

Interdisciplinary Research Event Catalogue 2023

Created by Robyn and Mark Jones College of Nursing, the College of Education, Health and Human Development, and the Center for Mental Health Research and Recovery.





Elizabeth Bird, Ph.D.

Project Development & Grants specialist, College of Education, Health and Human Development. In this position I collaborate with Principal Investigators across all college departments on project development, implementation and reporting and foster a culture of research and entrepreneurship. Specifically, I collaborate with College faculty on various aspects of project development, such as conceptualization of fundable projects; development of budget; editing drafts; and submission of high quality proposals for funded research and programs. In this capacity I provide technical assistance, coaching and program management services to grantees, assisting PIs, as needed, including organizing “grant startup” meetings with OSP/FM, FSS, college BOMs and the grant leadership team. In terms of fostering a culture of research and entrepreneurship, I investigate and publicize grant opportunities; facilitate intra-college mini-grant opportunities; facilitate and cultivate collegial relationships; develop training activities & materials; conduct training to assist grant writers; collect/report data regarding College grant activities; co-develop college policies; publicize faculty achievements; represent the College professionally.



Lauren Davis, Ed.D.

Compared to U.S. urban counterparts, rural residents face major barriers to using health care services. Challenges include shortages of services, long distances to existing services, and stigma regarding mental illness in isolated communities. These difficulties hold true for Montana, but especially for adolescents. Geographic isolation and resulting lack of resources for many Montanan schools indicates a need for novel, school-centered interventions to address the needs of rural adolescents; yoga can benefit youth and teacher wellbeing. Thus, Dr. Davis's research aim is to improve stress-related mental and physical health outcomes for adolescents and educators in rural Montana through school-based, trauma-informed yoga exercises. This intervention has demonstrated noteworthy improvements in mental (anxiety and depression) and physical health (cortisol) for students and educators alike.



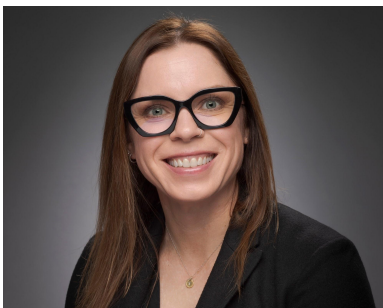
Katie Dively, M.S., MCHES

Kaite Dively, M.S., MCHES is a Senior Research Scientist and Senior Trainer at the Center for Health and Safety Culture at Montana State University. With a background in public health, Katie's areas of interest include translating research into practice to improve health and safety in a variety of topic areas including substance misuse, traffic safety, and child wellbeing. Developing training, tools, and resources for professionals to grow a positive culture that promotes and sustains health is a key area of focus. Katie is a Master Certified Health Education Specialist with 20 years of experience in the field.



Jayne Downey, Ph.D.

Dr. Jayne Downey is a Professor in the Department of Education and serves as the Director of the Center for Research on Rural Education at Montana State University. She has been an active leader and researcher in rural education for over 20 years. With a MA in Counseling Psychology and a PhD in Educational Psychology, her research and scholarship are focused on strengthening the preparation of teachers and counselors for rural schools and communities and improving outcomes for rural students. Downey is committed to engaging in research, scholarship, and service intentionally attuned to, and respectful of, the complex and unique realities and relationships of rural schools and communities—past, present, and future. She has been awarded over \$15 million in grant funding, published over 40 papers and professional manuals, and given over 60 research presentations at regional, national, and international conferences. She is a co-editor of *Rural Education Across the World* and co-author of *Teaching in Rural Places: Thriving in Classrooms, Schools, and Communities*. Downey also serves on the Board of Directors for the Montana Small Schools Alliance working on behalf of 140 of Montana’s smallest rural and remote schools and received the 2022 Career Achievement Award from the AERA’s Rural Education SIG.



Aly Elfreich, Ph.D.

Alycya (Aly) Elfreich is an assistant professor of Multicultural Education at Montana State University. Her research examines well-being in K-12 schools and informal learning spaces, particularly through culturally responsive social and emotional (SEL) curricula, programming, and services to address cultural disparities in mental health (anxiety and depression) for adolescent girls. She has experience developing asset-based well-being initiatives with multiple stakeholders, including community organizations, faith-based organizations, and public service institutions. She draws upon participatory and relational qualitative research frameworks that center identity-affirming, action-oriented spaces for the girls with whom she works.



Katey T. Franklin, PhD, LSC, LCPC

Dr. Katey T. Franklin is an Assistant Professor in the Counseling Department, School Counseling Program Leader, and the Director of the Center for Mental Health Research & Recovery. Katey researches wellbeing needs in rural school communities, and endeavors to elevate K-12 student voices regarding their mental health and wellbeing needs. She utilizes mixed methods and qualitative research designs to amplify Montana kids' voices.



Kari Finley, Ph.D.

Kari Finley, Ph.D., is a Co-Director and Research Scholar for the Center for Health and Safety Culture at Montana State University. Dr. Finley's areas of interest are in preventing the misuse of substances, traffic safety, and child wellbeing. Her research focus areas include understanding behavior change and reducing stigma. Dr. Finley is also a Licensed Clinical Social Worker with over twelve years of experience helping people with mental health and substance use disorders.



Kelly Green, M.P.A.

Kelly Green, M.P.A., is a Research Scientist and Business Manager for the Center for Health and Safety Culture at Montana State University. Kelly has over 14 years of experience working in the health and safety sector and her areas of interest include traffic safety and child wellbeing. Her research focus areas include understanding behavior change through qualitative research and exploring the use of harm reduction strategies in traffic safety.



Marg Hammersla, Ph.D., ANP-BC

As an Early-Stage Investigator, I draw on my experiences from my role as an adult nurse practitioner and faculty member at Montana State University to guide and inform scholarly inquiry. As a faculty member I have developed a strong expertise in translational of evidence-based practice in clinical systems of care. As a nurse practitioner, I have worked in both urban and rural areas across a variety of care settings (e.g., internal medicine, emergency medicine, and long-term-care) with a focus on improving patient outcomes through systems-based approaches. My experiences across both urban and rural areas as well as a variety of care settings provides the ability to look for innovative solutions to structural healthcare barriers to underserved populations. I currently serve as the CO-PI for the Increasing Access to Cancer Care in Rural Areas Pilot Project in collaboration with the American Society of Clinical Oncology and two hospitals in Southwest Montana. This project aims to utilize a Hub & Spoke model for chemotherapy services to reduce travel and financial toxicity of oncology care. This project gives me a unique insight into the barriers to care in rural areas, particularly in the mountain west.



Bridget Hanson, PhD

Bridget Hanson, PhD, is a Senior Research Scholar at the Center for Health and Safety Culture. Her primary research interests are the role of social cognitions in promoting health and safety, including in the areas of substance misuse prevention, harm reduction, traffic safety, and general wellbeing. Dr. Hanson has expertise in utilizing mixed methods in applied research and program evaluation.



Shelly Hogan, Ph.D.

Shelly Hogan, Assistant Director in the Mark & Robyn Jones College of Nursing's One Community in Health Program and Research Faculty, collaborates with Dr. Laura Larsson in a multifaceted research agenda. Our work explores vital areas such as public health and nursing education (e.g. Mobile Health Training Program), interprofessional collaboration, and preventative healthcare, including Head Start child health screenings at Crow, Northern Cheyenne, Blackfeet, and Flathead Nations in Montana. Our project initiatives, addressing well-being factors in tribal and rural communities, prioritize enhancing access and equity in nursing education and healthcare outcomes through community-based participatory research programs. This work receives support from grants provided by the federal and Montana Department of Public Health and Human Services, Health Resources and Services Administration, the Otto Bremer Trust, and other significant contributors.



Keith Hutchison, Ph.D.

Dr. Hutchison's research investigates human attention, memory, and language processes. He focuses is on individual differences in the ability to maintain attention, avoid distraction, and overcome habitual responding and how this influences selective attention, memory, word recognition, reading comprehension, and deception abilities. In addition to traditional reaction time and accuracy measures, the lab examines physiological indices of attention and effort via eye tracking, pupillometry, and heart rate. Dr. Hutchison's research has received financial support from the National Science Foundation., National Institute of Health, and Pison Technology. Recent work examines the effectiveness of potential interventions such as providing external support for maintaining task goals, immersion in nature, and regulating heart rate through biofeedback to improve performance among individuals who struggle with controlling attention. I'm also collaborating with Dr. Scott Monfort in Biomechanical Engineering to examine changes in knee biomechanics and risk for ACL injury when athletes are under cognitive load.



Elizabeth Johnson, PhD, MS-CRM, RN

Elizabeth is an Assistant Professor (tenure track) at Montana State University- Mark & Robyn Jones College of Nursing in Bozeman, Montana. She teaches Design of Healthcare Delivery Systems, which is an interprofessional graduate course offering with College of Nursing (Clinical Nurse Leader and DNP students) and College of Engineering students (industrial, mechanical, healthcare systems engineering students) to evaluate quality and efficiency in the delivery of patient care. Her research includes technology innovation and digital health device development for clinical trial participant safety management, with funding awarded from the Montana State University/U.S. Economic Development Administration, American Nurses Association, NIH, Genentech Innovation Fund, and via the National Science Foundation- National Innovation Corps program. She is part of the Blueprint Engine- Tough Tech Program at MIT. Her service includes Chair-Elect for the Research Committee of the International Association of Clinical Research Nurses, Board Member for Education for the Nursing Institute of Healthcare Design, and a member of the American Nurses Association Innovation Advisory Committee for Technology + Medical Devices. Prior to her current role at Montana State University, Elizabeth was a clinical research nurse and clinical trial manager for ten years spanning hospital and industry settings in pediatric diabetology/endocrinology and adult oncology.



Steven Kalinowski, Ph.D.

My research is looking for student attributes that might affect academic success in college, particularly in science courses. For example, I am studying self-efficacy, growth mindset, and scientific reasoning. I am preparing to include mental health variables in this work. My research skills include instrument validation and psychometric analysis of testing data with item response theory.



Rebecca Koltz, PhD, LCPC, NCC

Dr. Rebecca Koltz is a Professor in the Dept. of Counseling. She serves as the department head and marriage, couples & family program lead. Her research interests include understanding challenges and strengths associated with rural counseling, exploring wellness and prevention across the life span with a specific focus on aging, understanding counselor self-care and prevention, integrating creative approaches in counseling and teaching. She has over 6 million in external grant funding developing a training process for counselors interested in working in rural communities. She has published 26 papers, 2 book chapters and 3 books.



Laura S. Larsson, PhD, MPH, RN, FAAN

Laura S. Larsson is the Kathleen Chafey Endowed Nursing Professor in the Mark and Robyn Jones College of Nursing at Montana State University. Dr. Larsson is a nurse, clinical scholar, and educator with extensive experience operating mobile clinics with tribal communities across Montana. She first partnered with the Northern Cheyenne Nation's Head Start program in 2018, bringing together dozens of undergraduate nursing students, dental hygienists, advanced practice registered nurse practitioners, and a developmental psychologist to deliver health assessments to 3-5-year-olds. A current project is to expand the members of the interprofessional team of scholars and clinicians to improve healthcare access in Head Start, Early Head Start and school-based clinics.



Ji Hyun Lee, Ph.D.

I am an assistant professor in the Department of Human Development and Family Studies. I am a social gerontologist focused on studying cognitive health and dementia in the context of close social relationships, loneliness, and activity engagement over the life course. I am interested in examining mechanisms for dementia risk and disparities across gender and race/ethnicity. My current training grant with the Alzheimer's Association examines protective and risk factors in social network features for cognitive decline among Black and White older adults. Loneliness and older adult's cognitive functioning - the role of informant reports. Neighborhood amenities that promote cognitive health among Hispanic older adults. My research skills and expertise are large-scale secondary data analysis, longitudinal modeling, dyadic and multilevel modeling, SEM (in Mplus). Interested in existing cognitive health studies in Montana, primary data collection on activity engagement, social environment, and cognitive aging in middle-aged and older Montanans.



Christine Lux, Ed.D.

Dr. Christine Lux is the Don and Sue Fisher Family Endowed Professor of Early Childhood Education at Montana State University. Dr. Lux began her career as a preschool teacher before moving into early childhood program administration and early childhood teacher education. For nearly 30 years, Dr. Lux has worked for and with young children and their families. Her teaching and research interests include early childhood teacher education, children's play and learning, interdisciplinary early childhood curriculum development, and nutrition in early care and education.



Jay Otto, M.S.

Jay Otto is a researcher and co-director for the Center for Health and Safety Culture with a background in engineering. He is fascinated by human behavior, how systems influence behavior, and the role of culture. His issues of interest include substance misuse prevention, traffic safety, and violence prevention. He has contributed to the development of the Positive Culture Framework – a structure that guides practitioners on how to organize their efforts to improve health and safety.



Samantha Pinzl, M.P.H., CHES

Samantha Pinzl, M.P.H., CHES is a Research Scientist at the Center for Health and Safety Culture at Montana State University. Samantha has over five years of experience doing local community prevention work. In her role at the Center, Samantha supports grant activities, leads in outreach & education efforts, and provides training to communities and organizations in the Positive Culture Framework as a support trainer. Her areas of interest include maternal and child health, pedestrian and traffic safety, and preventing the misuse of substances.



Bernadette McCrory, Ph.D., M.P.H.

The BioReD Hub is inclusive in its approach to include engineers, scientists, healthcare practitioners and other stakeholders to promote wellness by leveraging biomedical engineering and biological sciences to their fullest. The BioReD Hub leverages MSU's access to front-line clinician expertise to translate solutions to frontier healthcare barriers and challenges. The BioReD seeks to engage rural and isolated populations that need access to the latest technologies that promote health and wellbeing. The BioReD Hub's interdisciplinary vision is to promote both fundamental biomedical research advances at discipline interfaces for the rapid development of solutions for health and healthcare challenges. The core research team focuses on problems best suited for interdisciplinary collaboration to expand understanding and positively impact lives and society especially for Montanans. Drs. Bernadette McCrory, Elizabeth Johnson and Laura Stanley serve as the Co-Directors of the Hub, but new collaborative relationships are evolving. The Hub also provides opportunities for students to gain hands-on experience in the growing biomedical and translational health sciences fields.



Annmarie McMahill, M.S.

Annmarie McMahill is a Senior Research Scholar for the Center for Health and Safety Culture with a background in prevention science. In her role at the Center, Annmarie leads efforts to foster innovative and effective approaches to address complex social challenges around health and safety. Annmarie's areas of interest are currently focused on social and emotional skill development, leading efforts to grow the social and emotional skills of parents and their children (ParentingMontana.org, ParentingMercerIsland.org; ToolsforYourChildsSuccess.org); health communications (UnderstandMontana.org); and traffic safety culture (TogetherforLifeUtah.org).



Sarah Mendoza, Ph.D., NCC, LMHC-QS (FL), LCPC (MT)

The Human Development Clinic (HDC) at Montana State University is opening as a research site. The HDC has offered outpatient mental health counseling to the Gallatin County community for more than 20 years and expanded to offer telehealth services for all Montanans in recent years. The HDC is a primary training clinic for students in the Counseling Department, thus counseling services are offered on a sliding fee scale and no insurance is required. Dr. Mendoza will focus on discerning and supporting evidence-based treatment interventions for individuals, couples, and families (Beasley et al., 2019; Sommers-Flanagan, 2015; Zyromski et al., 2018). Client participation in research is always voluntary and will not prevent anyone from receiving counseling services at the HDC. Clients who engage in research will aid in supporting future generations of clients. The HDC is positioned to be an interdisciplinary research site because community wellness goes beyond just one discipline. The Counseling Department looks forward to interdisciplinary research.



Mary Miles, Ph.D., FACSM

Department of Food Systems, Nutrition, and Kinesiology, Associate Dean of Research for College of EHHD

My research explores the intersection of metabolism and health by examining dynamic responses to metabolic challenges. I use inflammation assessments, metabolomics, and analysis of the gut microbiota to elucidate the influence of diet and physical activity on health. The overarching goal is to develop effective strategies to lower risk of diseases. Inflammation plays an active part in the development of cardiovascular disease, type 2 diabetes mellitus, cancer, and neurodegenerative diseases such as Alzheimer's disease. While delaying the onset of chronic diseases relating to inflammation is an important means of enhancing well-being, the onset of these diseases occurs and younger and younger ages as obesity, physical inactivity, stresses, and other factors relating to lifestyle become more prevalent. Research skills and expertise: Human biomarker analysis (inflammation, metabolomics*, metabolic signatures, glycemic control, lipid panels, gut microbiome composition, and stress hormones), assessment of cardiometabolic health and fitness, diet, metabolic syndrome, anthropometrics, randomized clinical trial design and delivery.

*Metabolomics is an excellent tool to elucidate metabolic underpinnings of a vast array of conditions, e.g. stress, depression, anxiety, psychosocial variables, health behaviors, etc.



Sally Moyce, Ph.D., RN

Dr. Moyce began her nursing career working with migrant and seasonal farmworkers in Oregon, and it was there that she learned about health disparities affecting this marginalized population. She was also intimately impacted by working with a 23-year-old woman in kidney failure, which led to her dissertation research at the University of California, Davis. She investigated the cumulative incidence of acute kidney injury in agricultural workers in the state of California. She came to Montana State University's College of Nursing in fall 2018 and works with the Latinx population in Montana to improve health outcomes. She continues to investigate renal health through an analysis of the relationship of pesticide exposure to kidney failure. She is also conducting an econometric analysis of the effect of occupational health policies on morbidity and mortality in agricultural workers. She teaches courses in research, community-based nursing, and public health nursing.



Leslie Rogers, Ph.D.

My research involves working with inservice teachers, preservice teachers and K-12 students, both with and without disabilities. I predominantly focus on inclusive middle grades classrooms (grades 5-9), where general education teachers are primary instructors for students with and without disabilities. While I initially employed single-subject designs in my methodologies, I have transitioned to more qualitative approaches such as Ground Theory, over the past several years. My current research agenda is looking at how can we enhance our understanding of the phenomenon known as 'effective professional development'? While existing research has identified some general guidelines, such as the significance of ongoing coaching and the involvement of resident inservice teachers, there remains much to uncover. Expanding our knowledge is crucial in bridging the research-practice gap and ensuring that all students, including those with disabilities, benefit from educators equipped with the necessary knowledge, skills, and practices to facilitate their personal and academic growth. My current research endeavors to deepen our comprehension of this phenomenon through collaborative engagement with five inservice teachers and their selected students in the classroom. My expertise lies in the following areas: Special Education (K-12), with a focus on High-Incidence Disabilities, Single Subject Research, Professional Development, Evidence-Based Practices, particularly in K-12 writing instruction, where I specialize in the Self-Regulated Strategy Development model (SRSD), Teacher Preparation, Collaboration/Communication Strategies - Parents/Teachers/Students within Special Education or inclusive settings and, Ongoing work in Grounded Theory research.



Julie Alexander-Ruff, Ed.D.

Over a 30-year career in Nursing, focused on the care of vulnerable children and communities, working in Europe and four states within the continental United States, Julie Alexander-Ruff has sought out opportunities to work with tribal communities. Over the last 11 years, she has partnered with the College of Nursing at Montana State University, where she serves as an Assistant Professor of Nursing, and with the Health Promotions and Disease Prevention (HPDP) program on the Fort Peck Indian Reservation in far Northeastern Montana, to provide undergraduate and graduate student nurses the opportunity to learn firsthand the important skills of cultural civility and sensitivity so that they may be better prepared to provide culturally responsive care to patients different from themselves. This work and its evaluation led to her dissertation for the degree of Doctor of Education in Adult and Higher Education, publications, and several national and international speaking engagements. She is a practicing Pediatric Nurse Practitioner employed by the Fort Peck Associated Tribes to provide primary and acute care services in one of the Reservation school-based health centers. This uniquely allows her to see first-hand the common healthcare concerns of school-aged children and the impacts of poverty and family stressors on children's health, well-being, and educational success. She continues to work with Elders and community members on children's health issues, specifically focused on teaching children resiliency, health education, and wellness through hands-on education supported by an art activity. The results of this work have led to increased opportunities for research, publication, presentations, and partnerships with the Tribal community.



Brianna Routh, Ph.D., MPH, RDN

My research focuses on program evaluation and translational outreach, particularly in areas of sustainable food systems, rural families, food preservation/safety, and family food behaviors. I have content background as a Registered Dietitian, Master in Public Health, and PhD in Human Development and Family Studies. I also regularly partner with food and family serving agencies, including Extension, across the state to understand their needs and priorities for research and practice.



Molly Secor, PhD, RN, FSAHM

Associate Dean for Research and Professor, Mark and Robyn Jones College of Nursing

My research focuses on understanding how social context shapes the sexual and reproductive health outcomes of adolescents. Using community-engaged approaches, my work implements and evaluates the effectiveness of community-based sexual health interventions tailored to social context. The goal of my research is to improve access to effective evidenced-based interventions inclusive of all populations of adolescents regionally, nationally, and globally. Research skills and expertise: community-engaged research, qualitative research, Community assessment, Program evaluation, global health, and tailoring and adaptation of evidence-based interventions.



Mark Schure, Ph.D

Mark Schure is an associate professor of community health at Montana State University's Department of Health & Human Development. Dr. Schure's research focuses on developing and evaluating culturally tailored mental health interventions for the general population and populations with known mental health disparities. He has recently been the Principal Investigator evaluating the effectiveness of an Internet-based cognitive behavior therapy program to help reduce depression and anxiety among adult Montanans. One of his current projects aims to develop and evaluate the impact of a trauma-informed program designed for the Apsáalooke (Crow) nation. He is also the Principal Investigator of a youth-led community mental health awareness project based on two of Montana's reservation communities.



Laura Stanley, Ph.D

Dr. Laura Stanley is an Associate Professor in the School of Computing at Montana State University, Clinical Research Professor at Clemson University/Prisma Health, and Director of the Human Interaction Lab. Her research employs web/mobile applications, virtual/mixed/augmented reality, wearables, emotional AI, and collaborative robotics to develop digital health solutions, specifically for mental health, pain management, and addiction. She has published more than 90 peer-reviewed publications and has secured over \$20M in research grants from various federal, state, and private agencies. She also was formerly an Associate Professor and Graduate Program Coordinator in the Industrial Engineering Department at Clemson University. Before joining the Clemson faculty, Dr. Stanley served as a Program Officer in the Computer and Information Science and Engineering (CISE) Directorate at the National Science Foundation, where she contributed to shaping the nation's research and graduate education agenda.



Stacy Stellflug, PhD, APRN, FNP-BC

Dr. Stellflug's program of research is focused on identification of the knowledge and skills necessary for nurse practitioners (NPs) to survive and thrive in rural practice. Additionally, she is exploring how to integrate the knowledge and skills needed into current curriculum to better prepare nurse practitioner students for practice in resource limited and geographically isolated communities. Dr. Stellflug is the PI/PD on two HRSA workforce training grants focused on educating providers for rural practice and mental health.



Emily Tomayko, Ph.D.

Dr. Emily Tomayko is an Assistant Professor in the Department of Food Systems, Nutrition and Kinesiology. Her research areas include understanding and addressing childhood obesity disparities and promoting health across the lifespan through multiple projects. The first project examines impacts of four-day school weeks on rural children, families, and communities by addressing both challenges (e.g., reduced school meal access) and opportunities (e.g., increased family time) to better inform decision-makers. The second major research area focuses on health and wellbeing for Indigenous families, who disproportionately experience risk for obesity and chronic disease. Dr. Tomayko partners with the Confederated Tribes of Warm Springs on the development of a youth-focused traditional foods toolkit and with multiple communities to study dissemination and implementation of Turtle Island Tales, an evidence-based obesity prevention intervention for Native American families with young children.



Maggie Thorsen, Ph.D

My research examines issues of healthcare inequity, with a focus on maternal health and health care inequities facing rural and Indigenous peoples. In this work I consider how social location and the social determinants of health contribute to diverse, and often inequitable, health experiences within our healthcare system. In my current research, I work with an interdisciplinary research team (including nursing and operations research) to examine inequities in access to maternity care and birth outcomes across MT and the Mountain West. This work is quantitative in nature, leveraging large, integrated datasets (including birth certificate data, US census data, hospital data, and geographic data).



Tena Versland, Ed.D.

Self-efficacy in leadership; collective efficacy, rural education issues - specifically recruitment and retention and rural equity; women in leadership.



Nicole Wanago, M.S.

Nicole Wanago is an assistant professor in Human Development and Family Science at the Montana State University Department of Human Development and Community Health. Dr. Wanago's research focuses on the identity of the Family and Consumer Sciences (FCS) profession to use a Critical Science (CS) paradigm when developing educational programs and researching social problems that impact the human condition. A focus of CS is the development of critical thinking and practical reasoning skills among individuals and families. Furthermore, Nicole is interested in using a CS framework to develop educational programs and provide educator professional development across FCS content areas (e.g., food and nutrition, interpersonal skills, human development, and personal and family finance).