

Development of the Uzma Amena Creativity Tool: Measuring Creativity Through Verbal and Figural Divergent Thinking

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The present study aimed to develop Uzma Amena Creativity Tool (UACT) and analyze its psychometric properties. This indigenous test battery was designed to measure creativity based on the premise of divergent thinking. The tool includes three verbal subtests; Imagine the Consequences, Unusual Uses of Things, Seeing Problems and two figural subtests: Graphic Domain and Scribble Enhancement, each containing three items. An initial sample of 68 participants contributed to concept generation. Item development was grounded in the factor process of Rhodes' 4P model (1961) and creativity tests by Guilford (1967) and Torrance (1999). The tool underwent expert review and was piloted with 55 participants to control for order effects. A Principal Component Analysis conducted on a sample of 150 participants revealed a three-factor structure: Functional Creativity, Pictorial Creativity, and Hypothetical Creativity, all with Eigen values greater than 1. Creativity levels were categorized as Exceptionally Creative, Very Creative, Above Average, Average, and Below Average. The 15-item scale demonstrated high internal consistency ($\alpha = .89$) and strong test retest reliability. Overall, the UACT shows strong psychometric properties and cultural relevance, making it a valuable tool for use in educational, organizational, and clinical settings to identify and nurture creative potential.

Keywords. Creativity, divergent thinking, test development, Uzma Amena Creativity Tool (UACT)

Creative skills are among the most highly valued life and workplace abilities in the 21st century, encompassing innovative thinking, problem-solving, and critical thinking capabilities (Gafour & Gafour, 2020). Creativity requires engaging with new or unfamiliar ideas and being open to seeing familiar things in different ways (Glăveanu & Beghetto, 2021). Unlike the common perception of

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associating creativity with only arts specific fields, it can be exhibited in the fields of arts, science and human affairs (Simon, 2001).

Guilford is recognized as a pioneer who sparked psychology's interest in the study of creativity (Barlow 2000; Torrance, 1995;) described creativity as a process that allows for the identification of traits typical of creative individuals, the distinction of settings that support creative thought, and the examination of possible results produced by the creative process. Creativity ranges from individual to eminent levels, as outlined in the 4C model (Kaufman & Beghetto, 2009). According to this model four dimensions of creativity include Mini-c which refers to personal insights and creative expressions that hold significance for the individual. Little-c encompasses everyday creativity that is useful for solving daily life problems. It is also termed as functional creativity (Cropley & Cropley, 2010). Pro-c refers to creativity at the professional level, exhibited by individuals who possess training and expertise in a specific area. An increasing number of researchers have begun assessing creativity within specific domains, including artistic creativity (Lunke & Meier, 2016), mathematical creativity (Mann, 2009), and scientific creativity (Hu & Adey, 2002; Sak & Ayas, 2013). At the end of continuum is Big-C that signifies eminent creativity resulting in pioneering contributions acknowledged and remembered throughout history.

Rhodes' (1961) 4P framework is a widely recognized and accepted classification in the psychometric study of creativity (Kashif et al., 2025) that guided creativity assessment in four different dimensions, namely process, person, product and press. Person encompasses the individual characteristics that influence creativity, such as personality, intelligence, motivation, and thinking style, this factor focuses on identifying creative individuals by examining their personal traits or characteristics (Xu et al., 2025). Press is the environment or context that affects creativity, including social, cultural, and physical influences. Certain learning environments accommodate individual differences and offer greater freedom for learning, while others restrict opportunities for self-exploration and independent inquiry (Leung et al., 2023; Pakarinen et al., 2024). Product is the result of an idea or creative thinking being transmitted into a tangible outcome (Yeung & Bautista, 2024) which can be an artwork, invention, or solution that is original and valuable. Process involves the cognitive steps and mental strategies used during creative thinking. Researchers have regarded divergent thinking as a key element of the creative process (Xu et al., 2025), often equating the two.

Tests that measure divergent thinking are commonly used to evaluate creative potential (Runco, 2023). Divergent thinking involves

production of variability. Convergent thinking involves production of singularity (Crompton, 2006) by using proven methods and existing knowledge (Gerver et al., 2023). Importance of measurement of creativity is being gradually recognized in Pakistan, on the contrary in developed countries and in many Asian countries creativity measurement is already being done. Recently Habib University a leading private university of Karachi has launched IDEAL (Institute of Design Thinking, Entrepreneurship and Leadership) which aims to develop creativity in students (Ousat, 2025). Certain local studies have emphasized the role of press and personality factors in creativity, like researchers from the University of Loralai and Quaid-i-Azam University developed a Classroom Creativity Climate Scale to assess the creative environment in university classrooms (Kamran et al., 2023) and few studies have been done in the field of design production (Sternberg & Karami, 2022; Zahid, 2023) which covers the product factor but the least studied is the divergent thinking process factor. Constructing a test for measuring creativity focusing on the process factor was much needed as no such test has been developed or adapted locally. Creativity is typically assessed within a specific cultural, social, or contextual framework (Sternberg, 1985) rather than by universal standards and its suitability is judged by a particular community (Runco et al., 2016).

This study aimed to develop creativity measurement tool based on divergent thinking. This tool would be designed by incorporating both verbal and figural components.

Method

The research was conducted in three phases; in the 1st phase item generation was done and test was piloted and reviewed by experts, in the 2nd phase the items were refined and administered in five sequences to see order effect and inter item consistency, in the final phase confirmatory factor analysis, calculation of reliability and calculation of creativity score bands was done.

Phase I

In order to define creativity and its mode of measurement both deductive and inductive methods were utilized. Literature review of the theories and measurement models were thoroughly evaluated, while from the data gathered from the sample the themes were identified that how they defined creativity and how it can be measured.

Sample

A purposive sample of 68 participants was selected. It had 40% women and 60% men aged 20-30 years ($M = 22$, $SD = 3.07$). Their educational level was, under graduate, graduate and post graduate. They were selected from both public and private universities and belonged to various fields of education. Some of them were engaged in paid jobs as well.

Measure

Measure comprised of a demographic information sheet and a questionnaire with two open-ended questions. The first question was about how they viewed creativity, and the second question was how to measure creativity. The basic framework selected for identification of themes was [Rhodes 4P's creativity model 1961](#), which constitutes person, process, product and press. Measurement mode was categorized as verbal, figural, both and had an option of not possible measured.

Procedure

The participants who fulfilled the inclusion criteria were approached individually. They were informed about the purpose of the research and after their consent, the demographic sheet and questionnaire was administered. The time given to complete the open-ended questionnaire was 15 minutes

Pilot Testing

The first draft of test was formulated in accordance with themes identified from local sample data and literature review of scales. Consequently, a timed creativity test having six subtests was developed. The test was piloted, after which the content of the test and its scoring was critically evaluated by the experts, The purpose of pilot testing was to ensure that there is no ambiguity in the content, allotted timings and instructions related to test administration.

Sample

This was a purposive sample comprising of 20 participants 50%women and 50% men, aged 20-30 ($M = 25.6$, $SD = 3.43$). The group included individuals from diverse educational backgrounds and were either graduates or postgraduates, affiliated with public and private universities. Some were also working professionals engaged in paid employment.

Measure

The tool comprised of demographic information questionnaire and creativity measurement test having following subtests: the consequences test, unusual uses of things, seeing problems, describing the pictures and graphic artistic domain

Procedure

The participants who fulfilled the inclusion criteria were approached individually. They were informed about the purpose of the research and their consent was taken. The test booklet was administered to the sample individually; along with answer sheets. It was ensured that participants were provided with chairs and table along with pen, pencil and eraser. The researcher used stopwatch and in the stipulated time the participants completed all sub tests one by one.

Expert Review

The experts critically analyzed content and scoring of the test. The face validity is important for any scale and is assessed by experts in academics and practitioners from the field ([Elangovan & Sundaravel, 2021](#)). Expert review was carried out by four experts, two of them were PhD from the field of Psychology, one was PhD from the discipline of Education, and one belonged to the field of performing arts. All of them had great insight into the topic of interest, how to develop scales and score them accordingly. The Creativity Measurement Tool was amended after expert review; consequently, the tool underwent a few changes, including the content, instructions, timings and scoring key.

Phase II

In this phase second draft of creativity tool was administered in different sequences and inter item consistency was calculated for final selection of tool items.

Sample

This sample had 55 participants, 56% men and 24% women aged 20-30 ($M = 24.5$, $SD = 3.64$). They were selected from both public and private universities 36% from discipline of Science, 19% from Social science and 45% from Arts. 76% had a nuclear family structure and 84% placed themselves in middle class. In academic grades 45% had A, 42% had B while 13% had C grade. 11% sample had creative

hobbies, 51% had non-creative hobbies and 38% had both creative and non creative hobbies.

Tool

The tool comprised of Demographic information questionnaire and the revised draft of tool which was now termed as tool does not test. The tool had 22 items and the sub tests included seeing problems, unusual uses of things, the consequences tests, scribble enhancement test, graphic artistic domain. The revised Creativity Measurement Tool was developed in five versions, that is, A, B, C, D, and E. While all versions contained the same subtests, their order varied. In versions A through D, the verbal and figural sections were presented separately with different sequences of subtests. In version E, however, verbal and figural subtests were presented in an alternating order.

Procedure

The tool was administered in five different sequences to the sample. Following test administration, the inter item reliability of 22 items was calculated and items with the lowest correlation values were removed. Finally three items in each of the five subtests were retained. The scoring method was adapted from the Torrance Tests of Creative Thinking (1968), and operational definitions were devised for the categories of fluency, flexibility, elaboration, and originality. The aim of this phase was to firstly check that if the tool is administered in varied sequences there would be no order effect and secondly to finalize same number of items in every sub test having higher Pearson correlation values.

Phase III

The final tool comprising of five sub tests having fifteen items was administered twice to the same sample. Creativity scores, internal consistency and test-retest reliability was calculated.

Sample

The purposive sample consisted of 150 participants, 61% men and 39% women, with the age range of 20 - 22 ($M = 20.85$, $SD = 1.80$). This age group was specifically targeted as the test was designed for young adults and it was feasible to access students via universities. They were selected from both public and private universities belonging to varied areas of study. Mostly sample belonged to nuclear family,

averagely had three siblings and identified them to be part of middle class and were high achievers in academics and co-curricular activities. Regarding hobbies, it was found that more participants had non-creative hobbies.

Measure

The tool comprised of demographic information questionnaire and the creativity tool, which in the final phase was named as Uzma Amena Creativity Tool (UACT). In the tool the order of sub test was alternative verbal and figural as in version E.

Table 1: *Subtest Titles and Description of Items of UACT*

Subtest Name	Description	Items
Imagine the consequences	Thinking possible outcomes of given hypothetical scenario	i. If all human beings start flying like birds ii. If people do not die iii. If there were no trees in the world
Graphic Domian	Utilizing the given shapes in any manner or dimension	i.  ii.  iii. 
Unusual uses of things	Thinking about various interesting uses of everyday objects	i. Brick ii. Paper iii. Glass bottle
Scribble Enhancement	Creating either concrete or symbolic representations from the scribbles, along with labels for their drawings	i.  ii.  iii. 
Seeing Problems	Understanding problems related to the mal functioning of given everyday items	i. Pen ii. Fridge iii Mirror

Procedure

After permission from various private and public universities creativity measurement tool was administered twice to the sample with

an interval of two weeks. The participants were provided with, informed consent form clearly stating that tool would be administered twice, demographic information sheet and plain blank sheets for answering the tool and were allowed to answer in either English or Urdu language. In all the sub tests participants had to use allotted time and give maximum six responses per item. Completion time for tool was 33 minutes.

Scoring categories were fluency, flexibility, elaboration and originality. Fluency referred to the total number of ideas produced, whereas flexibility was defined as the capacity to generate ideas across various categories (Guilford, 1967). The scoring category of Elaboration was used only for figural sub tests. A minimal initial response to the stimulus figure was treated as a single response and did not receive an elaboration score. Elaboration score was given to imagination and attention to detail and its appropriate labeling (Torrance, 2018). Originality was defined as the capacity to generate rare and unique ideas, with less common responses being classified as original. Each response was assessed in relation to the total sample. Responses provided by 5% of participants received 1 point, while those given by just 1% were awarded 2 points (Guilford, 1967).

Ethical Considerations

Ethical considerations were particularly followed during data collection. Before commencing the study, participants were provided with an informed consent form and were verbally briefed about the research objectives, procedures, potential risks, and benefits. Their willingness to participate was then obtained to ensure that their rights were fully respected. Throughout the study, participants had the right to withdraw at any time, without any compulsion, if they felt that the procedures were causing them mental or physical discomfort. In the final phase participants were specifically informed about re administration of tool after two weeks interval. The protection of the privacy of the research participant was prioritized and confidentiality of research data was also ensured.

Results

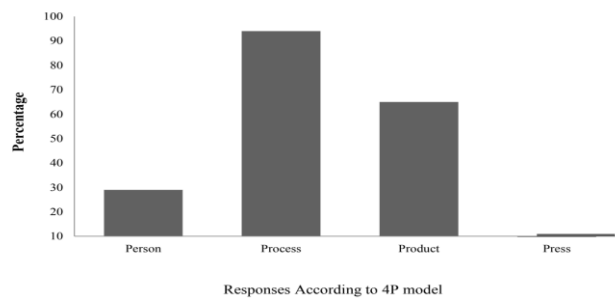
SPSS version 26 was used for data tabulation, scoring, and analysis. Descriptive statistics such as frequency, percentage, mean, and standard deviation were calculated to summarize sample demographics, while range was used to determine creativity score levels. ANOVA followed by Tukey's post hoc test was conducted to examine the order effects of the subtests. Exploratory Factor Analysis

and Confirmatory Factor Analysis have been used through Smartpls4. Reliability analysis was done by Cronbach alpha and Pearson correlation. Qualitative analysis was used for analyzing themes in concept generation and for scoring of fluency, flexibility, elaboration and originality.

Phase I

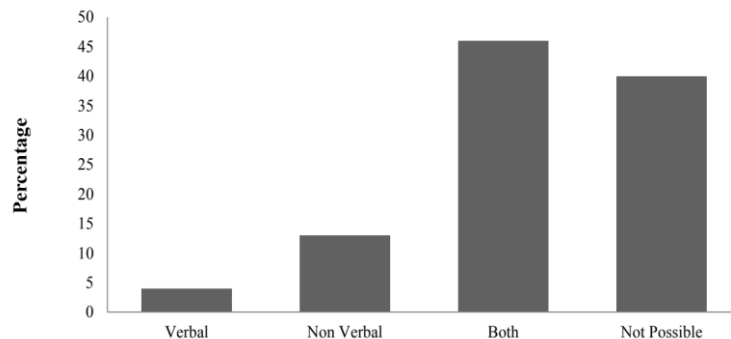
In the initial phase, concept generation was done by asking respondents to define creativity and indicate how it could be measured. Their responses were categorized using Rhodes' 4P Model, which views creativity as the outcome of four key dimensions: Person, Process, Product, and Press. Measurement mode was classified as verbal, nonverbal or both

Figure1: *What is Creativity? Categorization of Responses Based on the 4P Model; Person, Process, Product, Press (N = 68)*



The Figure 1 demonstrates that majority of the respondents, 94% defined creativity as a Process, while none defined it as Press.

Figure 2: *How to Measure Creativity? Classification of Responses (N = 68)*



The Figure 2 reveals that maximum respondents 46% believed that creativity can be evaluated using a combination of verbal and nonverbal assessments, while minimum 03% respondent's selected verbal assessment.

Phase II

In this Phase the test was administered in different sequences of sub tests, and interitem consistency of all items was calculated

Table 2: *Descriptive Statistics of Total Creativity Score and Sub-Tests (N = 55)*

Sub-tests	k	M	SD	α
Imagine the Consequences	5	23.63	10.29	.87
Unusual Use of Things	5	27.40	10.78	.86
Seeing Problems	5	24.05	14.06	.93
Graphic Domain	4	19.18	8.97	.88
Scribble Enhancement	3	13.01	5.78	.84
Total	22	107.29	38.61	.91

The Table 2 presents mean and standard deviation for the overall test and each subtest. Even at the preliminary stage, the inter-item reliability of all the 22 items of sub-tests is high.

Table 3: *One-way ANOVA Examining the Effect of Subtest Order of Presentation (N = 55)*

Sequence	A		B		C		D		E		F	
Subtest	M	SD	M	SD	M	SD	M	SD	M	SD	(4,50)	p
UU	25.26	11.34	24.83	11.27	29.58	6.62	29.45	11.98	30.20	14.78	.60	.66
IC	20.93	6.61	24.91	11.35	24.41	10.84	26.18	13.53	21.20	9.01	.54	.70
SP	15.26	13.38	21.16	13.69	29.58	8.20	30.27	14.41	30.40	15.22	3.33	.01
GD	21.26	1.61	15.75	2.16	17.66	3.04	21.81	3.75	19.00	2.25	.96	.47
SE	12.93	4.26	11.83	6.71	11.75	5.36	13.90	6.13	17.20	7.56	.99	.42

Note. UU: Unusual Uses of Things, IC: Imagine the Consequences, SP: Seeing Problems, GD: Graphic Domain, and SE: Scribble Enhancement. A, B, C, D, & E represent different sequences of subtests.

Table 3 displays the counterbalancing of the presentation order for various subtests. According to the post hoc Tukey test, there were no significant differences among the sequences, and all subtests produced similar results except for the Seeing Problems subtest, where Sequence A had a notably lower mean. Therefore, Sequence A was excluded when determining the final order of subtest presentation.

In the second phase out of 22 items those with lesser inter item correlation were omitted and 15 items were selected and sequence E was finalized

Phase III

In this phase, the psychometric properties of the final tool were evaluated and creativity score bands were calculated. First, Exploratory Factor Analysis (EFA) was performed to investigate the underlying empirical structure of the tool. The resulting factor solution was consistent with the proposed theoretical dimensions. Subsequently, Principal Component Analysis (PCA) was conducted to test the adequacy of the factor structure. The PCA results confirmed the alignment of the indicators with their hypothesized latent constructs and demonstrated satisfactory to strong model fit indices, providing evidence for the construct validity of the instrument. The internal item consistency and test retest reliability was also calculated and found to be high.

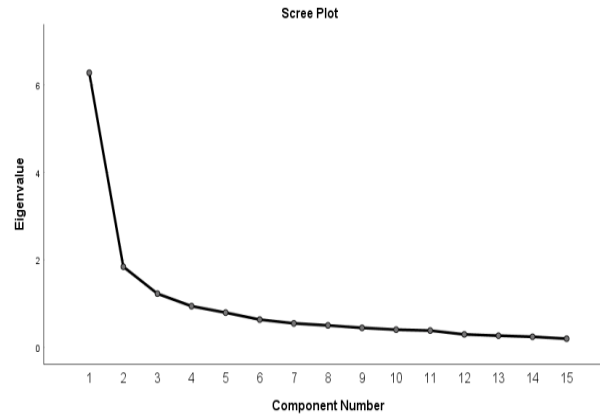
Table 4: *Exploratory Factor Analysis and Variance Distribution for Components of UACT (N=150)*

Factors	Eigen Values	Percentage of variance	Cumulative percentage
1	6.278	41.851	41.851
2	1.843	12.283	54.135
3	1.227	8.181	62.316
4	.941	6.276	68.592
5	.794	5.290	73.882
6	.634	4.225	78.107
7	.548	3.656	81.763
8	.501	3.343	85.106
9	.446	2.971	88.077
10	.405	2.698	90.774
11	.384	2.558	93.332
12	.295	1.970	95.302
13	.266	1.775	97.077
14	.241	1.608	98.685
15	.197	1.315	100.000

Table 4 shows the factor analysis which generated factor solution of three components having Eigen values greater than 1. PCA supported the retention of three factors according to Kaiser's (1960) criterion; components having Eigen values higher than 1 are recommended to be retained. The first component had an eigenvalue of 6.28 and explained 41.85% of the total variance. The second component had an eigenvalue of 1.84, accounting for 12.28% of the

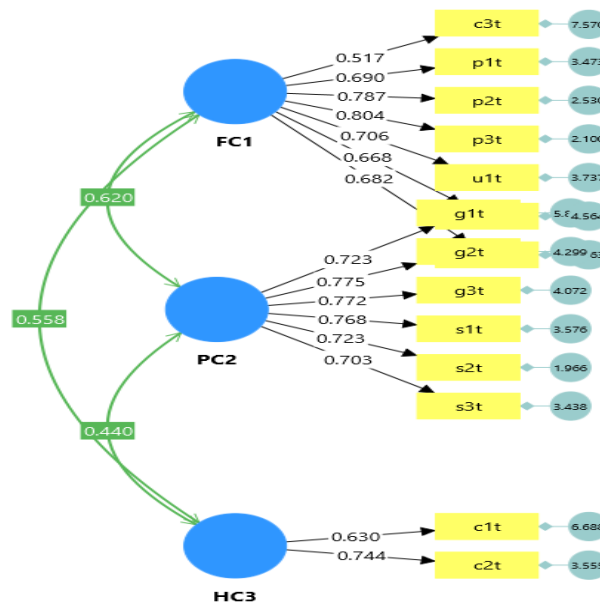
variance, while the third component had an eigenvalue of 1.23, explaining 8.18% of the variance. Together, these three components explained 62.32% of the total variance.

Figure 3: *The Scree Plot for Eigen Values and Factors for UACT*



The Figure 3 illustrates the number of components on the x-axis and Eigen values on y-axis and how much variance each component accounts for. The steep drop after the first component and smaller drop after the second component means most of the variance is explained by essentially one dominant component and there's no cross loading or overlap.

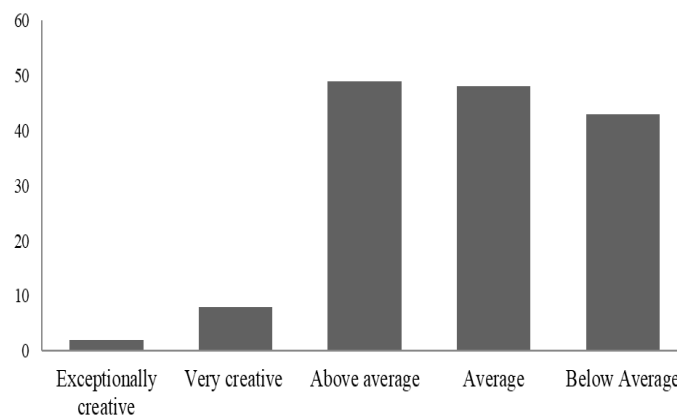
Figure 4: *Mathematical Model of UACT*



The [Figure 4](#) shows the three factors measuring creativity; FC: Functional creativity, PC: Pictorial Creativity and HC: Hypothetical Creativity. All indicators loaded significantly onto their respective latent constructs. All standardized loadings were statistically significant ($p < .001$).

The internal consistency between 15 items of (UACT) is high as tested by Cronbach's Alpha reliability ($\alpha = .89$); while test-retest reliability of all the subtests ranged from .76-.89; moreover, total UACT presents high temporal reliability ($r = .90$, $p < .01$).

Figure 5: *Bar Chart Representing Frequency of Participants in Categories of Creativity Level*



The [Figure 5](#) shows the number of participants falling in the different creativity levels. Maximum participants fell in the category of above average i.e., 49 and minimum i.e., 2 are in category of exceptionally creative.

Discussion

The research was conducted to design a test battery to measure creativity and establish its reliability. From the findings it can be stated that the goal of constructing a reliable creativity test as a measure of divergent thinking was successfully achieved. At the initial level the scale Structural validity was also yielded by exploratory and confirmatory factor analysis.

The first step was concept generation in which both deductive and inductive methods were utilized for item generation. Item generation is best done when both methods are applied ([Boateng et al., 2018](#)). The deductive method involved literature review and analyzing available scales on the construct whereas inductive method was applied for

themes identified from local sample. Rhodes' (1961) 4P model was chosen as the foundational framework for explaining the factors influencing creativity, which is a widely accepted framework (Lee et al., 2023) for studying creativity. Common themes in how people described creativity included thinking outside the box, approaching things in unique and unconventional ways, generating a variety of ideas, envisioning the seemingly impossible and quick thinking. All the identified themes emphasized the importance of divergent thinking in creativity, in contrast to convergent thinking, which narrows the thought process to a limited number of outcomes, typically aiming for a single best solution. In response to the question of how creativity should be measured, the majority of participants believed that a combination of verbal and figural measures could be effectively used for this purpose. The themes identified in this phase aligned with Guilford's (1961) theory, which equates creativity tests with divergent thinking assessments, as well as with Torrance's (1995) Tests of Creative Thinking (TTCT). Accordingly, the subtests and items were developed based on these theoretical foundations. When assessing creativity, a test battery is preferred over self-report measures, as the latter are subject to bias (Wahbeh et al., 2024). Self-report measures of creativity tend to reflect self-perception rather than actual measure of creativity.

The test was piloted, statistically analyzed and reviewed by experts and in the final test 15 items were retained. Although the initial set of 22 items showed high inter-item consistency and a strong Cronbach's alpha coefficient, items with the lowest inter-item correlation values were excluded to ensure uniformity in all sub tests and reduce the time to complete the test. Reducing the test duration was important, as it was observed that some participants became mentally fatigued and lost interest by the end of the assessment. This was the advantage of pre testing that the final test had items with clearer instructions and reduced cognitive burden on research participants. In measuring creativity, the scoring system is very detailed that's why only single item or lone sub test can assess creativity. The widely used test for measuring creativity is Guilford's Alternate usage test in which people are presented with one or more common objects like box or paper clip and are asked to think different uses of it (Beaty & Johnson, 2021; Brandt, 2021).

The test consisted of five subtests three verbal and two figural administered in the following sequence: Imagine the Consequences, Graphic Domain, Unusual Uses of Things, Scribble Enhancement, and Seeing Problems. As no order effect was observed when the subtests were administered in different sequences, Version E was finalized, in which verbal and figural subtests were presented alternately. The

choice to administer subtests in this alternating sequence was influenced by the Wechsler Adult Intelligence Scale-Revised (WAIS-R; Wechsler, 1981), which does not separate verbal and non-verbal subtests during administration.

Exploratory and confirmatory factor analysis was also applied on data which yielded 3 factor solutions; namely, functional creativity, which viewed creativity as means of improving human efficiency in practical context. It involved functioning of systems or devices as opposed to creativity which is merely aesthetic (Cropley & Cropley, 2005). Pictorial creativity involved a variety of visual displays (Cardoso & Badke-Schaub, 2011), including diagrammatic representation of creativity through images and drawings. Hypothetical creativity predicted the most plausible state of affairs in an unseen scenario (Evans, 2007), exploring possibilities and potential consequences of something not experienced. Levels of creativity were determined by calculating score bands in the same categories as postulated by Guilford (1967), Exceptionally Creative, Very Creative, Above Average, Average and Below Average. 2% of the sample was classified as Exceptionally Creative, highlighting the test's strong discriminatory power. Additionally, an equal proportion of participants, 34% each were categorized as Above Average and Average.

UACT represents a significant contribution to creativity assessment in Pakistan, as it is the first standardized divergent thinking measure developed and normed on local population, demonstrating strong psychometric properties during development, including high reliability indices, satisfactory content validity, a clear underlying factor structure, enhancing its appropriateness and interpretability for local respondents. Furthermore, the establishment of local norms enables meaningful comparison of individuals' creativity scores within the Pakistani context. These strengths make the UACT a valuable tool for educational, organizational, clinical, and research settings, where accurate assessment of creativity is essential. In education, creativity is assessed to identify students' creative potential, tailor teaching strategies to support divergent thinking, and evaluate the effectiveness of educational programs in fostering creativity. In organizations, creativity is assessed for recruitment purposes, to identify innovative employees, and to evaluate the impact of creativity training. In clinical practice, creativity is assessed for self-awareness, personal growth, and as a thinking exercise for designing creativity-enhancing interventions. Creativity tests assist in recognizing and utilizing everyone's unique creative strengths (Sawyer & Henriksen, 2024).

Beyond assessment, the UACT can also be used to stimulate divergent thinking and creative idea generation, thereby serving both evaluative and developmental purposes. Creativity tests based on divergent thinking serve not only as assessment tools but can also be adapted into exercises that help strengthen creative thinking skills (Runco & Basadur, 1993). By providing a culturally grounded and psychometrically sound measure, the UACT addresses a significant gap in creativity assessment literature and offers researchers and practitioners a standardized instrument for identifying and nurturing creative strengths among Pakistani individuals.

Limitations and Suggestions

The sample comprised individuals aged 20–30 years who had completed a minimum of 14 years of formal education. These inclusion criteria were established to ensure a relatively homogeneous sample with adequate linguistic and cognitive competence to comprehend test instructions and generate written responses. Restricting participation to a narrow age range and a minimum educational level helped reduce variability attributable to developmental differences, literacy, and educational attainment. Furthermore, recruiting participants from university settings facilitated access to eligible respondents and enhanced participant retention during the test–retest phase, which was essential for evaluating the temporal stability of the tool. Future studies will aim to enhance the generalizability of the tool by extending it to more diverse and less educated population. Owing to the unique nature of creativity assessment, establishing its validity is basically challenging. Convergent Validity of the tool could be more effectively examined if scoring data from other divergent thinking based creativity measures were fully accessible, which despite efforts could not be obtained. In future validity of the tool can be strengthened through content validation procedures, such as the Content Validity Ratio (CVR). Further refinement of the tool can be done and can be made more interesting by replacing written material by visual images like in sub test Unusual Uses of Things, written names of items brick, paper and glass bottle can be replaced by visual images. Similarly items of sub test Seeing Problems can be represented in form of visual images.

Implications

Even at the initial level of development UACT seems to be promising. It can be used at an individual level, in educational settings, at organizational level and for research and development. At individual level it can be utilized for creating self-awareness, identification of

talent and fostering personal growth. In educational settings it can be used for curriculum development, talent identification and tailoring teachers' methods. At organizational level it can help to achieve innovation, talent management, and team building. In research and development, it can contribute to economic gains by identifying market gaps, generating ideas for product improvement, and developing innovative solutions to problems.

Conclusion

Uzma Amena Creativity Tool (UACT) is an objective reliable test battery for measuring creativity in local context. As the tool has high inter item consistency so the verbal and figural sub test can be used separately and even individual items can be used for priming and assessment of creativity depending on the nature of research.

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