

K-DOCS-BRV: A Reduced and Validated Version of Kaufman's Domains of Creativity Scale for Use in Brazil

K-DOCS-BRV: una versión reducida y validada de la Escala de Dominios de la Creatividad de Kaufman para su uso en Brasil

Received: December 4, 2023; **Reviewed:** November 10, 2025; **Accepted:** June 12, 2026

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Abstract

Kaufman's Domains of Creativity Scale (K-DOCS) assesses five areas of creativity, but its administration involves a 50-item questionnaire. This makes a shortened version necessary for time-limited research. This study proposes a 19-item, Brazil-adapted version of the K-DOCS, named the K-DOCS-BRV, and analyses its psychometric properties. Two independent samples were collected via SurveyMonkey to carry out exploratory ($n = 962$) and confirmatory ($n = 1,456$) factor analyses. The short version, with 19 items, was selected via exploratory factor analysis (Bartlett's test of sphericity: $\chi^2 = 31608.243$, $df = 1,225$, $p < .001$, $KMO = .91$) and, when comparing the results of the confirmatory factor analysis ($\chi^2 = 992.32$, $df = 142$, $p < .001$, $CFI = 0.939$, $TLI = 0.927$, $RMSEA = 0.064$, $SRMR = 0.060$), outperformed all other models in terms of fit. The result provides evidence that validates that the K-DOCS-BRV offers an effective alternative for assessing creativity in Brazil, especially under time constraints, providing researchers and professionals with a practical and reliable tool.

Keywords

Kaufman's Domains of Creativity Scale (K-DOCS); creativity; factor analysis; psychometric instrument; measurement invariance

Resumen

La Escala de Dominios de Creatividad de Kaufman (K-DOCS) evalúa cinco áreas de la creatividad, pero su aplicación requiere un cuestionario de 50 ítems. Esto hace necesaria una versión abreviada para investigaciones con limitaciones de tiempo. Este estudio propone una versión de 19 ítems de la K-DOCS adaptada para Brasil, denominada K-DOCS-BRV, y analiza sus propiedades psicométricas. Se recopilieron dos muestras independientes mediante SurveyMonkey para realizar análisis factorial exploratorio ($n = 962$) y confirmatorio ($n = 1456$). La versión breve, con 19 ítems, fue seleccionada mediante análisis factorial exploratorio (prueba de esfericidad de Bartlett: $\chi^2 = 31608,243$; $gl = 1225$; $p < 0,001$; KMO = 0,91) y, al comparar los resultados del análisis factorial confirmatorio ($\chi^2 = 992,32$; $gl = 142$; $p < 0,001$; CFI = 0,939; TLI = 0,927; RMSEA = 0,064; SRMR = 0,060), superó a todos los demás modelos en términos de ajuste. El resultado aporta evidencia que valida que la K-DOCS-BRV ofrece una alternativa eficaz para evaluar la creatividad en Brasil, especialmente en contextos con limitaciones de tiempo, y constituye una herramienta práctica y confiable para investigadores y profesionales.

Palabras clave

Escala de Dominios de Creatividad de Kaufman (K-DOCS); creatividad; análisis factorial; instrumento psicométrico; invarianza de medición

How to cite [APA]:

Nunes, F. A. de S. F., Gonçalves, C. A., Dias, D. de S., & Oliveira, L. B. de (2026). K-DOCS-BRV: A reduced and validated version of Kaufman's Domains of Creativity Scale for use in Brazil. *Acta Colombiana de Psicología*, 29, 01–24. <https://doi.org/10.14718/ACP2026.29.11>

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Authors' Notes:

Acknowledgments: The authors thank CEPEAD, the Centre for Graduate Studies and Research in Administration, FACE/UFMG, for the academic and institutional infrastructure provided during the project's execution.

Conflicts of Interest: The authors declare no conflicts of interest regarding the research topic, the development of the study, the analysis of the data, or the presentation of the results.

Funding: This study received financial support from the National Council for Scientific and Technological Development of Brazil (CNPq), through grant number 140319/2023-9.

Open Access: The authors state their willingness to share the research data, as well as the information necessary to understand the analyses performed, upon reasonable request addressed to the corresponding author.

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Introduction

Psychometric instruments have been developed to measure psychological traits, behaviours, and attitudes. Some of these have been criticised for including many items, which, under certain conditions, can discourage respondents from participating in subsequent studies (Kemper *et al.*, 2019). For this reason, some studies have focused on reducing the number of scales and increasing the number of available instrument versions. This process requires methodological robustness and considers cultural and social adaptations based on the country or region in which the instrument is adapted, while ensuring adequate representation of the construct and predictive validity (Borsa *et al.*, 2012).

Throughout history, understanding creativity has been a complex and broad topic, marked by diverse definitions, theoretical frameworks, and ongoing debates over its conceptual boundaries (Santos *et al.*, 2020; Sen & Yörük, 2023). Creativity is commonly defined as the ability to generate ideas, solutions, perspectives, or products that are simultaneously original and useful (Acar *et al.*, 2024). Moreover, contemporary conceptualisations describe creativity not only as a momentary act but as a continuous cognitive process involving divergent thinking, openness to experience, and the effective application of domain-specific skills and knowledge (Sen & Yörük, 2023; Walia, 2019). Additionally, creativity is linked to broader psychological constructs, including mental health, subjective well-being, personality traits, and motivational factors (Acar *et al.*, 2024; Tamannaefar & Motaghedifard, 2014).

There are different theoretical perspectives for understanding the construct of creativity. One influential perspective is the domain-general view, which posits that creativity reflects general cognitive processes or traits, such as divergent thinking and openness to experience, that are applicable across contexts (Acar *et al.*, 2024; Sen & Yörük, 2023; Weisberg *et al.*, 2021). Conversely, the domain-specificity approach holds that creativity manifests differently across domains, heavily influenced by domain-specific knowledge, expertise, and skills (Acar *et al.*, 2024; Baer, 2012; Sen & Yörük, 2023). Empirical evidence supports the domain-specific perspective, showing weak correlations among creative performances across diverse tasks such as verbal reasoning, artistic expression, and

mathematical problem-solving, suggesting limited transferability of creative capabilities between domains (Acar *et al.*, 2024). These conflicting paradigms have led researchers to propose integrative theoretical frameworks, such as Baer and Kaufman's (2005, 2017) AmusementParkTheory (APT), which recognises the interaction between general cognitive abilities and specific domain knowledge in shaping creative expression (Miroshnik *et al.*, 2022; Sen & Yörük, 2023).

Kaufman (2012) developed the Domains of Creativity Scale (K-DOCS), a 50-item behaviour-based self-rating scale aligned with the APT model, to address the need for a structured instrument for measuring creative behaviour across distinct domains. This scale encompasses five domains: self/everyday creativity, scholarly creativity, performance creativity, mechanical/scientific creativity, and artistic creativity to assess individuals' perceptions of their creativity in each domain based on self-reported behaviours (Acar *et al.*, 2024; Kaufman, 2012).

One limitation of the K-DOCS scale is its item count. Fifty statements hinder its use in research with limited response time, as long scales can require greater persistence and compromise data quality (Franke *et al.*, 2013). In both research and applied settings, brief instruments are often preferable because they reduce respondent burden and make assessment procedures more feasible, especially in contexts where time is limited or participants may be less willing or able to complete lengthy questionnaires (Coste *et al.*, 1997). Thus, shortened versions are developed to make psychometric instruments more practical, parsimonious, and easier to use in routine assessment while preserving their essential psychometric properties (Kemper *et al.*, 2019).

This study also contributes to the field of creativity research by adapting, shortening, and validating a domain-based creativity measure for the Brazilian population. In addition to preserving the theoretical structure proposed by Kaufman (2012), the present investigation relies on larger independent samples than those used in the previous Brazilian study (Lessa *et al.*, 2020), including a broader range of participants and offering new evidence regarding the internal structure and applicability of the instrument in Brazil. In this

sense, the study advances the psychometric assessment of creativity in a non-English-speaking context and supports the cross-cultural use of domain-specific creativity measures.

Despite the Brazilian study by Lessa *et al.* (2020), which adapted the full K-DOCS, a reduced Brazilian version remained necessary to expand the measure's applicability in contexts where questionnaire length may compromise participation, data quality, or inclusion in broader assessment protocols. From a practical standpoint, the reduced version may be useful in psychological assessment, human resource management, and organisational research, particularly in studies examining associations among creativity, personality traits, individual characteristics, and variables that may influence organisational outcomes (Robinson, 2018). A brief and psychometrically adequate Brazilian version may also facilitate the inclusion of creativity measures in broader research designs, thereby expanding empirical investigation of the construct in the country.

Theoretical Framework

The Domains of Creativity

Research on creativity has been conducted for some time, with the earliest studies dating back to the 19th century (Glaveanu, 2019). Creativity is a phenomenon characterised by diverse definitions, theoretical perspectives, and ongoing debate over its conceptual limits. It is understood as the ability to generate original and useful ideas, solutions, perspectives, and products (Acar *et al.*, 2024; Sen & Yörük, 2023). However, the theoretical understanding and measurement of creativity remain marked by divergences, particularly regarding whether creativity should be viewed as a general trait or as domain-specific (Sen & Yörük, 2023).

One of the seminal works on the subject was the Four P's framework (Rhodes, 1961). This categorisation is into four main groups: Person, Product, Process, and Press, representing different types of questions such as "What are the creative types?" and "What constitutes creativity?" Recently, a framework updated this vocabulary by proposing the Five A's framework:

Therefore, the development of a brief version is not intended to replace the full instrument but rather to provide an alternative better suited to time-constrained studies and applied settings in Brazil. Given this context, the present research was designed as an instrumental study to reduce and validate K-DOCS specifically for use with the Brazilian population.

Thus, based on previous theoretical and methodological literature, the following hypotheses guided this study:

- (a) H1. The Brazilian reduced version of Kaufman's Domains of Creativity Scale (K-DOCS-BRV) will present adequate psychometric properties, comparable to those of the original 50-item version.
- (b) H2. The factor structure of the K-DOCS-BRV will maintain coherence with the five original domains proposed by Kaufman (2012).

Actors, Audiences, Actions, Artefacts, and Affordances, which considers the interrelationships among various elements of creativity (Glaveanu & Kaufman, 2020).

The Four C's framework emphasises the individual more than the Four P's and Five A's models. The theory underpinning the Four C's is Creative Learning, which describes a developmental trajectory that starts with little-c (everyday creativity) and culminates in Big-C (eminent creativity; Beghetto, 2016). By this logic, mini-c occurs when someone has a personally significant and new idea and, with appropriate guidance, can evolve into little-c, to the point of being recognised as creative by others (Beghetto, 2016). With years of practice, the person can become a true creative professional or expert (Pro-c) and finally, if someone's creativity is so exceptional and will continue as a legacy even for years after their death, then this person is considered a Big-C (Beghetto, 2016; Kaufman & Beghetto, 2009).

From a domain-specificity perspective, researchers argue that creativity cannot be treated as a general trait

operating uniformly across contexts. In this view, creativity is strongly influenced by expertise and specific knowledge associated with each field (Acar *et al.*, 2024; Baer, 2012; Sen & Yörük, 2023). Empirical evidence supports this perspective by showing weak correlations between creative tasks across distinct domains, such as verbal activities, story production, collage creation, and mathematical problem-solving (Acar *et al.*, 2024; Sen & Yörük, 2023). Furthermore, training-induced increases in creativity primarily occur within the trained domain, suggesting limited transferability across creative fields (Acar *et al.*, 2024).

From another perspective, the domain-general approach posits shared underlying factors that enable creative expression across diverse fields. Although domain-specific contexts influence its tangible expressions, Plucker (1998) suggested that creativity may be essentially general (Acar *et al.*, 2024; Sen & Yörük, 2023). Research supporting this view indicates that traits such as Openness to Experience are positively correlated with creative performance across multiple domains, suggesting shared psychological processes, including motivation, values, and personality (Acar *et al.*, 2024).

Another model of creativity is the APT grounded theory, which focuses on creative domains and their relation to a more generalist perspective on creativity (Baer & Kaufman, 2017; Kaufman & Baer, 2004). The APT is a hybrid model that recognises both general skills and domain-specific knowledge and experience as integral to the development of creativity (Acar *et al.*, 2024; Miroshnik *et al.*, 2022; Sen & Yörük, 2023). The theory organises creativity into a hierarchy comprising four levels of specificity: (i) initial requirements necessary for creative potential; (ii) general subject areas (e.g., Arts and Sciences); (iii) specific domains (e.g., Psychology or Creative Writing); and (iv) microdomains (highly specialised areas such as Cognitive Psychology or Poetry; Acar *et al.*, 2024; Sen & Yörük, 2023).

Studies applying the APT have provided evidence for both a general creativity factor and domain-specific factors, supporting the construct's hybrid nature (Acar *et al.*, 2024). This integrative approach acknowledges the methodological difficulties in measuring creativity, as domain-general abilities such as verbal and figural divergent thinking can influence performance in more specialised contexts (Acar *et al.*, 2024).

Another methodological difficulty relates to defining and distinguishing creative domains. Domains can be broadly defined, such as the traditional dichotomy between Arts and Sciences, or narrowly focused into specific subdomains (Acar *et al.*, 2024). This distinction reflects the classical “two cultures” separation proposed by Snow (1959), which differentiates intuitive and subjective creative expression in the Arts from the logical, formal, and objective approach of the Sciences (Acar *et al.*, 2024).

Kaufman (2012) addressed this limitation by proposing a metric to measure creativity in general areas and specific domains. The K-DOCS is a 50-item rating and self-assessment scale covering five creativity domains: Everyday Creativity, Scholarly Creativity, Performance Creativity, Mechanical/Scientific Creativity, and Artistic Creativity, developed based on the APT model (Acar *et al.*, 2024; Kaufman, 2012; Miroshnik *et al.*, 2022; Sen & Yörük, 2023).

Kaufman (2012) and McKay *et al.* (2017) conducted tests that supported the K-DOCS as a valid tool for assessing respondents' creativity. The scale has demonstrated measurement invariance across gender and ethnicity, as well as convergent and discriminant validity (Acar *et al.*, 2024; Miroshnik *et al.*, 2022).

However, further research is needed to confirm these results and to verify the scale across various cultural contexts. Extended scales require respondents to commit and exert effort, potentially affecting data quality (Franke *et al.*, 2013; Tan *et al.*, 2021). Hence, a proposal to reduce the number of items is essential to enhance the instrument's applicability and practicality without compromising its psychometric properties.

Tan *et al.* (2021) used a 20-factor scale with Malaysian undergraduate students. Given that some of the original scale's items might not accurately reflect respondents' realities in particular regions of the world, the results suggested that the scale's reduction could be effectively tailored to various cultural contexts. Zhang *et al.* (2023) created a 16-factor scale by reducing the K-DOCS using a Chinese sample.

Building on these previous studies, this study seeks to provide and confirm a condensed adaptation of the Brazilian K-DOCS. Lessa *et al.* (2020) previously translated and validated the full K-DOCS scale into

Portuguese, enabling the current research to propose a shortened, culturally adapted version, the K-DOCS-BRV. The K-DOCS-BRV's psychometric qualities are examined in this study, and the shortened Brazilian version is

compared to the original 50-item K-DOCS (Kaufman, 2012; McKay *et al.*, 2017), as well as other reduced versions adapted to cultures such as Malaysia (Tan *et al.*, 2021) and China (Zhang *et al.*, 2023).

Method

Study Type

The research was designed as an instrumental psychometric study with the main objective of reducing and validating the K-DOCS in a Brazilian sample.

Participants

In this study, two independent samples were collected from a population of adult Brazilian respondents

(over 18 years of age), making it a non-probabilistic convenience sample. The inclusion criteria were being Brazilian, being 18 years of age or older, and voluntarily consenting to participate in the study. Respondents who did not fully complete the questionnaire were excluded. Table 1 summarises the main sociodemographic characteristics of participants in Study 1 and Study 2.

Table 1. Characteristics of Participants

Variable	Study 1 (<i>n</i> = 962)	Study 2 (<i>n</i> = 1456)
Age, mean (standard deviation), range	44.05 (<i>SD</i> = 13.93), 18–85	42.20 (<i>SD</i> = 12.16), 19–82
Gender, <i>n</i> (%)		
Male	539 (56.0%)	961 (66.0%)
Female	415 (43.2%)	490 (33.7%)
Non-binary	4 (0.4%)	3 (0.2%)
Prefer not to answer	4 (0.4%)	2 (0.1%)
Educational level, <i>n</i> (%)		
Incomplete primary education	—	1 (0.1%)
Completed primary education	3 (0.3%)	4 (0.3%)
Incomplete secondary education	8 (0.8%)	7 (0.5%)
Completed secondary education	100 (10.4%)	95 (6.5%)
Incomplete higher education	114 (11.8%)	162 (11.1%)
Completed higher education	290 (30.2%)	519 (35.6%)
Postgraduate education	447 (46.5%)	668 (45.9%)

The first sample was assigned to an exploratory factor analysis to reduce the items into a structure plausible for the sample (Borsa *et al.*, 2012). The second sample was used to check the structure of the K-DOCS-BRV employing confirmatory factor analysis.

Instruments

The following data collection instruments were utilised.

Sociodemographic Questionnaire

The authors' sociodemographic questionnaire was used to obtain descriptive information on participants' age, gender, race, educational level, and state of residence in Brazil. These variables were collected to provide a general characterisation of the two independent samples employed in the study.

Kaufman's Domains of Creativity (K-DOCS)

To resize the original instrument to measure Kaufman's (2012) domains of creativity, the translation and adaptation of the original scale for use in Brazil were followed (Lessa *et al.*, 2020). The measure consists of 50 items on a five-point Likert scale, in which participants compare themselves with people of the same age and life experience, ranging from "Much less creative" to "Much more creative." The five domains, each composed of 10 items, assessed by the scale are *Self/Everyday Creativity*, *Scholarly Creativity*, *Performance Creativity*, *Mechanical/Scientific Creativity*, and *Artistic Creativity*.

Previous studies reported reliability and adequate validity indices for the original version (Kaufman, 2012) and its Brazilian adaptation (Lessa *et al.*, 2020). Specifically, the Brazilian adaptation exhibited good internal consistency (Cronbach's $\alpha \geq .70$) and satisfactory factorial validity, confirming its appropriateness for psychometric investigations in Brazil. The scale, translated and validated for the Brazilian context, as presented by Lessa *et al.* (2020) in Portuguese, is available in Appendix 1.

Procedure

Two questionnaires were designed on the SurveyMonkey platform to collect the two different

samples. An Informed Consent Form was included on the first page of each survey. After giving consent, the respondent continued to complete the questionnaire with the option to withdraw at any time.

Participants were not asked to provide any personal information or identification codes, ensuring their anonymity and confidentiality. All participants were volunteers and were not paid for their participation in the study. Emails were sent to a registered base of 151,208 contacts from the Brazilian population.

In total, 4,467 responses were obtained, considering the two questionnaires. The first sample received 1,753 responses, and the second received 2,714 responses. Data from participants who did not complete the form were excluded, resulting in 962 respondents in the first study and 1,456 in the second.

Study 1

Participants in the first study completed a questionnaire containing sociodemographic questions and the 50 items that comprise the K-DOCS, translated into Portuguese and adapted from Lessa *et al.* (2020). The total time taken to answer the questionnaire was approximately 12 minutes. Exploratory factor analysis of the survey data led to the development of a second questionnaire comprising 19 items covering the five domains of creativity.

Study 2

Participants in the second study completed a sociodemographic questionnaire and 19 items derived from the first study. Data collected from this second sample were used to perform confirmatory factor analysis of the reduced instrument.

Data Analysis

The first study aims to develop the K-DOCS-BRV, a condensed version of the K-DOCS instrument that enables researchers to measure multiple constructs efficiently, minimising participants' cognitive load. The JASP statistical programme (version 0.17.2.1) was used. For each of the original 50 items of the K-DOCS, descriptive statistics, including means, standard deviations, asymmetry, and kurtosis, were calculated

and evaluated. The asymmetry and kurtosis statistics were within acceptable limits, with asymmetry ranging from -1.17 to 0.97 and kurtosis ranging from -1.41 to 1.58, indicating no significant deviations from univariate normality (Kline, 2023).

The confirmatory factor analysis conducted in Study 2 was also conducted using JASP version 0.17.2.1. The CFI (Comparative Fit Index) and TLI (Tucker-Lewis Index) indices (Hair *et al.*, 2009) were used to assess the fit of the observed model to the base model. For both indices, an excellent fit is obtained with a value greater than 0.95, while an adequate fit is considered when values greater than 0.90 are obtained.

Another metric for evaluating the relationship between modelling and observed data is the root mean square error of approximation (RMSEA) index. For this indicator, results should be below 0.05, although values below 0.08 are acceptable (Hair *et al.*, 2009). Finally, the standardised root mean square residual (w) index is

the standardised mean of the residuals; values below 0.10 indicate a good fit (Hair *et al.*, 2009).

Ethical Considerations

All procedures involving human participants complied with the ethical standards set forth in the 1964 Declaration of Helsinki and its subsequent amendments. The risk in the pre-submission research was low or non-existent, as participants only had to complete anonymous questionnaires. In accordance with Resolution CNS466/2012, free and informed consent is defined as the consent of the research participant, free from bias, subordination, or intimidation (Resolução nº 466, de 12 de dezembro de 2012). Participants are then informed about the nature of the research, its objectives, methods, expected benefits, potential risks, and any discomfort it may cause them. Only the responses from those who agreed to participate in the presentation of the Free and Informed Consent Form were considered.

Results

Study 1—Exploratory Factor Analysis

An initial assessment of the 50 items in the K-DOCS instrument was conducted to ensure the correlation matrix was suitable for factor analysis. To assess the homogeneity of the variables and confirm their suitability for analysis, the Kaiser-Meyer-Olkin (KMO) measure was used ($KMO = .91$). Bartlett's test of sphericity was also conducted, confirming the validity of the analysis ($\chi^2 = 31608.243$, $df = 1225$, $p < .001$). The Exploratory Factor Analysis (EFA) used the weighted least squares (WLS) method, chosen for its effectiveness with categorical variables (Izquierdo *et al.*, 2014).

For this analysis, oblique rotation was chosen, as recommended by Hair *et al.* (2009). The “*geominQ*” oblique rotation method was used to achieve the best results (Nguyen & Waller, 2022). It is recommended that items have a loading of at least 0.50 on a single factor and not exceed 0.50 on any other factors (cross-loadings) to ensure item validity. A minimum factor loading of 0.40 was considered necessary for an item to be considered representative of the factor (Hair *et al.*, 2009). Since oblique rotation allows factors to correlate, Table 2 shows the correlations obtained among the five factors identified in the analysis.

Table 2. Factor Correlations

Items	Scholarly	Artistic	Mechanical/ Scientific	Self/ Everyday	Performance
Scholarly	1				
Artistic	0.002	1			
Mechanical/Scientific	0.051	0.087	1		
Self/Everyday	0.486	0.06	0.177	1	
Performance	0.16	0.396	0.252	0.141	1

The parallel analysis and scree plot suggested reducing the number of factors in the model; however, considering the robustness of the model with five theoretical factors already consolidated in the literature (Kaufman, 2012; McKay *et al.*, 2017; Tan *et al.*, 2021; Zhang *et al.*, 2023), it was decided to continue the EFA for

five factors. The EFA was prepared to reduce the number of items in the scale. A selection process was employed, considering empirical and theoretical criteria. The four items with the highest factor loadings for each factor were selected based on Tan *et al.*'s (2021) previous study on item reduction in K-DOCS. It may be seen in Table 3.

Table 3. Factor Loadings from EFA

Variable	Scholarly	Artistic	Mechanical/ Scientific	Self/ Everyday	Performance
1. Writing a nonfiction article for a newspaper, newsletter, or magazine	0.66	0.17	0.031	0.243	0.525
2. Writing a letter to the editor	0.625	0.19	-0.013	0.275	0.466
3. Researching a topic using many different types of sources that may not be readily apparent	0.48	-0.03	0.194	0.285	-0.01
4. Debating a controversial topic from my own perspective	0.636	-0.157	0.166	0.422	0.076
5. Responding to an issue in a context-appropriate way	0.628	-0.134	0.153	0.426	0.022
6. Gathering the best possible assortment of articles or papers to support a specific point of view	0.726	-0.014	0.09	0.384	-0.001
7. Arguing a side in a debate that I do not personally agree with	0.351	-0.15	0.075	0.167	0.135
8. Analysing the themes in a good book	0.568	0.326	0.062	0.327	0.22
9. Figuring out how to integrate critiques and suggestions while revising a work	0.526	0.104	0.145	0.415	0.144
10. Being able to offer constructive feedback based on my own reading of a paper	0.709	0.028	-0.001	0.386	0.234
11. Coming up with a new way to think about an old debate	0.63	-0.037	0.287	0.457	0.198
12. Drawing a picture of something I've never actually seen (like an alien)	0.128	0.458	0.447	0.142	0.606
13. Sketching a person or object	0.047	0.508	0.437	0.114	0.506
14. Doodling/drawing random or geometric designs	0.133	0.397	0.435	0.255	0.291
15. Making a scrapbook page out of my photographs	0.223	0.402	0.084	0.363	0.381

» Table 3. (continued)

» Table 3. (continued)

Variable	Scholarly	Artistic	Mechanical/ Scientific	Self/ Everyday	Performance
16. Taking a well-composed photograph using an interesting angle or approach	0.216	0.338	0.118	0.453	0.263
17. Making a sculpture or piece of pottery	0.061	0.614	0.447	0.094	0.67
18. Appreciating a beautiful painting	0.397	0.663	0.055	0.246	0.341
19. Coming up with my own interpretation of a classic work of art	0.365	0.331	0.185	0.191	0.732
20. Enjoying an art museum	0.444	0.612	0.058	0.254	0.313
21. Carving something out of wood or similar material	0.026	0.516	0.588	0.114	0.594
22. Figuring out how to fix a frozen or buggy computer	0.095	-0.054	0.659	0.136	0.146
23. Writing a computer program	-0.002	0.022	0.688	0.063	0.302
24. Solving math puzzles	0.05	-0.067	0.686	0.145	0.065
25. Taking apart machines and figuring out how they work	0.004	0.08	0.792	0.158	0.207
26. Building something mechanical (like a robot)	0.035	0.211	0.838	0.091	0.438
27. Helping to carry out or design a scientific experiment	0.421	0.06	0.395	0.337	0.109
28. Solving an algebraic or geometric proof	0.077	-0.061	0.699	0.125	0.093
29. Constructing something out of metal, stone, or similar material	0.07	0.386	0.69	0.176	0.484
30. Finding something fun to do when I have no money	0.301	0.232	0.192	0.574	0.274
31. Helping other people cope with a difficult situation	0.368	0.001	0.08	0.62	0.027
32. Teaching someone how to do something	0.408	0.069	0.256	0.685	0.098
33. Maintaining a good balance between my work and my personal life	0.23	0.024	0.158	0.482	0.027
34. Understanding how to make myself happy	0.293	-0.06	0.098	0.632	-0.017
35. Being able to work through my personal problems in a healthy way	0.301	0.072	0.104	0.619	0.151
36. Thinking of new ways to help people	0.426	0.05	0.103	0.733	0.114

» Table 1. (continued)

» Table 3. (continued)

Variable	Scholarly	Artistic	Mechanical/ Scientific	Self/ Everyday	Performance
37. Choosing the best solution to a problem	0.363	0.003	0.331	0.428	0.125
38. Planning a trip or event with friends that meets everyone's needs	0.359	0.115	0.098	0.576	0.082
39. Mediating a dispute or argument between two friends	0.558	-0.11	0.025	0.572	0.123
40. Getting people to feel relaxed and at ease	0.324	0.02	0.016	0.671	0.115
41. Writing a poem	0.412	0.342	0.155	0.194	0.742
42. Making up lyrics to a funny song	0.244	0.116	0.228	0.191	0.781
43. Making up rhymes	0.293	0.226	0.236	0.192	0.791
44. Composing an original song	0.145	0.382	0.314	0.161	0.818
45. Learning how to play a musical instrument	0.105	0.426	0.255	0.206	0.557
46. Shooting a fun video to air on YouTube	0.111	0.21	0.18	0.276	0.645
47. Singing in harmony	0.037	0.382	0.207	0.192	0.604
48. Spontaneously creating lyrics to a rap song	0.176	0.153	0.235	0.175	0.853
49. Playing music in public	0.114	0.353	0.289	0.245	0.66
50. Acting in a play	0.238	0.235	0.115	0.267	0.578

Note. Factor loadings above 0.40 are highlighted in bold.

High factor loadings and communalities were used as selection criteria, indicating strong associations with the intended factor while minimising cross-loadings onto other factors. In this regard, it was observed that the artistic creativity domain factor contained items with factor loadings greater than 0.5 on more than one factor. Given this observation, the Artistic factor deviates slightly from the four-item guideline, with only three items exhibiting factor loadings greater than 0.4, all remaining integrated within the scale and without cross-loadings with other factors. Thus, the reduction procedures resulted in a short version comprising 19 items, each with the highest factor loading on one of

the factors of Kaufman's (2012) five-domain creativity scale. There were no cross-loadings, i.e., factor loadings greater than 0.5 on more than one factor.

The K-DOCS-BRV remained as follows: four items for the performance scale (48. Spontaneously creating lyrics to a rap song; 44. Composing an original song; 43. Making up rhymes; 42. Making up lyrics to a funny song) and four items for the mechanical/scientific scale (26. Building something mechanical (like a robot); 25. Taking apart machines and figuring out how they work; 28. Solving an algebraic or geometric proof; 29. Constructing something out of metal, stone, or similar material).

Also included in the reduced scale for the Brazilian context are the following items from the original scale: four items for the Scholarly factor (6. Gathering the best possible assortment of articles or papers to support a specific point of view; 10. Being able to offer constructive feedback based on my own reading of a paper; 4. Debating a controversial topic from my own perspective; 11. Coming up with a new way to think about an old debate), four items for the Self/Everyday factor (36. Thinking of new ways to help people; 32. Teaching someone how to do something; 40. Getting people to feel relaxed

and at ease; 34. Understanding how to make myself happy), and only three items for the Artistic factor (18. Appreciating a beautiful painting; 20. Enjoying an art museum; 15. Making a scrapbook page out of my photographs).

The resulting 19-item reduced scale, K-DOCS-BRV, comprises items with empirical and theoretical justification derived from an exploratory factor analysis. Table 4 presents the selected items and their corresponding factor loadings across the five domains.

Table 4. K-DOCS-BRV 19-Item Reduced Scale

Items	Scholarly	Artistic	Mechanical/ Scientific	Self/ Everyday	Performance
4. Debating a controversial topic from my own perspective	0.636	-0.157	0.166	0.422	0.076
6. Gathering the best possible assortment of articles or papers to support a specific point of view	0.726	-0.014	0.09	0.384	-0.001
10. Being able to offer constructive feedback based on my own reading of a paper	0.709	0.028	-0.001	0.386	0.234
11. Coming up with a new way to think about an old debate	0.63	-0.037	0.287	0.457	0.198
15. Making a scrapbook page out of my photographs	0.223	0.402	0.084	0.363	0.381
18. Appreciating a beautiful painting	0.397	0.663	0.055	0.246	0.341
20. Enjoying an art museum	0.444	0.612	0.058	0.254	0.313
25. Taking apart machines and figuring out how they work	0.004	0.08	0.792	0.158	0.207
26. Building something mechanical (like a robot)	0.035	0.211	0.838	0.091	0.438
28. Solving an algebraic or geometric proof	0.077	-0.061	0.699	0.125	0.093
29. Constructing something out of metal, stone, or similar material	0.07	0.386	0.69	0.176	0.484
32. Teaching someone how to do something	0.408	0.069	0.256	0.685	0.098
34. Understanding how to make myself happy	0.293	-0.06	0.098	0.632	-0.017
36. Thinking of new ways to help people	0.426	0.05	0.103	0.733	0.114

» Table 4. (continued)

» Table 4. (continued)

Items	Scholarly	Artistic	Mechanical/ Scientific	Self/ Everyday	Performance
40. Getting people to feel relaxed and at ease	0.324	0.02	0.016	0.671	0.115
42. Making up lyrics to a funny song	0.244	0.116	0.228	0.191	0.781
43. Making up rhymes	0.293	0.226	0.236	0.192	0.791
44. Composing an original song	0.145	0.382	0.314	0.161	0.818
48. Spontaneously creating lyrics to a rap song	0.176	0.153	0.235	0.175	0.853

Note. factor loadings above 0.40 are highlighted in bold.

To evaluate the internal consistency and reliability of each factor within the K-DOCS-BRV, Cronbach's alpha and McDonald's omega coefficients were calculated.

The results, shown in Table 5, indicate that the scale presents satisfactory reliability indices, supporting the robustness of the reduced instrument.

Table 5. Scale Reliability Statistics

Estimate	McDonald's ω	Cronbach's α
Scholarly	.807	.786
Mechanical/Scientific	.796	.808
Self/Everyday	.703	.7
Artistic	.807	.747
Performance	.865	.863

Study 2—Confirmatory Factor Analysis (CFA)

CFA was used to validate the five-factor structure of the K-DOCS. The fit of the CFA models was assessed using diagonally weighted least squares (DWLS) robust estimation, recommended for analysing ordinal data. This method uses the asymptotic covariance matrix derived from a polychoric correlation matrix estimated from the observed categorical variables (Katsikatsou *et al.*, 2012).

Study 1 provided preliminary support for the 19-item K-DOCS-BRV. However, it is unclear whether the K-DOCS-BRV outperforms the original 50-item model or the other competing models. A new sample was

used to further investigate the factor structure of the K-DOCS-BRV and compare it with other references.

The various versions, including the original 50-item K-DOCS, the 20-item Malaysian K-DOCS (Tan *et al.*, 2021), the 16-item Chinese K-DOCS (Zhang *et al.*, 2023), and the 19-item K-DOCS-BRV, were examined and compared using JASP. The parent model (50 items with five factors) had moderate fit indices (*CFI* and *TLI* were below 0.9, though close). The 20-item Malaysian model by Tan *et al.* (2021) and the 16-item Chinese model by Zhang *et al.* (2023) both fitted well. Notably, the 19-item K-DOCS-BRV outperformed all reduced models, including the original 50-item model, in terms of fit. The indices for all versions are shown in Table 6.

Table 6. Compared Fit Indices for Alternative K-DOCS Models

Model	χ^2	df	p	CFI	TLI	RMSEA (90% CI)	SRMR
K-DOCS (50 items)	11533.35	1165	< .001	0.883	0.877	0.078 (0.077; 0.08)	0.082
20-K-DOCS (Tan <i>et al.</i> , 2021)	999.64	160	< .001	0.932	0.919	0.060 (0.057; 0.064)	0.058
K-DOCS-CSV (Zhang <i>et al.</i> , 2023)	881.12	94	< .001	0.917	0.894	0.076 (0.071; 0.08)	0.067
K-DOCS-BRV	992.32	142	< .001	0.939	0.927	0.064 (0.060; 0.068)	0.060

The local fit indices were examined alongside the global fit indices for the K-DOCS-BRV model. Analysing the modification indices revealed three pairs of residual covariances with high modification indices (i.e., modification index >100; item 18 and item 20; item 20 and item 15; item 18 and item 15). Additional adjustments based on modification indices were not implemented; however, to avoid overfitting the model to the data, as these items belonged to the same factor (Artistic), and the five-factor model showed an adequate fit. To confirm the robustness of the K-DOCS-BRV model, composite

reliability (CR) and average variance extracted (AVE) were computed.

Reliability and Average Variance Extracted

CR and AVE were calculated to assess the convergent and discriminant validity of the K-DOCS-BRV. The results are presented in Table 7, which shows that all CR values exceeded .70, indicating strong internal consistency (Hair *et al.*, 2009). Convergent validity remains satisfactory, although some AVE values are lower than .50 if the CR value is higher than .60 (Fornell & Larcker, 1981).

Table 7. Average Variance Extracted and Composite Reliability

	Scholarly	Artistic	Mechanical/ Scientific	Self/Everyday	Performance
AVE	.382149	.516654	.514489	.374354	.597634
CR	.7112	.757282	.799062	.701304	.855511

Multi-Group Confirmatory Factor Analysis (MCFA)

The study used MCFA to investigate the measurement invariance (configural, metric, scalar and strict) of the K-DOCS-BRV in different regions. MCFA enables simultaneous evaluation of the instrument across different groups (Damásio, 2013). To determine measurement invariance, fit statistics such as CFI, RMSEA and SRMR were compared between less

and more restrictive models. In large samples ($n > 300$), metric invariance is rejected when $\Delta CFI \geq 0.010$ and $\Delta RMSEA \geq 0.015$ or $\Delta SRMR \geq 0.030$, while scalar or strict invariance is rejected when $\Delta CFI \geq 0.010$ and $\Delta RMSEA \geq 0.015$ or $\Delta SRMR \geq 0.010$ (Chen, 2007; Damásio, 2013).

For this stage, Sample 2 was divided into regions based on the Brazilian states to which the participants belonged. Region 1 ($n = 781$) comprised Rio Grande

do Sul, Paraná, Santa Catarina, São Paulo, Mato Grosso do Sul, Rio de Janeiro, and Espírito Santo. Region 2 ($n = 675$) was made up of respondents from the states of Minas Gerais, Mato Grosso, Goiás, Bahia, Ceará,

Pernambuco, Alagoas, Paraíba, Piauí, Rio Grande do Norte, Maranhão, Sergipe, Tocantins, Amazonas, Pará, Roraima, as well as the Federal District and Brazilians living abroad. The distribution by region is shown in Table 8.

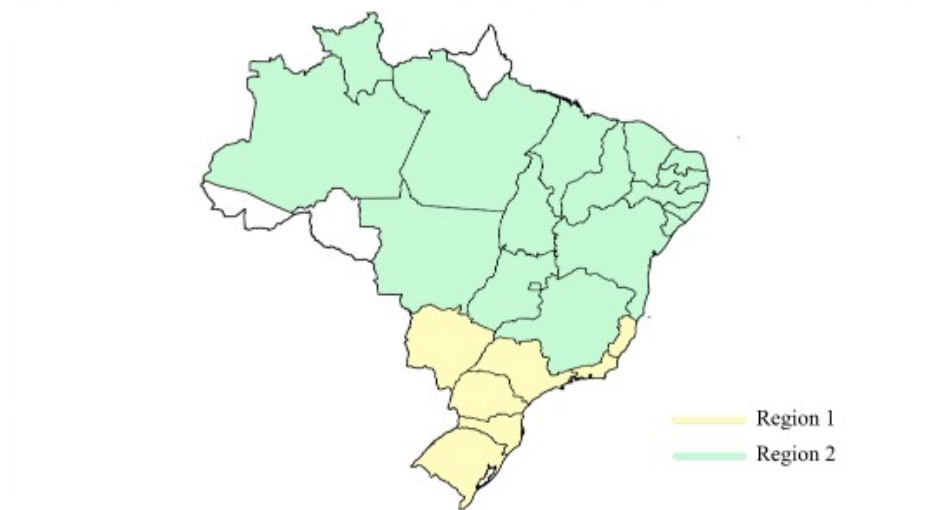
Table 8. Distribution by Region

Region	Study 1, 962 (100%)	Study 2, 1,456 (100%)
Region 1	747 (77.7%)	781 (53.6%)
Region 2	215 (22.3%)	675 (46.4%)

The distribution can also be seen on the map of Brazil, as shown in Figure 1, noting that among the re-

spondents aggregated in Region 2 are people who live outside the country (1.2%).

Figure 1. Distribution by Region



The results of the measurement invariance test for Region 1 ($n = 781$) and Region 2 ($n = 675$) are shown in Table 9. The 19-item K-DOCS-BRV test fitted both groups well, indicating that additional invariance analyses were required. Model 1 of the configural invariance model fit well, indicating that the overall factor structure was consistent across both groups. Similarly, the metric invariance model (Model 2) fit the data well. A critical comparison of Model 1 and Model 2 revealed no significant differences, confirming the equivalence of the factor loadings between the two groups. In addition, the scalar invariance model (Model 3) with restricted intercepts fit well, and there were no significant differences

between Models 2 and 3, indicating invariant intercepts across groups. Finally, the strict invariance model (Model 4) provided a good fit. When Model 3 and Model 4 were compared, there were no significant differences in the residual errors between the groups.

It is necessary to inform that measurement invariance analyses by gender were not conducted in this study due to the sample's gender imbalance, predominantly male, which could compromise the reliability of such analyses. Future studies should aim for more balanced gender samples to enable robust investigations of gender invariance.

Table 9. Measurement Invariance by Region

Measurement invariance	χ^2 (df)	df	CFI	RMSEA	SRMR	Comparison	$\Delta\chi^2$	Δ CFI	Δ RMSEA	Δ SRMR
Region 1 (n = 781)	590.71	142	0.94	0.064	0.066	-	-	-	-	-
Region 2 (n = 675)	476.54	142	0.947	0.059	0.064	-	-	-	-	-
Model 1: Configural invariance	1067.26	284	0.944	0.062	0.065	-	-	-	-	-
Model 2: Metric invariance	1088.74	298	0.943	0.06	0.066	Model 2 vs. Model 1	21.48	14	-0.001	-0.002
Model 3: Scalar invariance	1096.69	312	0.943	0.059	0.063	Model 3 vs. Model 2	7.95	14	0	-0.001
Model 4: Strict invariance	1109.95	331	0.944	0.057	0.064	Model 4 vs. Model 3	13.26	19	0.001	-0.002

The results of the measurement invariance test supported the K-DOCS-BRV five-factor model and indicated acceptable fit across all regions. The configural, metric, scalar and strict models had satisfactory fit indices, with no significant changes in CFI,

RMSEA or SRMR. These findings support the measurement invariance across Brazilian regions, suggesting that the K-DOCS-BRV is a suitable instrument for assessing and comparing self-reported creativity among Brazilians.

Discussion

The K-DOCS is a self-assessment tool for evaluating creativity in specific domains. Although previous research has supported its psychometric properties across a variety of populations, the scale's length can pose limitations in certain situations. The present study aimed to develop a condensed version of the K-DOCS, specifically adapted for the Brazilian population, and to evaluate its psychometric properties.

The short version was created using data from a large sample of Brazilians obtained via a mailing list. An exploratory factor analysis was used to select a set of 19 items to form the K-DOCS-BRV, maintaining the theoretical five-factor structure with three or four items per factor. Tan *et al.* (2021) developed a 20-item short version of the K-DOCS based on data from Malaysia, while Zhang *et al.* (2023) proposed a 16-item version in China.

The comparative analysis of reduced versions of K-DOCS revealed that the K-DOCS-BRV demonstrated better global fit indices than the 20-item Malaysian (Tan *et al.*, 2021) and 16-item Chinese (Zhang *et al.*, 2023) models. The K-DOCS-BRV showed higher CFI (0.939) and TLI (0.927), as well as acceptable RMSEA (0.064) and SRMR (0.060). These fit indices suggest that the Brazilian adaptation achieved greater psychometric robustness while maintaining the theoretical structure originally proposed by Kaufman (2012).

The K-DOCS-BRV contains 10 items from the 20-item Malaysian K-DOCS (items 10, 15, 18, 25, 26, 32, 34, 42, 44, and 48). In addition, the K-DOCS-BRV shares 10 items with the Chinese K-DOCS-CSV (items 10, 18, 20, 25, 26, 32, 36, 43, 44, 48). All three instruments share seven items (item 10, item 18, item 25, item 26, item 32, item 44, item 48).

Previous studies have highlighted the impact of cultural differences on people's perceptions and expressions of creativity (Kaufman, 2012; Tan *et al.*, 2021). Therefore, the differences observed among the items comprising the three short versions discussed in this paper may reflect cultural differences in how creativity is perceived and expressed across Chinese, Malaysian, and Brazilian samples.

Measurement invariance tests confirmed that the K-DOCS-BRV maintains stable factor structure, factor loadings, intercepts, and residual errors across two geographically distinct Brazilian regions. Establishing measurement invariance across these regions ensures that observed differences in creativity scores reflect true differences in creativity rather than methodological biases or measurement artefacts. Practically, this indicates that the K-DOCS-BRV is reliable and robust for use in Brazilian contexts, enabling comparisons of creativity across demographic groups, regions, and cultural subpopulations within Brazil. The confirmed invariance strengthens the scale's applicability in broader national research, assuring that interpretations of findings remain valid regardless of regional cultural nuances.

The CR and AVE values obtained for the K-DOCS-BRV confirmed its convergent validity and internal consistency. Categorically, the CR values for all domains exceeded the recommended threshold of .70 (Hair *et al.*, 2009), ranging from .701 to .856, indicating strong internal consistency across factors. Although AVE values for some domains were slightly below the standard cutoff of .50, all CR values exceeded .70, meeting the criteria established by Fornell and Larcker (1981), and thus confirming adequate convergent validity. These indices demonstrate that each dimension reliably captures its intended creativity domain, providing the scale's psychometric soundness and reinforcing the validity of the interpretations derived from the K-DOCS-BRV.

Before concluding, it is necessary to acknowledge the limitations of the current study. To begin, the psychometric properties of the K-DOCS-BRV were assessed in a Brazilian sample using a digital instrument. Although previous research has demonstrated the sound psychometric properties of the K-DOCS across a variety of samples, it is important to note that cultural differences can affect the applicability of certain items

in abbreviated form across different cultural groups. Future research could use qualitative approaches, such as focus group discussions, to identify culturally relevant activities for each domain.

Secondly, the criterion validity of the K-DOCS-BRV in this study was limited by the absence of an objective measure of creativity. As a result, the validation of the K-DOCS-BRV was based mainly on traits and constructs conceptually associated with creativity. Future research should investigate the scale's relationship with objective measures of domain-specific creativity and real-life creative performance to improve understanding of its criterion validity.

Finally, although the K-DOCS-BRV has been tested for measurement invariance across regions, future studies should examine its invariance with respect to additional factors that may influence creativity. This expanded investigation would provide a more complete understanding of the scale's applicability and ensure its validity across diverse populations. Based on these analyses, researchers can identify non-invariant items and replace them with activities that align with the five domains of creativity across different cultural contexts.

The reduced K-DOCS-BRV offers practical advantages, providing researchers and practitioners with an efficient and reliable instrument for assessing creativity in the Brazilian context. The shorter length reduces respondent burden, increases response rates, and improves data quality, particularly in large-scale surveys or longitudinal studies where participant retention is decisive. Moreover, its practicality makes it well-suited to applied contexts, such as organisational settings for evaluating employee creativity in recruitment, training, and development, as well as for psychological counselling, supporting practitioners in assessing clients' creative strengths and potential. Overall, the K-DOCS-BRV fills a gap in the Brazilian research and practice landscape, providing an accessible tool that facilitates frequent, context-sensitive creativity assessments.

Recent empirical evidence consistently supports integrative models of creativity, such as Baer and Kaufman's (2005, 2017) APT, which emphasise both domain-general and domain-specific contributions to creative expression (Acar *et al.*, 2024; Miroshnik *et al.*, 2022). The present findings align with these

contemporary perspectives, demonstrating empirically through CFA and invariance analyses that the five-factor structure originally proposed by Kaufman (2012) remains valid and robust when condensed into a shorter form. Moreover, the cross-cultural alignment of items among the Brazilian, Malaysian (Tan *et al.*, 2021), and Chinese (Zhang *et al.*, 2023) reduced

scales supports contemporary understandings that, although creativity has universal components, its specific expression is sensitive to cultural nuances. Thus, this research not only validates a short-form measure for Brazil but also reinforces recent theoretical propositions regarding the hybrid nature and cultural specificity inherent in creativity measurement.

Conclusion

In conclusion, this study provides evidence to support the validity of the K-DOCS-BRV as a reliable and efficient measure of creativity in the Brazilian population. The results show that the 19-item K-DOCS-BRV has adequate psychometric properties, outperforming the longer 50-item K-DOCS in terms of efficiency and strength. As a result, researchers are encouraged to consider using the K-DOCS-BRV as a cost-effective tool for assessing the five domains of creativity, especially when multiple measurements are required or time constraints are present. When practical constraints preclude using the full version, the K-DOCS-BRV serves as a valuable and valid alternative, providing researchers with a reliable means of assessing creativity in the Brazilian context.

In brief, the K-DOCS-BRV advances creativity research and practice in Brazil by addressing practical and methodological limitations inherent to longer scales. Its concise format can enhance respondent engagement and data quality, and improve its use in practical and research contexts without compromising psychometric integrity. Moreover, the validation processes undertaken in this paper underscore the instrument's suitability for comparative creativity assessments, both within Brazil's culturally diverse regions and in international cross-cultural studies. Therefore, the K-DOCS-BRV represents a practical advancement in creativity assessment, tailored to the demands and realities of Brazilian research and practice contexts.

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Appendix 1

Itens	Acadêmico	Artístico	Científico	Cotidiano	Performático
1. Escrever uma crônica/artigo para um jornal, boletim ou revista	0.66	0.17	0.031	0.243	0.525
2. Escrever uma carta para o editor	0.625	0.19	-0.013	0.275	0.466
3. Achar informações sobre um assunto pesquisando em fontes diversificadas e não óbvias	0.48	-0.03	0.194	0.285	-0.01
4. Debater um tema polêmico apresentando minha perspectiva	0.636	-0.157	0.166	0.422	0.076
5. Responder a uma questão de uma forma adequada ao contexto	0.628	-0.134	0.153	0.426	0.022
6. Reunir uma variedade de artigos/textos para apoiar um ponto de vista específico	0.726	-0.014	0.09	0.384	-0.001
7. Em um debate, defender um lado ainda que eu pessoalmente não concorde	0.351	-0.15	0.075	0.167	0.135
8. Analisar os temas em um bom livro	0.568	0.326	0.062	0.327	0.22
9. Ao revisar um trabalho, descobrir como integrar críticas e sugestões	0.526	0.104	0.145	0.415	0.144
10. Ler um texto e oferecer feedback construtivo sobre ele	0.709	0.028	-0.001	0.386	0.234
11. Descobrir uma nova forma de pensar sobre uma antiga controvérsia/debate	0.63	-0.037	0.287	0.457	0.198
12. Fazer desenhos de coisas que nunca vi (como um ET por exemplo)	0.128	0.458	0.447	0.142	0.606
13. Desenhar uma pessoa ou um objeto	0.047	0.508	0.437	0.114	0.506
14. Rabiscar ou desenhar formas sortidos ou figuras geométricas	0.133	0.397	0.435	0.255	0.291
15. Fazer um álbum-colagem (scrapbook) de fotos pessoais	0.223	0.402	0.084	0.363	0.381
16. Tirar uma boa foto usando um ângulo interessante e/ou diferente	0.216	0.338	0.118	0.453	0.263
17. Fazer uma escultura ou uma peça de cerâmica	0.061	0.614	0.447	0.094	0.67
18. Apreciar uma bela pintura	0.397	0.663	0.055	0.246	0.341
19. Inventar uma interpretação própria de uma obra de arte clássica	0.365	0.331	0.185	0.191	0.732
20. Apreciar um museu de arte	0.444	0.612	0.058	0.254	0.313

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Itens	Acadêmico	Artístico	Científico	Cotidiano	Performático
21. Esculpir algo em madeira ou material similar	0.026	0.516	0.588	0.114	0.594
22. Descobrir como consertar um computador travado ou com problemas (bugs)	0.095	-0.054	0.659	0.136	0.146
23. Escrever o código de um programa de computador	-0.002	0.022	0.688	0.063	0.302
24. Resolver um quebra-cabeça matemático	0.05	-0.067	0.686	0.145	0.065
25. Desmontar máquinas e descobrir como elas funcionam	0.004	0.08	0.792	0.158	0.207
26. Construir algo mecânico (como um robô)	0.035	0.211	0.838	0.091	0.438
27. Ajudar a planejar ou executar uma experiência científica	0.421	0.06	0.395	0.337	0.109
28. Resolver e apresentar uma prova de uma equação algébrica ou geométrica	0.077	-0.061	0.699	0.125	0.093
29. Construir algo de metal, pedra ou material similar	0.07	0.386	0.69	0.176	0.484
30. Encontrar algo divertido para fazer mesmo sem dinheiro	0.301	0.232	0.192	0.574	0.274
31. Ajudar outras pessoas a lidar com uma situação difícil	0.368	0.001	0.08	0.62	0.027
32. Ensinar alguém a fazer algo	0.408	0.069	0.256	0.685	0.098
33. Conciliar demandas do trabalho com a vida pessoal	0.23	0.024	0.158	0.482	0.027
34. Saber o que me faz ficar feliz	0.293	-0.06	0.098	0.632	-0.017
35. Trabalhar meus problemas pessoais de uma forma saudável	0.301	0.072	0.104	0.619	0.151
36. Pensar em novas maneiras de ajudar as pessoas	0.426	0.05	0.103	0.733	0.114
37. Achar a melhor solução para um problema	0.363	0.003	0.331	0.428	0.125
38. Planejar uma viagem ou evento com amigos que atenda às necessidades de todos	0.359	0.115	0.098	0.576	0.082
39. Mediar a solução de uma discussão/desentendimento entre dois amigos	0.558	-0.11	0.025	0.572	0.123
40. Fazer as pessoas a se sentirem à vontade, relaxadas	0.324	0.02	0.016	0.671	0.115
41. Escrever um poema	0.412	0.342	0.155	0.194	0.742

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Itens	Acadêmico	Artístico	Científico	Cotidiano	Performático
42. Inventar letras para a paródia (imitação cômica) de uma música	0.244	0.116	0.228	0.191	0.781
43. Fazer rimas	0.293	0.226	0.236	0.192	0.791
44. Compor uma canção original	0.145	0.382	0.314	0.161	0.818
45. Aprender a tocar um instrumento musical	0.105	0.426	0.255	0.206	0.557
46. Gravar um vídeo engraçado para disponibilizar no YouTube	0.111	0.21	0.18	0.276	0.645
47. Cantar afinado	0.037	0.382	0.207	0.192	0.604
48. Improvisar uma letra em um RAP	0.176	0.153	0.235	0.175	0.853
49. Tocar em público	0.114	0.353	0.289	0.245	0.66
50. Encenar como ator em uma peça	0.238	0.235	0.115	0.267	0.578