



Sociology & Cultural Research Review (SCRR)
 Available Online: <https://scrrjournal.com>
 Print ISSN: [3007-3103](#) Online ISSN: [3007-3111](#)
 Platform & Workflow by: [Open Journal Systems](#)



Adaptation of Five-Dimensional Curiosity Scale among University Students

Professor Dr. Syeda Farhana Kazmi

s.farhanakazmi@gmail.com

Head of Department of Psychology, Hazara University Mansehra

Sehrish Khan (Correspondence)

PhD Scholar, Hazara University Mansehra

sehrishkhanyousafzai5@gmail.com

Sidrah Shaheen

Assistant Professor Psychology, Higher Education Department, KP

sidrahpsy@gmail.com

ABSTRACT

The present research involved a two-phase process for translating and validating the “Five-Dimensional Curiosity Scale” (5DC) in Urdu. The initial phase focused on completing forward and backward translations of the instrument, while the subsequent phase concentrated on evaluating its psychometric properties. A diverse sample of 620 participants was recruited from various universities and colleges for this validation study. The scale demonstrated excellent reliability with a coefficient of .90. Confirmatory factor analysis revealed strong model fit indices, supporting the structural validity of the measure. Both dimensions of the scale exhibited robust internal consistency. The goodness-of-fit statistics were particularly noteworthy: goodness-of-fit index (GFI) = .938, adjusted goodness-of-fit index (AGFI) = .783, comparative fit index (CFI) = .953, incremental fit index (IFI) = .953, and root mean square error of approximation (RMSEA) = .014. Additionally, both dimensions showed satisfactory values for composite reliability and convergent validity. The results strongly supported the scale's convergent validity through meaningful positive associations with Openness to Experience, Extraversion, and Agreeableness personality dimensions, along with the Curiosity and Exploration Inventory-II. High correlations between the five subcomponents - Deprivation Sensitivity, Social Curiosity, Stress Tolerance, Thrill Seeking, and Joyous Exploration - demonstrated excellent internal reliability. The measure's discriminant validity was confirmed by its negative relationships with Conscientiousness, Neuroticism, and Social Distance scales. Together, these findings verify that the Urdu adaptation of the 5DC maintains robust psychometric properties for assessing curiosity's multiple facets. This culturally adapted instrument offers significant advantages for studying Urdu-speaking communities, as assessing personality characteristics in participants' native language enhances response accuracy and the authenticity of obtained data in personality and social psychology investigations.

Keywords; Adaptation, Five-Dimensional Curiosity Scale, University Students, Social Psychology.

Introduction

In an era where information and new experiences are readily accessible, curiosity has become a vital psychological trait. Often described as an innate drive to seek knowledge and explore the unfamiliar, curiosity fuels learning, adaptation, and success in a rapidly changing environment (Kidd & Hayden, 2015; von Stumm, Hell, & Premuzic, 2011). Beyond intelligence, it significantly impacts personal growth, academic performance, and social flexibility (von

Stumm, 2018). As a motivational force, curiosity shapes cognitive processes, enhancing decision-making, creativity, and problem-solving abilities (Kashdan et al., 2018; Silvia, 2008). The study of curiosity has progressed considerably since early psychological theories. Pioneers like William James and Daniel Berlyne differentiated between emotional and intellectual curiosity, examining how novelty and uncertainty influence information-seeking behaviors. Berlyne's idea of an optimal "curiosity zone," balancing stimulation and overwhelm, later inspired Loewenstein's (1994) information gap theory, which suggests curiosity emerges when people recognize a discrepancy between their current and desired knowledge. Researchers such as Kotamarthi (2020) and Ignatius (2018) highlight how this pursuit of knowledge stimulates learning, innovation, and emotional health.

Curiosity is associated with numerous advantages, including improved memory, academic achievement, and mental resilience (Robson, 2022). Neuroscientific studies reveal that curiosity triggers dopamine-related brain areas, enhancing learning capacity (Kidd & Hayden, 2015). In education, it boosts engagement, intrinsic motivation, and deeper comprehension, even in early childhood (Jirout, 2024). In professional settings, curiosity enhances performance by encouraging collaboration, minimizing bias, and fostering innovative solutions (Gino, cited in Ignatius, 2018). Across all ages, curious individuals exhibit greater well-being, energy, and receptiveness to new experiences (Kashdan et al., 2018).

Researchers have avoided one-dimensional models in an attempt to get a clearer understanding of the complexity of curiosity. Kashdan et al. (2018) created the so-called Five-Dimensional Curiosity Scale (5DC) that determines five facets: Joyous Exploration (seeking knowledge that will bring pleasure), Deprivation Sensitivity (addressing informational gaps), Stress Tolerance (handling uncertainty), Social Curiosity (understanding thoughts and actions of other people), and Thrill Seeking (seeking intense experiences). This model was verified in more than 3,900 adults (Kashdan et al., 2017), and the available profiles of individuals are Fascinated, Problem Solvers, Empathizers, and Avoiders, having different motivational sets. The 5 DC is consistent with the Big Five personality traits and it is correlated with psychological and social well-being (Kashdan et al., 2012; Silvia, 2008). As an example, Birenbaum (2019) investigated the connection of each dimension with such values as ethics, spirituality, and environmental awareness, which also proves the multidimensionality of curiosity and its application to education, therapeutic practice, and working environments.

Other measures, such as the Curiosity and Exploration Inventory-II (CEI-II) focus on other important dimensions such as Stretching (seeking novelty) and Embracing (tolerating ambiguity) and are highly reliable and related to well-being, autonomy, and personal growth (Kashdan et al., 2009). Previously defined frameworks, such as Exploration and Absorption, too can be related to the positive emotions and expansive learning theories (Fredrickson, 2001; Gallagher & Lopez, 2007; Kashdan, Rose, & Fincham, 2004).

Although curiosity is an important concept, it is quite difficult to measure it across the cultures since there are linguistic and conceptual distinctions. Most of the studies do not have culturally adjusted tools, which limits a wider application. The psychometric instruments that have been translated should be rigorously validated by forward-backward translation, pilot test and reliability determination (Beaton et al., 2000).

The study helps to fill this gap by adapting the 5DC into [target language] and assessing its validity with the [target population]. These attempts are essential in the improvement of cross-cultural psychology, which leads to more accurate and fairer curiosity evaluation. Through the availability of the 5DC to non-English speakers, researchers and practitioners will

be able to understand more about the various effects of curiosity on learning, well-being, and human development in many parts of the world.

Individual Differences in Curiosity

The most recent developments in the study of curiosity resulted in the creation of a powerful measurement tool, the so-called "Five-Dimensional Curiosity Scale" (5DC; Kashdan et al., 2018). This multidimensional scale combines decades of empirical evidence and was confirmed in different cultures (Birenbaum et al., 2019; Lydon-Staley et al., 2019; Schutte & Malouff, in press). The major advantage of the 5DC is that it measures a wide range of curiosity-related behaviors and experiences.

Among the most striking characteristics of the 5DC, there is a distinction between two affectively different forms of curiosity. The former, Joyous Exploration, is based on the delight of finding new things and interesting things in the world (Kashdan & Silvia, 2009). High scorers in this dimension have a high level of interest in learning and seeking new things, which promotes their well-being (Park et al., 2004; Schutte & Malouff, 2019). Deprivation Sensitivity, on the contrary, is a more tension-based kind of curiosity, which is characterized by the state of frustration when knowledge gaps are encountered and the desire to fill them (Loewenstein, 1994; Litman, 2005; Noordewier & van Dijk, 2017). Since their differences lie in the emotional and motivational contexts, which is an essential element of the construct, a good measure of curiosity should be able to differentiate these factors to represent the complexity of the construct better.

The experience of curiosity is shaped by two key cognitive evaluations. First, an individual must perceive a situation as worthy of attention, typically triggered by novelty, complexity, or ambiguity (Berlyne, 1954, 1960; Silvia, 2008a). However, curiosity only persists if the person also believes they can manage the emotional discomfort associated with exploration (Silvia, 2005, 2008a). When both novelty and coping potential are present, state curiosity emerges—a momentary response. Those who consistently perceive high novelty and confidence in their coping abilities tend to exhibit trait curiosity, a stable personality characteristic (Silvia, 2008b).

These theoretical insights are embedded in the 5DC, particularly in the Stress Tolerance dimension, which assesses one's ability to handle the anxiety of unfamiliar experiences. While some individuals merely endure this stress, others actively pursue it. The Thrill Seeking dimension captures those who embrace physical, social, or financial risks for novel stimuli (Zuckerman, 1994). For them, the arousal from uncertainty is not a deterrent but a core part of the appeal.

The final component of the 5DC, Social Curiosity, focuses on an individual's interest in others. Prior research has identified this as a distinct facet of curiosity (Litman & Pezzo, 2007; Renner, 2006). Social interactions provide rich opportunities for learning, offering diverse perspectives and knowledge (Aron et al., 2001). Observing others helps people navigate social dynamics, distinguish reliable sources, and expand their understanding (Dunbar, 2004). Thus, a comprehensive curiosity assessment must include this social dimension alongside emotional and risk-related factors.

Social Curiosity

In its first formulation, the 5DC (Kashdan et al., 2018) evaluated social curiosity via a combined series of questions addressing both direct and indirect types of curiosity about other people. Though, later studies revealed that openly seeking information about others differs significantly from covertly observing them (Litman & Pezzo, 2007; Renner, 2006). This lack of distinction in the original scale may explain why social curiosity showed only weak

correlations (below .25) with personality traits like agreeableness (Kashdan et al., 2018). In response, researchers refined the measure by developing separate items for overt social curiosity (direct, genuine interest in others) and covert social curiosity (indirect information-seeking through eavesdropping or prying). This modification aimed to determine whether these tendencies represent distinct constructs by examining their factor structures and differential relationships with interpersonal outcomes.

Overt social curiosity reflects an authentic desire to understand others' thoughts, feelings, and behaviors, beyond mere social interaction (Litman & Pezzo, 2007). It involves direct engagement with people rather than relying on indirect sources like gossip. Research on everyday conversations indicates that over 50% of discussions focus on social themes, including relationships, emotions, and personal preferences (Dunbar, Marriott, & Duncan, 1997). While most individuals show interest in others' lives, the depth and specificity of this interest varies among people.

In contrast, covert social curiosity refers to acquiring knowledge about individuals through discreet or concealed methods (Trudewind, 2000). Typical manifestations encompass listening to others' discussions without their awareness, discreetly watching people's behaviors, or learning about them via secondary sources. Often driven by social comparison needs, this form of curiosity frequently focuses on negative information that may enhance one's self-image (Wert & Salovey, 2004). Individuals differ in their preference for overt versus covert strategies when navigating social environments.

Rationale of the study

The "Five-Dimensional Curiosity Scale" (5DC) was developed as a comprehensive assessment tool measuring distinct facets of curiosity: Joyous Exploration (the pleasure derived from discovering new information), Deprivation Sensitivity (the drive to resolve knowledge gaps), Stress Tolerance (comfort with uncertainty), Social Curiosity (interest in others' thoughts and behaviors), and Thrill Seeking (willingness to take risks for novel experiences). Although there is convincing evidence that the scale has a robust psychometric profile across different cultures (including a study by Litman & Pezzo, 2007, and Renner, 2006), there is still a great deal of unmet need with regard to culturally appropriate curiosity measure in non-Western cultures. In Pakistan this problem is especially prevalent, with psychological studies often using Western-designed instruments with little adaptation, which presents a problem of ecological validity and measurement accuracy. Although Urdu is the national language that is used by more than 100 million people in Pakistan, the lack of standardized curiosity measures that are validated among Urdu speakers is prominent. This constitutes a vital weakness considering the previously determined significance of curiosity in various areas such as academic performance, workplace creativity, and interpersonal relationship quality. The absence of the culturally adapted tools not only complicates the accuracy of the research but also restricts the practical use of such research in educational and organizational establishments where the knowledge of curiosity could be utilized in the talent development and social interventions.

This research paper fills this gap by adapting the 5DC into Urdu language and culturally adapting it according to the established guidelines of cross-cultural adaptation (Beaton et al., 2000). The study will focus on the linguistic validity, cultural sufficiency and conceptual equivalence of the Urdu version, and will also validate the Urdu version in Pakistani populations. The study contributes to the development of psychological assessment tools and the ability to study curiosity in South Asian countries by providing the Urdu version of the tool to the speakers.

METHODS

The investigation was carried out in two sequential stages: The initial phase (Study 1) concentrated on linguistically adapting the Five-Dimensional Curiosity Scale, while the subsequent phase (Study 2) was dedicated to establishing the psychometric properties of the translated instrument. Below is a detailed description of the research methodology employed for each distinct phase.

Objectives of the Study

This study was designed to pursue several primary objectives:

1. To translate the “Five-Dimensional Curiosity Scale” from English into the Urdu language using standardized procedures for linguistic and cultural adaptation.
2. To examine the cross-language validation of the Urdu version by assessing its equivalence with the original English version.
3. To confirm the underlying factor structure of the Urdu version of the “Five-Dimensional Curiosity Scale” through appropriate statistical analyses.
4. To evaluate the concurrent validity of the Urdu version of the “Five-Dimensional Curiosity Scale” by correlating it with theoretically related constructs.

Study 1

Participants

The study used a large sample size (N=620) of undergraduate and graduate students (320 males and 300 females) selected in various institutions of higher learning within Khyber Pakhtunkhwa province of Pakistan. These academic contexts covered universities in public and the private sector together with degree granting colleges so as to have a cross-section of various educational landscapes. All respondents were in the age range of 18-35 and this is the common age group of college education in the area. The sample was carefully selected and those who showed considerable problems with understanding either Urdu or English languages were not included in the sample based on preliminary screening tests. This exclusion criterion was necessary to ensure that all the respondents would be able to receive the research instruments appropriately and fill them in the correct way without language barriers that could affect the quality of data.

Measures

Demographic Data Sheet. To help collect background information about participants, a comprehensive demographic data collection tool was specifically created to cover many details of the participants. This multi-item tool measured a number of critical social-demographic variables using well-structured segments. The questionnaire contained more specific items that recorded: (1) biological sex (male/female), (2) chronological age in years, (3) self-reported socioeconomic status as using standardized categories, (4) current academic semester or year of study (5) family composition and living arrangements, and (6) current marital status (single, married, divorced, etc.). The questionnaire was made to take about 5-7 minutes to be filled in and cover all the areas of the demographic factors that could have an impact on the results of the study. Due emphasis was made on the development of clear and unambiguous items that can produce dependable demographic data to be used in the future analysis.

“Five-Dimensional Curiosity Scale” (5DC);

Measurement instrument to assess curiosity was the so-called Five-Dimensional Curiosity Scale (5DC; Kashdan et al., 2018) that consisted of a 25-item self-report instrument used to measure five dimensions of dispositional curiosity: (1) Joyous Exploration (pleasure in learning something new), (2) Deprivation Sensitivity (the desire to fill the knowledge gaps), (3) Stress

Tolerance (comfort with uncertainty), (4) Social Curiosity (interest in the opinion of others), and (5) Thrill Seeking. The items used to measure each dimension are five in number, and the scale used in recording responses is a standardized 5-point Likert-type scale where 1 means that the respondent strongly disagrees with the statement and 5 indicates that the respondent strongly agrees with the statement.

The 5DC conceives curiosity as a complex construct. Joyous Exploration suggests the intrinsic pleasure that one gets out of finding new knowledge. Deprivation Sensitivity is the feeling of discomfort brought about by information gaps and desire to fill them. Stress Tolerance tests the capacity to deal with uncertainty in the process of exploratory behaviors. Social Curiosity is an interest in knowing what other people think, feel, and do. Thrill Seeking measures the readiness of accepting different types of risks as a source of new experiences. The scores of each dimension of curiosity were obtained by averaging the responses to items, with higher scores indicating higher manifestation of each curiosity dimension. This assessment instrument has excellent psychometric characteristics, with a high level of reliability and a long-standing validity (Kashdan et al., 2018).

Procedure

Using the documented procedures of cross-cultural scale adaptation (Beaton et al., 2000; Hambleton, 2001), the 5DC was adapted with great care to ensure the same conceptual interpretations, semantic content and linguistic wording. The three essential elements of the adaptation framework were as follows: the translation and cultural adjustment process, the process of verifying the consistency across languages, and the methodical evaluation of psychometric properties.

Phase I: Translation and Adaptation

After obtaining permission from the original authors, three bilingual experts (two psychology faculty members from Hazara University and one language specialist) independently conducted forward translations. These professionals, fluent in English and Urdu with cultural competence and psychological test development experience, focused on maintaining grammatical accuracy, cultural relevance, and conceptual consistency. The research team synthesized these translations into a consensus version through careful review and discussion.

A review committee comprising three bilingual psychologists (one professor and two assistant professors) then evaluated the Urdu draft for clarity, cultural appropriateness, and conceptual alignment with the original scale. Items were retained based on consensus regarding their representativeness.

Subsequent back-translation was performed by four independent bilingual experts unfamiliar with the initial translation. Following Brislin's (1970) guidelines, they prioritized conceptual over literal translation. Through systematic comparison between the reverse-translated English version and the source scale, researchers identified and corrected any inconsistencies, ultimately producing a refined Urdu translation following several cycles of meticulous review and enhancement.

Phase II: Psychometric Evaluation

The Urdu version's psychometric properties were examined in a larger sample (N = 200). Reliability was assessed via Cronbach's alpha, while factor structure was verified through Exploratory and Confirmatory Factor Analyses. Concurrent validity was established by examining relationships with theoretically relevant constructs.

Study 2

This phase focused on establishing the Urdu 5DC's concurrent validity, including both convergent and discriminant validity.

Participants

The study utilized a carefully selected sample of 200 undergraduate and graduate students (balanced with 100 males and 100 females) recruited from multiple universities and degree colleges across Khyber Pakhtunkhwa province in Pakistan. Participants ranged in age from 18 to 35 years, representing the typical college-going population in the region. To ensure data quality, individuals demonstrating any difficulties in comprehending either Urdu or English (the languages used in study materials) were screened out during preliminary assessments. For analytical purposes, the sample was strategically divided into two equal subgroups of 100 participants each. The first subgroup completed measures for evaluating convergent validity (assessing relationships with theoretically similar constructs), while the second subgroup provided data for examining discriminant validity (testing differentiation from unrelated measures). This methodological approach allowed for comprehensive psychometric evaluation while maintaining appropriate sample sizes for each validation analysis.

Measures

“Curiosity and Exploration Inventory-II” (CEI-II)

The assessment of curiosity was conducted using the Curiosity and Exploration Inventory-II (CEI-II; Kashdan et al., 2009), a well-established psychometric instrument designed to evaluate individuals' propensity to pursue novel and intellectually stimulating experiences. This 10-item self-report measure employs a 5-point Likert-type response format, with scale anchors ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The inventory comprises two distinct subscales: Stretching (reflecting the active seeking of new knowledge and experiences) and embracing (representing comfort with uncertainty and novelty). Elevated scores on either subscale indicate more pronounced trait curiosity. Previous psychometric evaluations have demonstrated robust internal consistency for the CEI-II ($\alpha = .83$; Kashdan et al., 2009), with the present sample showing comparable reliability estimates (Cronbach's $\alpha = .74$).

Big Five Inventory (BFI)

The study has used the validity tested Big Five Inventory (BFI; John, Donahue, & Kentle, 1991) that helps in assessing the five-factor personality dimensions, which are Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. This is a 44-item self-report instrument and the scale anchors are 1-5 (strongly disagree to strongly agree) that helps the participant rate his or her agreement to each personality descriptor. The items used in the BFI are well designed and are capable of measuring the essence of each of the personality dimensions. An example of this is that the Extraversion subscale has the statements like "I see myself as a person who is talkative" and the Openness to Experience dimension has the statements like "I see myself as a person who is original, comes up with new ideas." These particular item formulations were developed in such a way that they are conceptually clear in terms of their operationalization of the theoretical constructs they allude to, and therefore, fulfill the content validity criterion in each of the five personality domains.

Numerous psychometric evaluations conducted across diverse populations have consistently demonstrated the BFI's strong measurement properties. Reliability analyses from previous studies (John & Srivastava, 1999) have reported internal consistency coefficients ranging from .75 to .90 across the five subscales, indicating excellent scale reliability. In the present investigation, Cronbach's alpha coefficients for each dimension were particularly robust:

Openness ($\alpha = .91$), Conscientiousness ($\alpha = .90$), Extraversion ($\alpha = .86$), Agreeableness ($\alpha = .88$), and Neuroticism ($\alpha = .86$). These high reliability estimates confirm that the BFI maintained excellent internal consistency in our sample, comparable to or exceeding values reported in the original validation studies. The selection of the BFI was particularly appropriate for this research due to its established cross-cultural validity and extensive use in personality research spanning several decades. Its balanced item composition allows for comprehensive assessment of each personality domain without excessive scale length, making it both time-efficient and psychometrically sound. The measure's strong theoretical foundation in the Five-Factor Model of personality ensures that it captures the most widely accepted and empirically supported dimensions of personality structure. Furthermore, the BFI's straightforward response format and clear item wording contribute to its accessibility for participants with varying educational backgrounds, while maintaining the precision needed for rigorous psychological assessment.

Social Desirability Scale (SDS)

Potential response biases were controlled through administration of the Social Desirability Scale (SDS; Crowne & Marlowe, 1960), a 33-item questionnaire measuring participants' tendency to provide socially favorable rather than accurate responses. The instrument presents statements describing culturally sanctioned but statistically uncommon behaviors (e.g., "I have never intensely disliked anyone"), with higher composite scores indicating greater susceptibility to social desirability bias. The Social Desirability Scale (SDS) has shown robust psychometric properties in various demographic groups, with reliability estimates (Cronbach's alpha) consistently above 0.70 according to Ballard's (1992) research. In our investigation, the measure maintained strong reliability, achieving an internal consistency coefficient of 0.89.

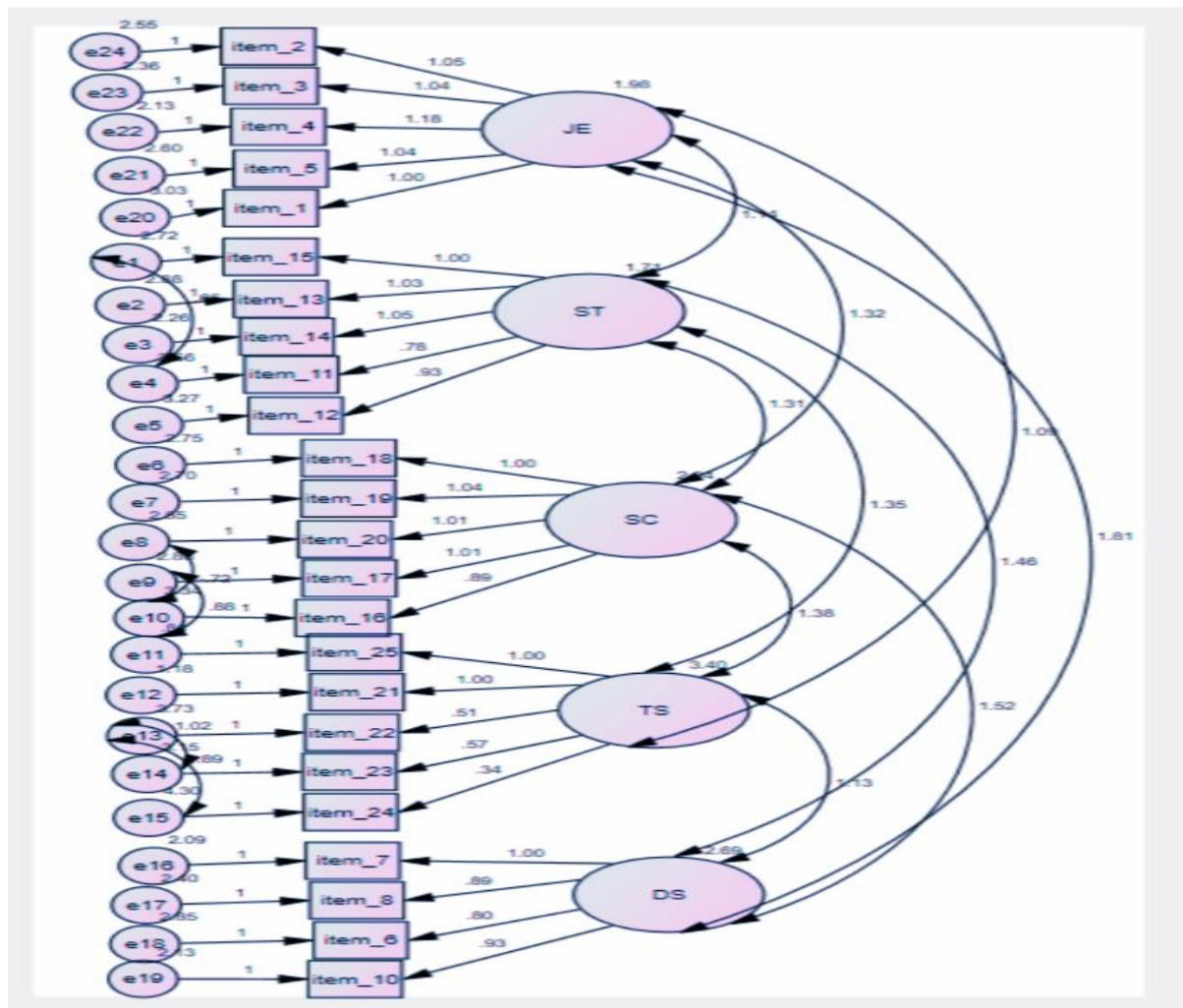
Procedure

The second phase of this research aimed to establish the concurrent validity of the Urdu adaptation of the "Five-Dimensional Curiosity Scale" (5DCR). Participants included 200 university students (100 males, 100 females) aged 18-35 years, recruited through purposive sampling from multiple higher education institutions in Khyber Pakhtunkhwa, Pakistan. To facilitate comprehensive validity assessment, the sample was strategically divided into two equal subgroups. The first cohort ($n = 100$) completed measures theoretically predicted to demonstrate positive associations with curiosity (including Openness to Experience, Extraversion, Agreeableness, and the CEI-II) for convergent validity analysis. The second subgroup ($n = 100$) responded to instruments anticipated to show minimal or inverse relationships with curiosity (namely Neuroticism, Conscientiousness, and the SDS) to evaluate discriminant validity.

Data Analytic Plan

Following data collection, preliminary analyses will include comprehensive screening for outliers and violations of statistical assumptions to ensure the integrity of subsequent analyses. Reliability analyses will examine the internal consistency of the "Five-Dimensional Curiosity Scale" (5DC) subscales. The factor structure will be investigated through sequential analytic approaches: initial Exploratory Factor Analysis (EFA) using SPSS software to identify potential latent dimensions, followed by Confirmatory Factor Analysis (CFA) conducted in AMOS to rigorously test the hypothesized measurement model. Upon confirmation of the factor structure, concurrent validity will be systematically evaluated through correlational analyses. Convergent validity will be established by examining relationships between 5DC scores and theoretically related constructs (Openness to Experience, Extraversion,

Agreeableness, and CEI-II scores), while discriminant validity will be assessed through analysis of associations with Neuroticism, Conscientiousness, and SDS scores.



Results

Table 1: “Internal Consistency Reliability for the Scale”

Measure	Cronbach's α	α	Number of Items
Total Scale	.91	.91	24

Note: “Cronbach's α and standardized α values are presented to indicate the internal consistency reliability of the scale. Values above .70 are generally considered acceptable, while the total scale includes 24 items”.

Table 2: “Pearson Correlations among Key Psychological Variables” (N = 620)

Variable	1	2	3	4	5
1. “Joyous Exploration”	—	“.63”**	“.48”**	“.53”**	“.39”**
2. “Deprivation Sensitivity”		—	“.51”**	“.51”**	“.36”**
3. “Stress Tolerance”			—	“.53”**	“.43”**

Variable	1	2	3	4	5
4. "Social Curiosity"				—	“.45”**
5. "Thrill Seeking"					—

Note. "All values are Pearson r correlations".
N = 620. $p < .01$ (2-tailed).
 ** "Correlation is significant at the 0.01 level (2-tailed)".

Table 3: "Overall Validity of Curiosity Five Dimensional Scale with other personality scales"

Variable	1	2	3	4	5	6	7	8
1. "Curiosity"	—	.20*	.43**	.42**	.41**	-.26**	-.28**	-.22*
2. "Curiosity and Exploration"		—	.38**	.38**	.38**	-.07	-.11	-.05
3. "Openness"			—	1.00**	.99**	-.30**	-.40**	-.34**
4. "Extraversion"				—	.99**	-.29**	-.38**	-.34**
5. "Agreeableness"					—	-.27**	-.34**	-.34**
6. "Conscientiousness"						—	.97**	.84**
7. "Neuroticism"							—	.80**
8. "Social Distance"								—

Note. $p < .05$, $p < .01$.

Concurrent validity represents the degree to which a newly developed measurement instrument demonstrates statistically significant associations with previously validated measures assessing conceptually similar psychological constructs. In the current investigation, the Curiosity scale exhibited moderately strong positive correlations with several theoretically related personality dimensions: Openness to Experience ($r = .43$, $p < .01$), Extraversion ($r = .42$, $p < .01$), and Agreeableness ($r = .41$, $p < .01$). Additionally, a significant though somewhat weaker positive association emerged with the Curiosity and Exploration measure ($r = .20$, $p < .05$). These empirical findings provide robust evidence for the scale's concurrent validity, particularly with respect to Openness - a personality trait that shares fundamental conceptual similarities with curiosity in terms of intellectual engagement and novelty-seeking tendencies. The pattern of statistically significant positive correlations collectively indicates that the Curiosity scale effectively captures psychological characteristics that align with theoretically relevant traits and established measures.

Discriminant validity examines the extent to which a measurement tool demonstrates appropriate differentiation from psychological constructs that should theoretically remain distinct or inversely related. The current analyses revealed statistically significant negative correlations between the Curiosity scale and several theoretically dissimilar variables: Conscientiousness ($r = -.26$, $p < .01$), Neuroticism ($r = -.28$, $p < .01$), and Social Distance ($r = -.22$, $p < .05$). These consistent yet moderate negative associations suggest that the Curiosity scale successfully distinguishes itself from conceptually unrelated or oppositional psychological constructs, thereby providing empirical support for its discriminant validity. The observed pattern of inverse relationships indicates that the measurement instrument

maintains appropriate boundaries from traits and measures that should theoretically demonstrate limited association with curiosity as a psychological construct.

Table 4: “Correlation Matrix among Curiosity and other variables for Convergent Validity ($N = 100$)”

Variable	1	2	3	4	5	6	7	8	9	10
1. “Curiosity_5D”	—									
2. “JE”	“.62” [*]	—								
3. “DS”	“.60” [*]	“.46” ^{**}	—							
4. “ST”	“.72” [*]	“.27” [*]	“.35” [*]	—						
5. “SC”	“.78” [*]	“.23” [*]	“.19”	“.49” [*]	—					
6. “TS”	“.57” [*]	“.32” [*]	“.19”	“.35” [*]	“.30” [*]	—				
7. “Openness”	“.43” [*]	“.34” [*]	“.38” [*]	“.26” [*]	“.07”	“.67” [*]	—			
8. “Extraversion”	“.42” [*]	“.33” [*]	“.38” [*]	“.26” [*]	“.06”	“.68” [*]	“.100” [*]	—		
9. “Agreeableness”	“.41” [*]	“.33” [*]	“.36” [*]	“.25” [*]	“.05”	“.68” [*]	“.99” ^{**}	“.99” [*]	—	
10. “Curiosity Exploration”	“.20” [*]	“.10”	“.13”	“.23” [*]	“.03”	“.32” [*]	“.38” ^{**}	“.38” [*]	“.38” ^{***}	—

Note. “JE = Joyous Exploration; DS = Deprivation Sensitivity; ST = Stress Tolerance; SC = Social Curiosity; TS = Thrill Seeking; $p < .05$. $p < .01$ ”.

The empirical findings provide robust support for the convergent validity of the Curiosity_5D scale. The measure demonstrates substantial and statistically meaningful positive associations with its constituent subscales. Furthermore, significant positive relationships emerge with theoretically aligned constructs from the Big Five personality framework, including Openness ($r = .43$, $p < .01$), Extraversion ($r = .42$, $p < .01$), and Agreeableness ($r = .41$, $p < .01$) - results that are consistent with established theoretical predictions. Additionally, the scale exhibits a modest yet statistically significant association with the Curiosity and Exploration measure ($r = .20$, $p < .05$), indicating some degree of shared conceptual territory between these instruments. Collectively, these results substantiate the convergent validity of the Curiosity_5D scale, as evidenced by its appropriate pattern of correlations with conceptually related measures in terms of both direction and strength of association.

Table 5: “Correlation Matrix among Curiosity and Personality Variables for Discriminant Validity ($N = 100$)”

Variable	1	2	3	4	5	6	7	8	9
1. “Curiosity_5D”	—								

Variable	1	2	3	4	5	6	7	8	9
2. "Joyous Exploration (JE)"		.62***	—						
3. "Deprivation Sensitivity (DS)"		.60***	.46***	—					
4. "Stress Tolerance (ST)"		.72***	.27***	.35***	—				
5. "Social Curiosity (SC)"		.78***	.23**	.19	.49***	—			
6. "Thrill Seeking (TS)"		.57***	.32***	.19	.35***	.30***	—		
7. "Conscientiousness"		.26***	.15	.25**	.22**	.14	.17	—	
8. "Neuroticism"		.28***	.17	.28***	.24**	.13	.22**	.97***	—
9. "Social Distance"		.22**	.10	.24**	.13	.09	.24**	.84***	.80***

Note. "Pearson correlations are shown". $p < .05$ (*), $p < .01$ (**). $N = 100$.

To assess the discriminant validity of the "Five-Dimensional Curiosity Scale (5DC)", researchers examined statistical relationships between the scale's composite score and conceptually unrelated measures. Specifically, Pearson correlation analyses were conducted to evaluate associations with three theoretically distinct variables: Conscientiousness (representing orderliness and self-discipline), Neuroticism (reflecting emotional instability), and Social Distance (indicating interpersonal detachment). This analytical approach allowed for empirical verification that the 5DC measures a distinct psychological construct separate from these personality and social dimensions. The results, displayed in Table 3, revealed statistically significant negative correlations between the 5DC and Conscientiousness ($r = -0.26$, $p < 0.01$), Neuroticism ($r = -0.28$, $p < 0.01$), and Social Distance ($r = -0.22$, $p < 0.05$). These small-to-moderate negative associations demonstrate that the 5DC maintains conceptual independence from these variables.

Furthermore, the scale showed substantially higher correlations with its own constituent dimensions (for instance, Social Curiosity, $r = 0.78$; Stress Tolerance, $r = 0.72$), indicating strong internal consistency. These contrasting correlation patterns provide empirical evidence that the 5DC maintains clear conceptual boundaries from traits like emotional dysregulation and social avoidance, thus supporting its discriminant validity (Campbell & Fiske, 1959). Taken together, the results demonstrate that the "Five-Dimensional Curiosity Scale" effectively measures a unique psychological construct that remains distinct from both fundamental personality factors and maladaptive emotional/social tendencies.

Table 6: "The CFA Reliability and Validity Results for final Model of 5DCS (N=620)"

Construct	Items	Factor loading	Cronbach's alpha ($\geq .7$)	CR ($\geq .6$)	AVE ($\geq .5$)
"Factor 1"	2	.718	.91	0.816	0.469
	3	.718			
	4	.710			
	5	.654			
	1	.619			
"Factor 2"	15	.706	.91	0.765	0.396
	13	.653			

	14	.619			
	11	.604			
	12	.557			
"Factor 3"	18	.756	.91	0.789	0.429
	19	.700			
	20	.613			
	17	.601			
	16	.589			
"Factor 4"	25	.734	.91	0.802	0.45
	21	.692			
	22	.684			
	23	.683			
	24	.548			
"Factor 5"	7	.671	.91	0.725	0.39
	8	.663			
	6	.606			
	10	.580			

Note. "CFA=confirmatory factor analysis; 5DCS= Five Dimension Curiosity Scale; CR= composite reliability; AVE= average variance extracted".

Table 7: "Model Fit indices for 5DCS (620)"

"Models"	"X2(df)"	"GFI"	"AGFI"	"Goodness"-	"of-fit"	"indices"
				"CFI"	"IFI"	"RMSEA"
	"2.043"	".938"	".921"	".953"	".953"	".041"

Note. RMSEA = "Root Mean Square Error of Approximation"; "GFI" = "Goodness-of-Fit Index"; "CFI" = "Comparative Fit Index"; "IFI" = "Incremental Fit Index"; " χ^2/df " = "Chi-square divided by degrees of freedom"; "AGFI" = "adjusted goodness-of-fit index".

Discussion

In this study, a very meticulous psychometric review of the Urdu version of the Five-Dimensional Curiosity Scale (5DC) has been conducted by methodologically conducting a thorough review of both convergent and discriminant validity. The study can be regarded as an important contribution to cross-cultural psychology because it is methodologically sound, as it assessed the effectiveness of the tool in a population that speaks Urdu. The results can be used to support the construct validity of the scale with strong empirical evidence that it is effective as a measurement instrument to gauge multidimensional curiosity in this culture. The results of the analysis are very strong in their psychometric performance with a remarkable conformity to existing theoretical frameworks. As with many of the past studies of the nature of curiosity (McCrae & Costa, 1997; Silvia & Kashdan, 2009; Litman & Pezzo, 2007), the Urdu 5DC showed significant positive relationships with three basic personality dimensions of the Five-Factor Model. Their Openness to Experience showed the greatest correlation ($r = .43$, $p < .01$), and this is a very strong finding that supports the theoretically established relationship between curiosity and cognitive characteristics including intellectual exploration, novelty-seeking behavior, and intellectual interest in complex ideas (Kashdan et al., 2018). This correlation indicates that those who have a high Urdu 5DC score are likely to demonstrate much-needed cognitive fluidity and knowledge lust characteristic of Openness. Moreover, there were strong positive correlations between the scale and Extraversion ($r = .42$, $p < .01$) and Agreeableness ($r = .41$, $p < .01$), which confirms current conceptualizations of curiosity as a multidimensional construct that involves social and exploratory aspects. These

findings show that curiosity, as assessed by the Urdu 5DC, can be marked in both intellectual and social lives as well as interaction. These two personality traits and the measure of curiosity converge to give a good indication of the scale passing the test of measuring the multidimensional nature of curiosity in the Urdu-speaking population.

Convergent validity of the scale was further supported with its significant positive correlation with the well proven Curiosity and Exploration Inventory-II ($r = .20, p < .05$). The result is a replication and a generalization of prior studies by Kashdan et al. (2009) showing that the Urdu 5DC conceptually overlaps with current scales of trait curiosity and retains its multidimensional nature. The scale internal consistency was also quite remarkable, as all five subscales had intercorrelations that were high, including Joyous Exploration (the degree of pleasure gained by discovery), Deprivation Sensitivity (the desire to resolve the gaps in knowledge), Stress Tolerance (the degree of comfort when in doubt), Social Curiosity (the interest in the thoughts and action of the others), and Thrill Seeking (the readiness to take risks to experience something new). The associations among subscales ($r = .57$ to $.078$) are also evidence that the instrument has structural integrity and that it is operating the original theoretical concepts successfully presented by Kashdan et al. (2018).

The discriminant validity analysis also produced equally strong findings as the Urdu 5DC exhibited the desired pattern of negative correlations against theoretically different constructs. Of interest were the strong negative correlations with Conscientiousness ($r = -.26, p < .01$), Neuroticism ($r = -.28, p < .01$) and Social Distance ($r = -.22, p < .05$). The results are consistent with and contribute to earlier studies that have reported the negative correlation between curiosity and psychological traits that exhibit rigidity, anxiety and social withdrawal (Mussel, 2010; Kashdan & Rottenberg, 2010; Renner, 2006).

It is negatively related to Conscientiousness and this implies some interesting psychological conflict between the orderly, structured style of the conscientious person against the more spontaneous exploratory style of highly curious persons. This observation favors the theoretical theories that conceptualize curiosity as lying in dynamic conflict with superfluous need to order and predictability. Equally, the negative correlation with Neuroticism gives empirical backing to the idea that curious people are more emotionally stable, more tolerant of ambiguity, capable of moving through uncertainties without being overly distressed by them. The negativity of Social Distance is especially interesting in that it implies curiosity plays a valuable social adaptive role. This observation follows current evidence that social curiosity fosters interpersonal relatedness and decreases intergroup prejudices (Litman, 2019; Renner, 2006), which is possibly a psychological stepping-stone toward the diversity between people and groups.

The scale development procedure involved in-depth item analysis that resulted into the elimination of Item 9 which was, I work unremittingly at problems that I believe have to be solved because of both statistical and conceptual reasons. The psychometric analysis demonstrated poor factor loading, whereas the content analysis demonstrated poor conceptual fit with the targeted construct. This item was not particularly sensitive to the phenomenological experience of deprivation-type curiosity, namely, the feeling of intense, almost compulsive desire to eliminate certain knowledge gaps which is central to this dimension, although initially this item was part of the Deprivation Sensitivity subscale.

The wording of the item, however, appealed to more general constructs of persistence and goal-directed behavior, which can be regarded as conscientious strivings as opposed to actual epistemic curiosity. This ambiguity of concept brought in construct-irrelevant variance which jeopardized the theoretical purity of the scale. As it was stressed by Litman (2008), when it

comes to the measurement of deprivation curiosity it is essential to have items that effectively reflect the unique experience of what may be called epistemic urgency, or the psychological itch due to a gap in knowledge and the motivated desire to fill that gap.

This refinement choice can be justified by the modern best practices in the scale development provided by Ferrando and Lorenzo-Seva (2018) who state that it is of the utmost importance to remove items that indicate poor loading or conceptual misfit in order to achieve factorial precision. Such a practice is consistent with the established psychometric principles that have been outlined by Hinkin (1998) and Worthington and Whittaker (2006) who cautioned about the inclusion of items that have ambiguous or overlapping factor loadings because they are likely to undermine internal reliability and validity of a measure. The study by Sijtsma (2009) also reinforces this argument, showing how such items of low quality can significantly lower the dependability of a scale, and hence they must be deleted to uphold the scientific integrity and validity of measurement using assessment tool.

The detailed psychometric analysis of the current research indicates that the Urdu adaptation of the 5DC is a psychometrically strong instrument with a proven convergent and discriminant validity. The reliability and theoretically consistent associations with the two major dimensions of personality and the existing curiosity scales support the validity of the scale to measure dispositional curiosity in various spheres in Urdu-speaking societies. These results are relevant to research and clinical practice beneficially implying that the Urdu 5DC can be reliably used in the assessment of personality, social psychological studies and possibly in educational and organizational contexts where the knowledge of individual differences in curiosity can be useful.

Another argument in support of the success story of the scale is the accumulating literature of the topic of cross-cultural assessment, and which is based on the evidence that well-translated and well-validated measures can be similarly applied across languages and cultures and preserve their psychometric qualities. The future research directions could be based on the further exploration of the predictive validity of the scale, researching of the possible age or gender differences concerning the expression of curiosity among the Urdu-speaking populations, and exploring the relationship between these dimensions of curiosity and diverse life outcomes in this cultural setting.

References

- Aron, A., Aron, E. N., & Norman, C. (2001). The self-expansion model of motivation and cognition in close relationships. In G. J. Fletcher & M. S. Clark (Eds.), *Blackwell handbook of social psychology: Interpersonal processes* (pp. 478–501). Blackwell Publishers.
- Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, 25(24), 3186–3191. <https://doi.org/10.1097/00007632-200012150-00014>
- Berlyne, D. E. (1954). A theory of human curiosity. *British Journal of Psychology*, 45(3), 180–191. <https://doi.org/10.1111/j.2044-8295.1954.tb01243.x>
- Berlyne, D. E. (1960). *Conflict, arousal, and curiosity*. McGraw-Hill.
- Birenbaum, M., Tatsuoka, K. K., & Lyu, C. (2019). Cross-cultural validation of the Five-Dimensional Curiosity Scale. *International Journal of Behavioral Development*, 43(4), 343–354. <https://doi.org/10.1177/0165025419856909>
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81–105. <https://doi.org/10.1037/h0046016>

- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4), 349–354. <https://doi.org/10.1037/h0047358>
- Dunbar, R. (2004). Gossip in evolutionary perspective. *Review of General Psychology*, 8(2), 100–110. <https://doi.org/10.1037/1089-2680.8.2.100>
- Dunbar, R. I. M., Marriott, A., & Duncan, N. D. C. (1997). Human conversational behavior. *Human Nature*, 8(3), 231–246. <https://doi.org/10.1007/BF02912493>
- Gallagher, M. W., & Lopez, S. J. (2007). Curiosity and well-being. *The Journal of Positive Psychology*, 2(4), 236–248.
- Ignatius, A. (2018). The business case for curiosity: An interview with Francesca Gino. *Harvard Business Review*, 96(5), 48–54.
- Jirout, J. (2024). Rethinking curiosity in educational settings: Expressions, obstacles, and measurement. *Educational Psychology Review*, 36(1), 25–49.
- John, O. P., Donahue, E. M., & Kentle, R. L. (1991). *The Big Five Inventory—Versions 4a and 54*. University of California, Berkeley, Institute of Personality and Social Research.
- Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review*, 30(7), 865–878. <https://doi.org/10.1016/j.cpr.2010.03.001>
- Kashdan, T. B., & Silvia, P. J. (2009). Curiosity and interest: The benefits of thriving on novelty and challenge. In S. J. Lopez & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (2nd ed., pp. 367–374). Oxford University Press.
- Kashdan, T. B., Disabato, D. J., Goodman, F. R., & McKnight, P. E. (2018). The Five-Dimensional Curiosity Scale: Capturing the bandwidth of curiosity and identifying four unique subtypes of curious people. *Journal of Research in Personality*, 73, 130–149. <https://doi.org/10.1016/j.jrp.2017.11.011>
- Kashdan, T. B., Gallagher, M. W., Silvia, P. J., Winterstein, B. P., Breen, W. E., Terhar, D., & Steger, M. F. (2009). The curiosity and exploration inventory-II: Development, factor structure, and psychometrics. *Journal of Research in Personality*, 43(6), 987–998. <https://doi.org/10.1016/j.jrp.2009.04.011>
- Kashdan, T. B., Rose, P., & Fincham, F. D. (2004). Curiosity and exploration: Facilitating positive subjective experiences and personal growth opportunities. *Journal of Personality Assessment*, 82(3), 291–305.
- Kashdan, T. B., Sherman, R. A., Yarbro, J., & Funder, D. C. (2012). How are curious people viewed and how do they behave in social situations? *Journal of Personality*, 81(2), 142–154.
- Kidd, C., & Hayden, B. Y. (2015). The psychology and neuroscience of curiosity. *Neuron*, 88(3), 449–460. <https://doi.org/10.1016/j.neuron.2015.09.010>
- Kotamarthi, V. R. (2020). Tracing the roots of curiosity: From William James to contemporary cognitive science. *Journal of Theoretical Psychology*, 40(3), 195–211.
- Litman, J. A. (2005). Curiosity and the pleasures of learning: Wanting and liking new information. *Cognition and Emotion*, 19(6), 793–814. <https://doi.org/10.1080/02699930441000401>
- Litman, J. A., & Pezzo, M. V. (2007). Dimensionality of interpersonal curiosity. *Personality and Individual Differences*, 43(6), 1448–1459. <https://doi.org/10.1016/j.paid.2007.04.021>
- Loewenstein, G. (1994). The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin*, 116(1), 75–98. <https://doi.org/10.1037/0033-2909.116.1.75>

- Lydon-Staley, D. M., Zhou, D., Blevins, A. S., Zurn, P., & Bassett, D. S. (2019). Hunters, busybodies and the knowledge network building associated with different types of curiosity. *Nature Human Behaviour*, 3(12), 1221–1232. <https://doi.org/10.1038/s41562-019-0717-9>
- McCrae, R. R., & Costa, P. T. Jr. (1997). Personality trait structure as a human universal. *American Psychologist*, 52(5), 509–516. <https://doi.org/10.1037/0003-066X.52.5.509>
- Mussel, P. (2010). Epistemic curiosity and related constructs: Lacking evidence of discriminant validity. *Personality and Individual Differences*, 49(5), 506–510. <https://doi.org/10.1016/j.paid.2010.05.014>
- Noordewier, M. K., & van Dijk, E. (2017). Curiosity and time: From not knowing to almost knowing. *Cognition and Emotion*, 31(3), 411–421. <https://doi.org/10.1080/02699931.2015.1122577>
- Park, N., Peterson, C., & Seligman, M. E. P. (2004). Strengths of character and well-being. *Journal of Social and Clinical Psychology*, 23(5), 603–619. <https://doi.org/10.1521/jscp.23.5.603.50748>
- Renner, B. (2006). Curiosity about people: The development of a social curiosity measure in adults. *Journal of Personality Assessment*, 87(3), 305–316. https://doi.org/10.1207/s15327752jpa8703_11
- Schutte, N. S., & Malouff, J. M. (2019). The relationship between curiosity and well-being: A meta-analysis. *Journal of Positive Psychology*, 14(3), 320–329. <https://doi.org/10.1080/17439760.2018.1484949>
- Schutte, N. S., & Malouff, J. M. (in press). Cross-cultural validation of a multidimensional measure of curiosity. *Personality and Individual Differences*.
- Silvia, P. J. (2005). What is interesting? Exploring the appraisal structure of interest. *Emotion*, 5(1), 89–102. <https://doi.org/10.1037/1528-3542.5.1.89>
- Silvia, P. J. (2008). Interest: The curious emotion. *Current Directions in Psychological Science*, 17(1), 57–60. <https://doi.org/10.1111/j.1467-8721.2008.00548.x>
- Silvia, P. J. (2008b). Appraisal components and emotion traits: Examining the appraisal basis of trait curiosity. *Cognition and Emotion*, 22(1), 94–113. <https://doi.org/10.1080/02699930701274117>
- Silvia, P. J., & Kashdan, T. B. (2009). Interesting things and curious people: Exploration and engagement as transient states and enduring strengths. *Social and Personality Psychology Compass*, 3(5), 785–797. <https://doi.org/10.1111/j.1751-9004.2009.00210.x>
- Trudewind, C. (2000). Dimensions of social curiosity. In K. Pawlik & M. R. Rosenzweig (Eds.), *The International Handbook of Psychology* (pp. 189–203). Sage.
- von Stumm, S. (2018). Curiosity and academic performance. *Journal of Personality and Social Psychology*, 114(3), 382–396. <https://doi.org/10.1037/pspp0000149>
- von Stumm, S., Hell, B., & Chamorro-Premuzic, T. (2011). The hungry mind: Intellectual curiosity is the third pillar of academic performance. *Perspectives on Psychological Science*, 6(6), 574–588. <https://doi.org/10.1177/1745691611421204>
- Wert, S. R., & Salovey, P. (2004). A social comparison account of gossip. *Review of General Psychology*, 8(2), 122–137. <https://doi.org/10.1037/1089-2680.8.2.122>
- Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation seeking*. Cambridge University Press.