Faculty Associates Networking Dinner

Faculty Research with Children and Youth
Gelfand Science, Engineering, and Maker Fair

The Gelfand Fair Program has two primary goals:

• Broaden participation in the science, engineering, and maker fair experience in schools throughout northeast Ohio with special emphasis on the Cleveland Metropolitan School District and other high need districts in Cuyahoga County, and

• Promote and support high quality science, engineering, and maker projects that include meaningful questions, sound experimental designs, and rigorous data analyses.
Data Sources:
• Annual report
• Fair scoring rubric
• Feedback from Gelfand Fellows
• Experimental Design Aptitude Test (pre/post)
• Student Attitude Survey (pre/post)
• Student Inquiry Self-Assessment (pre/post)
Neighborhood Conditions & Child Maltreatment: A Mixed-Methods Study

**Multidisciplinary Study Team:** Jim Spilsbury, Claudia Coulton, Jill Korbin, David Crampton, Francisca Richter

- Twenty year panel study of all census tracts using admin data
- In depth survey and qualitative study of 20 neighborhoods
- Key informant interviews with experts and service providers

**Early findings**
- Child maltreatment rates declined somewhat and became less spatially concentrated (suburbanization)
- Despite declines, persistent structural inequalities (racial and economic segregation, bad housing conditions, crime hot spots) continue to distinguish those neighborhood contexts in which child maltreatment occurs at high rates
Leveraging IDS to examine the effects of children’s housing on kindergarten readiness

Study Team: Claudia Coulton, Rob Fischer, Francisca Richter, Seok-Joo Kim

- Four cohorts of kindergartners entering CMSD—KRA-L scores
- Retrospective collection of home addresses from admin records
  - Addresses linked to parcel-level housing conditions data
- Child identifiers linked to lead screening results and other risk factors data

Early findings
- Months in poor housing conditions age 0-3 raise odds of elevated lead levels (25% of kindergartners exposed) which in turn lead to low test scores on KRA-L.
- Residential instability, lack of at least 1 year of pre-K and early trauma are additional risk factors
- Observed neighborhood effects on KRA-L occur mainly through bad housing conditions and lead exposure.
Research Focus
To identify common characteristics across individuals with the same neurodevelopmental disorder to better inform intervention

- Adaptive and Maladaptive behavior
- Compulsivity/ritualistic behavior
- Social cognitive functioning
  - Current work in Prader-Willi syndrome

1. Play skills did not differ between the PWS and ASD
2. Joint Play helped!

Zyga, Russ, Ievers-Landis, & Dimitropoulos, JADD, 2014
Using **Telehealth** to provide intervention to rare populations

- Two new grants in collaboration with Sandy Russ:
  1. Play-based intervention via Skype
     - Is it feasible to play?
     - 1\textsuperscript{st} remote intervention in PWS
  2. Parent-focused **Remote Education To ENhance Development** (The **PRETEND** project)
     - Optimize learning and creative play between parent/child, emotion regulation, & social communication
     - decrease problem behaviors

- Implications
  1. Increase access for rare populations
  2. Intervention focused on specific challenges rather than broadly defined categories
Major issues addressed

• Early childhood development and key influences
• Using integrated data systems to inform policy & practice
• Assessing delivery & effectiveness of community-based programs for children and families
Findings/policy implications

• Early childhood influences on kindergarten readiness and 3rd grade proficiency passage
• Monitoring efforts to expand high quality child care in the City of Cleveland (Pre4CLE)
• Integration of child lead exposure data to assess relationship to developmental outcomes in early childhood and early grades
• Studying County’s social impact bond-funded program to reduce foster care use among homeless families
Begun Center for Violence Prevention, Research and Education

Center Focus:
Applied community-based research, evaluation and evidence-based intervention that seeks to bridge the gap between science and practice.

Working with partners to demonstrate the impact of research through:

- significant behavioral outcomes
- improved systems
- effective policy

Currently 47 different grants and contracts
Begun Center

Findings and Policy Implications from our recent work

- Sexual Assault Kit (SAK) study (BJA)
- Ohio’s Campaign for Hope Suicide Prevention (SAMHSA)
- ENGAGE: SAMHSA statewide implementation of High Fidelity Wraparound for emerging adults age 14-21
  - National Youth Forum City of Cleveland comprehensive youth violence prevention plan for high risk 15-25 year-olds (OJJDP)
- Policing the Teen Brain (CPD and foundations)
- Baby Elmo fatherhood reentry (foundation)
- Family PASS in Fairfax, VA/ PERI initiative (foundation)
- Competitive Reclaim in 14 Ohio counties (ODYS)
Children’s rights

• Domestic & International

• Why are young people’s formal rights stronger in some countries, and weaker in others?

• How do rights matter to young people?
Independent children’s rights institutions

• (aka) children’s ombudspersons, children’s commissioners

• Domestic & International

• Do they matter to children’s rights? Why?
Developmental Consequences of Intimate Partner Violence Exposure

• Three main areas of research
  – Identifying sensitive or critical developmental periods
  – Focusing on optimal child development by examining risk factors and protective factors
    • ACYF Children’s Bureau Grant 90CA1817-02-00
  – Exploring sibling relationship quality
    • NIH NICHD Grant 1R03HD078416-01A1
    • MSASS Research & Training Grant

• Overarching goal
  – Merge areas of research to inform interventions in reducing the negative consequences of IPV exposure

• Policy Implications
  – Early interventions
  – Strengthen coordination between school and mental health services

Megan Holmes, Ph.D., MSW
mxh540@case.edu
Academic Success of Child Welfare Involved Children

Deciles of Academic Success

Age in Years

Class 3, 21.5%
Class 5, 20.1%
Class 4, 17.1%
Class 2, 21.4%
Class 1, 19.9%

N = 1,752

ACYF CB Grant (90CA1817-02-00)
Co-I: Adam Perzynski, Ph.D.

Megan Holmes, Ph.D., MSW
mxh540@case.edu
GENETIC STUDIES OF SPEECH, LANGUAGE AND READING DISORDERS

FUNDING: NATIONAL INSTITUTES OF HEALTH-NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDERS R01 DC000528 (PI Lewis) R01 DC01238001 (PI=Iyengar)

COLLABORATORS: Lewis, Stein, Iyengar, Taylor, Vick, Gubitosi-Klug, Lee

- Identify genes associated with speech sound disorders of unknown origin and co-morbid conditions of language impairment, reading disorders, and ADHD.
- Examine long-term outcomes for children with these disorders and identify behavioral and genetic predictors of educational, social and emotional outcomes.
- Determine subtypes of speech sound disorders and factors that influence prognosis, treatment, and outcomes. Subtypes include isolated speech disorders, childhood apraxia, speech disorders with other language impairment, and motor speech disorders.
FINDINGS TO DATE

- No single gene is responsible for these disorders; both rare genetic variants and common variants influence speech/language. Candidate genes affect neural structures and functions during development.

- Long-term educational outcomes are influenced by presence or absence of additional language impairments, persistence of speech problems, lower nonverbal IQ, and low SES. Few clinically significant psychosocial problems in adolescence and adulthood were reported. Psychosocial problems were related to comorbid language impairment in adolescence and to ADHD in adulthood.

- Individuals with apraxia demonstrate poorer outcomes at adolescence and adulthood than other subtypes. Individuals with motor speech problems are more likely to exhibit persistent speech errors.

- Policy implications: The effects of early childhood speech and language disorders are life-long for some individuals impacting educational and occupational outcomes. The etiology of these disorders are poorly understood and few resources are available to adolescents and adults with persistent disorders.
Early Intervention and Related Specialist Program

Funding: United States Department of Education
Project Directors: Barbara Lewis and Gerald Mahoney

○ **Goal:** To jointly train students in the Master’s program in Speech Language Pathology and the Master’s program in Social Work to provide high quality evidenced based services to infants, toddlers and preschoolers with disabilities.

○ **Six Themes:** evidenced based practice, developmental framework, family centered, cultural competence, natural inclusive environments, and collaborative team practice.

○ **Policy implications:** The number of children with disabilities is growing disproportionately to the number of qualified professionals equipped to serve them. We have 8 graduates working in early intervention and 8 students currently in the program.
Jerry Mahoney, MSASS

Interest

• Interests
  – Parent and family influences on children with disabilities
  – Relationship focused Intervention
    • Children with disabilities, autism, adopted children
    • Effects
      – Cognition, communication, social emotional functioning, parenting psychosocial functioning
  – Models of developmental learning
Projects

• Play Project
  – Autism RCT -Journal of Developmental and Behavioral Pediatrics
  – Maternal Depression, Parenting stress

• Causal Modeling
  – Responsive Teaching
  – Play Project

• Responsive Teaching
  – Saudi Arabia
  – Turkey
  – Portugal
Lolita M. McDavid, MD, MPA
Medical Director, Child Advocacy and Protection

Current Activities (in addition to patient care, teaching medical students and residents, and directing the Child Protection Team – but who needs sleep?):
Ohio Children’s Trust Fund – Vice Chair
Ohio Commission on Minority Health Infant Mortality, Chair Medical Expert White Paper, released September 2015
DVCAC initiative funded by United Way to establish a Child Advocacy Center in Cleveland
Research/Publications

- “Foster Care and Child Health”, *Pediatric Clinics of North America*, in press
- Medical Child Abuse Financial Analysis Study, collaborative study with Nationwide Children's Hospital
- Timely Recognition of Abusive Injuries (TRAIN) Collaborative-Ohio Children’s Hospital Assn, funded by Ohio AG’s office – “If they don’t cruise, they don’t bruise”
Laura McNally-Levine, Esq.
Director, Milton A. Kramer Law Clinic Center

- Civil Litigation, Criminal Justice, Health Law, Community Development Clinics
- Capstone Requirement
- Interprofessional Education with UH Rainbow Babies & Children’s Hospital
- Medical-Legal Partnership
• We represent a maternal grandmother who won custody of her granddaughter in Juvenile Court. The GAL is appealing, claiming that the custody award was against the manifest weight of the evidence and violates the father's constitutional rights.

• Talespinner Children's Theatre is a theater production company that develops and produces professional works and educational programs for children.
1. Obesity/Diabetes
   - TODAY (NIH)
   - COPTR/IMPACT (NIH)
   - Jump To It! (Mt Sinai Healthcare Fdn)
   - Fun Fit Fest, July 11, Cleveland Botanical Gardens (SOSJ)

2. Quality improvement
   - Rainbow Care Connection (CMS/CMMI)
3. **Health care delivery systems**
   - Leona Cuttler MD Lecture in Child Health and Policy
   - Pediatric Workforce (CaseCAN, OH MedTAPP)
   - BioMedTech (NIH)

4. **Perinatal/Newborn**
   - Rehospitalization (OH MedTAPP)
   - Maternal Child Health Program Evaluation (OH MedTAPP)
# The Forest Hill Neighborhood Study

Dr. Cassi L. Pittman  
Dept. of Sociology

## Table 1. Demographic Characteristics of Forest Hill Neighborhood (Census Tract 1513, Block Group 3)

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race (Census 2010)</td>
<td></td>
</tr>
<tr>
<td>Percent White</td>
<td>14.75</td>
</tr>
<tr>
<td>Percent Black</td>
<td>83.36</td>
</tr>
<tr>
<td>Percent Hispanic</td>
<td>0.69</td>
</tr>
<tr>
<td>Percent Asian/Pacific Islander</td>
<td>0.51</td>
</tr>
<tr>
<td>Percent Other</td>
<td>1.37</td>
</tr>
<tr>
<td>Age (Census 2010)</td>
<td></td>
</tr>
<tr>
<td>Number of Adults, 18-64</td>
<td>338</td>
</tr>
<tr>
<td>Homeownership (Census 2010)</td>
<td></td>
</tr>
<tr>
<td>Total Housing Units</td>
<td>284</td>
</tr>
<tr>
<td>Percent of Owner-Occupied Homes</td>
<td>93.98</td>
</tr>
<tr>
<td>Income (ACS 2010 5 year est.)</td>
<td></td>
</tr>
<tr>
<td>Median Household Income</td>
<td>$45,625</td>
</tr>
<tr>
<td>Education (ACS 2010 5 year est.)</td>
<td></td>
</tr>
<tr>
<td>Percent of persons with high school degree or more</td>
<td>93.65</td>
</tr>
<tr>
<td>Percent of Persons with bachelors degree or more, percent</td>
<td>34.53</td>
</tr>
<tr>
<td>Percent of Students enrolled in private school</td>
<td>69.35</td>
</tr>
<tr>
<td>Percent of Students enrolled in public school</td>
<td>30.65</td>
</tr>
<tr>
<td>Total Population (Census 2010)</td>
<td>583</td>
</tr>
</tbody>
</table>
Neighborhood Desirability, School Choice, and Young Adult Outcomes

How are middle and working-class blacks’ racial identities instantiated in their residential preferences?

Focus on Child Welfare
- How does school choice factor into the decision of middle-class black parents residing in a majority black neighborhood?

- What are the educational and occupational outcomes for young adults who grew up in the Forest Hill neighborhood and attended private school?

Hypothesis:
Neighborhood choice is related to a specific strategy implemented by parents of cultivating cultural flexibility and developing children’s racial identity.

Policy Implications:
Rethinking neighborhoods as sites of cultural transmission and racial identity formation.
Longitudinal Studies

Pretend Play and divergent thinking 4 year follow-up of girls (Wallace & Russ, 2015)

- Imagination and divergent thinking: $r = .44^{**}$
- Control for baseline divergent thinking: $r = .34^*$

**Current study - High School follow-up.** Pretend play (APS) prediction of:
  - Creativity; well-being; personality variables; achievement.

Play Intervention Studies

Group play intervention increased play skills and divergent thinking (Hoffmann & Russ, in press).

Current - Play intervention with children with Prader-Willi Syndrome
  (Dimitropoulos, Zyga, Russ, Landis) Telehealth approach
Play Intervention to Improve Parent-Child Relationship for Children with ADHD (Wallace)

Play Intervention to Increase Well-being in Children with Cancer -Pilot Project (University of Uppsala)
(Matts Hansson, PI)

UNIVERSITY-COMMUNITY PARTNERSHIP
Schubert Center partnered with Musical Theater Project to evaluate “Kids Love Musicals Program” (Zyga, Russ, Korbin)
Role of Case faculty and students- develop measures and code observation data, data analysis. Present and publish as a model of university-community partnerships. Found that program increased turn-taking, eye-contact, emotional understanding, engagement in children across 5 schools. Program eval. continuing this year.
Assessment of Preschoolers: Who Should Be Responsible and What Should They Be Looking For?

Elizabeth J. Short, Ph.D.
Department of Psychological Sciences
Case Western Reserve University

1. Early diagnosis and intervention: essentials for optimizing development

2. Who should be responsible for identification?
   - Parents
   - Teachers
   - Clinicians

3. To what extent does experience and education dictate diagnostic expertise?

4. What are the key components that differentiate preschoolers at risk for atypical development from children not at risk, and how should we assess them?
   - Play
   - Executive Functioning
   - Language
   - Behavior
Past Findings and New Questions
1. Experts and Novices differ in their ability to recognize problems in preschoolers, with experts more inclined to see problems and not recognizing problems.
2. Experience enhanced the classification of all raters, but more so for their ability to classify moderate and severe disabilities (ADHD & ASD).
3. Working this year to determine whether training raters on diagnostic criteria improves diagnostic precision.
4. Training children to talk out loud during play – whether that enhances their organization and imagination – or simply the ability of raters to understand play.

Conclusions and Policy Implications
1. Education and experience are critical for development of expertise in diagnosis.
2. Education can compensate for lack of experience and vice versa, but the combination is critical for subtle diagnostic comparisons.
3. Parents, semiprofessionals, and professionals on the front line working with young children need to be alerted to the cognitive and behavioral factors that place children at risk for atypical development.
Provost Scholars

Case Western Reserve University
East Cleveland City Schools District
September 2015

William A. “Bud” Baeslack, III    Myrna Corley
Provost and Executive Vice President District Superintendent
Case Western Reserve University    East Cleveland City Schools

Faye Gary, Ph.D.
Professor and Director
Provost Scholars Program
The Provost Scholars Program was founded in 2013 as a partnership between Case Western Reserve University (CWRU) and East Cleveland City Schools. The program matches East Cleveland middle and high school students with Case faculty and staff mentors to improve students’ academic and career outcomes. We all work together to realize this goal by helping Scholars to:

- Expand their creative, critical thinking, and problem solving abilities
- Strengthen their study practices
- Outline clear goals for their academic progress
- Improve their interpersonal proficiencies
- Explore educational and career pathways through mentoring and relationship building with Case Western Reserve University faculty and staff

Core values:
I. Academic Excellence and Impact: Promoting scholarship that deepens the enrichment and experience of academic opportunities provided to our students
II. Inclusiveness and Diversity as a Collective Responsibility: Including a community of a diverse set of partners, particularly students, parents, and CWRU faculty and staff, in a collective and unified initiative to inspire civic and academic innovation within the Greater Cleveland area
III. Innovation and Inspiration: Facilitating the cohesion of a diverse community of students, parents, CWRU faculty and staff, and other stakeholders to in-spire and help assure civic and academic innovation
IV. Change and Evolution: Evolving the ways in which students are engaged, inspired and encouraged to pursue academic excellence and change within an interdependent and unified community
Individual, parental, and environmental correlates of cigar, cigarillo and little cigar (CCLC) use among middle school adolescents
- Accepted in Nicotine and Tobacco Research

Research Purpose: Examine the potential individual, parental, and environmental correlates of CCLC use among middle school youth but to examine the unique contribution of each within a multivariable logistic regression model
- Individual: Adolescent perceptions of cigars (risk and wrongness)
- Parental: Perceptions of parental monitoring, afterschool self-car, parental norm r/t cigar use
- Environmental: Visits to corner stores during the week

Sample: 2012 Cleveland Middle School Youth Risk Behavior Survey (n=4348)
FINDINGS AND IMPLICATIONATIONS

- Individual: Wrongness significantly associated with current cigar use
- Parental: Significant associations with parental monitoring and afterschool self-care (11+ hours per week)
- Environmental: Odds increased with increased visits to corner store (p<.05)

IMPLICATIONS:
- Awareness raising and risk messaging
- Parenting practices
- FDA Regulation: Includes Media campaigns, product regulation (e.g. flavoring), and advertising regulations
  - Local legislation is current approach until FDA enacts regulatory authority over cigars
My recent work aims to connect a broad audience of parents, educators, and advocates with scholarly perspectives on child and adolescent development.

Lisa Damour, PhD
Clinical Instructor,
Department of Psychological Sciences
Untangled (Ballantine, Feb, 2016) proposes a novel framework for understanding adolescent development and focuses, in particular, on research about teenage girls.

I’m hopeful that it will foster informed thinking about adolescence and girlhood.
Changing the APGAR Score

• Perfect well-being = Score of 10
• Score of 7 or less = trouble, intervene to improve well-being, remove from mother and institute assessment and resuscitation

• BUT  Oxytocin changes everything:
• No hard Crying so one point off of Respiratory, one point off Pulse
• No active movements of extremities so one point off Activity
• No grimacing so one point off reflex irritability
  • TRADITIONAL APGAR SCORE =6  BIG PROBLEMS that don’t really exist
• Research Areas:
  • Low birth weight follow-up
  • Predictors of persisting effects of pediatric concussion.
  • Effectiveness of family interventions for youth with moderate to severe traumatic brain injury (TBI)
  • Genetics of speech-sound disorders with Barb Lewis
  • Neurobehavioral effects of tonsillectomy
  • Neuropsychological aspects of mania and bipolar disorder
• Recent Research Findings--Policy Implications:
  • Preterm children’s learning problems are evident in the kindergarten classroom—shows importance of early identification and need for educational interventions.
  • Concussions in children have persisting effects on behavior—indicates need for monitoring.
  • Family interventions following TBI have positive effects on child behavior—demonstrates need to make interventions more widely available.
  • Young children with language impairments are at risk for later behavior problems—supports need for ongoing behavior monitoring/interventions.
  • Tonsillectomies can improve some aspects of behavior—indicates potential benefits of this surgery.
Marie A. Clark, MD, MPH
Dept. of Pediatrics
Developmental-Behavioral Pediatrics and Psychology

Medical Legal Partnership

• Often, factors impacting health cannot be solved with medicine alone
• Medical Legal Partnership (MLP) – National Model
  – Collaboration with Laura McNally-Levine in School of Law
  – CaseCAN, supported by Ohio Medicaid
• Interdisciplinary Education
  – Unique training model opens eyes of law students and pediatric residents
• Direct patient/client service anticipated this year
  – Developmental-Behavioral, NICU, Comprehensive Primary Care
• Policy Implications forthcoming . . .
Marie A. Clark, MD, MPH
Dept. of Pediatrics
Developmental-Behavioral Pediatrics and Psychology

Child Advocacy Program

• Longitudinal training program for pediatric residents
• Guidance from the Rainbow Center for Child Health & Policy (Drs. Hoyen and Kleinman) & Office of Govt Relations (Dr. McDavid)
• Curriculum
  – Didactic learning experiences
  – Advocacy Projects – senior project requirement
• Policy Implications
  – Residents advocate on the local, state and national level for child health
• Please let me know if you would be interested in teaching our residents!!