

**子どもの環境保健に関するわが国の現状と課題**  
**Current State and Problem concerning**  
**Children's Environmental Health in Japan**

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# Background of activities of children's Health

## 小児の環境保健活動に関する経緯

- Declaration of the Environment Leaders of the Eight on Children's Environmental Health in 1997 (Miami)

G8環境大臣会合における先進8カ国による環境保健に関する宣言(マイアミ宣言,1997)

\*Need for risk assessment taking children's characteristic  
小児の特性を考慮に入れたリスク評価の必要性

\*Requirement of effort to reduce environmental risks to children

鉛暴露、受動喫煙、内分泌かく乱物質等による環境リスク削減の必要性

**\* Ad Hoc Committee on the Children's**

**Environmental Health (MOE, 2006)**



# Why We Focus to the Children's Environmental Health -Factors of Children's Vulnerability – 小児の脆弱性に関する要因(環境省,2006)

## (1) Characteristics of Exposure 曝露に関する特性

Exposure to Breast Milk and Foods  
母乳摂取及び食物からの曝露

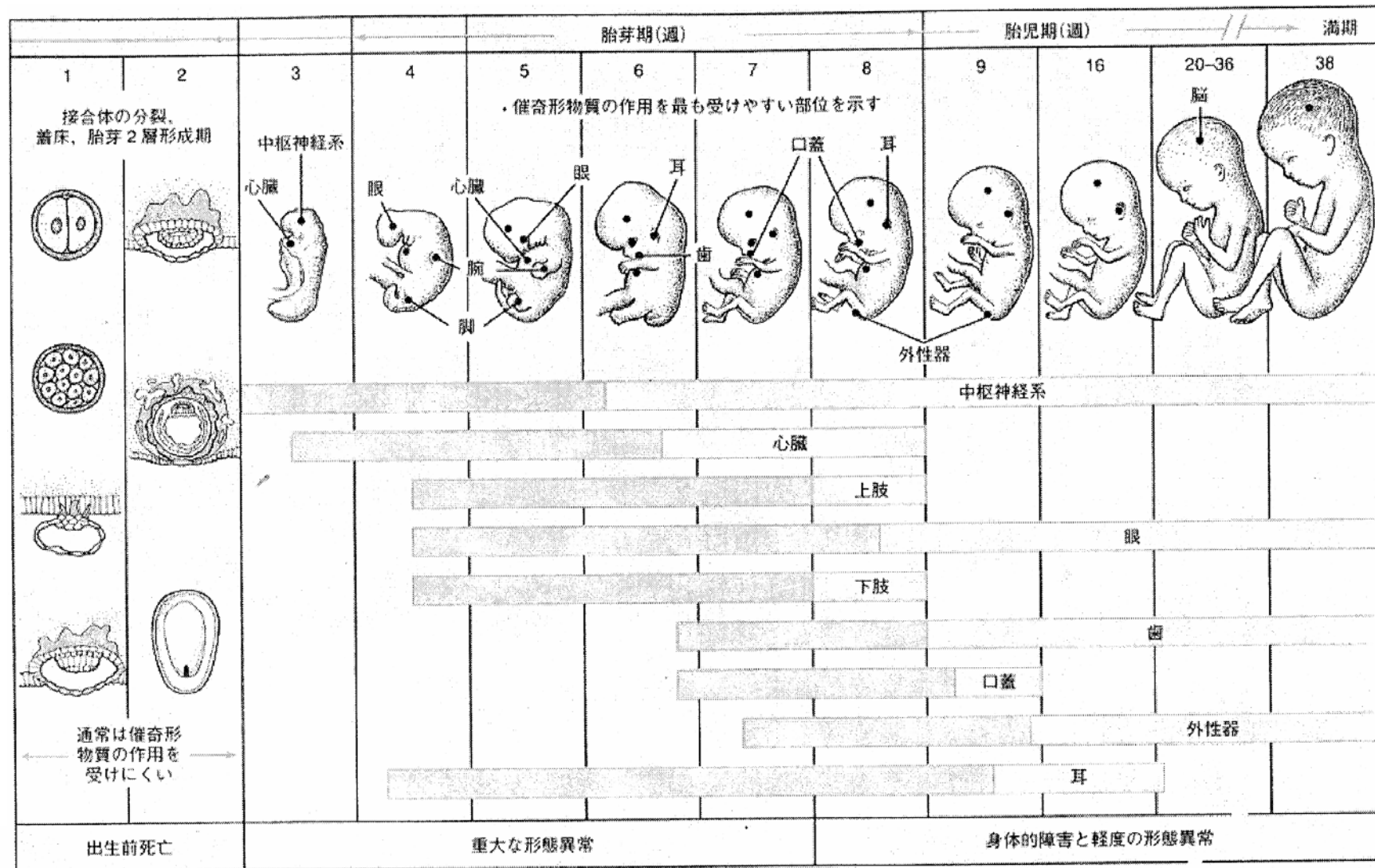
Children's Environment and Behavior activities  
小児の環境と行動特性

Body Burden of Chemicals per Body Weight  
体重あたりの化学物質負荷量

## (2) Characteristics of Bio kinetics of Chemicals 化学物質の体内動態の特性

Absorption, 吸収, Distribution, metabolism  
分布・代謝, Renal Function 腎機能

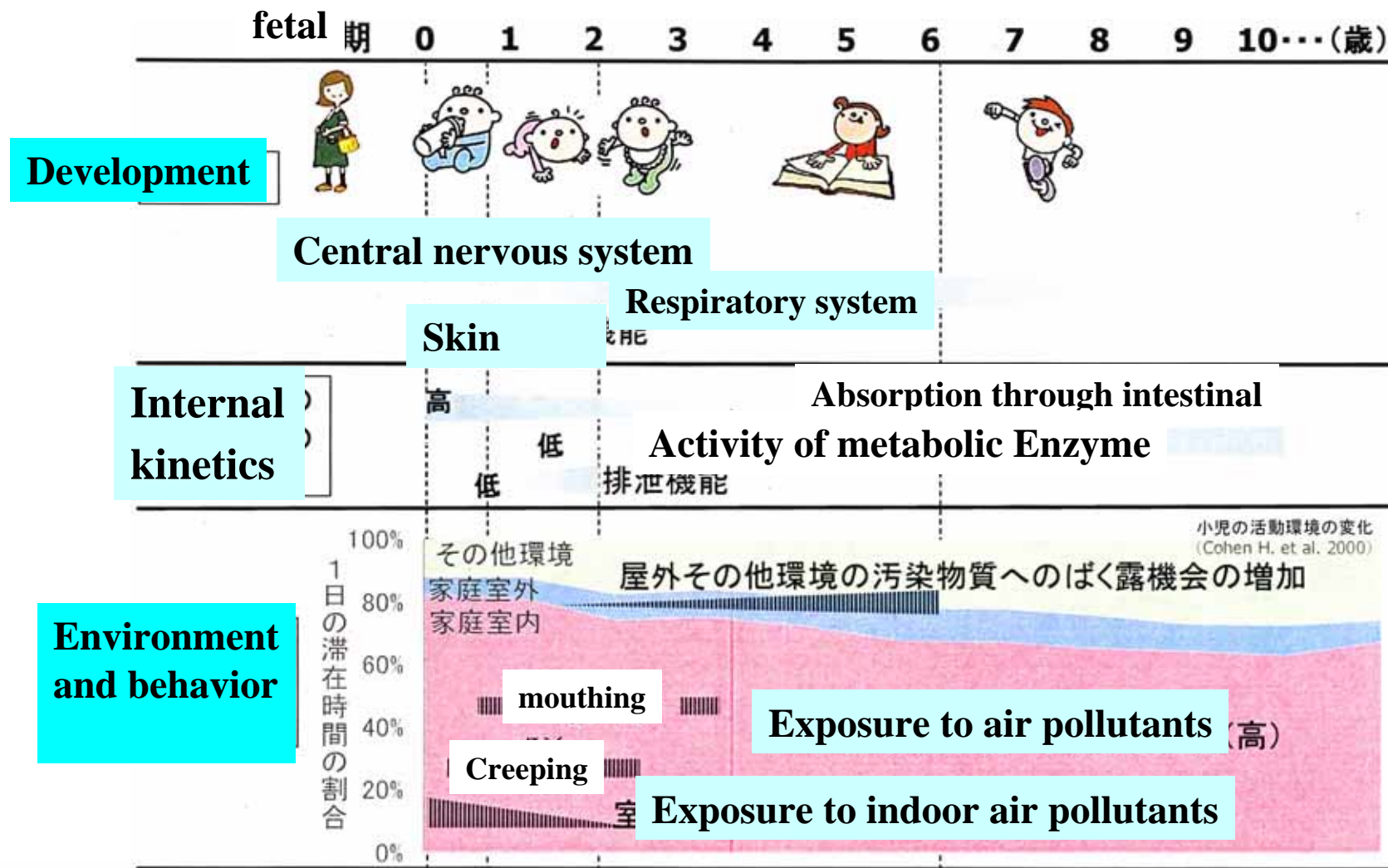




胎児の発達 (Nelson Textbook of pediatrics 17th edition)

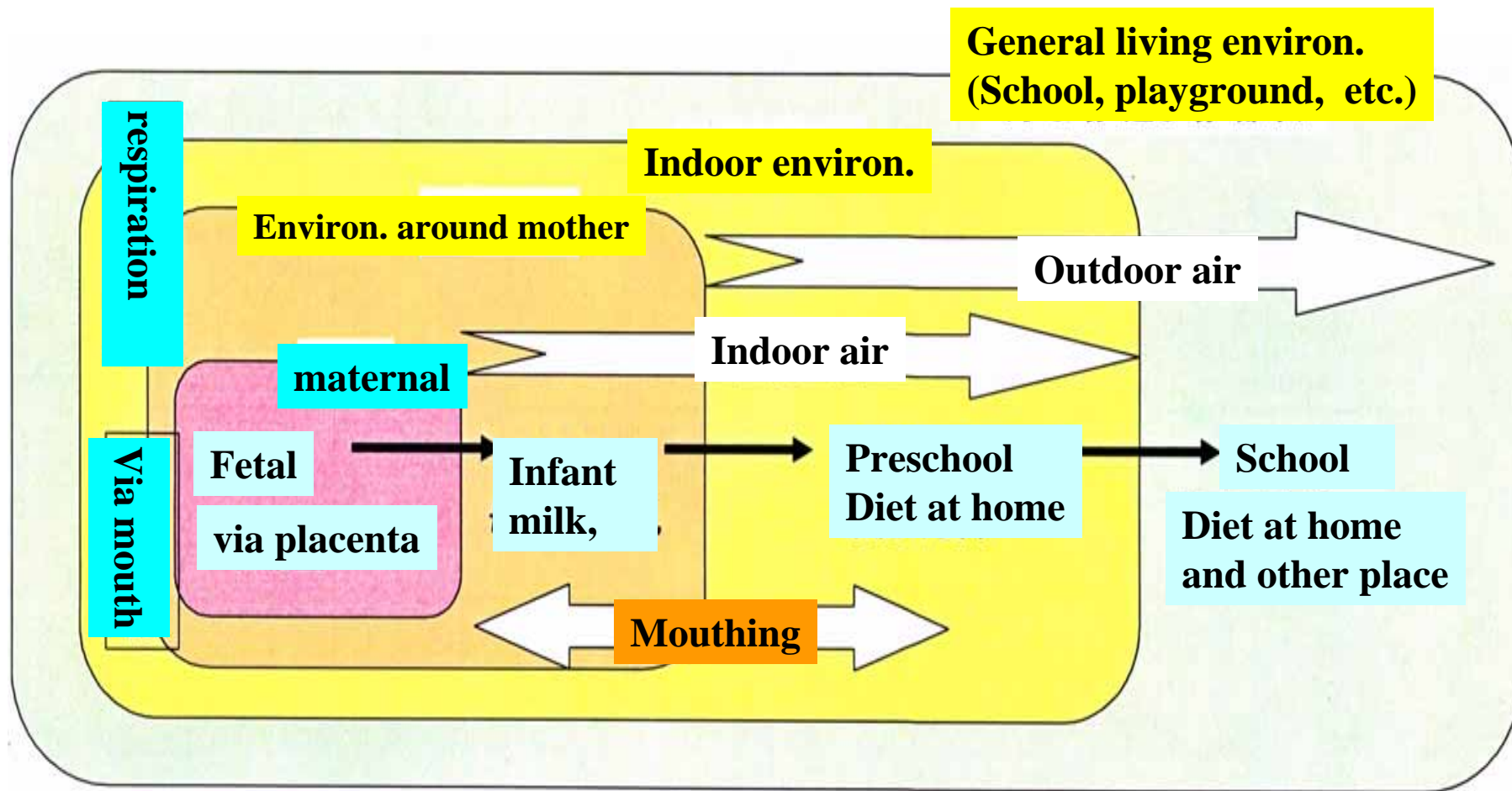
Fetal Development (Nelson Textbook of pediatrics 17th edition)





小児の発達・成長に応じた生活環境・行動の変化 1 (環境省, 2006)

Children's Environment and Behavior in Developing Stages

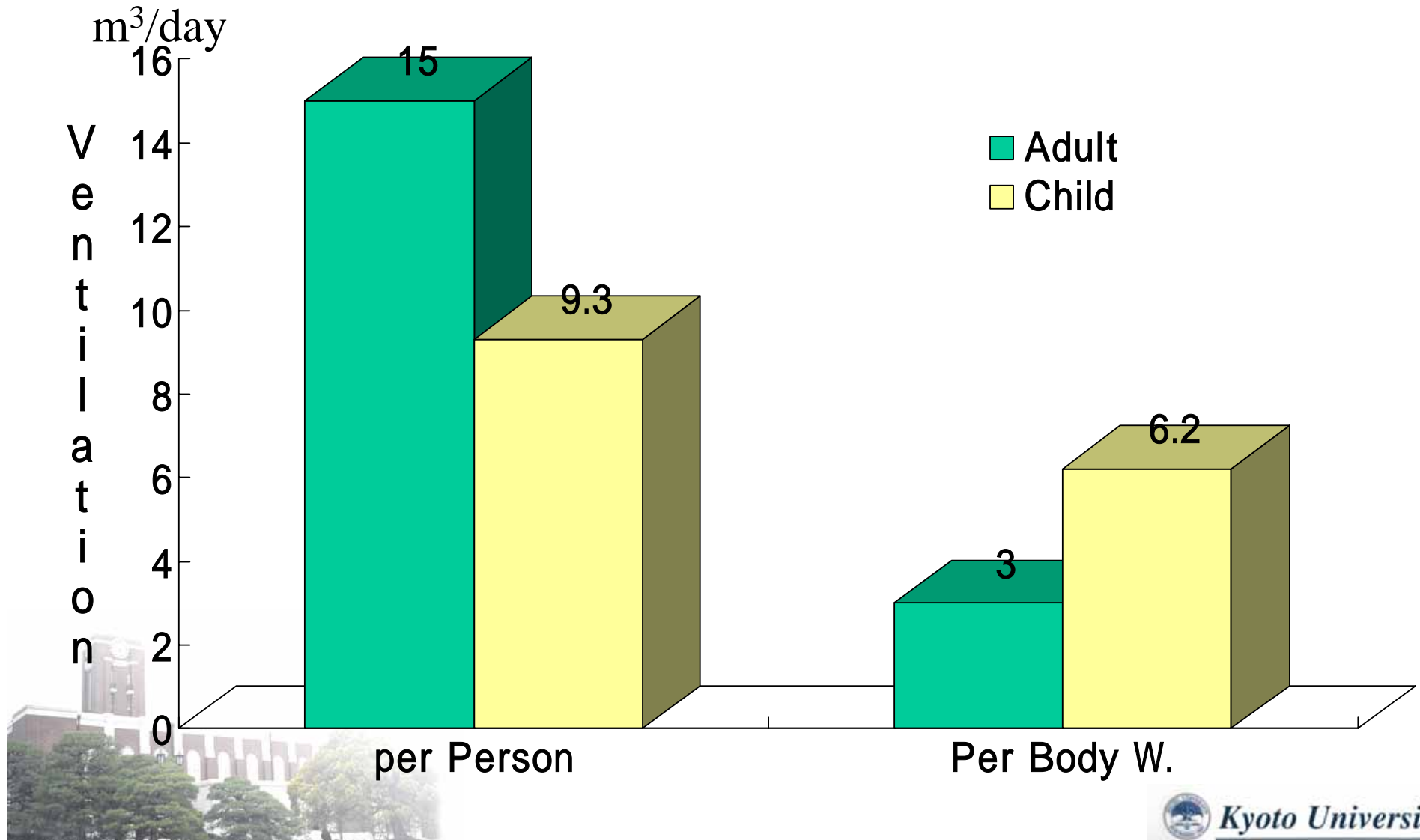


小児の発達・成長に応じた生活環境・行動の変化2 (環境省,2006)

Children's Environment and Behavior in Developing Stages(2)

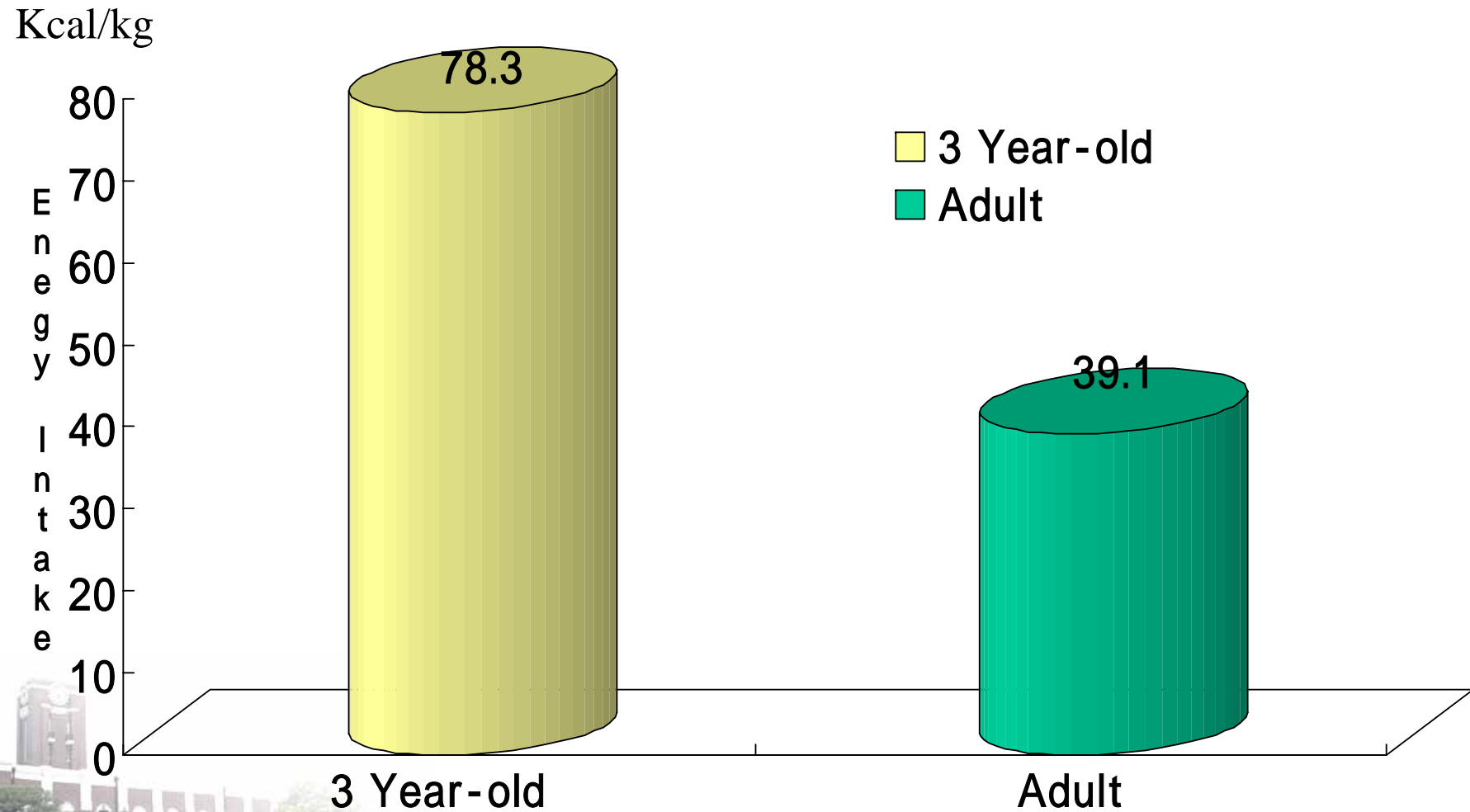
# Air Inhaled per Day by Adults and Children

## 一日の空気吸入量の比較

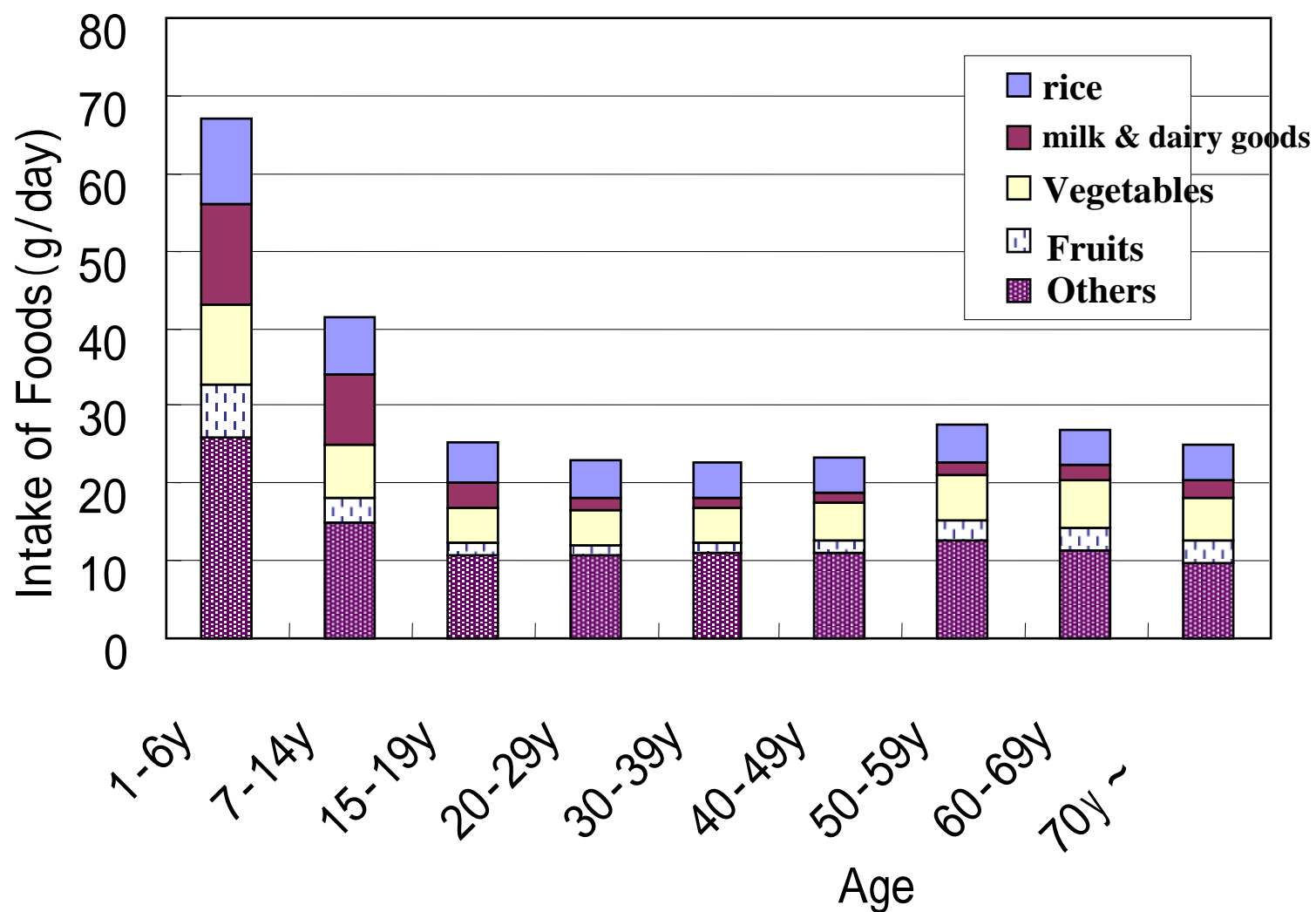


# Energy Intake per Body Weight by Three Year-old and Adults

## 3歳児と成人の体重当たり摂取エネルギーの比較





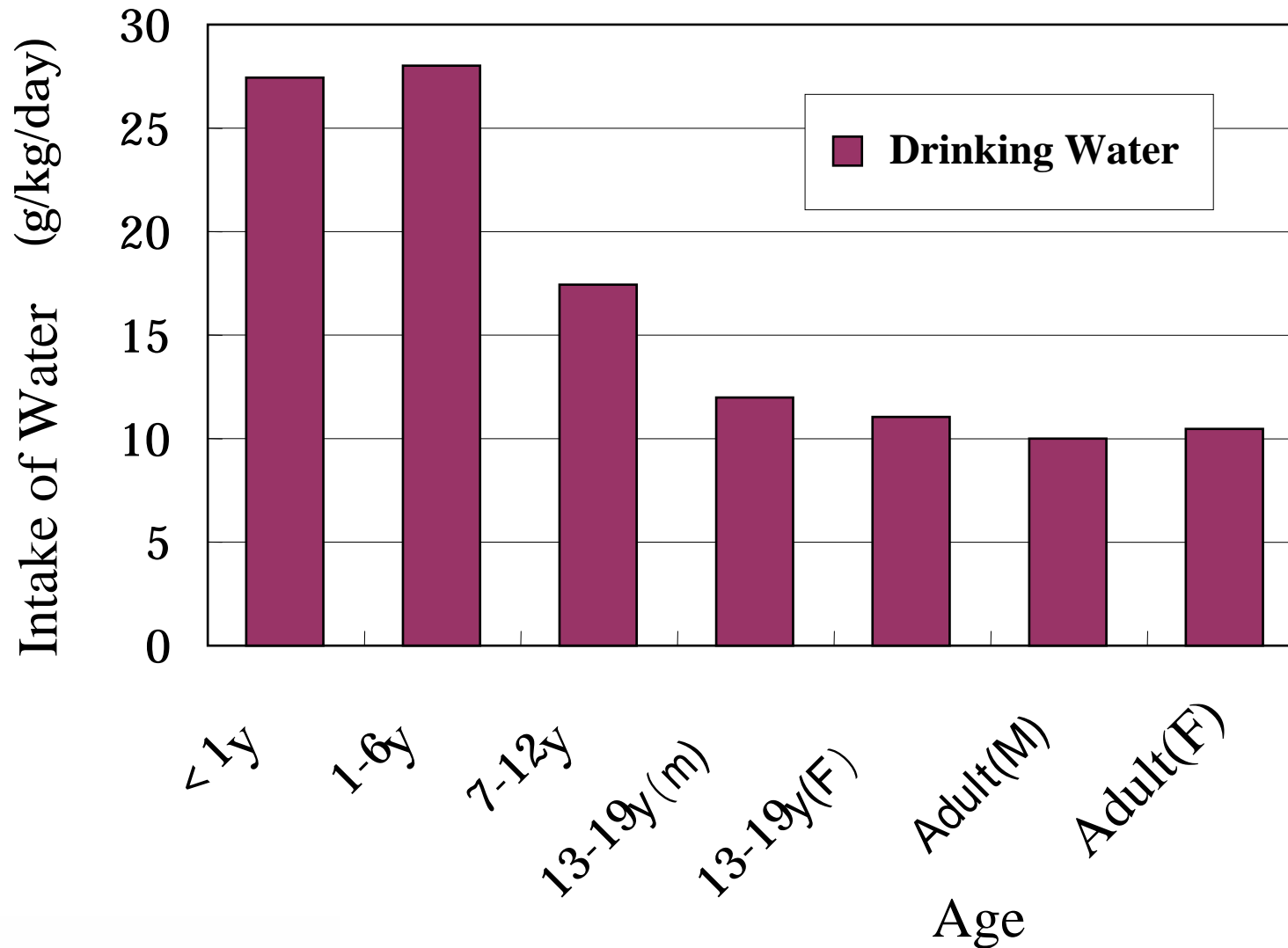


## Intake of Foods per Day by Age ( by Food Categories )

(平成14年国民栄養の現状より)

(JME , 2006)





## Intake of Drinking Water by Age and B.W.

( Laura M.P. et al.1992 [ILSI Press ,1992] ) (JME , 2006)

# Current measures and issues on the children's environmental health in Japan

## 小児保健のわが国の施策と課題 (MOE,2006)

- **Chemical risk management considered to children's environmental health**

小児の環境保健に配慮した化学物質のリスク管理の現状

Caution to pregnant woman concerning feeding of seafood and mercury (MLHW) 妊婦への魚介類の摂食と水銀に関する注意事項

Indoor air quality guideline (chlorpyrifos) are considered to vulnerability of children (MLHW)

クロルピリホスの室内濃度指針値を小児の感受性を考慮(厚生労働省)

Investigation and reduction concerning content of lead of metallic accessories(MLHW) 金属製アクセサリーの含有鉛に関する対策

Children's soil ingestion was considered to the soil quality standard of dioxins (MOE)ダイオキシンの土壌環境基準に小児の土壌摂食量を考慮(環境省)



# **Representative Projects on Children's Environmental Health in MOE**

- **Epidemiological study on adverse effects on human health of localized air pollution**
  - Schoolchildren's prospective cohort study-
- **Research on effects on human health caused by low dose exposure to methyl mercury**
- **Research on the human biomonitoring (part of the environmental investigation on the status of pollution by chemical substances)**  
(Research for analysing POPs and heavy metals in maternal and umbilical cord blood)



# Projects for the Children's Environmental Health in NIES and Co laboratories.

国立環境研究所と協力機関における取り組み

- **Collecting data to estimate their exposure to environmental pollutants taking their specific characteristics and behaviors into account**  
子供の特性や行動を考慮した環境曝露評価を可能とするデータの収集
- **Data Collection データ収集項目**
  - **Activities 行動**(Umezawa A., Tamura Y., Matsuzaki K.: NIES)
  - **Dietary Intake 食物摂取量**(Sato Y., Hirose S. :Yokohama City Univ.  
Uchiyama I., Matsui Y.: Kyoto Univ.)
  - **Soil Ingestion 土壌摂取量**(Yoshinaga J.: Univ. Tokyo)
  - **Ventilation 呼吸量**(Kawahara J.:NIES, Tanaka C.:Obirin Univ.  
Tanaka S.:NIHN)





# Studies on Children's Activities

## 子どもの行動に関する調査

- **Subjects: Preschool Children(0~5 yrs. Old) 乳幼児 0 ~ 5歳**
- **Area: Metropolitan Area, Hokkaido, Kyusyu area**  
首都圏、北海道、九州地方
- **Sampling Period: June-July(early summer), October(fall),**  
**2004**  
2004年 6-7月(初夏), 10月(秋季)
- **Data Collection: Time-Location, Mouthing frequency**  
滞在環境、マウシング回数
- **Study Methods: Visual Observation by study staff and parents**  
観察による記録: 園内: 観察員、園外: 保護者

