

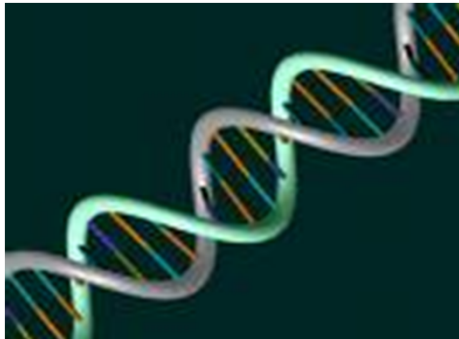


**DEVELOPING THE
MICHIGAN TWINS PROJECT
TO STUDY HEALTH AND
DEVELOPMENT**

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GOALS OF THE MTP

- To develop a resource for MSU and outside scientists to examine genetic, environmental, and neurobiological influences on health conditions
 - Mental and physical disorders



WHY TWINS?

Disentangle genetic from environmental risk
without extensive biological or
environmental measures



TARGET POPULATION

- All twins born in lower Michigan ages 3-25 years
 - ~30,000-40,000 twins
 - Includes same-sex and opposite-sex pairs
- Currently assessing twins ages 3-17 years
 - ~12,000 twins to date



IDENTIFICATION

- Birth records, with the Michigan Department of Community Health (MDCH)
 - Glenn Copeland, Manager, Vital Statistics
 - Two Staff Members: Helen Saunders and Hillary Webb



RECRUITMENT

○ WRINKLE #1: Birth records confidential

- How contact them?
 - Developed anonymous mailing procedure
 - All recruitment through MDCH
 - Match parent names to drivers license
 - Mail assessment packet
 - Twin families unknown to MSU until they send back completed assessments
 - Up to 4 mailings



RECRUITMENT

- WRINKLE #2: Response rates
 - Will this work?



RECRUITMENT

- WRINKLE #2: Response rates
 - Will this work?
 - **YES!**
 - Response rates $\geq 50\%$



ASSESSMENT

- Invited to complete health questionnaire on-line or via scantron
 - Basic demographic information
 - Identical versus fraternal twins
 - Developmental “milestones”
 - Prenatal risks, birth weight, etc.
 - Pubertal development (twins 8-17 years)
 - Health conditions for parents and twins



PARTIAL LIST OF DISORDERS ON HEALTH QUESTIONNAIRE

- Alcoholism
- Allergies
- Asthma
- ADHD
- **Cerebral palsy**
- Drug abuse
- Delinquency
- Depression
- Anxiety
- Anorexia nervosa
- Bulimia nervosa
- Diabetes
- Head injury
- Bipolar
- Schizophrenia
- Obsessive-Compulsive
- PTSD
- Hearing problems
- Learning disability
- Snoring
- Polycystic ovary syndrome
- Cancer
- Heart problems
- Stroke
- Blindness
- Cystic fibrosis



USES FOR THE MTP

- Immediately generate new data
 - Heritability, gene-environment interactions
 - One of largest and most diverse twin registries



USES FOR THE MTP

- Can be used as a participant “bank”!
 - **Key item: Would you be willing to be contacted for future research?**
 - Select families with health conditions for follow-up studies
 - EX: Case-control studies, high-risk longitudinal studies, etc.
 - Advantageous for low base rate disorders
 - $\geq 95\%$ respond “Yes”



RECRUITMENT FOR FOLLOW-UP STUDIES

- Data use proposal:
 - 1-2 page proposal outlining goals, and participants, data and resources needed
 - Minimize overlap with existing projects
- Recruitment procedures:
 - Mailings through MDCH
- Recruitment costs: Costs for mailings, MTP and MDCH staff time
- Response rates: 75-86%



CURRENT PROJECTS

○ MSU:

- Genetic and hormonal influences on eating disorders (Klump & Burt)
- Gene-environment interactions in the development of conduct disorder (Burt & Klump)
- The etiology of cerebral palsy (Paneth)
- Changes in personality across adolescence (Hopwood)
- Psychophysiological markers of anxiety (Moser)
- Genetic influences on physical activity (Pivarnik)

○ Outside MSU

- Sleep problems (Moore & Mindell; U of Penn)



THANK YOU!

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