



# Submitted Plenaries Abstracts

## Friday, September 30

### **Cross-Disciplinary Methods and Approaches for Migration and Mental Health**

Presentation Title: *How Stress Related to Migration and Detention Influence Children's Mental Health: Cross-Disciplinary Methods*

Presentation Abstract:

The United States has the largest immigration detention system in the world (Mendoza & Parodi, 2020). Yet, few empirical studies have been published documenting the effect of immigration detention on Central American and Mexican children's mental health. Among the many barriers to research are constantly changing policies, nonspecific mental health batteries, and multifaceted contextual background research.

The current study utilized an interdisciplinary team comprised of neuroscientists, psychologists, and scholars in Latin American studies to successfully overcome some of these challenges, enabling exploration of the associations between migration-related stress and the mental health of children migrating from Central America and Mexico who were held in United States immigration detention facilities during the summer of 2019.

Considerable epidemiological evidence indicates that children migrating from this region have high rates of pre-migration exposure to violence, including sexual and physical assault, murder, extortion, human trafficking, disappearance of family members, and threats by armed criminal groups (United Nations High Commissioner for Refugees [UNHCR], 2015). Further, the stress inherent to migration itself is associated with increased risk for the development of mental health problems in children (Dudley et al., 2012; von Werthern et al., 2018). Due to heightened plasticity of the developing brain (Heim & Nemeroff, 2001), children and adolescents are at higher risk for the impact migration-related trauma can have on their mental health. Early-life adversity exposure is associated with higher rates of adverse mental health outcomes across the lifespan, including impaired cognitive and emotional development, behavioral problems, attempted suicide, post-traumatic stress disorder (PTSD), and anxiety, mood, and substance use disorders (Boyce, 2007; Luthar, 2006; Shonkoff et al., 2012).

Shifts in United States immigration policy in 2018 led to increases in the separation of migrant children from their parents upon entry into the United States. Growing evidence across species suggests that caregivers play a central role in moderating the effects of traumatic stress on children's brain development and physiological responsivity to stress, including buffering children from the detrimental neurobiological effects of stress (Gunnar, 2002).

We hypothesized that children's separation from parents and/or length of detention would exacerbate the effect of migration stress on psychiatric outcomes, specifically the presence and severity of PTSD. We conducted 65 interviews with Spanish-speaking parents of 84 migrant children (ages 1-17) originating from Honduras, El Salvador, Mexico, Guatemala, and Nicaragua within 1-2 days after families were released from detention facilities in Texas. Semi-structured interviews were conducted to assess family demographics and children's migration- and detention-related experiences. A modified version of the UCLA Post-traumatic Stress Disorder Reaction Index was administered to assess children's PTSD symptoms and document trauma exposure.

97.4% of children experienced at least one pre-migration traumatic event. Multiple linear regression was used to determine whether pre-migration trauma, length of detention, and length of parent-child separation interacted to predict PTSD symptom severity. The overall regression model was statistically significant [ $R^2 = 0.408$ ,  $F(7,69) = 6.793$ ,  $p < 0.001$ ]. Overall results of the model did not change when controlling for child's age and sex. Pre-migration trauma was the strongest predictor of PTSD symptom severity ( $B = 3.76$ ,  $t = 6.106$ ,  $p < 0.0001$ ), followed by parent-child separation length ( $B = 2.03$ ,  $t = 1.867$ ,  $p = 0.066$ ), and an interaction between pre-migration trauma, length of detention, and length of parent-child separation ( $B = 0.202$ ,  $t = 1.814$ ,  $p = 0.074$ ).

Results underscore the negative effects of immigration detention on Central American and Mexican children's mental health outcomes and suggest that high pre-migration trauma exposure may make children more vulnerable to the effects of migration-related stress on mental health outcomes. This study contributes to a growing empirical literature documenting that early-life adversity increases risk of developing mental health disorders, particularly



following additional stress exposure. Importantly, our findings suggest that the ability of migrating children to remain with their parents during immigration detention may help mitigate children's stress response.

Results of this study must be considered in context of a number of limitations, including small sample size, especially of children who experienced separation and the inability to clinically diagnose PTSD. In particular, conventionally used trauma-screening questionnaires may not be specific enough to systematically document experiences related to the migration journey itself or waiting in Mexico to cross the border. Currently, we are combining qualitative data gathered from the semi-structured interview component with research on the region's political, cultural, and migratory patterns history to design more specific trauma, risk, and resilience screening tools for future work. Additional interdisciplinary, mixed-method research is crucial to inform some of the most important political debates of our time.

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Presentation Title: *The mental health of children within transnational families: A life course approach*

Presentation Abstract:

Parental migration to another country is a common livelihood strategy for countless families worldwide, and yet evidence on the longer-term developmental outcomes for children and families remains ambiguous. The study of transnational families is a good example of a research priority area conducive to a transdisciplinary approach, where new understanding of family processes and the implications for child and family development requires synthesis of diverse approaches and inter-sectoral collaborations to ensure evidence-based knowledge is translated into practical policy and service implementation. The nature of transnationalism among migrant families of Southeast Asia reflects local policy regimes which send migrants to support the economic sustainability of their families as well as local and national economic development via foreign exchange. The transnational family in this policy regime experiences extended periods of parental absence and children's development unfolds within a context of what is seen as 'ambiguous loss' while migrants are away on fixed-term labor contracts at sea or in other destinations where there are no pathways to citizenship or family reunion. The mental health of children who grow up in such transnational families remains a prominent concern among policy makers, service providers, and migrant advocacy groups, and most importantly migrants and their families.

The Children's Health and Migrant Parents in Southeast Asia (CHAMPSEA) research programme is comparative, longitudinal and mixed-methods, showcasing a transdisciplinary approach to understanding how children experience the migration of their parent(s), including the impact of parental absence on their psychological and subjective well-being and physical health. CHAMPSEA includes several rounds of data collection from three migrant origin countries in Southeast Asia - Indonesia, the Philippines and Thailand - for two age cohorts of children (Young Child Cohort - 3 to 5 years old and Older Child Cohort - 9 to 11 years old in 2008). The samples include households, from the same communities, where neither parent has ever been a migrant (never-migrant households), which we use as a comparison group.

In the absence of reliable national estimates of the number of transnational households with dependent children, samples were drawn from two high outmigration areas in each country. The interdisciplinary multi-sectoral research team implemented a sentinel site public health approach to quota sampling based on location, age and gender of children and migrant status of parent(s). While not nationally-representative, the resultant samples are replicable and reliable. With household-level data including detailed information about parental migration histories, caregiving arrangements, and the mental health of children and their caregivers, the study provides rich insights into how transnational family processes intersect with child well-being. It also captures important elements of how the linked lives of the 'Care Triangle', including 'left-behind' children, their caregivers and their migrant parents(s), influence child mental health from early childhood to young adulthood.

For this plenary session, we use the example of the impact of parental migration on the mental health of young adults (Older Child Cohort) in two communities in East and West Java, Indonesia, over a period of up to 20 years. Our aim is to highlight a novel methodology (joint sequence analysis) for capturing children's experience of parental migration over their lifetime and the use of this method in an analysis of their longer-term outcomes. Joint sequence clusters and household change are incorporated as independent variables in a regression model predicting child mental health (derived from the Strengths and Difficulties Questionnaire (SDQ) and Self Reporting Questionnaire (SRQ)). Children in never-migrant households are the reference category. We find that, rather than the absence of a migrant parent per se, the number of household changes (i.e., household instability) over the young adult's lifetime has the larger negative impact on child mental health. The study illustrates the interplay of



child, family and life course developmental processes similar to related developmental literature about the impact of cumulative disruptions on developmental outcomes.

We conclude by reflecting on the transdisciplinary strengths of CHAMPSEA, which was the first research programme of its kind worldwide. It has had multiple influences over the past 15 years across the disciplines represented in the research team (development studies, geography, population studies, psychology, social policy, and sociology). Inter-disciplinary dialogue from their diverse perspectives has been crucial to advancing theoretical and methodological developments in transnational migration studies and an enhanced understanding of family processes in the context of transnationalism. The academic team is also committed to collaborating with policy and civil society sectors (e.g. UNICEF, IOM, Migration Taskforce, European Policy Centre) on the translation of research findings to better inform decision-making for migrants, their families, NGOs and governments.

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## Participatory Methods for Promoting Learning

Presentation Title: *Latine family math: co-designing and co-constructing math knowledge*

Presentation Abstract:

Eason et al. (2020) argued the need to recognize sociocultural learning in how families engage with math. Research and practice must address the cultural and structural barriers preventing Latine families from engaging in math learning with their children. Human development interventions can be created and re-created in new ways to reconceptualize how Latine families learn to support their children. Co-design approaches is a possible alternative to Latine family interventions because it helps to extend families' and young children's interests and cultural practices and thus transform learning by building on families' strengths and assets. Much previous research examining co-design approaches has focused on healthcare co-design (d'Young et al., 2014; Holliday et al., 2015), and this research brought co-design approaches to early math education. This research study views Latine families' human development from a strengths-based and diversity/equity lens, honoring lived experience and cultural, traditional, environmental, and intergenerational knowledge just as highly as the academic knowledge recognized by the formal education system. This research study builds on the sociocultural perspectives on learning through co-design approaches to support Latine families help their young children with early math learning. The study's purpose was not to find generalizable results in mathematical thinking but to discover the meaning of behavior or culture-sharing interactions among Latine families in co-design workshops to understand how learning works and how to design learning environments that support family math learning. Therefore, this study broadens access and participation for transformative approaches, addressing equity and access while engaging these individuals around civic and racial dynamics within math learning experiences that can be scaled up in traditional teaching spaces and out-of-school spaces. This study used interpretative phenomenological to explore and answer the following research questions guided this study: (1) How do Latine families create math learning experiences for their children? And (2) What perceptions do Latine families hold of math co-design approaches? Study Population: 10 Spanish-speaking Latina mothers with children 3-5 years old participated in this study. Six out of the 10 eligible mothers continued through the completion of the study as participants in the co-design workshops. Methods: Latina mothers participated in (1) Semi-structured Interviews to assess participants' funds of knowledge for at-home learning and for the researcher to structure the co-design workshops based on the data from interviews, and (2) Three co-design workshops (120 minutes each) to explore participants lived experiences in the co-design process. The semi-structured Interviews informed the co-design workshop activities with the following: (1) Self-awareness (semi-structured interviews); (2) Coding & analysis of semi-structured interviews; (3) Framing of each co-design workshop activity based on participants' contexts. For example, participants stated they valued Spanish. Therefore, the creation and interpretation of co-design workshop activities integrated cultural and linguistic frameworks such as Pláticas; and (4) included creating the co-design activities.

Findings: Semi-structured Interview Findings. (1) Latina mothers have cultural forms of knowing that impact the educational experiences of their children and themselves; (2) Latina mothers emphasize the importance of socioemotional learning and literacy over mathematics because of sociocultural barriers; (3) Latina mothers' mathematics experiences affect their mathematics beliefs and attitudes, and their engagement in math learning experiences; and (4) Latina mothers engage in "direct numeracy" and "indirect numeracy" environments (Hart et al., 2016). Co-design Workshop Findings. (5) Participatory research design (co-design workshops) prompts Latina mothers to engage in processes that stimulate their mathematics self-efficacy and social cognitive knowledge (figure 1, 2 and 3); and (6) Co-design methodologies have the potential to create new pathways for family learning





in the 21st century to reframe family engagement practice. Implications. Co-design approaches seem ideal for developing a systems approach that might change how child development interventions are designed and implemented. Co-design approaches also support the concepts of learning, which should be considered when designing child development interventions. As this study suggests, families are not just banking systems of information; they are active learners. This is a critical finding because research has shown how parents' home learning environments have implications for children's school readiness. This is crucial because families need to recognize how they can contextualize home math environments to support their children's early math development. Implications are two-fold: 1) families are creating home math environments, even if they do not see it in mathematics learning terms and view these interactions as part of their caregiving role; and 2) there is a need to help Latine families contextualize home math environments to help support children's math skills.

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Presentation Title: *Students Love to Learn through Play, but Teachers Have Concerns: Implications for Scalability of Interventions*

Presentation Abstract:

Despite decades of laboratory-based research on learning principles (see Pashler et al., 2007), few studies have made significant inroads into the educational community often because they do not account for cultural and contextual factors (Pomerance et al., 2016). Also, most of this evidence comes from western, educated, industrialized, democratic (WEIRD) communities, revealing a replication and generalizability crisis (Henrich et al., 2010). To address challenges in translation, adoption, sustainability, and scalability of learning principles (Graesser et al., 2021), the learning sciences (Fishman & Penue, 2018), employ methodological approaches that center community stakeholders in the process of designing interventions, known as co-design (Hassinger-Das et al., 2021).

Here, we show how centering student and teacher voices in a developing country, informed our intervention, scale-up, and evaluation plans. To achieve this, researchers from the United States partnered with a school, a non-profit organization (NGO), city officials, and professors from the University of Prishtina in the capital of Kosovo. City officials connected us with a school and gave us approvals to carry out the work. Faculty provided research support and the NGO facilitated the study administration. All partners provided invaluable insights about cultural and contextual factors involved.

We report insights from semi-structured interviews with 6 teachers and 2 student focus groups (4th & 5th-grade) in one elementary school, in Kosovo. This is a replication study of Fraction Ball—a version of basketball that integrates rational number learning. Fraction Ball improved 4th, 5th, & 6th-graders understanding of rational numbers through play (Bustamante et al., in press) and preliminary quantitative data from FB in Kosovo (translated as Basket me Thyesa; BT) suggest a successful replication of 4th & 5th-graders outcomes.

As part of a broader study aiming to scale BT throughout 5 school sites, we asked teachers about a) their experiences when implementing BT, b) their likes/dislikes around BT, c) their ideas for improving BT, and d) their ideas for integrating BT into math instruction. Students were asked about a) their experience of learning math in BT and how it compares to their regular math classes, b) their thoughts about math before playing BT, c) changes in math- and self-confidence after playing BT, and d) how would they improve BT.

Data were transcribed and analyzed using an inductive coding scheme. We focus on 5 themes that emerged—academic values, collaboration, community engagement, motivation, and improvements/difficulties with implementing BT. Overall, children reflected on BT as a great motivator for learning about rational numbers as discussed by a 4th-grader, “When we do an activity or play then we are more happy, have more desire, and when you have desire, you learn more. The things you like you learn more.” Another 4-grader emphasized the collaborative aspect of BT, “Besides learning about fractions we also learned how to play as a team” and another student highlighted the potential for community engagement, “At my grandmother’s we have a basketball court, and I drew it with fractions and invited my friends to play.”

On the other hand, a 5th-grade teacher expressed positives and concerns that BT would not meet state standards for rational numbers, “I believe this game enhances children’s curiosity, but it is not satisfactory for learning fractions. I believe that we have to come together to analyze what we need to add based on the standards in our curriculum.” Another teacher reflected on feasibility and accessibility improvements to BT that arose from prior co-design, “We had to put a large ring because the hoop was too high.” She also emphasized challenges for orchestrating BT with a full class, as it had been carried out with 16 students and 2 teachers, “But we will have difficulties implementing the game with more students and without an aid. Thus, we should think hard how we will



plan the game...” In response, our team engaged in additional co-design and is adapting the intervention to involve 30+ students and to create classroom activities that connect to BT and address rational number standards.

Overall, students point towards factors to include in our scale-up plans that have potential for positive change as a result of playing BT, such as improvements in children’s motivation, collaboration skills, and community engagement. In contrast, teachers expressed management and curriculum integration concerns that challenge adoption and sustainability. These insights and the partnerships necessary to carry out this work present a promising model for translating developmental science to real world settings through co-design to better understand the factors that help/hinder adoption, sustainability, and scalability of RCTs with understudied populations.

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**Presentation Title:** *Using Co-Design in Cross-Sector Collaborations to Create Informal Learning Opportunities in the Community*

**Presentation Abstract:**

Evidence from laboratory experiments stemming from the science of learning provides promising principles for designing successful interventions. Too often, interventions from developmental science don’t hold up as expected when put into practice (Open Science Collaboration, 2015). One way to approach this issue is to invite stakeholders to co-design interventions that are culturally aligned with the community’s values and give agency to community members (Yip et al., 2016).

Co-design methods are used widely in public health (Langley et al., 2018) and the learning sciences (DiSalvo et al., 2017). Yet, it is rare in developmental science. We can leverage knowledge gained from lab-based work simultaneously with insights from communities, to produce interventions in the real world more likely to be adopted and sustained due to the community’s engagement in the development process (Hassinger-Das et al., 2019).

This proposal describes how we leveraged relationships with a local community organization and positioned them as active partners in Playful Learning Landscapes (PPLs) research. PPLs are installations created with and for children and families to provide informal learning opportunities through play and caregiver-child interactions (Hassinger-Das et al., 2021).

To create STEM-focused PLLs in a local community, we built relationships with three key partners: families from the community, the directors of a local non-profit grassroots organization [retracted for review], and city officials. These partnerships were initiated by presenting previous PLL projects to stakeholder groups (e.g., town halls, community organization meetings). Below we outline how these stakeholders (Families, Community Leaders, City Officials) made critical contributions to the project.

**Families.** We conducted seven virtual co-design workshops with caregivers (N = 32) to discuss their cultural values, views on early learning, lived experiences, and how to incorporate them into physical installations in their community. These sessions were iterative and tailored around a specific goal (e.g., brainstorm, ideate, prototype, feedback). Each session involved group discussions and activities (e.g., storytelling) facilitated by Spanish-speaking researchers. Through these co-design sessions, families created PLL installations reflecting community values and history. For example, families decided to integrate a popular cultural game, Loteria, into the bus stop to reflect cultural values and promote intergenerational learning (See Figure 1, image F).

**Community Leaders.** The directors of [blinded community organization] brought expertise and knowledge about the community and have valuable insights about working with local families. They connected us with the parents who participated in our design sessions and continuously supported the process. We built on the directors’ trust with families from years of work, allowing us to continue this project during a global pandemic. They also led focused sessions to navigate our team past difficult barriers. For example, several of our early sessions intentionally focused on the location of the installations rather than their design. The directors held a session discussing the process for choosing the location of the installations, which highlighted synergies between this project and other initiatives of the organization. Our approach offered a community-level framing to the decision instead of an individual family or neighborhood-level view. This put families at ease and allowed for a focus on the installation designs.

**City Officials.** The Administrative Service Manager of [blinded city] attended project meetings, provided feedback on ideas, and highlighted synergies with existing city projects. For example, the city was planning renovations of



several parks and wanted to implement our designs so that the project's ideas are disseminated with the existing city budget and built into their normal renovation process, increasing the sustainability of this model. The synergy between the city and our team ensured our access to public space to develop and install these PLLs. In return, we design and build culturally situated community spaces for families to learn and play together. In addition, the city has committed to own and maintain the PLLs so they are disseminated and sustained.

Lab-based research plays an important role in developmental science, however local knowledge and strategic partnerships can enhance the relevance, impact, and sustainability of interventions. For example, traditional lab-based interventions may not have considered the cultural history of families, navigated difficult conversations critical to implementation, or had partnerships with the city to maintain an intervention. Building strong relationships with community members and stakeholders enables researchers to create scalable, feasible, and meaningful interventions, leading to a more holistic developmental science.

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## Multimethod Approaches to Race, Racism and Wellbeing for Youth and Families

Presentation Title: *Painting a Holistic Portrait of Black Boys' Social and Emotional Wellbeing in Early Childhood Education*

Presentation Abstract:

Context

That social and emotional wellbeing is critical for one's quality of life is generally accepted societal wisdom. But beyond this proclamation, the need remains to understand more about social and emotional wellbeing throughout the human life span, and in particular, how to address inequalities in social and emotional wellbeing (SEWB) within stratified society. The need to document and address inequalities in SEWB is particularly salient for Black males. Research on Black males' wellbeing is regrettably scant; however, the research that does exist shows that Black males experience lower levels of SEWB compared to all other social groups (Gallup-Healthways Well-being Index, 2014). Social scientists are just beginning to unearth the precarity of Black males' social and emotional wellbeing during late adolescence and adulthood and the effect that structural and individual racism (Golash-Boza, 2019) has on Black male's wellbeing. Within the larger context of Black males' wellbeing, however, it is essential to also understand young Black boys' social and emotional wellbeing, as wellbeing at this stage likely sets the trajectory of Black boys, adolescents and men's SEWB within and across contexts throughout the life span.

Currently, most of what is known about Black boys' SEWB comes primarily from developmental psychology perspectives that frame and examine social and emotional wellbeing as constituting the development of a set of social and emotional skills. While developmental perspectives on social and emotional development offer conceptual and empirical insight into broader notions of social and emotional wellbeing, developmental psychology perspectives alone offer an incomplete and narrow view into Black boys' social and emotional wellbeing. As very young Black boys experience dehumanization in society (Goff, 2014), understanding their social and emotional wellbeing within the context of their dehumanization will require more critical conceptions of social and emotional wellbeing that transcend disciplinary strictures.

Description of Research Study

This research project is an exploratory critical quantitative descriptive study of Black boys' social and emotional wellbeing during early childhood. Utilizing data from the Early Childhood Longitudinal Study - Kindergarten Class of 2010-2011 (ECLS-K:2011), I conducted a descriptive analysis, guided by key tenets of QuantCrit (Gillborn, 2018), to paint a national portrait of Black boys' social and emotional wellbeing during their year in kindergarten. This research project integrates developmental psychology, sociology, and critical childhood perspectives to (re)conceptualize and critically examine Black boys' social and emotional wellbeing in kindergarten. This transdisciplinary approach, I argue, is necessary in order to arrive at a more accurate understanding of Black boys' SEWB that captures how they are socially-constructed within early childhood contexts such as school, and how the particulars of their social construction shape their experiences and outcomes in domains such as social and emotional wellbeing.





## Major Findings

Five key themes emerged from this study. First, compared to White Boys and Black girls, kindergarten teachers rate Black boys the lowest in all traditional measures of early childhood social and emotional development (i.e. internalizing problem behaviors, externalizing problem behaviors, attentiveness, etc.). Secondly, compared to White Boys and Black girls, kindergarten teachers rate Black boys the lowest in positive emotions (i.e., likes to learn new things). Third, Black boys' experience greater vulnerability than White boys and Black girls in the classroom conditions that support social and emotional wellbeing in kindergarten (e.g. relationships with teachers). Fourth, there are sources of resilience for some Black boys and their SEWB, for example, in classes with higher percentages of Black boys, Black students, and Black teachers. Finally, that predominately White kindergarten teachers rate Black boys the lowest on all measures of social and emotional development indicate the need to explore the role that implicit bias and individual gendered-racism play in Black boys' social and emotional wellbeing.

## Implications for Developmental Science

This study raises three important implications transdisciplinary developmental science. First developmental science on hyper-marginalized groups (e.g., Black boys) needs integrative conceptualizations of human development processes that align to the dynamic social processes that shape how human developmental actually unfolds in everyday lives. Second, more ethnographic developmental research is needed to illuminate the processes and mechanisms that shape outcomes like social and emotional wellbeing, as well as children's meaning making on their experiences. These methodological pivots are essential to understanding the complexities of human development at the intersection of social processes, developmental processes, and developmental outcomes. Finally, developmental science in general, and on hyper-marginalized groups in particular, must evolve to examining the non-normative, subjective aspect of human development (e.g., how young children feel about their own wellbeing in relation to what normative quantitative indicators reveal about their wellbeing).

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**Presentation Title:** *"They just keep coming": Exploring how racialized violence informs racial grief and resistance among Black mothers*

### Presentation Abstract:

Scholars have begun to address how vicarious racial trauma (i.e., indirect experiences of racial violence such as witnessing police brutality on social media) influences stress and coping processes among Black families in the U.S. (Anderson & Stevenson, 2019; Saleem et al., 2020). This work highlights the collective grief that reverberates through Black communities when another story of anti-Black racial violence by police officers (e.g., Ma'Khia Bryant), school officials (e.g., Shakara at Spring Valley High School), or White vigilantes (e.g., Trayvon Martin), flashes across social media feeds and television screens. Yet, few studies frame vicarious racial trauma as a maternal health issue. From a reproductive justice standpoint, Black mothers should have: (a) the right to maintain bodily autonomy, (b) the ability to choose whether to have children, and (c) the freedom to parent their children in safe and sustainable communities (Rogers, 2015).

How do Black parents process and mourn the preventable losses of other Black children in a white supremacist society, as they welcome, raise, and love on their own? Studies have demonstrated that Black mothers play a critical role in preparing youth to cope with racial discrimination and promoting positive wellbeing (McNeil Smith et al., 2016; Smith-Bynum et al., 2016). However, less of this work has focused on the influence of vicarious racial trauma on Black mothers and their children (e.g., Threfall, 2018), and scholars have yet to explore the iterative cycle of grief, coping, and resistance within Black families. Furthermore, given that Black mothers are a primary source of racial socialization messages (Brown et al., 2010; McHale et al., 2006), it is important to understand how the omnipresence of anti-Blackness, shapes their parenting beliefs and strategies.

The current qualitative study draws upon racial stress and coping literature (Anderson & Stevenson, 2019) and a Black feminist framework of racial grief (Nayak, 2019) to contextualize and frame the coping processes that Black mothers experience as they interpret and process anti-Black racial violence. We explore semi-structured interview data from 31 Black mothers in the U.S. (25-52 years; Mage = 35 years) to explore their concerns about the racial violence that their children are more vulnerable to due to their racial group membership, and consider how they channel this grief into actionable change against racial injustice. We used consensual qualitative research methods to identify the following themes: (a) navigating the cyclical nature of Black mothers' racial trauma, (b) feeling "frozen in fear" after a new case of racial violence, and (c) transforming grief into grievance as a route to racial



justice. The findings contextualize Black mothers' concerns about the racialized violence that they and their children might experience during their lifetime, and how they channel this grief into actionable change against racial injustice.

The current study provides new directions for research and practice regarding racial stress and coping processes in Black families, as well as maternal activism among Black mothers in the U.S. Several mothers described how witnessing anti-Black racialized violence reminded them that U.S. sociopolitical structures, including current models of policing and criminal justice, were not designed to keep Black communities or Black children safe. In regards to clinical efforts to reduce racial stress among Black Americans, assessing adolescent and caregivers' experiences with racialized violence and identifying psychosomatic symptoms related to such exposure, may help clinicians screen for necessary cultural considerations in treatment (Metzger et al., 2021). Scholars have also highlighted the importance of raising awareness about how Black women's social positioning influences their experiences with structural oppression (i.e., intersection of racism and sexism), as well as their coping practices (Spates et al., 2020). In addition, discrete incidents of racialized violence or the compounding effect of several racially stressful events (including exposure to vicarious discrimination), can trigger negative psychological health outcomes (Saleem et al., 2020; Varner et al., 2020). Yet, the field still lacks a thorough conceptualization of racial grief and trauma for Black mothers, which may differ based on their exposure to racialized violence, their general sense of coping efficacy, as well as available interpersonal supports. Our findings offer nuanced insight for family health practitioners and scholars on how to expand models of self and community care to strengthen Black mothers' wellness by preventing stress-related health issues caused by racism.

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## Current and historical Contexts of Learning from Socio-Cultural Perspectives

Presentation Title: *Science of Learning and Development: A Focus on Sociocultural Contexts*

Presentation Abstract:

Recent decades have witnessed an explosion of new knowledge about how children grow and develop into whole individuals; how they become learners; the interconnectedness of social, emotional, and cognitive growth; the nuanced impact of culture and intersectionality; and how contextual factors nourish or hinder development. This new knowledge includes analyses of the complex relations between nature (e.g., our genes, biology, and physiological systems) and nurture (e.g., the physical, social, and cultural environments we are in), as well as how these relations are assessed, understood, and internalized (see Immordino-Yang, Darling-Hammond, & Krone, 2019; Knafo & Jaffee, 2013).

For a long time, epistemological and methodological limitations and intellectual silos limited our knowledge. But theory and synthesis in the last decade have coalesced on key knowledge about how children learn and develop in context. This knowledge suggests that learning and development represent a cascade of changes shaped by ongoing, reciprocal coactions among children's biology, their developing brains, and their physical and social contexts over the life course, with the latter playing a fundamental moderating role (e.g., Lavigne, Gouze, Hopkins, & Bryant, 2016; Lee, Meltzoff, & Kuhl, 2020; Nasir, Lee, Pea, & McKinney de Royston, 2021; Spencer et al., 2015).

Our published syntheses of what we know about the science of learning and development was based on research from diverse fields, which include neuroscience, epigenetics, early childhood, sociology, history, various fields of psychology and anthropology, the learning sciences, and the study of individual and collective adversity, resilience, and flourishing. The syntheses, which were based on research through 2017, highlighted the potential of every child to thrive, the individuality of learning and development, the integration of social, emotional, cognitive, and physical needs, and the potential for malleability throughout the lifespan supported by relationships. Of particular importance, among the reciprocal co actions between and among individuals in their contexts and cultures, are the significant relationships in each micro-context that children and adults experience directly, as well as their perceptions, appraisals, and interpretations of these relationships and experiences. This knowledge is important to understanding and supporting learning, development, and thriving and has attracted a significant amount of interest that we believe will frame a range of future knowledge building and on-the-ground efforts.

The science of learning and development can be further advanced by updating and expanding upon theory, knowledge syntheses, and working hypotheses about the dynamic relations between and among physical, social, and emotional contexts, and the role that meaning making plays in these relations. Namely, we can expand our understanding of the diverse cultures and ecologies in which children grow and their specific impacts on child's development, learning, and thriving. This research agenda requires a transdisciplinary research approach that





spans education researchers, developmental scientists, neuroscientists, psychologists, sociologists, historians, and cultural theorists from both the Global South and the Global North. It also requires the use of innovative approaches to research that more robustly align qualitative and quantitative analyses and more powerfully engage the perspectives of culturally and linguistically diverse children, youth, families, practitioners, and communities, and employ dynamic models and methods that focus on individual and longitudinal outcomes.

During the plenary presentation, we plan to share findings from our research syntheses and discuss next steps for synthesizing existing transdisciplinary research that integrates our understanding of learning and development with the concepts of thriving and equity. A discussion of our emerging work will center on elevating and describing the specific impacts of different cultures and ecologies on children and youth's development, learning, and thriving. We expect that this work will lead to a better understanding of how specific ecosystems contribute to learning and development, and the implications for advancing policies and practices that build these ecosystems in support of thriving and equity.

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### **Child in Context: A Systems Approach to Supporting Development for Children in Poverty**

Presentation Title: *Child in Context: A systems approach to supporting development for children in poverty*

Presentation Abstract:

In the United States, poverty has a deleterious effect on child development. Observable effects of poverty emerge before the age of three (Blair & Raver, 2016; Fernald et al., 2013; Noble et al., 2015) and can have long-lasting impacts (Hart & Risley, 1995; Reardon 2016). Interventions targeting child development in infancy, before the age of three, can help to ameliorate some of these negative effects. Research and intervention efforts often focus on the child, but children are nested within families who, in turn, are nested within communities. To truly move the needle and support children in poverty, interventions need to take a systems approach by supporting children, families, and communities.

This plenary will showcase several initiatives, all situated in an urban context working with families from culturally and linguistically diverse communities. Each project aims to support a critical domain of early child development, including language, executive function, and social development. The interventions are commonly grounded in a systems approach that considers the child, the family, and the broader community. Interventions were uniformly developed with a community-based participatory research framework, such that members of the community were critical stakeholders in the development and execution of the program. Each project evaluates impacts on children, caregivers, and in some cases, the broader community.

The first talk will discuss the Routine Language Intervention (RLI), a language intervention for Spanish-speaking immigrant families. Developed through collaboration between researchers and parents and executed at community centers, RLI aimed to increase use of content-rich language during interactions between caregivers and their toddlers. RLI took a two-prong approach, coaching to help parents find opportunities to increase content-rich language in their everyday lives and parenting workshops on topics related to bilingual language development. Families who participated in RLI use more content-rich talk and their children talked more compared to families who did not participate. Results from qualitative interviews revealed an impact on participating community organizations as well.

The second talk will discuss Brainworks, a parenting program for Muslim families. In developing Brainworks, researchers conducted a series of in-depth, cultural interviews with families to identify needs and values. Researchers then worked with the community organization to develop a sustainable program, run by the community organization, that integrated developmental science with the community values. Brainworks gives parents information about key areas of child development including communication, executive function skills, and social skills. The talk will present the effects of Brainworks on parent competence, parenting stress, and children behavior.

The third talk will discuss Building Baby Brain Hubs (3BH), a program designed to support literacy and executive function development for young children living in homeless shelters. 3BH installed interactive, museum-quality mini-exhibits—learning hubs—in shelters across the city. The hubs promote playful learning for young children. Along with the learning hubs, 3BH runs family workshops to promote intergenerational learning and rich interactions between adults and children and has developed a research-based curriculum that is freely available



for families and people who work with families. Results of the 3BH program indicate significant gains in knowledge of child development for participating families. The learning hubs are permanent installations, so they are now a feature of the community that will continue to support playful learning for families and children.

The fourth talk will discuss Brainy Babies, a brain-building, culturally responsive story time developed and run by a local library system. Brainy Babies is a bilingual and multicultural program, available both in-person and virtually, that is highly responsive to parent and caregiver needs and desires. Families returned the program, again and again when other programs saw attrition and Zoom-fatigue during the Pandemic. By incorporating playful activities into programs, library staff supported positive outcomes in early literacy and social-emotional development. Through focus groups and other self-reporting measures, many parents and caregivers noted that the program helped prepare their children for a healthy transition to formal preschool programs and others noted that the Brainy Babies program combatted isolation during lock-down. The authors are currently evaluating this program with the STIM-Q measure, and they look forward to sharing the results.

The moderator—director of a long-standing foundation committed to programing aimed at young children through various levels of intervention—will speak to the challenges and opportunities of community-based interventions that target low-income, diverse populations of children and families. Discussion will focus on frameworks for developing systems interventions and the implications of this approach for creating lasting change.

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## Community Partnerships for Supporting Children and Families

Presentation Title: *Beyond the “clinic”: Healthcare institutions as transdisciplinary multisector community-partner labs for developmental wellbeing*

Presentation Abstract:

Research within healthcare institutions has shifted from an initial traditional focus on health services or basic/applied medicine, to a broader emphasis on improving overall health and wellbeing for communities at large, utilizing systems-of-care, holistic health perspectives. Through leveraging ties with networks of community, academic, policy, and practitioner collaborators, researchers within healthcare institutions are well-positioned to develop programs of translational research on lifespan wellbeing across multiple biopsychosocial ecological contexts. This plenary will provide examples of four unique programs of child and developmental health research within two different healthcare institutions: Drs Elliott (PASS) and Deutsch (SYNCH Collaborative) from the Avera Research Institute at Avera Health, located in South Dakota, and Drs Beal (Child Welfare Lab) and Nidey (EMPOWER) at Cincinnati Children’s Hospital, located in Ohio. Speakers will discuss how they developed their cross-sector and community-engaged projects, highlighting the versatile strengths that healthcare institutions can provide as organizations for innovative holistic health research.

The Avera Research Institute (ARI) is located within the Avera Health System, a large, rural, integrated health system based in Sioux Falls, SD. ARI is a comprehensive research institute, which includes a strong history of maternal child health research, including longitudinal cohorts spanning 15 years. The foundation for this work was the Safe Passage Study (PASS), which found that women who reported smoking and drinking beyond the first trimester had an almost 12-fold increased risk for their baby dying from SIDS. The PASS study inspired a clinical trial that found a culturally-driven curriculum significantly improved sleep environments for American Indian infants. The results from this work are serving as the basis for implementation in both tribal and state agencies. ARI serves as an example of the power of community-based research embedded within a large health care network to conduct cutting edge research in often over-looked areas of the country.

SYNCH (SYstems of Native Community Health) Collaborative utilizes community-based systems science approaches to better discern effective and equitable strategies to improve complex and comorbid community health concerns. Current work focuses on addressing alcohol and substance exposed pregnancy within western South Dakota through 1) targeting the underlying syndemic association between alcohol/substance use, intimate partner violence, and unintended pregnancy 2) the overarching contextual influences of systemic racism and marginalization experienced by Indigenous communities. Over 100 community members representing a wide variety of personal and professional experiences associated with this syndemic have collectively developed a comprehensive causal loop visual model of the overarching system that facilitates and maintains alcohol/substance exposed pregnancy and related inequities. This model highlights how personal, familial, community, and institutional influences synergistically contribute to this issue, as well as how historical and



intergenerational trauma, systemic racism, and covert colonialism strengthen health disparities experienced within this system by Indigenous community members.

The Child Welfare Lab at Cincinnati Children's Hospital is a partnership among child welfare professionals, healthcare providers, and researchers to understand how healthcare and child welfare systems intersect to impact child health, development, and wellbeing. Our multisystem collaboration is supported by multiple federal grants and has informed local policy and practice changes. This includes establishing a data exchange platform, IDENTITY, that supports clinician and caseworker access to health and child welfare information for children in foster care, now implemented in other Ohio communities. Access to up-to-date and accurate information about when children are in foster care combined with health indicators provides opportunities to examine population health and developmental processes, including motor and cognitive development (Greiner et al., 2021), initiation of substance use (Beal et al., in press), attitudes toward sexual behaviors (Martin et al., 2022), and engagement with home visiting programs following transitions to parenting (Nause et al., in press).

The EMPOWER project is a patient centered collaborative at Cincinnati Children's Hospital that includes maternal-child health researchers, clinicians, community partners, and individuals with lived experience of substance use around the timing of pregnancy. Our overall mission is to improve health outcomes for families affected by substance use through patient and community centered research. To achieve this goal, we have utilized journey mapping methods to identify healthcare barriers and patient-centered interventions, along with the stakeholder identified research priorities. To build the research capacity of the EMPOWER project, patient stakeholders have completed online learning labs and have co-developed research surveys and will co-lead focus groups for upcoming pilot projects. Additionally, stakeholders have identified the need for peer support that is specialized for pregnant and postpartum people with substance use. Therefore, the EMPOWER project is developing a peer support training module, led by patient stakeholders, for the state of Ohio.

## **Saturday, October 1**

### **Broadening Approaches to Adversity, Health, and Development**

Presentation Title: *Broadening Child Obesity Interventions: A Transdisciplinary, Multi-Sector Approach to Understanding Psychosocial Aspects of Child*

Presentation Abstract:

Despite the implementation of a multitude of intervention/prevention programs, child obesity has continued to increase across the last four decades. Most of these programs have targeted unhealthy eating and lack of physical activity without addressing the family and peer contexts in which these activities occur, particularly psychosocial aspects of those contexts. We developed a transdisciplinary conceptual model (Figure 1) that bridges developmental, family, and nutritional sciences to highlight the contextual and social-emotional processes that may lead to, maintain, or exacerbate obesity in children. Our model revisits the assumptions embedded in most child obesity programs by addressing the whole child and by examining how families and peers might impact children's weight via the social and emotional climates they create.

RCT. Guided by this conceptual model, we developed and implemented a cluster randomized controlled trial aimed at overweight and obese children, their parents, and their peers. The intervention compared three treatments. Two psychoeducation interventions for parents and children were conducted: Family Lifestyle (FL) focused on food and physical activity; Family Dynamics (FD) added parenting and healthy emotion management. A third Peer Group (PG) intervention taught social acceptance to children using a concept based on Paley's book, *You Can't Say, You Can't Play* (YCSYCP). Participants were 1st graders with BMI<sub>95th</sub> > 75 (n = 538: 278 boys, 260 girls). Using a two-level random intercept growth model, intervention status predicted differences in growth in BMI and BMI-M% over three years. Children with obesity who received the FL+FD+PG intervention had lower BMI gains compared to controls for both raw BMI (B = -0.05) and BMI-M% (B = -2.36), suggesting that interventions to simultaneously improve parent, child, and peer-group behaviors related to physical and socioemotional health offer promise for long-term positive impact on child obesity. The PG- YCSYCP intervention was particularly effective for children who were severely obese (BMI in 99<sup>th</sup> percentile) at the beginning of 1st grade. Figure 2 illustrates year 1 results; findings were similar in years 2-4.





COLLABORATIONS. While following the children for 4 years, we collaborated with professionals in two sectors—industry and education—to further understand the psychosocial aspects of child obesity and to disseminate our ongoing findings.

INDUSTRY COLLABORATIONS. Because of past work about peer acceptance and rejection, we were contacted by film producer Ruth Thomas Suh, who was making a full-length documentary about the neuroscientific evidence that ostracism invokes processes in the brain that lead to shame, aggression, and sometimes violence. Thomas Suh collaborated with us by arranging the filming of a classroom that used the YCSYCP rule at a local elementary/ The resulting film, REJECT, has won multiple awards and has been screened internationally, with screenings typically followed by seminars/panels exploring implications for practice. We have participated in multiple screenings, with audiences consisting variously of parents, school personnel, and nutritional professionals.

EDUCATION COLLABORATIONS. During this time, we have also worked closely with educators in the field. REJECT included those interviews with us as well as a kindergarten teacher (Varnell) and school counselor (Schaecher) from the school where we filmed. We have attended screenings of REJECT with Schaecher, Varnell, and Thomas Suh, and we have co-authored a chapter with Schaecher in an edited book published by Springer. Currently, Varnell and Schaecher are serving as consultants on a project to create a shorter, teacher-oriented version of REJECT called BELONGING, funded by grant awarded to our team. We plan to disseminate BELONGING and our empirically-supported YCSYCP curriculum to educators nation wide.

We also have collaborated with Dr. Colony Fugate, a clinical faculty at OSU's medical school, where she supervises pediatric residents. We make annual journal club presentations for the residents and has screened Reject for them. Fugate is co- organizer with the Tulsa Health Department of an annual Fit to Learn Summit, where attendees (e.g., administrators/district leadership, child nutrition directors, classroom teachers, PE instructor, school nurses, parents, advocates) learn strategies to improve their school's overall health and wellness. Varnell and Schaecher have presented with us at Fit to Learn.

SUMMARY. Our experience fits this conference's goals by revisiting the assumptions embedded in studies of child obesity; by working in collaboration with the communities in which children grow up and with agencies that impact their development (schools, medical practice); by communicating across theoretical orientations (child development, family science, nutrition, medicine); and by conducting research and dissemination that is informed by communities and practitioners. We are excited about the possibility of sharing this experience with other researchers in conversations that may lead to novel and innovative research collaborations.

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Presentation Title: *Using Administrative Data Linkages to Explore Developmental Associations Between Mental Health, Education, and Crime*

Presentation Abstract:

Longitudinal studies of child and adolescent development often rely on primary data collections and surveys to answer questions about relationships between mental health, education and crime. However, in England, United Kingdom (UK), relevant data are already systematically collected by the National Health Service (NHS), Department for Education, and Ministry of Justice. They collect these administrative data separately, but linking data from these organisations allows cross-disciplinary investigations of child and adolescent development. Such data linkages comprise large, whole-population cohorts, which overcome some known biases associated with recruitment and data collection in more traditional cohort studies. This talk will describe two such administrative data linkages being used for developmental research at King's College London.

The first data linkage brings together mental health and educational records. South London and the Maudsley NHS Foundation Trust (England, UK) makes de-identified electronic health records available for research, including records of referrals made to local Child and Adolescent Mental Health Services (CAMHS). These CAMHS records have successfully been linked to the National Pupil Database (NPD), which contains educational data for all pupils in England's state-funded schools. As a result of this linkage, we had access to educational records for a large cohort of local pupils, some of whom had been referred to CAMHS for mental health problems.

In one example of research arising from this data linkage, we investigated the association between depression and educational attainment trajectories in a cohort of  $n=222,027$  pupils. First, we conducted growth mixture modelling to identify subgroups of pupils who followed similar patterns of attainment through school years 2, 6 and 11, when statutory testing takes place in England. Following consultation with a young person's advisory group, we selected a model solution representing five educational attainment trajectories (Figure 1). We then investigated whether



having a depression diagnosis before age 18 years, as determined through the linkage to CAMHS records, predicted membership of these trajectories. The findings suggested that pupils with depression were more likely to occupy trajectories showing either a modest or steep decline in attainment. This highlights the importance of timely educational support for pupils with depression who are showing early signs of struggling with assessments.

The second data linkage which we are currently analysing brings together education and crime records. Educational records in England's NPD have recently been successfully linked to approximately 1.51 million offenders in the Police National Computer (PNC), which contains individual-level data on offence convictions and cautions in England and Wales. To further extend the findings from the first data linkage, we are scaling up the longitudinal modelling techniques to summarise educational attainment trajectories in a national cohort of pupils. We will then investigate the association between membership of these trajectories and subsequent risk for offending and reoffending behaviours in late adolescence. These analyses are ongoing.

Securing permissions to undertake and access administrative data linkages requires close cross-sector collaborations between academics and data owners, and usually necessitates demonstrable public benefit and potential policy impact. Analysing these linkages also requires expertise from a wide range of backgrounds. At King's College London, we have developed a team comprising clinicians, informaticians, epidemiologists, data scientists, and researchers from mental health and education research backgrounds. We maintain close links with practitioners from forensic services, and other teams with expertise in forensic mental health research. We also have access to local advisory groups comprising individuals with lived experience of mental health issues and service use, and regularly draw on their expertise to inform our work.

The research being undertaken by this team demonstrates the feasibility of using large administrative data linkages to investigate issues affecting child and adolescent development across multiple disciplines. The research is also catalysing further work: having demonstrated that education data can be successfully linked and analysed in relation to mental health and crime data, we are currently working on further linkage between CAMHS and the PNC. This will allow us to answer important questions on the association between mental health and crime, and to conduct quasi-experimental trials investigating whether clinical interventions can mitigate offending risk among children and adolescents diagnosed with mental health and developmental disorders. Eventually, a three-way linkage between mental health, education and crime data may also be feasible, so that relationships and mediators between all three areas can be considered.

Overall, undertaking and analysing innovative administrative data linkages is fruitful for effectively understanding issues relating to child and adolescent development, particularly across different disciplines and sectors. Building teams and networks with diverse domain expertise is vital for sustaining and using these linkages to their full potential.

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**Presentation Title:** *Why and how does early adversity influence development? Toward an integrated model of dimensions of environmental experience*

**Presentation Abstract:**

Two extant frameworks—the harshness-unpredictability model and the threat-deprivation model—attempt to explain which dimensions of adversity have distinct influences on development. These models address, respectively, why, based on a history of natural selection, development operates the way it does across a range of environmental contexts, and how the neural mechanisms that underlie plasticity and learning in response to environmental experiences influence brain development. Although both the harshness-unpredictability and threat-deprivation frameworks seek to explain the consequences of experiencing different forms of adversity, their divergent grounding in why versus how has led to different research questions, hypotheses, and programs of research, which have largely proceeded independently and have not previously been integrated. This siloing of the two approaches has impeded progress toward understanding which dimensions of environmental experience matter for child development.

Here we attempt to break down these silos. We see the different research programs guided by each perspective as complementary pieces of a developmental puzzle that, if brought together, could meaningfully advance scientific understanding of the consequences of childhood adversity. Thus, building on these frameworks, we advance an integrated model of dimensions of environmental experience, focusing on threat-based forms of harshness, deprivation-based forms of harshness, and environmental unpredictability. This integration, we argue, advances knowledge in two basic ways. First, a mechanistic and neurobiological analysis of development informs



our understanding of dimensions of adversity in ways that refine and extend the harshness-unpredictability model. Second, an evolutionary analysis of why development operates the way it does across different environmental contexts informs our understanding of the developmental consequences of early adversity in ways that refine and extend the threat-deprivation model. We discuss these different implications in turn. We begin by reviewing the main theoretical assumptions on which the harshness-unpredictability and threat-deprivation models are based. Then we present the basic tenets of the harshness-unpredictability and threat-deprivation models. With that foundation in place, we endeavor to integrate these frameworks.

The proposed integrated model of dimensions of environmental experience makes clear that the why and the how of development are inextricable and, together, essential to understanding which dimensions of the environment matter. Core integrative concepts include directedness of learning, multiple levels of developmental adaptation to the environment, and tradeoffs between adaptive and maladaptive developmental responses to adversity. As shown in Figure 1, the integrated model proposes that environmental harshness constitutes at least two distinct adaptive problems: morbidity-mortality from harm imposed by other agents (indicated by threat-based forms of harshness) and morbidity-mortality from insufficient environmental inputs (indicated by deprivation-based forms of harshness). Cues to each of these adaptive problems range from more proximal to the child (immediate experiences of threat and deprivation) to more distal to the child (ecological factors linked to threat and deprivation). Experiencing these cues does “double duty” in terms of calibrating development to both immediate rearing environments and broader ecological contexts, current and future. Both the severity of cues (levels of threat-based and deprivation-based forms of harshness) and stochastic variation in these cues (unpredictability) distinctly influence development.

Our overarching goal is to show how this integrated model can be leveraged to advance an understanding of why, how, and which dimensions of adversity influence cognitive, emotional, and neurobiological development, as well as physical health. We highlight actionable directions for research needed to investigate the integrated model and advance understanding of dimensions of environmental experience.

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## Conceptualizations and Methods for Understanding Friendships

Presentation Title: *Revisiting the company they keep: How to conceptualize and measure the developmental meaning of friendship groups in middle childhood*

Presentation Abstract:

In the broadest terms, a peer group at school can be defined as a group of individuals within a larger social network that are roughly the same age, social status or at the same level of functioning (Brown, 1989; Kindermann & Gest, 2009). Although many adolescents are members of a friendship group (i.e., 44% to 77%), research is still limited in accurately identifying group membership as well as in conceptualizing and measuring the socialization processes within the group (Ennett & Bauman, 1996; Kiuru, Numi, Aunola & Aro, 2009; Ryan, 2001; Shrum & Cheek, 1987). This includes conceptualizing and measuring shared group behaviors as well as the structural features of the group (i.e. size, stability, homogeneity, centrality and cohesion; Brown, 1989; Kindermann & Gest, 2009).

The lack of research focused on group membership and the structural features of the friendship group context is not due to the lack of importance this context may have on development (Adler & Adler, 1998; Brown, 1989; Bukowski & Cillessen, 1998; Bukowski et al, 2009; Cairns, Leung, Buchanan, Cairns, 1995; Ennett & Bauman, 1994; Furman, 1989; Hartup, 2009; Moody, 2001; Sullivan; 1953; Simmel, 1971). In fact, many researchers suggest that this is an important area of future research in terms of considering how the group environment shapes identity and behaviors and attitudes that are shared within the group in middle childhood and adolescence (Kindermann, 1993, 2007; Kindermann & Gest, 2009; Newman & Newman, 1976; 2001; Maroulis & Gomez, 2008; Moreno, 1934; Ryan, 2001; Rubin et al., 2006; Sutherland & Cressey, 1974; Wentzel, 2009; Wentzel & Caldwell, 1997). These studies tend to suggest that youth with friendship group membership have higher social competence and academic achievement than youth who are not members of a friendship group (Henrich et al., 2000; Kiuru et al., 2009; Liu & Chen, 2003).

Unfortunately, these studies do not provide much clarity about the role of structural features of the friendship group context may play in shaping member's behaviors because they do not explore within- or between-friendship group differences, but focus on cross-group comparisons such as comparing youth in friendship groups to dyads,





liaisons, or isolates (Gest et al., 2001; Gest et al., 2003). Complicating this issue is that the few studies that have used within –or between–friendship group comparisons have utilized different measurement approaches to identifying group membership, which makes the findings of these studies difficult to compare to one another and conceptualize in terms of the socialization of shared characteristics and context. For example, some studies use Social Cognitive Mapping (SCM) which relies on others' self-report, while other studies use first-hand self-report (Kindermann & Gest, 2009). This begs the issue of not only how to developmentally conceptualize and measure friendship group membership; but of how to developmentally conceptualize and measure the structural features and friendship group characteristics. These issues are important to consider in that these shared group dynamics are likely to play a moderating role in the socialization of shared group behavior, including academic achievement (Chen et al., 2003, 2008; Cook et al., 2007; Kindermann, 1993; Kindermann & Gest, 2009; Liu & Chen, 2003).

The goal of this plenary session is to discuss the validity of various social network methodologies in conceptualizing and measuring friendship group membership and the structural features of the group. In particular, this plenary session will address the gap in research on the friendship group processes and attempt to conceptually map social network analysis models onto the friendship group context to develop a working model that can be used to explore these issues in a developmentally meaningful way, especially in relationship to academic achievement outcomes (Brown, 1989; Gifford-Brownell & Smith, 2003; Kindermann & Gest, 2009).

Part of the difficulty of mapping one onto the other is that to do this; researchers must have an understanding of the role friendship groups have on middle childhood and adolescent development as well as some basic knowledge and understanding of how to apply social network analyses to these group contexts. To date, most developmental researchers have a very limited expertise in social network theory, given its been borrowed from the field of economics and is only beginning to be introduced into the field (Gifford-Smith & Brownell, 2003; Kindermann & Gest, 2009; Maroulis & Gomez, 2008; Wilson et al., 2011). Thus, a holistic, developmental discussion that brings transdisciplinary, multi-sector collaboration together to tackle these issues is not only necessary but vital to expand this sorely needed area of future research.

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**Presentation Title:** *Using multilevel modelling to assess cultural/contextual variations in the features and effect of peer experiences*

**Presentation Abstract:**

Identifying diversity in developmental processes and outcomes has been an enduring but understated goal of research on peer relations. The methods, measures, and research practices used in peer research as well as its pluralist intellectual traditions make peer research uniquely positioned to assess contextual variability. A basic premise of peer research is that peer experiences are embedded within particular contexts and that the features of these contexts ascribe significance to peer experiences. A further premise is that many forces related to broad social structures such as socioeconomic status, ethnicity, and race, can be assessed and studied within the peer context. For these reasons, the study of peer relations provides an ideal domain for the study of diversity in development.

Two approaches are typically used to examine contextual variability in the features and effects of peer experiences. One examines the effects of group norms and the other examines place or group differences. Although each approach has produced intriguing findings about variability in the peer system, each also has its limitations in terms of identifying the factors that account for culture-related variance in development. Specifically, whereas research on norms is typically devoid of a clear cultural orientation, place or group differences per se are difficult to interpret because one can not identify the specific cultural dimensions or features that account for the observed differences.

To address our concerns with current approaches we have developed a multilevel approach that assesses the effects of context level variables on individual level processes and outcomes. We conduct our studies with school-age children. Our multilevel approach takes advantage of the hierarchical structure of the school context in which children are embedded, or nested, within their classroom peer groups. Variables derived from the classroom-based peer group are used as the between-group, or level 2, measures whereas variables measured at the level of the individual child are used for the within-group or level 1 analyses. The level 2, or between group, variables can be any measure that can be calculated as a feature of the group, group norms, measures of culture such as individualism and collectivism, ethnicity or racial composition, aspects of gender, and place (i.e., the



community/country where the school is located). Level 1 variables include the predictors and outcomes of interest (e.g., self-perceptions, behavioural measures, indices of competence, aspects of social functioning).

In our presentation, we will discuss findings from three studies. Each study was aimed at identifying the cultural factors that explain between place/group differences in the associations between predictors and outcomes measured at the level of the child. The samples include fifth and sixth graders (all  $Ns > 350$ ) from lower-middle- and upper-middle-class neighbourhoods in Barranquilla Colombia and Montreal Canada. One study shows that cultural factors explain between-group and between-place variations in the associations between measures of aggression and withdrawal and measures of acceptance by peers. A second study is concerned with the group level factors that explain group and place differences between measures of school achievement and children's perceptions of their academic competence. The third study will assess the cultural factors that explain the differential effects of gender typicality and gender atypicality on well-being.

This presentation will bring together themes from developmental psychology, sociology, anthropology, and gender studies. With each of the three studies we will show how a multidisciplinary approach that integrates variables from different levels of social complexity and from different disciplinary perspectives provides a rich and comprehensive account of important developmental processes. We will also show how multilevel modelling can be used to identify the factors that account for between-place and between-group differences in developmental processes and outcomes.

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## Leveraging Big Data Across Global Contexts

Presentation Title: *How the ManyBabies approach uses open and robust science practices*

Presentation Abstract:

ManyBabies is a global consortium of developmental psychologists working together to replicate and extend landmark findings. Concerns about replicability were central to the creation of ManyBabies, and practices that support robust science are central to its efforts. For example, most materials generated by MB projects (and ALL stimuli, data, and code needed to replicate procedures and results) are posted in public repositories, and all projects are encouraged—and soon will be required—to have an approved registered report prior to data collection. These practices are important to ManyBabies for several reinforcing reasons: (1) Concerns about robustness motivate the *\*purpose of conducting the work\**, (2) the scale and collaborative nature provide *\*opportunities to adapt and test\** tools like preregistration for developmental psychology, and (3) this same scale means that transparent documentation and access to materials are *\*practical project management steps\** for collaborators from around the world.

Many of the challenges that threaten research robustness are especially acute for developmental psychology. Developmental data are challenging to collect, meaning that many studies rely on small sample sizes, with low power and an increased risk of publishing false positives. But they can also be difficult to share and re-use, especially when it is intrinsically identifiable, e.g. videos of child participants. Despite the core interest in change and continuity over time, limitations of sample size also tend to lead to designs in developmental psychology which yield sparser data (e.g. comparing 'snapshots' at 5mo and 9mo, vs. modeling the size of an effect as a function of exact age).

ManyBabies projects require significant investments of time and resources from participating researchers, and thus have a responsibility to produce the best science possible with these investments. The scale of these projects also means that there is a larger payoff to (for instance) curating shareable datasets, both for the specific project, and by establishing patterns for other projects to follow. One example of this is the registered reports model, whereby the intended experiment and analyses are submitted to a journal prior to data collection. This represents a major change in workflow for most developmental researchers, but has the potential to lend significant benefits. In particular, by undergoing early review, ManyBabies projects are more likely to run the best possible study of an effect of interest. They also provide the guarantee that investment in an atypical project - collecting data collaboration with tens of other labs - will result in a published paper, whether the study yields a statistically significant result or not.

Finally, ManyBabies projects use tools like reproducible analysis pipelines and full reporting of babies that 'fuss out' of a session simply because they are practical for a collaboration with hundreds of authors. Without sharing standardized stimuli and documenting how the study is implemented in each lab, it would be very difficult to tell



whether data from different labs was comparable. In principle this could be done by creating private repositories that only participating researchers had access to. But instead, ManyBabies projects eliminate administrative hurdles like tracking repository permissions wherever possible, following the principle of working “as open as possible, as closed as necessary.” Where there is a need for privacy, e.g. working with identifiable participant datasets, the tools of replicable science are still invaluable to ensure that a costly collaboration can produce reliable results. These analyses are conducted in a private Github repository, limited to only those team members who are actively working on them. Because labs deliver data from *\*all\** babies, not just those that completed the session, the analysis team can apply standardized decisions about dropping observations. And because this data cleaning is conducted using R notebooks starting from raw data files, the chance of making mistakes or needing to re-do manual work is minimized.

All of these factors work together to make open science and robust practices vital to the work of the ManyBabies enterprise. Decisions made for the immediate project can have ongoing impact - the same R scripts used to make analysis possible, also make them verifiable by a scientist who wants to check the work, and reusable by one who wants to extend it. And finally, open science makes the work we do accessible to more people, and moves away from the model of scientists as competitors. By using these tools, ManyBabies aims to create communities of practice which prioritize collaboration, support colleagues at all institutions and stages of training, recognize contributions of many different types, and contribute to the cumulative body of evidence in developmental research.

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Presentation Title: *ManyBabies: The history and opportunity of a large developmental psychology research consortium*

Presentation Abstract:

ManyBabies (MB) is a collaborative network that brings researchers together to address difficult outstanding theoretical and methodological questions about the nature of early development and how it is studied. MB was born out of informal discussions between developmental researchers about issues related to the “replicability crisis” in Psychology: low power, small samples, and a lack of transparency and standardization of the research process. These discussions also included additional concerns specific to developmental research, namely the possible impact of small inter-lab variations (e.g., room lighting or researcher characteristics, like having a beard) on the behavior of infants.

Since its conception in 2015, the MB consortium has grown to over 400 contributors from more than 200 institutions in 46 countries on six continents (Figure 1). This large and sustained effort has allowed developmental psychologists to pool their expertise, resources, and participant populations to collectively study infant development in a manner that is beyond the scope of individual labs or institutions. The collaborative nature of MB projects also allows researchers a unique opportunity to expand and diversify their programs of research. For example, a researcher who typically studies word learning can develop the statistical model for a Theory of Mind project, or collect data in their laboratory for a project about social evaluation. Graduate students and other trainees can gain exposure to new methods and build relationships with peers and potential mentors that reach far beyond their own labs.

In the first MB project, 149 researchers from 20 countries collaborated to test 2,329 infants to replicate a robust finding in developmental psychology: infants’ preference for infant-directed speech. In addition to confirming the existence of an IDS preference in infants, researchers conducted planned followup analyses that demonstrated effects of age, native language, and procedure on the strength of the effect, comparisons that were possible only due to the scale of the project. This project further served as an important “proof of concept” for the idea that developmental researchers from around the world can come together to conceptualize, design, and execute a project using consensus-based decision making.

Following on the success of MB1, ManyBabies has launched six main projects (four experimental, two methodological) and multiple spin-off projects which are in various stages of progress (Table 1). Three projects have registered reports approved or under consideration, and an additional two registered reports are in preparation. One project in particular, MB1-Africa (MB1A), aims to increase the diversity and representation of MB researchers and participants by extending the design of MB1 to 11 research groups in Africa (data from the original MB1 study came predominantly from North American and European labs)(Figure 1, right). The goals of this project extend beyond the study of African infants’ IDS preference; MB obtained funding to provide equipment and training to participating African researchers with the hopes of helping them establish the expertise and capacity for





continued and sustained research programs. This project is one aspect of MB's ongoing work to include a diverse group of researchers as researchers and project leaders, a core part of MB's mission.

With the feasibility of the MB model successfully demonstrated and work on increasing diversity and inclusion underway, MB is now turning its attention toward matters of sustainability and impact. With regards to sustainability, the leadership of MB is working to further develop the policies and infrastructure that will allow projects to thrive, while still respecting the intentionally de-centralized and non-hierarchical structure of the consortium. For example, we are working to improve documentation around collaboration agreements and authorship, so that the commitments that contributors make to a project and each other are clear and transparent. We are also working to improve data sharing and data validation systems to maximize the efficiency of project workflows, so that contributors can focus on the scientific rather than logistical aspects of a large-team collaboration. Finally, we are building relationships with other big team science groups and organizations (e.g., Psychological Science Accelerator, ManyPrimates, ManyDogs) in order to learn from each other and work together to improve the impact of large-scale collaborations across behavioral science disciplines.

Note: We envision that this abstract will appear in a plenary session with two other submissions: 'Capturing Diversity and Representation in Diverse Settings' and 'How the ManyBabies approach uses open and robust science practices.'

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## **Whole-Child Development, Learning, and Thriving Among Marginalized Youth: U.S. and International Perspectives**

Presentation Title: *Whole-Child Development, Learning, and Thriving Among Marginalized Youth: U.S. and International Perspectives*

Presentation Abstract:

The goal of this Plenary Session is to advance understanding of the bases of whole-child development, learning, and thriving (and not merely resilience; Masten, 2014), among youth in both the U.S. and in low- and middle-income countries (LMICs) in the majority world. Our focus will be on youth who have been marginalized and who have experienced inequities in health, education, employment, and safety because of their social class, race, ethnicity, and gender. The applied developmental science projects in both the U.S. and in LMICs that we will discuss in order to achieve this goal are integrated under a common theoretical model, one that was most recently described in a 2021 book, *Whole-child development, learning, and thriving: A dynamic systems approach*, written by Pamela Cantor, Richard M. Lerner, Karen Pittman, Paul A. Chase, and Nora Gomperts, and published by Cambridge University Press in a book series edited by Marc H. Bornstein.

Concepts from dynamic systems-based models of human development (e.g., Fischer & Bidell, 2006; Lerner, 2021; Overton, 2015) enable a comprehensive understanding of whole-child development and learning. This understanding results in the view that the thriving of all youth requires a dynamic and integrated view of each child's journey. Cantor et al. (2021) emphasize that these dynamic, individualized journeys must become the foundation for the beliefs and practices of practitioners, administrators, and policymakers. Specifically, practitioners, administrators, and policymakers must understand the learning processes, potentialities, and capabilities that can and will emerge in students across time and across dynamically coactive settings designed to promote whole-child development, learning, and thriving. This knowledge is vital for describing, explaining, and optimizing the lives of every child. However, because of the impacts of the instances of marginalization we have noted, it is particularly critical for promoting equitable and socially just lives for children who live in the toxic contexts associated with poverty and racism, both in the U.S. and internationally (e.g., Barbarin et al., 2020; Murry et al., 2015).

Together, the three (3) papers to-be-presented in the proposed Plenary Session will provide evidence derived from longitudinal research focused on identifying the bases of healthy whole-child development and thriving – in families, communities, formal learning settings, and in out-of-school-time settings. The papers will emphasize the impact of settings designed by practitioners who, collaborating with researchers, use dynamic systems models to frame their longitudinal studies involving the interrogation of individual↔context relations, and who seek to promote thriving by applying evidence from these collaborative research↔practice partnerships. These partnerships are influenced by the ideas of Bornstein (2017, 2019), on the importance of the Specificity Principle in developmental research, and by Rose (2016), whose work underscores that attention to specificity enables child-

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specific programs to be successful. Following Molenaar and Nesselroade (2012, 2014, 2015), Rose (2016) explains that comprehensive understanding of a child's development must involve appraisal of the meaningful and jagged nature of child-specific developmental pathways. That is, there must be a person-specific focus on each child's development – on each child's individual↔context relations. This focus involves adding within-the person analysis (i.e., ipsative analyses) to the methodology of developmental scientists and ceasing exclusive reliance on average depictions of child development derived from variable-centered (nomothetic or group differential) analytic approaches.

In the following summaries of each of the four papers to-be-presented in the proposed Plenary Session, each team of authors will explain how this approach to understanding whole-child development and thriving among the youth involved in their applied developmental science projects has resulted in advancing understanding of the thriving process among marginalized young people. Each paper will also explain the value of, and the challenges involved in, researcher↔practitioner collaborative partnerships in the U.S. and internationally.

Together, the papers we shall present researcher↔practitioner collaborations involving colleagues from the fields of medicine, biology, psychology, sociology, and education and, as well, U.S. and international leadership in designing, delivering, and evaluating evidence-based programs for the diverse young people in the U.S. and around the world.