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Title Index

AMERICAN JOURNAL OF PHYSICS

1. Campillo-Robles, J. M., Alonso, I., Gondra, A., & Gondra, N. (2022). Calculation and measurement of center of mass: An all-in-one activity using TANGRAM puzzles. *American Journal of Physics*, 90(9), 652. <https://doi.org/10.1119/5.0061884>

Abstract: We present a simple, low-cost activity for students in a university-level introductory physics course. The main objective of the activity is to calculate and experimentally measure the center of mass of a 2D Tangram figure using complementary techniques. First, the algebraic and numerical results for the center of mass of the Tangram pieces are checked analytically and using mathematical software. Students then create their own Tangram figure and calculate its center of mass using formulas from physics tables. CAD software is also used to obtain the figure's center of mass. Finally, the center of mass is measured experimentally, and a comparison with the theoretical results is made. The modularity of the activity allows instructors' flexibility to design an *ad hoc* activity to emphasize individual subjects according to the needs of their course.

2. Pujol, O., & Pérez, J. P. (2022). The golfer's curse revisited with motion constants. *American Journal of Physics*, 90(9), 657–665. <https://doi.org/10.1119/5.0060788>

Abstract: We revisit the golfer's curse, which is the possibility that a golf ball can emerge from the cylindrical hole into which it has entered. Our analysis focuses on three constants of the motion. One of these is the energy, because we assume that the ball rolls without slipping on the inner wall of the hole, losing only a small amount of energy to rolling resistance; the other two are related to the angular momentum about the contact point of the ball with the inner wall of the hole. We develop an analysis of the motion of the ball and report measurements of the moment of inertia of a real golf ball. Solving the equation of motion along the vertical direction, we address the question of whether or not the ball could complete a vertical oscillation without reaching the bottom of the hole. We also present measurements of the dynamical friction for a golf ball and discuss dissipation in slip conditions. We conclude by proposing a challenge to golf players: to find a way to send a ball into a hole in order to make it emerge.

3. Easton, R. W., Anderson, R. L., & Lo, M. W. (2022). Conic transfer arcs for Kepler's problem. *American Journal of Physics*, 90(9), 666–671. <https://doi.org/10.1119/5.0080491>

Abstract: A fundamental problem in spacecraft mission design is to find free-flight paths from one place to another that satisfy various design criteria. We explore the geometry of free-flight paths between departure and arrival points for Kepler's problem. Newton showed that these paths are conic arcs. We find the parameters for all conic paths between a departure and an arrival point as a function of one key variable called the inside angle. Once the paths are written in terms of this single parameter, then it is straightforward to find the path that takes a specified travel time (the Lambert problem) or to perform other optimizations such as minimizing the fuel costs.

4. Vandenbosch, G. A. E. (2022). The basic concepts determining electromagnetic shielding. *American Journal of Physics*, 90(9), 672–681. <https://doi.org/10.1119/5.0087295>

Abstract: Shielding involves much more than just putting a conductive screen in between an emitting source and a susceptible device. Starting from Maxwell's equations, the concept of electromagnetic shielding is formally explained. The physical working mechanisms behind the two basic forms of shielding, electric field and magnetic field shielding, are given, and the link between them at higher frequencies is clarified. Several aspects, like the effect of gridding or weaving a shield, the effect of the finite size of a shield, and the penetration through the metal of a shield, are discussed based on very simple canonical shielding topologies that can be solved analytically. Although the classical paradigm to explain shielding based on the notions of skin depth and eddy current is not followed, conceptual links with this classical paradigm are explained.

5. Majic, M. (2022). Electrostatic shape energy differences of one-dimensional line charges. *American Journal of Physics*, 90(9), 682–687. <https://doi.org/10.1119/5.0079100>

Abstract: We investigate the electrostatic energy of one-dimensional line charges, focusing on the energy difference between lines of different shapes. The self-energy of a strictly one-dimensional charge is infinite, but one can quantify the energy by considering geometries that approach a one-dimensional curve, for example, thin wires, thin strips, or chains of close point charges. In each model, the energy diverges logarithmically as the geometry approaches a perfect one-dimensional curve, but the energy also contains a finite term depending on the shape of the line—the “shape energy.” The difference in shape energy between a straight line and a circle is checked to be the same using a range of models. To calculate the shape energy of more complex shapes numerically, we propose a line integral where the singularity in the integrand is canceled. This integral is used to calculate the shape energy of a helix.

6. Golden, M. (2022). A new presentation of electromagnetic relations in SI units. *American Journal of Physics*, 90(9), 688–691. <https://doi.org/10.1119/5.0085513>

Abstract: In recent years, more courses in electromagnetism are using the “Système International” (SI) units as opposed to Gaussian-cgs. The confusing notation used to formulate SI with origins in the early 19th century still persists in instruction. This work shows that electromagnetism may be taught relatively painlessly in the units that virtually everyone uses by employing a new presentation that makes the equations nearly as simple as those in the Heaviside–Lorentz system commonly used by theoretical physicists. Introducing a new coupling constant κ and some new notation for the fields, it is possible to dispense with ϵ_0 and μ_0 and the conceptual framework from which they come. As a result, it is possible to achieve much greater clarity, while using all the same symbols and relations as in the extant literature.

7. de Souza, L. K., & Matsas, G. E. A. (2022). Black-hole analog in vehicular traffic. *American Journal of Physics*, 90(9), 692–696. <https://doi.org/10.1119/5.0091957>

Abstract: We propose here a simple black-hole analog in vehicular-traffic dynamics. The corresponding causal diagram is determined by the propagation of the tail light flashes emitted by a convoy of cars on a highway. In addition to being a new black-hole analog, this illustrates how causal diagrams, so common in general relativity, may be useful in areas as unexpected as vehicular-traffic dynamics.

8. Burkholder, E. W. (2022). An approach to graded physics colloquium assignments. *American Journal of Physics*, 90(9), 697–701. <https://doi.org/10.1119/5.0097099>

Abstract: Although attending departmental seminars is a common requirement in graduate education, the goals of this requirement are seldom explicitly stated, and its success at achieving these goals has not been studied. We developed a model for a graded colloquium course that encourages students to reflect on the effectiveness of the presentations, since the faculty in our department stated that one of their main goals for the students was to help them learn to give high quality presentations. An informal survey of students finds that this goal was partially achieved and also suggests improvements to the assignments and topics for future study.

9. Meurice, Y. (2022). Making digital aquatint with the Ising model. *American Journal of Physics*, 90(2), 87–92. <https://doi.org/10.1119/10.0006525>

Abstract: Aquatint is a printmaking technique that gives visual texture to prints. This patterning is shown to be similar to patterns that emerge from the Ising model of magnetism. We provide a concrete Python-based example that generates semi-realistic textures and can be used to manipulate existing images. Our experience in classrooms of first year seminar undergraduate students shows that this activity helps artistically inclined students to develop an interest in physics and computer science. It may also be suitable for a joint art and science project for high-school seniors.

10. Timberlake, T. K., & Woodfield, N. (2022b). Band formation and defects in a finite periodic quantum potential. *American Journal of Physics*, 90(2), 93–102. <https://doi.org/10.1119/10.0006391>

Abstract: Periodic quantum systems often exhibit energy spectra with well-defined energy bands separated by band gaps. The formation of band structure in such periodic systems is usually presented in the context of Bloch's theorem or through other specialized techniques. Here, we present a simple model of a finite one-dimensional periodic quantum system that can be used to explore the formation of band structure in a straightforward way. Our model consists of an infinite square well containing several evenly spaced identical Dirac delta wells, both attractive and repulsive. We solve for the energy eigenvalues of this system directly and show the formation of band structure as the number of delta wells increases as well as how the size of the bands and gaps depends on the strength of the delta wells. These results are compared to the predictions from

Bloch's theorem. In addition, we use this model to investigate how the energy spectrum is altered by the introduction of two types of defects in the periodicity of the system.

11. Francisco, P., Cobb, T., Hilbert, S. A., & Carr, S. (2022). A classical analog for defects in quantum band formation. *American Journal of Physics*, 90(2), 103–109. <https://doi.org/10.1119/10.0009053>

Abstract: When many individual atoms come together to form a solid, their interaction splits their electronic energy levels to form continuous bands separated by forbidden energy ranges known as band gaps. Introducing defects in a solid results in new electron energy levels that may lie inside the bandgaps. The presence of these defect levels is the heart of the semiconductor-based devices that play a significant role in the modern world. Quantum mechanics provides the best description of interacting atoms. However, band formation is not unique to small-scale atomic interactions but rather is a result of the wave-nature of Schrödinger's equation, which governs quantum mechanics. Using oscillations in a mass-spring system, we present a table-top, classical analog to the quantum system illustrating how defects in a one-dimensional lattice produce changes to the band structure. A pair of masses connected by a spring plays the role of a single atom. Interactions between “atoms” are introduced with weak coupling springs producing two distinct frequency bands from the translational and fundamental modes. Defects are introduced by altering an oscillator pair's total mass or internal spring constant. We provide the theoretical groundwork and experimental verification of the model along with a discussion of the value and limitations of the model as a macroscopic tool to visualize the microscopic world.

12. Keebaugh, C., Marshman, E., & Singh, C. (2022). Investigating and improving student understanding of the basics for a system of identical particles. *American Journal of Physics*, 90(2), 110–117. <https://doi.org/10.1119/10.0006910>

Abstract: We discuss an investigation of students' difficulties with systems of non-interacting identical particles. The investigation was carried out in advanced quantum mechanics courses at both the undergraduate and graduate levels by administering free-response and multiple-choice questions and conducting individual interviews with students. This research on student difficulties was used as a guide to develop and evaluate a Quantum Interactive Learning Tutorial (QuILT) that helps students develop a functional understanding of the concepts necessary for determining the many-particle Hamiltonian and stationary state wavefunctions for a system of non-interacting identical particles.

13. Dassie, A. C., Gerdau, F., Gonzalez, F. J., Moyano, M., & Id Betan, R. M. (2022b). Illustrations of loosely bound and resonant states in atomic nuclei. *American Journal of Physics*, 90(2), 118–125. <https://doi.org/10.1119/10.0007045>

Abstract: Using the one-dimensional potential well with realistic parameters for atomic nuclei, we illustrate the movement of the poles of the S -matrix and the transmission coefficient when the well supports an anti-bound state. We calculate the phase shift of the

atomic nuclei ${}^5\text{He}$ using the three-dimensional potential well and compare it with the experimental one. The paper gives an introduction to some of the properties found in realistic loosely bound and resonant nuclear systems, using mathematics accessible to undergraduate students.

14. Moylan, P. (2022). Velocity reciprocity and the relativity principle. *American Journal of Physics*, 90(2), 126–134. <https://doi.org/10.1119/10.0009219>

Abstract: Velocity reciprocity means that the velocity of an inertial frame S with respect to another inertial reference frame S' is the opposite of the velocity of S' with respect to S . While velocity reciprocity holds true for both the Lorentz and Galilean transformations, it need not be true in general, and it is a widely held misconception that velocity reciprocity is a sole consequence of the relativity of motion principle. The situation is, in fact, much more complicated, and it is the purpose of this paper to call attention to and hopefully help to rectify the matter regarding the misconception. We show that if we ascribe universal and unrestricted validity to the relativity of motion principle, then velocity reciprocity cannot possibly follow only from the relativity principle, and we detail the additional assumptions that must be made in order for velocity reciprocity to hold.

15. Corvo, A. (2022b). Subtle features in projectile motion with quadratic drag found through Taylor series expansions. *American Journal of Physics*, 90(2), 135–140. <https://doi.org/10.1119/10.0009227>

Abstract: Many attempts have been made at finding the trajectory for the projectile problem with quadratic drag. However, no complete analytical solution is possible due to the nonlinear coupling between differential equations describing the horizontal (x) and vertical (y) velocity components that result in the final trajectory solution, $y = f(x)$. Over the years, a number of approximate analytical methods, including Taylor series expansions, have been applied to the problem. However, whereas prior works expanded V_x by assuming $V_x = V_x(t)$, the expansion here is based on the faster converging $1/V_x(t)$, whose reciprocal better captures the monotonically decreasing nature of V_x .

16. Scholz, C., & Scholz, S. (2022). Exploring complex pattern formation with convolutional neural networks. *American Journal of Physics*, 90(2), 141–151. <https://doi.org/10.1119/5.0065458>

Abstract: Many nonequilibrium systems, such as biochemical reactions and socioeconomic interactions, can be described by reaction–diffusion equations that demonstrate a wide variety of complex spatiotemporal patterns. The diversity of the morphology of these patterns makes it difficult to classify them quantitatively, and they are often described visually. Hence, searching through a large parameter space for patterns is a tedious manual task. We discuss how convolutional neural networks can be used to scan the parameter space, investigate existing patterns in more detail, and aid in finding new groups of patterns. As an example, we consider the Gray–Scott model for which training data are easy to obtain. Due to the popularity of machine learning in many scientific fields, well maintained open source toolkits are available that make it easy to

implement the methods that we discuss in advanced undergraduate and graduate computational physics projects.

17. Guo, X., Liu, Y., Chang, Y., Zhu, M., & Zhang, L. (2022b). Theoretical and experimental examination of simple coaxial photonic crystals for undergraduate teaching. *American Journal of Physics*, 90(2), 152–158. <https://doi.org/10.1119/5.0059320>

Abstract: A study implementing a coaxial photonic crystal with a simple structure composed of only one type of coaxial cable is described. The coaxial photonic crystal consists of alternating sections of a single cable and NN parallel cables, with impedances of $ZHZH$ and $ZH/NZH/N$, respectively. The high mismatch in impedance at the interfaces enables access to a highly superluminal group velocity with few cables. An easily realizable method is also presented to measure both the amplitude of transmission and the phase of the crystal by using an oscilloscope and a function generator. The measurements were validated by an advanced vector network analyzer and matched the results of theoretical analysis based on the transfer matrix method. The experiment only requires electronic components and equipment that are typically used in undergraduate teaching laboratories.

ASSESSMENT IN EDUCATION: PRINCIPLES POLICY & PRACTICE

1. Street, K. E. S., Stylianides, G. J., & Malmberg, L. E. (2022). Differential relationships between mathematics self-efficacy and national test performance according to perceived task difficulty. *Assessment in Education: Principles, Policy & Practice*, 29(3), 288–309. <https://doi.org/10.1080/0969594x.2022.2095980>

Abstract: We explore the effect of students’ perceived task difficulty on the mathematics self-efficacy – performance relationship. Specifically, we expand on previous reciprocal effects studies through including students’ self-efficacy for different levels of task difficulty in an empirical investigation. We examined students’ self-efficacy for easy, medium difficulty, and hard tasks and performance on a national mathematics test in a longitudinal study of 95 Norwegian students from grade 8 to grade 9. We found differential relationships between self-efficacy for different levels of task difficulty and national test performance. In support of the ‘skill development’ model, grade 8 national test performance predicted grade 9 self-efficacy for medium and hard, but not easy, tasks. While mastery experiences are likely to arise more easily on easier tasks, such experiences are likely to matter more on harder tasks. Our findings highlight the importance of supporting students’ engagement with challenging tasks to strengthen both their performance and self-efficacy.

Keywords: Self-efficacy; performance; reciprocal effects; levels of difficulty; national tests; mathematics

2. Jerrim, J. (2022). The power of positive emotions? The link between young people’s positive and negative affect and performance in high-stakes examinations. *Assessment in Education: Principles, Policy & Practice*, 29(3), 310–331. <https://doi.org/10.1080/0969594x.2022.2054941>

Abstract: A substantial body of research suggests that young people’s emotions – both positive and negative – are linked to a wide range of future outcomes. This paper contributes to this literature by investigating the link between young people’s positive and negative emotions and their performance in high-stakes examinations. Using Programme for International Student Assessment (PISA) data from England linked to the National Pupil Database (NPD), I investigate how 15-year-olds positive affect, negative affect and fear of failure is associated with the grades they achieve in high-stakes examinations. I find that low levels of positive affect – i.e. pupils rarely feeling happy, lively and cheerful – is associated with a 0.10–0.15 standard deviation reduction in young people’s examination grades. On the other hand, little evidence is found of a substantive link between negative affect or fear of failure and examination performance.

Keywords: Emotions; positive affect; negative affect; fear of failure high-stakes testing

3. Marcq, K., & Braeken, J. (2022). The blind side: Exploring item variance in PISA 2018 cognitive domains. *Assessment in Education: Principles, Policy & Practice*, 29(3), 332–360. <https://doi.org/10.1080/0969594x.2022.2097199>

Abstract: Communication of International Large-Scale Assessment (ILSA) results is dominated by reporting average country achievement scores that conceal individual differences between pupils, schools, and items. Educational research primarily focuses on examining differences between pupils and schools, while differences between items are overlooked. Using a variance components model on the Programme for International Student Assessment (PISA) 2018 cognitive domains of reading, mathematics, and science literacy, we estimated how much of the response variation can be attributed to differences between pupils, schools, and items. The results show that uniformly across domains and countries, it mattered more for the correctness of an item response which items were responded to by a pupil (27–35%) than which pupil responded to these items (10–12%) or which school the pupil attended (5–7%). Given the findings, we argue that differences between items in ILSAs constitute a source of substantial untapped potential for secondary research.

Keywords: International large-scale assessment; item variance; school variance components; pupil variance components; item variance components

4. Panadero, E., Fraile, J., Pinedo, L., Rodríguez-Hernández, C., & Díez, F. (2022). Changes in classroom assessment practices during emergency remote teaching due to COVID-19. *Assessment in Education: Principles, Policy & Practice*, 29(3), 361–382. <https://doi.org/10.1080/0969594x.2022.2067123>

Abstract: This study explores the effects of the shift to emergency remote teaching on assessment practices due to COVID-19 lockdown. A total of 936 Spanish teachers from all educational levels ranging from early childhood to university participated in this nationwide survey. Four aspects were explored: (1) changes in the use of assessment instruments (e.g. exams); (2) changes in assessment criteria, standards and grading; (3) changes in the delivery of feedback and use of rubrics; and (4) changes in students' involvement in assessment (i.e. self- and peer assessment). In general, results are mixed, with some areas undergoing certain changes with the aim of adapting to the new situation (e.g. primary education teachers lowering their grading standards), whereas many other assessment practices have remained similar, especially among higher education teachers. Unfortunately, some of the assessment practices have worsened, such as students' involvement in assessment which has decreased.

Keywords: Assessment practices; emergency remote teaching; COVID-19; feedback; rubrics; self-assessment; peer assessment; online teaching

5. Raudienė, I., Kaminskienė, L., & Cheng, L. (2022). The Education and Assessment System in Lithuania. *Assessment in Education: Principles, Policy & Practice*, 29(3), 383–394. <https://doi.org/10.1080/0969594x.2022.2103516>

Abstract: This article presents a historical and contemporary account of Lithuania’s national public education assessment system and its transformation since the country’s declaration of independence from the Soviet Union in 1990. We explore how the external examination system has developed in relation to ongoing curriculum reforms over the last 30 years, and how external examinations and standardised testing have taken priority over classroom assessment throughout this period. What becomes clear is that certain political decisions, guided by increased accountability demands, have significantly impacted classroom assessment practices, school cultures, and the mindsets of stakeholders about the role and function of assessment in Lithuania. Finally, we deploy our national and international expertise to recommend some changes to the current education system to make assessment an effective tool to improve student learning.

Keywords: External examinations; classroom assessment; curriculum reform; Lithuania

COGNITIVE PSYCHOLOGY

1. Ratcliff, R. (2022). Integrated diffusion models for distance effects in number memory. *Cognitive Psychology*, 138, 101516. <https://doi.org/10.1016/j.cogpsych.2022.101516>

Abstract: I evaluated three models for the representation of numbers in memory. These were integrated with the diffusion decision model to explain accuracy and response time (RT) data from a recognition memory experiment in which the stimuli were two-digit numbers. The integrated models accounted for distance/confusability effects: when a test number was numerically close to a studied number, accuracy was lower and RTs were longer than when a test number was numerically far from a studied number. For two of the models, the representations of numbers are distributed over number (with Gaussian or exponential distributions) and the overlap between the distributions of a studied number and a test number provides the evidence (drift rate) on which a decision is made. For the third, the exponential gradient model, drift rate is an exponential function of the numerical distance between studied and test numbers. The exponential gradient model fit the data slightly better than the two overlap models. Monte Carlo simulations showed that the variability in the important parameter estimates from fitting data collected over 30–40 min is smaller than the variability among individuals, allowing differences among individuals to be studied. A second experiment compared number memory and number discrimination tasks and results showed different distance effects. Number memory had an exponential-like distance-effect and number discrimination had a linear function which shows radically different representations drive the two tasks.

Keywords: Number memory; Diffusion decision model; Response time and accuracy; Distance effects; Overlap and gradient models

2. Hotaling, J. M., Donkin, C., Jarvstad, A., & Newell, B. R. (2022). MEM-EX: An exemplar memory model of decisions from experience. *Cognitive Psychology*, 138, 101517. <https://doi.org/10.1016/j.cogpsych.2022.101517>

Abstract: Many real-world decisions must be made on basis of experienced outcomes. However, there is little consensus about the mechanisms by which people make these decisions from experience (DfE). Across five experiments, we identified several factors influencing DfE. We also introduce a novel computational modeling framework, the *memory for exemplars model* (MEM-EX), which posits that decision makers rely on memory for previously experienced outcomes to make choices. Using MEM-EX, we demonstrate how cognitive mechanisms provide intuitive and parsimonious explanations for the effects of value-ignorance, salience, outcome order, and sample size. We also conduct a cross-validation analysis of several models within the MEM-EX framework. We compare these to three alternative models; two baseline models built on the principle of expected value maximization, and another employing a suite of choice methods previously shown to perform well in prediction tournaments. We find that MEM-EX consistently outperforms these competitors, demonstrating its value as a tool for making quantitative predictions without overfitting. We discuss the implications of these findings

for our understanding of the interplay between attention, memory, and experience-based choice.

Keywords: Decisions from experience; Computational models; Decision making; Cognitive mechanisms; Exemplar memory; BEAST

3. Galdo, M., Weichart, E. R., Sloutsky, V. M., & Turner, B. M. (2022). The quest for simplicity in human learning: Identifying the constraints on attention. *Cognitive Psychology*, 138, 101508. <https://doi.org/10.1016/j.cogpsych.2022.101508>

Abstract: For better or worse, humans live a resource-constrained existence; only a fraction of physical sensations ever reach conscious awareness, and we store a shockingly small subset of these experiences in memory for later use. Here, we examined the effects of attention constraints on learning. Among models that frame selective attention as an optimization problem, attention orients toward information that will reduce errors. Using this framing as a basis, we developed a suite of models with a range of constraints on the attention available during each learning event. We fit these models to both choice and eye-fixation data from four benchmark category-learning data sets, and choice data from another dynamic categorization data set. We found consistent evidence for computations we refer to as “simplicity”, where attention is deployed to as few dimensions of information as possible during learning, and “competition”, where dimensions compete for selective attention via lateral inhibition.

Keywords: Attention; Category learning; Eye-tracking; Cognitive bias; Capacity; Model comparison

4. Pouncy, T., & Gershman, S. J. (2022). Inductive biases in theory-based reinforcement learning. *Cognitive Psychology*, 138, 101509. <https://doi.org/10.1016/j.cogpsych.2022.101509>

Abstract: Understanding the inductive biases that allow humans to learn in complex environments has been an important goal of cognitive science. Yet, while we have discovered much about human biases in specific learning domains, much of this research has focused on simple tasks that lack the complexity of the real world. In contrast, video games involving agents and objects embedded in richly structured systems provide an experimentally tractable proxy for real-world complexity. Recent work has suggested that key aspects of human learning in domains like video games can be captured by model-based reinforcement learning (RL) with object-oriented relational models—what we term *theory-based RL*. Restricting the model class in this way provides an inductive bias that dramatically increases learning efficiency, but in this paper we show that humans employ a stronger set of biases in addition to syntactic constraints on the structure of theories. In particular, we catalog a set of semantic biases that constrain the content of theories. Building these semantic biases into a theory-based RL system produces more human-like learning in video game environments.

Keywords: Cognitive science; Psychology; AI; Learning; Inductive bias

CONTEMPORARY EDUCATIONAL PSYCHOLOGY

1. Beymer, P. N., & Robinson, K. A. (2022). Motivating by measuring motivation? Examining reactivity in a diary study on student motivation. *Contemporary Educational Psychology, 70*, 102072. <https://doi.org/10.1016/j.cedpsych.2022.102072>

Abstract: Intensive longitudinal methodologies continue to gain traction in educational psychology due to their numerous affordances; however, educational researchers have yet to fully consider how these methodologies may actually impact the phenomena under study. In the current study, we used a quasi-experimental design to examine how participating in a diary study on motivation predicted students' end-of-semester motivation. We also examined how dosage, or how many surveys students responded to, predicted their motivation at the end of the semester. Participating in the diary study predicted end-of-semester task effort and emotional cost, whereas responding to a higher number of surveys predicted end-of-semester value, expectancies, outside effort cost, and emotional cost. These findings suggest that researchers using intensive longitudinal methodologies should consider using a control group in order to check for unintended outcomes. Implications and future directions are discussed.

Keywords: Motivation; Intensive longitudinal methodologies; Reactivity; Diary study; Expectancy-value theory

2. Barger, M. M., Xiong, Y., & Ferster, A. E. (2022). Identifying false growth mindsets in adults and implications for mathematics motivation. *Contemporary Educational Psychology, 70*, 102079. <https://doi.org/10.1016/j.cedpsych.2022.102079>

Abstract: Although the belief that ability can change, a growth mindset, has been identified as beneficial for motivation and challenge seeking, recent criticisms of mindset theory have argued that mindset is a weak predictor of achievement in some circumstances. Meanwhile, researchers have qualitatively described adults who agree with growth mindset, but do not behave as though they believe ability can change (e.g., praise children for their intelligence), suggesting they may hold a *false growth mindset*. In three studies with US adults ($N = 294$), undergraduate students ($N = 214$), and elementary school teachers ($N = 132$), we used cluster analyses to identify individuals with a false growth mindset. Mindset groups were identified based on participants' combinations of responses to the traditional mindset measure and two alternative mindset measures. Five groups were identified in each study: fixed mindset, moderate mindset, false growth mindset, effort mindset, and extreme flexibility mindset. The mindset groups differed in their perceived competence in math (Studies 1–3), preference for challenge (Study 1), challenge seeking on optional math problems and math value (Study 2), and beliefs that only some students can do math and math anxiety (Study 3). Findings suggest that holding an inconsistent set of beliefs, like a false growth mindset, might contribute to the disconnect between mindset theory and practice and that consistent responses across a variety of growth mindset measures may prove to be the most adaptive. We conclude with words of caution to the many researchers and educators who hope that growth mindset interventions can improve student outcomes.

Keywords: Mindset; False growth mindset; Motivation; Teacher beliefs; Math anxiety

3. Lawson, A. P., & Mayer, R. E. (2022b). Does the emotional stance of human and virtual instructors in instructional videos affect learning processes and outcomes? *Contemporary Educational Psychology*, 70, 102080. <https://doi.org/10.1016/j.cedpsych.2022.102080>

Abstract: This study investigates the *positivity principle* – the idea that people respond more positively and learn better from an instructor who displays positive emotion than from an instructor who displays negative emotion – and the *equivalence hypothesis* – the idea that learners respond similarly to the emotional tone displayed by both human and virtual instructors. In this between-subjects design experiment, participants viewed one of eight instructional videos on binomial probability, varying in the emotion portrayed by the voice and gestures of an onscreen instructor and varying in whether the instructor was human or virtual. Participants either saw a positive instructor (happy or content) or a negative instructor (bored or frustrated) and that instructor was either human or virtual. In support of the positivity principle, participants recognized the positive or negative emotional tone of the instructor, felt a similar emotion to the instructor, and had more favorable social connection ratings for positive instructors. However, the positivity of the instructor did not impact how well participants performed on a delayed posttest. In support of the equivalence hypotheses, all of these effects were found for both human and virtual instructors. Overall, this study provided support for three of the four links in the positivity principle, and showed that the principle applied to both human and virtual instructors as per the equivalence hypothesis.

Keywords: Affective process; Emotional design; Equivalence hypothesis; Online lesson; Positivity principle

4. Porter, T., Catalán Molina, D., Lucas, M., Oberle, C., & Trzesniewski, K. (2022). Classroom environment predicts changes in expressed intellectual humility. *Contemporary Educational Psychology*, 70, 102081. <https://doi.org/10.1016/j.cedpsych.2022.102081>

Abstract: Expressing intellectual humility – admitting one’s ignorance and mistakes – can facilitate learning, but how to encourage expression of intellectual humility in students remains an open question. The goal of the current longitudinal study ($N = 547$ youth) was to understand how teaching practices and perceptions of the classroom environment shape expressed intellectual humility in middle school students. In multilevel Bayesian analyses with informative priors, mastery-oriented teaching practices predicted changes in perceived mastery goal structure, which in turn predicted changes in expressed intellectual humility over one school year. The classroom environment in the first school year also predicted changes in expressed intellectual humility in the next school year. These findings suggest classrooms that emphasize learning for learning’s sake can precipitate changes in adolescents’ willingness to express intellectual humility.

Keywords: Intellectual humility; Adolescence; Motivation; Classroom goal structure; Achievement goal theory

5. Schweder, S., & Raufelder, D. (2022). Students' interest and self-efficacy and the impact of changing learning environments. *Contemporary Educational Psychology, 70*, 102082. <https://doi.org/10.1016/j.cedpsych.2022.102082>

Abstract: Interest and self-efficacy are two key components of motivation and learning, both of which decrease during adolescence. The situated expectancy-value theory (SEVT), recently formulated by Eccles and Wigfield (2020), provides a detailed perspective on critical components of learning situations and the ways in which competence beliefs (e.g., self-efficacy) and value perceptions (e.g., interest) work together to impact students' achievement. This four-wave study includes data from 754 German secondary school students ($M_{Age} = 13.56$; $SD = 1.2$; 49.4% girls). The study analysis employed two latent change models and a latent neighbor change model with covariates (sex, age, grades) to examine the development and interconnections between interest and self-efficacy. The schools included in the sample expand instruction via two self-directed learning intervals during the school year. During the self-directed learning intervals, learning was driven by the students' preferences for subject matter rather than curricular objectives. The findings indicate that students' interest and self-efficacy increased not only during self-directed learning but also over the course of the school year. The results suggest that an instructional environment that has been enriched by SDL intervals benefits the interplay between interest and self-efficacy.

6. de Jong, P. F., Schreurs, B. G., & Zee, M. (2022). Parent-child conflict during homeschooling in times of the COVID-19 pandemic: A key role for mothers' self-efficacy in teaching. *Contemporary Educational Psychology, 70*, 102083. <https://doi.org/10.1016/j.cedpsych.2022.102083>

Abstract: To contain the COVID-19 pandemic schools have been closed in many countries. Children stayed at home and were assisted by their parents with their schoolwork. Evidently, homeschooling puts extra demands on parents. We presumed that parents' sense of efficacy in teaching would play a key role in how they cope with this extra task of homeschooling. In particular, we hypothesized that parental characteristics (level of parental education and stress) and social contextual factors (household chaos and school support) would contribute to parents' teaching self-efficacy and that, in turn, a lower efficacy would result in more parent-child conflict during home schooling. Participants were 173 mothers of children in kindergarten or early elementary schools, who provided information for one of their children about interpersonal conflicts around schoolwork before and during school closure. Additionally, they reported on their self-efficacy in teaching, perceived stress during lockdown, home chaos, and school support. Path analyses indicated that mothers' perceived stress and household chaos were associated with a lower sense of efficacy in teaching, whereas school support, but not level of parental education, was related to a higher level of teaching self-efficacy. Higher levels of self-efficacy beliefs, in turn, were associated with a lower degree of mother-child conflict during schoolwork, even after controlling for prior levels of conflict. We

discuss how the results of this study might be used to foster parents' self-efficacy in teaching and thereby decrease the amount of parent–child conflict during parents' support with schoolwork.

Keywords: Parental self-efficacy in teaching; Homeschooling; Parent–child conflict; COVID-19

7. Johnson, V., Butterfuss, R., Kim, J., Orcutt, E., Harsch, R., & Kendeou, P. (2022). The 'Fauci Effect': Reducing COVID-19 misconceptions and vaccine hesitancy using an authentic multimodal intervention. *Contemporary Educational Psychology, 70*, 102084. <https://doi.org/10.1016/j.cedpsych.2022.102084>

Abstract: Social media environments enable users to proliferate misinformation surrounding COVID-19. Expert sources, such as Dr. Anthony Fauci have leveraged social media to present corrective multimedia messages. However, little is known about the efficacy of these messages in revising common misconceptions about COVID-19 and influencing behavior. In this study, we examined the efficacy of a multimodal intervention using authentic social media messages that directly addressed common COVID-19 misconceptions. Going further, we identified individual differences that influenced the effectiveness of the intervention, as well as whether those factors predicted individuals' willingness to receive a COVID-19 vaccine. The results showed that the intervention was successful in increasing knowledge when compared to a baseline control. Those who were older and reported less vaccine hesitancy showed greater learning from the intervention. Factors that significantly predicted intention to vaccinate included receiving the intervention, vaccine confidence, vaccine hesitancy, prior flu vaccination history, age, and fear of COVID-19. These findings indicate that multimodal messages can be effectively leveraged in social media to both fight misinformation and increase intention to be vaccinated - however, these interventions may not be as effective for all individuals.

Keywords: Knowledge Revision; Refutation Texts; Misconceptions; Vaccine Attitudes; Learning; Social Media

8. Abdulla, A., & Woods, R. (2022). "How Else Could You Do that?" The effects of generating multiple means of goal attainment on female students' perceived goal attainability. *Contemporary Educational Psychology, 70*, 102086. <https://doi.org/10.1016/j.cedpsych.2022.102086>

Abstract: Perceived goal attainability (PGA) is a crucial variable in education, influencing students' goal commitment, goal pursuit and psychological wellbeing. Asking students to generate multiple means of goal attainment is thought to have a positive effect on PGA. And yet research on the "availability" heuristic suggests that difficulty in generating means of goal attainment may have a *negative* effect on PGA. The present study is the first to examine the matter in a real-world middle and high school context. In three experiments female students aged 11–15 were asked to generate many/few means of goal attainment. An inconsistent mediation model was hypothesised

in which the “many means” condition has a negative indirect effect on perceived goal attainability through difficulty-in-generation (DIG) but a positive direct effect on the same variable. It was also hypothesised that these effects are greater in students with low baseline PGA. This moderated mediation hypothesis was supported statistically by tests of interaction in Experiments 1 and 2. In Experiment 3, which involved the youngest students with the highest baseline PGA, difficulty-in-generation and the “Think of many” manipulation appeared to have much less effect, again suggesting that DIG (and “Think of many”) exert less of an influence when students’ baseline PGA is high. Results have important implications for schools, students and educators alike.

Keywords: Perceived Goal Attainability; “Availability” Heuristic; Ease-of-Retrieval; Inconsistent Mediation

9. Xu, J. (2022). More than minutes: A person-centered approach to homework time, homework time management, and homework procrastination. *Contemporary Educational Psychology, 70*, 102087. <https://doi.org/10.1016/j.cedpsych.2022.102087>

Abstract: This present investigation used a person-centered approach to identifying student profiles based on homework time, time management, and procrastination. Using the data from 541 eighth-grade students, latent profile analysis yielded four distinct profiles: *Inefficient Learners*, *Moderate Learners*, *Efficient Learners*, and *Minimalists*. In addition, findings indicated that gender predicted profile membership; girls were more likely than boys to be in the *Efficient Learners* and *Moderate Learners* than in the *Inefficient Learners*. The *Efficient Learners* completed the most homework and attained the highest scores on mathematics achievement. The *Minimalists* completed the least amount of homework, and the *Minimalist* and the *Inefficient Learners* scored the lowest on mathematics achievement. Implications for educational practices and further research are discussed in light of these results.

Keywords: Homework time; Time management; Procrastination; Homework completion; Academic achievement; Person-centered perspective

10. Ruzek, E., Aldrup, K., & Lüdtke, O. (2022). Assessing the effects of student perceptions of instructional quality: A cross-subject within-student design. *Contemporary Educational Psychology, 70*, 102085. <https://doi.org/10.1016/j.cedpsych.2022.102085>

Abstract: This study examines associations between student-perceived instructional quality and a student’s motivation and achievement using unique data from Germany in which 9th-grade students reported on instructional quality in their English and German classes in the same academic year. Student outcomes, including self-efficacy, course grades, and standardized achievement were measured in both subjects. We utilized a cross-classified random effects model to decompose the variance in student reports of teacher support and monitoring, finding that 17% and 16%, respectively, of the variation in ratings was due to the student reporter with 26% and 27%, respectively, due to the teacher being rated. Students and teachers were further nested within classes of students who stayed together across the two subjects; however, almost no variance was

attributable to class groupings. Student-reported teacher support was positively associated with achievement gains and self-efficacy at the within-student, between-student, and between-teacher levels whereas monitoring was inconsistently associated with outcomes. Standardized betas of perceived teacher support on test score gains were small (<0.10), small-to-medium on course grade gains (0.16–0.24), and medium to large on self-efficacy (0.33–0.52). Measuring the same students with different teachers allows us to disentangle dyadic student-teacher variance from student rater variance in student perceptions and outcomes and facilitates the use of powerful within-student analytical techniques to quantify the effects of educational environments on student learning and self-efficacy.

Keywords: Student perceptions; Teacher support; ICC; Cross-classified model; Achievement; Self-efficacy

11. Dumitru, O. D., Thorson, K. R., & West, T. V. (2022). Investigating gender differences among tutors and students during STEM peer tutoring: Women are as behaviorally engaged as men but experience more negative affect. *Contemporary Educational Psychology, 70*, 102088. <https://doi.org/10.1016/j.cedpsych.2022.102088>

Abstract: Peer tutoring in STEM has risen in popularity in the past several years and has been proposed as one method of reducing gender disparities in STEM outcomes. Yet, the ways in which students and peer tutors engage with each other remain largely unexplored. In this study, we employed a multi-method approach to investigate whether students' and tutors' engagement behaviors and affective experiences during peer tutoring interactions in STEM fields differed by gender. Sixty unacquainted undergraduate college students formed student-tutor pairs and participated in videotaped thirty-minute tutoring sessions in the lab, all of which covered STEM topics (Biology, Chemistry, Computer Science, Economics, Mathematics, and Physics). We found no consistent gender differences across three measures of behavioral engagement: men and women talked for a similar amount of time, they did not differ in four of five types of questions asked (i.e., "clarification" and "knowledge" questions for tutors, and "feedback" and "more information" questions for students), and they were perceived as equally engaged by outside coders. One behavioral difference emerged: men students asked more "repeat" questions than women students. In contrast, consistent gender differences across four measures of affective experiences were found: women reported more anxiety and less confidence relative to men, they were perceived as less confident by outside coders relative to men, and women tutors evaluated their own performance less positively than men tutors. These findings suggest that despite being similarly engaged as men in peer tutoring interactions, women face psychological barriers in this context that may inhibit them from pursuing advanced degrees or careers in STEM.

Keywords: Peer tutoring; Gender; STEM; Negative affect; Engagement; Social interaction

12. Wang, Z., Xie, R., Xia, Y., Nguyen, T. P., & Wu, X. (2022b). A golden triangle? Reciprocal effects among morphological awareness, vocabulary knowledge, and reading comprehension in Chinese children. *Contemporary Educational Psychology, 70*, 102089. <https://doi.org/10.1016/j.cedpsych.2022.102089>

Abstract: Morphological awareness, vocabulary knowledge, and reading comprehension are intertwined and develop together in Chinese children. This study simultaneously examined the reciprocal relationships between these three skills in a 4-year longitudinal sample of 142 third-grade Chinese-speaking students. After controlling for non-verbal intelligence, rapid automatized naming, phonological awareness, orthographic awareness, and word reading at the initial level, the cross-lagged model results showed that (1) morphological awareness and vocabulary knowledge were significantly related to each other in grades 3 to 4, while no reciprocal longitudinal relationship between morphological awareness and vocabulary knowledge emerged in grades 4 to 6; (2) morphological awareness in grade 3 did not have a predictive effect on reading comprehension in grade 4, but morphological awareness in grade 4 had a significant effect on reading comprehension in grade 6. Reversely, reading comprehension was a stable predictor of later morphological awareness in grades 3 to 4 and grades 4 to 6; and (3) there were bidirectional predictive relationships between vocabulary knowledge and reading comprehension in grades 3 to 4 and grades 4 to 6. These findings indicate the symbiotic associations between morphological awareness, vocabulary knowledge, and reading comprehension, and highlight the dynamic and reciprocal nature of these three skills in Chinese children.

Keywords: Morphological awareness; Vocabulary knowledge; Reading comprehension; Chinese children; Longitudinal study

13. Salgado, A., & Aguilar, S. J. (2022). Information framing effects on students' support towards equitable financial aid for undocumented students. *Contemporary Educational Psychology*, 70, 102090. <https://doi.org/10.1016/j.cedpsych.2022.102090>

Abstract: College students' understanding of university policies holds great implications for inequity in education because it can influence their support of other minoritized students' demands for more equal opportunities within their institutions. One factor that can affect this understanding is the framing of the policy of interest. This study examines the effect of group-focused frames (in-group advantage/out-group disadvantage) and legitimacy frames (legitimate/illegitimate inequality) on students' support for equitable distribution of resources. After reading a text about the Pell Grant in one of the above four frames, undergraduate university students were asked about their intent to support changing the policy to allow undocumented student eligibility. Compared to reading an "out-group disadvantage/illegitimate" frame, which has been shown to predict support for the out-group, reading an "in-group advantage/legitimate" and an "out-group disadvantage/ legitimate" frame lowered students' likelihood of supporting policy change while reading an "in-group advantage/illegitimate" frame did not show a difference. Results differed when we suggested policy change could decrease students' group and personal financial aid and when we controlled for student demographics, employment and financial aid reciprocity. We discuss implications for our understanding on how to best present information to advantaged students when advocating for equal opportunities.

Keywords: Information framing; College students; Undocumented students; Intergroup relations; Inequality; System justification

14. Burić, I., Zuffianò, A., & López-Pérez, B. (2022). Longitudinal relationship between teacher self-efficacy and work engagement: Testing the random-intercept cross-lagged panel model. *Contemporary Educational Psychology*, 70, 102092. <https://doi.org/10.1016/j.cedpsych.2022.102092>

Abstract: Even though a longitudinal relationship between self-efficacy and work engagement has been investigated rather extensively, previous studies rarely considered their dynamic nature by separating stable trait-like effects from fluctuating state-like ones. In the present three-wave longitudinal study involving 3010 teachers (82% women), the random-intercept cross-lagged panel modeling (RI-CLPM) approach was used to explore whether: (1) stable parts of TSE and work engagement are related to each other, (2) higher than expected levels of TSE are associated with higher than expected levels of work engagement at a given time point, and (3) higher than expected levels of TSE at a given time point are associated with future higher than expected levels of work engagement. Results showed a positive correlation between stable parts of TSE and work engagement, a positive time-specific correlation between TSE and work engagement, and spill-over effects from work engagement to TSE implying that teachers with higher than usual levels of work engagement, also experience higher than usual levels of TSE at subsequent assessment. Unlike previous findings and theoretical expectations, reciprocal relationship was not confirmed as only work engagement predicted TSE and not vice versa.

Keywords: Teachers; Self-efficacy; Work engagement; Longitudinal; Random-intercept cross-lagged panel model

15. Sutter, C. C., & Campbell, L. O. (2022). The role of academic self-determined reading motivation, reading self-concept, home reading environment, and student reading behavior in reading achievement among American Indian and Hispanic students. *Contemporary Educational Psychology*, 70, 102093. <https://doi.org/10.1016/j.cedpsych.2022.102093>

Abstract: Although an increasing body of reading research explores motivation among students from underrepresented racially minoritized groups in academic settings, the research tends to either lump students into an “underrepresented racial minority” (URM) or an “Other” category or focus on students from specific racial backgrounds (e.g., White, Asian, or Black students). This approach results in students too few in number being overlooked (e.g., American Indian students). However, these students represent an important part of the U.S. culture and school population. The scarce research available focuses on achievement gaps, rather than studying factors such as reading motivation and reading self-concept, which have been suggested to contribute to reading success among American Indian students. Therefore, this study explored self-determined reading motivation, reading self-concept, home reading environment, and student reading behaviors in the prediction of reading achievement among American Indian students representing 19 American Indian Tribes (in comparison to Hispanic students) from one

Southwestern State and explored the interrelations between these variables. In a sample of 343 grade 5–8 students ($n = 219$, 63.8%, American Indian students; $n = 124$, 36.2% Hispanic students) multiple-group path analyses in Mplus revealed differential relations among the variables: Whereas reading self-concept was the strongest predictor of reading achievement for both groups of students, intrinsic motivation was negatively related to reading achievement for American Indian students. Potential explanations of the observed interrelations are discussed.

Keywords: Motivation; Self-Determination Theory; Self-Concept; Reading; American Indian Students; Hispanic Students

16. John, J. E., Vierra, K. D., & Robnett, R. D. (2022). "I have cried in almost all of my math classes." Relations between math self-concept, gender, and narrative appraisals of past low points in math. *Contemporary Educational Psychology*, 70, 102094. <https://doi.org/10.1016/j.cedpsych.2022.102094>

Abstract: Math self-concept is strongly associated with a range of academic and career outcomes in math. The current research sought to identify factors that distinguish between undergraduates with particularly low or high math self-concept. A sample of 754 college students were asked to recall a low point they had with math as well as respond to questionnaires measuring math self-concept, value, and anxiety. Focal analyses were conducted on a subsample of participants who reported either high ($n = 90$) or low ($n = 94$) math self-concept. Relative to participants who had high math self-concept, those with low math self-concept tended to be women, had higher math anxiety, and valued math less. Thematic analysis also revealed similarities and differences in how undergraduates from these two groups appraised challenges, or low points, that they encountered in their history with math. Although there were similarities in the types of low points described by members of these two groups, these experiences were often appraised in distinct ways. Unique themes also emerged for each group, indicating that narrative interpretations of math experiences vary with current levels of math self-concept. Implications for future research and math education are discussed.

Keywords: Expectancy-value theory; Math; STEM; Gender; Narrative identity

CONTEMPORARY PHYSICS

1. Barnes, S. J. K., & Stefanovska, A. (2021). Physics of cellular energy metabolism. *Contemporary Physics*, 62(3), 125–143. <https://doi.org/10.1080/00107514.2022.2073046>

Abstract: Contributions to the field of cellular energy metabolism have been dominated by biochemistry. Over the past decade, however, several physics-based approaches have been introduced. Oscillations are an intrinsic aspect of all living systems, from fluctuating substrate levels within cells to changes in electrical potential across membranes. Utilising physics-based approaches to analyse these time-dependent signals reveals pockets of predictable stability. By embracing the nonlinear, time-varying and open nature of cellular dynamics, new network-based approaches to modelling cells are emerging, capable of effectively replicating measured time-series data. These new approaches promise to bring greater comprehension of how various illnesses affect the cells, and indeed, to novel treatments or diagnostic methods.

Keywords: Synchronisation; nonlinear; non-autonomous; networks; metabolism

2. Kumar, S., Kumar, M., & Singh, A. (2021). Synthesis and characterization of iron oxide nanoparticles (Fe_2O_3 , Fe_3O_4): a brief review. *Contemporary Physics*, 62(3), 144–164. <https://doi.org/10.1080/00107514.2022.2080910>

Abstract: The iron oxides (Fe_3O_4 , Fe_2O_3 , and their polymorphs) with nano dimensions have many interesting applications in various fields, like biomedical, electronics, etc. This is due to the fact that nanomaterials have unique magnetic and physiological properties as compared to bulk materials. Synthesis is the most important parameter in developing crystalline polymorphs of iron oxide with desirable and distinctive properties that make them suitable for technological applications. In this review, we have briefly discussed the methods of synthesis of iron oxide nanoparticles (chemical, physical and biosynthesis techniques) with quite interesting outcomes reported in earlier literature. The different characterization tools and concerns for iron oxide nanoparticles are also elaborated.

Keywords: Iron oxide; nanoparticles; physical methods; chemical methods; bio synthesis; characterization tools

3. Palti, E. (2021). The swampland and string theory. *Contemporary Physics*, 62(3), 165–179. <https://doi.org/10.1080/00107514.2022.2103275>

Abstract: At very small distance scales, gravity becomes sensitive to quantum effects, implying that we need a quantum theory of gravity to describe physics. However, it is typically assumed that at larger distance scales this quantum gravitational physics is not important and can mostly be ignored. The Swampland programme is a field of contemporary research in theoretical physics which challenges this assumption, proposing that there can remain certain features of quantum gravity at long distances. Theories of physics which do not exhibit these features are then incompatible with

quantum gravity and are termed to lie in a Swampland of inconsistent theories. Most of the evidence for such remnant features comes from string theory, our leading candidate for a quantum theory of gravity. This article introduces the Swampland programme, its connection to string theory, and its implications for how we construct new theories of physics, including those aiming to describe our universe.

Keywords: String theory; swampland; quantum gravity; effective theories; landscape

ECONOMIC & POLITICAL WEEKLY

1. *Mandatory Reporting under POCSO*. (2022, September 17). Economic and Political Weekly. <https://www.epw.in/journal/2022/38/law-and-society/mandatory-reporting-under-pocso.html>

Abstract: The obligation on every person to report any knowledge they have of an offence thought to have been committed in violation of the Prevention of Child Sexual Offences Act raises serious questions related to medical ethics and the privacy of the victim. The implementation of the POCSO in recent times has thrown up the problems the provision has caused, requiring serious reassessment.

2. *Migrant Urban Youth in the Draft National Youth Policy 2021*. (2022, September 17). Economic and Political Weekly. <https://www.epw.in/journal/2022/38/commentary/migrant-urban-youth-draft-national-youth-policy.html>

Abstract: India has one of the largest youth populations in the world. Migrant youth in the urban informal economy are a distinctly vulnerable group. They fall outside the purview of most of the labour legislations, including those related to rights-based social security. The draft National Youth Policy 2021 has recognised this. However, in the absence of a robust strategy, and timely and targeted intervention plan, the policy vision of “unlocking the potential of the youth” will remain on paper only.

3. *Focus on Agriculture in the National Water Policy*. (2022, September 19). Economic and Political Weekly. <https://www.epw.in/journal/2022/38/commentary/focus-agriculture-national-water-policy.html>

Abstract: The National Water Policy, last revised in 2012, is a guiding principle for Indian states and it is expected that states take cognisance of the NWP while formulating their policies and laws. In 2019, the Ministry of Jal Shakti formed a committee to revise the NWP 2012 under Mihir Shah. Focusing on “water in agriculture,” this article recommends changes in the NWP. The adoption of an ecosystem-based approach and climate proofing of watersheds, promotion of water stewardship approach, the Water Governance Standard, climate-resilient agriculture, and policies that incentivise increased production of rain-fed crops have the potential to shift the “use narrative” in India’s water sector.

4. *Is India Ready for Tariff Reforms? : Lessons from*. (2022, September 19). Economic and Political Weekly. <https://www.epw.in/journal/2022/38/commentary/india-ready-tariff-reforms.html>

Abstract: Recent trade models with firm heterogeneity predict that trade liberalisation reduces the number of firms and the firms’ markups, while it increases the average size of firms. The present study attempts to test these predictions in the context of trade reforms in India with the Annual Survey of Industries data over two decades (1987–88 to

2017–18) by using a difference-in-difference approach and comments on the recent policy framework in that light.

5. *Overindulgence in the Facile : What the Present Nationwide Surveys.* (2022, September 19). Economic and Political Weekly. <https://www.epw.in/journal/2022/38/perspectives/overindulgence-facile.html>

Abstract: In light of the concern of whether pedagogy and quality of education are treated symbiotically or not, the intent behind the article is twofold: first, it will focus on how the term “quality education” and “quality of education” were taken up at the national level and within international domains, and what were their contents and intricacies, keeping in mind the differences between the two concepts; second, it will directly delve into the question of: Have pedagogy-related variables been considered for measurement? This query will be contextualised with reference to a list of five nationwide metrics or surveys in India and their subjective ideas of the principal attributes of quality education.

6. *Inter-industry Wage Differentials in Indian Manufacturing :* (2022, September 27). Economic and Political Weekly. <https://www.epw.in/journal/2022/38/special-articles/inter-industry-wage-differentials-indian.html>

Abstract: From a labour perspective, wage rates are reflective of the market demand for different skills and the institutional structures. Also, wage rate is a better measure of the well-being of workers solely dependent on wage income. This paper notes persistent regularity in industry-level wage rates confirming the absence of a convergence behaviour. The stability of industry-level wage rates brings industrial reforms under the scanner for their implications on worker welfare. Wage convergence could be inhibited by the inter-industry movement of workers.

7. *The National e-Commerce Policy, 2019.* (2022, September 18). Economic and Political Weekly. <https://www.epw.in/journal/2022/38/special-articles/national-e-commerce-policy-2019.html>

Abstract: The draft national e-commerce policy 2019 states that the e-commerce platforms use network effects and mining of unstructured data to create entry barriers. We argue that network effects alone do not create sustainable competitive advantage for the platforms. The added effect of the high customer switching costs creates a dominant position for the big firms. It is to be noted that their business models are not built around data. The provision of consumer data or the regulation of foreign participation in this space, does not translate into better business opportunities for micro, small and medium enterprises due to their small-scale operations. Rather, the big domestic retail players might take over and limit the opportunities.

8. *Towards the Instrumentality of Inequality.* (2022, September 25). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/commentary/towards-instrumentality-inequality.html>

Abstract: What has been the nature of work and discourse on inequality in India? Has it been more anecdotal and ordinal? Does it sidestep the conceptual and reflective? Is it an elite discourse even within the subaltern? Does it remain blind to both the subtleties and the macro forces that generate, fuel, and reproduce the condition of inequality? And importantly, has it seriously considered the issue of what inequality does to those at the margins? The recent Dadabhai Naoroji conference at NIAS, on the instrumentality of inequality raised these conceptual, ethical, and practical dimensions of inequality.

9. *The Misdirected Policy Changes in R&D Tax Incentives.* (2022, September 25). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/commentary/misdirected-policy-changes-rd-tax-incentives.html>

Abstract: Over the years, the government has provided tax incentives for companies investing in research and development. Since 2016, the policy has seen an overhaul, with some older incentives withdrawn while new ones being introduced. That year, the government launched the patent box regime and tax holidays for innovation-based start-ups. It also reduced income-tax weighted deduction on R&D expenses from 200% to 150%, which was further reduced to 100% in 2020. Recently, the Union Budget 2022–23 saw the withdrawal of a few customs-duty exemptions for R&D. India has seen relatively low investment in R&D, which calls for policy changes. However, the efficacy of some of these recent changes is questionable.

10. *Need for Credit Resilience Score in India.* (2022, September 25). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/commentary/need-credit-resilience-score-india.html>

Abstract: Paired with the borrower score/ rating, a credit resilience score would better equip the financial institutions to account for borrower resilience and make credit decisions accordingly. The requirement for CRS in India helps credit to flow uninterrupted during good and bad times. Recognising the parameters used in the existing credit score for individuals and corporate credit rating, a framework for the development of CRS is suggested.

11. *Dietary Diversity during COVID-19 in India.* (2022, September 25). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/commentary/dietary-diversity-during-covid-19-india.html>

Abstract: The article reports the findings on the changing dietary patterns of Indian households during COVID-19, based on an analysis of the Consumer Pyramids Household Survey. The impact of the pandemic on diet composition was most severe for the poor and the deprived, who substituted inferior cereals for expensive cereals and spent lower amounts on nourishing foods such as fruits and vegetables.

12. *S Parasuraman (1952–2022) : Reimagined the Relevance of Social.* (2022, September 25). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/commentary/s-parasuraman-1952%E2%80%932022.html>

Abstract: S Parasuraman, with his interdisciplinary educational background and vast experience in the development sector, contributed to institution building. He will be remembered for revamping the Tata Institute of Social Sciences to meet the challenges of the future.

13. *Is the Employment Situation Improving? : On Regular Protected.* (2022, September 25). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/perspectives/employment-situation-improving.html>

Abstract: Within regular protected employment, there can be a greater degree of regularity and deeper protection than the minimum definition offers. This very idea is explored to take a view on the evolution of internal structure of this employment form.

14. *Leveraging Trade in High Technology for Emergence : The BRICS.* (2022, September 25). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/special-articles/leveraging-trade-high-technology-emergence.html>

Abstract: The emerging strength of Brazil, Russia, India, China, and South Africa in high-technology trade is examined. Trends in high-technology trade in BRICS are reviewed, highlighting the hugely disproportionate contribution from China in trade in high-technology products, primarily driven by information technology products. Subsequently, trade in ITP is analysed as a special case and the relevance of the Information Technology Agreement 1 in influencing production and trade of ITP has been discussed focusing on experiences of China and India (against the performance of traditional players in this category). The ITA 2 and its rationale are introduced.

15. *The Role of Industrial Policy in Market-friendly Economies : Case of.* (2022, September 25). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/special-articles/role-industrial-policy-market-friendly-economies.html>

Abstract: Given the public good characteristics of new technologies and especially those contributing to improved health, there is a strong case for state support for research and development and indeed for converting those research results to commercialise products and processes. The state support to the market is even more vital in developing vaccines for the COVID-19 pandemic, which has engulfed the whole world and has shattered the economies of countries and lives of ordinary citizens. The paper, in two parts, analyses how the state and the market have responded to the development of vaccines for this pandemic in two countries, India and the United States. India is chosen as it is one of the leading manufacturers of low-cost vaccines, and the US is selected as it is the top country where systematic R&D on vaccines is carried out. In this part, the focus is on the renewed debate on the use of industrial policy and surveys the specific policy instruments used by

one of the leading market-friendly economies in the world, namely the US, in successfully developing within a short period of time a number of highly effective vaccines for COVID-19.

16. *Missing Linkages in the Electricity–Water Nexus in Indian Agriculture*. (2022, September 25). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/special-articles/missing-linkages-electricity%E2%80%93water-nexus-indian.html>

Abstract: Agriculture electricity supply has been the Achilles heel in the context of electricity policy and subsidy in India. The study summarises all the electricity consumption methods and numbers in the major agricultural states by state electricity regulatory commissions and researchers. Clear disparities in electricity consumption can be seen for some states and crops in the numbers summarised. It highlights the issues with the current methodologies and proposes to develop better methods for estimation of energy consumption in agriculture.

17. *Nature of Health Insurance Demand in India*. (2022, September 26). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/special-articles/nature-health-insurance-demand-india.html>

Abstract: In this paper, an attempt is made to explore the elasticity of health insurance demand in India. Keeping in view the central and state government efforts as well as rural–urban disparities in the country, we evaluate whether people have appropriate information about these governmental schemes and the influence of other socio-economic factors on individual household choices.

18. *Sexual Minorities and the Everyday Social*. (2022, September 26). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/letters/sexual-minorities-and-everyday-social.html>

Abstract: In April 2022, Supriya Sule, a member of Parliament from the Nationalist Congress Party, introduced a private member’s bill in the Lok Sabha seeking a debate to amend the Special Marriage (Amendment) Bill, 2022. The bill sought to give equal marriage rights to persons from the LGBTQIA+ community, citing the Justice K S Puttaswamy (Retd) v Union of India judgment.

19. *Deprivation of Adivasi Rights*. (2022, September 26). Economic and Political Weekly. <https://www.epw.in/journal/2022/39/letters/deprivation-ativasi-rights.html>

Abstract: On 2 August 2022, a two-judge bench of the Supreme Court delivered its verdict in the case of Satyajit Kumar and Ors v the State of Jharkhand and Ors (2022). The main issue dealt in the appeal is the constitutional validity of the 100% reservations provided to the Scheduled Tribe (ST) candidates for the post of teachers in the schools of Scheduled Areas by the Jharkhand government in 2016.

20. *Pharma Freebies, Free from Regulation*. (2022, October 2). Economic and Political Weekly. <https://www.epw.in/journal/2022/40/commentary/pharma-freebies-free-regulation.html>

Abstract: Large-scale freebies are provided by pharmaceutical companies to doctors in the absence of a legally enforced regulation of unethical promotion. The current regulation of the pharma industry facilitates multiple escape routes, exemplifying accumulation by institutional adaptation with interlocking of corporate and state actors.

21. *Braille, Empowerment of Visually Challenged, and the Contemporary*. (2022, October 2). Economic and Political Weekly. <https://www.epw.in/journal/2022/40/commentary/braille-empowerment-visually-challenged-and.html>

Abstract: With the emergence of screen readers and user-friendly technologies for the visually challenged persons, a debate started over the relevance of Braille as a means of education. In the middle of such a debate, Braille finds itself transformed in digital form and several tactile usages not only for the visually challenged persons, but also for the persons with other disabilities.

22. *Energy: A Greater Common Good : A Journey into Industrial Energy*. (2022, October 2). Economic and Political Weekly. <https://www.epw.in/journal/2022/40/commentary/energy-greater-common-good.html>

Abstract: The specific objectives of the present study were to identify the key factors influencing the adoption of energy-efficient measures; identify and analyse the reasons for the non-adoption of energy audit recommendations; and study the interlinkages between behavioural elements influencing the adoption of energy efficiency measures.

23. *Sanctions in Ukraine War : The Racial Tilting of International*. (2022, October 2). Economic and Political Weekly. <https://www.epw.in/journal/2022/40/commentary/sanctions-ukraine-war.html>

Abstract: This article critically looks at the international sanctions regime in the context of the recent Russia–Ukraine war. It explores the complex power bias of international sanctions, its intricate politics of “otherisation,” the racial tilting of the sanctions regime, making the pathway for limited effectiveness of sanctions.

24. *Impact of Lockdown on Employment and Earnings*. (2022, October 1). Economic and Political Weekly. <https://www.epw.in/journal/2022/40/special-articles/impact-lockdown-employment-and-earnings.html>

Abstract: The Periodic Labour Force Survey is an important official source of data on the labour force. In this paper, we make use of the data on activity statuses according to

the daily, weekly, and the principal usual status approaches and the earnings data from PLFS 2019–20 to study the impact of the lockdown on employment and earnings.

25. *India's Contract Farming Act*. (2022, October 1). Economic and Political Weekly. <https://www.epw.in/journal/2022/40/special-articles/indias-contract-farming-act.html>

Abstract: The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020 is an important legislative landmark in the context of Indian agricultural policy. The major concerns relating to the adoption of the contract farming system in the Indian context are proposed to be resolved through the enabling legislative measures proposed in the act. This paper critically examines the various provisions contained in the act to assess its potential in mitigating the key concerns of adopting the CF practice in India.

26. *A Study on Functional Efficiency of Electronic National Agriculture*. (2022, October 1). Economic and Political Weekly. <https://www.epw.in/journal/2022/40/special-articles/study-functional-efficiency-electronic-national.html>

Abstract: Odisha is predominantly an agrarian economy. Around 50% of the state's population fully or partially depends on agriculture and allied activities for their livelihood. Any reforms in the existing agricultural marketing system could benefit the people to a greater extent. The current study is undertaken to analyse the impact of the Electronic National Agriculture Market on market arrival and price of the commodities in the selected Agricultural Produce Marketing Committees, and on the incomes of the farmers. It also highlights the difficulties by farmers to market their agricultural produce. Findings of the study show that e-NAM is still at a nascent stage in the state. The government needs to focus on infrastructural development, providing training to farmers, and research and development activities for better functioning and benefits of e-NAM.

27. *Politics of Cultural Misrecognitions and the Rise of Identity*. (2022, October 2). Economic and Political Weekly. <https://www.epw.in/journal/2022/40/special-articles/politics-cultural-misrecognitions-and-rise.html>

Abstract: West Bengal has a substantive presence of minority population with 27% Muslims and 5.5% Scheduled Tribes. They often have a ghettoised presence and political parties take special care to secure electoral dividends from them. After the end to the left regime in 2011, the Trinamool Congress in its second term has percolated in most of the traditional left bastions, especially among the ethnic and religious minorities. This paper explores the mechanisms of TMC's percolation among the ethnic and religious minorities through "cultural misrecognition." Through an ethnographic work on the promotion of cultural expressions and recent ethnic conflicts, it is argued that, while the organisation-based political mechanism has been put in the backseat, West Bengal is observing a rapid rise of primordial identity-based political practices.

EDUCATIONAL MEASURES: ISSUES AND PRACTICE

1. Steedle, J. T., Cho, Y. W., Wang, S., Arthur, A. M., & Li, D. (2022). Mode Effects in College Admissions Testing and Differential Speededness as a Possible Explanation. *Educational Measurement: Issues and Practice*, 41(3), 14–25. <https://doi.org/10.1111/emip.12484>

Abstract: As testing programs transition from paper to online testing, they must study mode comparability to support the exchangeability of scores from different testing modes. To that end, a series of three mode comparability studies was conducted during the 2019–2020 academic year with examinees randomly assigned to take the ACT college admissions exam on paper or online. Unlike many prior mode comparability studies, examinees testing online earned higher scores on average than examinees testing on paper, especially on the English, reading, and writing tests. Much of the observed mode effects were accounted for by items near the ends of the tests. Subsequent examination of item omit rates, differential item functioning by mode, and change-point analyses supported the notion that the observed mode effects were related to differential speededness. Specifically, examinees testing online were slightly less speeded, and were therefore able to perform better on items near the ends of the tests. Practical implications for linking across modes, test design, and test administration conditions are discussed.

Keywords: college-admissions testing, computer-based testing, mode of comparability

2. Kim, S., & Walker, M. E. (2022). Adjusting for Ability Differences of Equating Samples When Randomization Is Suboptimal. *Educational Measurement: Issues and Practice*, 41(3), 26–37. <https://doi.org/10.1111/emip.12506>

Abstract: Test equating requires collecting data to link the scores from different forms of a test. Problems arise when equating samples are not equivalent and the test forms to be linked share no common items by which to measure or adjust for the group nonequivalence. Using data from five operational test forms, we created five pairs of research forms for each form, such that the equating relationship between each pair was known. Then we compared five approaches to adjusting for group nonequivalence in a situation where not only was group equivalence questionable, but the number of common items was small. We used a resampling approach to evaluate the linking accuracy of group adjustment using sample weights via minimum discriminant information adjustment (MDIA) using test takers' collateral (demographic) information, a weak anchor of only three items, or a mix of both. Overall, the use of both sample weights via MDIA and a weak anchor produced the most accurate result, while the direct (random groups) linking method assuming group equivalence produced the least accurate result due to nontrivial bias. For all five research forms, using both collateral information and anchor items only marginally improved linking accuracy compared to using the weak anchor alone.

Keywords: equating, minimum discriminant information adjustment, random groups design

3. Almehrzi, R. S. (2022b). Reconceptualization of Coefficient Alpha Reliability for Test Summed and Scaled Scores. *Educational Measurement: Issues and Practice*, 41(3), 38–47. <https://doi.org/10.1111/emip.12520>

Abstract: Coefficient alpha reliability persists as the most common reliability coefficient reported in research. The assumptions for its use are, however, not well-understood. The current paper challenges the commonly used expressions of coefficient alpha and argues that while these expressions are correct when estimating reliability for summed scores, they are not appropriate to extend coefficient alpha to correctly estimate the reliability for nonlinearly transformed scaled scores such as percentile ranks and stanines. The current paper reconceptualizes coefficient alpha as a complement of the ratio of two unbiased estimates of the summed score variance. These include conditional summed score variance assuming uncorrelated item scores (gives the error score variance) and unconditional summed score variance incorporating intercorrelated item scores (gives the observed score variance). Using this reconceptualization, a new equation of coefficient generalized alpha is introduced for scaled scores. Coefficient alpha is a special case of this new equation since the latter reduces to coefficient alpha if the scaled scores are the summed scores themselves. Two applications (cognitive and psychological assessments) are used to compare the performance (estimation and bootstrap confidence interval) of the reliability coefficients for different scaled scores. Results support the new equation of coefficient generalized alpha and compare it to coefficient generalized beta for parallel test forms. Coefficient generalized alpha produced different reliability values, which were larger than coefficient generalized beta for different scaled scores.

Keywords: coefficient alpha, coefficient beta, reliability, scaled scores, summed scores

4. Cuhadar, I., & Binici, S. (2022). Modeling Slipping Effects in a Large-Scale Assessment with Innovative Item Formats. *Educational Measurement: Issues and Practice*, 41(3), 48–57. <https://doi.org/10.1111/emip.12508>

Abstract: This study employs the 4-parameter logistic item response theory model to account for the unexpected incorrect responses or slipping effects observed in a large-scale Algebra 1 End-of-Course assessment, including several innovative item formats. It investigates whether modeling the misfit at the upper asymptote has any practical impact on the parameter estimates. With a simulation study, it also investigates the amount of bias in the parameter estimates when the slipping effects are ignored. Findings from the empirical data indicate that the impact of ignoring slipping effects is negligible when the abilities are evaluated within the context of classification of students into performance levels; however, it is present toward the extreme ends of ability continuum within the context of individual abilities. Findings from the simulations reveal that when the proportion of items with the slipping effects is small (20%), ignoring misfit does not have practical importance; however, when the proportion of items with the slipping effects is moderate to large (50%–80%), the abilities are generally underestimated at both ends of ability scale. When an upper asymptote parameter was used for modeling the slipping

effects, the items became easier and more discriminative in general than the model ignoring the slipping effects.

Keywords: 4-parameter logistic model, innovative item formats, item response theory, large-scale assessment, slipping effects

5. Guo, H. (2021). How Did Students Engage with a Remote Educational Assessment? A Case Study. *Educational Measurement: Issues and Practice*, 41(3), 58–68. <https://doi.org/10.1111/emip.12476>

Abstract: Many educational summative and formative assessments have been transferred to a remote online setting because of the pandemic. Educational professionals and stakeholders have shown interest in learning how this change in the test mode influenced test takers; that is, whether test-taking experiences in a remote test setting were different from those in a standard test center setting. We propose an innovative approach that makes use of log data collected from the digital platforms of a high-stakes international test and applies data-mining techniques to address the mode effect. In the study, the test-taking behaviors were measured by where students spent their time during the test, extracted from log files collected from both remote test and test center modes. Results showed that four distinct clusters existed among students' test-taking behaviors, regardless of the test modes and students' test scores. Within each cluster, statistically significant behavioral differences existed between the two mode groups; however, the magnitude of the mode effect was limited by where students spent their time during the test.

Keywords: data mining, remote testing, test-taking behavior

6. Yuan, L., Liu, Y., Chen, P., & Xin, T. (2022). Development of a New Learning Progression Verification Method based on the Hierarchical Diagnostic Classification Model: Taking Grade 5 Students' Fractional Operations as an Example. *Educational Measurement: Issues and Practice*, 41(3), 69–82. <https://doi.org/10.1111/emip.12488>

Abstract: Learning progressions can reflect students' continuous in-depth thinking development paths, and their establishment is an iterative process from the construction of hypothetical learning progressions to the verification of that hypotheses. Considering the limitations of the existing verification method of learning progressions based on a rule space model, this study put forward a new validating method based on the hierarchical diagnostic classification model (HDCM) and developed a learning progression with grade 5 students' fraction operations as an example. An expert group first abstracted the attributes and then developed a hypothesized learning progression. Next, the HDCM was used to analyze the test data collected from 817 fifth-grade students, followed by the revision of the learning progression hypothesis. Results showed that (1) the fractional operations involved five attributes: basic operation (A1), reduction of a fraction (A2), changing fractions to a common denominator (A3), split with mix number (A4), and borrowing (A5); (2) the constructed learning progression featured four

levels: Level 1 with A1, Level 2 with both A1 and A2, Level 3 with the first four attributes, and Level 4 with all five attributes.

Keywords: cognitive diagnostic models, fractional operations, HDCM, learning progression, validating methods

EDUCATIONAL PSYCHOLOGIST

1. Sinatra, G. M. (2021). Motivational and emotional impacts on public (mis)understanding of science. *Educational Psychologist*, 57(1), 1–10. <https://doi.org/10.1080/00461520.2021.1975121>

Abstract: The psychology of science resistance, doubt, and denial has never had clearer consequences than during the COVID-19 pandemic. This manuscript explores how misconceptions about climate change, vaccines, and COVID-19 cannot be understood apart from the conscious and unconscious motivations and emotions which contribute to public (mis)understanding of science. Drawing on research presented during my Presidential Address for Division 15 of the American Psychological Association in 2020, interventions designed to upend misconceptions and promote understanding and appreciation of science in formal and informal settings are reviewed and recommendations are proposed for promoting public understanding of science in the future.

2. Rosenzweig, E. Q., Wigfield, A., & Eccles, J. S. (2021). Beyond utility value interventions: The why, when, and how for next steps in expectancy-value intervention research. *Educational Psychologist*, 57(1), 11–30. <https://doi.org/10.1080/00461520.2021.1984242>

Abstract: Motivational interventions grounded in Eccles and colleagues' situated expectancy-value theory (SEVT) can promote students' motivational beliefs and academic performance. However, most prior work has focused on one construct, perceived utility value. SEVT includes multiple constructs found to influence students' academic motivation, performance, and choices. We therefore believe it is time to move beyond a sole focus on utility value by exploring interventions that are designed to impact the other central constructs in the theory. In this article we provide theoretical and research-based recommendations for the design of such interventions, focusing on the why, when, and how of their implementation. We discuss interventions to target students' attainment value, intrinsic value, perceived cost, expectancies for success and/or ability beliefs, and different combinations of SEVT constructs. We conclude by discussing ideas for SEVT-based interventions that can address the situated, synergistic, and dynamic nature of motivation.

3. Simonsmeier, B. A., Flaig, M., Deiglmayr, A., Schalk, L., & Schneider, M. (2021). Domain-specific prior knowledge and learning: A meta-analysis. *Educational Psychologist*, 57(1), 31–54. <https://doi.org/10.1080/00461520.2021.1939700>

Abstract: It is often hypothesized that prior knowledge strongly predicts learning performance. It can affect learning positively mediated through some processes and negatively mediated through others. We examined the relation between prior knowledge and learning in a meta-analysis of 8776 effect sizes. The stability of individual differences, that is, the correlation between pretest and posttest knowledge, was high ($r_{P+} = .534$). The predictive power of prior knowledge for learning, i.e., the correlation

between pretest knowledge and normalized knowledge gains, was low ($r_{NG+} = -.059$), almost normally distributed, and had a large 95% prediction interval $[-.688, .621]$. This strong variability falsifies general statements such as “knowledge is power” as well as “the effect of prior knowledge is negligible.” It calls for systematic research on the conditions under which prior knowledge has positive, negative, or negligible effects on learning. This requires more experiments on the processes mediating the effects of prior knowledge and thresholds for useful levels of prior knowledge.

4. Graham, S. (2021). A walk through the landscape of writing: Insights from a program of writing research. *Educational Psychologist*, 57(2), 55–72. <https://doi.org/10.1080/00461520.2021.1951734>

Abstract: This article is an expanded version of my presentation to Division 15 (Educational Psychology) of the American Psychological Association for the Career Achievement Award for Distinguished Psychological Contributions to Education in 2019. It provides an overview of research conducted by colleagues and I that examined the following four topics: (a) the role of writing knowledge, strategies, motivation, and skills in writing and students’ growth as writers; (b) the connections between writing, language, reading, and learning; (c) the identification of effective writing practices; and (d) the current state of writing instruction in schools. For each topic, I provide examples of the logic and the different types of evidence collected in studying each area. Concluding comments focus on areas still in need of investigation.

5. Kuhn, D. (2021). Metacognition matters in many ways. *Educational Psychologist*, 57(2), 73–86. <https://doi.org/10.1080/00461520.2021.1988603>

Abstract: The construct of metacognition appears in an ever increasing number and range of contexts in educational, developmental, and cognitive psychology. Can it retain its status as a useful construct in the face of such diverse application? Or is it merely an umbrella term for diverse mental phenomena that are loosely if at all connected? Here I argue for metacognition playing many diverse roles yet having key features that connect these in a shared framework. Proposed as central to this framework is the exercise of inhibitory cognitive control as a necessary condition for metacognitive competence. Also argued for is greater recognition of metacognition as a disposition, not just competence. As a disposition its foundations are epistemological, and its value and importance lie in supporting individuals’ effective management of their own minds. This disposition puts them in maximum control of what they think and know and the processes they engage in to revise their beliefs, individually and in interaction with others.

6. Skinner, E. A., Rickert, N. P., Vollet, J. W., & Kindermann, T. A. (2022). The complex social ecology of academic development: A bioecological framework and illustration examining the collective effects of parents, teachers, and peers on student engagement. *Educational Psychologist*, 57(2), 87–113. <https://doi.org/10.1080/00461520.2022.2038603>

Abstract: In this article, we aimed to contribute to a fuller understanding of the complex social ecologies that shape students' academic development by focusing on richer and more precise conceptualizations of mesosystem effects. First, building on bioecological models, we argued for the importance of *collective influences*, defined as influences from multiple microsystems that act in concert to shape students' academic functioning and development. We identified three ways collective effects can operate: (1) coactively, (2) contingently, and (3) sequentially. Second, we demonstrated the utility of this framework by using it to organize a narrative review of 32 studies of the effects of parents, teachers, and peers on students' academic engagement. The framework was used to classify studies, integrate findings, identify trends, and suggest directions for future study. Third, we explored next steps in the conceptualization and study of complex social ecologies, by incorporating perspectives that are more developmental, cultural, sociohistorical, and inclusive.

7. López, F. (2022). Can educational psychology be harnessed to make changes for the greater good? *Educational Psychologist*, 57(2), 114–130. <https://doi.org/10.1080/00461520.2022.2052293>

Abstract: As the American Psychological Association and Division 15 committed to addressing systemic racism after the 2020 summer of racial reckoning, orchestrated political attacks that vilify pedagogical approaches aimed at addressing racial injustice have thwarted schools' efforts across the nation. Against this context, the overarching aim of this article is a call to action for educational psychology to contribute to changes for the greater good. To that end, the article contextualizes the field's lack of engagement in contemporary schooling controversies before turning to a discussion of the contemporary attacks against anti-racist approaches. A concise historiographical review is provided to illustrate the recurring tensions that have consistently thwarted equitable educational efforts. After discussing how growing scholarship focused on anti-racist research approaches in educational psychology can shape educational psychology's future with a vision toward an anti-racist social purpose of schooling, recommendations and implications for educational psychology are provided.

EDUCATIONAL PSYCHOLOGY IN PRACTICE

1. Slattery, C., Egan, M., & Brophy, T. (2021). An exploration of the assessment for intervention model in an Irish educational psychological context. *Educational Psychology in Practice*, 38(1), 1–19. <https://doi.org/10.1080/02667363.2021.2009448>

Abstract: The current research sought to explore the utility of the Assessment for Intervention (AFI) model in bridging the gap between assessment and intervention, through the conceptual lens of Bio-Ecological Systems Theory (BEST) and Social Constructivist Theory (SCT). AFI is a five-stage assessment model that aims to provide useful and evidence-based recommendations. An exploratory ‘two case’ case study was employed and the AFI framework was applied to two case referrals made to a school psychological service in Ireland. A pilot study was conducted to inform the research design. Participants rated Likert statements exploring case propositions, before and after application of the AFI model. Semi-structured interviews were also conducted. Thematic analysis and pattern-matching were employed to analyse interview data. The findings suggest the AFI model, grounded in BEST and SCT, can address the gap between assessment and intervention, discussed in the literature. Implications for policy and practice in educational psychology are discussed.

Keywords: AFL model; assessment; intervention; Bio-Ecological Systems Theory; Social Constructivists Theory; DES policy

2. Dunne, R., Woods, K., McCaldin, T., Atkiss, E., George, B., McDermott, H., Prall, S., & Taylor, R. (2021b). Working collaboratively to create a legacy: the development of The Critical Incident Resource. *Educational Psychology in Practice*, 38(1), 20–36. <https://doi.org/10.1080/02667363.2021.2014302>

Abstract: Critical incidents (CIs) are sudden, unexpected events that have a significant impact upon children and young people. In response to the Manchester Arena bombing in May 2017, the Association of Regional Educational Psychology Services (EPSs) created face-to-face training materials to support schools with CI response. In order to embed the legacy of this cross-service training initiative, the aim of this research was to explore how these materials could be developed into an online resource through a process of action research. Supported by an IT expert, one trainee educational psychologist (TEP) and five EPs from different EPSs across the region formed a ‘task-and-finish’ group and followed a seven-phase process, including a pre- and post-phase. ‘The Critical Incident Resource’ (TCIR) website was created, to support EPs in their support for school CI response. The online resource development highlighted key project management skills for EPs including conceptual, human, negotiation and technical abilities.

Keywords: critical incident; resource; educational psychologist; schools; action research; project management; online

3. Sparling, E., Woods, K., & Ford, A. (2021). Evaluation of an ACE-informed whole-school project development. *Educational Psychology in Practice*, 38(1), 37–56. <https://doi.org/10.1080/02667363.2021.2016373>

Abstract: Adverse Childhood Experiences (ACEs) are potentially traumatic life events experienced in childhood that can have negative and long-lasting effects throughout life. This qualitative exploratory study investigates the implementation of a novel programme aimed at supporting children experiencing adversity and trauma across primary schools in one local authority in England. Data were collected using semi-structured interviews with project team (PT) members and four head teachers and a focus group with the PT. Qualitative content analysis organised the findings into three themes: project ambition and strategy; experiences of implementation; and project review and learning. Findings were examined in relation to the 2019 Education Endowment Fund’s Implementation Process Diagram and provided a formative evaluation of project realisation. Alongside limitations of the study, implications for educational psychology practice in whole-school development are discussed.

Keywords: adverse childhood experience; whole-school programme; implementation; qualitative evaluation; process evaluation

4. Mannion, L. (2022). The use of Precision Teaching as an intervention for improving the skill acquisition of children with autism. *Educational Psychology in Practice*, 38(1), 57–74. <https://doi.org/10.1080/02667363.2022.2033956>

Abstract: This paper evaluates literature surrounding the effectiveness of Precision Teaching (PT) for improving the skill acquisition of children with autism. PT’s aim is the attainment of behavioural fluency across educational and social contexts, as well as potentiality to enhance the learning of pupils with autism. This review evaluates the existing literature in which PT interventions have been implemented to improve the skill acquisition of children with autism. Relevant inclusion and exclusion criteria include: peer-reviewed articles written in English after 2005, participants being children aged two to 12 with a diagnosis of autism; and PT used as an intervention to improve performance of a directly observable skill with use of pre- and post-intervention data. Results indicated that PT may effectively increase a variety of component skills for children with autism; including emotion identification, storytelling, sight word reading, foundational motor skills, and intraverbal responding. Recommendations for teaching and learning for children with autism and implications for educational psychology practice are posited.

Keywords: precision teaching; autism; skill acquisition; special needs education; intervention; children

5. Corcoran, S., Bond, C., & Knox, L. (2022). Emotionally based school non-attendance: two successful returns to school following lockdown. *Educational Psychology in Practice*, 38(1), 75–88. <https://doi.org/10.1080/02667363.2022.2033958>

Abstract: Emotionally based school non-attendance (EBSNA) needs are complex, with a distinctive combination of risk factors affecting each individual. This study presents an exploration of the perceived facilitators to successful returns to school for two primary-aged children who had previously experienced anxiety around school attendance. The perspectives of parents, school staff, and educational psychologists were gathered using semi-structured interviews to identify effective support. A reflexive thematic analysis was conducted to generate themes. Findings demonstrate that the support in each case was highly individualised. Key facilitators considered to achieve this included: effective home-school communication; taking a functional approach; engaging other professional support; cultivating positive relationships; and practitioners regularly reflecting on their practice. The significant overlap between themes supports an interactionist, ecological model of early identification and intervention for EBSNA difficulties. Implications for practitioners include the need to ensure a reflective, individualised approach, and the importance of facilitating the home-school relationship.

Keywords: Emotionally based school non-attendance; anxiety; school absenteeism; educational psychology; intervention

6. Maydew, H., & Atkinson, S. (2022). The benefits and challenges of conducting research in schools using a single case experimental design. *Educational Psychology in Practice*, 38(1), 89–107. <https://doi.org/10.1080/02667363.2022.2033957>

Abstract: As scientist practitioners, educational psychologists (EPs) are equipped with the necessary research skills to evaluate both the impact of their involvement and the effectiveness of interventions in schools. An increasing area of priority within schools is supporting young people with social, emotional and mental health (SEMH) needs. This paper explores the use of single case experimental designs (SCEDs) as a methodology which can be used to evaluate EP involvement within real world practice. To exemplify this, the evaluation of an SEMH intervention delivered by school staff across four different secondary school settings using a SCED is presented. The challenges and benefits of using a SCED as a research methodology are discussed. The authors conclude that SCEDs provide a flexible and practical method which could be used to evaluate the impact of interventions implemented within typical EP practice. An implication of how such implementation research could be shared within the profession is proposed

Keywords: Single case experimental designs (SCED); educational psychology; social; emotional and mental well being; implementation research; Homunculi Approach

EDUCATIONAL RESEARCH

1. Rickinson, M., Cirkony, C., Walsh, L., Gleeson, J., Cutler, B., & Salisbury, M. (2022). A framework for understanding the quality of evidence use in education. *Educational Research*, 64(2), 133–158. <https://doi.org/10.1080/00131881.2022.2054452>

Abstract: There are growing expectations internationally that schools and systems will use research evidence to inform their improvement efforts. Such developments raise important questions about what it means to use research evidence *well* in education. To date, there has been wide-ranging debate about what counts as quality evidence, but very little dialogue about what counts as *quality use*. In response, this article presents a conceptual framework to define and elaborate what *quality use of research evidence* might mean in relation to education. The framework is informed by a cross-sector systematic review and narrative synthesis of 112 relevant publications from four sectors: health, social care, education and policy. The review explored if, and how, quality of evidence use had been defined and described within each of these sectors in order to inform a quality use framework for education. Based on the cross-sector review, quality use of research evidence is framed in terms of two core components: (1) appropriate research evidence and (2) thoughtful engagement and implementation, supported by three individual enabling components (skillsets, mindsets and relationships) and three organisational enabling components (leadership, culture and infrastructure), as well as system-level influences.

There is potential for this framework to inform current approaches to the use of research in education. There is also an important need to test and refine its components through further empirical investigation, theoretical inquiry and intervention development.

Keywords: Evidence use; research use; evidence-informed practice; evidence-based practice; education; schools

2. Konishi, C., Wong, T. K. Y., Persram, R. J., Vargas-Madriz, L. F., & Liu, X. (2022). Reconstructing the concept of school climate. *Educational Research*, 64(2), 159–175. <https://doi.org/10.1080/00131881.2022.2056495>

Abstract: School climates have broad-ranging implications for students' success and well-being, with research suggesting that a positive school environment plays a crucial role. However, more needs to be understood about school climate from students' points of view. This study sought to explore what constitutes school climate from students' perspectives.

In this qualitative study, 22 grade 8 to 11 students (ages 13–18) from a secondary school in Canada participated in semi-structured focus group discussions (6 to 8 students per group). The students described their perceptions of school climate from their own perspectives. Later in the session, the students were introduced to ten school climate dimensions identified in a previous study and asked whether they would remove any dimensions or add new ones. Data were transcribed and analysed in depth, using thematic coding. The analysis yielded fifteen main dimensions, of which seven represented those identified in the previous study. The remaining eight dimensions emphasised the

uniqueness of students' experiences and the facets that they value in school climate. These included the availability of school resources, leadership, teacher professionalism, student-teacher relationships, a sense of order, and support. Understanding school climate plays a critical role in efforts to foster a positive school environment for students. Our study highlights the need for multi-reporter methodologies to fully comprehend the complexity of school climate, thereby helping to inform policies and professional development practices that aim to improve school climates.

Keywords: School climate; school environment; students' perspective; adolescence; social emotional well-being; secondary school

3. Ballangrud, B. O. B., & Aas, M. (2022). Ethical thinking and decision-making in the leadership of professional learning communities. *Educational Research*, 64(2), 176–190. <https://doi.org/10.1080/00131881.2022.2044879>

Abstract: Despite widespread interest in the leadership and establishment of professional learning communities (PLCs), the ethical dimension may be overlooked. This article examines, in a Norwegian context, how principals have to deal with different sorts of ethical dilemmas in leading professional learning communities. The study aimed to investigate the leadership strategies and interventions that principals implemented in professional learning communities and the nature of ethical dilemmas that were apparent in establishing a professional collective culture. Participants were from two different schools, both of which had challenging environments. Data were collected through observations and interviews with the principals (including follow-up interviews after a year had passed), middle managers, two groups of teachers and two groups of students in the two schools, and also with a district-level representative. In total, 15 interviews were conducted with 41 informants. Data were analysed qualitatively. Analysis suggested that establishing a professional learning community, building on an inclusive ethos, pedagogical collaboration and democratic leadership are all important strategies. Leadership practices were anchored in an ethical perspective that emphasised responsibility not only for personal morality but for the enhancement of civic moral education that leads to self-knowledge and community awareness. This research draws attention to how school leadership, especially in challenging environments, is closely connected to the democratic purpose of the school. Ethical thinking and decision-making can be developed in discussions between leaders at school and district level and between leaders and teachers in the learning communities in the school. To lead such discussions, school leaders should increase their knowledge and understanding of ethical decision making, which can help develop their own ethical leadership practice.

Keywords: School leadership; ethical decision-making; professional learning community (PLC); school performance; school ethos; school culture

4. Rosvall, P. K. (2022). Transitions and trajectories for school students requiring additional support: a local lens. *Educational Research*, 64(2), 191–207. <https://doi.org/10.1080/00131881.2022.2055602>

Abstract: In many countries, educational opportunities and choices may differ according to factors related to location. This may have a significant impact on young people's life chances and trajectories. The in-depth, ethnographic study reported here focuses attention on rural/non-rural variations in transition programmes for school students requiring additional support. The research sought to explore why, seemingly counterintuitively, students requiring additional support in rural Swedish areas might experience more successful transitions than students in some less rural locations. Data included field observations from selected municipalities and interviews with school staff and local officials. Using themes drawn from the data, the Local Learning Ecologies framework was adopted as an analysis tool to capture the detail of relevant macro-, micro- and intermediate-level factors and experiences. Fine-grained analysis of the rich data suggested that the national expansion of school choice and decentralisation in Sweden has affected the organisation of transition programmes. In particular, decentralisation has led to the concentration of national programme provision in city centres, meaning that some students in municipalities may have abundant options but require substantial commuting to access them. Overall, important factors for successful transitions may include short distances between school institutions (facilitating information flows); collaboration between teachers, other professionals and students, and clear options for students. The study highlights that although decentralisation may have, on the face of it, appeared to broaden options for young people in some (particularly commuter-belt) municipalities, their trajectories appear to have become more opaque and choices potentially more restricted. In contrast, short distances between institutions and better collaboration between staff, students and local entrepreneurs in rural municipalities seem to provide clearer options for students within transition programmes.

Keywords: School location; site analysis; students requiring additional support; transition programmes; education to employment

5. Speldewinde, C. (2022). Where to stand? Researcher involvement in early education outdoor settings. *Educational Research*, 64(2), 208–223. <https://doi.org/10.1080/00131881.2022.2064323>

Abstract: Prior to approaching any field site activity, the question of how researchers in education will interact with the participants in terms of positionality requires careful thought. Observation is often used by educators and researchers as a means of collecting informal data on children's development and learning in early childhood education and care (ECEC) classroom settings. As data collection often involves varying degrees of observation and participation, there is a need for a clear articulation of researcher involvement. When the classroom is an outdoor, nature-based setting, particular challenges can arise in this regard. This small-scale study sought to explore these challenges in the context of early years of STEM teaching and learning. The research was situated within bush kindergartens (also known as 'bush kinders'), a developing context in Australian early childhood education. The open spaces of nature reserves, forests, beaches and paddocks all constitute settings for bush kinders. The study employed an ethnographic lens to the teaching and play activities of around 10 educators and 120 four- to five-year-old children in four Australian bush kinders during 2015, 2017 and 2020.

Much of the study was devoted to observation and participation in the activities that the children were undertaking. Influenced by a research tradition that places researcher participation and observation on a continuum of completeness, differences in researcher involvement that occur in nature-based education and care settings were categorised. It was determined from this categorisation that researcher involvement with participants ranged from low to high. The in-depth analysis allowed identification of how this range of involvement provides both benefits and limitations upon the researcher's involvement with teacher and child participants. This paper offers a contribution to the methodological discourse on ethnographic research in ECEC outdoor settings. In drawing close attention to the ways in which researcher involvement in the field may vary, it provides a framework of reference that could be helpful to other researchers engaged in designing and carrying out ECEC research in diverse outdoor settings.

Keywords: Early childhood education and care(ECEC); bush kinder; kindergarten; ethnography; outdoor education settings; educational research methodology

6. Jager, L., Denessen, E., Cillessen, A., & Meijer, P. C. (2022). Capturing instructional differentiation in educational research: investigating opportunities and challenges. *Educational Research*, 64(2), 224–241. <https://doi.org/10.1080/00131881.2022.2063751>

Abstract: Instructional differentiation within classrooms involves educators' adaptations of instructional elements to meet diverse learners' needs. It is usually regarded as a crucial component of high-quality education that promotes equal and inclusive opportunities for all students. However, defining and operationalising this complex construct is challenging, and important, in efforts to better understand instructional differentiation and support learners worldwide. This paper aims to contribute to a better understanding of instructional differentiation. It discusses definitions and operationalisations of instructional differentiation in the educational research literature and argues for the inclusion of *deliberateness* and *adaptiveness* as two defining characteristics of instructional differentiation. Using theoretical arguments and illustrations from empirical research, including a small-scale study of our own, we discuss and exemplify the value of considering deliberateness and adaptiveness in empirical research on instructional differentiation. Further, we consider the challenges and opportunities for research on instructional differentiation. Studying the deliberateness and adaptiveness of instructional variation calls for conceptual and operational alignment, and research methodologies that take into account the multiple perspectives of teachers and students. Our investigations draw attention to the conceptual complexity of instructional differentiation, challenges in practice and the need for professional development to support teachers' embedding of instructional differentiation practices.

Keywords: Instructional differentiation; student diversity; instructional design; professional development; classroom research; methodology

7. Strindberg, J., & Horton, P. (2022). Relations between school bullying, friendship processes, and school context. *Educational Research*, 64(2), 242–256. <https://doi.org/10.1080/00131881.2022.2067071>

Abstract: Despite considerable anti-bullying efforts and greater awareness of the social processes underpinning bullying, bullying is still a serious problem across schools in many countries. In exploring the social processes that contribute to school bullying, research indicates complex relationships between bullying and the maintenance and building of friendships. While such findings provide important information about the social context of school bullying, more needs to be understood about the institutional context within which school bullying – and friendship – occur. The aim of this study is to better understand how school bullying relates to friendship processes, and how these are, in turn, influenced by the institutional constraints of the school context. The findings discussed draw on 3 months of ethnographic fieldwork conducted at one Swedish elementary school. The fieldwork involved participant observations, as well as semi-structured group interviews with 34 sixth-grade pupils (approx. 12 years of age), which were conducted towards the end of the fieldwork. Data were analysed thematically. The analysis highlighted the importance of friendships to pupils but also identified the ways in which understandings of friendship relations were closely tied to the importance of social perceptions and the organisational constraints of the school context. Taken together, the findings suggest that school bullying cannot be de-contextualised from the social and institutional contexts of school but may rather be connected to the perceived need for control in that particular arena. The study draws attention to how the complex relations between bullying, friendship and school context need to be better understood, in order to support efforts to prevent school bullying.

Keywords: Bullying; school context; friendship; wellbeing; school climate; school ethos

EUROPEAN JOURNAL OF TEACHER EDUCATION

1. Sarid, A., Haj-Yehia, K., Shaham, H., & Rigbi, A. (2020). Linking demographic variables to motivation: investigating the motivation to choose teaching among Arab and Jewish students in Israel. *European Journal of Teacher Education*, 45(1), 5–25. <https://doi.org/10.1080/02619768.2020.1793945>

Abstract: The purpose of this paper is to explore the kinds of motivation driving Arab and Jewish students in Israel to choose teaching as a career. This study addressed several issues that have been largely overlooked in previous research such as the focus on Content Value motives (the motivation to teach specific subjects) as well as linking demographic variables to motivational factors, particularly cultural diversity and prior pedagogical experience. The present study yielded three central findings: the importance of Content Value motives; similar motivational patterns have been found between the two sectors despite demographic differences between them; prior teaching experience has been found to have an effect on the kinds of motivations for choosing teaching as career. The paper concludes by exploring the implications of the present study on teacher preparation programs and on future research on the motivation to choose teaching as a career especially in culturally diverse educational contexts.

Keywords: Motivation; teaching; career; cultural diversity; demographic variables

2. Dikilitaş, K., & Comoglu, I. (2020). Pre-service English teachers' reflective engagement with stories of exploratory action research. *European Journal of Teacher Education*, 45(1), 26–42. <https://doi.org/10.1080/02619768.2020.1795123>

Abstract: This paper investigates how reading and reflecting upon research published by other teachers could impact pre-service teachers in a language teacher education programme at a university in the west of Turkey. Adopting a holistic single case as the qualitative research approach, the study involved 53 first-year pre-service English teachers who were taking the course Reading Skills at the time for the current research and used data collected through written reflections and think-aloud protocols. We analysed the data through thematic analysis which revealed two major impact-based themes including conceptions of being a teacher and exploring teacher self. These helped us qualify the dimensions of the impact of reading and discussing stories of exploratory action research on the process of learning and development of pre-service language teachers. Drawing on our study, we offer implications for English language teachers and educators in pre-service language teacher education programmes.

Keywords: Pres-service teacher education; reading research; holistic single case; exploratory action research

- Pellikka, A., Lutovac, S., & Kaasila, R. (2020). The change in pre-service primary teachers' possible selves in relation to science teaching. *European Journal of Teacher Education*, 45(1), 43–59. <https://doi.org/10.1080/02619768.2020.1803270>

Abstract: This study examines pre-service primary school teachers' (PSTs') possible selves in relation to science teaching and the ways in which these possible selves change over time. This longitudinal study adds to the body of knowledge by examining PSTs' possible selves at various time points throughout their teacher preparation: three PSTs, selected from a wider sample, were interviewed three times about their future aspirations as science teachers. Narrative analysis was applied to show the changes in three PSTs' possible selves in response to the science methods course and teaching practicum. PSTs articulated general, collective and specific hoped-for and feared possible selves. Our findings highlight the changes in the possible selves that pertain to their cognitive and affective dimensions and occurred in different stages of teacher education. These changes were significant for the development of PSTs' identity. The implications of these findings are discussed in the context of science teaching.

Keywords: Possible selves; teacher identity; science education; pre-service primary teachers; narrative analysis

- Westbroek, H., Janssen, F., Mathijsen, I., & Doyle, W. (2020). Teachers as researchers and the issue of practicality. *European Journal of Teacher Education*, 45(1), 60–76. <https://doi.org/10.1080/02619768.2020.1803268>

Abstract: Practitioner research should be sufficiently trustworthy *and* useful. We argue, however, that although criteria of trustworthiness are rather well developed, criteria of usefulness are not. As a result, the long-term impact of practitioner research is rather disappointing because, we contend, it tends to lack practicality. We used theories of classroom ecology, goal systems and how people make decisions in complex situations, to conceptualise practicality from a teacher's perspective. By applying our theoretical framework to the case of Jane we provide insight into how and why trustworthiness and usefulness can be met while practicality is typically undermined. Jane conducted an excellent practitioner research project in the context of her teacher training under what would be considered 'ideal' conditions, but the long-term impact on her teaching practice was low. We conclude with suggestions for making practitioner research more attuned to practicality, i.e. the nature of practice and practical decision making.

Keywords: Possible selves; teacher identity; science education; pre-service primary teachers; narrative analysis

- Badia, A., & Liesa, E. (2020). Experienced teachers' identity based on their I-positions: an analysis in the catalan context. *European Journal of Teacher Education*, 45(1), 77–92. <https://doi.org/10.1080/02619768.2020.1795122>

Abstract: Dialogical self theory is applied to describe the identity of a group of experienced Catalan teachers. Participants (N = 58) were asked about their positions and

I-positions via a written survey, and the data were analysed using qualitative and quantitative procedures. The findings show a comprehensive description of nine types of positions (*to educate children, to plan instruction, to support and assess learning, to promote a positive learning environment, to improve educational practice, to collaborate with colleagues, to build a relationship with families, to manage the school, and to collaborate with external professionals*) as well as thirty types of I-positions. In addition, four clusters of teachers were identified, each of which emphasised different positions: instruction and school management; instruction and improvement of educational practice; education of children and teaching students; and education of children and improvement of educational practice. Comparative research on teachers' I-positions could be conducted in different contexts.

Keywords: I-position; dialogical self; Position; teacher identity; teaching practice

6. Moliner, L., & Alegre, F. (2020). Attitudes, beliefs and knowledge of mathematics teachers regarding peer tutoring. *European Journal of Teacher Education*, 45(1), 93–112. <https://doi.org/10.1080/02619768.2020.1803271>

Abstract: The benefits of peer tutoring in mathematics have repeatedly been proven at different educational levels. Nevertheless, mathematics teachers' perceptions towards this methodology and whether they are adequately trained to implement the practice is information that remains uncertain. Surveys and questionnaires directed at teachers regarding peer tutoring are lacking. Determining teachers' knowledge and perceptions on this topic is important, as that knowledge and those perceptions affect their teaching practices and, therefore, student learning. This validation study was designed to evaluate questionnaire responses from mathematics teachers regarding their knowledge, perceptions and attitudes towards peer tutoring so that implications for practice and policy could be determined. A four-factor structure questionnaire was developed. Strong correlations were reported between knowledge and attitudes. Females, less experienced and public school teachers showed greater values. A conclusion is that female teachers are more sensitive than male teachers regarding students' inclusion and active learning.

Keywords: Mathematics teacher education; peer tutoring; teacher beliefs; teacher knowledge; teacher attitudes

7. Johnston, J., & Purcell, R. (2020). Who else is teaching the teachers? The subject discipline teacher educator in initial teacher education. *European Journal of Teacher Education*, 45(1), 113–126. <https://doi.org/10.1080/02619768.2020.1803267>

Abstract: In this study, the profile and practices of subject discipline teacher educators are examined, providing possibly the first investigation of this cadre of a teacher educator. The subject discipline teacher educator is a subject specialist involved in initial teacher education, for example, a physics lecturer teaching on an initial teacher education science course. The subject discipline teacher educators studied work in concurrent (post-primary) initial teacher education in Ireland. More than half of the teaching and learning experiences of student teachers on these courses happen within their subject discipline. Despite the considerable exposure of student teachers to subject discipline teacher

educators, very little is known about this group. In a survey of 70 subject discipline teacher educators, several factors related to their profile and practices were analysed. The results indicate that subject discipline teacher educators are a distinctive group of teacher educators, committed to, and engaged in the practice of teacher education.

Keywords: Subject discipline; university based teacher educator; concurrent ITE; teacher education; initial teacher education

8. Kosnik, C., Menna, L., & Dharamshi, P. (2020). Displaced academics: intended and unintended consequences of the changing landscape of teacher education. *European Journal of Teacher Education*, 45(1), 127–149. <https://doi.org/10.1080/02619768.2020.1793947>

Abstract: Given the intense politicisation of education, many teacher educators are caught in the cross-hairs of government’s reform agendas, university expectations and student teacher needs. This paper reports on a study of 28 literacy teacher educators in four countries (Canada, US, Australia and England). This paper reports on the broad question: How is politics affecting literacy teacher educators? Three specific aspects are considered: their pedagogies, identity and well-being. It describes how their pedagogy (goals and teaching strategies) has narrowed because of mandated curriculum and exit exams. It shows how their identity as academics is being complicated because they often do not have time for their research. And their well-being is compromised because of excessive external inspections and as their community in the university splinters.

Keywords: Teacher educators; politics of teacher education

GLOBALISATION, SOCIETIES AND EDUCATION

1. Mateus, S. (2021). Blending ahead: the advantages of young people of mixed origin in Portuguese compulsory schooling. *Globalisation, Societies and Education*, 20(5), 571–589. <https://doi.org/10.1080/14767724.2021.1973381>

Abstract: Young people of mixed origin are gaining greater recognition in migration and integration studies. Increasing rates of intermarriage are leading to the growth of mixed populations, namely in educational settings. In this paper we discuss the social conditions and school experiences of students of mixed native-immigrant families in Portugal, comparing them with those of their peers. The analysis is based on a survey involving 1,194 9th-grade students. The results have revealed that mixed origin students outperform their peers in terms of average classifications and top grades, showing more positive conditions and experiences than either native students or those with migrant backgrounds. Results recommend taking a more cautious approach when mixing these youngsters into the broad category of children of immigrants.

Keywords: Mixed origin, young people, education, children of immigrants, integration, intermarriage

2. Lorenzo, M. P. (2021). ASEAN regionalism and cross-border research of Philippine higher education: the case of the University of the Philippines Diliman campus. *Globalisation, Societies and Education*, 20(5), 590–607. <https://doi.org/10.1080/14767724.2021.1973888>

Abstract: By applying New Regionalism Approach, this paper delves into a rather unexplored area of regionalism (higher education) in a less investigated region (Southeast Asia) and state (Philippines). It treads through a relatively recent terrain of bridge-building between higher education and regionalism. Through in-depth interviews and document analysis, the exploratory study investigates how ASEAN regionalism has influenced the cross-border research of a Philippine university. Examining cross-border research sheds light on the dynamics of ASEAN regionalism as research is considered crucial to the formation of a knowledge society, which, in turn, serves as a potent tool to pursue regional and national objectives. The findings of this study demonstrate that the ASEAN higher education regionalism offers vital mechanisms to enhance the university's research performance and its overall competitiveness in an era of globalisation. However, in spite of these advantages, there are ideational, political and material challenges that pose limits to this potential. The paper argues that cross-border research has not yet been robustly activated as a mechanism for regional and national pursuits, and that the points of collaborations and contestations are still to be addressed adequately to maximise the promises and mitigate the perils of ASEAN higher education regionalism.

Keywords: Higher education regionalism, higher education, regionalism, cross-border research, ASEAN, University of the Philippines

3. Chykina, V. (2021). Trying to excel in the Golden State: anti-immigrant sentiment and immigrant educational achievement in California. *Globalisation, Societies and Education*, 20(5), 608–624. <https://doi.org/10.1080/14767724.2021.1981252>

Abstract: Anti-immigrant hostility continues to rise throughout multicultural societies. Building on segmented assimilation theory, in this manuscript I examine whether anti-immigrant sentiment might decrease school performance of immigrant children using the case of California, the state with the largest population of immigrants in the United States. I find a negative association between an increase in anti-immigrant sentiment at the community level and academic performance of immigrant students. This finding has broad implications for our understanding of immigrant educational experiences. It is also especially relevant at a time when multicultural societies are struggling to incorporate immigrants successfully into their economic, social, and political spheres.

Keywords: Education of immigrant children, anti-immigrant sentiment, academic performance, immigrant incorporation, school and communities

4. Mathrani, A., Sarvesh, T., & Umer, R. (2021). Digital divide framework: online learning in developing countries during the COVID-19 lockdown. *Globalisation, Societies and Education*, 20(5), 625–640. <https://doi.org/10.1080/14767724.2021.1981253>

Abstract: This article showcases digital inequalities that came to the forefront for online learning during the COVID-19 lockdown across five developing countries, India, Pakistan, Bangladesh, Nepal and Afghanistan. Large sections of population in developing economies have limited access to basic digital services; this, in turn, restricts how digital media are being used in everyday lives. A digital divide framework encompassing three analytical perspectives, structure, cultural practices and agency, has been developed. Each perspective is influenced by five constructs, communities, time, location, social context and sites of practice. Community relates to gendered expectations, time refers to the lockdown period while locations are interleaved online classrooms and home spaces. Societal contexts influence aspects of online learning and how students engage within practice sites. We find structural issues are due to lack of digital media access and supporting services; further that female students are more often placed lower in the digital divide access scale. Cultural practices indicate gendered discriminatory rules, with female students reporting more stress due to added household responsibilities. This impacts learner agency and poses challenges for students in meaningfully maximising their learning outcomes. Our framework can inform policy-makers to plan initiatives for bridging digital divide and set up equitable gendered learning policies.

Keywords: Online learning, digital divide, gendered divides, COVID-19 lockdown, developing world, digital inclusion

5. Foux, D., Yemini, M., & Kolleck, N. (2021). Post-secularism muting controversy: school-NGO interactions in Israel through the prism of stakeholder salience theory. *Globalisation, Societies and Education*, 20(5), 641–654. <https://doi.org/10.1080/14767724.2021.1985437>

Abstract: Elaborating on stakeholder salience theory, this study aims to explore the different agendas and modus operandi of non-governmental organisations (NGOs) within the Israeli public education system. This article is part of a larger study, focused on NGOs that offer services within the secular state education sector in the field of ‘Jewish (religious) identity.’ Through a case study of one such organisation in particular comprised of several units, we attempt to understand the different processes, actors and interests at play, based on data from semi-structured interviews with NGO representatives, school leadership and parents. Using a dynamic view of stakeholder salience theory, we identify the different actors involved and classify their roles in the various relationships. The complex Israeli context and focus on religious NGOs offer us a unique perspective on the role of organisations offering services within the Israeli school system and society in general. We find the expected controversy over these NGOs’ presence in secular schools to have been muted by a convergence of opinions resulting from Israeli ‘post-secularism.’

Keywords: NGO Israel post-secularism, religionisation schools

6. Oladipo, O. A., & Sugandi, B. (2021). Recruitment and mobility of international students: spotlight on a Chinese university. *Globalisation, Societies and Education*, 20(5), 655–668. <https://doi.org/10.1080/14767724.2021.1988522>

Abstract: Globally, international student recruitment has been one of the main features of higher education internationalisation. Institutions, therefore, continue to devise strategies to attract and recruit international students. Within a globalisation discourse, the current study explores strategies utilised in recruiting international students at a Chinese institution – Southwest University. Data analysis of the university’s admission brochures, web pages and semi-structured interviews, reveal scholarships, English-taught programmes, digital channels, university collaboration and student advocacy as main recruitment strategies. Influenced by globalisation and government-led efforts, institutions worldwide are increasingly employing similar strategies at varying emphasis to drive international student recruitment. While globalisation continues to wield significant influence on international student recruitment and mobility, its influence relies greatly on the involvement of governments and higher education institutions. Ultimately, institutions must specifically define their target market, and understand how international students make choices about where and what to study.

Keywords: International higher education, recruitment strategy, student mobility, globalisation china

7. Green, C. (2021). Consequences of neoliberal traits in curriculum design; English influences and the implementation of moral education in schools in the United Arab Emirates. *Globalisation, Societies and Education*, 20(5), 669–681. <https://doi.org/10.1080/14767724.2021.1993150>

Abstract: Testing explanations of ‘neoliberalism in education’, this article explores whether neoliberal policy facilitates curricula that include moral development for the ‘common good’, or whether unintended consequences actually eviscerate the very nature of moral education. England’s contribution to curriculum design in the United Arab Emirates (UAE) has set planning within broadly accepted ‘market’ philosophies drawn from the ‘reforms’ of the 1980s. Reactionary implementation of moral education as an additional separate, statutory and tested subject into an already crowded curriculum in the UAE raises questions over authenticity, relevance and quality. The global economic and diplomatic influence of the UAE is high and rising, with similar trends for other economies in the region. However, as elsewhere, issues about inclusivity, equality, diversity, identity and wellbeing are pressing curricula content, particularly around values in personal, social, moral, environmental and economic responsibility, and ‘the historical record’. Building upon lessons in the authoritative account, Development of moral education in the UAE: lessons to be learned (Pring, R. 2018. “Development of Moral Education in the UAE: Lessons to Be Learned.” Oxford Review of Education. doi:10.1080/03054985.2018.1502169), the paper seeks reconciliation away from ranked performance measures and compartmentalised subject additions and towards greater cross-curricula integration, critical thinking and moral action.

Keywords: Neoliberal education policy, performativity, UAE, moral education, curriculum design and implementation, values-based learning, wellbeing

8. Saud, M., & Ashfaq, A. (2021). NGOs schools are promoting education for sustainable development in rural areas. *Globalisation, Societies and Education*, 20(5), 682–694. <https://doi.org/10.1080/14767724.2021.1993796>

Abstract: During the last decade, provision of education has become a primary indicator for Sustainable Development as the key agenda under the United Nations SDGs. The essence of this goal is to enable upward socio-economic mobility and is a key to alleviate poverty, provide free primary and secondary education, access to technical and higher education, expand scholarships for developing countries, improve the infrastructure of schools, and ensure the literacy among men and women globally. The current research was conducted to investigate the role of NGOs in provision of education at primary level operating in rural communities in Pakistan. This cross-sectional study opted quantitative research design where purposive sampling technique was used to draw the sample from the population. The findings of the study conclude that NGOs are playing a vital role in providing educational facilities to the residents of rural communities where both communities and students are participating in multiple learning-based educational activities. The study also revealed that the parents of school-going children show a higher level of satisfaction from these formal educational institutes and agree that it is also supporting the local community to learn school management system by arranging close coordination between parents and teachers (PTA – parents-teacher association).

Keywords: Formal education, Sustainable development goals(SDGs), education, rural schools, social or development sector

9. Dzwonkowska, D. (2021). Global citizenship as a virtue for the Anthropocene: philosophical and educational perspective. *Globalisation, Societies and Education*, 20(5), 695–704. <https://doi.org/10.1080/14767724.2021.1994854>

Abstract: In this paper, I present the concept of global citizenship from the perspective of virtue theory, namely as a disposition to do the right thing, for the right reason and in the right way. The paper consists of two parts. In the first part, I show that global citizenship is a virtue that is needed to respond in the right way to the challenges that Anthropocenians meet. In the second part, I focus on the possibility of including the virtue of global citizenship in global education. I present arguments for including virtues in global education programmes and an example of a successful virtue education programme in Australia.

Keywords: Global citizenship, virtue, Anthropocene, responsibility, global education

10. Jules, T. D. (2022). Educational framing and discursive educational opportunity structures in comparative and international education. *Globalisation, Societies and Education*, 20(5), 705–717. <https://doi.org/10.1080/14767724.2021.2013164>

Abstract: This conceptual paper draws on theoretical insights from the concept of discursive opportunity structure. The paper uses a summative content analysis (a comparison of historical records) to demonstrate how discursive opportunity structures shape the multi-level nature of educational governance, which operates at different scales in different regions. Before the Coronavirus (COVID-19) struck, the post-2008 global recession had begun to give way to the ‘gated global,’ as nations were retreating towards closed regionalism and trans-regionalism as evidenced by an uptick in regional trading agreements (RTAs). This implies that globalisation is metamorphosing as global responsibilities are transferred to the regional level. This paper will use the 15 Member grouping, the Caribbean Community (CARICOM), as an example of how political opportunities at the regional level are currently molding national educational agendas. It draws attention to how education is framed horizontally and vertically while illuminating what I term ‘discursive educational opportunity structure’ in which actors, institutions, and text define, develop, and maintain the dominant discourses. This piece demonstrates how institutional opportunities arise at different levels of the educational system and how their dominant discourses are framed and mobilised by various actors to advance their causes.

Keywords: Discursive opportunity structures, political opportunity structures, discursive educational opportunity structures, CARICOM, trans-regionalism

11. Rosvall, P. K., Carlbaum, S., & Benerdal, M. (2021). Globalisation in Swedish rural areas: organisation of adult education and transitions to work for immigrants in times of depopulation. *Globalisation, Societies and Education*, 20(5), 718–730. <https://doi.org/10.1080/14767724.2021.2013165>

Abstract: This article focuses on how local institutions in three rural areas in Sweden organised education and work to assist adult immigrants’ integration. We particularly analyse how local officials in educational institutions, employment offices and local

governments attempted to support adult immigrants' education-to-work transitions, using a theoretical framework rooted in the ecology of equity concepts. The results show that national policy is oriented towards areas that have larger populations than most rural areas. However, flexible solutions such as finding suitable workplace placements to assist specific immigrants' transitions and integration are sometimes easier in rural areas with closer interactions.

Keywords: Rural education, immigrants, social justice educational administration

INTELLECTUAL AND DEVELOPMENTAL DISABILITIES

1. Reynolds, M. C., Caldwell, D., Boonchaisri, N., Ragon, K. E., & Palmer, S. B. (2022). The Community of Practice for Supporting Families of Persons With Intellectual and Developmental Disabilities. *Intellectual and Developmental Disabilities*, 60(2), 85–100. <https://doi.org/10.1352/1934-9556-60.2.85>

Abstract: It is important to continuously support families to improve the lives of people with intellectual and developmental disabilities and their family members. Using a life course approach to address strengths and needs of families, a National Community of Practice, infused with the *Charting the LifeCourse* framework, focused on systems change to improve policy and practices to enhance the lives of families. A qualitative analysis used the Value Creation framework to evaluate both process and product outcomes of 16 state communities of practice as to changes in knowledge and practices. Results emphasize the relative effectiveness of aspects of policy and overarching practices designed to support people with disabilities and their families in participating states.

Keywords: supporting families, intellectual and developmental disability, Charting the LifeCourse, community of practice

2. Friedman, C. (2022). The Impact of Continuity and Security on Quality of Life. *Intellectual and Developmental Disabilities*, 60(2), 101–112. <https://doi.org/10.1352/1934-9556-60.2.101>

Abstract: Continuity and security includes people with intellectual and developmental disabilities (IDD) not only having resources to meet their basic needs, but also includes the amount of change and disruption people have in their lives and the control they have over that change. We explored the impact of continuity and security on people with IDD's ($n = 325$) quality of life by analyzing Personal Outcome Measures interviews. Continuity and security not only significantly increased overall quality of life, but it also positively impacted two thirds of the different outcomes, ranging from health to relationships to rights. A stronger community infrastructure is needed to promote the continuity and security, and, by extension, quality of life of people with IDD.

Keywords: continuity and security, people with intellectual and developmental disabilities (IDD), direct support professional turnover, quality of life

3. Pettingell, S. L., Houseworth, J., Tichá, R., Kramme, J. E. D., & Hewitt, A. S. (2022). Incentives, Wages, and Retention Among Direct Support Professionals: National Core Indicators Staff Stability Survey. *Intellectual and Developmental Disabilities*, 60(2), 113–127. <https://doi.org/10.1352/1934-9556-60.2.113>

Abstract: Direct support professionals (DSPs) provide a range of supports in a variety of settings to people with intellectual and developmental disabilities (IDD) who count on these supports to live, work, and contribute in their communities. Despite this, high

annual DSP turnover rates are problematic. DSP turnover is disruptive to people who receive supports as the lack of stable, reliable supports can negatively impact their important day-to-day outcomes (e.g., safety, community participation, and choice). Turnover also comes at a cost to provider organization in the hiring and training of new employees. To retain DSPs, organizations offer incentives (e.g., bonuses, retirement plans, health insurance). This study utilized National Core Indicators® (NCI®) Staff Stability Survey 2018 data to examine the relationships between wages, different types of incentives, including benefits (e.g., paid time off, access to health insurance, disability insurance, wage bonuses, health incentives programs, etc.) to annual turnover in participating states in the United States. Results indicated that incentives were not positively associated with DSP retention. Staff wages were the most notable factor associated with differences in DSP retention rates, along with the state in which the organization was located as well as organization vacancy rates.

Keywords: direct support professional, turnover, incentives, IDD, National Core Indicators

4. Aleman-Tovar, J., Rios, K., & Burke, M. M. (2022). Transition Planning: Knowledge and Preferences of Latinx Families of Youth With Intellectual and Developmental Disabilities. *Intellectual and Developmental Disabilities*, 60(2), 128–144. <https://doi.org/10.1352/1934-9556-60.2.128>

Abstract: Due to systemic barriers, Latinx parents of youth with intellectual and developmental disabilities (IDD) report having limited involvement in transition planning. To facilitate parent involvement in transition planning, it is critical to solicit feedback from Latinx families to inform the content and mode of a transition planning intervention. The purpose of this study was to explore Latinx parents' knowledge and preferred mode for a transition planning intervention. Twenty-eight Latinx parents of transition-aged youth with IDD completed surveys and focus groups. Participants reported wanting an intervention to focus on school-based transition planning and adult services; to a lesser extent, participants wanted information about natural supports. Regarding modality, participants desired in-person or online training (versus a brochure). Implications for research and practice are discussed.

Keywords: transition planning, Latinx, parents, special education, services

5. Easler, J. K., Taylor, T. M., Roper, S. O., Yorgason, J. B., & Harper, J. M. (2022). Uplifts, Respite, Stress, and Marital Quality for Parents Raising Children With Down Syndrome or Autism. *Intellectual and Developmental Disabilities*, 60(2), 145–162. <https://doi.org/10.1352/1934-9556-60.2.145>

Abstract: Direct, indirect, and partner effects estimated among uplifts, respite care, stress, and marital quality across mothers and fathers of children with autism spectrum disorder ($n = 102$) and Down syndrome ($n = 111$) were examined in this cross-sectional study. Parents of children with ASD who reported more uplifts and less stress individually reported better marital quality; these wives reported better marital quality as

their husbands reported more uplifts and less stress. Wives with children with DS who reported more uplifts, individually along with their husbands reported less stress and better marital quality. Respite was directly associated with marital quality for parents of children with ASD and indirectly associated with marital quality for parents of children with DS with reduced individual stress. Implications are discussed.

Keywords: Actor-Partner Interdependence Model, uplifts, respite care, stress, marital quality

6. Overwijk, A., Hilgenkamp, T. I., van der Schans, C. P., van der Putten, A. A., & Waninge, A. (2022). Development of a Dutch Training/Education Program for a Healthy Lifestyle of People With Intellectual Disability. *Intellectual and Developmental Disabilities*, 60(2), 163–177. <https://doi.org/10.1352/1934-9556-60.2.163>

Abstract: Individuals with intellectual disability (ID) need support from direct support professionals (DSPs) to engage in a healthy lifestyle. However, literature shows DSPs feel insufficiently equipped to support a healthy lifestyle. Therefore, the aim of this study is to develop a theory-based program for DSPs to support physical activity and healthy nutrition for people with moderate to profound levels of ID, and to design its evaluation. The Intervention Mapping Protocol (IM) was followed to develop a theory-based program for DSPs. The program evaluation consists of process and feasibility evaluations. This study provided a theory-based program consisting of a training and education section with online and face-to-face components to support DSPs in promoting health for people with ID.

Keywords: design, theory-based health promotion, health education, professional, intellectual disability

JOURNAL OF COUNSELING DEVELOPMENT

1. Leibert, T. W., Smith, J. B., & Agaskar, V. R. (2022). Influence of client self-determination on counseling outcome. *Journal of Counseling & Development*, 100(4), 341–351. <https://doi.org/10.1002/jcad.12434>

Abstract: Autonomous motivation based on self-determination theory has been posited as an important common factor. This study tested whether its influence on outcome extended to mildly distressed clients treated by counselor trainees at a university counseling training center. The study was naturalistic and examined 138 clients, who were mildly distressed according to the Outcome Questionnaire-45 (OQ-45). Clients completed the OQ-45 every session and their motivation after the third session. Hierarchical linear modeling revealed that after controlling for autonomous and controlled types of motivation, intrinsic motivation had the strongest impact on reducing client symptoms over time. Findings suggested that the positive influence of autonomous motivation extends to moderately distressed clients treated by novice counselors. However, the positive impact of autonomous motivation may depend on client severity. Implications for future research and counseling practice were discussed.

Keywords: common factors, counseling outcome, counselor trainees, motivation types, self-determination theory

2. Doumas, D. M., Russo, G. M., Miller, R., Esp, S., Mastroleo, N. R., & Turrisi, R. (2022). Sensation seeking and adolescent drinking: Do protective behavioral strategies lower risk? *Journal of Counseling & Development*, 100(4), 352–363. <https://doi.org/10.1002/jcad.12430>

Abstract: Using a cross-sectional design, we examined protective behavioral strategies (PBS) as a moderator of the relationship between sensation seeking and hazardous drinking and alcohol-related consequences among high school seniors ($N = 212$). Hierarchical regression analyses indicated sensation seeking was a significant predictor of binge drinking ($\beta = 0.65, p < 0.001$), prepartying ($\beta = 0.71, p < 0.001$), gaming ($\beta = 0.75, p < 0.001$), and alcohol-related consequences ($\beta = 0.69, p < 0.001$). Further, PBS moderated these relationships such that among high sensation seeking adolescents, PBS use was associated with better outcomes, including lower levels of binge drinking ($\beta = -0.37, p < 0.01$), prepartying ($\beta = -0.44, p < 0.01$), gaming ($\beta = -0.31, p < 0.05$), and alcohol-related consequences ($\beta = -0.53, p < 0.001$). We discuss counseling implications, including assessment and harm reduction strategies focusing on PBS to reduce hazardous drinking among high sensation seeking adolescents.

Keywords: adolescents, alcohol use, hazardous drinking, sensation seeking, protective behavioral strategies

- Hearn, B. G., Brubaker, M. D., & Richardson, G. (2022). Counselors' attitudes toward psychedelics and their use in therapy. *Journal of Counseling & Development, 100*(4), 364–373. <https://doi.org/10.1002/jcad.12429>

Abstract: The “psychedelic renaissance” is generating new evidence for psychedelics’ potential to treat numerous mental and substance use disorders. In particular, the United States Food and Drug Administration is poised to approve psychedelic drugs 3,4-methylenedioxymethamphetamine (MDMA) and psilocybin for the use in psychedelic-assisted therapy (PAT). This renaissance has led to substantial public attention toward psychedelics, state and local changes to the legal status of psychedelics, and recent increases in the rate of psychedelic use among United States adults. Despite these advancements, the counseling profession has remained relatively disengaged from the research and general discourse surrounding psychedelics and PAT. In response to this gap, this study presents the results of a survey of counseling professionals’ attitudes toward psychedelics and PATs. Results suggest counselors’ attitudes toward psychedelic use and PATs are mixed, unless they are medically supervised. Furthermore, most counselors see potential in PAT and the need for additional research.

Keywords: psychedelics, counseling, professional attitudes, psychedelic-assisted therapy

- Xiong, Y., Prasath, P. R., Zhang, Q., & Jeon, L. (2022). A mindfulness-based well-being group for international students in higher education: A pilot study. *Journal of Counseling & Development, 100*(4), 374–385. <https://doi.org/10.1002/jcad.12432>

Abstract: With an increasing number of international students enrolled in U.S. higher education, they were reported to have severe mental health issues, especially during the coronavirus disease (COVID-19) pandemic. It is critical to provide evidence-based mental health services to help them cope with those issues and promote mental health and the overall well-being of international students. In this article, we utilized a randomized controlled trial to pilot-test the effectiveness of a mindfulness-based well-being group for international students (MBWIS) in improving participants’ overall well-being and mental health. The results indicated that the MBWIS not only improves international students’ trait mindfulness but also increases positive mental health as well as decreases their overall psychological distress and perceived discrimination. Related findings and implications for counselors and university personnel, including how to implement MBWIS in mental health facilities, are discussed within the existing literature.

Keywords: international students, mindfulness, mental health, well-being, perceived discrimination

- Villares, E., Starrett, A., & Limberg, D. (2022). Exploring school counseling during the first wave of COVID-19. *Journal of Counseling & Development, 100*(4), 386–398. <https://doi.org/10.1002/jcad.12433>

Abstract: In the wake of the COVID-19 outbreak, school counselors played an essential role in helping students, teachers, and families pivot to new learning environments and implemented services to promote students’ academic, social-emotional, and career

development. In this study, we analyzed school counselors' ($N = 589$) delivery of program services and their individual and school characteristics to identify four approaches to school counseling: reactive, universal, consultative/collaborative, and comprehensive during the first wave of the pandemic. School counselors in the reactive profile spent most of their time engaged in noncounselor-duties and reported the highest levels of burnout. Conversely, counselors belonging to the comprehensive profile devoted the most time to delivering consultation, coordination, counseling, and curriculum services and limited engagement in noncounseling-related duties. This study emphasizes the importance of defining the school counselors' roles and responsibilities and the extent to which school counselors were able to deliver their school counselor services during the global pandemic.

Keywords: school counselor roles and responsibilities, COVID-19, burnout, comprehensive school counseling, latent profiles

6. Schmidt, C., Lenz, A. S., & Oliver, M. (2022). Effectiveness of TF-CBT with sex trafficking victims in a secure post-adjudication facility. *Journal of Counseling & Development, 100*(4), 399–411. <https://doi.org/10.1002/jcad.12438>

Abstract: This study evaluated the course and degree of treatment effect for trauma-focused cognitive behavioral therapy (TF-CBT) for decreasing symptoms of posttraumatic stress disorder (PTSD) among adjudicated girls who are victims of domestic minor sex trafficking (DMST). We also aimed to understand the perceptions of the treatment while recovering from trauma symptoms and the lived experience of DMST victims engaging in TF-CBT while living in the post-adjudication facility. Participants were three adolescents who self-identified as Hispanic. Results of a mixed-method research design with multiple baselines indicated TF-CBT was efficacious with two out of three of the girls in reducing PTSD symptoms. Qualitative data yielded five themes depicting the concurrent phases of treatment experience: protest, suppression, brokenness, stability, and breakthrough. All three girls gave voice to their experience participating in treatment and their experience engaging in treatment while living in a secure post-adjudication juvenile facility. Implications for use of TF-CBT with victims of DMST are provided.

7. Balkin, R. S., Neal, S. A., Stewart, K. D., Hendricks, L., & Litam, S. D. A. (2022b). Spirituality and relational health among Black Americans. *Journal of Counseling & Development, 100*(4), 412–420. <https://doi.org/10.1002/jcad.12436>

Abstract: Black Americans may be less likely to seek conventional mental health services, often preferring to seek assistance within their social support networks, including spiritual and religious communities. Research related to relational health as a marker of spirituality among Black Americans is limited, especially in counseling literature. Relational health and spirituality preserve wellness particularly among Black Americans. Thus, we have illuminated new pathways for exploring Black American well-being. A multiple regression analysis of 233 adult participants (68 men and 165 women), who identified as Black American or African American ($n = 221$) or Bi-/Multi-racial ($n =$

12), indicated a significant relationship between spirituality and relational health. The mentor and community subscales on the Relational Health Indices (RHI) made a significant contribution to the model, indicating that quality relationships impact levels of spirituality. Religious affiliation moderated the relationship between relational health domains and spirituality.

Keywords: Black Americans, spirituality, relational health, African Americans, religion

8. Shannon, J., Seward, D. X., Liu, Y., & Luke, M. (2022). Stigma, help-seeking, and counseling with African American male college students. *Journal of Counseling & Development, 100*(4), 421–432. <https://doi.org/10.1002/jcad.12435>

Abstract: The help-seeking processes of college students can be impacted by aspects of public stigma, self-stigma, and mental health literacy. The unique influences of these factors, however, have yet to be explored with African American male college students (AAMCS). Using a sample of 116 AAMCS, the researchers examined changes of variances in AAMCS' help-seeking intentions explained by public stigma, self-stigma, mental health literacy, and self-construal. Our hierarchical regression analyses revealed public stigma and self-stigma to account for 13.7% ($\Delta R^2 = 0.137$) of variance in predicting help-seeking intentions of AAMCS. Mental health literacy and self-construal were not found to be statistically significant in their respective models. The overall hierarchical model accounted for 25.9% of variance in help-seeking intentions of AAMCS. Implications for counseling practice and future research in help-seeking are discussed.

Keywords: African American male college students, counseling, help seeking, stigma, theory of planned behavior

9. Givens, J., & Wilkinson, B. D. (2022). More than a feeling: Constructing emotion in theory and practice. *Journal of Counseling & Development, 100*(4), 433–441. <https://doi.org/10.1002/jcad.12437>

Abstract: While counselors are both familiar with and proficient in the use of reflecting skills to identify and articulate client feelings, recent empirical research supports the perspective that emotions are co-constructed, sociocultural categories rather than triggered, universal internal states. Drawing upon Barrett's (2017) theory of constructed emotion, the authors discuss epistemological considerations, the relationship between emotions and core affect, and the relevance of interoceptive processes in the context of predictive mind. Therapeutic methods to co-construct feeling experiences and implications for counseling practice and research are discussed.

Keywords: affect, emotions, epistemology, interoception, philosophy

10. Long, S. M., Clark, M., Reed, L., & Raghavan, E. (2022). Wellness integration in professional counseling: A grounded theory. *Journal of Counseling & Development*, 100(4), 442–453. <https://doi.org/10.1002/jcad.12431>

Abstract: Wellness is a central component of professional counseling. It is important that counselors are aware of and integrate wellness-based strategies that support and optimize client's holistic well-being. To date, there are no existing frameworks to guide the processes of wellness integration in counseling. The present study aimed to identify the specific processes and strategies used by 21 professional counselors who integrate wellness into clinical practice. Five main themes were identified: (a) assessment of wellness, (b) skills, (c), interventions, (d) barriers, and (e) advocacy.

Keywords: best practices, counseling, integration, wellness, wellness framework

JOURNAL OF HUMAN VALUES

1. Mazumdar, P., & Mukhopadhyay, S. (2022). Conceptualizing the Roles of Vedantic Personality and Spiritual Well-being as Drivers of Consciousness for Sustainable Consumption: Authentic Synthesis of an Ancient Philosophy with Modern Concepts. *Journal of Human Values*, 28(3), 181–199. <https://doi.org/10.1177/09716858221093941>

Abstract: The study addresses the challenging crisis of sustainable consumption. It explores the philosophy of Samkhya, which is based on nature and spirit, also found in Vedantic knowledge, and synthesizes it with the knowledge of spiritual well-being found in modern literature to conceptualize the roles of the direct, mediating and moderated mediation relationships of different Vedantic personality types, spiritual well-being and family structure with consciousness for sustainable consumption and its three dimensions of environment, society and economy. Based on the conceptualized roles, different models have been proposed.

Keywords: Consciousness for sustainable consumption, Vedantic personality, spiritual well-being, Samkhya philosophy

2. Hari Narayanan V., & Singh, A. K. (2022). The Value of Epistemic Justice. *Journal of Human Values*, 28(3), 200–208. <https://doi.org/10.1177/09716858221096819>

Abstract: The notion of epistemic injustice has become an important topic of inquiry in recent times. It refers to the injustice committed to a person when her claim to knowledge is not given due consideration. This article argues that there are two major sources of epistemic injustice: One is the dominating tendencies present in us, and the other is susceptibility to cognitive biases and distortions. When societies become more complex, injustice increases and one can see countless instances of epistemic injustice in everyday life. To reduce epistemic injustice, one has to tackle both sources. Increasing cooperative behaviour is the key in this regard which, in turn, may require revisiting the way the self is automatically understood.

Keywords: Epistemic justice, power, cognitive biases, knowledge

3. Swaminathan, S. (2022). Moore's Paradox and Normative Detachment. *Journal of Human Values*, 28(3), 209–220. <https://doi.org/10.1177/09716858221093449>

Abstract: It is paradoxical to make a moral statement and, in the same breath, disavow commitment to it. Following G. E. Moore, who first identified an analogous paradox—albeit, in the case of factual statements and disavowal of belief in them—these are called Moore paradoxical statements. Richard Hare argues that in order to determine whether an 'ought' is a moral one, one only needs to examine if this attitudinal adherence necessarily accompanies the judgement in question. If not, Moore paradoxicality hits and the 'ought' in question is not a moral 'ought'. Hare's test poses a problem for Joseph Raz who argues (along with natural lawyers, despite himself being a self-proclaimed legal positivist) that normative terms such as 'ought' have the same meaning in legal and moral statements.

Raz, however, acknowledges a dilemma this brings in its wake: It is possible to make legal statements without necessarily endorsing them, which creates a presumption against these being equivalent to moral statements. To tackle the dilemma, Raz challenges the very idea of commitment to normative statements by arguing that it is also possible to make detached moral judgements. This paper argues that Raz's idea of 'detached normative statements' falters in that the purported examples of detached normative statements Raz uses turn out upon closer examination to be non-normative statements using either norm-relative or non-normative 'oughts'.

Keywords: Contemporary moral problems, ethics and values, law

4. Albin, R. (2022). Organizational and Moral Portraits of Responsibility. *Journal of Human Values*, 28(3), 221–233. <https://doi.org/10.1177/09716858221095877>

Abstract: This article aims to argue in favour of two different kinds of responsibility: moral and organizational. I present the notion of moral responsibility and, specifically, moral accountability, which stands at the centre of the later discussion. I address Coleen Macnamara's view of accountability, a model of enforcement involved in setting demands and sanctions. Then I account for some cases of morally impaired persons' failure to respond adequately to moral demands, in contrast to their capacity to respond effectively to organizational demands. I take the latter findings to show that there are two distinct kinds of accountability, moral and organizational. While moral accountability is connected to the arousal of emotions, I claim that organizational accountability is related to inner-organizational reactive procedures associated with employment benefits (such as promotion and other employment rewards) or sanctions. However, this can be distant from emotions.

Keywords: Moral responsibility, organizational accountability, reactive attitude, ethical responsibility

5. Lengeling, V. V. (2022). The Moral Example of the German Resistance Against the Nazi Regime. *Journal of Human Values*, 28(3), 234–246. <https://doi.org/10.1177/09716858221103726>

Abstract: Perceptions about the German Resistance against the Nazis (*Widerstand*) changed over the years since WWII. Whereas the Nazis saw resisters as amoral traitors, German leaders recently presented the individuals of the *Widerstand* as moral examples of people who resisted intolerance, racism and totalitarianism. Statements and reflections about moral perception by and about people of the *Widerstand* in a wide variety of sources were considered historically and with moral theory. Because of the vast heterogeneity of the resisters, a basic normative understanding of ethical and moral action was engaged instead of a single theory. The *Widerstand* represents a struggle for moral dominance between individuals and a morally corrupt state. The *Widerstand* case confirms the notion that morality is inextricably bound to individual perception of what is right or wrong. As an universal moral example, the *Widerstand* example moots for the rejection of intolerance, racism and totalitarianism as morally wrong.

Keywords: Individuality, moral theory, normative morality, intolerance, racism, totalitarianism

6. Gopang, M., Siyal, A. W., & Umrani, S. (2022). Seeing Through Rose-tinted Glass: Exploring Forms of Self-deception Through Students Substance Usage Beliefs. *Journal of Human Values*, 28(3), 247–258. <https://doi.org/10.1177/09716858221092513>

Abstract: Recently, there has been increasing growth in the use of substance amongst the youth especially in higher education institutions of Pakistan. Literature indicates the existence of self-deception in substance users through self-reports. However, a dearth of qualitative exploration leads us to investigate self-deception through lived experiences of students who use the substance. The aim of the current study is to explore the phenomenon of self-deception through in-depth semi-structured interviews. Smith et al. (2009) interpretative phenomenological analysis was utilized as a method for data collection. The investigators deployed semi-structured interview guide designed through the interview protocol framework. Four themes that emerged from the data were (i) denial, where users exhibited persistent denial from negative effects of the substance; (ii) overconfidence, an illusionary aspect of substance users through elevated self-esteem; (iii) rationalization, where substance users frequently rationalized their usage through multiple attributions, such as family environment, cultural beliefs and common practices. Moreover; and (iv) awareness about positive and negative consequences of substance use, which highlighted paradoxical nature of substance users that move to and from between negative and positive aspects of substance use. Findings suggest a progressive advancement towards the understanding of the phenomenon of self-deception through its prevalent forms in university students who use the substance.

Keywords: Substance use, self-deception, phenomenological analysis, rationalization, overconfidence

7. Akhter, N. (2022). Plight of Peasantry: Re-reading Fakir Mohan Senapati's *Six Acres and a Third* in the Context of New Farm Laws in India. *Journal of Human Values*, 28(3), 259–270. <https://doi.org/10.1177/09716858221087403>

Abstract: Novel and history, despite technical differences, have something in common, which one can observe by examining fictional narrative as historical discourse without downplaying its symbolic ramifications. It is a fact that the novel is primarily concerned with individual existence, yet at the same time, it has not overlooked the condition of the people in general, as is reflected in the writings of some of the great writers. The article attempts to take this perspective in order to re-read Fakir Mohan Senapati's *Six Acres and a Third* beyond its historicity as a symbolic representation of the contemporary conditions of Indian farming community. It further aims to probe into the predicament of the farming community in India irrespective of historical and political changes. The argument is corroborated through historical parallels about the perpetual plight of farmers as shown in the text with the fear of destitution among farmers in general, and marginalized ones in particular, in the wake of recent legal promulgation (Government of

India, 2020a, 2020b, 2020c). The study reveals that the plight of the people under feudalism represented by fictional characters in Senapati's novel, which he has conscientiously explored by deploying a variety of artistic techniques, is analogous to the one faced by the contemporary farmers of independent India with neoliberal economic dispensation.

Keywords: Farm laws, analytical realism, Six Acres and a Third, farmer's plight

JOURNAL OF PEACE EDUCATION

1. Hakvoort, I., Lindahl, J., & Lundström, A. (2022). Research from 1996 to 2019 on approaches to address conflicts in schools: A bibliometric review of publication activity and research topics. *Journal of Peace Education*, 19(2), 129–157. <https://doi.org/10.1080/17400201.2022.2104234>

Abstract: The numbers of publications within the field of research on approaches to address conflicts in schools is rapidly growing, and it is now important to map influential theories, methods and topics that shape this research field. In addition, student teachers, teachers and teacher educators would benefit from it being easier to find research-based knowledge of how to address conflicts in schools. Therefore, a bibliometric study was carried out on 1126 publications that were published between 1996 and 2019 in this field. The study aimed at examining publication activity, geographic spread, and dominant research topics. The findings showed a positive trend in publication output from 2006 onwards. Research output was found to be dominated by the United States. However, the results also indicated an internationalization trend expressed in an increased geographic spread of publication output. Furthermore, six research topics were identified through cluster analyses and labelled ‘peace and value education’, ‘classroom management from coercive discipline to relationship building’, ‘constructive conflict resolution’, ‘classroom management programmes’, ‘restorative justices and restorative approaches’, and ‘classroom challenges for teachers’. Within each research topic, a distinct number of publications were found that defined the core research.

Keywords: Bibliometrics; conflict resolution; classroom management; peace education; schools

2. Lopes Cardozo, M. T., Affiat, R. A., Zaman, F., Irawani, M., & Srimulyani, E. (2022). Silent struggles: women education leaders’ agency for peacebuilding in Islamic schools in post-conflict Aceh. *Journal of Peace Education*, 19(2), 158–181. <https://doi.org/10.1080/17400201.2022.2052826>

Abstract: This article engages with an under-researched field that specifically looks into the gendered nature of women education leaders’ agency in the context of Islamic boarding schools in post-tsunami and post-war Aceh province of Indonesia. The key aim of this paper is to understand various ways in which Acehnese women educators’ negotiate and navigate restricted, gendered and religiously orthodox spaces. We analyse the role of grassroots education actors in processes of societal transformation and peacebuilding through a gender-specific lens, to explore our contextual understanding of agency through a cultural political economy approach, complemented with insights from critical and decolonial peace education. By presenting the often silenced and marginalized stories of women leaders, educators and grassroots actors, we explore their views and experiences in – consciously or unconsciously – transforming or reproducing existing (in)equalities and potential conflict-triggers in contemporary Aceh.

Keywords: Post-war Aceh; gender; teacher agency; women leadership; Islamic schools; peacebuilding

3. Wibowo, D. (2021). The role of school culture in teacher professional development for peace education: the case of Sukma Bangsa School Pidie in post-conflict Aceh, Indonesia. *Journal of Peace Education*, 19(2), 182–204. <https://doi.org/10.1080/17400201.2021.2015573>

Abstract: This paper explored the relations between the practice of school culture and teacher professional development for peace education. Using the case of Sukma Bangsa School Pidie (SBS Pidie) in post-conflict Aceh, Indonesia, and the influence of school culture on teacher professional development as the theoretical framework, this paper provides a discussion of teacher professional development for peace education that is still lacking in the literature. The findings suggest that SBS Pidie teachers who participated in this study perceived that their school leadership had developed a school culture and clarity of stance that was conducive to their learning for peace. The culture in this school is based on a clear stance of the school on peace, and the practices that contribute to teacher professional development are manifested in the school management and its environment, facilitation for learning, and relationships between teachers. The findings also suggest that in post-conflict areas, school culture needs to be able to assist teachers in overcoming their conflict-related trauma.

Keywords: School culture; teacher professional development; peace learning; school management; Aceh

4. Almanza, M. (2022). Six educational approaches to conflict and peace. *Journal of Peace Education*, 19(2), 205–225. <https://doi.org/10.1080/17400201.2022.2087607>

Abstract: The relations between education, conflict and peace have become the focus of a growing and diverse field of educational research and action. In the diversity and complexity of this field, I distinguish six educational approaches that stand out: human rights, psychosocial, humanitarian aid, development, security, and reconciliation. They refer to six sets of particular and coherent assumptions regarding the reasons that originate and exacerbate conflicts, with their own answers about how to prevent, resolve, alleviate, or transform that situation – their ways of understanding peace – and the roles that the educational sector plays in the achievement of this purpose, with their pros and cons.

Keywords: Peace theory education; peace education; conflict resolution; Human rights education; Education for reconciliation; Education in emergencies; Psychological education; Education for security and development

5. Betts Razavi, T., & Mahmoudi, H. (2022). A Bahá'í concept of peace as a resource for peace education: Case study of 'The Problem of Prejudice.' *Journal of Peace Education*, 19(2), 226–248. <https://doi.org/10.1080/17400201.2022.2061435>

Abstract: This article describes a Bahá'í concept of peace in the context of discussions about the nature and focus of peace education, in particular the role of moral education as an element of peace education. It introduces the notions of human nobility and the oneness of humanity as the moral basis for holistic peace within a framework of the collective social evolution of humanity, and explores the idea of identifying, understanding, and removing barriers to unity, specifically in the form of inequalities and prejudices, as the foundation of an approach to peace education. The application of such an approach to a university level course is shared through a case study of 'The Problem of Prejudice', offered by the Bahá'í Chair for World Peace at the University of Maryland, College Park. Key strands of content and pedagogy are described, and qualitative data from students participating in the course in 2021 (n = 20), collected in the form of self-perceptions of changes in knowledge, skills, attitudes and commitment, are presented. The article concludes with a discussion of the learning gained from this study and how a Bahá'í concept of peace may serve as a resource for university peace educators and students.

Keywords: Bahá'í; moral education; peace education; higher education; prejudice

JOURNAL OF THE LEARNING SCIENCES

1. Sheridan, K. M., Zhang, X., & Konopasky, A. W. (2022). Strategic shifts: How studio teachers use direction and support to build learner agency in the figured world of visual art. *Journal of the Learning Sciences*, 31(1), 14–42. <https://doi.org/10.1080/10508406.2021.1999817>

Abstract: In studio art, students are expected to be highly agentic—to engage in creative processes to form personalized representations of ideas, yet we lack knowledge on how teachers support their agency. Approaching agency as co-constructed practices across temporal dimensions, we examine how teachers shift between autonomy-supportive and directive approaches, building students’ artistic agency.

Secondary qualitative analysis of video-recordings (49 hours) of four teachers’ studio art classes in two arts-intensive high schools used observational frameworks on autonomy-support, theoretical constructs of spaces of authoring and temporal orientations to agency, and functional linguistic agency markers.

Studio teaching is primarily autonomy-supportive, but teachers strategically shift their enacted and linguistic practices to directive approaches, such as commands and constraints, taking control over parts of the creative process to build students’ artistic agency. Our work on teachers co-constructing artistic agency with students adds nuance to accounts of how teachers support agency, particularly forms of direction on open-ended problems. Our theoretical lens of the temporal process of agency and methodological approach of attending to enacted and linguistic practices and to when teachers *shift* to and away from directiveness, could be used in other learning settings to examine how agency is co-constructed.

2. Hollett, T., Peng, X., & Land, S. (2021b). Learning with and beyond the body: The production of mobile architectures in a ballet variations class. *Journal of the Learning Sciences*, 31(1), 43–72. <https://doi.org/10.1080/10508406.2021.2003801>

Abstract: This paper examines ensemble learning in the context of ballet. We use more-than-representational theory to account for the “invisible” dimensions of ensemble learning, such as sensations, energy, or intensity that bodies sense, circulate, and evoke in others. We illuminate the mobile architectures that emerge in ensemble learning. Mobile architectures emerge when a performance (i.e., dance, athletic, drama), event (i.e., protest, sermon), or environment (i.e., classroom, makerspace) becomes charged as energy is evoked and circulated among bodies. We describe eighteen months of video-recorded inquiry of teaching and learning in a weekly classical ballet variations class. We used interaction analysis to understand how sensations and energies move (among) bodies during learning.

Through our analysis, we show: 1) How mobile architectures form and dissolve, particularly as instructional time begins; 2) How audible expressions communicate energy and modulate ensemble learning and 3) How instruction transforms as the ensemble comes together and pulls apart.

This paper contributes a deeper understanding of how learners attune to the relational complexity of learning. It offers accounts of the more-than-representational dimensions

of embodiment and calls for further attention beyond the bodies of embodied learning (physical, gestural, tool-mediated dimensions) and toward the intensities, or energies, that those bodies produce together.

3. Solomon, F., Champion, D., Steele, M., & Wright, T. (2022). Embodied physics: Utilizing dance resources for learning and engagement in STEM. *Journal of the Learning Sciences*, 31(1), 73–106. <https://doi.org/10.1080/10508406.2021.2023543>

Abstract: Physics is often presented as disembodied, separating learners from opportunities to utilize their bodies as sense-making resources. By ignoring issues of body, ethnicity and culture, these framings limit access to physics for many, including Black girls, who struggle to gain access to physics. Studying the situated, embodied cultural practices of Black girls in physics learning environments provides a window into the range of resources available for physics exploration and illuminates possibilities for culturally relevant physics pedagogies. We engaged in micro-ethnographic analysis of video of youth actions and interactions during collaborative activities that combined dance and dance-making practices with physics content. Our findings show how (1) dance offered an embodied lens for physics investigation; (2) positioning movement as inquiry gave dancers access to an expanded vocabulary for sense-making; and (3) dance provided opportunities to bring in social and cultural resources as critical funds of knowledge. This article expands the view of funds of knowledge by reintroducing the body, movement, and embodied interaction as resources for learning and engagement and offers an expanded view of physics sense-making that includes cultural embodied resources and foregrounds Black girls, whose voices and experiences are often left out of learning research.

4. Pierroux, P., Steier, R., & Ludvigsen, S. R. (2022). Group creativity in adolescence: Relational, material and institutional dimensions of creative collaboration. *Journal of the Learning Sciences*, 31(1), 107–137. <https://doi.org/10.1080/10508406.2022.2025813>

Abstract: Studies of group creativity have focused on adults acting in professional settings, with less attention paid to how adolescents collaborate in groups in creative activities. Building on sociocultural perspectives on imagination as a complex capacity in adolescence, this study examines students' creative-imagining processes and the role of peer influence in group collaboration. The setting of the study is a two-day museum-led workshop on the topic of architecture, which was produced for a national touring program for middle schools. Video data of students' collaborative interactions comprise the primary data for the analysis. The study identifies material, institutional and relational aspects of group creativity in adolescence. A key finding is how creative influence is socially negotiated when merit-based knowledge and authority in an art domain are not valued. The study also finds that students' interactions in creative activity may be viewed as evidence of learning processes even without consensus in the group. This research contributes new understandings of adolescents' creative-imagining processes and creative influence in arts-based learning activities in middle school. Principles for arts-based learning designs are presented: the appropriateness of materials; designing for knowledge dependency in open-ended tasks; and facilitating productive forms of creative influence.

PSYCHOLOGICAL BULLETIN

1. Borowski, S. K., Groh, A. M., Bakermans-Kranenburg, M. J., Fearon, P., Roisman, G. I., van IJzendoorn, M. H., & Vaughn, B. E. (2021). The significance of early temperamental reactivity for children's social competence with peers: A meta-analytic review and comparison with the role of early attachment. *Psychological Bulletin*, 147(11), 1125–1158. <https://doi.org/10.1037/bul0000346>

Abstract: Early temperamental reactivity and attachment security are key predictors of children's social competence with peers. Leveraging meta-analytic evaluation of the significance of early attachment for social competence already available (Groh et al., 2014), this quantitative review examined the significance of early temperamental reactivity for social competence with peers and compared the strength of this association with that for attachment. Based on 140 independent samples ($u = 382$; $N = 49,891$), the meta-analytic association between early difficult temperament and (lower) social competence was significant ($r = 0.13$, $z = 0.13$; 95% CI [0.11, 0.16]), but decreased as time between assessments increased. Findings were similar for negative and positive emotionality. Greater negative emotionality was associated with lower social competence ($r = 0.14$, $z = 0.14$; 95% CI [0.11, 0.17], $k = 93$, $u = 172$), and greater positive emotionality was associated with better social competence ($r = 0.18$, $z = 0.18$; 95% CI [0.12, 0.24], $k = 43$, $u = 54$). Meta-analytic associations were reduced when overlapping informants and overlapping items in temperament and social competence assessments were excluded (difficult temperament: $r = 0.10$, $z = 0.10$; 95% CI [0.06, 0.13]; negative emotionality: $r = 0.10$, $z = 0.10$; 95% CI [0.05, 0.15]; positive emotionality: $r = 0.10$, $z = 0.10$; 95% CI [0.06, 0.14]). Meta-analytic associations between these broadband temperament dimensions and social competence were smaller than the meta-analytic association between attachment security and social competence. Discussion focuses on the developmental significance of early temperament for social competence and ways to reconcile literatures on early temperament and attachment in future research on the developmental antecedents of children's social competence.

Keywords: temperament, social competence, peers, meta-analysis, attachment

2. Hoemann, K., Nielson, C., Yuen, A., Gurera, J. W., Quigley, K. S., & Barrett, L. F. (2021). Expertise in emotion: A scoping review and unifying framework for individual differences in the mental representation of emotional experience. *Psychological Bulletin*, 147(11), 1159–1183. <https://doi.org/10.1037/bul0000327>

Abstract: Expertise refers to outstanding skill or ability in a particular domain. In the domain of emotion, expertise refers to the observation that some people are better at a range of competencies related to understanding and experiencing emotions, and these competencies may help them lead healthier lives. These individual differences are represented by multiple constructs including emotional awareness, emotional clarity, emotional complexity, emotional granularity, and emotional intelligence. These constructs derive from different theoretical perspectives, highlight different competencies, and are operationalized and measured in different ways. The full set of

relationships between these constructs has not yet been considered, hindering scientific progress and the translation of findings to aid mental and physical well-being. In this article, we use a scoping review procedure to integrate these constructs within a shared conceptual space. Scoping reviews provide a principled means of synthesizing large and diverse literature in a transparent fashion, enabling the identification of similarities as well as gaps and inconsistencies across constructs. Using domain-general accounts of expertise as a guide, we build a unifying framework for expertise in emotion and apply this to constructs that describe how people understand and experience their own emotions. Our approach offers opportunities to identify potential mechanisms of expertise in emotion, encouraging future research on those mechanisms and on educational or clinical interventions.

3. James, T. A., Weiss-Cowie, S., Hopton, Z., Verhaeghen, P., Dotson, V. M., & Duarte, A. (2021). Depression and episodic memory across the adult lifespan: A meta-analytic review. *Psychological Bulletin*, *147*(11), 1184-1214. <https://doi.org/10.1037/bul0000344>

Abstract: Episodic memory deficits have increasingly been recognized as a cognitive feature of depression. To quantify these deficits and determine how they are moderated by various tasks (e.g., stimulus valence) and participant (e.g., age, depression diagnosis) variables, we conducted a three-level meta-analysis on 995 effect sizes derived from 205 studies with 236 unique comparisons between depressive and control groups on episodic memory measures. Overall, depression was associated with small to moderate deficits in episodic memory, Hedges' $g = -0.36$, 95% CI $[-0.41$ to $-0.31]$. Effects were larger in older age, in diagnosed compared to sub threshold depression, and in those taking medication for depression; effects did not differ between those with current and remitted symptoms. Stimulus valence moderated the effects, such that depression-related deficits were particularly pronounced for positive and neutral stimuli, but not for negative stimuli. Educational attainment served as a sort of protective factor, in that at higher levels of education, depressed group performance was more similar to that of controls. These findings confirm the episodic memory deficits in depression but highlight the important differences in the size of these deficits across a number of task- and participant-related variables.

Keywords: episodic memory, major depression, sub threshold depression, aging, meta-analysis

4. Newbury, C. R., Crowley, R., Rastle, K., & Tamminen, J. (2021). Sleep deprivation and memory: Meta-analytic reviews of studies on sleep deprivation before and after learning. *Psychological Bulletin*, *147*(11), 1215–1240. <https://doi.org/10.1037/bul0000348>

Abstract: Research suggests that sleep deprivation both before and after encoding has a detrimental effect on memory for newly learned material. However, there is as yet no quantitative analyses of the size of these effects. We conducted two meta-analyses of studies published between 1970 and 2020 that investigated effects of total, acute sleep deprivation on memory (i.e., at least one full night of sleep deprivation): one for

deprivation occurring before learning and one for deprivation occurring after learning. The impact of sleep deprivation after learning on memory was associated with Hedges' $g = 0.277$, 95% CI [0.177, 0.377]. Whether testing took place immediately after deprivation or after recovery sleep moderated the effect, with significantly larger effects observed in immediate tests. Procedural memory tasks also showed significantly larger effects than declarative memory tasks. The impact of sleep deprivation before learning was associated with Hedges' $g = 0.621$, 95% CI [0.473, 0.769]. Egger's tests for funnel plot asymmetry suggested significant publication bias in both meta-analyses. Statistical power was very low in most of the analyzed studies. Highly powered, preregistered replications are needed to estimate the underlying effect sizes more precisely.

Keywords: sleep, sleep deprivation, learning, memory, meta-analysis

PSYCHOLOGY IN THE SCHOOLS

1. Exner-Cortens, D., Gaias, L., Splett, J. W., Jones, J., & Walker, W. (2022). Embedding equity into school mental health theory, research, and practice: An introduction to the special issue series. *Psychology in the Schools*, 59(10), 1941–1947. <https://doi.org/10.1002/pits.22679>

Abstract: In this article, we present an introduction and overview for a two-part special issue series focused on embedding equity into school mental health through theory, research, and practice. The papers in Part 1 of the special issue series cover critical topics for advancing equitable school mental health, including the centering of community and youth perspectives; a focus on reducing disproportionality in discipline practices; and details on equity-focused interventions. In Part 2, papers focus on integrating race and racial equity into school mental health frameworks; integrating a racial equity lens into trauma-informed school practices; addressing outcomes that have disproportionate impacts on youth of color; and exploring domains of injustice and oppression beyond racial inequity. We hope that the topics discussed in this special issue series move us towards providing equitable and just school mental health services for all children and youth.

Keywords: equity, school mental health

2. Fallon, L. M., Veiga, M. B., Susilo, A., Robinson-Link, P., Berkman, T. S., Minami, T., & Kilgus, S. P. (2021). Exploring the relationship between teachers' perceptions of cultural responsiveness, student risk, and classroom behavior. *Psychology in the Schools*, 59(10), 1948–1964. <https://doi.org/10.1002/pits.22568>

Abstract: It is important to explore the relationship between teachers' perceptions of their cultural responsiveness as well as students' classroom behavior and risk, as these relationships may impact decisions about equitable access to school behavioral health supports. This paper includes two studies conducted with teachers in two large suburban school districts. Study 1 investigated the relationship between teachers' ($n = 20$) ratings on a measure of cultural responsiveness, the *Assessment of Culturally and Contextually Relevant Supports* (ACCRoS), and students' classroom behavior. Results indicated that higher ACCRoS scores significantly predicted lower classwide disruptive behavior. Study 2 investigated the relationship between teachers' ($n = 30$) ratings on the ACCRoS and ratings of their students' risk on the *Social, Academic, and Emotional Behavior Risk Screener*. For social behavior, higher ACCRoS scores predicted teachers perceiving lower social risk; however, identification as a Black student and a student with a disability predicted higher risk. Findings are preliminary, yet implications include recommendations for high-quality professional development to promote teacher cultural responsiveness. Such support could guide teachers to create educational environments in which fewer discipline referrals for behavior occur, teachers perceive less social risk, and access to school behavior supports is more equitable.

Keywords: behavioral health, cultural responsiveness, equity, risk, teachers

3. Shivers, E. M., Faragó, F., & Gal-Szabo, D. E. (2021). The role of infant and early childhood mental health consultation in reducing racial and gender relational and discipline disparities between Black and white preschoolers. *Psychology in the Schools*, 59(10), 1965–1983. <https://doi.org/10.1002/pits.22573>

Abstract: This study presents findings from an Infant and Early Childhood Mental Health Consultation (IECMHC) initiative in Arizona called Smart Support. The IECMHC used an early childhood mental health consultation model as an early childhood education intervention to address the needs of preschoolers with challenging behaviors. Disparities in teacher-child relationships and discipline are some of the most persistent racial disparities impacting young Black children. The goal of IECMHC is to facilitate teachers' skills to respond to challenging child behavior and to shift teachers' internal representations of young children. This study is one of the first to link a statewide IECMHC intervention to the analysis of racial and gender teacher-child relational and discipline disparities. Multilevel growth analyses examined whether child scores at baseline and growth over time differed as a function of child race and gender. At baseline, Black children, compared to white peers, and Black boys, compared to white boys, had higher teacher-child conflict scores. These scores decreased more strongly over the course of IECMHC such that Black children's outcomes surpassed those of white peers by the end of consultation. A trend was also seen for the reduction of Black boys' preschool expulsion risk, although this trend was only marginally significant.

Keywords: discipline disparities, gender, Infant and Early Childhood Mental Health Consultation, preschool, race, teacher-child relationships

4. Goforth, A. N., Nichols, L. M., Sun, J., Violante, A., Christopher, K., & Graham, N. (2021, May 8). Incorporating the indigenous evaluation framework for culturally responsive community engagement. *Psychology in the Schools*, 59(10), 1984–2004. <https://doi.org/10.1002/pits.22533>

Abstract: Native American families, schools, and communities foster resilience among their youth who experience significant mental health disparities. To increase equity in mental health services for Native American students, it is essential that researchers employ culturally responsive community engagement when developing programs in schools. Guided by the Indigenous Evaluation Framework and Tribal Critical Race Theory, the aim of the current study was to examine our process of community engagement in the development of a culturally responsive school-based mental health program for students attending public school on the land of the Confederated Salish and Kootenai Tribes. University-affiliated members of the research team who were engaged in the community-based participatory action research analyzed the process through individual reflexivity and collaborative discussions. Findings include themes of Centrality of Context and Relationships, Immersion into Community, Authentic Partnership, Storytelling and Metaphors, Community Liaison as Teacher, Cultural Broker, and Confidant, and Honoring Tribal Sovereignty. Implications for researchers

and practitioners emphasize the importance of using decolonizing practices and community engagement in developing and implementing culturally responsive school-based mental health programs to increase equity for Native American youth.

Keywords: community engagement, culturally responsive practices, Native American, school-based mental health\

5. Meléndez Guevara, A. M., White, R. M. B., Lindstrom Johnson, S., Nair, R. L., & Roche, K. M. (2021, May 29). School racial-ethnic discrimination, rule-breaking behaviors and the mediating role of trauma among Latinx adolescents: Considerations for school mental health practice. *Psychology in the Schools*, 59(10), 2005–2021. <https://doi.org/10.1002/pits.22562>

Abstract: Much of the literature linking adversity to trauma fails to account for racialized experiences, including racial-ethnic discrimination, which is a highly prevalent form of adversity for youth of color in the U.S. Adversity and trauma often result in students experiencing elevated rule-breaking behaviors, exacerbating existing racial-ethnic disparities in disproportionate school discipline. Drawing from race-based trauma theory, the present study explored trauma as a mediator of the longitudinal association between racial-ethnic discrimination from teachers, other adults, and students in schools and rule-breaking behaviors among Latinx youth. Data were from a longitudinal study of 547 Latinx students in a southeastern U.S. state. Across gender and nativity groups, school racial-ethnic discrimination and trauma positively predicted later rule-breaking behaviors. Additionally, for girls only, increased levels of trauma partially explained the association between school racial-ethnic discrimination and rule-breaking behaviors. The study highlights the importance of addressing school racial-ethnic discrimination and trauma in equitable school mental health systems. Indeed, efforts aimed at reducing disproportionate school discipline among Latinx students should focus on reducing their exposure to school racial-ethnic discrimination and increasing access to trauma-informed and restorative justice approaches.

Keywords: equity, racial-ethnic discrimination, trauma

6. Lea, C. H., McCowan, K. J., Jones, T. M., & Malorni, A. (2021, August 4). Adult and student perspectives on racial and ethnic equity-informed school-based strategies. *Psychology in the Schools*, 59(10), 2022–2041. <https://doi.org/10.1002/pits.22575>

Abstract: Although racial and ethnic equity-informed school-based strategies are important to addressing racialized structures and processes that create and sustain racial trauma, disadvantage and disparity, little is known about the process of embedding racial and ethnic equity in school-based strategies and how adults and young people perceive them to promote a positive school climate and youth development. Using a qualitative research approach that included focus groups, this study examined student of color and school and community partner staff perceptions of the role and influence racial and ethnic equity-informed school-based strategies in one middle school have on the school's climate and students of color experiences and development. Findings suggest that racial

and ethnic equity-informed social and emotional learning strategies are important in facilitating positive student–teacher interactions and identity and social-emotional development among students of color. Participant's experiences in and perceptions of the impact these strategies have on school climate and youth development substantiate the need to understand racial and ethnic equity as a process-oriented approach that requires continuous improvement, rather than just an outcome-focused endeavor. Implications for research and practice are discussed.

Keywords: racial and ethnic equity, students of color, youth development

7. Nese, R. N. T., Santiago-Rosario, M. R., Malose, S., Hamilton, J., Nese, J. F. T., & Horner, R. (2021, July 28). Improving a universal intervention for reducing exclusionary discipline practices using student and teacher guidance. *Psychology in the Schools*, 59(10), 2042–2061. <https://doi.org/10.1002/pits.22576>

Abstract: Exclusionary discipline practices have a direct negative impact on individual students, schools, and society at large. To improve equity and cultural responsiveness, active efforts to assess the contextual fit of effective strategies are necessary. The following study describes the Inclusive Skill-building Learning Approach (ISLA), an intervention designed to support school staff in carrying out preventative strategies and outlines instructional responses for educators and office staff. Additionally, an iterative approach to inform changes was used as part of the development process of ISLA. This paper aims to capture and incorporate the voices of students and staff using multiple methods to seek feedback for refining the quality, feasibility, and contextual fit of the ISLA intervention in middle schools. A total of 53 school staff provided feedback on the ISLA intervention. Further, Design Team members ($n = 26$) participated in semi-structured interview meetings to inform changes to ISLA. Last, student participants ($n = 23$) engaged in focus groups that were transcribed and coded via an independent co-coding strategy. The findings provide support for preventative school-based interventions that use alternatives to exclusionary discipline, as well as strategies for improving the ISLA intervention.

Keywords: alternative to exclusion, mixed methods, prevention

8. Liu, J. L., Wang, C., Do, K. A., & Bali, D. (2022, January 26). Asian American adolescents' mental health literacy and beliefs about helpful strategies to address mental health challenges at school. *Psychology in the Schools*, 59(10), 2062–2084. <https://doi.org/10.1002/pits.22655>

Abstract: Asian Americans are the fastest-growing racial group in the United States. Contrary to the model minority myth, many Asian American youth experience mental health challenges. However, they are less likely to utilize school-based mental health services than their non-Asian American peers. A paucity of research addresses Asian American adolescents' understanding of mental health disorders and beliefs about helpful strategies for addressing psychological challenges within the school context. The present study utilized vignettes and semi-structured interviews with 24 Asian American adolescents ($M = 16.92$, $SD = 2.45$, 79.17% females) to explore their understanding of

eating disorders and depression and what they perceive as helpful strategies to address mental health challenges at school. Participants shared culture-specific risk factors for these mental health disorders, such as high academic pressure, sociocultural pressures for thinness, and internalized model minority stereotype. Participants also proposed strategies to support youth mental health, including providing support, encouraging professional help-seeking, reducing stigma, addressing confidentiality concerns, implementing school-wide programs to promote mental health awareness, promoting positive coping strategies, and establishing strong connections between mental health providers and Asian American students. We discuss practical implications for school-based mental health programs, practices, and providers.

Keywords: Asian American mental health literacy, helpful strategies, school-based mental health services

9. Jones, J. M., & Lee, L. H. (2022, February 3). Art-based mindfulness at school: A culturally responsive approach to school mental health. *Psychology in the Schools*, 59(10), 2085–2105. <https://doi.org/10.1002/pits.22660>

Abstract: As schools are increasingly tasked with improving student outcomes related to both academic and social and emotional wellbeing, digital interventions are becoming utilized as viable tools for successful outcomes. This study aimed to measure the effectiveness of a culturally responsive, art-based mindfulness intervention called L.A.U.G.H.® (Let Art Unleash Great Happiness), in a diverse sample of 243 elementary school students. Using an iPad app, students practiced mindful breathing and created digital art in their classrooms. The app also measured students' moods, school connectedness, and joy of learning. The study design was a one-group repeated measure intervention design where ratings were compared between Weeks 1, 4, 8, and 12 of the intervention. Results indicated that L.A.U.G.H.® time improved and increased students' moods, School Connectedness, and Joy of Learning over time. Race played a significant role in how students rated their feelings about school, with significant effects that emerged among Black/African American and Asian American/Pacific Islander students. Both groups began with the lowest ratings of school connectedness and demonstrated significant improvements by Week 8. This study revealed results from a digital mindfulness intervention and highlighted the importance of a nuanced study of differential impacts of such interventions among diverse students.

Keywords: application-based interventions, mindfulness, mood regulation, school engagement

10. Exner-Cortens, D., Claussen, C., Lewis, S., Orukpe, A. M., & Coupland, K. (2021, May 29). Friendship quality and ethnocultural boys: An exploratory evaluation of the WiseGuyz Program. *Psychology in the Schools*, 59(10), 2106–2121. <https://doi.org/10.1002/pits.22566>

Abstract: Tier 1 school mental health programs for middle school youth often focus on healthy relationships promotion. However, the vast majority of these programs take a

gender- and race-neutral approach (i.e., content that does not focus on the way that gender, race, and ethnicity intersect to shape relationships and mental health). Embedding these intersections into Tier 1 programs is critical to equitably advancing mental health for middle school youth. This article specifically explores associations between participation in a Tier 1 gender-transformative healthy relationships program and friendship quality for Ethnocultural boys. Data were drawn from 278 White and Ethnocultural boys who participated in the program in 2016–2017 or 2017–2018 in a Western Canadian province. Data were analyzed using three-level multilevel models. In these data, we found that Ethnocultural boys who participated in WiseGuyz reported improved friendship quality with their closest same-sex friend following the end of the program. We also found that Ethnocultural boys who reported a positive change in male role norms related to emotional restriction reported significant improvements to friendship quality from pre- to post-test. Findings suggest the importance of embedding equity into Tier 1 school mental health programming through a specific focus on intersections between gender, race, and ethnicity.

Keywords: equity, ethnocultural youth, gender-transformative, healthy relationships, intersectionality, school mental health

SCANDINAVIAN JOURNAL OF EDUCATIONAL RESEARCH,
VOLUME 66, ISSUE 6 (2022)

1. Merkel, W. (2021). Simple, Yet Complex: Pre-Service Teachers' Conceptions of Plagiarism at a Norwegian University. *Scandinavian Journal of Educational Research*, 66(6), 923–935. <https://doi.org/10.1080/00313831.2021.1939778>

Abstract: In recent decades, research on plagiarism has helped to raise awareness of the complex and multifaceted nature of plagiarism. Yet despite these strides, several influential academic contexts have yet to be examined. The purpose of this qualitative study was to examine pre-service teachers' conceptions of plagiarism at a university in Norway, a country largely excluded from these studies, in part because of its non-EU membership status. Results showed that while students understood several basic elements of plagiarism, their own definitions were narrow in scope, highlighting traditional viewpoints such as plagiarism as transgression. Results also revealed that students' concerns regarding plagiarism aligned with establishing a moral identity as a writer rather than situating plagiarism within the greater context of proper academic writing. Pedagogical implications are discussed.

Keywords: Plagiarism, academic writing, Norwegian higher education, intuitional policy

2. Walker, C. L., Shore, B. M., & Tabatabai, D. (2021). On the Trail of Authentic Collaboration Over Extended Time in Inquiry Classrooms: Following the Footprints of Role Diversification as Indicators that Inquiry Occurred. *Scandinavian Journal of Educational Research*, 66(6), 936–959. <https://doi.org/10.1080/00313831.2021.1940272>

Abstract: Role diversification, the different roles participants adopt within collaborative or inquiry-based teaching and learning environments, is insufficiently understood. We observed two inquiry classroom groups, two teachers and eight students, in weekly visits over three months. Qualitative analysis of audio recorded interactions, interviews, journals, and field notes generated frequencies, nature, and adaptability of student and teacher roles across the extended instructional units, and contextual variables including classroom context, teacher and student differences, and group-work dynamics. Just one role of the many was shared between teachers and students in the situations examined. Role diversification was supported as an indicator of collaborative-inquiry engagement having occurred.

3. Vataja, P., Lerkkanen, M. K., Aro, M., Westerholm, J., Risberg, A. K., & Salmi, P. (2021). The Predictors of Literacy Skills among Monolingual and Bilingual Finnish–Swedish Children During First Grade. *Scandinavian Journal of Educational Research*, 66(6), 960–976. <https://doi.org/10.1080/00313831.2021.1942191>

Abstract: The aim of the study was to examine which predictor variables are related to literacy skills among monolingual Swedish ($n = 269$) and bilingual Finnish–Swedish ($n = 229$) children at the first grade in the Swedish-speaking schools in Finland. The

participants were assessed in phonological awareness, letter knowledge, rapid automatized naming (RAN), word recognition, reading fluency, and spelling. The results showed that RAN was the most significant predictor of reading and spelling skills in both language groups, and monolingual children performed significantly better in RAN. Moreover, letter knowledge predicted reading and spelling skills in both groups. However, no significant differences between language groups in reading and spelling skills were observed. The results emphasize the importance of interpreting the pre-literacy screening, especially with bilingual children.

Keywords: Reading predictors, monolingual, bilingual, reading, spelling

4. Ekeland, T. G. (2021). Designing and Reflecting on Process Quality: A Case Study of Encounters and Clashes among First-year Students in Teacher Education. *Scandinavian Journal of Educational Research*, 66(6), 977–990.
<https://doi.org/10.1080/00313831.2021.1958253>

Abstract: Quality assurance is a major topic in discussions of higher education. General quality indicators for learning processes emerge as a part of the concept to emphasise dimensions that predicts students' learning outcomes. How can teaching designed as inquiry-based learning (IBL) improve process quality? By exploring how the curriculum is applied in an unfolding teaching and learning process for first-year students from a teacher education programme in Norway, one discovers complexities related to general guidelines. The aim is to highlight the discussion of innovative designs for learning to improve process quality, and to show that localised knowledge practice is an important contribution avoiding simplicity in general terms as a measure of quality.

Keywords: Inquiry-based learning method, first-year students, process quality constructions, Localised practices, empirical complexity

5. Chiang, K. H., & Karjalainen, A. (2021). Fluid Education—a New Pedagogical Possibility. *Scandinavian Journal of Educational Research*, 66(6), 991–1004.
<https://doi.org/10.1080/00313831.2021.1958254>

Abstract: Looking beyond analytical philosophy which underlies most pedagogical thinking, this study presents a novel idea of fluid education. Fluid dialectic is not only a theory but a method of this study, which draws on the Hegelian dialectics supplemented by Taoism. It recognises the messiness of educational reality by exploring how pedagogic antinomies can help transpose, de-fix or reposition traditional roles in the classroom, and therefore allow a different type of teaching, learning or educational adventure to take place. In contrast to a reality of fixed roles in traditional education, it acknowledges the non-linearity and oppositions that an educational reality usually has. However, instead of arguing against it, we believe the tensions and antinomies presented are valuable in dialectic and interparadigmatic teaching and learning. A framework of fluid education that emphasises the dialectic movements between different antinomies is presented. How one is liberated from fixed time, space and position is discussed.

Keywords: Educational pedagogy, classroom teaching learning environment, Fluid education philosophy, pedagogical antinomy Hegelian dialectic Schleiermacher education, critical realism education bhaskar, Taoism education, primary secondary and higher education

6. Jegstad, K. M., Fiskum, T. A., Aspors, J., & Eklund, G. (2021). Dichotomous and Multifaceted: Teacher Educators' Understanding of Professional Knowledge in Research-based Teacher Education. *Scandinavian Journal of Educational Research*, 66(6), 1005–1019. <https://doi.org/10.1080/00313831.2021.1958255>

Abstract: In the Nordic countries, teacher education programmes are shifting towards a research-based design, thus placing new expectations and requirements on teacher educators. In this study, we aim to explore teacher educators' understanding of professional knowledge in research-based teacher education. We interviewed 16 Norwegian and six Finnish teacher educators. The teacher educators' views of professional knowledge could be divided into two main categories – academic characteristics and personal characteristics – and three dichotomies were discussed: educational sciences versus subject sciences, research versus teaching and collaboration versus autonomy. Teacher educators come from various backgrounds and bring different experiences into teacher education. Thus, their understanding of professional knowledge in research-based teacher education seems to be dichotomous and multifaceted. The dichotomies that were uncovered and the tensions between them provide the foundation for further development of teacher education in Norway and Finland.

Keywords: Teacher educators, research-based teacher education, professional knowledge, Norway, Finland

7. Parpala, A., Mattsson, M., Herrmann, K. J., Bager-Elsborg, A., & Hailikari, T. (2021). Detecting the Variability in Student Learning in Different Disciplines—A Person-Oriented Approach. *Scandinavian Journal of Educational Research*, 66(6), 1020–1037. <https://doi.org/10.1080/00313831.2021.1958256>

Abstract: This paper examines disciplinary differences in the combinations of approaches to learning (i.e., learning profiles) among students, and how those combinations are related to academic achievement. In addition, the study focuses on how different learning profiles are related to students' self-efficacy beliefs in different disciplines. Data consist of HowULearn survey responses from 4,294 full-time students from six different disciplines. We used a person-oriented approach; that is, the latent profile analysis (LPA) with various functions. The results showed that it is possible to detect different learning profiles of students in different disciplines. The study highlights that students who struggle in almost every discipline have a dissonant learning profile or the deep unorganised profile. Therefore, special attention should be paid to identifying the students with dissonant learning profiles and to support them in recognising their own learning processes. Moreover, students' time and effort management skills should be fostered during university studies.

Keywords: Deep and surface approaches to learning, person-oriented method, self efficacy, disciplines, academic achievement

8. Bjerke, A. H., Smestad, B., Eriksen, E., & Rognes, A. (2021). Relationship between Birth Month and Mathematics Performance in Norway. *Scandinavian Journal of Educational Research*, 66(6), 1038–1048. <https://doi.org/10.1080/00313831.2021.1958371>

Abstract: Due to the fixed school start in Norway in August of the calendar year of students' sixth birthday, the age span in one class is up to twelve months. This can impact academic performance both in the early years and later. In this paper, we investigate the relationship between birth month and mathematics performance by paying attention to the content and cognitive domains addressed in the Trends in International Mathematics and Science Study (TIMSS) 2015. In Norway, the TIMSS 2015 included four cohorts, enabling a comparison between grades. We find significant correlations between birth month and mathematics performance overall as well as in all content and cognitive domains for grades 4, 5 and 8. Furthermore, the gap in mathematics results between the youngest and the oldest in a cohort is less in grade 9 than in grade 4. We suggest that these findings have implications for mathematics teachers' practice.

Keywords: Mathematics education, mathematics performance, relative age effect, birth month, TIMSS 2015, Secondary analysis

9. Matta, C. (2021). Philosophical Paradigms in Qualitative Research Methods Education: What is their Pedagogical Role? *Scandinavian Journal of Educational Research*, 66(6), 1049–1062. <https://doi.org/10.1080/00313831.2021.1958372>

Abstract: In this paper, I discuss and critically assess how the relationship between philosophy of science and qualitative methods is presented and discussed in research on qualitative research methods education (QRME) and qualitative methods textbooks. I argue that both typically convey the idea that philosophy of science guides or influences the use and choice of qualitative methods but are often unclear about how this influence works. I propose two conceptualizations of the relationship between philosophy of science and qualitative methods: philosophical assumptions can either explicate or explain qualitative methods. I argue that both approaches have pedagogical rewards, but that whereas the explanation approach is explicitly or implicitly used in many examples of research on QRME and textbooks, the explication approach has not had wide application. I conclude by arguing that the lack of clarity and the absence of discussion about explication are potential problems for qualitative research methods education.

Keywords: Qualitative research methods education, paradigm, qualitative research methods textbooks, critical thinking, interpretivism, naturalism

10. Andresen, A., & Monsrud, M. B. (2021). Assessment of Dyslexia – Why, When, and With What? *Scandinavian Journal of Educational Research*, 66(6), 1063–1075. <https://doi.org/10.1080/00313831.2021.1958373>

Abstract: The fact that researchers have not been able to reach consensus about what constitutes dyslexia, may lead to inconsistency in the operational definitions of the measures used to assess dyslexia, which in turn jeopardizes the validity of these assessments. As this has potential negative consequences for children in need of remedial reading instruction, the purpose of this study was to examine the procedures for assessing dyslexia, including diagnostic criteria and test battery used. Participants were 118 employees (responsible for dyslexia assessment) at Educational-psychological services (EPSs) in South-Eastern Norway who answered a survey consisting of 19 questions about assessment procedures in their school district. Results showed that a majority (102) of the EPSs emphasized findings from one test battery (Logos) in the assessment work. Further, 71% of participants reported that schools in their school district used a reading assessment which does not have enough documentation of psychometric properties.

Keywords: Assessment tools, Construct validity, diagnostic criteria, dyslexia, dyslexia assessment

11. Chaudhuri, S., Muhonen, H., Pakarinen, E., & Lerkkanen, M. K. (2021). Teachers' Focus of Attention in First-grade Classrooms: Exploring Teachers Experiencing Less and More Stress Using Mobile Eye-tracking. *Scandinavian Journal of Educational Research*, 66(6), 1076–1092. <https://doi.org/10.1080/00313831.2021.1958374>

Abstract: This study investigated teachers' focus of attention and stress in first-grade classrooms. Teachers' (n = 53) focus of attention was recorded in fall and spring with a mobile eye-tracking device, and the teachers reported stress via questionnaires. Correlation analysis was used to examine association between teacher stress (exhaustion, cynicism, and inadequacy) and focus of attention. Then, one teacher reporting more stress and one reporting less stress were selected for a case study to examine variations in their focus of attention. The results showed positive associations between teachers' perceived inadequacy and overall focus of attention (whole eye-tracking recording) both in fall and spring. Teachers' focus of attention during specific activity settings of management/routines and transitions correlated positively with all three stress domains in fall. In addition, a positive association was also found between teacher inadequacy and focus of attention during teacher-directed large group activity setting.

Keywords: Mobile eye tracking, focus of attention, teacher stress, inadequacy, first-grade classroom

12. Palla, L., & Sjögren, H. (2021). Simply Quality? State Governance of Swedish Preschools' Work with Children in Need of Special Support. *Scandinavian Journal of Educational Research*, 66(6), 1093–1107. <https://doi.org/10.1080/00313831.2021.1958375>

Abstract: The purpose of this critical study is to generate knowledge about decisions by education authorities that serve an advisory and normative function for Swedish preschool

education at the operational level, with a focus on work with children in need of special support. This has been achieved by scrutinising documents generated in conjunction with a quality audit within the framework of the Swedish Schools Inspectorate's three-year focus on preschools from 2015 to 2017. The analysis shows that the documents can be understood as discursive expressions within and for a regime of truth, wherein the effects of power contribute to certain norms and values gaining precedence in the operationalization of what constitutes qualitative special support. The analysis further shows that the state quality audit focuses on instrumental and measurable understandings of quality and highlights sameness rather than difference by downplaying the ethical and pedagogical aspects of the special support.

Keywords: Children in need of special support in preschool, governing, power, policy document, quality audit, regimes of truth, special education

SCIENCE EDUCATION

1. Jones, B. L., & Taylor, J. C. (2022). Within the walls of the classroom: How science teachers' instruction can develop students' sociopolitical consciousness. *Science Education*, 106(5), 1021–1031. <https://doi.org/10.1002/sce.21727>

Abstract: In this paper, we synthesize existing literature on Culturally Relevant Science Teaching (CRST), more specifically the third tenet of CRST-developing students' sociopolitical or critical consciousness. While there is research on this third tenet, our review of the literature reveals that this tenet is understudied and underutilized. We offer our conceptual framework and an illustrative example to demonstrate how teachers can practically implement the third tenet of CRST to engage and empower students in science. We hope that the ideas and examples shared in this piece will help teachers foster students' sense of sociopolitical consciousness and advocacy within the walls of the classroom and beyond. We also urge researchers to continue producing research on this important topic so that practitioners can use this information to develop students' sociopolitical/critical awareness, reflections, and actions.

2. Jones, T. R., & Burrell, S. (2022). Present in class yet absent in science: The individual and societal impact of inequitable science instruction and challenge to improve science instruction. *Science Education*, 106(5), 1032–1053. <https://doi.org/10.1002/sce.21728>

Abstract: Current science instruction does not educate K-12 students equitably and creates short- and long-term impacts on individual students and society. While students may be present in class, they may not have access to quality science learning experiences. The goals of this paper are to show how science instruction may not be reaching its aim of equitable access and to offer recommendations for creating a new baseline standard for equitable science instruction. Though not exhaustive, this paper identifies groups of students who are marginalized in current-day science instruction—the racially minoritized, those with physical and cognitive differences, and those in urban or rural communities. First, this paper challenges the neutrality of science by highlighting systemic yet negative outcomes that disproportionately impact minoritized populations in everyday life because of the narrow network of people who define and solve problems. Second, this paper identifies examples where science instruction is not of its highest quality for the highlighted groups. Third, we present a synthesis of research-informed solutions proposed to improve both the quality of science instruction and its equitable access for the highlighted groups, creating a new baseline standard for equitable science instruction. An elevated baseline would address the existing disparities in who has access to quality science instruction and consequently reduce the gatekeeper effect of who defines and solves societal problems that perpetuate intergenerational inequities.

3. Larkin, D. B. (2022). Getting to a good place with science instruction: Rethinking an appropriate conception of teaching science. *Science Education*, 106(5), 1054–1070. <https://doi.org/10.1002/sce.21742>

Abstract: This essay opens with a question about what science teaching would look like in a world where categorical seams of human diversity were not probabilistic determinants of science learning. After revisiting Hewson and Hewson's description of an “appropriate conception of science teaching,” I detail the ways in which the field of science education has advanced in the decades since that article's publication. Drawing upon Cohen's notion of teaching as an “impossible profession,” I highlight how conceptions of science teaching compete with other popular models of teaching and learning science. Fenstermacher and Richardson's distinction between *successful teaching*, and *good teaching* is then presented to demonstrate that even science teaching that is considered successful and good remains embedded in a constrained system where well-regarded classroom practices may still lead to accumulated negative consequences. The essay ends with a discussion of complexity and recursiveness in science teaching, an argument for science teaching that includes embedded understandings of that teaching and learning on the part of the students themselves, and suggestions for a revised conception of science teaching.

4. Burgess, T., & Patterson Williams, A. (2022). Utilizing theory to elucidate the work of creating equity for transformation within the science classroom. *Science Education*, 106(5), 1071–1083. <https://doi.org/10.1002/sce.21721>

Abstract: In this paper, we outline how science teachers might engage in the work of creating educational equity. While acknowledging the historical inherent inequities associated with issues of access, opportunities to engage in science learning for individuals of marginalized identities (e.g., BIPOC individuals and women), and achievement, we broaden this definition to include social justice as a framework by which we can develop opportunities for the fostering of students' affinity identities with science. To this end, we draw on theorizations of equity within educational research, specifically discussed as excellence, equality, fairness, a zero-sum game, and most recently, social justice. Additionally, we utilize McKinney de Royston and Nasir's (2017) *Racialized Learning Ecologies* framework. This framework provides a useful lens to notice the layers of (in)equity within education. We then extend this ecological model into science education and present three lenses (i.e., layers) through which equity operates within science teaching and learning. We conclude with a discussion of the practical implications of doing the work of equity, that is, recognizing, interpreting, and redressing inequity in science classrooms. Ultimately, we provide an actionable definition of equity that has the potential to facilitate transformative and socially just science teaching and learning.

5. Basile, V., & Azevedo, F. S. (2022). *ideology in the mirror* : A loving (self) critique of our equity and social justice efforts in STEM Education. *Science Education*, 106(5), 1084–1096. <https://doi.org/10.1002/sce.21731>

Abstract: This manuscript is born from contemplating and exploring how it is that we see so little systemic change in STEM education after so many years of working toward it, including the insidious persistence of systems of oppression, and historical and

generational exploitation that our current critical, social justice efforts in STEM teacher preparation programs are ineffective and ill-equipped at changing or dismantling. Starting from an explanatory frame of Freire's conundrum of the oppressed, we theorize toward a more complex notion of ideological change. Through the novel reflexive discourse of a *loving (self) critique*, we interrogate our own individual failures to construct a better theoretical understanding of them. Using self-reflections and other examples, we theorize an imperative of continued *ideological growth and development* to more authentically step forward in our STEM education equity and social justice work.

6. Kayumova, S., & Dou, R. (2022). Equity and justice in science education: Toward a pluriverse of multiple identities and onto-epistemologies. *Science Education*, 106(5), 1097–1117. <https://doi.org/10.1002/sce.21750>

Abstract: Concepts in science education such as “science identity” and “science capital” are informed by dominant epistemological and ontological positions, which translate into assumptions about what counts as science and whose science counts. In this theoretical paper we draw on decolonial and antiracist perspectives to examine these assumptions in light of the heterogeneous onto-epistemological and axiological values, cultural perspectives, and contributions of nondominant groups, and specifically of those who have been historically marginalized based on their gender, race, ethnic, age, and/or social class identity. Building on these arguments, we critique deficit-based approaches to science teaching, learning, and research, including those that focus on systemic injustice, yet leave intact dominant framings of the scientific enterprise, which are exclusionary and meritocratic. As an alternative, we offer a design of science teaching and learning for the pluriverse—“a world where many worlds fit”. This alternative allows us to reconstruct science and science-related “outcomes,” such as identity, in the service of cultural, epistemic, and linguistic pluralism. We close the paper with the idea that because mainstream theories reproduce deficit framings and educational injustices, we must engage with decolonial¹ theories of pluriversality and discuss different onto-epistemologies to be able to grapple with existing social, racial, environmental injustices, and land-based devastations.

7. Madkins, T. C., & Nazar, C. R. (2022). Theoretical Perspectives for developing antiracist teaching dispositions and practices in Preservice teacher education. *Science Education*, 106(5), 1118–1134. <https://doi.org/10.1002/sce.21757>

Abstract: For some time, scholars who are guided by critical theories and perspectives have called out how white supremacist ideologies and systemic racism work to (re)produce societal inequities and educational injustices across science learning contexts in the United States. Given the sociopolitical nature of society, schooling, and science education, it is important to address the racist and settled history of scientific disciplines and science education. To this end, we take an antiracist stance on science teaching and learning and seek to disrupt forms of systemic racism in science classrooms. Since teachers do much of the daily work of transforming science education for minoritized learners, we advocate for preparing teachers who understand what it means to engage in antiracist, justice-oriented science teaching. In this article, we share our framework for

supporting preservice teachers in understanding, developing, and implementing antiracist teaching dispositions and instructional practices. In alignment with other researchers in teacher education who emphasize the importance of anchoring teacher education practice and research in prominent educational theory, we highlight the theories undergirding our approach to antiracist science teaching. We offer considerations for how researchers and science teacher educators can use this framework to transform science teacher education.

8. Haverly, C., & Brown, B. A. (2022). Mentoring across differences in science education: Applying a brokering framework. *Science Education*, 106(5), 1135–1148. <https://doi.org/10.1002/sce.21720>

Abstract: Mentoring relationships in academia have traditionally been described as a dyad between a mentor and a mentee. The mentor provides the mentee with both technical and psychosocial support to move toward obtaining their Ph.D. or gaining tenure and promotion. While there is an embedded assumption that mentoring is best suited when people of common background support each other, scholars must consider the impact of mentoring across differences. Given the lack of diversity among senior faculty members in science education, and given the increasing diversity represented among graduate students and early career scholars in science education, inevitably mentoring relationships will be formed across differences in identities (race, ethnicity, gender, sexuality, ability). In our essay, we focus on two focal points: we explore those aspects of mentoring relationships that research suggests are critical to the success of relationships built across differences, foregrounding lessons science education researchers can take from this literature and arguing that it is too much to expect one individual mentor to provide to any given mentee. Next, we propose a brokering framework, leveraging technological advances, to work toward more transformative mentoring outcomes at scale, particularly when mentoring across differences.

9. King, N. S., & Upadhyay, B. (2022). Negotiating mentoring relationships and support for black and Brown early-career faculty. *Science Education*, 106(5), 1149–1171. <https://doi.org/10.1002/sce.21755>

Abstract: In this essay, we share historical and structural components of mentoring within institutions of higher education and grapple with technical and moral obligations of support. We argue for more humanizing approaches that embed personal, social, and cultural aspects of mentoring, and seek to disrupt the purposes of mentoring, and for whom? Using a critical approach, we promote justice-oriented and equity-driven models of mentoring that account for excessive teaching loads and service commitments for faculty at minority-serving institutions and Black and Brown faculty at predominantly White institutions. Current promotion and tenure publish or perish models neglect the intellectual and scholarly contributions made through teaching and service and therefore hold the same level of expectations for engagement in and dissemination of research. We share our own stories as Faculty of Color navigating institutional structures during the promotion and tenure process, while also negotiating incongruent cultures of our personal and professional lives. Furthermore, we address the need for mentoring and networking within exclusionary spaces to support the productivity and critical research agendas of

Black and Brown faculty that often challenge the white heteronormative cultures of our institutions, professional organizations, peer-reviewed journals, and prestigious funding mechanisms. Implications of this essay include an acknowledgment of oppressive systems that early-career Black and Brown faculty often navigate and a call for diverse mentoring programs and supports that conform with and validate our lives and needs. Furthermore, we provide recommendations on evidence-based resources and approaches that are available to science, technology, engineering, and mathematics faculty and science educators.

10. Settlage, J. (2022). Mentoring science educators for equity-centered futures. *Science Education*, 106(5), 1172–1177. <https://doi.org/10.1002/sce.21759>

Abstract: This framing essay situates the author's experiences with mentoring. This serves as a prelude to the two foundational essays about equity-centered science education included within this special issue.

11. Kang, H., & González-Howard, M. (2022). Beginning School–University Partnerships for Transformative Social Change in science education: Narratives from the Field. *Science Education*, 106(5), 1178–1197. <https://doi.org/10.1002/sce.21723>

Abstract: These narratives explore what it might entail to begin school–university partnerships towards the goal of transformative social changes through the voices of two women scholars of color. Using two school–university partnerships as focal cases, we unpack the complexity, tensions, and possibilities that arise through collaborations driven by the objective to promote new and more just forms of science learning within public schools. In this article, we use three key dimensions of participatory design research (namely, critical historicity, power, and relationality) as analytical lenses through which to reflect upon school–university partnerships that we are in the beginning stages of forming. Through this methodology, we shed light on: (a) the historical genealogies of equity-oriented work and (b) the tensions that we encountered as we strived for beginning partnerships with K-12 schools. These narratives unveil the dynamic and contentious nature of forming school–university partnerships that always occurs within a socio-political landscape impacted by intersecting and powered identity markers, including those around race, gender, language, culture, and status. We provide specific recommendations for supporting education researchers who aspire to transform the learning of sciences at schools through a collaborative and sustainable partnership. These recommendations include ideas around how to collectively generate goals with schools centered on transformative science learning; attention to the role of language and race in shaping partnership role-remediation; and creating infrastructure for developing school–university partnerships toward transformative social changes, including financial, human and relational resources, as well as new forms of recognition systems.

12. Cheuk, T., & Morales-Doyle, D. (2022). Talking through the “messy middle” of partnerships in Science Education. *Science Education*, 106(5), 1198–1213. <https://doi.org/10.1002/sce.21751>

Abstract: This paper's focus is on the “middle” of partnerships for equity in science education. Middle is used in a temporal sense, meaning the time after the general purposes and terms of working together have been set and before outcomes have been achieved. The middle of the partnership also represents people interacting, bounded around the edges, by their institutional roles, norms, resources, and priorities. As co-authors who had not previously collaborated (or even met in person), we approached the construction of this manuscript as a dialogue where we learn by sharing narrations of experiences and values and principles. We were inspired by the conversational book between Horton and Freire (1990) and specifically their discussion of “Is it possible to just teach biology?” (p. 102). In our conversation, we illustrate the ways in which partnerships may make justice-oriented science education possible. Our focus is on complementary and contradictory knowledges, and ways of knowing, institutional resources and constraints, and strategies for making transformative change. We explore the middle of partnerships as a series of opportunities for learning and growing, caring for one another, and building solidarity spaces together.

13. Santos, S., & Scipio, D. (2022). Beginning with the end in mind: Meaningful and intentional endings to equitable partnerships in Science Education. *Science Education*, 106(5), 1214–1231. <https://doi.org/10.1002/sce.21752>

Abstract: This paper is one of three sequential papers interrogating equity in partnerships (or partnering relationships [PRs]) in science, technology, engineering, and mathematics education. In this piece, we prioritize abundance framing and dignity-conferring work when engaging in partnerships with and for communities who have been historically marginalized. We propose a framework of seven drivers that define the directions and/or success of PRs: (1) mission, vision, or values; (2) goals or outcomes; (3) practices or processes; (4) power, privilege, or oppression; (5) communities and geography; (6) time and urgency; and (7) partners. This framework can be used to examine PRs at any phase of their existence to ensure equity-centered and dignity-conferring processes and outcomes. We discuss case studies that are common or specific challenges or frustrations that occur in nonequity-centered PRs. We frame these as six vexations: (1) sustainable PRs; (2) dignity-conferring PRs; (3) repetitive PRs; (4) political PRs; (5) “mission trip” PRs; (6) and deceptive PRs. We address these by using a data feminist lens (a perspective inspired by the book *Data Feminism* that centers on justice in defining and presenting outcomes), and future dreamings (a perspective that centers on potential ahead) to define our suggestions for designing intentional endings of partnerships.

14. Bancroft, S. F., Ryoo, K., & Miles, M. (2022). Promoting equity in the peer review process of journal publication. *Science Education*, 106(5), 1232–1248. <https://doi.org/10.1002/sce.21733>

Abstract: While there is evidence to support the existence of identity-based disparities, inequities, and biases in the academic journal peer-review process, little research supports the presence of this bias in the peer-review process for academic journals in science education. Through an analysis of six leading journals in science education, we aimed to

investigate the extent to which diversity, equity, and inclusion (DEI), as well as the presence of bias in the peer-review process, are addressed by these journals. We analyzed trends in the gender/sex, geographical affiliation, race/ethnicity, and the presence of equity-centered research focus for members of these journals' editors and editorial boards. We found that although gender/sex is well-balanced in these journals' editors and editorial boards, they are typically North American centric, and White individuals are overwhelmingly represented. Four journals had a quarter or more of individuals who pursue equity-centered research. Only two journals provided detailed information on how manuscripts are reviewed in their author submission guidelines. All used a double-blind approach to peer-review. One of the journals includes an explicit position on DEI. Based on the analyses and reflections on our own experiences, we recommend science education journals consider ways to probe whether bias does exist in their peer-review process, diversify their board to be more inclusive of scholars from communities historically marginalized, and move to a triple-blind approach to their peer-review process as mechanisms to mitigate bias in the journal peer review.

15. Nkrumah, T., & Mutegi, J. W. (2022). Exploring racial equity in the Science Education Journal Review process. *Science Education*, 106(5), 1249–1263. <https://doi.org/10.1002/sce.21719>

Abstract: Across a broad range of disciplines, research has found that inequity is systemic in the journal review process. Collectively, however, this study does not specifically examine racial inequity. Moreover, literature on the peer review process in science education, in particular, does not foreground equity as a subject of study. The present study aims to address this void by examining racial equity in the peer review process with a specific focus on journals in science education. Data are collected from lead editors of major science education journals through the form of interviews, focus groups, and critical arts-based methods. The two research questions driving data collection are (a) In what ways does the science education journal peer review process promote racial equity? and (b) How are science education journal editors' perceptions of racial inequity reflected in the peer review process? McNair and colleagues' racial equity framework informs the explorations of journal review in science education from the lead editors' perspectives. From our findings, we offer four suggestions for moving toward greater racial equity in the science education peer review process.

16. Marshall, S. L., & Salter, A. O. (2022). Moving beyond the boilerplate: Reflections on equity-centered reviewing for granting organizations. *Science Education*, 106(5), 1264–1282. <https://doi.org/10.1002/sce.21718>

Abstract: This essay centers on the voices of leading scholars in science and STEM education on how equity can and should be centered in reviewing proposals for granting organizations. As the decisions made as a result of the reviewing process significantly impact the future directions of the field, we recognize the urgency in considering how equity is considered in this process. Through their experiences, four researchers offer the science and STEM community a *call to action*. The scholars interviewed highlighted that equitable reviewing and funding research and professional development will require

changes within the science education and STEM funding ecosystem. Three overarching themes include (1) changing the ideologies and culture of science and STEM education research funding will require centering the needs of the communities being served; (2) institutions and granting organizations should adopt equity-focused and holistic rubrics and models; and 3) we each have an individual responsibility to employ equity during the review process. Thus, this essay has the potential to both inspire and provide explicit examples of how we can all center equity as we strive to transform the future of science and STEM education.

17. Olitsky, S. (2022). Complex pathways within nested systems: Exploring approaches to centering equity in peer review. *Science Education*, 106(5), 1283–1298. <https://doi.org/10.1002/sc.21732>

Abstract: In this essay, I explore some of the insights provided in a set of three manuscripts that focus on centering equity in peer review, authored by Bancroft, Ryoo and Miles, Nkrumah and Mutegi, and Marshall and Salter. I consider various aspects of their arguments, highlighting implications for the procedures and norms of journals and funding organizations and questions for further consideration. Drawing on their findings and analyses, I discuss various recommendations, such as the need to change the rules and norms of peer review to be more equitable, to ensure that reviews are free from race, ethnicity, gender, and other kinds of identity-related biases, to work towards equitable distribution of the resources, such as advising, mentoring, and valuable feedback, that support fair reviewing, and to establish criteria and rubrics that support research that is conducted in collaboration with communities marginalized in science education. In addition, I raise issues for further consideration, including the evolving relationship between “equity” and “merit” with regard to peer review and the need for centering equity in ways that allow for discussion, debate, and development of the field.

18. Suárez, E., & Beatty, C. C. (2022). Advising in science education: Critiquing where we have been, moving toward an equitable and holistic advising approach. *Science Education*, 106(5), 1299–1317. <https://doi.org/10.1002/sc.21745>

Abstract: This article explores and wrestles with the various discourses that arise when considering why it is important to advise students from an assets-based and holistic approach into science-related majors and careers. Our hope is to inform how and why it is important to advise students into science-related careers, specifically, and Science, Technology, Engineering, and Mathematics (STEM) fields, more generally, from an ethical and justice-oriented approach. We begin with a review of empirical literature that highlights the different approaches to advising and the challenges racially and gender-minoritized students often face in STEM fields. We then review contemporary research from science education that document the hostilities that racially and gender-minoritized students experience in undergraduate and graduate science programs. We find the intersection of these two subfields to be productive for elucidating multilevel, context-dependent strategies, which can redress the inexcusable and alarming underrepresentation and exclusion of racially minoritized peoples in science programs and careers in the United States. We end by contemplating the ethical question of how science programs,

careers, and the broader field would need to change, to keep historically minoritized students from experiencing further material and epistemological violence. We argue that, without this reimagination, even the most effective advising models will only ensure that more racially and gender-minoritized students are sacrificed on the altar of “equality” for the sake of the economic and geopolitical needs of the state.

19. Dodo Seriki, V., & McDonald, S. (2022). Structures of becoming: The who, what, and how of holistic science advising. *Science Education*, 106(5), 1318–1328. <https://doi.org/10.1002/sce.21730>

Abstract: Addressing equity issues in science education requires a reorientation to how science students are advised and how science, technology, engineering, and mathematics (STEM) education, particularly science, is viewed. STEM education is often figuratively described as a pipeline containing students who *leak* out before reaching the nexus of their STEM education/career journey. The authors of this paper argue that STEM education must be viewed from an ecosystems perspective, where students interact with one another, their physical environment and cultural contexts, and other humans who can support them in becoming STEM professionals. Within this STEM ecosystem, many individuals have a pivotal role in supporting students as they learn and develop within the science field. These individuals, particularly advisors, must possess knowledge, beliefs, skills, and dispositions that help students cultivate a sense of belonging, engage them in critical thinking about their academic and career choices, and aid their identity development in learning as becoming in STEM professions. The authors describe who these individuals are, the roles they play, and also provide practical examples, using vignettes, of how advisors can support students of color pursuing science degrees and careers. Finally, recognizing that students' STEM advising ecosystem operates at any grade level or stage of life, the authors have organized the descriptive portion of this study according to the following levels elementary, secondary, undergraduate, graduate, and career.

20. Morton, T. R., & McKinney de Royston, M. (2022). A critical-ecological approach to stem p-20+ advising. *Science Education*, 106(5), 1329–1338. <https://doi.org/10.1002/sce.21722>

Abstract: This essay is the second paper of a related three-paper set that examines, critiques, and offers responses to current conceptions of academic advising within P-20+ STEM education. In this essay, we offer a review of the current understandings of academic advising and its existing limitations with meaningfully supporting Black and Brown STEM learners. As a response to this critique, we call for a critical-ecological perspective to STEM academic advising, leveraging Phenomenological Variant Ecological Systems Theory (PVEST) as the conceptual background for this approach. We then provide a set of guiding principles for educators to consider when taking a PVEST approach to academic advising. In providing these guiding principles, we situate the third paper in the set as those authors offer specific examples for how this approach can be implemented across the P-20+ STEM spectrum.

SOCIOLOGY OF EDUCATION

1. Coley, J. S., Das, D., & Adler, G. J. (2022). Creating Sacred Spaces: Buddhist, Hindu, Jewish, and Muslim Student Groups at U.S. Colleges and Universities. *Sociology of Education*, 95(3), 171–188. <https://doi.org/10.1177/00380407221084695>

Abstract: Why are some schools home to Buddhist, Hindu, Jewish, and Muslim student organizations but others are not? In this article, we draw on theories of student mobilization, especially recent theoretical insights on educational opportunity structures, to understand the factors associated with the presence and number of minority religious student organizations at U.S. colleges and universities. Analyzing an original database of minority religious student groups across 1,953 four-year, not-for-profit U.S. colleges and universities, we show that large, wealthy schools that are located in liberal, pluralistic contexts and that are not affiliated with Christian denominations exhibit greater odds of having at least one minority religious student organization. Similar factors are associated with the overall number of minority religious student organizations at a school. Our article represents the most comprehensive study to date of minority religious student organizations and sheds light on issues of unequal access to student organizations more generally.

Keywords: higher education, sociology of religion, social movement theory, religious student organizations, student engagement, minority religion

2. Mark, N. D. E., Geller, A., & Engberg, J. (2022). Adding Insult to Injury: Arrests Reduce Attendance through Institutional Mechanisms. *Sociology of Education*, 95(3), 189–215. <https://doi.org/10.1177/00380407221099649>

Abstract: Students across the United States experience high levels of contact with the police. To clarify the causal relationships of this contact with educational outcomes and the mechanisms by which such relationships arise, we estimate the effects of arrest on student engagement with school using daily attendance data. Recently arrested students missed significantly more school than did students who would be arrested later in the school year. The effects of arrest on attendance can be attributed to suspensions and court appearances; we found little evidence of changes in absences due to health or skipping school. These results suggest that institutional, not student centric, mechanisms drive the relationship between arrest and educational outcomes. Were it not for institutional channels, particularly exclusionary discipline, arrested students would likely remain more engaged in school. Estimates are similar for white and black students, but black students are differentially affected because they are arrested at higher rates.

Keywords: attendance, arrest, casual inference, police contact, inequality

3. Handsman, E., Farrell, C., & Coburn, C. (2022). Solving for X: Constructing Algebra and Algebra Policy During a Time of Change. *Sociology of Education*, 95(3), 216–232. <https://doi.org/10.1177/00380407221087479>

Abstract: The year students take Algebra I historically determines how far they progress in secondary mathematics, creating complex equity issues around access to this course. By examining a case study of one large, urban school district adjusting to the Common Core State Standards in Mathematics (CCSS-M), we demonstrate how district leaders' interactions, in combination with their organizational and institutional environments, led to an overhaul of the secondary mathematics course pathway, ending in detracked middle school mathematics. We find that district leaders' deliberations of mathematics policy were constrained by organizational concerns around pedagogy, equity, logistics, and politics. In other words, the disruption created by the CCSS-M was limited by extant organizational priorities. This study has potential implications for theorizing disruptions and for better understanding equity-oriented mathematics policy and practice.

Keywords: tracking, school policy, ethnography, educational policymakers, STEM

4. Pearman, F. A., & Marie Greene, D. (2022). School Closures and the Gentrification of the Black Metropolis. *Sociology of Education*, 95(3), 233–253. <https://doi.org/10.1177/00380407221095205>

Abstract: Largely overlooked in the empirical literature on gentrification are the potential effects school closures have in the process. This study begins to fill this gap by integrating longitudinal data on all U.S. metropolitan neighborhoods from the Neighborhood Change Database with data on the universe of school closures from the National Center for Educational Statistics. We found that the effects of school closures on patterns of gentrification were concentrated among black neighborhoods. School closures increased the probability that the most segregated black neighborhoods experienced gentrification by 8 percentage points and increased the extent to which these neighborhoods experienced gentrification by .21 standard deviations. We found no evidence that school closures increased the likelihood or extent that white or Latinx neighborhoods experienced gentrification. Substantive conclusions were consistent across multiple measures of gentrification, alternative model specifications, and a variety of sample restrictions and were robust to a series of falsification tests. Results suggest school closures do not simply alter the educational landscape. School closures are also emblematic of a larger spatial and racial reimagining of U.S. cities that dispossesses and displaces black neighborhoods.

Keywords: school closures, gentrification, urban schooling, segregation, displacement

SRELS JOURNAL OF INFORMATION MANAGEMENT

1. Ady, D. (2022). Librarians: It's Time to Redesign Librarianship. *SRELS Journal of Information Management*, 1–3. <https://doi.org/10.17821/srels/2022/v59i1/168681>

Abstract: The article surveys a few aspects of librarians' work in light of current events and trends; as library collections become more digitalized than print, virtual librarianship may take the place of conventional work settings; further claims are that librarians are uniquely qualified to take on society's information literacy problem. Potentially embedding on popular Internet platforms, librarians can help Internet users improve their information discernment skills, so they are better able to find information and identify inaccuracies in the forms of misinformation, disinformation, propaganda, and to be cognizant of confirmation bias.

Keywords: Critical Information Literacy, Digital Literacy, Embedded Librarian, Fake News, Information Literacy, Internet Librarian, Internet Literacy, Librarian, Librarianship, Virtual Librarianship.

2. Masinde, J. M., & Sanya, O. (2022). Information Organization Activities in the Knowledge Management Setting. *SRELS Journal of Information Management*, 5–14. <https://doi.org/10.17821/srels/2022/v59i1/156204>

Abstract: This study examines information organization activities in the knowledge management setting. The investigation commences with the long-drawn debate on the concept of Knowledge Management and the literature that has hitherto reviewed it. Furthermore, the study delves into how conventional bibliographic information retrieval techniques and expert search systems have heretofore been applied in the organization and retrieval of digital resources and if they can be employed in the Knowledge management setting. It is contended that though the procedures, tools, and techniques are effectual and productive, they cannot be utilized in a knowledge intensive environment. Accordingly, the study puts forth a generic knowledge management frame work that can be applied in a knowledge management setting. In addition, it proposes novel research gaps in the context of information organization.

Keywords: Digital Libraries, Information Organization, Knowledge Management Environment, Knowledge Management Systems.

3. Owolabi, K. A., Abayomi, A. O., Aderibigbe, N. A., Kemdi, O. M., Oluwaseun, O. A., & Okorie, C. N. (2022). Awareness and Readiness of Nigerian Polytechnic Students towards Adopting Artificial Intelligence in Libraries. *SRELS Journal of Information Management*, 15–24. <https://doi.org/10.17821/srels/2022/v59i1/168682>

Abstract: This survey research investigated the awareness and readiness for Artificial Intelligence (AI) among polytechnic students in Nigeria. Five Polytechnics were purposively selected for the study. The study population comprised of three hundred and twenty (320) final year students registered as members in the selected polytechnic

libraries. A questionnaire was used for data collection. Purposive sampling was used to select one hundred (100) respondents from each of the polytechnics. Findings revealed that the students were aware of the existence of Artificial Intelligence usage in library operations and gained awareness during library orientation programmes. The students admitted that they needed to have basic computer skills to be relevant in this era. The major anticipated constraint in the use of AI is unstable power supply. The study recommends the need for polytechnic library managements to harness alternative sources of power supply, and the need to include practical ICT training in the curriculum.

Keywords: 4IR, Artificial Intelligence, Awareness, Nigeria, Preparedness, Undergraduate Students

4. Kumar, N. P. R., Kumar, A., Rathinasabapathy, G., Kandpal, K. N., & Kumar, D. V. (2022). Impact of MOOC on Agricultural Professionals in India - A Case Study. *SRELS Journal of Information Management*, 25–35. <https://doi.org/10.17821/srels/2022/v59i1/167011>

Abstract: The past few years have witnessed a rapid surge in the development of Massive Open Online Courses (MOOCs). The ICT and associated technologies have necessitated that academic and research community shift to online mode of education. At the same time we have witnessed parallel rise in number of MOOC platforms across the globe. As MOOCs grow in popularity, academic institutes in the world have shifted their mode of imparting knowledge from mere class room to blended mode. The online courses are attracting the learners with their content and user-friendly platform. This paper presents a case study of MOOC on Information Handling Skills for Teaching Learning and Research which was organized for Agricultural Stakeholders of NARS as part of ICAR - NAHEP (IG) Sub Project on National Knowledge Management Centre for Agricultural Education Research (NKMC4AER). A total of 1118 participants were registered for the MOOC comprising of video lectures, live interactive lectures, online quizzes, and discussion forum. In this paper an attempt has been made to study the participants use of course lecture videos, time spent, an in-depth picture of participants, how their own background and capabilities related to their achievement and persistence, and how their interactions with curricular and pedagogical aspects. It also focused on completion rates and assessments

Keywords: Agriculture, Information Handling Skills, Massive Open Online Courses (MOOC), National Agricultural Higher Education Project (NAHEP), National Knowledge Management Centre for Agriculture Education and Research (NKMC4AER)

5. Chandra, R. (2022). Trend Analysis of Research Funded by Defence Research and Development Organisation. *SRELS Journal of Information Management*, 37–44. <https://doi.org/10.17821/srels/2022/v59i1/158536>

Abstract: This study was carried out to investigate the trend of research funded by Defence Research and Development Organisation (DRDO) published between 2014 to 2018. Total 1569 articles published in 701 sources with an average 9.04 citations per

document were found in Scopus database and downloaded in the BibTeX file format. Bibliometrix R Package was used to analyze different aspects of research. The study involved 3576 authors with 0.44 documents per author and 2.28 authors per document. The top 10 productive journals published 823 articles (52.45%). The journal RSC Advances published the highest number of articles. The top 10 productive authors published a total of 445 articles with 3836 received citations. Defence Metallurgical Research Laboratory collaborated with the highest number of research. Majority of the researches were carried out in India with collaboration with other countries, mainly from developed countries. The majority of the research was carried out under the subject microstructure, mechanical properties, X ray diffraction, optical properties, hypoxia, etc. This work may help DRDO to evaluate their criteria in funding research in future.

Keywords: Bibliometric Study, Bibliometrix, Defence Research and Development Organisation, DRDO, Network Analysis, Research Trend

6. Rajpurkar, S. S. (2022). Changing Role of College Librarians' in Autonomous Environment: A Study. *SRELS Journal of Information Management*, 45–52. <https://doi.org/10.17821/srels/2022/v59i1/158455>

Abstract: According to University Grants Commission (UGC) guidelines for autonomy, the only way to improve quality in higher education is to assign academic freedom to colleges affiliated to the university. Quality education is the prime motto of the Indian government and to ensure quality in higher education government of India is endorsing academic autonomy from the last few years. To assess the influences on the academic libraries of an autonomous environment and to examine whether there is any change in the role of academic librarians the researcher opted for the present study. Twenty-five autonomous college librarians from Mumbai were selected as the population for the study. The Role Efficacy scale of Udai Pareek was used to analyze the changing role of librarians with telephone interview. The present study throws some light on the changing role of librarians in the autonomous environment.

Keywords: Libraries, Autonomy, College Libraries, Quality Education, Role of Librarians.

7. Niveditha, B., & Kumbar, M. (2022b). URL Degeneration: A Warning to Scholarly Community. *SRELS Journal of Information Management*, 53–63. <https://doi.org/10.17821/srels/2022/v59i1/163835>

Abstract: The present study examines the degeneration of web citations in scholarly journals of Library and Information Science, and Communication and Media Studies. The journals were selected based on their high impact factor published between 2008 and 2017. A PHP script was used to crawl the Uniform Resource Locators collected from the references. A total of 8,767 articles were downloaded and 3,97,140 references were extracted. A total of 71,289 URLs were checked for their availability. Further, the characteristic features of URL like file extension, path depth, character length and the toplevel domain were determined. The findings indicated that more number of URLs in

LIS journal articles decayed than in Communication and Media Studies journal articles. The majority of errors in both the disciplines were HTTP 404 error code (Not found error). The findings of the study imply that authors, publishers and editorial staff need to ensure the availability of web resources before citing them.

Keywords: Communication and Media Studies, Digital Object Identifiers (DOIs), HTTP Error, Library and Information Science, References, Web Citations, PHP, URLs

8. Roy, A. (2022). Measuring Open Access Friendliness of Indian Central Universities through Data Carpentry. *SRELS Journal of Information Management*, 59(3), 131–139. <https://doi.org/10.17821/srels/2022/v59i3/170100>

Abstract: The present study measures the open access friendliness of Indian central universities against some open access indicators based on 100 points scale. It applies a data carpentry tool namely Open Refine to measure the open access friendliness of Indian universities. This ranking framework consists of two primary areas viz. OA publications share and OA license share, including five factors (OA share, Gold and Green OA share, Repository share, OA license share and Gold & Green license share). The present study has analysed a total of 85916 publications of ten central universities that are listed in the National Institutional Ranking Framework (NIRF), 2021 covering 28.43% of publications under four OA routes (*Gold OA*, *Green OA*, *Hybrid OA* and *Bronze OA*). The study has proposed an OAFI ranking framework for measuring the web presence of said universities. It is found that Visva Bharati University ranks 1st scoring 64.04 (out of 100) points and Tezpur University has scored the lowest points i.e., 48.75 (out of 100).

Keywords: Central University, Data Carpentry, National Institutional Ranking Framework, Open Access, Open Access Friendliness, Open Access Friendliness Indicators, Open Refine

9. Chatterjee, A., Mahato, S., & Kumar Chatterjee, S. (2022). A Comprehensive Classification of Sentiment Reviews of Twitter Data in the Domain of Climatology using Machine Learning Techniques. *SRELS Journal of Information Management*, 141–151. <https://doi.org/10.17821/srels/2022/v59i3/168281>

Abstract: Purpose: This study aims at classification of sentiment reviews of Twitter data in the domain of climatology using machine learning techniques. It focuses on the text classification in order to determine the people's intension about the climatic issues i.e., climate change, climate variability, environmental aspects etc. This paper portrays a comparison of results obtained by applying different classification algorithms like Naive Bayes (NB), Random Forest (RF), Logistic Regression (LR), K-Nearest Neighbour (KNN), Decision Tree Classifier, Neural Network classifier etc. These algorithms are used to classify a sentimental review and people's emotions associated with climate. **Design/Methodology/Approach:** Total 2265 climate reviews data have been taken from Twitter's developers' account. After that, we pre-processed the total dataset by removing various symbols, HTTP tags, punctuation, etc. The pre-processed text were analysed and represented through Topic modelling, Multi Dimensional Scaling (MDS)

and also Visualization of Heatmap. Next, bag of words are evaluated through various algorithms such as Naive Bayes (NB), Random Forest (RF), Logistic Regression (LR), K-Nearest Neighbour (KNN), Decision Tree Classifier and Neural Network classifier. After applying above mentioned classifier, datasets are tested and scores are noted. For the experiment, 70 % of total reviews (i.e.1586) are used for model training and 30% of total reviews (i.e. 680) are used for testing the models. **Findings:** By performing different algorithms, it shows that Random Forest classifier algorithm works well than other mentioned classifiers and most of the people have positive sentiment towards climate according to Valence Aware Dictionary for Sentiment Reasoning (VADER).

Keywords: Algorithms Classifier Techniques, Machine Learning Techniques, Polarity, Opinion Mining, Reviews, Sentiment Analysis

10. Kumari, N., & Mishra, S. (2022). Content Analysis of Job Announcements for Digital Library Professionals from 2011 to 2019: An Indian Perspective. *SRELS Journal of Information Management*, 153–161. <https://doi.org/10.17821/srels/2022/v59i3/166141>

Abstract: The skills required of academic library professionals are greatly influenced by the rapidly evolving digital technologies. The purpose of the present study is to observe the current state of job qualifications, skills and competencies required for working in academic digital libraries in India. The study was conducted to identify the 15 top ranked skills demanded for positions in academic digital libraries. A typology of 44 skills and competencies resulted from the content analysis of 180 job advertisements of academic digital libraries in India from January 2011 to December 2019. The resulting typology was divided into five different categories: technological skills, technical skills, information skills, collection development skills, and soft skills. The findings were found to emphasize the skills required for technical services. In addition to technical skills, employers were seeking candidates with basic computer knowledge, Microsoft office skills, website development and designing, database management, and networking skills. Moreover, the findings indicate that good communication skills were most in-demand in job advertisements. Ability to conduct information literacy programs and knowledge of digital resources and skills to build institutional repository are also emphasized in the study.

Keywords: Academic Library, Digital Library, Job Announcements, Skills and Competencies

11. Ashoka, R., & Harinarayana, N. S. (2022). Keyword Analysis of Research Trends in ‘Scientometrics’ Journal from 2014 to 2018. *SRELS Journal of Information Management*, 163–169. <https://doi.org/10.17821/srels/2022/v59i3/165826>

Abstract: Keyword analysis technique has been employed to measure the frequency of author-supplied keywords that represent contents and concepts. To identify patterns, trends and intellectual structure of Scientometrics publications from 2014 to 2018, the study examined 7879 keywords from 1548 articles extracted from the SpringerLink database. Further, these keywords were standardised using vocabulary tools. The period

considered for the study is divided into two sectors, i.e. 2014-2016 and 2017-2018 with the intention of rendering dynamic changes in research interest in recent period. The results show that *Bibliometric analysis* and subsequently *Citation analysis* have been the most popular research topics. *Scientometrics*, *Network analysis*, *Patent analysis*, and *Altmetrics* have emerged during the study period. The study shows that published content indicates some well-established research topics.

Keywords: Keyword Analysis, Keyword Network, Research Trends, Scientometrics

12. Kumar Das, A., & Bhattacharyya Sahu, N. (2022). Application of Bloom's Taxonomy in Library and Information Science: An Assessment. *SRELS Journal of Information Management*, 171–175. <https://doi.org/10.17821/srels/2022/v59i3/154355>

Abstract: Bloom's Taxonomy has been used as a tool to develop sound teaching-learning processes in many fields; however, there has been very little on the application of the taxonomy in Library and Information Science. This paper outlines how the evaluation process could be more logical and scientific to ensure the necessary skills, which are necessary for day to day work of library professionals. Based on different levels of Bloom's Taxonomy a few sample questions are given.

Keywords: Bloom's Taxonomy, Library and Information Science Assessment, Revised Bloom's Taxonomy

13. Dutta, S., & Kumar Das, S. (2022). A Study of Subject Headings vs. User Generated Tags. *SRELS Journal of Information Management*, 177–182. <https://doi.org/10.17821/srels/2022/v59i3/168523>

Abstract: User-generated tagging or folksonomy is one of the most popular Web 2.0 applications and has attracted the interest of libraries and information centres, which has developed services that facilitate user community collaboration. In the digital environment, social tagging has the potential to overcome certain limitations of traditional subject headings. The main objectives of this research paper are to identify the scope of user-generated tags as compared to Subject Heading Lists and to explore the extent to which these user-generated tags can be used to enhance subject access. In this research paper, the problem is comparison between the Subject heading List and user generated tags. This work is an exploratory research and has followed a case study method. Five searches were performed in Library Thing using its Tag mash feature (essentially a keyword search of the user tag field) using 5 tags. After searching articles and interpreting all data, a comparison between the subject heading list and User-generated tags have been made.

Keywords: Folksonomy, Library Thing, Subject Heading List, Tagging, User-generated Tags, WorldCat

TECHNOLOGY, PEDAGOGY AND EDUCATION

1. Barahona, C., Nussbaum, M., Espinosa, P., Meneses, A., Alario-Hoyos, C., & Pérez-Sanagustín, M. (2022). Transforming the learning experience in pre-service teacher training using the flipped classroom. *Technology, Pedagogy and Education*, 31(3), 261–274. <https://doi.org/10.1080/1475939x.2022.2041476>

Abstract: The lack of information and communication technology skills among teachers is highlighted as being one of the main barriers to increasing the use of technology in teaching and learning. This study shows how technology used in a flipped classroom can improve learning among pre-service teachers, as well as boosting perceptions of their own technology skills. The students covered the instructional content before class through videos complemented by formative assessment. The data resulted in a report that the teacher then used to adapt their lecture, as well as defining the questions to be asked using an in-class response system. The responses to these questions were then discussed with the students. The results show that it is possible to change pre-service teachers' perceptions of using technology in the classroom, both as a student and as a future teacher.

Keywords: Flipped classroom; pre-service teacher training; classroom response system; formative assessment; online videos

2. Rana, K., Greenwood, J., & Henderson, R. (2021). Teachers' experiences of ICT training in Nepal: how teachers in rural primary schools learn and make progress in their ability to use ICT in classrooms. *Technology, Pedagogy and Education*, 31(3), 275–291. <https://doi.org/10.1080/1475939x.2021.2014947>

Abstract: This article reports on teachers' experiences of ICT training in rural areas of Nepal. It discusses aspects of policy documents to help understand the Nepali educational context, before highlighting the challenges of establishing and maintaining infrastructure and professional learning opportunities across a country with challenging terrain and extreme environmental conditions. It then examines teachers' perceptions in five rural primary schools about their experiences of training to use modern educational technologies in instructional activities. The findings indicate that none of the teachers received training in the use of ICT in their initial teacher education and that the Government has allowed non-governmental organisations to provide ICT infrastructure and training for rural schools and teachers. Although this is a small study, it offers insights into the gap between policy and practice and highlights the contextual challenges of Nepal's attempts to operate on a global educational level as well as the challenges for teachers.

Keywords: ICT training; Nepal education; rural education; teacher professional development; TPACK

3. Ding, A. C. E., Glazewski, K., & Pawan, F. (2022). Language teachers and multimodal instructional reflections during video-based online learning tasks. *Technology, Pedagogy and Education*, 31(3), 293–312. <https://doi.org/10.1080/1475939x.2022.2030790>

Abstract: This study explores the multiple ways in which a group of five in-service language teachers reflected in an online video-embedded learning environment. The findings suggest that when engaging in video-based reflective tasks, teachers evaluated and interpreted instructional practices presented to them based on multimodal classroom interactions (i.e. both verbal and non-verbal actions such as pause, gaze or body language). Furthermore, through reflecting on the multimodal classroom interactions, teachers also developed new awareness about their instructional practices and zoomed in on teaching techniques essential for language teaching. The findings stressed the importance of approaching teacher reflection from the multimodal perspective afforded by technology such as videos.

Keywords: Teacher reflection; video case; multimodality; teacher noticing; online teacher education

4. Keese, J., McIntush, K., & Waxman, H. (2022). Teaching through crisis: the remote education experiences of PK–12 teachers during COVID-19 campus closures. *Technology, Pedagogy and Education*, 31(3), 313–329. <https://doi.org/10.1080/1475939x.2022.2067589>

Abstract: This qualitative research study explores the experiences of teachers in the spring semester of 2020 as they remotely instructed their students owing to COVID-19 campus closures. Fourteen teachers from a variety of school contexts were interviewed twice individually and once in a focus group setting to relay their thoughts regarding this unprecedented event. Emergent coding of interview transcripts revealed teachers' concerns for their students and their learning, the barriers presented owing to the disconnect between them and their students, and how their competencies changed as their time with remote instruction increased. Recommendations for practice and further research are discussed.

Keywords: COVID-19; teacher experiences; education technology; remote instruction; qualitative research

5. Wiley-Camacho, G., Hillaire, G., Buttimer, C. J., & Colwell, R. (2022). Remote language revitalisation efforts during COVID-19. *Technology, Pedagogy and Education*, 31(3), 331–345. <https://doi.org/10.1080/1475939x.2022.2077819>

Abstract: As schools shift to online instruction during the COVID-19 pandemic, it is important to support disenfranchised populations and keep issues of equity at the centre of our response. In this study, the authors focus on supporting one of the few urban-based Indigenous language schools in the United States because language revitalisation is critical for Native American communities. The authors explore the extent to which video conferencing and flipped classrooms support the development of a community of

speakers. The study focuses on a single classroom of 16 students in first through third grade. The authors use a digital decolonisation framework focused on empowering local communities in conjunction with design-based research methodology to explore contextualised remote instruction solutions. They report on benefits for the development of a community of speakers from remote instruction that come with costs in reduced efficacy of language learning. Finally, they distil those results into preliminary design principles.

Keywords: Language revitalization; digital decolonisation; design-based research; Universal Design for Learning

6. Khlaif, Z. N., & Salha, S. (2022). Exploring the factors influencing mobile technology integration in higher education. *Technology, Pedagogy and Education*, 31(3), 347–362. <https://doi.org/10.1080/1475939x.2022.2052949>

Abstract: This study proposed and tested an empirical model to examine the relationships between the factors influencing mobile technology integration in higher education from the students' and faculty points of view. A sequential mixed method was used to meet the aim of the study. The findings of the qualitative phase were used to develop the quantitative instrument. The participants in the qualitative data collection were 39 students and faculty members. In addition, the participants were 300 graduate students from two large universities in northern Palestine. The findings of the study revealed that the proposed model helps in explaining factors affecting students' mobile technology integration and exploring relationships between the factors. Furthermore, students' attitudes and beliefs, the quality of service, patronisation, the cost of service and the instructors had a significant impact on students' mobile technology integration in higher education.

Keywords: Mobile technology; mobile devices; higher education; path analysis; mobile-technology integration

7. Walland, E., & Shaw, S. (2022). E-portfolios in teaching, learning and assessment: tensions in theory and praxis. *Technology, Pedagogy and Education*, 31(3), 363–379. <https://doi.org/10.1080/1475939x.2022.2074087>

Abstract: E-portfolios are increasingly used in innovative ways, particularly in higher education, where they have the potential to transform teaching, learning and assessment. Given that students are learning in a hypertextual, digitalised and multimedia world, there is an ever-pressing need for assessment to be more authentic, engaging, and to develop transversal skills. This research analysed the challenges and opportunities of e-portfolios in secondary schools and universities. A review of the literature was undertaken in which studies conducted primarily across Europe and the US over the last 20 years were evaluated. Analysis identified several tensions relating to e-portfolio theory and praxis which were organised according to three main themes: the theory and research underpinning e-portfolios; the uses and purposes of e-portfolios; and the challenges and opportunities related to e-portfolio implementation. These tensions both deepen our

understanding of e-portfolios as pedagogical tools as well as inform internationally relevant recommendations for implementation.

Keywords: E-portfolio; transversal skills; secondary education; higher education; implementation

8. Yu, Z., Yu, L., Xu, Q., Xu, W., & Wu, P. (2022). Effects of mobile learning technologies and social media tools on student engagement and learning outcomes of English learning. *Technology, Pedagogy and Education*, 31(3), 381–398. <https://doi.org/10.1080/1475939x.2022.2045215>

Abstract: Mobile learning technologies and social media tools have not been studied to an exhaustive extent in terms of student engagement and learning outcomes. Using a quasi-experimental research method, the authors randomly selected 101 participants who were divided into three groups. Each group received English teaching assisted by mobile learning technology (Rain Classroom), a social media tool (WeChat) and the traditional multimedia projecting system for one semester. The authors concluded that mobile learning technologies could significantly improve behavioural, social, cognitive and emotional engagements and English learning outcomes compared with social media tools. The traditional teaching tools did not improve behavioural, social, cognitive and emotional engagements and learning outcomes as much as Rain Classroom and WeChat did. Future research could focus on development of serious games to improve student engagement and learning outcomes.

Keywords: Mobile learning technologies; social media tools; student engagement; learning outcomes; English learning

THE INDIAN ECONOMIC AND SOCIAL HISTORY REVIEW

1. Ariav, T. (2022). Nīlakaṇṭha Dīkṣita: An independent poet of the Kaveri delta, or: The forgotten model of genealogical authorship. *The Indian Economic & Social History Review*, 59(3), 273–298. <https://doi.org/10.1177/00194646221109291>

Abstract: Nīlakaṇṭha Dīkṣita is widely recognised as one of the leading figures of early modern Sanskrit literature. He is also remembered—in popular narratives and in academic circles alike—as a minister at Tirumalai Nāyaka’s court in Madurai. This essay offers a corrective to this story and reflects on the historiographical mishaps that shaped it. I show that Nīlakaṇṭha lived most of his life around Thanjavur in the Kaveri delta and left no trace of an affiliation with a court or a patron. Rather, he took pride in being an independent author and teacher. I then take the opportunity to propose a forgotten model of authorship that Nīlakaṇṭha embodied. I suggest thinking of Nīlakaṇṭha as a ‘genealogical poet’, committed exclusively to his lineage of male family members and teachers. His genealogical commitments go hand in hand with an active teaching career, a radical interpretation of an existing literary and economical ideal of writerly independence (sarvatantrasvatantra) and a confidence in the survival of his legacy through future generations of students and family members. The genealogical economy also gives rise to an aesthetics and ethics of intimacy that shape Nīlakaṇṭha’s distinctive authorial signature. While I would argue that Nīlakaṇṭha is a genealogical poet par excellence, this model may be applied in different measures and constellations to other figures and contribute to a better understanding of the social realities that shape literary and intellectual histories of early modern South Asia and beyond.

2. Williams, T. W. (2022). Literary and religious history from the middle: Merchants and bhakti in early modern North India. *The Indian Economic & Social History Review*, 59(3), 299–334. <https://doi.org/10.1177/00194646221109338>

Abstract: This article examines the hagiographical writings of two religious communities, that is, the Dadu Panth and the Niranjani Sampraday, in what is now known as Rajasthan, during the seventeenth and eighteenth centuries in order to illuminate how their monastic and lay members, particularly merchants and ‘scribal’ communities, imagined their religious, social and political worlds. The role of merchant and scribal groups in the origin and development of such so-called ‘nirguṇ sant’ bhakti movements has been largely overlooked, the assumption being that these movements drew their following primarily from members of subaltern communities. Yet a close reading of these hagiographical sources reveals that merchants and scribes played a central role in shaping the theological and literary character of these movements, and in turn these movements reorganised the social and financial relationships within these mercantile communities. By focusing on such ‘middle’ groups—that is, groups that mediated intellectual, literary and economic exchanges between different spaces and institutions such as the monastery, the court and the bazaar—historians, as well as scholars of literature and religion, can gain insight into how merchant and scribal groups helped to re-form notions of the individual, community and polity in early modern North India.

3. Bhattacharya, U. (2022b). Floods, aridity and rivers: An environmental history of pargana Mandalghat in eighteenth-century Bengal. *The Indian Economic & Social History Review*, 59(3), 335–371. <https://doi.org/10.1177/00194646221109299>

Abstract: This essay interrogates the role of rivers and the water they provided in the context of the agricultural economy of colonial Bengal; it provides a minute analysis of the impact of excess flow or floods at the pargana or locality level and documents the destruction of crops, drowning of cattle, loss of seeds and overall devastation to habitation. Riverine water played an important role in the formation of soil in the country, and, therefore, its supply affected the agricultural economy. The augmentation of the delta through soil formation was a geologic process that was gradual and slow, while changes in river courses could be sudden and violent. This essay constructs a narrative around riverine activities including responses to flooding situations, navigability of rivers and the interventions of the early colonial state in Bengal in the second half of the eighteenth century. Focusing on the specific impact of flooding in the locality of pargana Mandalghat, this essay demonstrates that the study of floods can reveal the manner in which agricultural decline affected pockets of habitation within the Bengal delta.

4. Chakravarty, I., & Chakravarty, D. (2022). Widowhood revisited: Nature of landholding and women's work in colonial agrarian Bengal. *The Indian Economic & Social History Review*, 59(3), 373–400. <https://doi.org/10.1177/00194646221109293>

Abstract: Despite major economic and political changes in the last two centuries, the incidence of underage marriage of girls as well as their widowhood is much higher in West Bengal than in any other parts of India. The incidence of widowhood was very high in Bengal among the major colonial provinces in the first half of the twentieth century. Many historians argue that marriage practices of the higher castes gradually percolated downwards, and many intermediary cultivating castes as well as lower castes started following the norms of child marriage and ban on widow remarriage as a means of attaining social respectability during the closing decades of the nineteenth and the early years of the twentieth century. This article tries to explore whether the very high incidence of widowhood in colonial Bengal in the first half of the twentieth century could also have been linked to the very nature of women's labour force participation which in turn was largely determined by the nature of the agrarian economy.

THE QUARTERLY JOURNAL OF ECONOMICS

1. Hazell, J., Herreño, J., Nakamura, E., & Steinsson, J. (2022). The Slope of the Phillips Curve: Evidence from U.S. States. *The Quarterly Journal of Economics*, 137(3), 1299–1344. <https://doi.org/10.1093/qje/qjac010>

Abstract: We estimate the slope of the Phillips curve in the cross section of U.S. states using newly constructed state-level price indices for nontradeable goods back to 1978. Our estimates indicate that the slope of the Phillips curve is small and was small even during the early 1980s. We estimate only a modest decline in the slope of the Phillips curve since the 1980s. We use a multiregion model to infer the slope of the aggregate Phillips curve from our regional estimates. Applying our estimates to recent unemployment dynamics yields essentially no missing disinflation or missing reflation over the past few business cycles. Our results imply that the sharp drop in core inflation in the early 1980s was mostly due to shifting expectations about long-run monetary policy as opposed to a steep Phillips curve, and the greater stability of inflation between 1990 and 2020 is mostly due to long-run inflation expectations becoming more firmly anchored.

2. Exley, C. L., & Kessler, J. B. (2022b). The Gender Gap in Self-Promotion. *The Quarterly Journal of Economics*, 137(3), 1345–1381. <https://doi.org/10.1093/qje/qjac003>

Abstract: We run a series of experiments involving over 4,000 online participants and over 10,000 school-aged youth. When individuals are asked to subjectively describe their performance on a male-typed task relating to math and science, we find a large gender gap in self-evaluations. This gap arises when self-evaluations are provided to potential employers, and thus measure self-promotion, and when self-evaluations are not driven by incentives to promote. The gender gap in self-evaluations proves to be persistent and arises as early as the sixth grade. No gender gap arises if individuals are asked about their performance on a more female-typed task.

3. Avenancio-León, C. F., & Howard, T. (2022b). The Assessment Gap: Racial Inequalities in Property Taxation. *The Quarterly Journal of Economics*, 137(3), 1383–1434. <https://doi.org/10.1093/qje/qjac009>

Abstract: We document a nationwide “assessment gap” that leads local governments to place a disproportionate fiscal burden on racial and ethnic minorities. We show that holding taxing jurisdictions and property tax rates fixed, Black and Hispanic residents face a 10%–13% higher tax burden for the same bundle of public services. We decompose this disparity into between- and within-neighborhood components and find that just over half of it arises between neighborhoods. We then present evidence on mechanisms. Property assessments are less sensitive to neighborhood attributes than market prices are. This generates spatial variation in tax burden within jurisdiction and leads to overtaxation of communities with a high share of minority residents. We also find appeals behavior and appeals outcomes differ by race within neighborhood.

Inequality does not arise from (i) racial differences in transaction prices or (ii) differences in features of the housing stock.

4. Amiti, M., Itskhoki, O., & Konings, J. (2022). Dominant Currencies: How Firms Choose Currency Invoicing and Why it Matters. *The Quarterly Journal of Economics*, 137(3), 1435–1493. <https://doi.org/10.1093/qje/qjac004>

Abstract: We analyze how firms choose the currency of invoicing and the implications of this choice for exchange rate pass-through into export prices and quantities. Using a new data set for Belgian firms, we find currency invoicing to be an active firm-level decision, shaped by the firm’s size, exposure to imported inputs, and the currency choices of its competitors. Our results show that a firm’s currency choice, in turn, has a direct causal effect on the exchange rate pass-through into prices and quantities. Moreover, the differential price response of similar firms that invoice in different currencies is large, persists beyond a one-year horizon, and gradually wanes in the long run. This results in allocative expenditure-switching effects on export quantities, which build up over time, suggesting a role for quantity adjustment frictions in addition to price stickiness. Our findings shed light on the mechanisms that make or break a dominant currency and the consequences it has for the international transmission of shocks.

5. Alfaro-Ureña, A., Manelici, I., & Vasquez, J. P. (2022). The Effects of Joining Multinational Supply Chains: New Evidence from Firm-to-Firm Linkages. *The Quarterly Journal of Economics*, 137(3), 1495–1552. <https://doi.org/10.1093/qje/qjac006>

Abstract: We study the effects of becoming a supplier to multinational corporations (MNCs) using tax data tracking firm-to-firm transactions in Costa Rica. Event study estimates reveal that domestic firms experience strong and persistent gains in performance after supplying to a first MNC buyer. Four years after, domestic firms employ 26% more workers and have a 4% to 9% higher total factor productivity (TFP). These effects are unlikely to be explained by demand effects or changes in tax compliance. Moreover, suppliers experience a large drop in their sales to all other buyers except the first MNC buyer in the year of the event, followed by a gradual recovery. The dynamics of adjustment in sales to others suggests that firms face short-run capacity constraints that relax over time. Four years later, the sales to others grow by 20%. Most of this growth comes from the acquisition of new buyers, which tend to be “better buyers” (e.g., larger and with more stable supplier relationships). Finally, we collected survey data from domestic firms and MNCs to provide further insights into the wide-ranging benefits of supplying to MNCs. According to our surveys, these benefits range from better managerial practices to a better reputation.

6. Adão, R., Carrillo, P., Costinot, A., Donaldson, D., & Pomeranz, D. (2022). Imports, Exports, and Earnings Inequality: Measures of Exposure and Estimates of Incidence. *The Quarterly Journal of Economics*, 137(3), 1553–1614. <https://doi.org/10.1093/qje/qjac012>

Abstract: The earnings of individuals depend on the demand for the factor services they supply. International trade may therefore affect earnings inequality because either (i)

foreign consumers and firms demand domestic factor services in different proportions than domestic consumers and firms do, an export channel; or (ii) domestic consumers and firms change their demand for domestic factor services in response to the availability of foreign goods, an import channel. Building on this idea, we develop new measures of export and import exposure at the individual level and provide estimates of their incidence across the earnings distribution. The key input fed into our empirical analysis is a unique administrative data set from Ecuador that merges firm-to-firm transaction data, employer-employee matched data, owner-firm matched data, and firm-level customs transaction records. We find that export exposure is pro-middle class, import exposure is pro-rich, and in terms of overall incidence, the import channel is the dominant force. As a result, earnings inequality in Ecuador is higher than it would be in the absence of trade.

7. Meyer, J., Reinhart, C. M., & Trebesch, C. (2022). Sovereign Bonds Since Waterloo. *The Quarterly Journal of Economics*, 137(3), 1615–1680. <https://doi.org/10.1093/qje/qjac007>

Abstract: This article studies external sovereign bonds as an asset class. We compile a new database of 266,000 monthly prices of foreign-currency government bonds traded in London and New York between 1815 (the Battle of Waterloo) and 2016, covering up to 91 countries. Our main insight is that, as in equity markets, the returns on external sovereign bonds have been sufficiently high to compensate for risk. Real ex post returns average more than 6% annually across two centuries, including default episodes, major wars, and global crises. This represents an excess return of 3%–4% above US or UK government bonds, which is comparable to stocks and outperforms corporate bonds. Central to this finding are the high average coupons offered on external sovereign bonds. The observed returns are hard to reconcile with canonical theoretical models and the degree of credit risk in this market, as measured by historical default and recovery rates. Based on our archive of more than 300 sovereign debt restructurings since 1815, we show that full repudiation is rare; the median creditor loss (haircut) is below 50%.

8. Clayton, C., & Schaab, A. (2022). Multinational Banks and Financial Stability. *The Quarterly Journal of Economics*, 137(3), 1681–1736. <https://doi.org/10.1093/qje/qjac002>

Abstract: We study the scope for international cooperation in macroprudential policies. Multinational banks contribute to and are affected by fire sales in countries they operate in. National governments setting quantity regulations noncooperatively fail to achieve the globally efficient outcome, underregulating domestic banks and overregulating foreign banks. Surprisingly, noncooperative national governments using revenue-generating Pigouvian taxation can achieve the global optimum. Intuitively, this occurs because governments internalize the business value of foreign banks through the tax revenue collected. Our theory provides a unified framework to think about international bank regulations and yields concrete insights with the potential to improve on the current policy stance.

9. Alvarez, F., & Argente, D. (2022). On the Effects of the Availability of Means of Payments: The Case of Uber. *The Quarterly Journal of Economics*, 137(3), 1737–1789. <https://doi.org/10.1093/qje/qjac008>

Abstract: We use three quasi-natural experiments in Mexico and one in Panama to estimate the effects of having the option to pay with cash on Uber rides. The ability to pay in cash affects the demand for rides, which is reflected in large changes in the total number of trips, fares, miles, and number of users after Uber introduced cash payments, particularly in lower-income city blocks. On the other hand, the effects on prices, estimated times of arrival, and competitor pricing are negligible, consistent with the supply of trips being very elastic. Although cash payments naturally increase the fraction of users that pay exclusively with cash, more than half of the users have access to both cards and cash, and alternate between payment methods. We find evidence consistent with cash and card payments being imperfectly substitutable at both the intensive and extensive margins, which magnifies the effect of policies that restrict the availability of payment methods.

10. Arteaga, F., Kapor, A. J., Neilson, C. A., & Zimmerman, S. D. (2022). Smart Matching Platforms and Heterogeneous Beliefs in Centralized School Choice. *The Quarterly Journal of Economics*, 137(3), 1791–1848. <https://doi.org/10.1093/qje/qjac013>

Abstract: Many school districts with centralized school choice adopt strategy-proof assignment mechanisms to relieve applicants from needing to strategize based on beliefs about their own admissions chances. This article shows that beliefs about admissions chances shape choice outcomes even when the assignment mechanism is strategy-proof by influencing how applicants search for schools and that “smart matching platforms” that provide live feedback on admissions chances help applicants search more effectively. Motivated by a model in which applicants engage in costly search for schools and overoptimism can lead to undersearch, we use data from a large-scale survey of choice participants in Chile to show that learning about schools is hard, beliefs about admissions chances guide the decision to stop searching, and applicants systematically underestimate nonplacement risk. We use RCT and RD research designs to evaluate scaled live feedback policies in the Chilean and New Haven choice systems. Twenty-two percent of applicants submitting applications where risks of nonplacement are high respond to warnings by adding schools to their lists, reducing nonplacement risk by 58% and increasing test score value added at the schools where they enroll by 0.10 standard deviations. Reducing the burden of school choice requires not just strategy-proofness inside the centralized system but also choice supports for the strategic decisions that inevitably remain outside of it.

11. Li, X., & Camerer, C. F. (2022). Predictable Effects of Visual Salience in Experimental Decisions and Games. *The Quarterly Journal of Economics*, 137(3), 1849–1900. <https://doi.org/10.1093/qje/qjac025>

Abstract: Bottom-up stimulus-driven visual salience is largely automatic, effortless, and independent of a person’s “top-down” perceptual goals; it depends only on features of a

visual stimulus. Algorithms have been carefully trained to predict stimulus-driven salience values for each pixel in any image. The economic question we address is whether these salience values help explain economic decisions. Our first experimental analysis shows that when people pick between sets of fruits that have artificially induced value, predicted salience (which is uncorrelated with value by design) leads to mistakes. Our second analysis uses evidence from games in which choices are locations in images. When players are trying to cooperatively match locations, predicted salience is highly correlated with the success of matching ($r = .57$). In competitive hider-seeker location games, players choose salient locations more often than predicted by the unique Nash equilibrium. This tendency creates a disequilibrium “seeker’s advantage” (seekers win more often than predicted in equilibrium). The result can be explained by level- k models in which predicted stimulus-driven salience influences level-0 choices and thereby influences overall perceptions, beliefs, and choices of higher-level players. The third analysis shows that there is an effect of visual salience in matrix games, but it is small and statistically weak. Applications to behavioral IO, price and tax salience, nudges and design, and visually influenced beliefs are suggested.

12. Bick, A., Blandin, A., & Rogerson, R. (2022). Hours and Wages. *The Quarterly Journal of Economics*, 137(3), 1901–1962. <https://doi.org/10.1093/qje/qjac005>

Abstract: We document two robust features of the cross-sectional distribution of usual weekly hours and hourly wages. First, usual weekly hours are heavily concentrated around 40 hours, while at the same time a substantial share of total hours come from individuals who work more than 50 hours. Second, mean hourly wages are not monotonic across the usual hours distribution, with a peak at 50 hours. We develop and estimate a model of labor supply to account for these features. The novel feature of our model is that earnings are nonlinear in hours, with the extent of nonlinearity varying over the hours distribution. Our estimates imply significant wage penalties for people who deviate from 40 hours in either direction, leading to a large mass of people who work 40 hours and are not very responsive to shocks. This has important implications for the role of labor supply as a mechanism for self-insurance in a standard heterogeneous-agent incomplete-markets model and for empirical strategies designed to estimate labor supply parameters.

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