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Welcome to the NDIC Fellows Newsletter!

We bring you a special edition of the work by NDIC Early Career Non-Resident Fellows, where innovation meets impact. This edition highlights the contribution of young scholars who leverage survey and administrative data, using advanced statistical techniques, to address challenges in data quality, measurement accuracy, and policy relevance. From reimagining data collection techniques to adapting global frameworks for local challenges, their work reflects a deep commitment to data-driven development. By addressing inconsistencies in existing datasets and exploring new methodologies, NDIC fellows present transformative solutions that redefine how we measure human development. A collection of measurement briefs developed by NDIC Fellows is highlighted below that delve into critical themes in data collection and analysis, presenting actionable insights into human development domains. The featured briefs are outlined below.

Age-Specific BMI cut-offs for older Adults aged 60 and above in India

Akancha Singh

Development and Validation of the Comprehensive Measure of Academic Success (CMAS) for School Students: A Construct Validation Approach

Usama Ghayas Syed

Age-Specific BMI cut-offs for older Adults aged 60 and above in India

AKANCHA SINGH

Body Mass Index (BMI) is a key indicator for predicting and identifying diseases such as cardiovascular diseases and diabetes in adults. With India's older adult population projected to reach approximately 20% of the total population by 2050 (India Aging Report, 2017) and both overweight and undernutrition affecting this group (IIPS, 2021), it is important to examine how current BMI thresholds relate to disease diagnosis and treatment and whether revised thresholds would be more appropriate. To establish new BMI thresholds, the author analyzed data from the nationally representative Longitudinal Ageing Study in India (LASI) Wave 1. First, an age-stratified Classification and Regression Tree (CART) analysis was conducted to determine appropriate BMI thresholds for adults aged 60 and above, using cardio-metabolic (CM) outcomes as a health indicator. The resulting CART model was used to derive new BMI cut-offs based on CM outcomes. Next, a logistic regression model was constructed to assess the magnitude and direction of the relationship between the WHO-defined BMI thresholds and the newly derived thresholds in relation to health status. Findings based on the new BMI cut-offs suggest a lower threshold for underweight but a higher threshold for overweight among older adults aged 60–74 years. Among adults aged 75 and above, the revised BMI cut-offs indicate a lower threshold for all three categories—underweight, overweight, and obesity. The BMI-CM age-stratified risk groups offer improved classification of cardio-metabolic conditions. These results highlight the need for a more granular approach to assessing health risks in older adults.

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2 Development and Validation of the Comprehensive Measure of Academic Success (CMAS) for School Students: A Construct Validation Approach

USAMA GHAYAS SYED

Promoting academic success among school and college students is a primary goal for educators, parents, and stakeholders due to its significant impact on students' educational and career outcomes. However, its definition and measurement remain complex. Traditional metrics like grades and standardized test scores fail to capture broader dimensions such as persistence, satisfaction, and completion of educational milestones. This measurement brief develops and validates the Comprehensive Measure of Academic Success (CMAS) to provide a multidimensional assessment beyond grades, ensuring a holistic understanding of students' academic success. Confirmatory Factor Analysis (CFA) results confirm that both the five-dimensional and second-order five-dimensional models of the CMAS provide a good fit, reinforcing its multidimensional nature. Conversely, the unidimensional model shows a poor fit, further validating the need for a broader approach. Measurement invariance testing indicates that CMAS functions consistently across genders, as changes in Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) remain within acceptable limits, confirming scalar invariance. This ensures that boys and girls interpret and respond to CMAS items, similarly, allowing for comparability across genders. All the dimensions of CMAS shows a good internal consistency reliability. Further, the CMAS exhibits a significant correlation with well-being, supporting its between-network validity. These findings establish the CMAS as a robust, gender-inclusive tool for assessing academic success. This study introduces and validates a multidimensional measure of academic success, offering a more holistic and reliable alternative to traditional GPA-based assessments.

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About the Authors

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Akancha Singh is an MPhil graduate from the International Institute for Population Sciences (IIPS). She has received multiple awards and medals for her academic performance from esteemed institutions like the Banaras Hindu University and the International Institute for Population Sciences. Her areas of interest include Adolescent and Child Nutrition, Gender Studies, and Public Health. She strongly believes in the power of one-to-many conversations and aspires to bridge the nutrition knowledge gap for young women and children. Akancha holds a Bachelor's in Economics from Banaras Hindu University and a Master's in Demography and Population Studies from IIPS.

USAMA GHAYAS SYED

Usama Ghayas Syed holds a Ph.D. in Psychology from the Department of Humanities & Social Sciences, Indian Institute of Technology Kanpur, and is currently serving as an Assistant Professor at the Jindal School of Psychology & Counselling, O.P. Jindal Global University. His Ph.D. research investigated the role of strength-based parenting (SBP) in fostering academic success and well-being among Indian adolescents. He received the Australia India Research Student (AIRS) Fellowship in 2023 to explore Indian adolescents' conceptualizations of well-being, as well as the best paper award from the Indian School Psychology Association (InSPA) in 2022. He aspires to bridge the gap between academic research and practical applications to improve the well-being of individuals and communities through his work.

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