite these limitations, the present study has made several contributions. Descriptive analyses indicated that individuals engaged in creative activities in the everyday creativity domain more frequently, both according to the CAS and in K-DOCS scores. In the scientific and technological domains, the lowest scores were observed in the two scales. These results are consistent with those of recent studies (Elisondo, 2021; Kapoor et al., 2021), in which higher mean scores were also observed in the area of daily creativity, and lower scores in science and technology.

In sum, the relationships observed between the variables assessed constitute an interesting contribution of the study to the field of creativity research. We consider that it is relevant to deepen the analysis of leisure activities and their links with daily creativity and EC. We agree with Ivcevic et al. (2007) and Trnka et al. (2016) with respect to the importance of expanding the analyses to different manifestations of creativity and leisure activities in real life. We agree with Glaveanu et al. (2019) regarding the need for conducting creativity research to understand the complexity of the phenomenon and, at the same time, specify its particularities according to domains, contexts, and situations. Recognising creativity as a relational and situated phenomenon is also essential to generate more advanced, contextualised and solid theories.

## Appendices

### Table 1–4

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