

The Proceedings of Academic Exchange Weeks 2008

10~29 November, 2008

University of Aarhus



Peking University



*University of
Washington*



*Institute of Education
University of London*



*Christian Hospital
Chandragohna*



*University of Western
Australia*



*Australian Catholic
University*



Kobe University



*Graduate School of Human Development
& Environment, Kobe University*







“ Informal Education ”

Graduate School of Human Development & Environment Kobe University

*The Proceedings of
Academic Exchange Weeks 2008*

10~29 November, 2008

*Graduate School GP (Good Practice) Program
Graduate School of Human Development &
Environment*

KOBE UNIVERSITY

学術 Weeks 2008 報告集

二〇〇八年十一月十日～二十九日

神戸大学大学院人間発達環境学研究科大学院 GP

「正課外活動の充実による大学院教育の実質化」

はじめに

本冊子は 2008 年 11 月 10 日～29 日に神戸大学大学院人間発達環境学研究科で開催された学術 Weeks 2008 のプロシーディングスである。学術 Weeks 2008 は大学院 GP「正課外活動の充実による大学院教育の実質化」および人間発達環境学研究科の国際交流促進の一環として、はじめて実施された。今回の学術 Weeks では様々な分野の国際交流を通して、大学院生が自分の研究を見つめ直し、研究会の企画、運営、発表などの多くのスキルを習得することを主眼としている。また、本研究科で分散して行われている研究活動のある程度集約することで、大学院生が多くの研究領域に接する機会になればという思いで企画した。本研究科の大学院生の研究に対して、学術 Weeks が何らかの貢献できれば幸いである。

なお、各イベントの報告は、大学院生による報告（日本語）と発表言語（英語・日本語）で書かれた研究発表の原稿または要旨とパワーポイントデータの主に二つの部分から成っている。

大学院 GP 学術活動支援グループ 近藤徳彦
中谷彩一郎

Preface

This is the Proceedings of *Academic Exchange Weeks 2008* (held at Graduate School of Human Development & Environment, Kobe University on 10-29 November, 2008). We have arranged this event as a part of the Graduate School GP Project "Giving Substance to Graduate School Education through Activities outside the Standard Curriculum", and promoting international exchange in Kobe University Graduate School of Human Development and Environment. The main purpose of *Academic Exchange Weeks 2008* is that graduate students have a chance to review their own research, and learn many research skills. In addition, *Academic Exchange Weeks 2008* could give graduate students an opportunity to be exposed directly to many diverse researches that are different from their majors because this event gathered various seminars held hear and there within the weeks in our Graduate School of Human Development and Environment. We hope that *Academic Exchange Weeks 2008* would become profitable for graduate students to do their research in this graduate school.

Each chapter of this proceedings consists of two main parts: (1) students' reports written in Japanese, and (2) full research papers, or abstracts & powerpoint data in original languages (English or Japanese).

Narihiko KONDO
Saiichiro NAKATANI

Acknowledgements

We would like to thank all the contributors from the eight institutions for their cooperation. We are also grateful to the Graduate School GP (Good Practice) Program selected and sponsored by the Ministry of Education, Culture, Sports, Science & Technology (MEXT), and Graduate School of Human Development & Environment, Kobe University, for their financial assistance.

March, 2009

Editorial Committee of the Proceedings of Academic Exchange Weeks 2008

Graduate School of Human Development & Environment

Kobe University

JAPAN

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I

バングラデシュ
報告会

11/10/2008

Bangladesh Report

バングラデシュ報告会 「明日への対話」～バングラデシュとともに学ぶ～

構成メンバー：石原廉人、田阪綾子、阿波美織、小林洋司

コメンテーター：太田和宏

総合司会：松岡広路

タイムスケジュール（全体 13：00—17：00）

第一部 『DEVE 学のススめ』（パネルディスカッション形式）（13：00—14：25）

今回のバングラデシュ訪問には、2つのコース（発達支援論、社会環境論）の院生が参加した。参加院生は、自ら研究関心の高いバングラデシュのフィールドとコンタクトをとり、日程調整を行い、行程をデザインした。院生それぞれの関心、研究アプローチが交差したとき、参加者の中に何が生まれたか？開発（Development）と人間の発達（Human Development）に共通するものは何か、そして私たちは何をどのように語り、行動していけばよいのか？今回のシンポジウムでは、これらの課題についてディスカッションした。

- 1 自己紹介
- 2 ビデオ放映
- 3 バングラデシュピンポイントプレビュー
- 4 パネラーの報告

石原：スーパーコロニー、田阪：グラミンバンク、阿波：プロティポンディ協会、
小林：チャンドラゴーナ・キリスト教病院

5 パネルディスカッション

- ①フィールドの報告
- ②大学院 GP 的意味
- ③今後に向けて

第二部 『グローバルイシューとしての国際医療保健の現状について＜バングラデシュ チャンドラゴーナでの JOCS 派遣医師としての働きを通して＞』（15：00—17：00）

講師：宮川眞一氏（チャンドラゴーナ・キリスト教病院派遣医師）

プロフィール

愛媛県宇和島市生まれ。同郷の故岩村昇氏（元 JOCS（Japan Overseas Christian Medical Cooperative Service：日本キリスト教海外医療協力会）ネパール派遣ワーカー）に影響を受け、海外医療協力を志す。神学部を経て医学部へ進学、心療内科医に。2005 年 9 月、JOCS ワーカーとしてバングラデシュへ赴任。語学等の研修を終えて 2006 年 5 月チャンドラゴーナ・キリスト教病院で活動開始。2008 年、1 期目の任期を終えて、現在に至る。

「明日への対話」－バングラデシュとともに学ぶ－ 報告書

人間発達環境学研究科発達支援論コース

阿波美織

私たちは2008年2月18日から28日の10日間、バングラデシュに渡航した。渡航目的は、私を含めてバングラデシュスタディーツアー参加院生（以下、参加院生）が世界最貧国のひとつといわれているバングラデシュにおいて、草の根レベルで地道に生活改善に取り組んでいる人、組織、そのような状況や姿勢からそれぞれの問題関心に引き付けて「学ぶ」ことであった。そして、私たちはその成果を、11月に行われた「大学院 GP 学術 weeks 2008」にて報告した。

報告会は『「明日への対話」－バングラデシュとともに学ぶ』と題して二部構成で行われた。第一部は『DEVE 学のススめ』として、バングラデシュ渡航に参加した大学院生がコーディネーター、パネリストを務めるパネルディスカッション形式で進められた。『DEVE 学』とは、英語の **development** を略した言葉である。このテーマは、大学院生による事前のミーティングにおいて、「**development** とは、物理的な技術・開発に留まらず、参加院生の専門領域である社会環境や教育・支援といった多領域におけるキーワードである」という共通理解のもと設定された。わたしたちの専門領域はみな異なっていたが、**development**（開発や発達と訳せば）をめぐる研究に取り組んでいることや、マージナルとされていることに対して焦点を当てた視点を持ち合わせていることは共通していた。そうした相違点を意識しながら、わたしたちは、バングラデシュの人々や彼らの暮らしを目の当たりにし、そこで課題解決に取り組む組織や集団に触れることで貴重な経験をしてきたことを報告した。第一部では、参加院生それぞれが得たその経験及び学習したことを



パネルディスカッションの光景

development というキーワードを中心に報告するものであった。

具体的なプログラムは、

- ①バングラデシュの概要（ビデオ放映・院生によるピンポイントプレビュー）
- ②院生によるフィールドワーク報告
- ③「DEVE 学」をテーマにしたディスカッションであった。

まずは、バングラデシュの概要をビデオ放映・院生のピンポイントプレビューによって報告した。次に、それぞれの院生が自らの研

究関心の高いフィールドに渡航前にアポイントをとり、フィールドワークした団体の報告を行った。報告したフィールドは、グラミンバンク・スーパーコロニー（掃除たちとその家族の集落）・チャンドラゴーナキリスト教病院（地域医療に力を入れる病院でありハン

セン病病院を併設している）・プロティボンディ協会（日本でいう特別支援学校）である。報告では、フィールドワークを通して、バングラデシュで起こっている問題とその問題の解決に向けて各団体が取り組んでいる活動についての概要が、多様な視点からなされた。稚拙ではあったが、参加院生がバングラデシュの環境や人々から学んだことが十分に伝わってくるような報告であったと思う。

次に、それぞれの経験、そしてその経験の分析から「DEVE 学」とはなんたるかを述べ合った。ある院生は、他領域の参加者、またその考え方との交流それ自体が「DEVE 学」であり、自らの専門知識に重なる新たな知識の蓄積が「DEVE 学」の展開に通じるのではないかと述べた。自分の問題関心から遠い領域のフィールドに足を運ぶことは、億劫なことではあるが、新たな学習を生み出す機会でもある。院生それぞれが、この渡航を通して自分の問題関心に新たな視点を持ち込むことへの意義を見出したといえるのかもしれない。

またある院生はそれに関連して、「度量の広さ」が「DEVE 学」には必要であることを述べた。バングラデシュでは階層による差別が未だ残っており、仕事に就ける職種は身分で決まっている場合がある。一方では、身分の違うものとの連携を推し量ろうとしている活動がある。また、ある集団は、自分たちの仕事を世の中に発信していた。このような人々からわれわれは、枠にはめ込まれた生活環境に安心・満足するだけでなく、それとは異なる新たな観点をも受け入れながら、認識の枠組みを拡大していくことの出来る構えの重要性について考えさせられた気がする。「度量の広さ」であり、認識の枠組みを拡大していく構えは、他（多）を受け入れることのできる心である。以上のような「DEVE 学」をテーマにした院生同士の議論は、各々の専門領域で構築されてきた自信を揺るがすものかもしれない。しかし、「DEVE 学」は専門性を強化している現代において、新たな可能性を見出せるものではないだろうか。

このような発表の後、第二部においてチャンドラゴーナキリスト教病院で働く宮川医師の講演会が開催された。バングラデシュにおける宮川医師の経験を聞く中でも「DEVE 学」の要素が深く、そして多岐に渡って散りばめられていた



宮川先生による講演

のように感じられたまさにそのことが、development について自ら考えを深めることができたという成果であると確信している。

今回のバングラデシュ報告会は、自らの領域を再確認し、また多領域を知ることの重要性や、自分の専門領域ではない多領域の視点から社会問題を識（し）る機会であったという意味で非常に価値のある報告会であった。

参加スタッフ院生の声

バングラデシュ報告会は、自分自身にとって非常に有意義なものでした。学術 Weeks のなかで今回のような報告会を企画できたことを非常に有り難く思っています。

というのも、バングラデシュに渡航して様々な人や空気に触れ、私たちは非常に有意義な時間を過ごすことができました。しかし、その体験や体験から考えたことは、渡航した院生それぞれのなかでクローズドに閉じ込められていたままでした。それを、多くの学生や関係者に聞いていただける場ができたという意味でわたし自身すっきりしたという部分があったからです。また、報告会には宮川先生もきていただき、バングラデシュとわたしたちが継続的に関係を保っていくきっかけとしても良い機会であったと思います。最後に問題点について書いておくと、報告会をパネルディスカッション形式というチャレンジングな形態で行ったこともあり、参加者の満足度がいかほどであったかという点に関しては、すこし疑問が残っています。

いろいろと思うところはあると思いますが、非常に有意義な時間になったと思います。

(小林洋司 総合人間科学研究科人間形成科学専攻人間形成論講座)

たくさんの方々に来ていただきうれしかったです。僕自身、多くの人を前に報告をしたことで、成長することができたと思います。バングラ報告会の経験をこれからの人生に生かしていきたいと思います。

(石原廉人 人間発達環境学研究科人間環境学専攻社会環境論コース)

ばたばたと準備した報告会だったため、参加者からの質問に十分に答えることが出来ない場面もありましたが、あたたかい参加者の方々から、逆に私自身がたくさんの事実や視点を学ぶ機会をえることができました。ともにバングラデシュを旅したメンバーやお世話になった宮川先生と再び会える機会としてとても楽しみにしていた報告会ですが、バングラデシュやグラミン銀行に関心をもつ参加者の多さに驚き、報告会を通してバングラ「なかま」が増えたことをとてもうれしく感じています。これからも折に触れバングラ「なかま」の輪を広げていきたいと思います。

(田阪綾子 人間発達環境学研究科人間環境学専攻社会環境論コース)

*なお、本イベントの元になったバングラデシュ訪問（2008年2月）についての報告書が以下のページよりダウンロードできるので、関心のある方は参照されたい。

大学院 GP バングラデシュ訪問報告書

<http://www.h.kobe-u.ac.jp/2189>

第一部 『DEVE 学のススめ』

スウィーパーコロニー (都市清掃者の集落)を訪れて

人間発達環境学研究科
社会環境論コース
石原廉人

バングラデシュにおけるスウィーパー(都市清掃者)とは？

- ①北インドの連合州や南インドから清掃職や糞尿処理作業を担う契約労働者としてやって来た歴史を持つ。
- ②不潔・不浄といった観念が絶えずつきまとうため、カースト序列の最低位にいた清掃人カーストが仕事を担ってきた。
- ③他の職業に就こうと思ってもマイノリティとしての困難さゆえに職がなかなかない。

Bandel Sweeper Colony



①都市清掃部門の民営化について・・・

「民営化によって、清掃者の雇用が減少するかもしれないので不安である。」

②他教徒の清掃業参入について・・・

「他教徒が清掃労働に参入してくるのは、マイナスではなく我々にとってむしろプラスである。我々の仕事の辛さを他の人にもわかってもらえるからだ。」

③他の仕事への就職について・・・

「清掃労働以外の仕事にも、もちろん就きたいが、差別があるため難しい。」

ご静聴ありがとうございました☆



グラミン銀行

- 経済学者ムハマド・ユヌス氏が総裁を務め、貧困層を対象とした低金利の無担保小規模融資(マイクロ・クレジット)をおこなっている。
- グラミン銀行の活動は1970年代バングラデシュの東南部チッタゴン県ジョブラ村からNGOとして活動をスタート、84年政府から特殊銀行として認められた。
- 2006年には「底辺からの経済的および社会的発展の創造に対する努力」が評価され、ユヌス氏とグラミン銀行に対してノーベル平和賞が授与された。

マイクロ・クレジット

1. グループレンディング

借り手が融資を受ける際、5人1組のグループを作り、互いに融資が有効に使われるかを確認する。またグループは定期的にミーティングを行い情報交換の場にもなっている。

→高い返済率の維持 グラミン銀行の場合返済率は98.9%

2. 女性の生活・生産活動支援

借り手の多くが女性。グラミン銀行の場合、借り手の約95%が女性。「家事・育児を担う女性の方が、生活水準の向上のために融資を使うだろう」ということが理由。

→女性が収入を得ることで、女性の社会進出を促し発言力を強める。女性の社会的地位の向上にも貢献している。



飾り箱製作

- 融資を受けて、箱の材料(1つ分2タカ)を仕入れ、成形後2.3タカで売る。一日中作業して1000個程度作ることができる。
- 稼いだお金で子どもを学校に通わせた。

牛の飼育

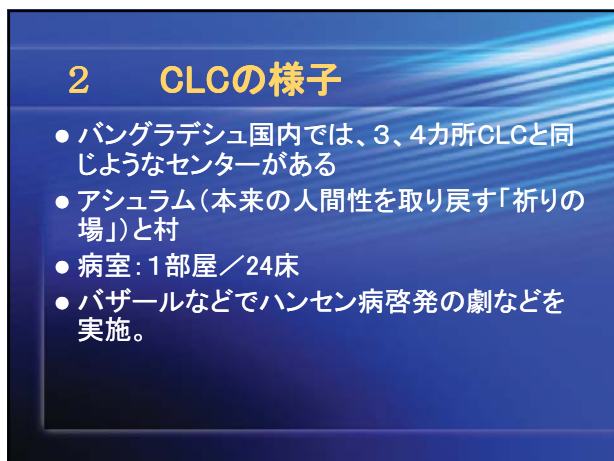
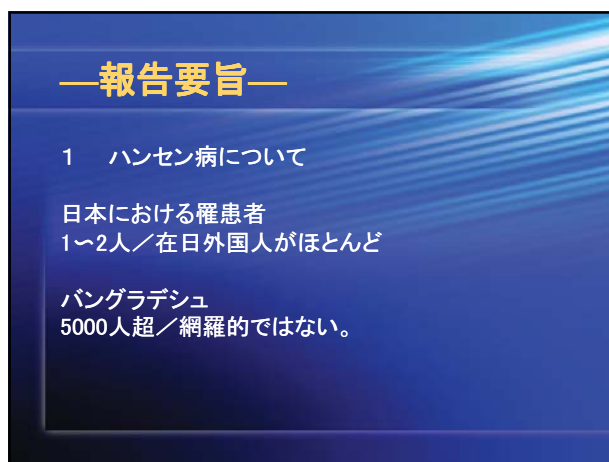
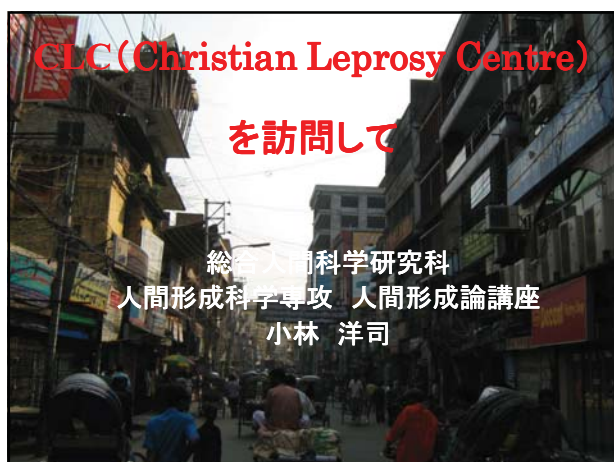
- 融資を受けて、バングラデシュ産の牛と外国産の牛の混合種を購入・飼育。1日約6lの乳を搾ることができ、1tあたり20タカで売れる。
- 牛を飼うためには、飼育の方法を学ぶ、牛小屋を用意する、飼料を購入するための資金を用意する等の条件が課される。





感想

- ・日本との差異
→自己決定を重視した教育。自発性をうむ教育方針がとられていた。
- ・「外」と「中」の差
→・街中にある特殊学校。外では多くの児童が物乞いをしている現状。
 - ・学校規定の制服





3 今日の日本におけるハンセン病を 取り巻く現状との「共通点」と「違い」

- 社会病としてのハンセン病
→ (医療問題に収斂されない社会問題)
- 空間的障壁
→ (「ふるさと」から離れて療養に来ること)
- 医療の問題
→ (治療薬はWHOから、後遺症の問題)
問題の潜在化か解決か？
→ (ハンセン病に関してのエピソードの少なさ)
- ハンセン病問題の啓発活動について
→ (差別・偏見の解消と早期発見・治療)

第二部 「グローバルイシューとしての国際医療保健の現状について ＜バングラデシュ チャンドラゴナーでの JOCs 派遣医師としての働きを通して＞」

宮川眞一氏（前チャンドラゴナー・キリスト教病院派遣医師）

講義内容

- ① ー 1) JOCs のミッションと活動紹介
入会パンフレット・スライドの紹介
- ー 2) 宮川が JOCs ワーカーとして、現場で働くきっかけ（動機）について
 - ・ 幼少の頃の JOCs ネパールワーカー岩村昇氏との出会い
 - ・ 受験浪人・神学部在学・医学部進学
 - ・ 神学部在学中：アジア国際夏期学校：バングラデシュ研修生
- ② バングラデシュ（途上国）の現実について→国際医療協力が必要な理由
 - ・ 不平等な「命」の価値、貧困、深刻な医療過疎、政治の腐敗、「命は待ってくれない」
 - 1) 災害医療（国際緊急医療援助）：緊急・短期
 - 2) 国際医療援助（長期）
 - a) 国家間
 - b) 国際団体
 - c) 大規模 NGO
 - d) 小規模 NGO
 - e) 個人
 - ・ 公立病院・医師・医療者の不合理な状況
 - 1) 現実に則さない医療環境（治療費は無料といいながらも・・・）
 - 2) アクセス
 - 3) あふれる患者
 - 4) 貧富の差：医療受益格差
- ③ チャンドラゴナーでの医療協力活動について
 - ・ 病院概要
 - ・ プロジェクトについて
 - 地理的状況・歴史的背景・文化的背景
 - アプローチ方法・協力者としての立場（JOCs のアプローチ）
 - プロジェクト内容・進行状況
- ④ 国教がイスラム教の国でキリスト者として感じる事、考えること
 - ・ イスラム教の持つ文化背景の理解と尊重
 - ラマダン（Ex. DM治療）・祈りの時・女性の置かれた立場・環境
 - ・ 個人的な関係：集団への関係（トップを落とせば話しはすすむが、グラスルーツからのボトムアップ抜きのアプローチは無意味）：議員・ダンスの先生
 - ・ 宗教間の静かな緊張状態・教科書のイラストの話
 - 1) イスラム神学校の例
 - 2) 病院内住居の配置
 - 3) CHTでの仏教寺院焼き打ち事件
 - ・ 住民の利益となることをやる、地域から認められる主体としてのキリスト教病院
 - ・ 自分の拠り所としてのキリスト教
 - ・ 神の計画の実践と派遣への信仰
 - ・ 神戸大学大学院生を受け入れての感想

何を如何に一緒に生きるとは

於：神戸大学人間発達環境学研究科

J O C S バングラデシュ派遣ワーカー
宮川 眞一

2008/11/10

日本キリスト教海外医療協力会 JOCS
(Japan Overseas Christian Medical Cooperative Service)

- ◆ 1960年創立
- ◆ アジア、アフリカの10カ国にワーカーを派遣
現在バングラデシュ、カンボジア、ネパール、
パキスタン、タンザニアで活動中
- ◆ 奨学生、研修生支援
- ◆ 使用済み切手運動
- ◆ 国内啓発活動

2006－2010年 「今後5年間の方向性」

- 1) 平和を実現するものとしてのJ O C S
- 2) J O C Sの活動の今後の5年間の焦点
(女性と子ども・障がい者・少数民族・HIV感染者)
- 3) 弱くされた人々と共に生きることを
喜びとするワーカー

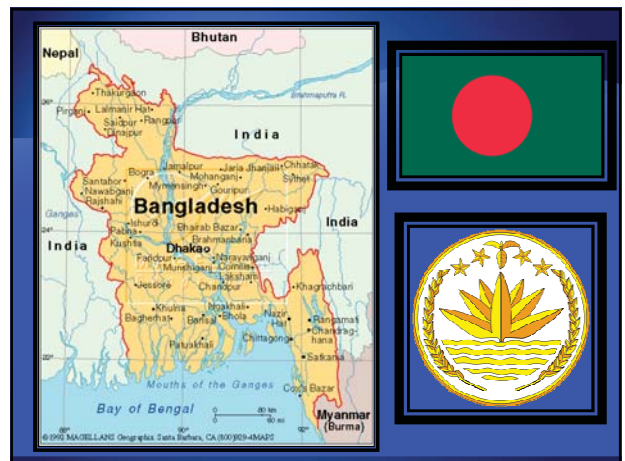
2010年 JOCS創立50周年

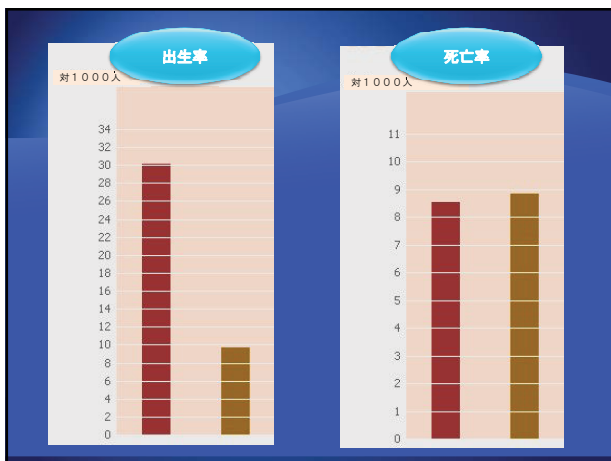
各地での活動の様子やワーカーの声が伝わってくる
会報「みんなで生きる」は年に10回発行！！

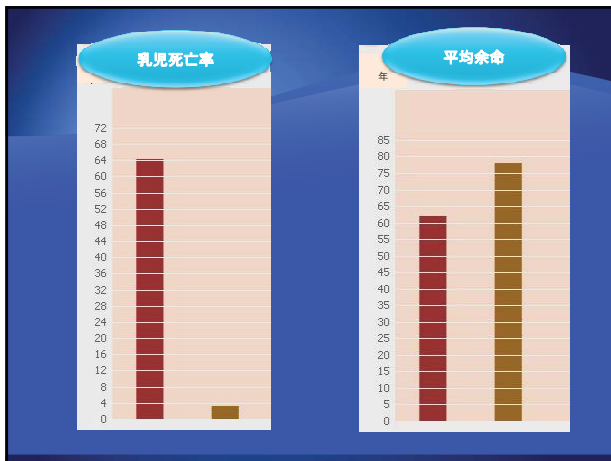


毎年10月号は「こども号」
イラストやひらがなを多用して
わかりやすくなつ毎年10月号は
「こども号」









チッタゴンのファーストフード店内
なぜにバングラ人だけなのに英語？



Christian Hospital Chandraghona チャンドラゴーナ・キリスト教病院



Christian Hospital Chandraghona (CHC) チャンドラゴーナ・キリスト教病院

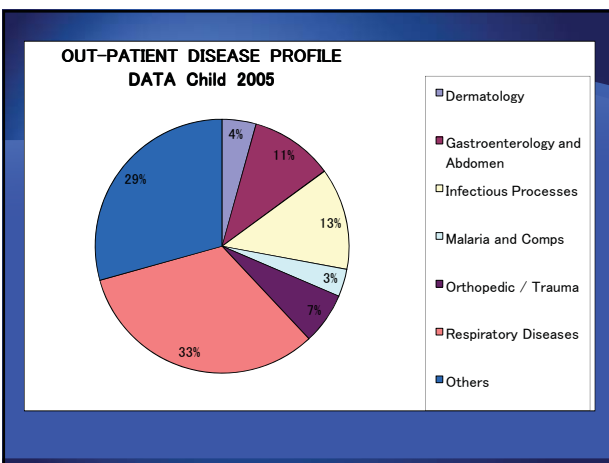
- ◆ 1907年英国 Baptist Missionary Society (BMS) が設立
- ◆ 1965年現地移譲
- ◆ 1913年ハンセン病施設増設
- ◆ 1937年看護学校 設立
- ◆ 1971年コミュニティーヘルス部門増設



CHCにおける働き

- ◆ CHPのメディカルアドバイザー及びコアチームのメンバーとしてプロジェクト実践をコーディネートする
- ◆ CHCの医療顧問として病院内システム・医療レベルの向上に向け改善の実施
(医療廃棄物問題・輸血血スクリーニング・看護学生教育など)
- ◆ 臨床医としての診療参加







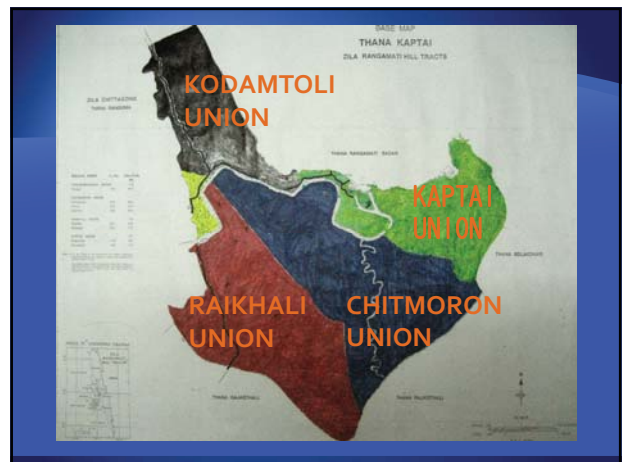
ハンセン病センター (CLC)

A photograph of the Hansen's Disease Center (CLC) building. The building is a long, single-story structure with a covered walkway supported by white pillars. It is surrounded by trees and a paved area. A sign on the left side of the building reads "Hansen's Disease Center (CLC)".

A large group of nursing students, mostly women in white uniforms with blue or red sashes and a few men in white shirts, are posed in several rows on a lawn in front of a large, modern hospital building. The building has a sign that reads "GENERAL HOSPITAL, CHANGAREDDY" and a cross emblem. A tree is visible on the left side of the building.



CHP：地域保健プロジェクト



年代	出来事	CHTベンガル人の人口比
以前	アラカン族とトリブラ族が覇権を争っていた	
1575-1666年	アラカン王国	
	ムガル帝国	
1760年	英東インド会社に割譲される	
1880年	英の支配下	少数
1947年	パキスタン	
1960年	カブタイ水力発電所を作るため、川をせき止めてカブタイ湖ができた。農地の40%が水没、10万人のチャクマ族が難民となってインドに移住。失われた農地の補償、生活保障無し。政府に対する強い不満と不信。	
	1971年	
	バングラデシュ建国	
	CHTの人々は新政府にCHTの文化的、言語的同一性を維持すべく自治を要求。新政府は同意せず。	11.60%
1975年	自治政府を作り武装組織を作って闘争を始めた。	

年代	出来事	CHTベンガル人の人口比
1975年	自治政府を作り武装組織を作って闘争を始めた。	11.60%
1977年	バングラデシュ軍が待ち伏せで大きな被害を受けた。これを期に政府はCHT全土に軍を駐屯させ武装組織の掃討作戦開始。この軍事行動は、同時に進行していたベンガル人のCHTへの入植と併行。	政府がベンガル人の入植政策を推進
1990年代	CHTの13の部族を糾合しジュマ民族主義を掲げてベンガル人との平等と文化的独自性に対する憲法上の保障を求める運動を開始	48.50%
1997年	当時のアワミ連盟政権と平和協定の締結 1) 政府がCHTの人々に特別の地位を与えて自治権を認める 2) 奪われた土地について所有権が確認されれば返還	
2001年	BNP 政権が登場、平和協定の履行に消極的；再び不安な状況に。	50%を越え上回っている

テッタゴン丘陵地帯の先住民民族集団

民族	カタカナ読み	別名、別表記	宗教	人口(人)
Chakma	チャクマ		仏教	252,858
Tripura	トリプラ	Tripuri, Tipra	ヒンズー	81,014
Tanchangya	トンチョンギヤ		仏教	21,639
Marma	マルマ	Mag, Mogh, Mug	仏教	157,301
Rakhaine	ラカイン		仏教	16,932
Bawm	ボム	Bum, Baum, Bam	キリスト教	13,471
Pankho	パンコー	Pangkhu	キリスト教	3,227
Mrong	ムロン	Murang, Mrung	アニミズム	22,178
Mro	ムル	Mroo	アニミズム	128
Khyan	キャン	Khyen	仏教、キリスト教	2,343
Khami	クミ	Khum, Kami	アニミズム	1,241
Sak	サク	Chak, Tsak, Thak	アニミズム	2,127
Lushai	ルシャイ	Kuki(?)	アニミズム	662

現在のCHP

- 1
 - BMW (Basic Medical Worker) : 保健ワーカー
 - カプタイ : 37名 コドモトリ : 19名
- 2
 - モバイル・クリニック
 - 定期診療 7か所
 - Community Facilitator 調整員
- 3
 - CHC : 地域基幹病院







マラリア

- ◆ *P.falciparum*（熱帯熱）マラリアの陰湿地帯
- ◆ 第1選択のChoroquine薬剤耐性：Quinine使用
- ◆ Coatem（ArtemisininとLumefantrineの合剤）の使用
- ◆ 脳性マラリア
- ◆ *P.vivax*（三日熱）マラリア・混合感染例
- ◆ 予防と早期発見・治療
- ◆ 蚊帳の使用





II

ロンドン大学
教育大学院

11/11～13/2008

Institute of
Education (IoE)
University of
London

神戸大学大学院人間発達環境学研究科・ロンドン大学教育学院
(IOE) 第2回学術交流研究会「イギリスの子育て支援に学ぶ」
The 2nd International Academic Interchange Meeting between the
Graduate School of Human Development and Environment, Kobe
University and the Institute of Education, University of London: "What do
we learn from the child and family support in the UK?"

PROGRAMME

11th November 2008

14:00~15:15

Ms Mary Sawtell & Ms Helen Austerberry

「連合王国（イギリス）における親と妊娠中の親に対する地域支援 —シュア・スタート・プログラムにおける家庭訪問施策の評価と今後の発展」

“Community support in the UK for parents and parents-to-be: an exploration of home-visiting schemes, the Sure Start Programme and innovative future developments”.

15:30~16:45

Ms Helen Austerberry & Ms Mary Sawtell

「10代の妊婦の健全さや若い親と子どもの健全さの改善 —家庭と地域を基盤とした支援を中心とする連合王国（イギリス）流プログラムの評価結果から」

“Improving health outcomes for pregnant teenagers, young parents and their children: evidence from UK targeted programmes that provide home and community-based support”.

18:00~20:00

Joint Reception

12th November 2008

15:00~

Field work at the plant satellite ARCH

13th November 2008

10:00~10:20

寺村 ゆかの（神戸大学大学院人間発達環境学研究科教育研究補佐員・助産師）

「大学が運営する子育て支援サテライト施設においてドロップインとアウトリーチを組み合わせることの効果」

Yukano TERAMURA (Research & Teaching Assistant, Graduate

School of Human Development & Environment, Kobe University / Midwife)

“Effect of the combination of drop-in service and out-reach service: An example of a university satellite for child and family support”



10:20~10:50

Comments from Ms Mary Sawtell and Ms Helen Austerberry

11:00~11:40

倉石 哲也（神戸大学大学院人間発達環境学研究科博士課程、武庫川女子大学 准教授）

こどもへの共感を高める親グループ・プログラムの開発・実践と評価

Tetsuya KURAISHI (Doctoral Student of Graduate School of Human Development & Environment, Kobe University / Associate Professor of Mukogawa Women's University)

“Development, practice and effect of group-based parenting program for promoting parents' empathy for their children”

11:40~12:10

Comments from Ms Mary Sawtell and Ms Helen Austerberry

＜参加スタッフ院生の声＞

Mary さん、Helen さんは、11 日 12 時頃、神戸大学に到着され、応接室にて担当者と昼食を取り、講演準備に会場の大会議室に向かわれました。昼食の間では、飾り付けてあった折り紙を娘さんに持って帰られるなど興味を示していらっしゃいました。講演では、県や市の担当職員の方や、前月に行われた寺子屋師範塾の受講生、学生などたくさんの方が参加されました。一般への事前告知の機会が多く、他の学術ウィークスの講演に比べて一般の方の参加者が多かったのではないかと思います。講演後には、学術ウィークスの全体レセプションが開催され、ロンドン大学のお 2 人、担当者の他、西オーストラリア大学、オース大学、北京大学の方や、その担当者他、学生、教員などが参加しました。各研究分野だけでなく、お子様の話なども多く聞かれ、終始和やかでした。

12 日は、午後からのみのプログラムだったので、お 2 人は午前中には中華街などを観光されたようでした。あーちでのフィールドワークでは、以前の前年の学術交流のフィールドワークでもお世話になった利用者の方が通訳を引き受けてくださり、施設の紹介の後、日英での新生児・乳幼児保健指導や子育て支援制度についての議論が行われました。その後あーちの利用時間の終了を待って、日本文化紹介として、小山田さんによってお茶が振舞われました。その後、三宮に移動し、和雑貨などのお土産の買い物をして、ロンドン大がくの担当者での夕食会が行われました。

13 日は、午前中に神戸大学側の講演が行われ、お 2 人にコメンテーターをしていただきました。こちらも、11 日同様、多数の一般の方を含む参加者がありました。講演終了後に、応接室にて担当者と昼食を取った後、記念撮影をして全日程を終了しました。神戸大学を後にしたお 2 人はこのあと京都観光に行かれたようです。

私は今回、プログラムの作成などから全日程に参加しました。実際に始まるまでは、研究分野などのオフィシャルな情報がほとんどで、英語も入試以来と、とても緊張していました。しかし、実際に始まってみると、とても気さくに話しかけてくださったり、うまく表現できない説明を読み取ろうとしてくださいました。私自身も初日は久々の英語に戸惑ってしまい、なかなか積極的に話をできずにいましたが、2 日目、3 日目と慣れるにつれ、積極的に説明したり、伺ったりできるようになりました。研究内容では、制度論と実践研究などの違いもあり、知らなかった事ばかりで新鮮なことが多かったです。講演では一般の方が多く参加されていたのはよかったのですが、もっと学生など大学内からの参加者が集められたらよかったと思いました。私自身も、合同レセプションでしか他の分野の方などとのかわりがなかったので、もっと多く参加できればよかったと反省しています。今回の参加で、参加者や協力者の方々、招聘大学の方々などたくさんの方と関わる事が出来、とても刺激になりました。これらは今後積極的に活かしていきたいと思っています。

(教育科学論コース 1 年 宮地ゆき)

私は、2008年の学術ウィークのうち、ロンドン大学教育大学院の部に参加しました。まず11月11日の講演会の前に、MaryさんHelenさんと昼食をご一緒しながらお話をしました。お二人ともとても朗らかな方で、緊張していた院生の私たちもリラックスすることができました。午後からはMaryさんHelenさんの公演が行われました。学術交流研究会



のテーマが「イギリスの子育て支援に学ぶ」だったので、10月末の寺子屋師範塾の受講生だった方の参加も多くいらっしゃいました。内容が子どもや親の地域支援に関するものだということもあり、色々な方の参加があったことはとてもよかったと思います。

翌々日11月13日は寺村さん倉石さんの講演が行われました。写真やデータがとても分かりやすく、MaryさんHelenさんからのコメントも興味深かったです。その後、キャンパスや大学周辺を案内しながらMaryさんHelenさんを駅までお連れしました。お忙しい中來日していただいた

MaryさんとHelenさんでしたが、日本や神戸での数日間を楽しんでいただけたのなら幸いです。少しの間でしたが学術ウィークにかかわる事ができ、私もとてもいい経験になりました。ありがとうございます。

(子ども発達論コース2年 佐竹桃子)

今回は、急なことでしたが、フィールドワークとしてせっかく日本に来ていただいたお二人のために、お茶をもてなしました。場所の都合上ある程度簡略化したお点前になり、また、私自身まだまだ未熟なお点前でしたが、お二人に喜んでいただけたので、とてもよかったです。

あーちの見学とお茶のあと、三宮を散策しました。和風雑貨のお店などをまわり、お土産と一緒に検討しました。その後の夕食会では、辞書に頼りながらでしたが、食材の説明、研究についてなどをお話しました。特に和食には、お二人がなかなか食べる機会のない食材もあったので、食文化の違いを感じながら、楽しく会食ができました。

今後も外国から来た方たちにもてなす機会があるときには、今回のフィールドワークの経験を活かしていきたいと思います。

(生活環境論コース2年 小山田祐太)

Community Support in the UK for Parents and Parents to be

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Introduction

In this paper we will be covering the following: why support is important; approaches to providing community support in the UK; current and future UK services; some examples of our research in this area. In particular we will describe about one piece of research that we have done evaluating a breast feeding support programme.

Why support is important?

Research shows that a poor quality early childhood is strongly linked with an increased risk of poor outcomes for children. For example if a child grows up in a household with a very low income we know there is an increased risk of: injury; child abuse and neglect; sudden infant death; respiratory infections. Research into the effects of the quality of early parenting shows strong links between poor parenting with a range of negative outcomes for children such as: behaviour problems; school drop out and poor performance; drug and alcohol abuse; poor physical and mental health in adulthood.

The subject of the health of mothers is an important illustrator of why support is so important. Good health is obviously important for women themselves but it is also very important for the well-being of the whole family. For example in terms of mental health and well-being, rates of antenatal and postnatal depression are high in the UK and we know that outcomes for children are worse when their mothers are depressed. For example rates of both forms of depression are about 10 -15% in UK mothers. The negative impact on children whose mothers have postnatal depression is well known - however there is some new work showing that the children of women with persistent (long lasting) antenatal depression are 50% more likely to show developmental delay than those whose mothers are not depressed in pregnancy (Deave ,Heron et al, 2008).

A poor relationship between parents - including where there is domestic violence - is also damaging to children and is therefore another example of risk to child well-being.

The UK is a highly divided society; we have a huge, wide gap (bigger than most other countries in Europe) between the richest and the poorest families in our country. We are a society with many pressing social concerns. For example:

1 in 3 children in the UK currently live in poverty

We have the highest teenage pregnancy rate in Europe (Wiggins, Oakley et al, 2005)

We have other social problems that are growing - for example family homelessness – with children growing up in very poor quality temporary housing when families of four or more share one small room (Sawtell, 2002).

As the most vulnerable members of society, the impact of this divide falls particularly heavily on young children. Evidence suggests that good quality support, offered early in life, enhances child and family health and wellbeing (Wiggins, Oakley et al 2004).

Approaches to providing community support in the UK

In order to try and address the problems in our society that I have been describing to you, the UK Government has introduced a range of policies and legislation. Particularly relevant is the policy document Every Child Matters. Published in (2003) – Every Child Matters launched a programme of change to improve outcomes for every child. The outcomes listed in Every Child Matters were that every child should:

- Be healthy
- Be Safe
- Enjoy and achieve
- Make a positive contribution
- Achieve economic well-being

The Children Act was made law by the UK Government in (2004) and provided the legislative framework to support Every Child Matters. Another key publication was the report by Lord Laming. This was the report of the independent inquiry into the death of Victoria Climbié published in 2003. I will describe a bit more about this later.

The key aim of current UK Government policy in this field is to develop high quality services for all children and families and specifically to improve services for the most disadvantaged in order to reduce the gap between advantaged and disadvantaged.

There is a range of key characteristics that are considered important for community services in the UK currently. First of all the expectation is that the approach of services is holistic – by this I mean that the child is seen as a whole person. This contrasts with a traditional medical approach where the approach is to consider a person in terms of the different parts of their body or systems.

Secondly services should be joined up – this was a key recommendation from the Victoria Climbié enquiry. To explain, Victoria Climbié was a young girl who was abused and killed by her guardians in 2000. An extensive enquiry into her death found she had been in contact with numerous different services from hospital departments to social services prior to her death. As a result of a lack of co-ordination between these services no one realised how at risk she was before it was too late. The main services that are expected to be working more closely together are health, education, social care and employment support services. This joining up of services needs to happen at top tier level – so at highest management level as well as at the point of delivery.

Next the focus for community provision is firstly protection of the child, and then the focus is prevention followed by early intervention. Prevention and early detection services for new public health priorities such as the rising levels of obesity in children in the UK are becoming increasingly important.

Fourthly Services should be child and family centred –for example they should be as convenient as possible to use, suiting the family rather than the service provider. They should be flexible using a combination of approaches including outreach in non health settings, mobile facilities like buses that drive around rural areas and parents should be seen as partners in deciding what services are developed in their area.

There is now a strong focus on what's called positive parenting- i.e. the belief that parents can and should be taught how to be better parents. I will say a little more about this shortly.

Finally services will be characterised by 'progressive universalism'. This is a new term being used to describe approaches to service delivery in the UK. In the past we described 'universal services' – where the service is for everyone and 'targeted services' – where the service is targeted at a particular group who needs it most. Progressive universalism is a universal service but it gives a continuum of support according to need, so everyone is offered a core service but those with the greatest need get more in addition. For anyone who is interested they might like to look up something called the Child Health Promotion programme which has just been launched in the UK. This programme is going to be a key part of service planning and delivery in the future and is a good example of this idea of progressive universalism (Shribna & Billingham 2008).

To just add to what I said about positive parenting there is now a lot of government attention on teaching parents how to be better at parenting– so making something that has in the past been a private matter a public one. Early evidence suggest that parenting support can be effective as part of a package of support measures. In particular the focus is on supporting a better infant/parent relationship through improved attachment between both mothers and their children and fathers and their children too. There is also a focus on helping parents meet their own goals, including becoming economically independent.

So, I have just described a list of things that are currently considered central to UK community services for children. To summarise - this list included that services are holistic and flexible, that they are child centred and that that teaching positive parenting becomes a focus. I would like to add one more and this is that systems for monitoring and evaluation of services at a local level are made a priority from the start. This allows both the uptake of the service and matters such as user satisfaction to be measured. This allows for development of the service to be ongoing in order to make it as effective as possible. In our research at SSRU it is a consistent finding from our evaluations that prioritising monitoring and evaluation of services in this way at a local level is not something that we are good at in the UK – maybe it is something that you are better at in Japan.

Current and future UK services

I am going to describe community services in terms of these three groups: health visitors, general practitioners, midwives; The Sure Start programme; Sure Start Children's Centres.

Health visitors, general practitioners and midwives have historically been the backbone of community child and family health services. General practitioners are doctors while health visitors and midwives are nurses with additional training. Health visitors have been in existence for nearly 150 years and have been the main co-ordinators and providers of community primary health services for children organising immunisations, developmental checks, parenting advice and support to mothers, as well as prevention and early detection of child abuse. In the past these services have been considered universal – however both health visiting and midwifery are now becoming more of a progressive service offering a core service to all families but particularly in terms of health visiting a more intensive one to those who are at risk of disadvantage. Historically health visitors have worked mainly in people's homes, they continue to do this but also often now providing services in Sure Start Children's centres which I am about to describe. I would just like to say that I am a health visitor myself – this was my work for 10 years before I became a researcher. I believe that you have public health nurses in Japan – I would be really interested to know how similar or different the two roles are.

Some of you may have heard of the Sure Start Programme in the UK. It is based on an American programme called Head Start which started in the 1960s and was found to have some long term success in improving educational outcomes and reducing crime in children growing up in disadvantaged circumstances. The Sure Start programme was set up in the UK in 1999 as a pilot or a trial programme. A large scale evaluation looking at its progress and impact has been running alongside the Sure Start programme for the first eight years of its life.

The Sure Start programme combined, at local level, support in the home with support in special Sure Start Centres. These Sure Start centres have now taken the title Sure Start Children's Centres. Early findings from the Sure Start evaluation (in 2005) were considered disappointing – with outcomes for children being worse in the more disadvantaged groups than in similar populations without a Sure Start Programme. More recent findings in 2008 appear more positive revealing positive effects across the target population, showing that parents of three year old children showed more positive parenting skills and provided a better home learning environment, that these children showed better social development and higher levels of positive behaviour and independence, and that families took more advantage of the range of support services available than in areas where Sure Start was not operating (see <http://www.surestart.gov.uk/> for more detail on Sure Start and the evaluation).

So what we have today is a Government Strategy that by the year 2010 there will be a Sure Start Children's Centre in every community for every 800 under 5 year olds. There will be a total of 3,500 centres across the country. Areas where the population has a lower income will receive more funding than areas where the population is wealthier.

Holistic health and well-being services will be offered under one roof in what we call a 'one stop shop', but there will also be outreach work in other places in the area.

Sure Start has been a well resourced programme; it's been very high profile and a real government priority with nearly one and a half billion pounds spent on it in the first five years (2.5 billion dollars). I would like to describe for you what a typical Sure Start Children's Centres looks like. I am going to describe what you would see if you visited one in a poor area of the UK.

It is very likely that the centre would be a new purpose built building. The group working on the design would have included architects, service managers, local professionals such as midwives and health visitors, and local parents. The resulting building is likely to be very child friendly – for example inside it will be very brightly coloured and much of the interior will have been considered through the eyes of a child. It will be a large building with space to house a whole range of professionals from education and health and social care. There may well be a nursery on the same site.

The kind of people who would be working there are health visitors and midwives, teachers and social workers, physiotherapists and massage practitioners, speech therapists, dieticians and counsellors. There will also be employment advisors to advise parents on how to get back into work. Members of the community will also be working there both in a paid and a voluntary capacity. The sorts of services they will be offering are the usual child health type services and also a nursery but also a range of other things according to what local people say they need. For example there may be baby massage, parenting programmes, cooking workshops for parents and counselling sessions for parents whose relationship is in difficulties. There will also be breast feeding support – an example of which is going to be described in a minute by Helen. Of course there will always be some parents who won't use the centre and in these cases staff will visit in the home – but the hope is that even these parents will in time feel confident enough to take up the services on offer. All these services are offered free or at very low cost.

As you can see the idea is that you get a joined up service – what we call in the UK a seamless service. At its most fundamental it is hoped that this will avoid what happened with Victoria Climbié who fell through the gaps between services.

Examples of our research

We have carried out a number of studies in this field – particularly relevant ones are:

Social Support and Family Health Study (Sawtell & Jones 2002; Wiggins and Oakley 2004; Austerberry and Wiggins 2004)

Sure Start Kilburn Priory - Breastfeeding Peer Support Programme (Austerberry 2006)

Becoming a Mother Study (2007- ongoing - no publications as yet)

We are now going to describe the Breast feeding Peer Support programme which was part of a Sure Start programme in an area of London called Kilburn Priory.

Case Study

Sure Start Kilburn Priory, London Breastfeeding Peer Support Programme Evaluation

Background

To provide a context, Kilburn Priory, like lots of parts of inner London, is a mixed area with a large minority ethnic population. There are pockets of expensive housing next door to state-owned housing estates. Like all early Sure Start Areas, it has a high level of deprivation overall, despite these wealthy pockets.

Aims

The aims of the Breastfeeding Peer Support Programme were: to raise the profile of breastfeeding locally; and to offer support to local women to help them breastfeed.

Content of the Peer Support Programme

Each year Sure Start maternity staff recruit, train and support a team of local women as volunteer peer supporters to help local women breastfeed. Peer supporters work in formal National Health Service settings, namely the postnatal ward of a local hospital, local antenatal clinics and child health clinics. Peer supporters also work in informal settings, such as in mother's homes, and at the Baby Café, which has a drop-in support group for breastfeeding mothers

Profile of peer supporters

About 12 volunteers were trained per year between 2003 and 2006, by a Sure Start health visitor at the local Sure Start Children's centre. Training was followed up by support meetings.

The peer supporters had a wide ethnic profile – Black British and Black Afro-Caribbean; White British; White European; South Asian; Middle Eastern. There was one Japanese woman. Between them they spoke 16 languages (including English and Japanese), though about half had moved on by the time of the evaluation.

The peer supporters in our study ranged from 23 to 40 years. Their youngest child ranged from 10 months to 10 years. Many had been supported themselves by the programme.

The Evaluation

The evaluation of Kilburn Priory Breastfeeding Peer Support Programme¹, which was carried out at the Institute of Education, was a qualitative study drawing on interview

¹ **Austerberry H** (2006) *Evaluation of Sure Start Kilburn Priory Breastfeeding Support Work: Report of findings*. Social Science Research Unit, Institute of Education, University of London

data with peer supporters, breastfeeding mothers, Sure Start breastfeeding support staff and local maternity service staff.

Evaluation findings

Interviews carried out during the evaluation with mothers, peer supporters and Sure Start staff suggested that: peer supporters gained training and experience through volunteering. They grew in self-confidence; some secured jobs as a result. The ethos of giving and receiving strengthened the local community. Significant staff time was needed to build the team and keep peer supporters involved, especially when there were a high proportion of Minority Ethnic women in the team. A 'buddy' system between new peer supporters and experienced ones helped new peer supporters settle in and stay motivated.

Findings were that peer support worked well with mothers. Mothers valued the service for: emotional and practical support; solidarity; and friendship.

We finish with a quote from a peer supporter who had been helped to breastfeed herself by the programme:

“There’s a wealth of written information, when you’re a new mum you don’t have the time or energy to find out...It was so nice to not to have to go through the whole process of going and booking a doctor’s appointment and going in and sitting down and saying, ‘I have a problem’, but phoning up [a peer supporter]. It was mother-to-mother support that made a difference and it was something so simple.”

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Improving health outcomes for pregnant teenagers, young parents and their children: evidence from UK targeted programmes that provide home- and community-based support.

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The second presentation that focused on evidence from the UK to support new families looked at home-based and community-based support for pregnant teenagers, young parents and their children.

The high teenage conception rate found in Britain compared with most other developed countries, coupled with the poverty and disadvantage that is associated with young parenthood, helps explain why this group has been a focus of UK Government policy for almost a decade.

The following table shows international comparisons of teenage birth rates in 1994 and 2002.

Teenage birth rates

Rate per 1000 women aged 15 – 19 years		
	1994*	2002**
Japan	4	6
European Union average	15	14
UK	33	27
USA	54	46

* United Nations Population Division

** National Statistics Agencies

We can see that in 1994 the teenage birth rate was over eight times higher in the UK than it was in Japan, which had the lowest rate amongst developed countries. By 2002 the ratio had decreased to about four-and-a-half times. So the rate in the UK is relatively high but it is decreasing. Whereas in Japan (although still very low compared with other countries) it increased by 50% over this period.

Policy context

The UK Teenage Pregnancy Strategy (2000 – 2010) is a ten-year government policy with two main aims - to reduce:

- the teenage conception rate;
- and the risk of long-term social exclusion amongst young families.

The second aim of the Teenage Pregnancy Strategy– which we shall be focusing on here – concerns the provision of support to pregnant teenagers, young parents and their children. A specific target is to increase the proportion of teenage parents in education, training or employment to 60% by 2010.

We present findings from evaluations of three UK government initiatives targeted at pregnant and parenting young people that form part of this strategy.

We shall focus particularly on national programmes that we have evaluated at the Institute of Education, University of London. These are: the Sure Start Plus programme, which offered a holistic support package to pregnant teenagers and young parents; and aspects of the Teenage Health Demonstration Site programme concerning support to prevent second conceptions amongst teenage mothers. We also discuss a health-led parenting programme targeted at first-time teenage parents, the Family Nurse Partnership, which is in its early stages of implementation. We explore their key characteristics, and barriers and aids to their success.

Sure Start Plus programme

As part of the Teenage Pregnancy Strategy, the Sure Start Plus programme aimed to reduce the risk of long term social exclusion associated with teenage pregnancy through co-ordinated support to pregnant teenagers and teenage parents.

The pilot programme, funded by the Department of Health and the Department for Education and Skills, began in April 2001 and ran until April 2006. Our evaluation at the Institute of Education began in January 2002 and ended in December 2004¹. It utilised a mixed-methods approach and had four components: a service delivery study; an evaluation of impact using a matched case control study; an analysis of joined-up policy and practice; and an economic commentary on the cost of the programme. Data was collected through interviews and surveys of young people, programme staff and related professionals.

The programme was based in 35 local authorities in England, in areas of high deprivation with high conception rates. These were mainly in inner areas of London and other large cities, which is where the highest rates of deprivation are found in the UK. Rural areas in England tend to be more affluent, which appears to be the opposite picture to that found in Japan.

The national Government expectations of the pilot were that there should be:

- One-to-one support from a lead professional (one professional to co-ordinate the package of care)
- Innovation and local variation in order to learn (to use the pilot programme as an opportunity to try out new ways of doing things – and to follow local need rather than a national template)
- Support for pilot sites through local strategic partnerships (these were committees made up of managers in health, education and youth services and from the Sure Start programme, which was discussed in the previous presentation)

The aims of Sure Start Plus

The aims of Sure Start Plus were fourfold. They were to:

¹ Wiggins M, Rosato M, Austerberry H, Sawtell M, et al (2005), *Sure Start Plus National Evaluation: Final Report*. Social Science Research Unit, Institute of Education, University of London. 110 pages.

- Improve health
 - early contact with maternity services; smoking cessation
- Improve learning
 - participation in education; gain basic (or higher) qualifications
- Strengthen families and communities
 - increase involvement of family, partner or father of the child
- Improve social & emotional wellbeing
 - better identification and support around postnatal depression

How did Sure Start Plus look in practice?

In practice the Sure Start Plus Programme was diverse; this characteristic arose from sites being given freedom to innovate to best suit their locality. There were various models of programme structure in terms of the services they offered and the ways in which they were delivered. For example, they were housed in different sectors, including health authorities, education and youth advice services, and the voluntary/non-profit sector. There was evidence of strong local joined-up working (for instance between staff who helped young women re-engage in education, Sure Start Plus advisers and between specialist teenage pregnancy midwives. The way services were delivered varied in terms of range and ethos. Some local programmes targeted fewer young women in depth, whereas others aimed to reach as many as possible; some emphasised the needs expressed by service users, whereas others emphasised Sure Start Plus targets, like smoking cessation). The range of expenditure varied between local sites, from 37,300 JPY to 130,500 JPY per teenage conception.

Content of services

Despite the diversity, all local pilots provided as standard a holistic package of care, which included one-to-one advice and support with: housing, health care, parenting skills, re-engaging with education, childcare

Personal advisers saw young women in their homes, in cafes, or at local projects. They worked by appointment and through drop-ins. They befriended women, counselled them, helped build their confidence, and helped negotiate family relationships. They also helped in practical ways, around access to education, housing or benefits. They worked in an active way, chasing up young women who were in danger of losing touch with the programme. Most had a caseload of about fifty young women.

The programme also delivered group work with teenagers. Groups were mainly informal support groups, antenatal or parenting skills classes, and mother and baby groups. Often advisers would encourage young women to start coming to a group, if they were nervous or shy, by driving them there or accompanying them.

Additional projects that were developed by local pilots were: training modules for professionals (about young parents' needs or about working in youth-friendly and accessible ways); childcare projects; skill-based training; housing associations; and specialist fathers' work.

How was Sure Start Plus received by young people?

Young people found the service to be accessible and acceptable. They valued the relationship with their adviser. The only complaint was that contact too short term.

Originally the UK Departments of Health and Education envisaged that the Sure Start Plus programme would provide support to families up to a child reaching four years. In practice sites were not resourced to provide support beyond the child's first birthday.

Here are some quotes from young women we interviewed.

"[The Sure Start Plus adviser] was one of those people you could make friends with straight away. She's a warm lovely person...I just throw it all at her! She does help you with [any problem]." Young mother aged 17.

"I liked not just support – you get trips, [Sure Start Plus] organise parents groups. They contact people for you – education, housing, childcare. So they help organise many things. They ask what you need of them and then try and organise what you want." Pregnant young woman aged 17

How was Sure Start Plus received by staff?

Staff thought that the programme was an effective and appropriate way to be working with this client group. Professionals from partner agencies (specialists in maternity services, education services, careers advice services, youth service, supported housing services) saw Sure Start Plus as having improved local support across a range of issues for teenage parents. There was evidence of strong local joined-up working between these agencies and the local Sure Start Plus team of workers.

Has Sure Start Plus made a difference?

What did we find from our evaluation of Sure Start Plus? Was the programme successful in reaching pregnant teenagers and young parents and helping them in terms of their health, wellbeing and education?

When we made statistical comparisons with similar areas without Sure Start Plus we were able to show success in providing crisis support to young women in Sure Start Plus areas: decisions about pregnancy outcome; emotional support; relationships with families; housing; and domestic violence.

In terms of education, more young women under 16 years (compulsory school age) were returning to education in Sure Start Plus areas than comparison areas. There was increased participation in education or training for young women aged 16 and over when advisers were based in the education sector.

There was little global impact on reducing smoking and increasing breastfeeding, which were key health goals; however, there were examples of good work in these areas.

Sarah's story – an example of help with returning to education

One 16-year-old woman, Sarah, was planning to gain qualifications in order to become a midwife. When she found out she was pregnant she thought her future was over. She was getting on badly with her parents so was living away from her family in supported housing, where she had met her partner. He was happy when she first became pregnant but as time went on her relationship with him deteriorated. She

struggled to cope with pregnancy and a turbulent relationship and stopped going to school. She was referred to a Sure Start Plus adviser by a specialist young woman's midwife at the local hospital.

Before she could think about returning to school, the adviser first helped with:

- Accommodation – found her supported housing that would accept children
- Financial difficulties – she was in debt and unsure about entitlement to state benefits
- Parental relationship – they met her parents together to help improve relations

...then (once her life was less chaotic) the adviser helped with:

- Sarah's education plan to reach her midwifery goal – the Sure Start Plus adviser worked with the local education / career advice agency and she gained secondary school qualifications to enable her to start a paramedic course at college
- Childcare – the adviser helped her access a good nursery and a student mother's grant for childcare

Young fathers

Programmes found it challenging to engage fathers at first, partly because they did not make this work a priority, whereas young mothers were at the heart of the programme throughout. Examples of innovative work with fathers emerged later on. One example is given below, from Nottingham, a city in the English Midlands.

Case study: work with young fathers - at Nottingham Sure Start Plus²

Nottingham Sure Start Plus had dedicated male father's support workers in their team. They held residential weekends with young fathers and their partners to plan services, finding that young fathers would not attend single-sex events. Over the course of a weekend they would hold male-only groups in order that young men felt safe to explore their fears and feelings.

Services that were set up as a result of what young men ask for in planning sessions included support work with fathers and couples. This work: explored roles and responsibilities of young fathers; challenged stereotypes about them; examined relationships with partners and extended families; looked at managing the anger that young men frequently expressed; and developed advocacy services around access to children. Development work with other agencies highlighted the support needs of young fathers.

Summary of the findings from the Sure Start Plus Evaluation

Having a dedicated lead professional, providing holistic support, was valued by young people and professionals. Sure Start Plus was successful in providing crisis support and helped to lay foundations for future positive development

Recommendations from the evaluation

² Sawtell M, Wiggins M, Austerberry H, Rosato M, Oliver S (2005) *Reaching out to pregnant teenagers and teenage parents. Innovative practice from Sure Start Plus programmes*. London: Social Science Research Unit, Institute of Education, University of London. 35 pages. ISBN: 0955048710

The evaluation made recommendations for how new integrated children and young people's services throughout England should provide support for pregnant teenagers and young parents in the future.

Children and young people's services should fund personal support workers for teenage parents, who would have a holistic role, and work in depth and longer-term with most vulnerable young people. Advisers should have small caseloads of 25 to 50 young people, with different advisers for young women and men.

A co-ordinator should manage the support service and keep its profile high within children and young people's services. There should be a team of specialist provision for pregnant teenagers and young parents, support for pregnancy options, specialist teenage pregnancy midwives and support for breastfeeding. Local needs assessment should be carried out for services for young parents.

Targeted Health-led Parenting Programme - the Family Nurse Partnership

The second UK programme which we outline here is the Family-Nurse Partnership, which is currently being piloted in England. It is a nurse home-visiting programme based closely on a successful US model that is targeted at first-time teenage parents and their children. It aims to improve health, wellbeing and self-sufficiency, through the formation of a strong therapeutic bond between the mother and nurse.

Evaluation of its early implementation by a team at Birkbeck College, University of London³, led by Professor Jacqueline Barnes, has found that enrolment rates were high. Most parents had a high regard for their Family Nurses and valued the learning aspects of the programme, although attrition rates in most areas were higher than the target. Family Nurses found benefits to their role and working methods despite the work being emotionally and professionally demanding. High quality supervision and organisational support was seen to be key to successful delivery.

Teenage Health Demonstration Site programme - preventing second conceptions

We finish by briefly describing an aspect of the Teenage Health Demonstration Site programme⁴. This programme aims to demonstrate innovative approaches to delivering health and wellbeing services to young people in non-traditional settings. As a result of scoping work additional staff have been employed in programme areas to provide intensive one-to-one contraceptive support to all young women pre- and post- maternity or termination of pregnancy, in outreach and domiciliary settings. Early indications are that services work best when they are both intensive and flexible. We present a case study within one site.

³ Barnes J, et al. (2008) *Nurse-Family Partnership Programme: First Year Pilot Sites Implementation in England. Pregnancy and the post partum period*. Institute for the Study of the Children, Families and Social Issues, Birkbeck, University of London

⁴ Austerberry H, Sawtell M, Ingold A, Wiggins M, Arai L, Strange V (2008) *Evaluation of the Teenage Health Demonstration Programme: 1st Annual Report 2007*. London: Social Science Research Unit, Institute of Education, University of London. 76 pages

Case Study - Antenatal and post-birth support in Bolton Teenage Health Demonstration Site

Bolton, a former cotton-producing town near Manchester in the north of England, has developed a new service in the past two years to prevent unwanted second conceptions amongst teenage parents. The sexual health service has employed a 'second conceptions' nurse, who specialises in contraception and young people's health. She works in partnership with maternity services and health visitors. The universal midwifery service refers all under-18 young women, with consent, at booking. She offers the women a home visit at 30-weeks, where she provides a contraceptive assessment and plan which is placed in the maternity records. The maternity services notify the specialist nurse of each birth. She then offers a post-natal home visit before day 21 where we gives the woman a prescription for contraceptives or signposted to support services. Long acting reversible contraception is promoted. At a ten-week follow-up ongoing support offered, via a young people's health centre, as well as housing and other support services. Staff feel that good liaison with the midwife and health visitor is essential. A pre-day 21 visit to the new mother is key, as is continued liaison with health visitors through the early years of the baby's life, to alert the second conceptions nurse if the mother stops contraception.

Conclusion

Many of the young parents who access UK support programmes have complex needs. Their backgrounds are characterised by poverty, disaffection with school and emotional abuse or neglect. Pregnancy and parenthood often throw their lives into turmoil, and the difficulties found in their backgrounds are often compounded by lack of family support, poverty, homelessness and social isolation. Evidence from programmes such as these, when looked at together with further promising approaches developed in other counties to support teenage parents, suggests that intensive, holistic interventions in pregnancy and the early years targeted at vulnerable groups can be cost-effective in the long-term.⁵

⁵ **Barnes J, et al.** (2008) *Nurse-Family Partnership Programme: First Year Pilot Sites Implementation in England. Pregnancy and the post partum period.* Institute for the Study of the Children, Families and Social Issues, Birkbeck, University of London

Meanings of the Combination of Drop-in and Outreach Services: an analysis of the family support offered by a university satellite

Yukano TERAMURA

Graduate School of Human Development & Environment, Kobe University

Introduction

Our school began practice for child and family support in September 2005 as one of our social contributions at a satellite plant, which used to be a government office building. We have since been offering Drop-in Service to the residents bringing up babies, toddlers and/or young children in order for them to get empowered as parents, which is expected to prevent their strains anxieties, and/or difficulties concerning child rearing (Ito 2008). Actually, many families have come to the satellite, getting to know each other and exchanging information about child rearing, child development, talking with our consultation staff and so on; for instance, in the fiscal year of 2007, the number of residents who consumed this service amounted to 19,102 (10,054 children, 9,048 parents, open days 244).

However, the author had noticed, through her own professional experience of public home-visiting service as a midwife and her academic investigation (Teramura 2004), that pretty many women in the postpartum period are in need of some kinds of support, because they are busy caring their babies, easily tired out and also unable to go out and enjoy themselves to be isolated from the neighborhood. On the basis of this fact, the author herself did a trial service as an outreach worker of the satellite in cooperation with a local maternity clinic, and analyzed its effects (Teramura 2007, Teramura & Ito 2008). Such service being proved to support effectively the empowerment process from dependency to independency of the subjects, especially of the isolated ones, we decided to start a full-scale service of the satellite as Perinatal Outreach Service; we employed two midwives and they began the service in October 2007 both at the clinic and at the satellite. In this report, the outlines of our Drop-in and Perinatal Outreach Services will be shown first, and then the meanings of the combination of the existing Drop-in Service and this new service will be discussed with our future challenges.

Outline of Drop-in Service

This service is open to any local family from Tuesday to Saturday (from 10:30 a.m. to 4:30 p.m. each day). Parents and their children try the service, and if they would like to continue to consume it, they are required to apply for the membership. They spend the time in their own ways; parents talk with one another, and watch their children play with the toys and so on at the drop-in space. Spaces for lactation and changes diapers

are available, and they can also enjoy lunchtime, which they can enjoy for many hours if they want. Every day, consultation staff stands by, always being prepared to talk with the parents in need, and many parents easily approach the staff.

Outline of Perinatal Outreach Service

Two outreach workers, midwives go to a local maternity clinic, and they join the classes held there for antenatal and postnatal women and their partners. They introduce themselves to the participants, and tell them they are always welcome to the services and/or programs including Drop-in Service offered by the satellite. The workers talk with the women face-to-face at the clinic, face-to-face or on the phone at the satellite or via e-mail according to their choice. Home visits are also offered in response to the women's requests. The workers also accompany the women to any local resources such as public child centers, mothers' social clubs, day nurseries, drop-in centers including our satellite, and so on, right when they would like. The outreach workers write down in the prescribed form the detailed contents of the consultations at the clinic, at the satellite or at the homes of the subjects.

Analysis of Subcategories of Perinatal Outreach Service

The number of each subcategory in the service offered to the prerinatal women by our outreach workers was counted separately by period of childbirth, and the result is shown in Table 1 below. It can be strongly said that the women in the antenatal period do not need so much support by our workers, and that the most needed is the consultations in the postnatal period at the outreaching place, i.e. at the clinic, followed by those at the satellite plant. Home visiting or accompanying to some sorts of resources including our plant was not needed so much by these women.

Table 1 Subcategories of Perinatal Outreach Service and their Distribution in Number

	Consultation at the Clinic	Consultation at the Satellite	Consultation via E-mail	Accompanying to Resources	Home Visiting	TOTAL
Antenatal	11	6	1	2	1	21
Postnatal	57	28	8	1	8	102
TOTAL	68	34	9	3	9	123

* Data analyzed is from Oct 2007 to April 2008

Analysis of Child Age Difference of Enrollees between by Outreach and by Non-outreach

As stated above, residents who would like to consume our Drop-in Service are required to apply for membership. The application form contains the dates of enrollment and childbirth as well as their names. Then we verified these enrollees with the listed information of clients to whom our outreach workers made approaches or who made some use of the services offered by them. As a result, the total number of parent-child pairs enrolled from Oct. 2007 to April 2008 was 199. Out of them, 38 pairs enrolled themselves through Perinatal Outreach Service, and the other 191 pairs did through Non-outreach beginning.

We compared the age difference of the enrolled children according to the beginnings of Outreach or Non-outreach. Figure 1 shows the frequency distributions of the two groups. The vertical axis is the frequency of the pairs of enrollees, and the horizontal one is the age of the enrolled children in months. As this figure indicates, the distribution of the enrolled ages in months by Outreach ($M=5.53/SD=3.62/N=38$) seems to be much earlier than those by Non-outreach ($M=20.38/SD=19.85/N=161$), and the T-test was conducted to show a significant difference between the two groups ($t=4.59/df=197/p<.01$). Therefore, it can be clearly said that the age of the children enrolled through our Outreach Service was significantly younger (about 5 months old) than those who have nothing to do with that service (about 1 year and 8 months old).

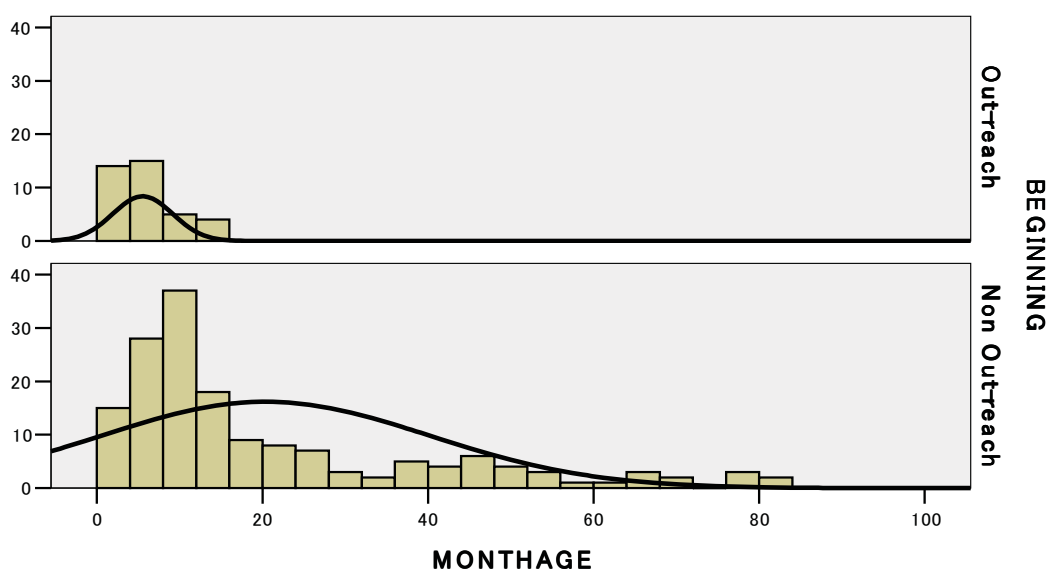


Figure 1 Age Difference of the Enrolled Children between the Beginnings

Analysis of the ratio of the satellite enrollees who have consumed Outreach Service

As mentioned above, the number of consultations was 102 (68+34), and these were made by 58 women consuming our Outreach Service. Out of these women, 15 (25.9%) enrolled themselves to our satellite, and the other 23 enrollees were just recommended to use our satellite by the outreaching workers. Therefore, a certain portion of the women (38 pairs) approached by our workers is now the members of our satellite, enjoying our Drop-in Service. In other words, about 20% (38/199) of the enrollees from Oct. 2007 to April 2008 were the consumers of the Outreach Service.

Concluding Remarks and Future Tasks

The meanings of the combination of Drop-in and Perinatal Outreach Service offered by our satellite were made clear by the three types of analyses stated above; (1) the core need of perinatal women, especially of postnatal women, is the consultation with our outreach workers, and about a quarter of them come and enjoy our other service of Drop-in, (2) during the targeted period, about one fifth of the enrollees of the Drop-in are the subjects of our Outreach Service, (3) our Outreach Service at the maternity clinic is effective in promoting the utilization of our Drop-in Service by local postnatal women with very young infants before six months old on average, which might prevent their isolation and other unstable emotional/social situations caused by their childbirth as early as possible.

Since the outreach workers belong to the satellite, knowing very much about how the local parents and their children are enjoying the Drop-in Service to be empowered, they were totally confident to invite the perinatal women over to the satellite. This may be the reason why a certain number of the consumers of the Outreach Service enrolled themselves to the satellite. Furthermore, relationships of mutual trusts between the women and the workers through consultations might function as the inducement of using our Drop-in Service.

However, we have not yet obtained any substantial evidence about why the consumers of our Outreach Service have come to make use of our Drop-in. Therefore, our future challenge is to make clear, through investigations, such reasons and at the same time how they evaluate both of our services. Additionally, it is necessary to categorize the details of consultations made by the outreach workers, which is to be compared with the result of those made by the consulting staff at the drop-in space of our satellite (Ito 2009).

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Development, Practice and Effect of Group-based Parenting Program for Promoting Parents' Empathy for their Children

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Associate Professor of Mukogawa Women's University

History of Our Parenting Program

Outbreaks of serious crimes by the young in Kobe City instigated the development of our program. Kobe Child Guidance Clinic and our staff including me started analyzing such cases of juvenile delinquency in 2000. And in order to prevent such delinquencies, we began to offer a parenting program called Parental Empathic Communication with their Children in Kobe (PECCK in short) in 2001. We have been offering it to three different groups of parents every year since the year, and 23 parent groups (total number of the parents amounted to 162) participated in PECCK in the end of 2008.

During these 8 years, we have studied the effects of this program and continued its progression, the outcome of which is presented at academic meetings as shown below:

- Analyses of program contents for the parents who have problems about their children's behavior, of modification of parents behavior, and of developing process of parent groups; presented at The Japanese Conference of Children and Families (2001).
- Analysis of program development for the parents who have problems about their children's behavior; presented at The Japanese Conference of Children and Families (2002).
- Analysis of development of support program for the parents who have problems about their young children's behavior; presented at The Japanese Conference of Children and Families (2003).
- Effectiveness of support program for the parents who have problems about their children's behavior; presented at The Japanese Conference of Children and Families (2004).
- Development, practice and effect of group-based parenting program for promoting parents' empathy for their children; presented at The Japanese Conference of Social Welfare (2008).

Participants and Purposes of the Program

Almost all the participants of Parental Empathic Communication with their Children in Kobe (PECCK) are mothers of children from 4 years old (middle grade of kindergarten) to 12 years old (the oldest grade of primary school). Some of these

parents are the voluntary participants having being informed of this program at local resources and the others the involuntary ones recommended to take this program by some child guidance clinics. In these parents' view, their children show some kinds of problem behavior or trouble: they have difficulty in controlling their emotions; they are discouraged to enjoy their living; they have strong hostility; they frequently quarrel with their siblings; they are isolated from friends; they steal stuff from friends or do shoplifting. And the parents also feel negative feelings toward themselves: these are impatient or flurried by time-flow and by external factors such as media, education, parenting, guilty and self-reproach, negative recognition about human relation such as isolation, mistrust and recollection of traumatic experience in their infancy.

The purpose of PECCK is to help these participant parents reduce stress and anxiety caused by their childcare, form relevant relationship with their children, understand intellectual and developmental disorder, understand how to cope with delinquency in earlier childhood, enhance empathic communication skills with their children and acquire coping skills for controlling their children's problem behavior.

The participants expect their children to change their attitude or behavior: reducing violent behavior and rude words; decreasing the frequencies of telling a lie; making friendship with their siblings; reducing dependency; paying attention to their parents; adjusting themselves to rhythm of daily living. They also expect themselves to be changed; understanding how to control their emotion and how to cope with the lies told by their children; getting the heuristics for childcare; making friends with other participants; understanding how to accept the demands of their children.

Details of the Program

Our program PECCK is a group-based, and a group of about ten participants receive a series of seven sessions, each of them being held from 10 p.m. to noon on every Tuesday. The same series is repeated three times (spring, autumn, and winter terms) a year to three different groups. The series is composed of lectures, workshops and discussions.

This program is offered at Kobe General Children's Center and 162 participants, as already stated, joined PECCK in 23 terms from 2001 to 2008

Picture 1 ; A Scene of one of the Sessions



The contents of the first and the second sessions are introductory lectures with the assessment of the participant's needs and dividing them into small groups. The theme of the first lecture is "Understanding children's problematic behavior and symptoms shown by children," and the theme of the second one "Understanding communication in parent-child relationship."

The third and the fourth sessions are the combinations of a lecture and a workshop intervention: In the third session, the lecture theme is "Understanding how to accept children," and the workshop task is drawing "Everyday troublesome scene repeated at my family," followed by group discussion; In the fourth session, the lecture theme is "Perceiving communication pattern," and the workshop task is drawing panel cartoon about troublesome parent-child conversation at home, followed by group discussion.

Picture 2 A Scene of one of the Sessions



The latter half of PECCK aims at role-play intervention into the participant's recognition of parent-child communication and is composed of role-playings and discussion in small groups. In the fifth session, the role-playing task is "Parent-child conversation," and several pairs of the participants take the role of child or parent. In the sixth

session, the role-play task is also "Parent-child conversation," and the same pairs change their roles played in the fifth session. In both sessions, the pairs talk about the feelings while playing their parts after the role-playings. In the last session, the participants look back their own experiences and expressions all through the previous sessions, as well as discuss how they changed themselves during these seven weeks. Almost all of them state positive change of their attitude to children and the relation to their children.

Purpose of the Interventions in the Program

The purpose of the interventions by workshops and role-playings is to make the participant parents be aware of their irrelevant communication pattern and/or irrelevant behavior under the conflictive relationship with their children. Through these interventions, participants get the opportunities to change their communication pattern or behavior and also enhance their empathy for their children, eventually to be in parental empathic communication with their children. The down below is the detailed purposes and procedures of the workshops and the role-playings.

About the workshops

“Everyday scene repeated at my family” provides the parents with the time for looking back their typical, troublesome scenes brought about by their conflictive relationship to their children.

“Panel-cartoon drawing about parent-child conversation” provides the parents with the time for recognizing the sequential, deadlocking patterns in parent-child to enhance the change them to the relevant patterns.



↑ Picture 3 Everyday scene repeated at my family'



←Picture 4 Panel cartoon drawing about parent-child conversation

About the role-playings

Role-playings in the two sessions aim at promoting the parents' empathy for their children, and the procedure is as follows:

The participants are divided into several pair groups. ⇒One is supposed to take the role of parent and the other is supposed to take the role of child in each pair. ⇒The parent-part explains the usual behavior of her child to the child-part under the conflict situation. ⇒The parent-part acts to the other as usual at home. ⇒The child-part acts in response to the parent-part's behavior. ⇒The parent-part writes down or talks about what she experienced or felt in a parent's place. ⇒Child-part writes down or talks about what she experienced or felt in a child's place. ⇒Finally, the parent-part notices that she actually feels empathy for her child at the spot.

Evaluation of the effects of the program

After completing seven sessions, the participants were required to answer the questions, and we analyzed the data commonly obtained among the participants. The questions are to inquire the participants' impression about the program (seminar), their satisfaction level about the workshops and the role-playings, emotional or behavioral change of their children, and effects recognized by the participants themselves.

The result of the impressions by checking the participants' response distributions are shown in Table 1, and it indicates almost all the participants had good impressions about our program, but that about a quarter of them were not satisfied with it.

Table 1 Participants' Impressions about Seminar

Question 1: Has the seminar met your expectation? Affirmative answer...82.7% Negative answer...16.3%
Question 2: Was the seminar easy for you to understand? Affirmative answer...95.2% Negative answer...4.8%
Question 3: Do you think the seminar was of good quality? Affirmative answer...96.2% Negative answer...3.8%
Question 4: Were you satisfied with the seminar? Affirmative answer...60.6% Negative answer...24.9% No answer...11.5%

For analyzing the effects of the workshops and the role-playings, we calculated Pearson correlations between the satisfaction level about such interventions and the impressions of the seminar. In Table 2, only the significant correlation pairs are shown, and the followings could be pointed out. The participants' satisfaction level of the workshops is relative with their recognition of the seminar being satisfactory and of quality. Their satisfaction level of the role-playings relates to their recognition of the seminar coming up to the expectation and being of quality. And the same effect is seen when we combined both workshop and role-playing scores together. In other words, the interventions of this program seem to correlate to the participants' evaluation that the seminar comes up to the expectation and it is also of high quality. And it was shown that either workshops or role-playings have nothing to do with the seminar being easy to understand, because this question about understandability rather concerns the evaluation of the lectures in the program. The lowest box in Table 2 just indicates that the satisfaction levels of two types of our interventions are in strong relation to each other.

Table 2 Pearson Correlations among Workshops, Role-playings and Impressions

Workshops and Satisfaction in Impressions	$r=.508$	$P<.01$
Workshops and Quality in Impressions	$r=.538$	$P<.01$
Role-playings and Meeting Expectation in Impressions	$r=.609$	$P<.01$
Role-playings and Quality in Impressions	$r=.798$	$P<.01$
Workshops+Role-playings and Meeting Expectation in Impressions	$r=.651$	$P<.01$
Workshops+Role-playings and Quality in Impressions	$r=.847$	$P<.01$
Workshops and Role-playings	$r=.888$	$P<.01$

About the children's emotional or behavioral change, we firstly asked the participants whether or not their children changed during their receiving this seminar. Out of 69 who responded this question, 61 participants (88.3%) answered affirmatively. We then asked these 61 to write down freely their children's changes, which were to be classified into the following five categories: Stability of Emotion 24 (33%); Wealthy Communication 13 (18%);

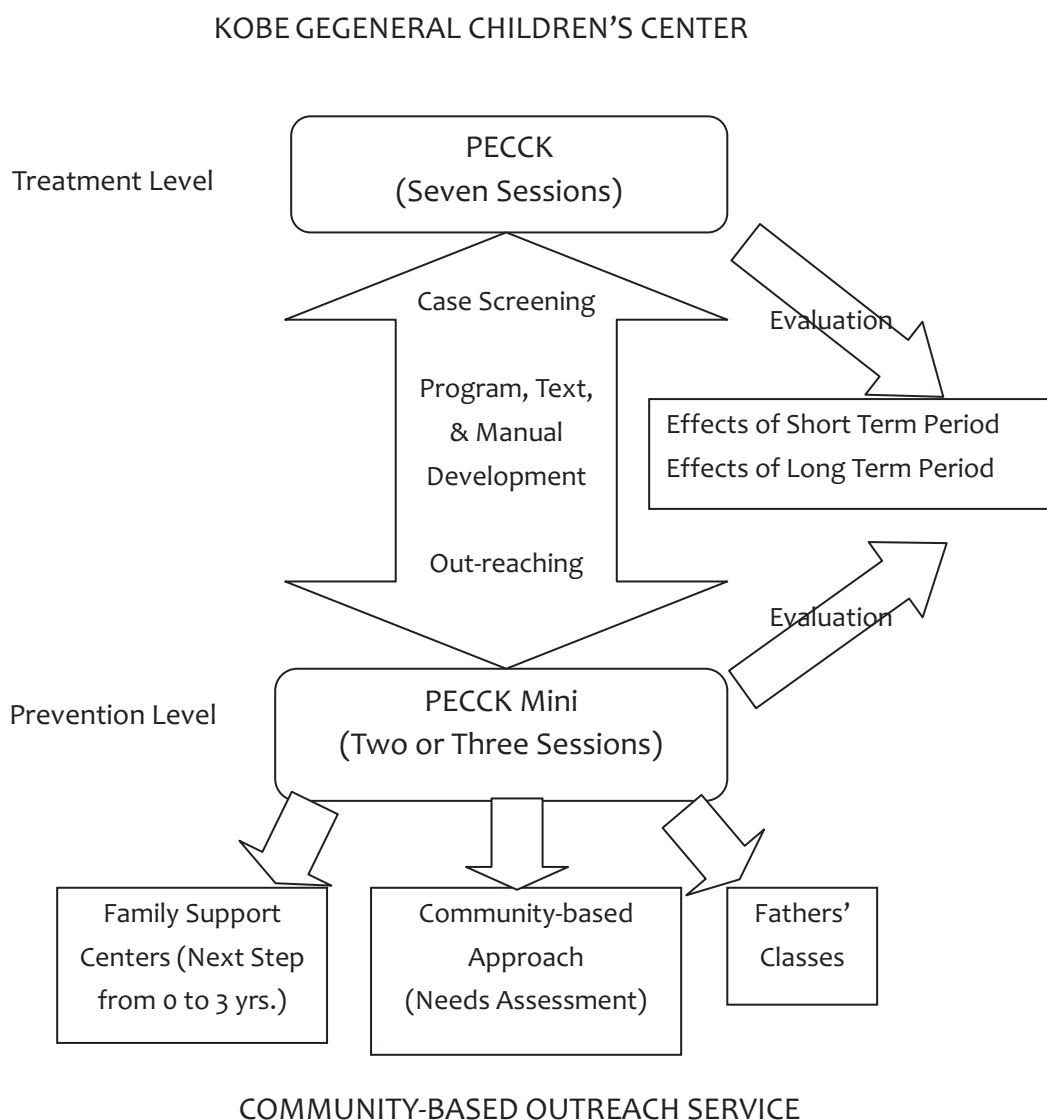


Figure 1 Our Implementation Plan of PECCK & PECCK-Mini

Independent Behavior 15 (21%); Control of Hot Temper 15 (21%); Independent Behavior 15 (21%); Reformation of attachment 5 (7%).

As for the participants' recognized effects to themselves, we also asked them to write down freely, and the statements could be classified into the following six categories: Being Accepted in Group Work; Feeling of Self-acceptance; Stability of Emotions; Empathy for their Children; Face-to-face Contact with Children; Positive Modification of their Communication Patterns.

Discussion and future task

The results of the participants' evaluation about our program claim that the purpose and hypothesis of PECCK are verified and it is an effective means for enhancing good relationship between parents and children. However, it was shown that a quarter of the participants were not satisfied with the program, and we firstly should find out the reason for this fact.

Totally speaking, PECCK surely meets the needs of the parents in that they actually feel that their children have changed for the better, and they themselves have improved their empathic communication. Thus, we hope this practice will lead to the prevention of the children's juvenile delinquencies in the future. But, in order to verify that this program is effective for such prevention, we have to evaluate the long-term effects by way of, for example, longitudinal method.

Another task of ours is to deliver this program locally to more and more parents in need. We have just created a short program called PECCK-Mini which is composed of 2 sessions of a workshop and a role-playing, and we have just tried it several times as a community-based service. As shown in Figure 1 on the previous page, we would like to build a new support system by combining PECCK implemented at Kobe General Children's Center and PECCK-Mini implemented at several local centers.

III

西オーストラリア
大学（心理学）

11/11～13/2008

University of
Western Australia
(Psychology)

International Symposium with University of Western Australia

Trans-cultural Psychology

～西オーストラリア大学との国際シンポジウム～

多文化の中の心理学

【主旨】 自己と組織の形成、対人関係の特徴、心理、発達における臨床課題について、アジア圏心理学の将来像を見据えながら議論する。

【招聘者】 Dr.David Morrison Professor Mike Anderson
(School of Psychology, University of Western Australia)
金井壽宏教授（神戸大学大学院経営学研究科） / Professor Toshihiro Kanai
(Graduate School of Business Administration, Kobe University)

【訪問者】 UWA 生命自然科学部学部長 Professor George Stewart
(Dean, Faculty of Life and Physical Sciences, University of Western Australia)

【対象】 教員，院生，学部生，研究者

【日程】

11月10日（月）

Dr. Morrison と Professor Anderson 来日

11月11日（火）

午前 大学院生による学内案内

午後 西オーストラリア大学紹介 Professor George Stewart

基調講演 Dr. Morrison

企画対談 Dr. Morrison x Professor Kanai

夜 学術 WEEKS 合同レセプション

11月12日（水）

午前 学術講演 Professor Anderson

午後 研究発表 中村和夫 教授（神戸大学大学院人間発達環境学研究科）

中出知恵（神戸大学大学院人間発達環境学研究科博士課程前期）

夜 心理発達論コース主催の懇親会

11月13日（木）

フィールドワーク

11月14日（金）

Dr. Morrison と Professor Anderson ご帰国

<活動の詳細>

2008年11月11日(月)

学内案内

心身発達論の大学院生 2 名と西オーストラリア大学の先生方 3 名，人間環境論の大学院生 1 名とオース大学(オーストラリア)の先生 1 名と合同で学内案内

国際交流会館からの六甲の町並みの展望，自然科学系の図書館などの施設案内，
六甲台キャンパスの案内

その後，森岡先生，金井先生，大学院生 2 名も合流し，六甲台キャンパスの和風レストラン「さくら」で昼食

昼食後，発達科学部キャンパスへ。

UWA 紹介

13:30～13:45

発達科学部 F256

UWA 生命自然科学部長 Professor George Stewart

西オーストラリア大学の所在地である，パース市の
特徴などとともに，西オーストラリア大学の説明を
していただく。



基調講演

13:45～15:30

発達科学部 F264

Individual differences in safety behaviour and cognitive error

MORRISON, D. L. (University of Western Australia)

講演者：Dr. David Morrison (University of Western Australia)

司会者：森岡正芳教授(神戸大学大学院人間発達環境学研究科)

【講演要旨】

Identifying individual differences in safety related behaviours and error has long been a topic of interest in organisational psychology. The relationship between personality and safety related behaviours was examined across three studies using self and

supervisor ratings of safety behaviour and self reported cognitive errors. The studies had dual aims. First, to test the hypothesis that lower order personality facets were better predictors of unsafe work behaviours and error than super ordinate global personality factors. Second, using cognitive resources theory as a guiding framework, the indirect effects of cognitive ability and personality on safety behaviours and outcomes were assessed using a measure of cognitive failure as a mediating variable. The data revealed different facets of emotionality and conscientiousness predicted self reported errors and safety behaviours. No main or interaction effects of cognitive ability and personality were found. The effects of anxiety, a facet of emotionality, were partially mediated by cognitive failures whereas those of prudence and organisation (facets of conscientiousness) were fully mediated. Finally, results showed that conscientiousness and emotionality are antagonistic to each other with respect to cognitive failures, and thus a more complex picture of the relationship between personality and safety is presented than has hitherto been the case.

【講評】

ヒューマンエラーについてのモリソン先生の研究をパワーポイントを用いて発表していただいた。

認知能力とパーソナリティとの関連からヒューマンエラーの検討を行うことにより、実際の社会的場面においてヒューマンエラーをより少なくすることが可能となったり、あるいは、働く人の特質に応じて適材適所に配置することにより、雇用者と被雇用者にとって相互に働きやすい環境になることなどの興味深い発表だった。ゆっくりとより平易な英語で話してくださり、学生も理解をすることができた

モリソン先生の発表後、神戸大学大学院経営学研究科の金井先生も参加いただき、組織文化の視点からの話題提供や、大学院生からの質問などを交えながら、和やかな雰囲気の中、有意義な意見交換をする場となった。



企画対談

16:00～17:30

発達科学部 F264

「国際文化・組織文化とキャリア形成」

対談者：Dr. David Morrison（University of Western Australia）

金井壽宏 教授（神戸大学大学院経営学研究科）

司会者：森岡正芳 教授（神戸大学大学院人間発達環境学研究科）

【講評】

金井先生が日本語と英語の挨拶の仕方の違いという具体的な例から、文化差についての話を展開された。そうした差異が、日本における個人・個性の概念の独自性と深く関わっており、また、組織と個人の関係という面においても特徴的に見出されることに話題が及び、各先生方が文化差および、ご自分の研究領域の立場から、それぞれの考えを述べられた。心理学の豊富な知見を背景に、経営学の分野で人間を中心に据えた研究を積み重ねておられる金井先生と、組織心理学を専門とされるモリソン先生との議論は活発に展開された。

金井先生が、英語での発言内容を逐次日本語に訳して解説してくださったので、聴衆も理解ができ、本大学院研究科では日頃触れることの少ない、この領域の先端の理論にナマで接するという、得がたい経験をすることができた。



学術 WEEKS 合同レセプション

18:00～

発達科学部大会議室

学術 WEEKS に参加された先生方との立食パーティで、心理学分野で来ていただいた、モリソン先生、アンダーソン先生、スチュワート先生と日本における臨床心理士取得の制度や、オーストラリアでの臨床心理士の仕事などの話、文化の違いに関する日常的な話などを交えながら談笑し、交流を深めた。また、他の分野の先生方とも話すことができ、楽しい時間を過ごした。

2008年11月12日（火）

学術講演

10:00～12:00

発達科学部大会議室

The Cognitive Neuroscience of General Intelligence

講演者：Professor Mike Anderson（University of Western Australia）

司会者：原田 新（神戸大学大学院人間発達環境学研究科博士課程後期）

金 季実（神戸大学大学院人間発達環境学研究科博士課程前期）

【講演要旨】

In this talk I will look at two different suggestions for the information processing basis of Spearman's g (or general intelligence). One is speed of information processing and the other is the integrity of "frontal" or executive functions. Data from patients with fronto-temporal dementia and children born prematurely will be used to support my claim that speed of processing and executive functions represent two different dimensions to Spearman's g – one related to individual differences in intelligence (or IQ) and the other to developmental change. I will also discuss a project that is examining the role of cortical maturation in the development of cognitive abilities.

【講評】

神経心理学を専門とされるアンダーソン先生が、幼児の知能の発達についての講演をされた。研究方法は実験が主体で、仮説と検証の過程を説明しながら非常にたくさんの研究結果を発表してくださった。実験で実際に子どもたちに実施されたテストを体験できるような動画や、映像なども盛り込まれたパワーポイントを使用して、とてもわかりやすく説明してくださった。神経心理学は本学研究科ではあまり学ぶことができない内容であり、最初はその実験的な手法に少しとまどいも感じたが、「知能とは何か」という深い問題を根本に持っているのは同じだと感じた。同じ問題に対してこのようなアプローチも可能であることを知ることができ、学生らにとっても新しい興味をかきたててくれる発表であったと思われる。

本講演では、司会も大学院生が担当し、フロアの学生からの質問もあり、学生主体の時間となった。学生に合わせながら、柔軟にアンダーソン先生が対応してくださり、英語での質疑応答の仕方を体験できる機会としても、貴重な時間となった。



研究発表

13:30～17:00

発達科学部大会議室

コメンテータ : Dr. Morrison Professor Anderson ・
Professor Stewart

司会者 : 王 松 (神戸大学大学院人間発達環境学研究科博士課程後期)

① Rough-and-tumble play and expressive aggressive behavior

— How do they occur and develop in late childhood ? —

発表者：中出千恵（神戸大学大学院人間発達環境学研究科博士課程前期 1 年）

【発表要旨】

児童期における男児の攻撃行動は仲間関係の中で強化されやすいことが指摘されている（八島，2002）。攻撃行動の多い子どもは周りから拒否されやすいなどの問題があるが（前田，2001），攻撃性の高い個人は認知的な歪みが生じているとして，攻撃性と社会的情報処理との関係を見る研究が多くなされている（濱口，1992 坂井・山崎，2004）。しかしそれらの研究では自己認知による攻撃行動を把握しているにすぎないため，日常場面における仲間同士の相互作用の中での攻撃行動とらえる必要がある（尹・広田，1996）。さらに児童における攻撃性を考える場合には，遊びという観点を無視してはならない。児童期においては攻撃のように見える行為の中に遊びが加熱したけんかごっこのようなものが含まれている可能性も十分にある。子どもらの攻撃と乱暴遊びとがどのように展開しているかを把握することで，それらのより包括的な姿をとらえることが可能であると考えられる。そこで本研究では，児童期の男児に多く見られる乱暴遊びと表出性攻撃について観察研究を行い，それらがどのように展開しているのかのモデルを作成することを目的とした。その結果，攻撃のようにみえる行為の中には＜乱暴遊び＞，＜意図にずれのある攻撃＞，＜本気同士の攻撃＞の 3 種類があることがわかった。終息には＜平和的終息＞，＜片側怒り型終息＞，＜両側怒り型終息＞の 3 種類があることが示された。さらに力の強さ，行為の意図，関与者の不満感が展開を動かす重要なファクターであることが見出された。また，男児の表出性攻撃行動が遊びときわめて密接に結びついていることが改めて確認されたとともに，遊びと攻撃との枠組みの変わりやすさを把握することができた。



【講評】

英語のパワーポイントを作成し，それを解説する形で進められた。発表者が自分の意図を伝えるために，わかりやすい英語を使って説明されたため，聴衆にも研究内容がよくわかった。また，同時に英語で発表する際に，どのような点に注意すればよいのかという点も感じる事ができ，今後の対外的な活動においてのスキルを学べる時間となった。

質疑応答においても，すべて英語でなされ，発表者が懸命に応える姿勢には感動した。また，それに対して，わからない場合はコメンテータの先生方がうまくエスコートをしてくださり，より発表者の研究の論点が明らかとなり，発表者，コメンテータ，フロアーの 3

者が相互に理解を深めることができたと思われる。発表者のがんばりに、さらに大学院生も力をもらった。

② On the mechanism of the genesis of representation in L. S. Vygotsky's psychological theory (「ヴィゴーツキーの心理学理論における表象の発生のメカニズムについて」)

発表者：中村和夫 教授 (神戸大学大学院人間発達環境学研究科)

【発表要旨】

表象によって、人間は現実世界から離れ、現実とは独立した精神的世界を手に入れることができる。人間を他の動物と最も本質的に区別するものが精神世界であるならば、表象の発生の問題は、子どもの発達心理学において最重要な課題である。本報告では、ヴィゴーツキーの発達理論において、表象発生のメカニズムがどのように考えられているのかについて考察をする。表象発生のメカニズムについて、ヴィゴーツキー自身



は明示的な回答を与えているわけではない。しかし、子どもの発達について述べられたヴィゴーツキーの論述を分析していくと、そこに、表象発生のメカニズムに関するヴィゴーツキーの考えが垣間見えてくる。本報告では、特に、モノグラフ『児童(発達)心理学の諸問題』の中の乳児期の記述を分析している。その分析からは、ヴィゴーツキーが表象発生の基本原因を、乳児と大人の間に成立する「本源的われわれ(Ur-wir)」意識に見ているのではないか、ということが明らかにされた。乳児と大人のこの心理的一致を媒介にして初めて、乳児は離れたところにある対象を、その距離を克服して、自分に関与させることができるようになるからである。乳児と大人の社会的な関係に表象発生の契機を見るこのような考え方は、ワロンに近く、感覚運動的行為の内面化から表象発生を捉えるピアジェとは異なっている。

懇親会(人間発達論コース主催)

18:30 ~ 酒心館にて

UWA の先生方のご希望により、酒蔵のある、日本情緒あふれる「酒心館」にて、懇親会を行った。日本酒や日本料理を堪能しながら、オーストリアの国歌やオーストリアの歌を一緒に歌うなど、無礼講で文化交流を楽しんだ。



【招聘者紹介】

● Dr David Morrison

Dr David Morrison is the Head of School of Psychology at University of Western Australia. David has been an active researcher and research consultant for 20 years. He is the founder of PersonAbility; a psychometric assessment and development company. Through his business David has consulted and provided training services to a wide variety of government and private sector organisations.

David began his career as in human factors and engineering design concerned with how humans solve complex problems in ever more complex industrial systems and how personnel may be selected and trained for work in “high-tech” environments. David has publishing extensively in this area making contributions to mainstream human factors journals such as International Journal of Man-Machine Systems, Behaviour and Information technology, IEEE Systems Man and Cybernetics, International Journal of Computer Integrated Manufacturing and the Journal of Human Factors and Ergonomics in Manufacturing. He has been on the editorial board of the International Journal of Cognitive Ergonomics and the International Journal of Human Factors and Ergonomics in Manufacturing.

● Professor Mike Anderson

Professor Mike Anderson is Director of the Neurocognitive Development Unit in the School of Psychology at the University of Western Australia. He took his undergraduate degree in psychology at the University of Edinburgh and his PhD at Oxford under the supervision of Professor Patrick Rabbitt. He was a Lecturer at the University of Edinburgh and a Senior Scientist at the Medical Research Council’s Cognitive Development Unit in London before moving to Western Australia in 1990. His research interests are in developmental psychology, particularly in understanding the mechanisms underlying individual differences and developmental changes in intelligence. He currently holds an ARC discovery grant (with Dr Allison Fox, Dr Corinne Reid (Murdoch University) and Professor Dorothy Bishop (University of Oxford)) investigating the maturation of cognitive functions and the development of intellectual abilities in primary-school aged children. In collaboration with Dr Reid, he has run Project K.I.D.S a research study that has investigated both the intellectual and the social and emotional development of children. The project has tested more than two thousand children since 1995.

● 金井 壽宏先生

神戸大学大学院経営学研究科教授

専 攻

経営管理・経営行動科学

研究テーマ

リーダーシップ、モチベーション、クリエイティブなマネジメント、ネットワーキング、キャリア・ダイナミクスなどのテーマを中心に、創造や連帯になじむニューウェーブの組織や管理のあり方を探求。

2008年11月13日（水）

—— フィールドワーク ——

モリソン先生とアンダーソン先生とともに、大学院生6名と京都へ

10:00 京都駅に集合

10:30 東寺へ

11:30 四条通りを散策

良い天気めぐまれ、暖かい日差しの中、日本最古の五重塔がある東寺へ。両先生は、禅や修業などに興味をもたれている様子であった。紅葉した木々の風景を楽しみなが



12:00 昼食

京都の古い町家を改装したお店で昼食。西オーストラリア大学の話や、各学生が自分の研究テーマを説明し、両先生がそれについての感想やさらに話をふくらましてくださり、それぞれが自分の研究に対しての視野を広げることができる有意義な昼食のひとときを過ごした。



14:00～ 清水寺へ

修学旅行の学生や、観光客のにぎわう中、清水寺を訪問。先生方は紅葉に感動され、時折、立ち止まりながら、紅葉した木々をゆっくりと眺められていた。学生は清水寺の歴史や、先生方が疑問に思われることなどに対して、知っている英語を駆使しながら、代わる代わる先生方とお話をした。先生たちは帰りに、お子さん方へ着物などのお土産を購入され、日本文化を楽しんでいた。



17:30 京都駅にて解散

＜学術ウィークス活動へ参加した院生の声＞

- 今回の学術ウィークを通して海外での研究の動向を肌で感じる事が出来、とても学ぶことが多かったと思います。心理学とは考え方、アプローチの仕方の1つに過ぎず、自分の研究する分野や内容というのはもっと広く考えていいのだなということが一番大きな収穫でした。そして研究結果もより数値など、明確に分かる形にすることでより説得力を持たせることができるのだと感じました。英語でのコミュニケーションは少し大変でしたが、良い勉強になったと思います。
- 学術ウィークは、内向きになりがちな日頃の学生生活にあって、外の世界に目を向ける良い機会となったと思います。狭い学問領域に留まらず、近いけれど普段あまりなじみの無い分野の最新の理論に、言葉の壁を越えて触れることが出来たのは有意義であったと思います。ただGPの活動全体については趣旨が浸透しているとはいえず、学術ウィーク

ークについても、決定されていたことを実行するために意味がよく分からないまま参加し何とか乗り越えたという実感が残ります。

- 自分の馴染みのある研究分野とは違いますが、それと近い分野の研究に触れることが出来、興味が広がると共に、自分の研究をよりひろい視点から捉えなおすことができ刺激を受けました。でも私は英語が苦手なので、内容についていきにくかったことが残念でした。
- 学術ウィークでは、外国の先生の話聞くことができとても良かったです。普段なかなか聞くことが出来ないので良い勉強になりました。講演が全て英語で、通訳がほとんどなかったのが理解するのが難しかったのが残念でした。
- 学術ウィークでは日程の関係からコース内の発表しか聞きに行くことが出来ず、残念でした。また質疑応答もすべて英語だったため、英語能力がないとついていけないことが残念だったし、疑問に思いました。
- 院に入ってようやく自分の専門分野の勉強をはじめた初心者であるのに、他分野との協力というのは取り組みにくいと思いました。このような活動が学部生にも開かれていれば、専門分野に入る前に様々な選択肢を得ることが出来、自分の目指す道を考えることが出来るように思いました。
- 西オーストラリア大学の先生方との交流は、なかなか出来ない貴重な体験だったと思います。英語があまり得意ではないので発表内容を理解するのは難しく、改めて英語を学ぶ必要性を感じました。「心理学」という学問の研究を、世界中の色々な研究者が色々な立場から研究を行っているという事実を肌で感じ、当たり前なのだけれど少し不思議な感覚を持ちました。
- 西オーストラリア大学との学術交流は、普段の学校生活では知ることのできない研究について触れることができ、とても興味深いものでした。しかし、通訳無しの発表では同分野の学生にとっても理解が難しく、まして他分野の学生たちにとっては気軽に参加することが難しかったのではないかと思います。当日の参加だけでなく、それまでも準備が多くあり、負担が大きかった人もいたようです。院生主体といえども、少しサポート体制が必要だと思いました。

西オーストラリア大学との国際シンポジウム「多文化の中の心理学」講評

森岡正芳（神戸大学大学院人間発達環境学研究科教授）

西オーストラリア大学（以下UWAと略記）を2008年3月末に訪問したとき、この大学の心理学部門の規模には驚いた。基礎から応用、実験から臨床にいたるすべての心理学領域をカバーできるアカデミックスタッフの充実ぶり、設備のすばらしさ。このたびUWAよりモリソンおよびアンダーソン博士が初来日されたが、私たちの学部、研究科が学術協定校として対等に交流できるのか正直言って不安があった。心理学部門にかぎっていうと、私たちの研究科は発達、人格、臨床という心理学のごく一部をカバーするにすぎず、設備の貧弱さについては目を覆うばかりである。しかし、学術ウィーク当日は天候にも恵まれ、講師の方々も思いのほか神戸の地を気に入られたようであった。

両博士は最先端の心理学の話題を、その水準を落とすことなく学生に伝わるようかみくだいてお話しされ、こちらの不安は杞憂にすぎなかった。講義の合間にも学部長の博士とともに学生たちにも気さくに接触され、一日たつごとにうちとけた雰囲気になったことがうれしかった。講義および、シンポジウムの内容については博士後期課程院生日湯淳子さんの報告に十分にまとめられているが、以下簡単に感想を述べておきたい。

モリソン博士は組織心理学の立場から、きわめて現代的なテーマである安全と危機管理の問題についてご自身の研究の一端を紹介された。労働環境とパーソナリティの関係という大きな問題圏を背景におきながら、人の安全に関わる行動と誤りが生じる要因を科学的に根拠づけていく。認知的なリソースだけでなく、仕事への不安や誠実性という情動面の要因が絡んでいることを明確に提示された。このテーマは引き続く経営学研究科金井壽宏教授との対談において直接つながり、実りのある討論となった。金井先生の英語での講演、プレゼンテーションと討論のしかたなど、本場仕込みの作法は磨きがかかっていて、説得力のあるもので、若い院生たちに模範を示され大いに刺激となった。会場には経営学研究科の院生学生ほかもつめかけ、質疑も盛んにかわされ熱のこもった討論会となった。

翌日のアンダーソン博士の講演は、知能研究の最先端のお話であった。知能の概念は心理学の歴史でも、もっとも由緒のあるテーマであるといってよい。しかし研究史の中で知能の概念はより多義的になってきている。アンダーソン博士は知能の神経科学的根拠づけを行い、**Big Q**という知能の構築的モデルを提示した。このモデルは学会でもすでに定評があり、知的障害、発達障害の臨床領域でもこのモデルを基盤にした援助法が試みられている。会場には院生だけでなく、教員も多数つめかけ活発な議論がかわされた。二日目の午後は、コースより博士前期課程院生の中出千恵さん、そして中村和夫教授の研究発表があった。お二人の英語による発表はよく準備されたみごとなものであり、予定の時間を大幅にこえる活発な議論が交わされた。司会、コメント、その他会場の手配など院生たち中心にてぎわよく運営され、正規外の教育研究活動としてもよい体験であった。午後の会場は心理発達論コースの学部生たちの顔も多く見かけうれしく思った。

今回のプロジェクトは、モリソン博士を中心とするUWAから「トランスカルチュラル心理学」の共同研究の要請があり、その端緒を切り開くものである。異文化間の単なる比較研究にはとどまらない多文化間心理学の構築をめざし、東アジア圏の新たな心理学を作り交流していく第一歩となった。UWAからの発信は、英国本流、まさに正統の科学的心理学の流れをくむもので、学生たちとともにその一端に触れえたことは私たちの教育研究姿勢を問い直すよい機会となった。

あらためて超ご多忙の時間を割いて駆けつけてくださった金井壽宏先生、中村和夫先生をはじめとする神大の先生方、日潟淳子さんをチーフとする院生の方々の多大なご苦勞に感謝したいと思う。

「多文化の中の心理学」スタッフ院生（*はスタッフ院生代表）

王松(D)、原田新、森口竜平、日潟淳子*（以上 D2）、田仲由佳、山根隆宏、田淵和歌子（以上 D1）、井手良徳、上田亜弥、川嶋陽菜、金季実*、竹内美佐子、竹中美穂子、多田幸子、谷本拓郎、中野友美子、野角淑江、平井正博、畑野快、松川千尋（以上 M2）、磯邊真美、今村実由紀、岡田恭子、近堂香奈、高谷奈々恵、武佐和子、豊島花恵、中谷友香、中出千恵*、吉田朝香、吉田明日香、北口和希（以上 M1）

Workplace Safety Performance: The problem with facet aggregation and the implied mediational role of cognitive failure

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Abstract

In this paper the relationship between personality and safety behaviour and different error categories is examined. Using the five factor model of personality as a framework, the hypothesis that previously inconsistent relationships between individual personality factors and safety can be resolved through the disaggregation of individual facets from superordinate factors is tested and supported. Using the concept of psychological arousal as a guiding framework, the relationship between specific facets of Emotionality (e.g., Anxiety) and facets of Conscientiousness (e.g, prudence) are examined for their relationship with different aspects of safety related behaviour (unsafe acts and skill/rule based errors) was also examined. The combined effects of facets from the Conscientiousness and Emotionality factors is also examined for their impact on self reported cognitive failures which is hypothesised to act as a mediator of personality on error. Results showed that Conscientiousness and Emotionality are antagonistic to each other with respect to cognitive failures and that self reported cognitive failures mediate the impact of personality on self-reported skill/rule based errors..

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Introduction

Human involvement plays a major role in the occurrence of everyday accidents (Reason, 1988, 1990). Wagenaar and Groenweg (1987) estimated that 70 to 80 percent of workplace accidents can be attributed to human error, that is, a deviation from an individual's preliminary intention to reach a targeted outcome (Heckhausen & Beckmann, 1990). It has been proposed that the analysis of human error provides the basis for safety recommendations and thus has a crucial, albeit indirect impact on system design and the prevention of future accidents (Rasmussen, 1986).

The research reported here seeks to expand on the personality-safety research by investigating links between personality and safety outcome variables. Initially we follow the five factor model but later argue that a more fine grained analysis of personality, utilising cognitive theory, should lead to more consistent results. The present study sought to consider, as criterion variables, three likely antecedents to workplace accidents. The first, unsafe workplace behaviour (UWB), represents intentional violations of safety protocols, such as taking 'short cuts' (Hofmann & Stetzer, 1996). The second, is the propensity to be involved in slips and lapses of attention resulting in what have been called skill and rule based errors (SBE). These errors represent unintentional errors that occur, in part, due to poor equipment design (signal confusability) and "attentional intrusion", lack of attention or distractibility (Reason, 1984). The third criterion is what are referred to as Knowledge Based Errors (KBE). This type of error results from errors in cognitive that occur on tasks that require conscious and deliberate effort (e.g. mental arithmetic).

Direct Links between Personality and Safety Outcomes

In recent years, the convergence of personality research has led to the emergence of the Five-Factor Model (FFM) of personality which has served as a conceptual framework to conduct systematic research on personality and various criteria (Costa & McCrae, 1992; Goldberg, 1992; Barrick and Mount, 1992). According to this model personality can be parsimoniously but fairly comprehensively defined within the space of five broad factors: Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Emotionality.

The most robust links to accidents and other safety-related outcomes is Conscientiousness (Arthur & Graziano, 1996; Cellar et al., 2001). Indeed Conscientiousness seems also to be the most consistent predictor of a range of work performance measures. The implied relationship is one whereby individuals low on conscientiousness are less organised, careful, and systematic and as such will be more prone to accidents due to poor planning, and procedural omissions (Tziner, Murphy, & Cleveland, 2002). Wallace and Vodanovich (2003b) found that Conscientiousness was a significant predictor of both workplace accidents and unsafe work behaviours, in a sample of 219 production workers.

Clarke and Robertson (2005) suggested that links between Emotional Stability and accidents would be expected to emerge due to those low on Emotional Stability being more prone to distraction, and vulnerability to distress due to environmental factors. Briefly, this hypothesis was based on previous studies demonstrating links between Neuroticism (i.e. low Emotional Stability) and experiences of driver stress (Mattheyys, Dorn, & Glendon, 1991) and quality of coping strategies (Parkes, 1990), combined with negative links observed between self-reported stress levels and cognitive performance (e.g. Steffy, Jones, Murphy, & Kunz, 1986). Essentially, this argument suggests that individuals low on Emotional Stability will be more easily distracted (see Norman, 1981), and thus more prone to making particular types of errors of the sort associated with lapses of attention. Individuals low in emotional stability might also be expected to experience a diminution of cognitive resources in high stress environments making them prone,

not only to be (i) distractable, (ii) overly focussed on a narrow set of environmental data but (iii) to also making errors on tasks requiring conscious processing effort.

Hitherto, research has been inconsistent in showing the link between personality and accidents. We believe that there are a number of reasons for this. One of these is the level of aggregation at which personality is described. While models such as the FFM are useful, an analysis based on a model of personality at this level of granularity ignore the facets said to underpin each factor and as such represent a crude depiction of personality. Arguably, the most popular measure of the FFM, the NEO (Cost and McCrae, 1992) contains up to six individual facets representing super ordinate factors. The consequence is that measures of personality may under perform as criterion predictors. The second, but perhaps related, error is to treat all accidents as if they had the same underlying cause or the same psychological roots.

The question, then, is what behavioural and psychological styles make us believe that some people more than others are accidents waiting to happen? People who are more emotionally volatile than others may be involved in more accidents but the question is why? We can, for example, measure emotional volatility, but how does this volatility affect cognition, behaviour and the probability that a safety violation and accident will occur.

The present study is one in a series that we have conducted where the above issues are beginning to be addressed. Our central thesis is that it is the level of aggregation at which the personality-safety/accidents linkages are being sought that obscures the nature of the relationships in terms of form and magnitude. We also argue that, based on psychological theory, that there are specific relationships at the facet level that should correlate with specific types of unsafe acts and behaviours. For the moment the context in which the individuals act is ignored but this simply reflects lack of opportunity to examine the potential moderating effects of context rather than a lack of acknowledgement of their importance.

Narrow versus Broad Personality Traits

Most studies examining the links between personality and safety outcomes such as accidents, have tended to focus on broad measures of personality, such as the Big-Five personality factors. For example, Conscientiousness can be thought of as an ‘umbrella’ factor for a cluster of more specific traits such as diligence, forethought and planning, prudence, and perfectionism. It is possible, then, that links observed between broad personality factors and criteria such as accidents are attributable to direct links between these criteria and the narrower subordinated personality facets. Wherever a relationship exists for some narrow facets within a single factor but not for others, any relationship observed between a broad personality factor and the criterion variable will be ‘diluted’ by those narrow facets that are not relevant (see Ashton, 1998). Focussed predictors should make better predictions when they closely relate to a tightly specified criterion. A problem with much research in this area is that the criteria are often poorly specified (ie all accidents and their are treated the same) and the predictors of these criteria are poorly defined.

A General Model of Cognitive Processes and their Relationship to Human Error

Rasmussen (1986) argues that human behaviour is largely under the control of three modes of cognitive control. When activated each level of control handles incoming information in different ways and the types of errors made when operating in the different modes are quite different. The levels of cognitive control have been labelled as: knowledge based processing, rule based processing and skill based processing. Knowledge based processing is concerned with analytical problem solving based on symbolic representation, whereas rule and skill based behaviour are concerned with perception and action and tend to be less under volitional control

and conscious processing resources.

The general prediction, with respect to personality, for knowledge based errors is less clear as it may result from wilful violations or limited attentional or resource capacity. Nevertheless it is possible to suggest that those who have little regard for convention and rules (a facet of some measures of Conscientiousness), may be involved in safety violations. The Emotionality facets, such as anxiety, may also play a role at this level since general arousal is also known to impact on the availability of cognitive resources (Kahneman, 1983) and therefore decision making capacity. One might predict that in stress inducing environments those prone to suffer anxiety may well perform less well when the task requires cognitive resources to be optimally available.

Hitherto, the argument has been that some personality characteristics predispose people to a general psychological and physiological (arousal) states. In particular we have argued for a link between Emotionality and Skill/Rule based errors and Emotionality and knowledge based errors under conditions of hyper arousal. But there is a missing link in the causal chain. Prior to the error being observed we might expect that general arousal will lead to a susceptibility to mental slips and lapses that go unnoticed to most except the person him or herself. If true, then it is the general propensity to suffer slips and lapses due to personality that predisposes people to be involved in rule/skill based errors in particular. This suggests that there may be an intervening variable between the general personality and the observed safety violation and it is the propensity to suffer a cognitive failure. Cognitive failure, is defined as a mistake or 'failure' in the performance of an action that a person is normally capable of completing, and, as it happens, has been demonstrated to be an important antecedent of safety performance (Wallace and Vodanovich, 2003a, 2003b). Cognitive failures, are often associated with slips trips and fall or errors where an intended action is somehow interrupted.

Cognitive failures appear to result from a deficit in an individual's ability to sustain attention to an ongoing task, particularly when one is faced with concurrent demands on attention. McKenna (1982) proposed that the degree to which an individual's attention is prone to capture by extraneous environmental cues is, to an extent, implicitly driven by personality.

While hyper aroused individuals will suffer from the inability to attend to a wide range of stimuli, Wallace and Vodanovich (2003b) suggested that conscientious employees, who are task-oriented and organized, will repeatedly make attentional checks when performing work duties. These activities would be expected to reduce the individual's propensity for cognitive failure, and hence skill errors. Following this line of reasoning, anxiety and conscientiousness may well be antagonistic to each other in some situations. If so then the relationship between personality and error is somewhat more complex than simple correlations would suggest and that different components of personality will, under some circumstances, promote error while in others they will mitigate each other.

From the above descriptions it is possible to argue that individuals will vary in their susceptibility to commit errors and that different mechanisms will apply in each case. On the one hand highly emotional individuals would be expected to be more susceptible whereas highly conscientious individuals less so. A fatal combination may be found in someone who is high in emotionality and low in conscientiousness.

Thus we generally hypothesise that personality, at least in part, influences one's ability to sustain attention to an ongoing task, which in turn causes certain individuals to have a higher propensity for erroneous behaviour than others. Thus, although personality may not directly predict accident involvement, cognitive failure seems to serve as a generative mechanism (mediator) through which certain personality variables, namely facets of Conscientiousness (such

as organisation and prudence) and Emotional Stability (such as anxiety), indirectly influence accident-related outcomes, such as rule and skill-based errors. This hypothesised mediational model is depicted in Figure 1 and the present study sought to provide an empirical test of this mediator model.

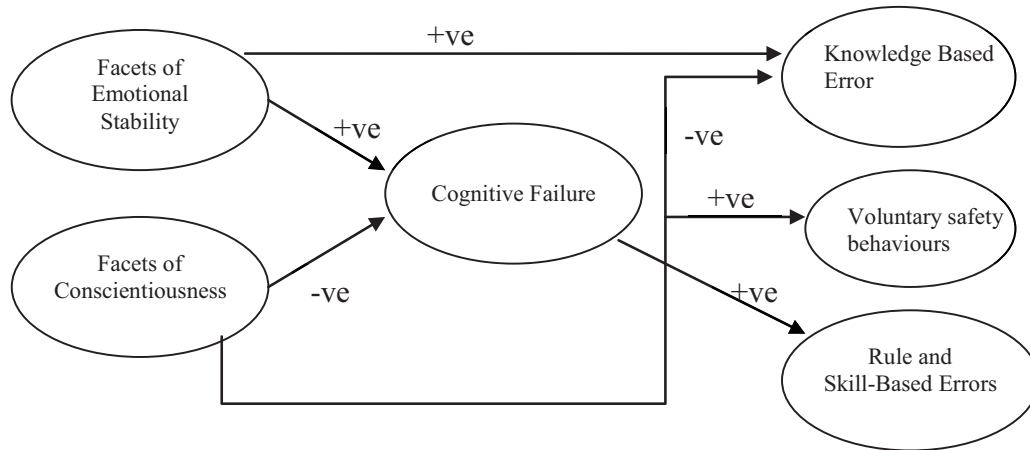


Figure 1.

From the above it is possible to formulate a number of hypotheses:

From the above arguments we are able to formulate two hypotheses.

Hypothesis 1: Only The general Emotionality and Conscientiousness personality factors will predict different safety related outcome variables.

Hypothesis 2: The predictions will reflect an antagonistic relationship between these two personality factors Emotionality and Conscientiousness

Hypothesis 3: Only Conscientiousness will predict (inversely) volitional unsafe work practices.

Hypothesis 4: Individual facets of personality will be better predictors of error than the general super ordinate personality factors.

Hypothesis 5: The relationship between personality and Rule and Skill based error is mediated by the propensity to suffer cognitive failures. Cognitive failures are the results of personality characteristics which influence psychological arousal (e.g. facets of Emotionality positively relate to cognitive error) and are mitigated by characteristics which promote vigilance (e.g. facets of Conscientiousness relate negatively to cognitive error).

The present study sought to investigate a moderating role personality factors on each other. We ask, for example, how personality factors interact to influence behavioural outcomes. As noted above we have conducted several studies which test the propositions outlined above. The data from one such study are presented and summarised in what follows.

Method

Measures

Unsafe Work Behaviour. Unsafe work behaviour (UWB) was measured using the short-form version of the Workplace Safety Questionnaire (WSQ; Hofmann & Stetzer, 1996). This shortened measure comprises six items. When completing the measure, respondents are requested

to indicate how frequently they engage in each UWB, on a 4-point response scale (1 = 'Never', 4 = 'More than once a week'). Sample items include 'Generally rushing through a job due to time pressure thereby increasing risk to yourself' and 'Generally neglecting to use or clean equipment correctly'. Cronbach's alpha for this scale was observed to be .70.

Knowledge based Errors (KBE): This measure was a simple numerical calculations test comprising 60 questions answered under timed conditions. Simple arithmetic calculations performed without a calculator were performed where speed and accuracy are emphasised. For the present study, the number correct was taken as the dependent measure.

Accident Likelihood Scale: The Accident Likelihood Scale (Roberts, 2004) comprises 10 items that examines how likely a person is to injure themselves or make a mistake whilst performing a specific task. The measure consists of two sub-scales. Roberts (2004) argued that five survey items correspond to knowledge-based errors that occur at the conscious level of cognitive processing (e.g. performing a task without having read the instructions or procedures first), while the remaining five items pertain to skill and rule based errors. For the purposes of the present study the distinction was ignored and the data were collapsed into a single measure henceforth referred to as SBE, or errors at the inattentive, unconscious level (e.g. a lapse in concentration whilst performing a repetitive task). The response format is a 5-point Likert scale (1 = never, 5 = very often) and items are positively worded. That is, high scores on the each of the sub-scales represent a higher propensity for experiencing errors at the rule-based or skill-based level of cognitive processing.

Cognitive Failure. Broadbent et al.'s (1982) Cognitive Failures (CF) Questionnaire comprises 25 items that inquire about a person's general propensity to minor mistakes or cognitive failures over the past six months. Responses to these items were made on a 5-point scale (0 = 'Never', 4 = 'Very Often'). The items pertain to physical blunders (e.g. "Do you bump into things?") memory lapses (e.g. "Do you forget people's names?") and distractibility (e.g. "Do you start doing one thing and then get distracted into doing something else?"). Previous test-retest reliability results support the stability of the construct (e.g. $r = .82$ over a 2-month time period; Vom-Hofe et al., 1998). Cronbach's alpha for this scale was observed to be .88.

Personality. The 192-item version of the HEXACO Personality Inventory was administered to the job applicants. This questionnaire measures 24 facet scales which fall under the six higher-order factors (see Appendix A). All items on the HEXACO Personality Inventory are short descriptive statements, and participants were asked to indicate the extent to which they agreed that each statement described them, using a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*). Cronbach's alphas for the 24 facet scales ranged from ($\alpha=.67$) to ($\alpha=.82$).

Participants and Procedure

The participants of this study were a sample of 367 applicants to position within the Fire and Emergency Services Authority of Western Australia. The mean age of the participants was 28.5 years (sd = 6.49 years), and most participants were male (95.9%).

As part of the applicant process, all participants completed the HEXACO Personality Inventory, along with four cognitive ability tests. After completing these assessments, participants were informed that research into personality and safety was being conducted, and should they be willing to participate, they could remain in the testing room to complete some additional questionnaires. All participants were informed that completion of these questionnaires was voluntary and their responses would not affect the selection decisions in any way, nor would the questionnaires be presented to the hiring organisation. Data were gathered from participants in large groups of 70-80

Results

Hypothesis Testing

The first component to the present study involved examining the direct relationship between personality and UWB and SBE. The purpose of the first analyses was to compare the predictive strengths of narrow traits to that of the corresponding parent factors. For each of the HEXACO factors, the corresponding facet variables were regressed on the three dependent measures, UWB KBE and SBE and the R^2 of this model was compared to the squared correlation between the corresponding parent factor and the dependent variables. In most cases, using narrow facet personality measures rather than broad factorial personality measures provides a more accurate estimation of UWB. The results are broadly summarised in Table 1

General Factor	Good Overall Predictor for		Strong Facet Predictors with directional effect for SBE			Prediction Improvement Over Factor		
	SBE	UWB	SBE	UWB	KBE	SBE	UWB	KBE
Honesty	✗	✗						
Emotion	+✓	+✓	+ Anxious	+ Anxious	+Anxious	67.7%	19.7%	23.7%
Extravers	✗	+✓	None	- Social Boldness - Liveliness			104.6%	
Agreeab	✗	✗						
Conscient	-✓	-✓	- Organised - Prudence	- Organised - Diligence + Perfection - Prudence		39.5%	42.5%	
Openness	✗	✗						

Table 1. Summary results showing general effects of factors and facets for each error type (SBE & UWB)

As seen in Table 1, Emotionality and Conscientiousness were found to be significant predictors of both SBE and UWB whereas KBE was only predicted by the Emotionality factor. Agreeableness, Honesty and Openness to Experience general factors were not significant predictors of any of the dependent variables as expected.. Unexpectedly Extraversion was found to predict UWB and thus Hypothesis 1 was largely supported. The direction of the relationships (ie that Emotionality would promote error and Conscientiousness would mitigate it) was as anticipated by Hypothesis 2.

At the facet level, predictions of the dependent variables improved for all of the general factors when they predicted a dependent variable. The increasing the variance accounted for at the facet level as can be seen by the prediction improvement results highlighted in the columns to the far right of the Table 1. In addition the direction of the results suggests that Emotionality increases errors Thus, both hypothes 1 and two have been supported.

Hypothesis 3 was not supported as both Emotionality and Conscientiousness predicted Unsafe Work Behaviours (UWB).

Hypothesis 4 was supported in that when a facet level analysis was undertaken the amount of variance in the dependent variable that was explained increased for individual facets.

Mediational Analysis

The second hypothesis was that Cognitive Failures (CF) would mediate the relationship between the outcome measures tapping inattention and distractability (SBE) but not knowledge based errors (KBE) or deliberate conscious unsafe behaviours (UWB). Following the procedure outlined by , Barron and Kenny, 1986; Judd and Kenny, 1991), the results of this analysis can be seen in figures 2 and 3 for the general factors and facet level analyses respectively.

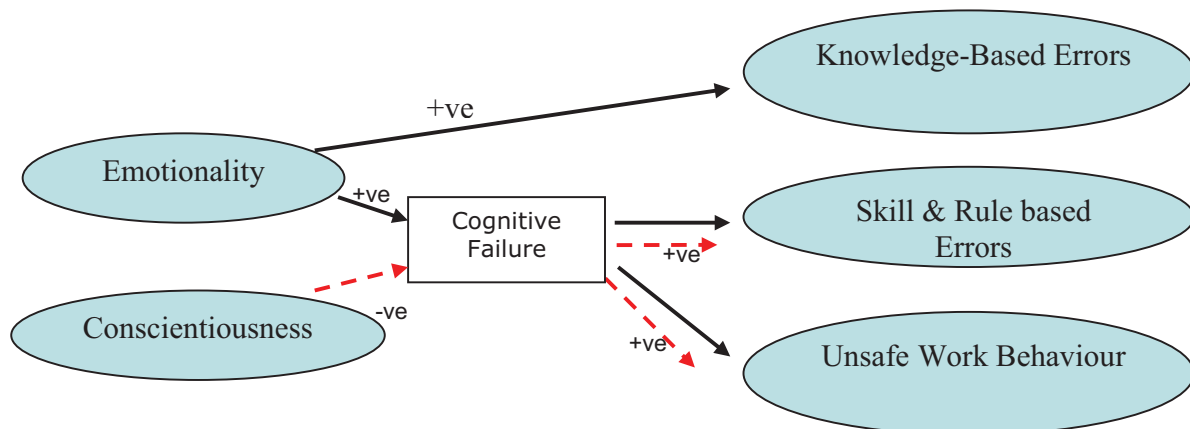


Figure 2. Mediation effect of cognitive failure at the general factor level

The first point of note in Figure 2 is that both Conscientiousness and Emotionality are mediated by Cognitive Failures and in a way that was anticipated . Secondly, Emotionality and not Conscientiousness was linked to Knowledge Based errors which was unexpected. This result might be peculiar to the context of the present study in that it was a “high stakes” selection situation. The third point of note was that the link between personality and deliberate unsafe acts (UWB) was mediated by Cognitive Failure. This was also an unexpected result. Perhaps participants prone to cognitive failure seek to reduce the burden on their information processing system by taking shortcuts that compromise safety. Thus only partial support for Hypothesis 5 was found although arguably the most important components of it were supported: (i) Conscientiousness and Emotionality are mediated by Cognitive Failure; (ii) Emotionality and Conscientiousness act antagonistically on behavioural outcomes.

A further mediation test was undertaken, this time using the facets rather than the general factors the results of which are summarised in Figure3. The additional variance explained by the facet level model aside, the general pattern of results is as reported for the general factor level analysis: (i) The facets of from the Emotionality and Conscientiousness factors are antagonistic to each other with respect to Cognitive Failures; (ii) Cognitive Failures mediates the effect of personality albeit for the Anxiety facet this is done only partially. Anxiety has both a direct and indirect effect on Skill & Rule Based Error as well as volitional unsafe work behaviours. Additionally, Anxiety has only a direct effect on Knowledge Based Error. As before the general thrust of our hypotheses has been supported

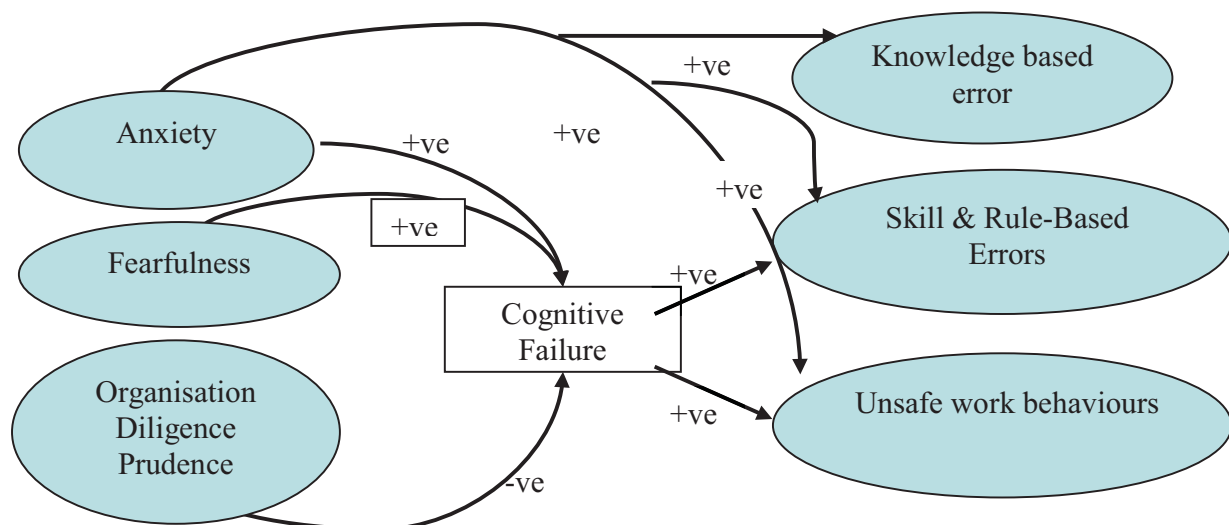


Figure 3. Mediation effect of Cognitive failure at the facet level.

Discussion

The first aim of the research presented here was to explore the direct links between both broad and narrow personality facets and behaviours that ultimately, in some cases, will have serious consequences (i.e. slips, trips and lapses of attention that could potentially lead to accidents), and unsafe work behaviour (i.e. deliberate violations of safety protocol). The data have by an large supported the hypotheses with some unexpected results.

Collectively, the results suggest that individuals higher on Emotionality, and more specifically those that are more Anxious, are more likely to process task relevant data superficially (ie a failure to monitor) or from a failure to consider relevant data more broadly (ie a narrowed focus of attention). Consequently they are more prone to distraction (a failure to attend) or a narrowing of focus (also a failure to attend) leading to higher rule based and skill based errors.

The results for the Conscientiousness factor, both at the super ordinate level and the facet level suggest an antagonistic relationship between different aspects of personality. In other words, highly conscientious individuals are less susceptible to error because their mind set is more towards careful deliberation and depth of processing. Put together the antagonistic relationship between Conscientiousness and Emotionality offers some clues at to why the correlation between personality factors and safety outcome variables is often quite low (see Cooper and Robertson, 2005).

The weak relationships alluded to above might also be explained, in part, by the fact that super ordinate personality factors contain “noise” due to facet conflation into a single factor score. Evidence in support of this argument is found for the facet level analyses where, in every case, the variance explained by individual facets was greater than the generic factor scores. Collectively, the results of this study suggest that there is merit in considering narrow facets rather than broad factorial traits in the prediction of workplace safety outcomes.

A further goal of the present research was to investigate the role of cognitive failure as a mediator in the personality - error relationship. Wallace and Vodanovich (2003a, b) found, across two studies, that cognitive failure was a significant predictor of workplace accidents and unsafe work behaviour. Given that the causes of accidents are typically faulty cognitive/attentional

processes including mental errors, poor selective attention, and distractibility (Arthur et al., 1991; Mihal & Barrett, 1976) it is not surprising that reports of accident correlate highly with scores on the CFQ. It is therefore important to identify any personality information that may predict propensity to cognitive failures.

In the present study, those low on Conscientious reported a higher susceptibility for cognitive errors. This can be attributed to the notion that the two constructs largely reflect opposing regulatory styles (Wallace et al., 2003b). That is, employees prone to cognitive failure tend to exhibit off-task processes and behaviours (e.g. absentmindedness, forgetful, easily distracted), while highly conscientious individuals are hard-working, organized and disciplined, behaviours that reflect on-task processes (Barrick, Stewart, & Piotrowski, 2002). Such on-task behaviours have been attributed to the reason why such individuals report being involved in few accidents and generally do not engage in unsafe acts (Tziner et al., 2002).

Empirical support was found for the mediating role of cognitive failure in the relationship between facets of Conscientiousness (Organised, Diligence, Perfectionistic, and Prudence – all fully mediated) and proneness to rule and skill based errors. That is, cognitive failures occur (partly) because of a combination of a lack of cognitive organisation (low on Organised), willingness to work hard (low on Diligence), willingness to pay attention to detail (low on Perfectionism), and ability to control impulses (low on Prudence), and these cognitive failures lead to unintentional skill errors.

The partial mediation of the relationship between Anxious and rule and skill based errors suggests that individuals with a greater propensity to worry or experience anxiety are more likely than those that are less anxious or worrisome, to experience cognitive failures, and thus commit skill errors. This finding also supports a ‘limited cognitive resources’ model, which suggests that cognitive errors are more likely to occur as individual’s cognitive resources are being taxed. Empirical studies have consistently shown that trait-anxious individuals display an attentional preference for distracting stimuli, especially in environments perceived to be threatening (Kindt & Van Den Hout, 2001). Within anxious individuals, cognitive resources are being allocated to distractors such as perceived threats and negative emotions (e.g. Matthews and Wells, 1988). Such individuals can therefore allocate less cognitive resources to tasks, and hence more cognitive failures *and* more errors will emerge.

Two sets of results remained unexpected in the present study. One of these was that Extraversion (and Social Boldness and Liveliness at the facet level) was inversely related to self reported unsafe workplace behaviours. The second was that Emotionality (and Anxiety at the facet level) predicted all three categories of dependent variable. Especially surprising was the effect of Anxiety on Knowledge Based Errors when Conscientiousness (or its facets) did not. In the first instance, we speculate that these results may reflect two things. First is the common method effect where data coming from the same source (ie self report) has a tendency to show correlation as a function of response bias. For Unsafe Work Behaviours this explanation seems possible but is less likely to be the case for the other variables that had an enduring and direct relationship with Anxiety in particular. Knowledge based errors were determined from an objective and independent test, ruling out the common method explanation. For the Skill and Rule based measure, the common method explanation is a possibility, but as we have found the same effects when the Skill and Rule Based error assessment comes from a different source, it also seems unlikely. The second possible explanation for the observed effects is that they are theoretically meaningful. For example, the description of Social Boldness contains elements of self efficacy. Individuals high in self efficacy may not see certain behaviours as unsafe or if they do they may believe they can “fix” the problem when it occurs. The relationship of self efficacy

to reality seems a worthwhile avenue for further research since although it is trait like it can be modified (Bandura 1996).

The anxiety effect on Knowledge Based Errors may be explained by recourse to resource theory once more. Those who are more anxious are often found to under perform in stressful situations and this is said to reflect a reduction in cognitive resource availability. The context in which the present research was conducted, by its very nature, might be thought of as stress inducing. Recall, the respondents in this study were part of a high stakes job selection process. The mitigating effect of conscientiousness would not be found with the Knowledge Based Error measure used here since as it was operationalised the scores simply reflected total correct and ignored number attempted or errors committed. The interesting question is whether the effects of Conscientiousness would be found with a more refined or sensitive measure of Knowledge based Error.

Implications for Organisations

The findings from the current study have a number of practical implications for organisations. First and foremost, the results indicate that personality measures can offer valid means to predict one's propensity for cognitive failure, skill errors, and unsafe work behaviours, and therefore should be used in the selection of 'safe' personnel. This is especially important for screening job applicants for safety-critical organisations. Moreover, however, such measures should aim to be specific as possible, focusing on traits such as anxiety, and those that fit under the Conscientious family.

The finding that the CFQ is a strong predictor of safety outcomes is also of practical importance. Indeed, the high correlation found between scores on the CFQ and skill-based errors, suggests that the CFQ is a solid predictor of accidents when task components have the potential to be automatic and performed in a more automatic mode. Future studies assessing the cognitive failure-accident relationship will hopefully further encourage the addition of the CFQ into a test battery, designed to screen job applicants on the basis of future safety performance. Before this could eventuate, however, it might be important to develop a version that is less open to social desirability or faking.

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Appendix A

HEXACO Factors, Facets and Brief Descriptions

Factor	Facet	Description
Honesty	Sincerity Fairness Greed Avoidant Modesty	tendency to be genuine in interpersonal relations tendency to avoid fraud and corruption tendency to be uninterested in possessing lavish wealth, luxury goods, and signs of high social status tendency to be modest and unassuming
Emotionality	Fearfulness Anxiety Dependence Sentimentality	tendency to experience fear tendency to worry in a variety of contexts one's need for emotional support from others tendency to feel strong emotional bonds with others
Extraversion	Expressiveness Social Boldness Sociability Liveliness	tendency to be excitable and dramatic in one's interpersonal style one's comfort or confidence within a variety of social situations tendency to enjoy conversation, social interaction, and parties typical enthusiasm and energy
Agreeableness	Forgiving Gentleness Flexibility Patience	willingness to feel trust and liking toward those who may have caused one harm tendency to be mild and lenient in dealings with other people one's willingness to compromise and cooperate with others tendency to remain calm rather than to become angry
Conscientiousness	Organisation Diligence Perfectionism Prudence	tendency to seek order, particularly in one's physical surroundings tendency to work hard tendency to be thorough and concerned with details tendency to deliberate carefully and to inhibit impulses
Openness	Aesthetic Appreciation Inquisitiveness Creativity Unconventionality	one's enjoyment of beauty in art and in nature tendency to seek information about, and experience with, the natural and human world one's preference for innovation and experiment tendency to accept the unusual

The Cognitive Neuroscience of General intelligence

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In my paper I will review some research that says something interesting and new about the nature of individual differences in intelligence and developmental change. Specifically, that individual differences normally measured as IQ, are largely caused by differences in speed of information processing but developmental change is caused by changes in an orthogonal dimension of psychological functioning. This dimension is largely known as executive functioning and executive functions are supported by the development of the frontal lobes of the brain. In persuading you of this view I will introduce you to some of our recent work on cortical maturation and the development of specific cognitive functions which is supported by a current grant from the Australian Research Council to myself and co-workers¹.

IQ and intelligence

As is well-known, the concept of IQ was born out of early psychometric work by Binet who constructed the first “mental scale” (Anderson, 1992). Binet conceptualised intelligence in terms of mental age or how intelligence grew with the developing child. Mental age was taken to be the chronological age of children who could pass a problem of a given difficulty. Thus a child could have a mental age of eight if they could pass items that the typical eight year old passed but the typical seven-year old failed. However it was Wilhelm Stern who noted that if we divide a child’s mental age by their own chronological age (and multiplied by 100) we could derive a measure of individual differences in ability standardized by the age of the child. Thus a child aged eight who has a mental age of eight will have an IQ of 100 (or the average IQ). A child of 9 with the same mental age would have a lower IQ and a child of 7 would have a higher IQ. While the concept of IQ has a long and acrimonious history in psychology (see Anderson, 2006), that is not our concern today. Rather, I want to focus on a central concept related to IQ and that is the nature of general intelligence or *g* (Spearman, 1904). Spearman considered all mental activities to involve two components: one common to all and he called that *g*, and the other specific to the specific cognitive task at hand. Spearman thought of *g* as being some kind of mental energy (in modern psychology we would call this a general resource or capacity) and attributed individual differences in *g* to some biological property of the central nervous system. This view of Spearman has not been popular in modern psychology, with many preferring the idea that the intellect is composed of a number of multiple intelligences (Gardner, 1983). Again, that is a debate for another day and instead I want to focus on two alternative accounts of the cognitive basis of *g*.

Speed of processing and *g*

Jensen (1998) and many others have argued that there is overwhelming evidence that general intelligence can be attributed to variation in a single global factor, speed of information processing. The impetus for the speed of processing hypothesis is the finding that elementary cognitive tasks (Jensen, 1982) with little or no knowledge content, such as reaction time and

¹ Discovery grant DP0665616 awarded to M.Anderson, A. Fox, C. Reid & D.Bishop.

inspection time tasks (Nettelbeck, 1987), are nevertheless correlated with knowledge-rich intelligence test performance (Anderson, 1992). Reaction time measures show a regular decrease with development (Keating & Bobbitt, 1978) and inspection time (see below) also has been shown to decrease with age during development (Nettelbeck & Wilson, 1985), although not as strongly as reaction time (Anderson, 1988). This has led some to suppose that not only does speed underlie differences in *g* in adults but also developmental changes in *g*. Anderson (1992, 1988, 1989, 1992) has challenged this and argued, instead, that while speed may underlie individual differences in *g*, what underlies developmental change are developing executive functions. Recently this idea has received some support from a body of work that attributes *g* not to speed of information processing but to properties of the frontal lobes of the brain.

Frontal/Executive functions as a specific function and/or an alternative basis of *g*?

A radically different formulation of the basis of general intelligence has been proposed by Duncan (Duncan, 1995; Duncan et al., 1996). It has been known for some time that substantial injury can be inflicted on the frontal lobes of the brain with little or no effect on measured intelligence or IQ. This is paradoxical because such patients also present with considerable difficulties in everyday problem solving. However, Duncan showed that when frontal patients are given tests of *crystallized g*, such as the heavily knowledge-based tests such as the Wechsler scales (WAIS), their IQs are normal. On the other hand, when they are given a test of fluid intelligence, such as the Cattell Culture Fair, they are significantly impaired (Duncan et al., 1996). An fMRI study (Duncan et al., 2000) has shown that when participants perform a highly *g*-loaded task the frontal lobes of the brain show heavy activation. Thus it is possible that the functions subserving frontal functions (and their relationship to *g*) are different from those that typically underlie individual differences in IQ. I will present data from a patient study (in preparation for publication) that argues that speed of processing is related to individual differences in *g* but is unrelated to frontal functioning. The mechanisms supported by the frontal lobes of the brain represent another (developmental dimension) to *g*. Before this I will explain my theory of intelligence.

The theory of the minimal cognitive architecture underlying intelligence and development

Anderson's (1992) theory of the **Minimal Cognitive Architecture** underlying intelligence and development argues that intelligence tests measure intelligence through assessing knowledge, but that knowledge itself is acquired through two different routes proposed by Fodor (1983). The major proposition is that these two processing routes are related to the two different dimensions of intelligence – one related to individual differences and the other to cognitive development.

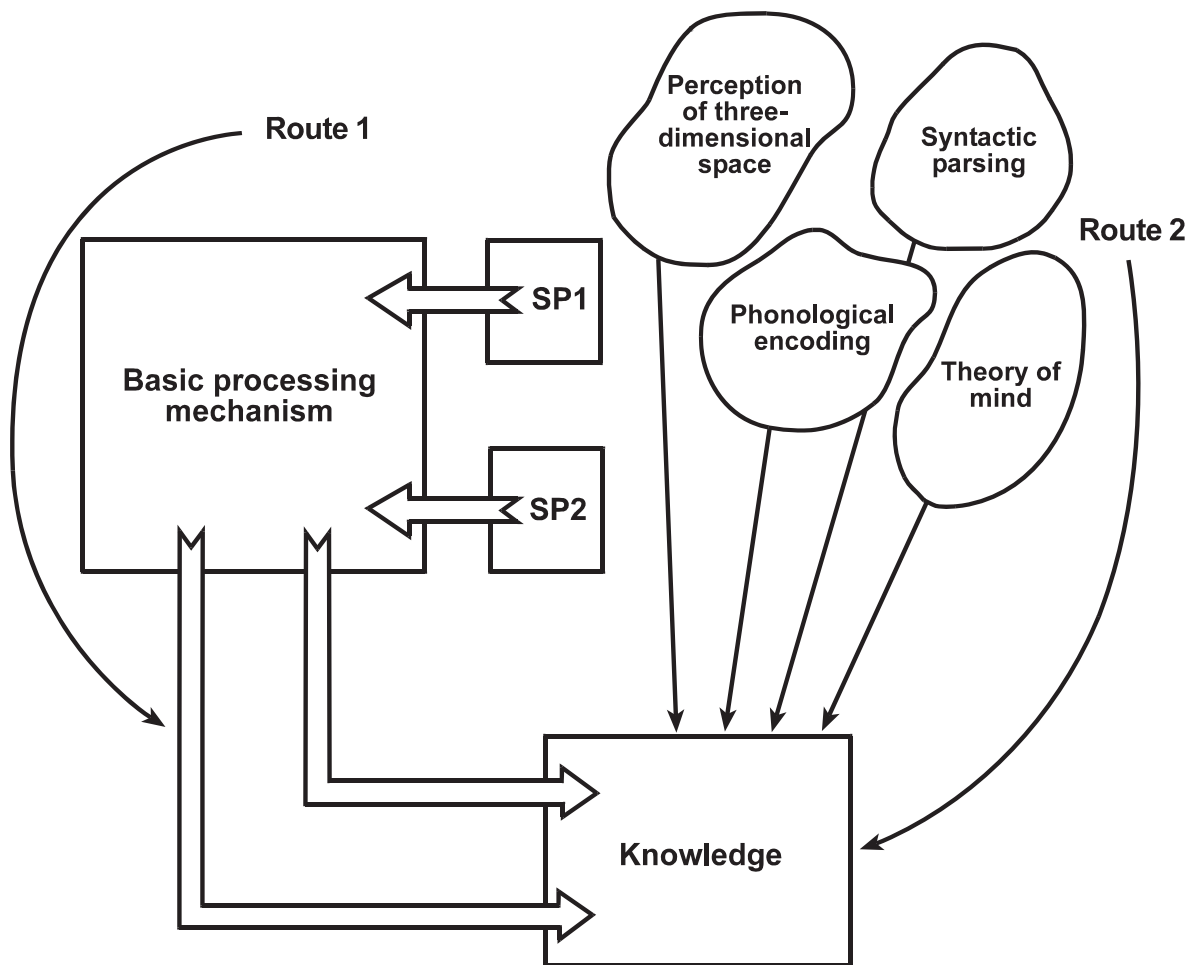


Figure 1: Anderson's theory of the minimal cognitive architecture underlying intelligence and development

In the theory the first route to knowledge (depicted in figure 1) is through thought and this is the route that is related to differences in IQ. Thoughtful problem solving can be done either by verbalising a problem (using language-like propositions to think) or by visualising it (using visuo-spatial representations to think). In the theory this is accomplished by having two different kinds of knowledge acquisition routines, each generated by one of two specific processors. The specific processors are the source of *individual differences in specific abilities*. However, the observed specific ability is constrained by the speed of a basic processing mechanism – at slow speed only the simplest kinds of thoughts of either kind can be implemented (the speed of the basic processing mechanism can be measured using tasks such as inspection time and reaction time). It is this constraint that is the basis of *individual differences in general intelligence* and the reason why manifest specific abilities are correlated (giving rise to the *g* factor).

The second route for acquiring the knowledge that will influence intelligence test performance (depicted in figure 1) is through dedicated information processing modules, and it

is this route that is related to *cognitive development*. Modules have evolved to provide information about the environment that could not be provided by central processes of thought (route-1 knowledge acquisition) in an ecologically useful time frame. For example, if we had to ‘think through’ all the perceptual information presented to us in order to construct a 3-dimensional view of the world we would be literally lost in thought. Because this activity is so important to us and requires great computational power and speed, evolution has created special modular devices to allow us to do this automatically. In the theory this is catered for by the ‘Perception of 3D space’ module illustrated in figure 1. The maturation and acquisition of modules is the prime cause of developmental change. Because modules function independently of variations in the speed of the basic processing mechanism their operation is independent of differences in IQ. *This means that individual differences and cognitive development represent two independent dimensions of intelligence.* It also means that these complex modular attributes are available to non brain-damaged individuals with intellectual disabilities. It is my contention that the general class of processes that we call “executive functions” and that are supported by the frontal lobes of the brain are modular in this sense.

I will now describe two tasks we have used to differentiate the contributions that both speed of processing and executive functions make to differences in g. In the first case I will describe an inspection time measure of speed of processing and in the second Duncan et al.’s (1996) goal-neglect task.

Inspection time and speed of processing

Over the years we have conducted many studies using a particular measure of speed of processing – inspection time or IT (see figure 2). In an IT task a participant must make a simple perceptual discrimination – in this case whether a “space invader” has antennae that are the same or different length. The exposure duration of the stimulus is controlled using a procedure that prevents further processing of the stimulus information by presenting a masking stimulus. By varying the stimulus onset of the mask relative to the stimulus the exposure duration can be controlled. A staircase method (PEST) can be employed to change the exposure duration according to the whether the participant correctly identifies the stimulus as same or different. In this way the exposure duration for a required level of accuracy can be estimated and this is known as the participant’s inspection time.

Standard Inspection Time

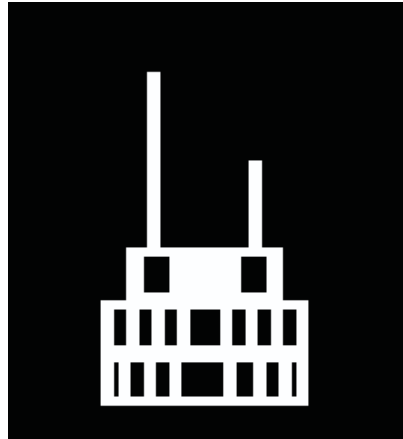


Figure 2: A typical inspection time stimulus

Inspection time has been shown to correlate at about -0.5 with intelligence in adults (Nettelbeck, 1987; Kranzler and Jensen, 1989). I have shown that inspection time is related to intelligence in children (Anderson refs) and have used it to measure speed of processing in a number to difficult to test groups, such as including autistic children (Anderson et al., 1998; Schueffgen et al., 2000), groups with general mental retardation (Moore et al., 1995; Anderson & Miller, 1998), schizophrenics (Badcock et al., 2004), and children at risk of Developmental Coordination Disorder (Piek et al., 2004).

Goal Neglect

Duncan and colleagues believe that the frontal lobes of the brain are the areas responsible for instantiating cognitive routines for problem solving. These routines involve the establishing of hierarchies of task goals, maintaining those goals and monitoring ongoing information processing in service of those goals – the core functions of what others call executive functioning. In a task designed to measure these functions, the goal-neglect task, Duncan not only showed that patients with frontal damage performed very poorly but that performance on this task in individuals with no known brain damage is predicted by their levels of fluid *g*.

The Standard Goal Neglect (GN) Task

WATCH LEFT or WATCH RIGHT

X	F	(Call out aloud)
2	3	(ignore)
B	C	
7	2	
4	4	
H	A	
L	Q	
5	9	
3	8	
T	M	
+		(means watch right)
-		(means watch left)
5	8	
N	F	
R	Y	

Figure 3: Stimulus sequence in the Goal Neglect Task. Letter or number pairs are presented sequentially as described in the text

Figure 3 shows how the goal neglect task works. Participants are presented with a Rapid Serial Visual Processing task (RSVP), where pairs of either letter or digit pairs are presented (sequentially) in the centre of a computer screen. Each pair is presented for 200ms with an inter-stimulus interval of 200ms. Participants must maintain three goals during the task. The first is either to report the stimulus that appears on the left or on the right of the pair. The second is to report letters and not numbers. The third is to report letters from the side indicated by a cue that appears after 10 pairs of digits are presented and is followed by a further 3 pairs. Goal neglect is manifest in an inability to correctly report the appropriate letters that appear after the cue.

Study with patients

This research was conducted with Simon Davies at Murdoch University, Western Australia, John Hodges, formerly of Cambridge and now the University of New South Wales, and Sinclair Lough a clinical neuropsychologist in Dorchester, England. The data are being prepared for publication and first appeared as part of Dr Davies' PhD. We measured inspection time and goal neglect in patients with frontal temporal dementia (FTD), their typical clinical controls, patients with Alzheimer's disease and elderly subjects with no known brain injury but with fluid intelligence test scores that were matched with the FTD group.

Figure 4 presents the data for both inspection time and goal neglect, calculated as z-scores over the groups as a whole (this allows us to compare the tasks which have radically different scales). What we see is that the Alzheimer's group are very poor on both tasks. The FTD group is much worse on goal neglect than the clinical control group and, in fact, is better on inspection time (they have faster speed of processing). The critical comparison is with the "low-*g*" group. These are the older participants who have been matched with the FTD group on their fluid intelligence test score (*g*). Importantly we now see a *double dissociation* between speed of processing and goal neglect. The low *g* group is much better on the goal neglect task but much worse on inspection time. Put another way, it is likely that the elderly participants have lower *g* scores because of slow speed of processing, whereas the FTD group have lower *g* because the damage to their frontal systems has led to an executive functioning deficit. In turn this provides evidence for the hypothesis that there are two dimensions to *g*.

Inspection time and Goal Neglect standard scores as a function of group

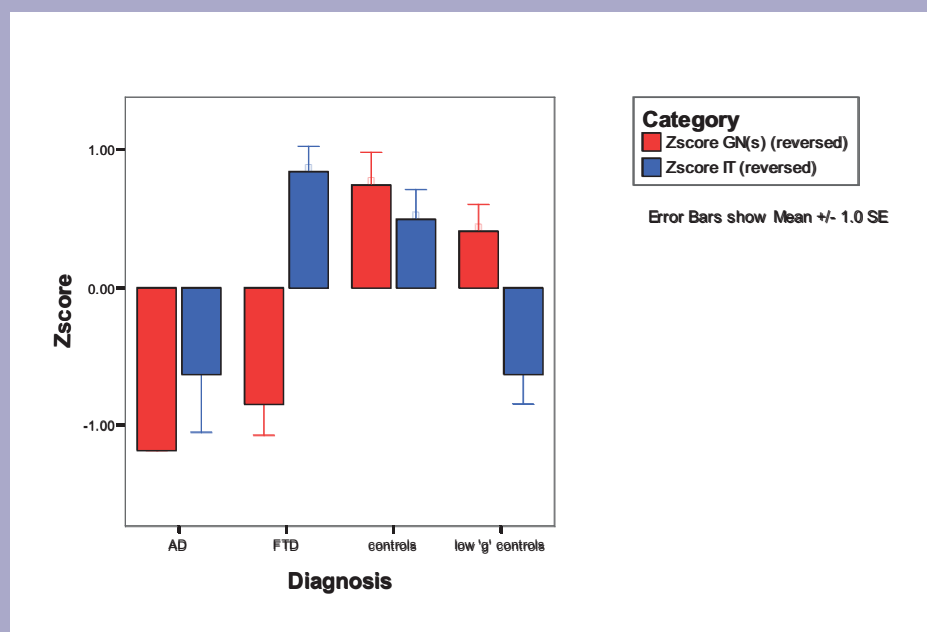


Figure 4: inspection time (blue) and goal neglect (red) scores.

Conclusion

There is a great deal of contemporary interest from cognitive neuroscience in the nature of general (fluid) intelligence or *g*. I have presented some data from patients that suggest that there may be two distinct dimensions to *g*, one related to individual differences in speed of information processing and the other related to executive/frontal functions. Our current project at the University of Western Australia is examining similar questions developmentally by measuring cortical maturity in typically developing children. We collect these data in Project KIDS where children come to the university to be measured on a whole range of psychometric measures as well as information processing and psychophysiological measures. We measure cortical maturity through innovative techniques using evoked related potentials. Our questions are relatively straightforward: Does cortical maturity in the frontal lobes proceed on the same or different path to that in language areas of the brain? Does maturity in each area predict separately behavioural tests thought to reflect the activity of these areas (executive functions and language)? Alternatively, is there a global cortical developmental function that is related to fluid intelligence and is that mediated through speed of processing or executive functioning. All being well we will have the answers in about two years.

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On the mechanism of the genesis of representation in L. S. Vygotsky's psychological theory

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<abstract>¹

The function of perception is seeing, hearing or smelling the features of the object that exists here and now. Therefore, perception cannot come free from the real world that exists at hand now. Perception binds its own subject to the actual present world. On the other hand, with the help of representation, we can reproduce in the mind the object that doesn't exist here and now. Thanks to representation, we are able to separate the object from the real world both temporally and spatially, and beside that hold it in the mind. The most essential function of representation is to replace the actual object by something else mental. In such a replacement relation, the replacing one (representation = signifier) is separated from the replaced one (the actual world = signified) and comes to be able to behave independently. That is, we can become the possessor of the mental world independent of the real one by representation. Representation liberates its own subject from the perceptual bondage of the real world. Therefore, we can say that representation is the most important factor in human mental development.

Well, how does the representation bringing about the mental world that most definitely distinguishes human being from other animals germinate in the process of child development? It must be important for every psychological theory to elucidate this problem. In this report, we try to research what L. S. Vygotsky thinks about the mechanism of the genesis of representation in child development. Vygotsky himself does not necessarily describe the mechanism of the genesis of representation explicitly. However, we are able to find out Vygotsky's own idea about the mechanism of the genesis of representation by analyzing the infant's developmental features described by him. As a result of the analysis, we could find that Vygotsky seemed to regard the consciousness of "Ur-wir" as a root cause which prepares the genesis of representation. The consciousness of "Ur-wir" means the initially appearing psychological commonality of the infant and his mother which serves as the starting point for further development of consciousness. According to Vygotsky, the very consciousness of "Ur-wir" makes it possible for the infant to assimilate the distant object into his psychological inside and deal with it in psychological plane. Based on the psychological commonality of the infant and his mother, the infant for the first time is able to bridge

the distance between him and the object, and retain the psychological set (attitude) to the distant object.

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Rough-and-tumble play and expressive aggressive behavior

— How do they occur and develop in late childhood ? —

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Introduction

Peer relationships in childhood are important for their social development. Nevertheless, it is pointed out that problems in peer relationships such as “being attacked directly” and “the existence of troublemakers” (Koishi, 1995) are major stressors to children (Nakazawa, 1997). Moreover, as in childhood, children are often occupied with peer relationships, and we should notice that children rejected by their peers are in great distress. Maeda (1995, 2001) claims that children with salient aggressive behaviors strongly feel loneliness and are often rejected by their peers. It is pointed out that the expressive aggression is often seen in boys’ play and that aggressive behaviors among boys tend to be reinforced in their relationships with peers (Yashima, 2002). This means that there is a complexity of boys’ relationships. On the one hand, aggression tends to be reinforced by peers but at the same time they reject high-aggressive children.

Many researchers have investigated the relationships between aggression and social information processing (e.g. Hamaguchi, 1992; Sakai & Yamazaki, 2004) because the high aggressiveness is thought to be related with cognitive distortion. These studies, however, only consider aggressive behaviors recognized by children themselves or their friends. Therefore, it is necessary to grasp aggressive behaviors caused by an interaction of children (In & Hirota, 1996).

We also have to think about children’s aggression from a perspective of play. Aggression is defined as “a behavior which has an intention of hurting someone”, but as far as childhood is concerned, there is something like a play-fighting which has a look of aggression. As physical activity play, there are ‘locomotor play’, ‘exercise play’ and ‘rough-and-tumble play(R&T)’. R&T refers to vigorous behaviors such as wrestling, grappling, kicking, and tumbling that would appear to be aggressive except for the playful context. It peaks between 8 and 10 years, and boys exceed girls in frequency. In his study, Smith reports the existence of play which looks like aggression. Most children start R&T with making a physical move on other children (such as patting a shoulder),

and attacked children sometimes react aggressively. Smith focuses on how sociometric status influences children's R&T. However it must be useful to comprehend the process of aggressive behavior and R&T from a view point of the interaction with others, and inclusively understand how aggressive behavior and R&T occur, and what problems and dangers are.

So, this study aims to observe and make a model of how boys in late childhood show and develop their behaviors of expressive aggression and R&T in their relationships. In this study, expressive aggression is defined as physically and verbally aggressive behaviors, while R&T is defined as a vigorous behavior which seems to be behaviors of expressive aggression but in the playful context.

Method

- The subject of this study was 20 boys who attended an after-school care program. 15 were in 4th grade, and 5 were in 6th grade.
- I observed them once a week from 3 pm to 6 pm. The observation was carried out 7 times in all from May to July 2007.
- Sitting in a corner of the room, I kept taking a note of what they did. When aggressive behavior or R&T occurred, I took meticulous notes on the process of their behaviors including their looks, reactions and voices. If most children played outside, I also went out for observation.
- I made a transcription from the note and after every observation. This data was then analyzed by Grounded Theory Approach. First of all, the data was broken down into separate units. Then they were labeled by the type and intent of behaviors. By property and dimension I figured out how a given unit goes to another unit, and constituted a model.

Result

I don't include "admonition" into aggression because it has more constructive intentions than aggressive behavior. And I separate aggressive behavior and R&T into two groups: "first behavior" and "non-first behavior", because first behavior has a big influence on the subsequent development. An attached handout shows the model I have constituted but today I would like to focus on several points.

(a) There are 2 types of first behaviors: first R&T and first aggression

“First R&T” occurs in play or arise suddenly as teasing or meddling. When it occurs in play or when its “strength” is low or middle, “playful reaction” happens. But as the “strength” becomes higher, attacked children tend to react aversely. “First aggressive behavior” occurs after a physical warning or an unsatisfactory end of former aggressive behavior. In this case, the victim is not necessarily a participant of former aggressive behavior or warning. When children suffer “first aggressive behavior”, children who already feel discontent react aggressively like intimidation or fighting back, and children who hardly feel discontent just try to avoid the aggression or show passivity.

(b) There were three types of non-first aggressive behaviors: “R&T”, “aggressive behavior with both seriousness”, “aggressive behavior with a gap of intentions”.

There are secure R&T and precarious R&T. Secure “R&T” is characterized by a dual-direction and a low or middle strength. Meanwhile precarious “R&T” is characterized by one-way and a high strength. But the stability changes often. Secure R&T occasionally changes into other 2 types of behaviors, and precarious R&T changed into a secure one. This means that the strength and direction of behaviors change the stability and their category.

“Aggressive behavior with both seriousness” means a situation where both children seriously show their expressive aggressions. We can find two patterns here. First, with increasing “strength”, a fighting back as R&T gradually turns into “aggressive behavior with both seriousness”. Secondly, a child who feels dissatisfied with the admonition or the end of former aggressive behavior shows “first aggressive behavior”, and another child reacts aggressively. This instantly turns into “aggressive behavior with both seriousness”. Thus there are different processes to get to “aggressive behavior with both seriousness”.

“Aggressive behavior with a gap of intentions” means a situation where one child attacks as play but the other child attacks seriously. When “strength” of “R&T” grows stronger, one participant becomes serious. And the “R&T” turns into “aggressive behavior with a gap of intentions”.

(c) There are three types of ends: the “peaceful end”, the “end with one-side anger” and the “end with both-side anger”.

The “peaceful end” means an end with enjoyable atmosphere. Only “R&T” gets it. Two types of causes lead to this end. One is a clear cause such as paper-rock-scissors, admonishment by other children or daily routines like leavers assembly and going-home time. Another cause is that as “R&T” progressively weakens, both children step away from each other, and then end R&T with smile. After “peaceful end”, children are jolly-looking. And what is more some of them seem to feel regret at ending the R&T.

The “end with one-side anger” means an end with a situation where one child is angry or surely in a bad mood but the other is happy. It mainly arises from “aggressive behavior with a gap of intentions”, but sometimes from “first R&T” having a high strength. There are 3 causes leading to this end: one child’s resignation, a third-person’s admonishment and one-sided stop of attack for unknown reasons.

The “end with both-side anger” means an end with anger or discontent on both sides. It arises from “aggressive behavior with both seriousness”. There are 2 causes leading to this end: either a third-person admonishes the participants, or both children gradually step away from each other.

(d) It is therefore concluded that “strength”, “intent of behavior” and “discontent of participants” are the major factors that develop the process of this model of aggressive behavior and R&T.

As the degree of “strength” becomes higher in “R&T”, children becomes more seriously. So the R&T changes into “aggressive behavior with a gap of intentions” or “aggressive behavior with both seriousness”. Furthermore, children react aversively to “R&T” in case it has a high degree of “strength”. These results suggest the importance of “strength”. When the levels of “strength” are the same, “first R&T” causes obliging reactions, while “first aggressive behavior” causes aversive reactions. And when the “intent of behavior” was ungraspable, a victim reacts after observing the look of the performer. These facts indicate the importance of “intent of behaviors”. Moreover if behaviors end with children’s anger or discontent, they tend to show “first aggressive behavior” to the participant of the former aggression or to another child who has nothing to do with it. There are some cases that a child who receives a tough reprimand from other children shows “first aggressive behavior” to them. They suggest that “discontent of participants” functions as a trigger for aggression and that children get out from the discontent in the form of aggression, and show the circularity of

aggression.

Conclusion

First and most importantly, this study reveals that, among boys, “aggressive behavior with both seriousness”, ‘R&T’ and “aggressive behavior with a gap of intentions” are very close to each other and one gradually changes into another. Smith’s research also reports a case that R&T gradually changes into aggression. But he does not treat it thoroughly because he considers it is caused only by rejected children. In my study, however, there are some cases that “R&T” change into other types of aggression and it does not always happen to certain children. So there is a possibility that the change of behaviors is not unusual for children. In & Hirota (1996) observe that there is a give-and-take of low aggressive behaviors. They indicate that such aggressive behaviors maintain the relationships between children. Accordingly we cannot easily split boys’ behaviors, which seem aggression, into “play” and “serious aggression”. We have to consider how we should treat R&T, which is included in aggression-like behaviors.

There are 3 major factors, which conduce to the change from play to aggression: “strength”, “intent of performer” and “discontent of participants”. A frame of behavior seems to be judged by the “intent of performer”, which is figured out by “strength” as an external condition and “discontent of participants” as an internal condition. This may be an “encoding” part in social information processing of Dodge. And the circularity of aggression is also suggested from the fact that discontent as the end of aggression leads to another aggressive behavior.

And finally, the striking fact is the existence of “aggressive behavior with a gap of intention”. “R&T” and “aggressive behavior with both seriousness” are well formed because the participants are in the same frame (“This is play fighting”. “This is real fighting”). But regarding “aggressive behavior with a gap of intention”, the participants are in the different frames, so the situation is fragile. Nevertheless it occurs occasionally and lasts long. In the meantime, some behaviors change into “aggressive behavior with both seriousness”, or end with a gap of intention. Yano(1989) finds out the same 3 types of frame, from his observation of kindergarteners. Using “frame” concept of Bateson, Yano says that “aggressive behavior with a gap of intention” means a discrepancy of the frames. And he also argues that this discrepancy is similar to “Ijime (bullying)”.

This time I could not examine the instability of frame, so I would like to continue to

consider it in the future.

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IV

オーフス大学

11/11～13/2008

Aarhus Universitet

オーフス大学 Hans Uffe Sperling-Petersen 教授招聘

神戸大学大学院人間発達環境学研究科人間環境学専攻

梅村 界渡

神戸大学大学院人間発達環境学研究科人間環境学専攻

柴 亜矢子

報告の概要

2008 年の 11 月 11 日から 13 日にかけて、デンマーク・オーフス大学(Aarhus University, Denmark) から、Hans Uffe Sperling-Petersen 教授（専門は分子生物学）を招聘して行われた活動について報告する。内容は Sperling-Petersen 教授によるセミナー、「海外でサイエンスする」、及び 2 つのフィールドワークについてである。

自然環境論セミナー（11 月 11 日）

活動初日であるこの日は、まず Sperling-Petersen 氏を三宮に迎えに行って最初の挨拶をし、神戸大学キャンパスを徒歩で簡単に紹介して、六甲台の食堂で昼食をとった後、午後から Sperling-Petersen 教授によるセミナーを開催した。セミナーの進行は、神戸大発達科学部の田中成典教授が行った。内容は彼の最近の研究である抗生物質（antibiotics）に関連した新薬の開発についてであった。抗生物質とは、微生物が産出する、他の微生物の増殖を抑える物質のことで、薬として細菌感染の治療に役立てられている。最初に発見されたペニシリンなどは有名である。抗生物質は細菌が活動したり増殖したりするときに段階的に機能を発揮するいくつかのタンパク質をターゲットにして作用することで細菌を殺すが、Sperling-Petersen 氏の研究は、これまでとは異なるタンパク質をターゲットにすることで、感染した細菌の種類に応じた効果的な薬を作ることができる可能性を示唆するものであった。私個人としては非常に興味深い内容であったと思うが、事前にメールや掲示で宣伝していたにもかかわらず、やや内容が専門的過ぎたせいか、聴講に来た人数が企画関係者以外では 3~4 人と少なかったのは残念である（梅村）。

フィールドワーク：灘の酒蔵見学、その他（11 月 12 日）

この日は朝の 10 時ごろに初日と同じ待ち合わせ場所で Sperling-Petersen 教授と合流した後タクシーで移動して、神戸の灘の酒蔵を案内した。フィールドワークは企画の段階でいくつかの候補を挙げ、そのリストを事前に彼に届けてどれが良いか選んでもらう形式にしていた。彼は専門柄微生物について非常に詳しく、酵母や麴を使う日本酒造りに興味があったようで、これを選択した。案内したのは浜福鶴吟醸工房、菊正宗酒造記念館、白鶴酒造資料館の 3 ヶ所で、灘五郷のうち魚崎郷、御影郷と呼ばれている地域にある。私は酒

造りについてそれほど詳しくはないので、事前にある程度予習と訪問先の下見をしてから当日の案内に臨んだ。記念館や資料館では外国人観光客用に英語の説明の看板があったため説明する際に助かったが、それでも細かい専門的な事柄を英語に訳して補足説明するには骨が折れた。しかし案内員によるパフォーマンスや利き酒などイベント的なこともあって、それなりに満足してもらえたと思う。また彼は写真を多く撮っていたが、それは持ち帰ってオーフス大学での初等向け授業の資料として用いるそうだ。この点は、交流を通じてお互いの学術活動に生かすという学術 Weeks 本来の目的が果たせたと思う。酒蔵案内の後にはタクシーで三宮まで行き、カフェで休憩した後、Sperling-Petersen 教授の希望で電化製品屋と CD ショップを案内した。その後、滞在先のホテル行きのシャトルバス乗り場まで行き、明日の予定を確認して別れた（梅村）。

「海外でサイエンスする～デンマーク・オーフス大学編～」 (11 月13 日)

第1部 近江戸伸子准教授（人間形成論）

第2部 Sperling-Petersen 教授（オーフス大学）



今回の学術WEEKS2008 のスタッフとして、デンマークのオーフス大学の Sperling-Petersen 教授ならびにに本学の近江戸伸子准教授の「海外でサイエンスする～デンマーク・オーフス大学編～」のサイエンスカフェの行事に携わり、参加者数10 人という非常にアットホームな雰囲気でお茶を飲みながらの講演会ができた。このイベントに携わって感じたことは、参加者数アップはイベント

運営者の工法が重要なカギである。このような行事の成功の判断基準として参加者数があげられるが、しかし私が今回行ったポスター作成、ポスター貼りだけでは数のアップが難しかったことから、直接先生にお願いして宣伝していただくことになった。だがゼミに入っていない低学年生までには、そのイベントが浸透しないといえる。どのようにしてアピールして、浸透させていくかが今後の課題である。それと同時に魅力ある内容でないと意味がない。今回は幸いなことに海外留学に興味のある2 回生が多かったので、低学年にもアピールできていたといえる（柴）。

フィールドワーク：神戸ワイナリー見学、その他 (11 月13 日)

この日は午後から、Sperling-Petersen 教授、神戸大発達科学部の近江戸教授、梅村の3人で、神戸ワイナリーの見学に行った。2 日続けて酒関係の施設の訪問というのも妙なものだと思ったが、Sperling-Petersen 教授は、パリ大学に留学していた経験があるからか、ワ

インに詳しいようだったので、案内してくれたワイナリーの人もふくめ 4 人で色々とワインの話をして盛り上がってしまった。私も個人的にワインが好きなので満足だった。ワイナリー訪問の後は、最終日ということで、3 人で三宮のすき焼き屋で夕食を食べた。特に問題はなかったが、夕食に行く店を事前に決めていなかったのも、店を探して少し歩くことになったのはミスだったかもしれない。その後、最後の挨拶をして別れた（梅村）。

（全体を通しての感想）

・ある程度事前に予定を組んで、訪問先の下見や英語での説明などの準備をしていたおかげで、全体としては大きなミスはなく進行できたと思う。セミナーについては進行を田中教授に任せていたので私自身のすることはビデオの撮影くらいであったが、2 日目のフィールドワークについては基本的に私 1 人で企画から実行までをしなければならなかったのが大変だった。大学に招聘した人を案内するという経験自体が初めてだったので緊張したが、**Sperling-Petersen** 教授が温和な人物で私に合わせてくれたということもあり、移動中に普段の生活や各々の国の時事などについての会話をするなど、思っていたよりはスムーズにコミュニケーションができてとても楽しかった。一度このような経験をしておくと、次に同様のことがあったときにはどうするかなどのシミュレーションが頭の中でしやすくなるので、私にとっては非常に良い経験になったと思う。反省点は招聘するこちら側での情報共有度の不足である。それぞれのイベントの担当者がいつどこで何を行う予定かをもう少し把握しておけば、全体の流れがスムーズになったと思う。この反省は今後に生かしたい（梅村）

・イベント運営は、担当者の個人能力に委ねられているため、学術WEEKS 全体の一体化が欠如していると感じた。宣伝のためのポスター作成、参加者名簿、カフェアゴラとの軽食などの打ち合わせ、会場設営、当日のイベント運営に携わったが、ほかのセミナー担当者がどのようなことをしているのかわからないし、どこまでやればいいのかわからなかった。それを改善するためには、ある程度の統一やマニュアル作りが必要だと感じた。

関係者の方、参加者の方、準備・運営などの約1ヶ月間で本当にお世話になりありがとうございました（柴）



The bacterial translation initiation factor IF2 - a target candidate for species specific drug design

Professor Hans Uffe Sperling-Petersen
Aarhus University, Denmark

Summary

For more than 50 years we have known antibiotics which target macromolecules in the elongation step of the translation machinery, in particular aminoglycosides. The initiation step however seems much more reluctant in providing us with efficient and specific inhibition targets for bacterial infections of humans.

It was recently discovered that two of the bacterial translation initiation factors, IF1 and IF2, are universal proteins found in homologous forms in all living organisms.

The presentation will concentrate on the bacterial IF2 (eIF5B in eukaryotes) and demonstrate characteristic "constant" and variable" regions in this protein. We have studied this factor in several bacteria and alignments of these in combination with databank sequence data of bIF2 from archae and eukaryotes reveals the C-terminal part to be conserved between different species while the N-terminal part is characteristic by its variability in both length and composition.

It is suggested that the species-specific N-terminal of IF2 may be useful as a target for species-specific selective drugs acting on the protein or the nucleic acid level.

In addition aspects of raising antibodies against the translation initiation factor IF2 will be discussed and results from immunochemical studies will be presented.

The bacterial translation initiation factor IF2

- a target candidate for species specific drug design

Hans Uffe Sperling-Petersen

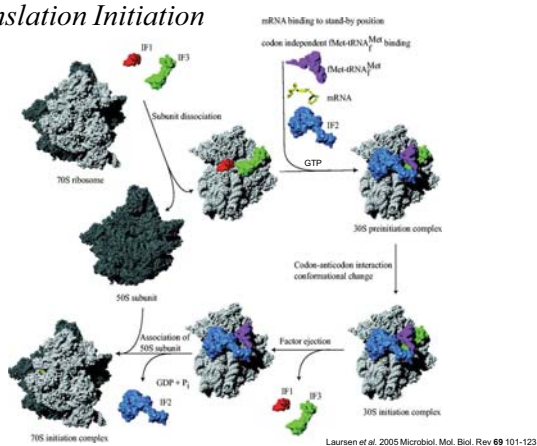
Institute of Molecular Biology, Aarhus University, Denmark

The Biological Translation Initiation Factor IF2 is
a universal, essential, multi-functional & multi-domain protein

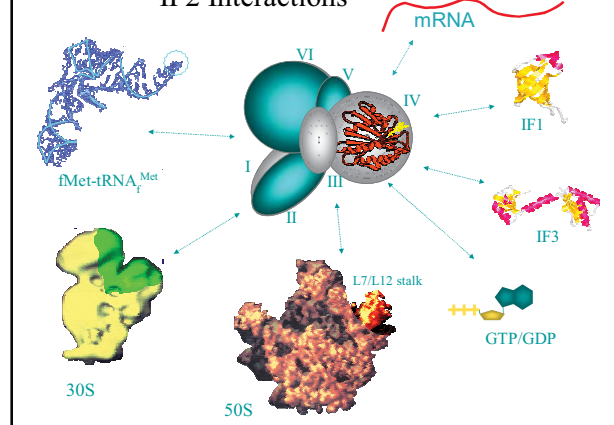
In the following I will present IF2 and our research on this challenging protein including:

- Function - Macromolecular interactions
- Structure - only partly known
- Epitope studies
- Developed of a method using IF2 as a universal phylogenetic marker

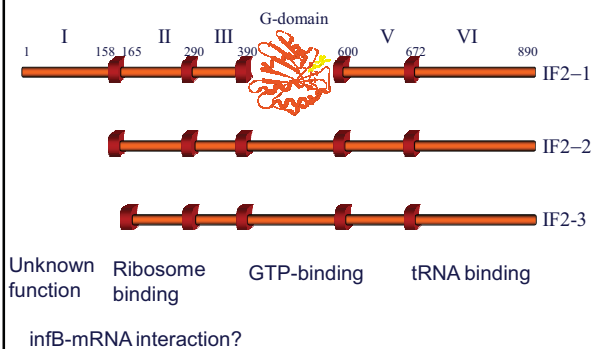
Translation Initiation



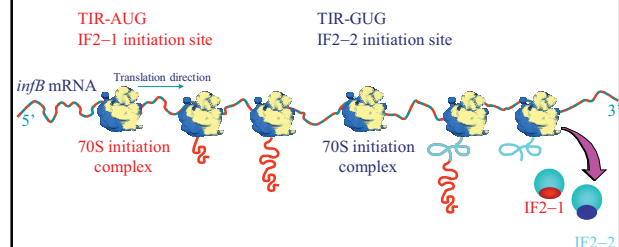
IF2 Interactions

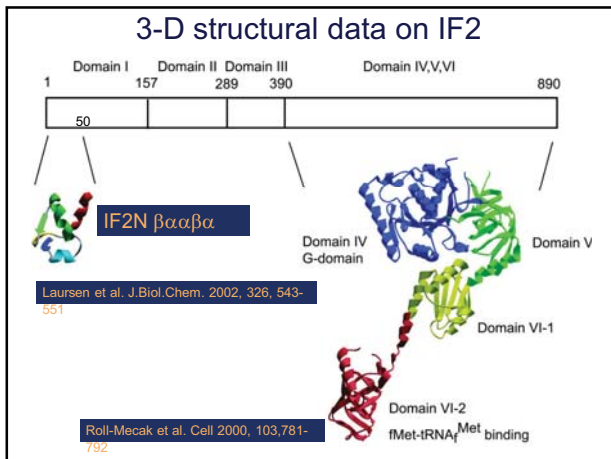


Three forms of *E. coli* Initiation Factor 2



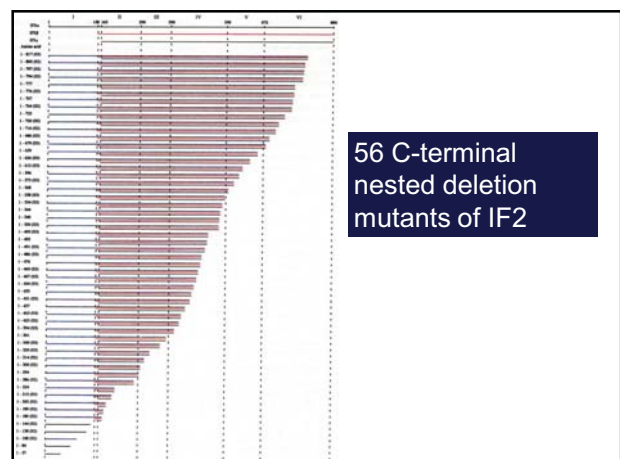
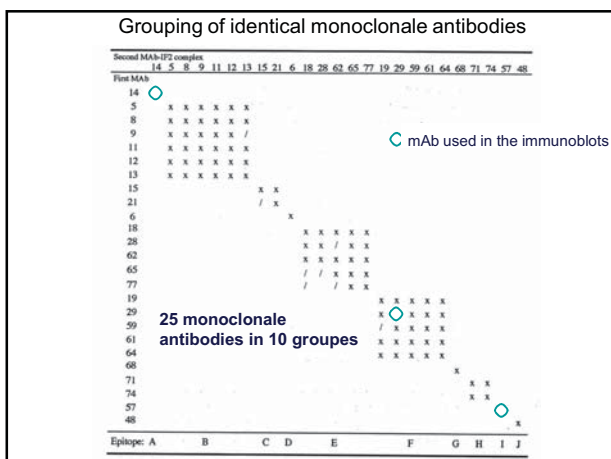
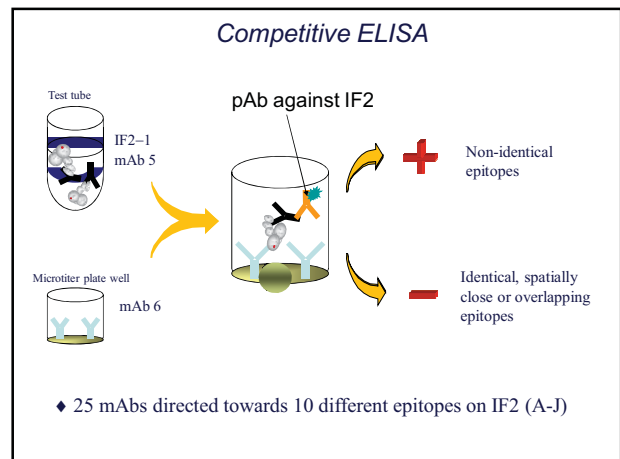
Tandem Translation of *infB*





Using the mouse hybridoma technique, we raised a number of Monoclonal Antibodies against *E. Coli* IF2

- ### IF2 & mAb
- Using the mouse hybridoma method 96 mAb against IF2 were isolated by 4 fusions
 - Using competition-ELISA 12 different mAb-groups were identified
 - Cell supernatant from the 12 groups was used in Western immunoblotting for epitope characterisation
 - One representative from each group produced in larger scale, purified and used as inhibitor in functional studies



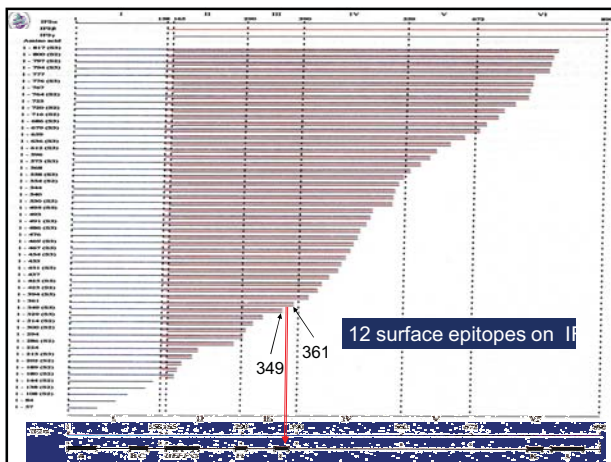
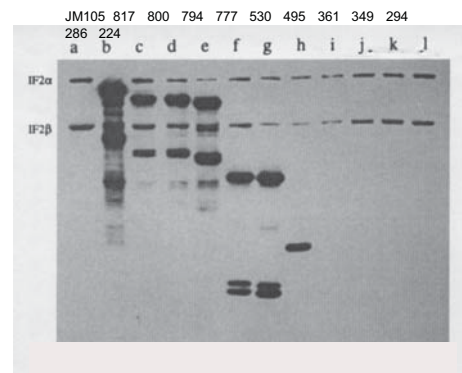
Identification of 12 surface epitopes on IF2

1. SDS-PAGE and electroblotting of **cell lysat** from cells expressing rekombinant C-terminal deletion mutants of IF2
2. Incubation of blot with selected hybridoma **cell supernatant**

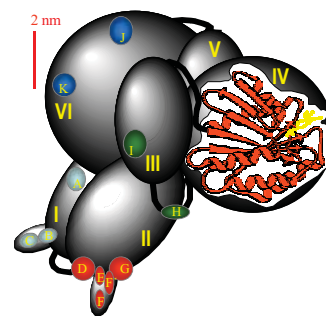
Advantage of this method:

- No purification of rekombinant protein
 - easy to test large number of mutants
- Very small amount of mAb required
- No purification of mAb required
 - easy to test large number of clones

Epitope I identified with cell supernatant from mAb 57



An Epitope Map for IF2



I	A	F24-V37	14
	B	A108-A116	9
	C	R117-E137	20
II	D	D158-E179	22
	E	A180-E188	9
	F	E189-R201	13
III	F'	L202-E212	11
	G	N213-E223	11
	H	K286-S294	9
IV	I	I349-E360	12
	K	E777-Q793	17
	J	V817-R872	56

Results/Conclusion Monoclonal Antibodies against IF2

- 12 epitopes identified
- N-terminal highly solvent exposed and antigenic
- No epitopes in the G-domain = highly conserved
- mAbs were purified and used for functional studies of IF2 in vitro

Variation/conservation of IF2

- intra-species
- enterobacteria
- eubacteria
- archaeobacteria
- eukaryotic organelles
- eukaryotic cytoplasm

IF2

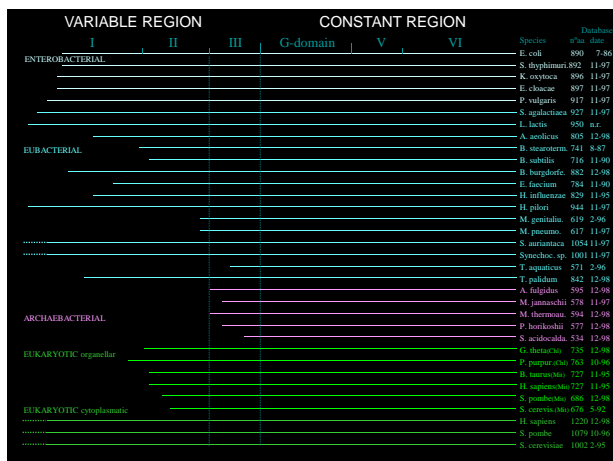
- analyzing more than 50 isolates including Danish clinical isolates (from blood, urine and faeces) and faeces isolates from wild animals (Spanish bulls and Thai elephants)
variation was found at only **one** aminoacid-position (out of 890)!

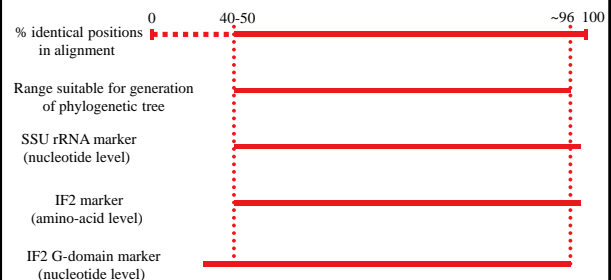
- the variation found was at position 490 in the G-domain: approximately 50% glutamine and 50% glycine
- the N-terminal 100% conserved

1	d. I-III	G-domain	d. V-VI	Species	Database date
				<i>E. coli</i>	7-86
	94	99	99	<i>S. thyphi</i> .	11-97
	89	94	98	<i>K. oxytoca</i>	11-97
	88	94	97	<i>E. cloacae</i>	11-97
	71	89	86	<i>P. vulgaris</i>	11-97
	17	71	51	<i>B. stearot.</i>	8-87
	19	75	52	<i>B. subtilis</i>	11-90
	12	73	49	<i>E. faecium</i>	11-90
	53	82	81	<i>H. influen.</i>	11-95
	16	64	33	<i>M. genitali</i>	2-96
	14	59	44	<i>T. aquaticus</i>	2-96

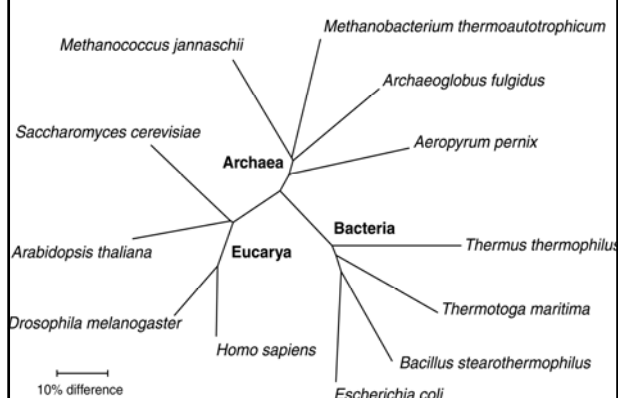
IF2 is very conserved among Enterobacterial species

The N-terminus of IF2 is highly variable in evolutionary distant species

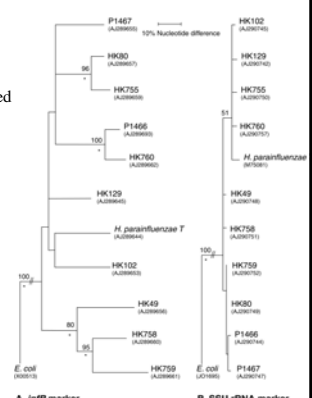




Methanobacterium thermoautotrophicum



400 nucleotides in the G-domain were used to compare 11 strains of *Haemophilus parainfluenzae*



infB/IF2 was used to determine population structure

resulting in:

- Regrouping *Streptococcus agalactiae* strains
- Clonal origin of aminoglycoside-resistant *Citrobacter freundii* infections

Conclusions Translation Initiation Factor IF2 is:

- a universal protein present in all living organisms
- essential for survival
- multi-functional &
- multi-domain protein

which may be used as

- A universal phylogenetic marker
- Especially useful for analyzing closely related organisms such as population studies

And due to the species specific N-terminal and the fact that no antibiotic is known to target IF2:

- A possible new and species-specific drug target

Although we have obtained considerable and detailed knowledge about this essential protein, there are important challenges for the future research including the development of a high-throughput array screening method of IF2 functional inhibitors and the elucidation of the function of the bacterial IF2 N-terminal domain.

The presented work is the joint result with my coworkers: Kim Kusk Mortensen, Janni Egebjerg Kristensen, Brian Søgaard Laursen, Hans Peter Sørensen, Juan Manuel Palacios Moreno, Jens Kildsgaard and Jakob Hedegaard

第1部：海外でサイエンスを学ぶ
近江戸伸子准教授（人間形成論）

Study in abroad

- 大学院・博士課程・日本学術振興会特別研究員 Research fellow for young scientist
http://www.jsps.go.jp/j-pd/pd_gaiyo.htm
- 海外の大学での博士課程 PhD course in abroad (5年間) \$25000-40000/year
- ポスドク (Post Doc)
- 客員研究員 (visiting researcher)

TOEIC, TOEFL, GRE

IELTS	TOEFL	TOEIC	英検	GRE
9	670+/293+	990+		
8.5				
8				
7.5	600/250	890	1	
7		810		

IELTS=International English Language Testing System
GRE=Graduate Record Examination

My careers

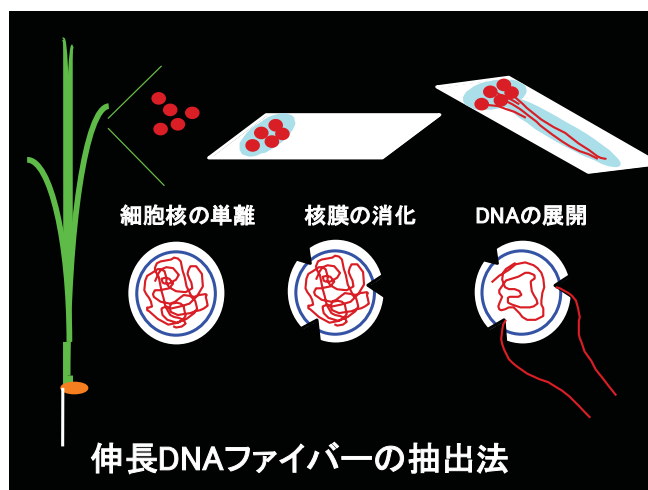
- Wageningen Univ. 1996, 2007
Collaboration
- Yale Univ. 1999
 - Internationalization
 - Standardization
 - Motivation
 - Independent

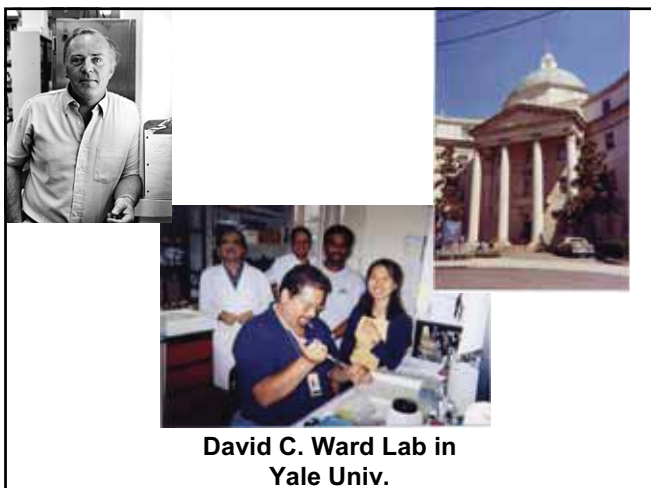
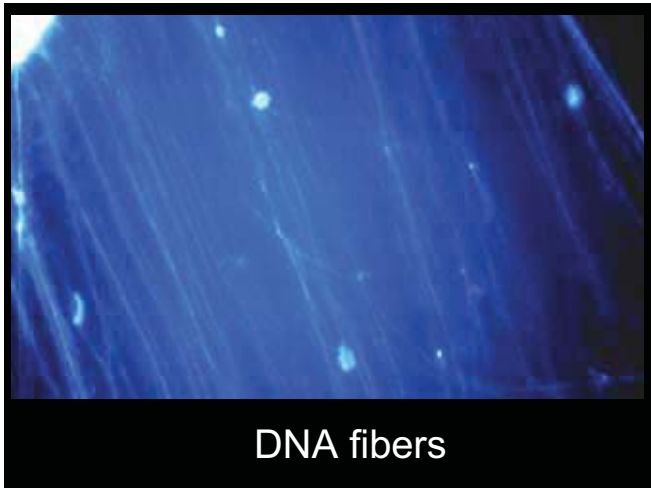


The mission of Wageningen UR:
"To explore the potential of nature to improve the quality of life".



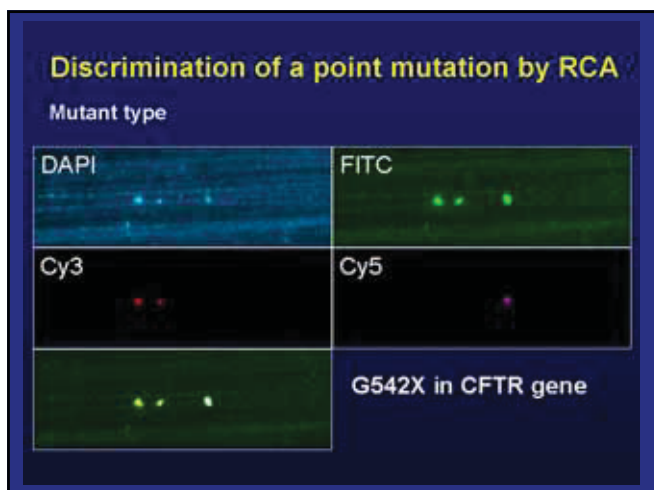
Hans de jong Lab. (1996)





Rolling Circle Amplification (RCA)

RCA can replicate circular oligonucleotide by DNA polymerase and amplify via DNA stand displacement to generate 10^4 or more copies of each circle within 30 minutes.



Purdue University Interdisciplinary Life Science Ph.D. Program (PULSe)

- Receive paid tuition and an assistantship for the duration of study, given solid academic standing and lab performance.
- Rotate in four labs for periods of seven weeks in the first year, two rotations in the fall semester and two in the spring semester.
- Participate in a curriculum designed to provide students with the professional skills necessary for research in the life sciences. These include: scientific communication, grant writing, and ethics.

Skills

- Curriculum vitae (CV)
- High English ability
- Publication list, Technical skills
- Essay
- Recommendation letters

Recommendation factors

- Motivation
- Intellectual ability
- General knowleges
- Understanding of major field
- Ability to analyze ideas
- Ethical standards and integrity
- Oral English expression skills
- Potential success as a TA
- Promise research , scholarship, creative endeavor

Training

- High English ability
 - Experimental skills
 - Discussion
 - Logicalness
 - Personality
-
- Academic meetings
- Laboratory works
- Lectures
- Papers
- Personal communications
- Study English



Science studies at Aarhus University

Aarhus, Denmark

by
Hans Uffe Sperling-Petersen



AARHUS UNIVERSITET



Where in the world is Denmark?



- Population: 5.2 million
- Area: 42,930 km²
- Peninsula + 406 islands
- Language: Danish
- Political system: Democratic Monarchy
- Monarchy since 800 AD (1,200 years)
- Democratic since 1849 (160 years)
- Member of the European Union

Do you know any Danes?



Ole Rømer (1644 -1710) - born in Aarhus

The speed of light

Fountains at Versailles



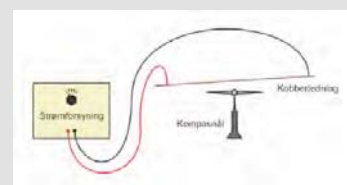
The Bering Sea

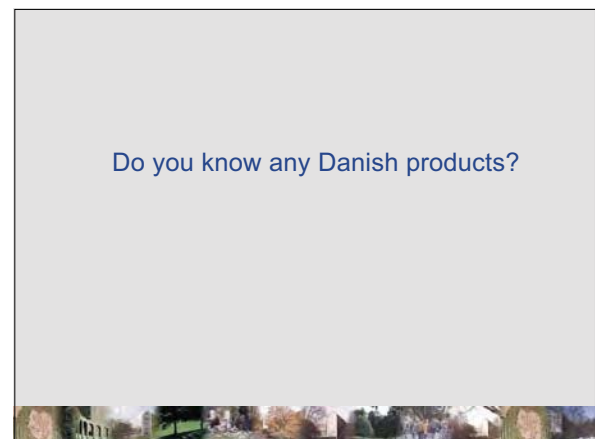
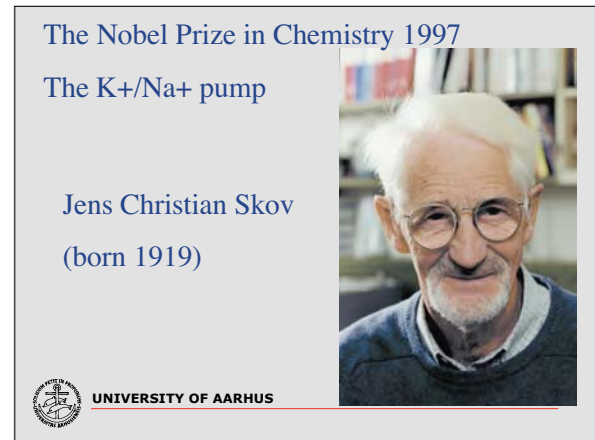
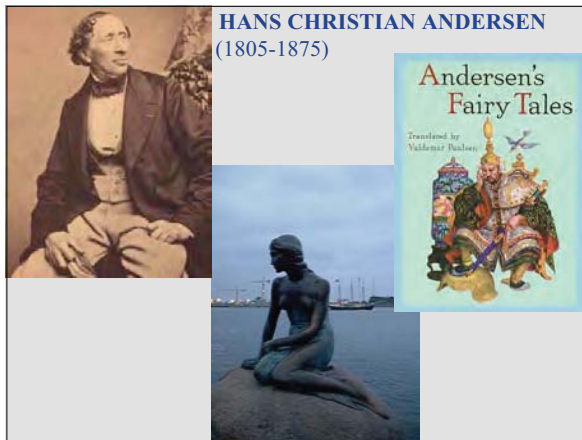
Vitus Bering (1681-1741)
Born in Horsens, Denmark

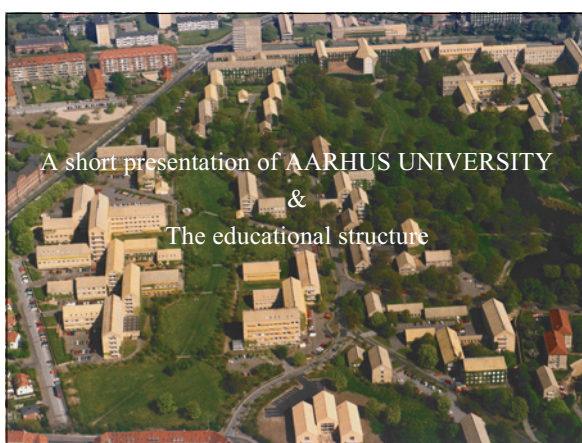
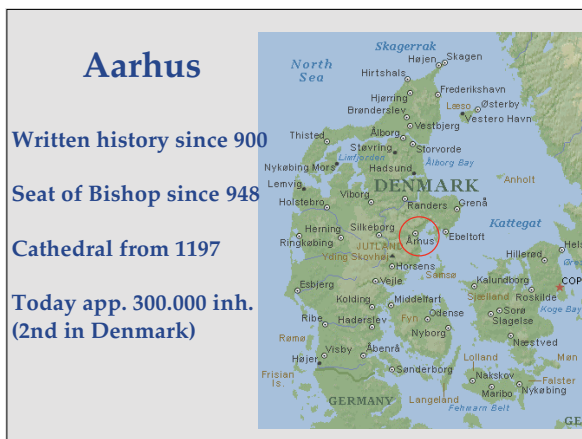


Hans Christian Ørsted (1777 - 1851)

Discovered in 1820 electromagnetism







AARHUS UNIVERSITY

2nd oldest and 2nd largest university in Denmark

Among the top 100 of the approximately 17,000 universities in the world

- Founded in 1928
- Students: 34.000
- Staff: 9.000



6 faculties + 2 schools

1. Arts (19 Departments)
2. Medicine & Dentistry (14 Departments)
3. Social Sciences (4 departments)
(Law, Economics, Political Science, Psychology)
4. Theology (4 Departments)
5. **Natural Sciences (8 departments)**
(Biology, Chemistry, Computer Science, Geology, Mathematics, & Molecular Biology, Physics, Science History)
6. Agriculture & food
7. Aarhus School of Business
8. School of Education (former The Pedagogic University)



Pictures from the campus - in the summer





Structure of Educations (Science)

The 3 + 2 structure has been implemented

3-years Bachelor Program +
2-years Masters Program

In addition we have a 3- or 4-years PhD-program

NEW: Honours program in Science
Especially offered for outstanding foreign students with a Science Bachelor Degree
4th year special program incl. fellowship + 4 years PhD-fellowship

Educations are offered in:

- Computer science
- Mathematics
- Chemistry
- Physics & Astronomy
- Biology
- Geology
- Molecular Biology
- Engineering
 - Biotechnology
 - Computer technology
 - Chemical engineering

All courses described at:
www.nat.au.dk

Courses are offered by the 8 departments
A Special one-semester course in Envionmental Science

Teaching language

- Undergraduate: Danish year 1+2+3
- Graduate: English year 4+5+6+7+8
- Projects: English year 3->8

Exceptionally some bachelor (3rd-year) courses are offered in English

Forms of teaching

- Lectures (45 min) - based on textbooks (99% in English)
- Theoretical exercises
 - classes of 18-24 students, solving examn questions
- Laboratory exercises
- Individual projects - theoretical or experimental
 - Especially for exchange students: 5-60 ECTS credits



Protein technology, laboratory course



Individual projects



Forms of examination/evaluation

Written examination - normally 4 hours, with or without textbooks

Oral examination - normally 30 min on a known or unknown question

Written reports - 10-50 pages

Grading systems

The Danish 7-step-scale - an absolute scale
(NEW from September 1st 2007!)

Passed/not passed

12	A
10	B
7	C
4	D
2	E
0	F
-3	FX

SERVICES

for International Exchange Students
at the University of Aarhus



- Free language and culture course **"Denmark Today"**

3 weeks in
August and
January



- Personal Mentor
- Free healthcare
- Accommodation reservation



UNIVERSITY OF AARHUS
International Secretariat



AARHUS UNIVERSITET

Practical information

Housing - will be arranged by our International Secretariate

Cost of living (approximately):

Room:	2.250 dkr	= 300 € = app. 38.500 JPY
Food:	1.125 dkr	= 150 € = app. 19.250 JPY
Others:	1.125 dkr	= 150 € = app. 19.250 JPY

Total: 4.500 dkr = 600 €/month = app. 77.000 JPY

Danish currency: KRONER, DKr (crowns) 1 € = 7,5 kroner
100 JPY = 5,8429 DKr

Addresses

Aarhus University: www.au.dk

Faculty of Natural Sciences: www.nat.au.dk

Department of Molecular Biology: www.mb.au.dk

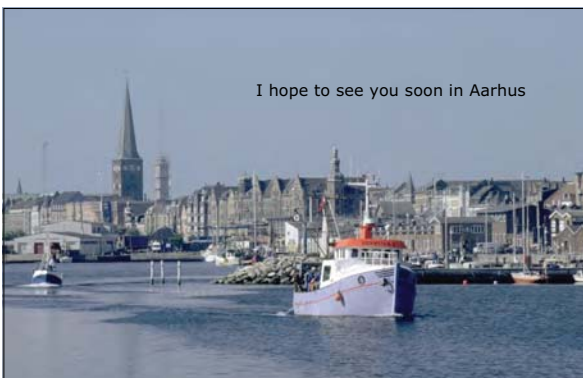
Aarhus University BioDesign Laboratories: www.biodesign.dk

Contact person at Aarhus University:

Science Studies:

Professor Hans Uffe Sperling-Petersen
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Aarhus University
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e-mail: husp@biobase.dk
fax.: + 45 86 18 28 12
Tel.: + 45 89 42 50 50

I hope to see you soon in Aarhus



UNIVERSITY OF AARHUS

International Student Exchange

Based on ECTS rules



The 3 important components of ECTS

- a transparent exchange facilitating system
based on mutual trust and confidence

1. Well-defined responsible staff
Institutional & Departmental coordinators
2. Information package
Course description - the qualitative parameter
A modular structure of all educational activities
(including theoretical and experimental projects)
60 ECTS credits/year - the quantitative parameter
3. The Contract (application & learning agreement)
Student - home coordinator - host coordinator
- ensures credit transfer & recognition

V

北京大学

11/11~13/2008

Peking University

北京大学との学術交流会
柴 彦威教授（北京大学城市与环境学院）招聘

1. 講義テーマ「日中大都市の時空間地理学」

時空間地理学は、時間と空間の広がりの中で営まれる人間の日常的な生活を、パスやプロジェクト、能力・結合・権威などの制約などの概念を用いて、具体的に検討することによって、マクロな集計では抜け落ちてしまう人間的リアリズムをとり戻すとともに、生活の質や暮らし易さといった現代的な課題に取り組もうとする地理学である。今回の講義では、日本と中国のいくつかの大都市を対象に、それぞれの大都市の時空間構造について論じた後に、日本・中国の構造を比較検討し、都市における日常生活空間行動の日中間の差異や共通性を明らかにする。

2. プログラム

11 月 11 日（火）

10:00～12:00 ①時空間地理学と何か

13:30～15:30 ②大都市の時空間構造－日本の事例－

11 月 12 日（水）

10:00～12:00, 13:30～15:30 大都市の時空間構造－中国の事例－

11 月 13 日（木）

10:00～12:00 ①大都市の時空間構造－日本と中国の比較－

13:30～ ②エクスカージョン（フィールドワーク）

※講義は基本的には日本語で行われる予定であるが、部分的には中国語を使用する（その際には、日本語の通訳あり）。

3. 柴 教授のプロフィール(略歴)

1964 年、中国甘肅省生まれ。西北師範大学を卒業後、広島大学に留学、1994 年に博士（文学）学位を取得、その後、北京大学地理系講師、副教授を経て、2005 年より北京大学城市与环境学院教授となり現在に至る。中国地理学会理事、城市地理専門委員会秘書長などを務める。

専門は都市社会地理学、行動地理学。主な業績に、『中日城市的時空間構造』（北京大学出版社）、『都市空間』（科学出版社）、『中日城市構造比較研究』（北京大学出版社）などがある。

北京大学との学術交流会 「日中大都市の時空間地理学」活動報告書

神戸大学大学院人間発達環境学研究科社会環境論コース

楊岩

世界各地の有名な大学との学術交流を推進するために、2008年11月、神戸大学大学院人間発達環境学研究科は延べ5カ国の大学の教授を招聘し、1ヶ月間をわたる学術 Weeks を主催した。私は運営スタッフとして選ばれ、プログラムの編集や運営企画など、学術 Weeks の運営に手伝うほか、北京大学との交流プログラムを担当していた。

今回、北京大学から来られた柴先生は人文地理学を専門としており、現在は北京大学城市与環境学院の教授である。日本に留学した経験があるため、柴先生は日本語が堪能であり、3日間の講義をすべて日本語で行った。今回のテーマは時空間地理学であり、柴先生は中国都市を事例都市、現地の実際状況に触れながら、「時間地理学」、「中国都市における時間利用と活動空間」、「北京都市の時間地理学研究」、「中国都市における単位制度とその変化」及び「中国都市における単位の空間的および社会的変化」の5つのセクションに分けて講義を進めた。



柴先生はまず時間地理学の形成背景からはじめ、時間地理学の概念や研究分野等を詳しく紹介し、近年の研究動向を整理した。つぎに、柴先生は大連、天津及び深圳を事例都市とし、都市住民の活動時間の利用状況を平日と週末に分けてアンケート及び聞き取り調査を行い、日常生活における中国都市住民の時間利用の特徴を分析した。さらに、柴先生は中国特有の「単位」制度

を紹介し、北京市を事例として「単位」制度の変遷に伴う空間的变化を指摘した。

今回の学術 Weeks のような形で各分野の外国人研究者を招き、学術交流を図ることは非常に有意義であり、今後も続けるべきであると考えている。しかしその際には、以下の問題点を念頭において運営したほうがいいかもしれない。

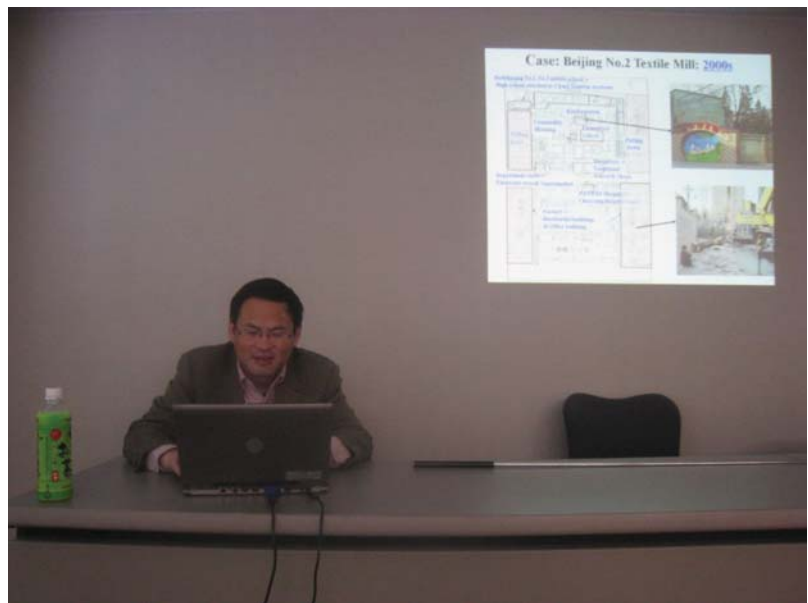
1、専門分野以外の交流が不足している。

今回の各講座は主として同時進行で行われており、相互の意見交換をする機会が少なかった。同じ専門分野の交流はもちろん重要であるが、他分野の学者から知恵をもらうことも大切であると考えており、研究分野にこだわらず交流できる場を増やしていただきたい。

2、参加者数が少ない。

今回の学術 Weeks は他の授業と同時進行しており、参加者数が予想を下回る結果になった。今後、学術交流活動に対する学生の関心を向上させることに努力するとともに、より円滑に運営できるようにある程度の配慮も必要かと思っている。

最後に、当研究科が学術 Weeks のような学術交流活動を定期的に行うようにし、より良い学術環境を作ることを期待したい。



Academic Exchange Weeks 2008
Kobe University

北京大学との学術交流会

11月11日

10:00-12:00 時間地理学

13:30-15:30 中国都市における時間利用と活動空間

11月12日

10:00-12:00 北京都市の時間地理学研究

13:30-15:30 中国都市における単位制度とその変化

11月13日

10:00-12:00 中国都市における単位の空間的および社会的変化

13:30- エクスカーション

主要参考文献

- ・ 柴 彦威、1991、中国都市の内部地域構造、人文地理、43(6)
- ・ 柴 彦威、1994、中国都市住民の日常生活における活動空間、地理科学、49(1)
- ・ 柴 彦威、劉志林、2003、中国都市における単位制度の変化と生活活動および都市構造への影響、東京大学人文地理学研究、16
- ・ 荒井良雄など、2008、中国都市の生活空間、ナカニシヤ出版
- ・ 荒井良雄など、1989、生活の空間 都市の時間、古今書院
- ・ 荒井良雄など、1996、都市の空間と時間、古今書院
- ・ 柴彦威、1999、中日都市構造比較研究、北京大学出版社
- ・ 柴彦威など、2002、中国都市時空間構造、北京大学出版社

Academic Exchange Weeks 2008
Kobe University

時間地理学

柴 彦威

北京大学都市と環境学院
都市と経済地理学系
都市と地域計画系

2008, 11. 11

講義内容

問題意識

時間地理学

- ・ 背景
- ・ 主要な概念と表示法
- ・ 研究展開
- ・ 応用事例
- ・ 批判
- ・ 最新状況

問題意識

人文地理学の研究展開:

科学主義主導から人文主義主導

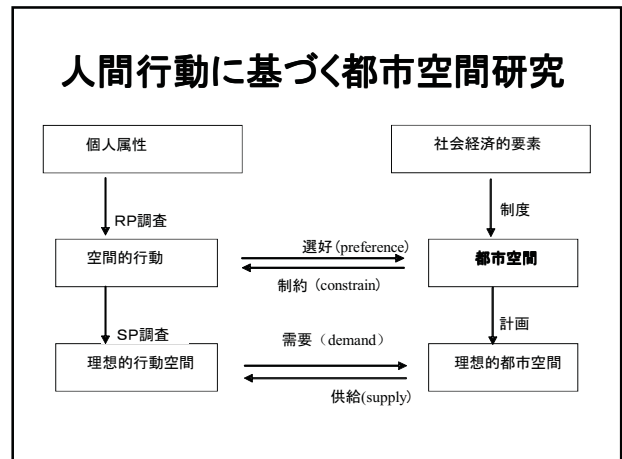
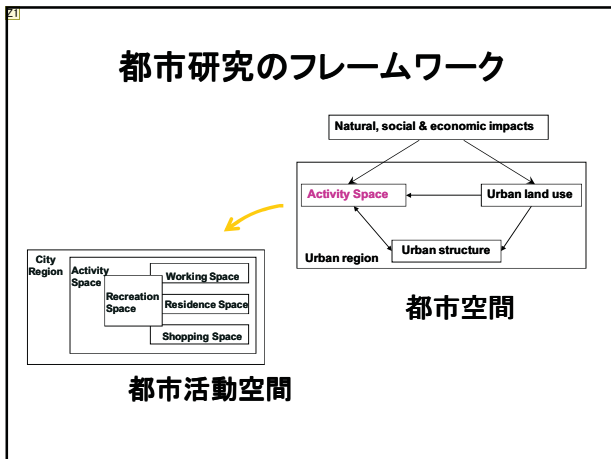
- ・ 人間:
自然人—経済人—社会人—生態人
- ・ 環境:
自然地理環境—経済地理環境—社会地理環境—生態地理環境

問題意識

都市地理学の研究展開:

都市化と都市システムから都市空間構造、都市社会空間へ

- ・ 都市空間:物質的空間—社会的文化的空間、日常活動空間
- ・ 日常行動に基づく都市研究のパラダイム



時間地理学の形成背景

- 人文地理学研究方法論の進化
 - 実証主義—行動主義
 - 構造主義—人文主義
- 人文地理学研究の社会科学化

時間地理学の形成背景

- 先進国の発展段階: 高度福祉国家
-1960年代から経済発展から社会発展へ
- “生活の質”(quality of life)への重視
- 社会資源の利用の公平性
- 特に時空間的配置
- 政府と計画の役割

Lund city : a university town

時間地理学の発端

- 理論地理学と地域科学者としてのヘーゲルストランドの疑問:
 - 人口移動研究における欠点
 - 地理学における人間活動の地図的表現の不足
- キーパーソン: Hagerstrand T., Lenntorp B., Ellegard K., Martensson S., Pred A., Thrift N., Calstein T., Miller R. (Lund School)

Lund市内にある教会内の種

時間地理学の提出と主要概念

- Life line

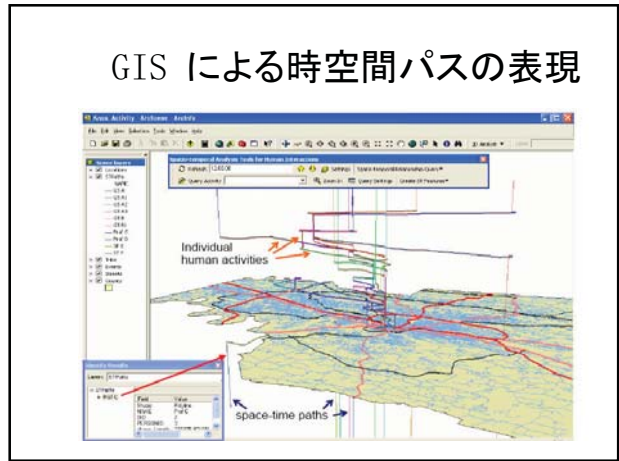
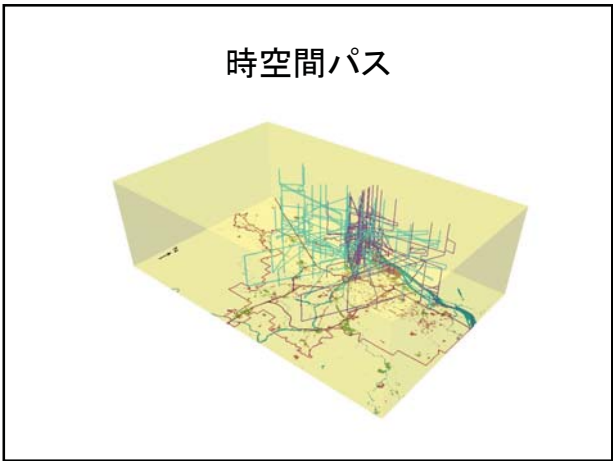
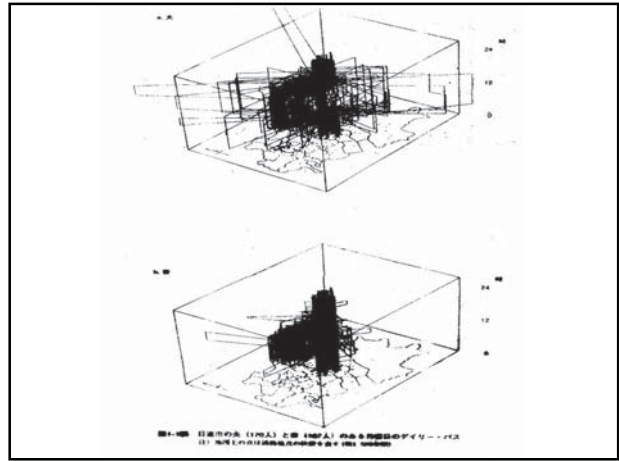
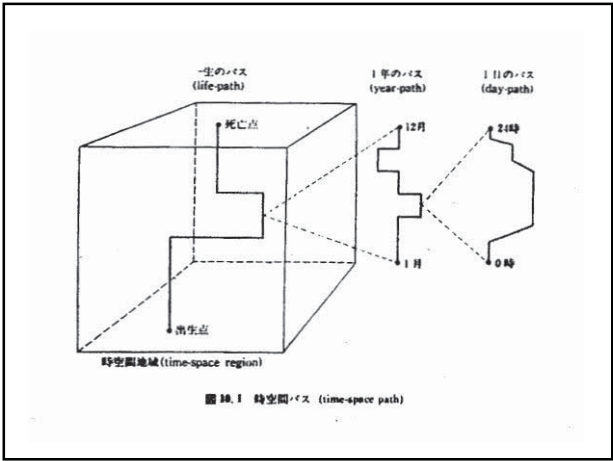
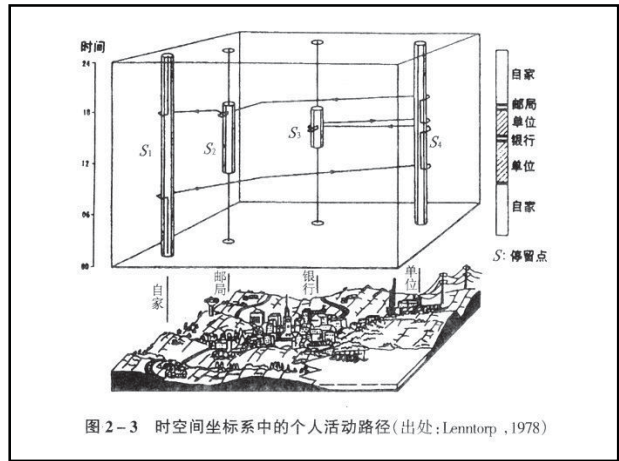
注: 毎条縦線代表一
個人の生命历程,
“*”表示死亡,“-”
表示国内迁移,“-”
表示移居国外,一条
縦線中间的间断代表
在该段时间移到研究
区域以外。A、B、C、
D代表不同的人群
分类。

图 2-1 生命线
示意图 (出 处:
Hägerstrand, 1978)

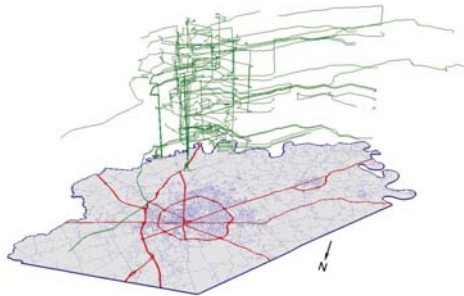
Life path

注: 横轴平面表示空间, 纵轴表示时间。实线代表人的活动过程。 S_1 , S_2 表示停留点, f 表示迁移。

图 2-2 生命路径示意图



GPSデータによる時空間パス

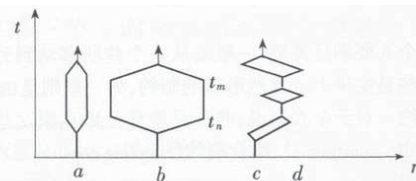


制約による説明

- ・ 選択より制約を
- ・ 三つの制約:
 - 能力的制約(capability constraints)
 - 結合的制約(coupling constraints)
 - 權威的制約(authority constraints)

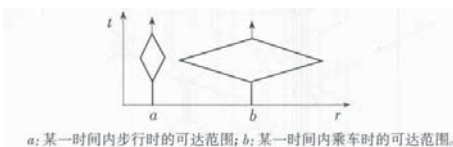
能力的制約

- ・ 能力的制約
 - 個人の生理的制約
 - 個人の移動に関する物理的制約
- ・ 到達範囲(reach)
- ・ 時空間プリズム(prism)



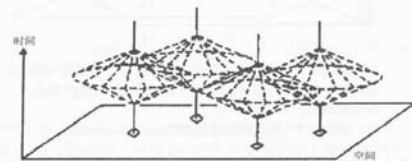
a, b 为家庭所在地点。在离家及回家时间相同的前提下, a 表示步行时, 要保证按时上班, 准时下班(上班时间为 t_n , 下班时间为 t_m), 工作地点的可选范围很小。 b 表示乘车时, 可选范围较大。而 c 为家庭所在地, d 为工作地点时, 则午休时间有可能从事其他活动。

图 2-6 能力制约示意图(出处: Pred, 1973)



a : 某一时间内步行时的可达范围; b : 某一时间内乘车时的可达范围。

图 2-4 个人 1 日可达范围(出处: Hagerstrand, 1970)



每条竖线代表一个人, 中间的虚线棱柱代表这个人在该时段可能的最大活动范围。

图 2-5 时空棱柱示意图(出处: Carlstein, 1978)

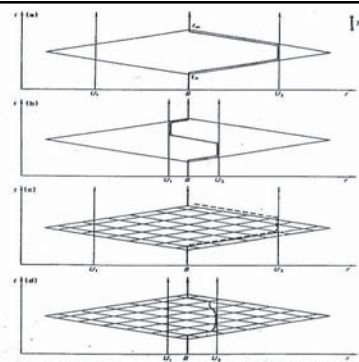
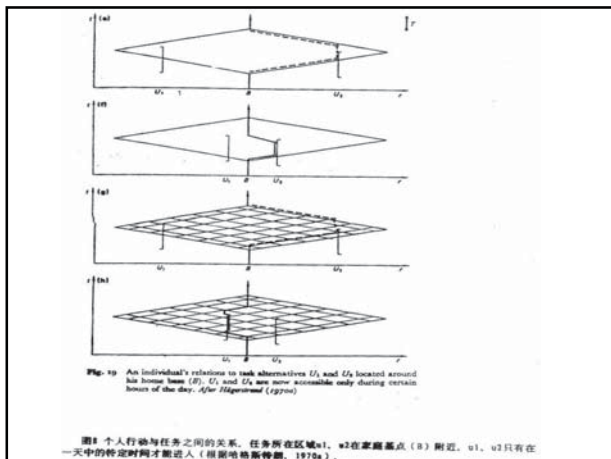


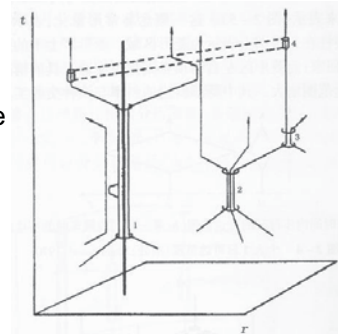
Fig. 2-8 An individual's relation to task-alternatives U_1 and U_2 located around the home base (B). U_1 and U_2 are accessible at all hours. $t_n = t_m$ and T defined in text. Dashed line indicates an unperformable task after Hagerstrand (1970a).

图 2-8 个人行务与任务之间的关系。任务在区域 U_1, U_2 在家庭基点 (B) 附近。 U_1, U_2 在任何时间都可以进入。 $t_n = t_m$ 与 T 在正文中有定义。 虚线表示一项无法完成的任务 (根据哈格斯特兰德, 1970a)。



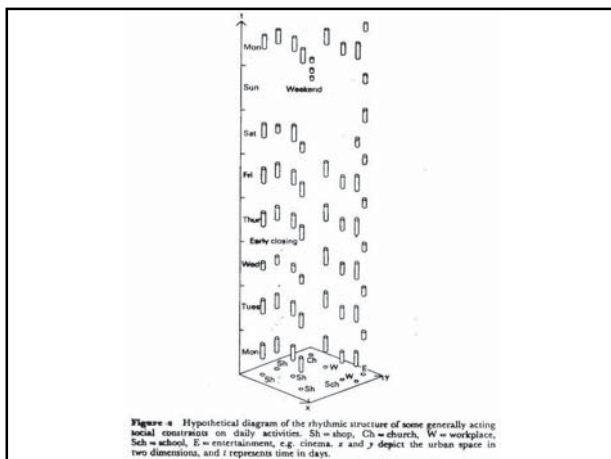
結合的制約

activity bundle

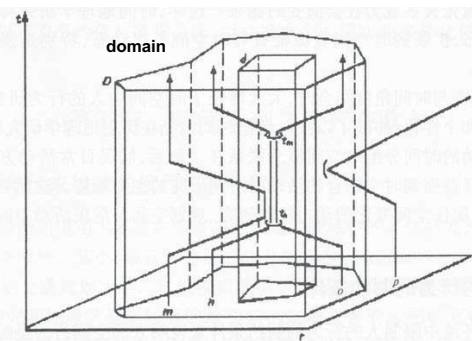


1,2,3,4表示四个组合。其中1,2,3是几个人到某一地点聚会形成组合,而4则是两个人通过通讯手段联系而形成组合。

图2-7 组合制约束示意图(出处:Pred, 1973)



權威的制約



m, n, o, p 分别代表几个人的路径。 D 为较大的领地, d 为 D 领地范围之类较小的领地。 $t_n - t_m$ 为 d 领地的开放时间

图2-8 权威制约束示意图(出处:Pred, 1973)

時間地理学における人間行動

- ・ 人間行動に対する基本的認識：
 - 制約の重視
 - 外部の客観的条件を重視
- ・ 人間への認識：
 - 人間は分割できない
 - 人間の時間が限られている
 - 人間は同時に多様な活動を従事する能力が限る

時間地理学における時間と空間

- ・ 時間と空間は計量できる
- ・ 時間は空間と同じく一種の資源
 - すべての活動が時間がかかる
 - 空間中における移動は時間を消費する
 - 空間は限られている
 - 地表上の空間も限られている

時間地理学の特徴

- ・ 個人レベルでの活動
- ・ 活動の関係を重視、活動—移動システム
- ・ 時空間軸における活動の表現と分析
- ・ 活動の制約を重視
- ・ 時間規律の重視、空間計画から時空間計画へ
- ・ 生活の質の重視
- ・ 日常生活の地理学
- ・ 都市(交通)計画に応用

時間地理学研究: 欧米

Hagerstrand, 1970

Lenntorp, 1978 ;

Martensson, 1977 ;

Ellegard, Hagerstrand and Lenntorp, 1977

1977年 : Economic Geography : 特集: 時間地理学

1978年, Calstein, Parks and Thrift, 時空間地理学について三冊

Pred: 1973, 1977, 1978, 1981a, 1981b, 1984a, 1984b

Jones, 1979, 1983 ;

時間地理学研究: 日本

石水照雄, 1976

高橋伸夫、市南文一, 1981 ; 高橋伸夫, 1987, 1990 ;

高橋伸夫、山本一彦, 1990 ; 高橋伸夫、中村理恵, 1993

櫛谷圭司, 1985a, 1985b ; 杉浦芳夫, 1985, 1989a ;

高阪宏行, 1985 ; 山田晴通, 1987。

1987年, 時間地理学研究会 : 荒井良雄、岡本耕平、神谷浩夫等

1989年, 《地理》: 時間地理学の特集

神谷浩夫, 1987, 1989a ; 神谷浩夫など, 1990 ; 神谷浩夫, 1993a, 1993b

荒井良雄, 1992 ; 荒井良雄、川口太郎, 1992 ; 荒井良雄など, 1989 ; 1996

近藤勝直, 1987

時間地理学研究: 中国

杨吾扬, 1990年、《中国大百科全书》地理学卷、“时-空地理学”

王兴中等译, 1988 ; 赫维人译, 1989 ;

张文奎, 1990

柴彦威等, 1997 ; 1998、2000、2002、2008

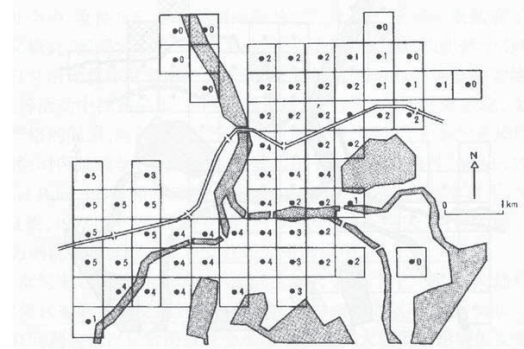
刘玉亭, 2005

郑凯, 2008

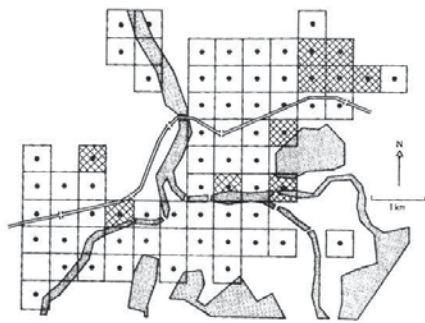
時間地理学の応用研究例: 都市計画



・居住地区 D 幼儿园 W1-W6 就业地区
图 2-9 卡尔斯坦德市幼儿园、就业地区及样本居住地区的分布(出处: Lenntorp, 1978)

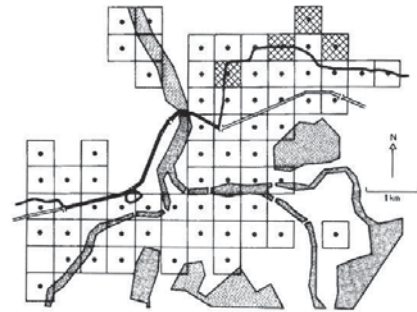


注: 图中的数字表示上下班途中接送小孩可能的可通勤就业地区数
图 2-10 不同居住地区通勤可能的就业地区数(出处: Lenntorp, 1978)



注:图中斜线部分表示提高公共汽车运行频度后通勤可能就业地区得以增加的居住地区

图 2-11 公共汽车运行频度改变后的情况(出处:Lenntorp, 1978)



注:图中斜线部分表示改善公共汽车网络后通勤可能就业地区增加1个以上的居住地区

图 2-12 公共汽车网络改善后的情况(出处:Lenntorp, 1978)

時間地理学への批判

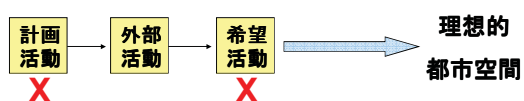
- 物理主義：能力的制約への重視、社会的文化的制約への軽視
- 男性主義：男性的空間の重視、家庭など女性的空間の軽視、身体差異の軽視
- 客観と主観
- 構造化理論

時間地理学の最新状況

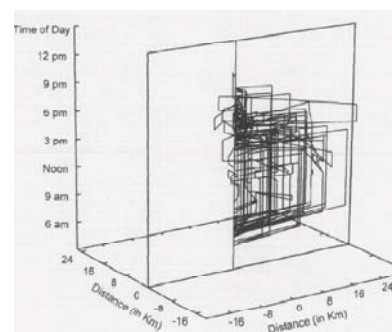
- 理論的
 - 新時間地理学
- 技術的
 - 時空間データ
 - GISの使用
- 応用的
 - 交通計画
 - 女性研究
 - その他

データの収集と処理

- 収集方法
 - GPS
 - LBS
- 処理方法
 - 非集計的：個人や家庭を単位として
 - GISによる空間分析
 - 活動分析モデル
- 問題点



GISと時間地理学

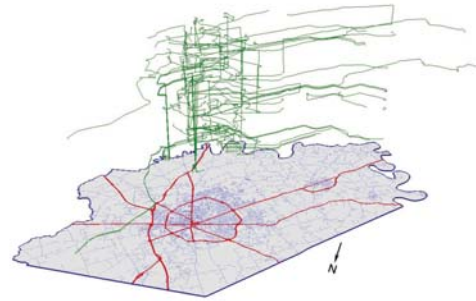


(Kwan, 1999)

GISと時間地理学

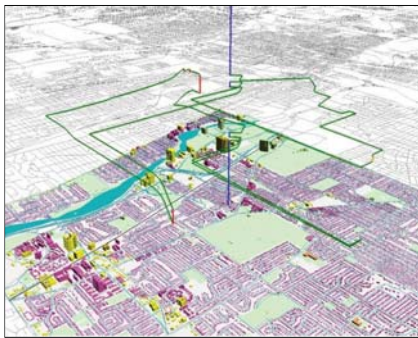


GIS、GPSと時間地理学



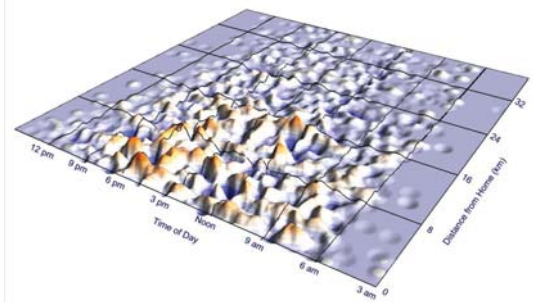
(Kwan, 2004)

GISと時間地理学



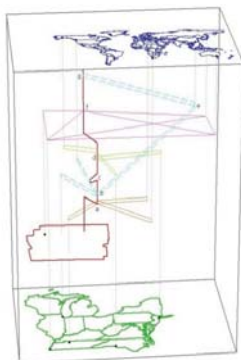
(Kwan)

GISと時間地理学



(Kwan)

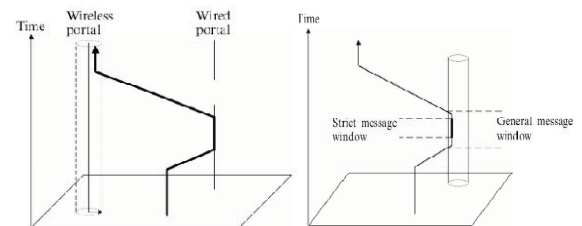
“新時間地理学”



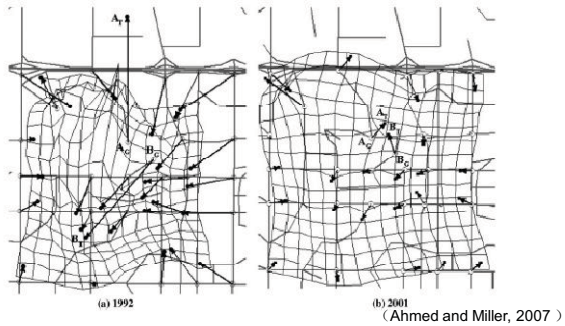
(Kwan,2004)

“新時間地理学”

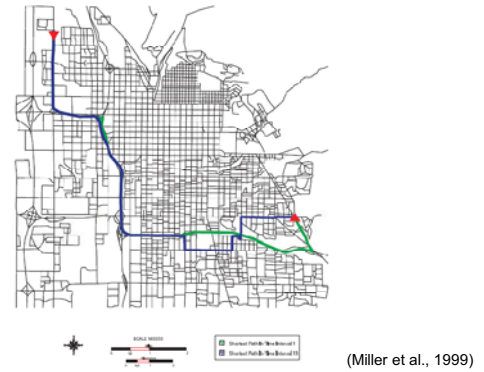
- portals
- message windows



都市交通計画と時間地理学



都市交通計画と時間地理学



時間地理学の進展

- 理論化: “新時間地理学”の提出
- 手段化: 時空間的表現
- 製品化: LBSとの結合で行動ガイド

Academic Exchange Weeks 2008
Kobe University

中国都市における時間利用と活動空間 Time-use and Activity Space in Chinese Cities

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Peking University
Beijing, China



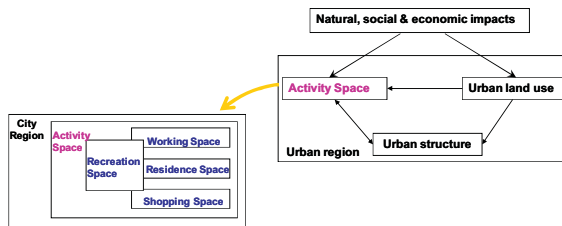
E-mail: chyw@pku.edu.cn

Background: Time-use research

Sociology $\xleftrightarrow[\text{Social structure}]{\text{Social institution}}$ Time-use research $\xleftrightarrow[\text{Spatial perspective}]{\text{Spatial perspective}}$ Geography

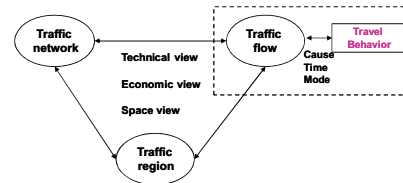
- Time budget
- Time-use survey
- Time allocation
- Time management
- Social significance
- Life-style change
- "Time and geography" (1940s)
- Time-geography (Hägerstrand, 1970)
- "Timing Space and Spacing Time" (1977)
 - "Make sense of time"
 - "Human activity and time geography"
 - "Time and regional dynamics"
- Time-space budget

Background: Urban structure and activity space



- Evolution of research theme
 - Urban function and Land use
 - Economic activity space
 - Economic mechanism
 - Urban travel-activity system
 - Daily-life activity space
 - Humanistic and social mechanism

Background: Travel behavior research



- Travel behavior research
 - Trip-based approach & Activity-based approach
 - Time-geographical approach
 - Urban travel-activity system
 - Travel demand management

Research Background in China

- Social and urban transition
 - Institutional change
 - Urban expansion & reconstruction
- Economic status change and consciousness of life quality
- Increasing traffic problems
 - Increase of urban population
 - Occurrence of private car
 - Limit of traditional transportation planning method

Research Progress in China

- Time-use
 - 1980-1981: First time-use survey
 - 1990s: Academic research
 - Sociology
 - forty cities
 - Time-allocation (Wang, 1991; Wang, 1998; Wang, Zhang & Gong, 1999)
 - Geography
 - Introduction (Chai & Wang, 1997; Chai, 1998; Chai, Li & Shi, 1999; Chai & Gong, 2001; Liu & Chai, 2001)
 - Empirical research (Li & Chai, 1999; Chai, 1998; Gong, Chai & Liu, 2000)

Research Progress in China

- Activity space
 - Urban internal life space structure (Chai, 1996;etc)
 - Commuting space (Li & Chai,2000; Zhou & Yang, 2005; etc)
 - Shopping travel and urban commercial structure (Wang & Zhang, 2001; etc)
 - Time-geography research on travel behavior (Chai et al, 2002; etc)

Method & Data

Activity Diary Survey

- **Objective: Activity Dairy of continuous 48h**
 - One Typical working day--Monday
 - One Typical holiday--Sunday
- **Questionnaire Design**
 - **Basic Information about the family**
 - Address, Type, Housing, Income, the use of facilitation
 - **Activity diary of the husband & wife**
 - Socioeconomic attributes—age, occupation, education attainment, income, etc
 - Commuting pattern—working unit location, travel mode, etc
 - Activity dairy record—timing, location, partner, travel mode, etc

Activity Dairy

Sunday, 20 July 1997

Morning												
	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00
Timing												
Activity												
Destination												
Partners												
Travel Mode												

Afternoon												
	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Timing												
Activity												
Destination												
Partners												
Travel Mode												

Data Collection

- **Surveyed Cities**
 - Shenzhen, Dalian, Tianjin
- **Study Areas**
 - Location, construction period, housing type, residents
- **Questionnaire Distribution**
 - Self-completion survey
 - Recycle rate ~88%

	Date of Surveys	study Communities	Surveyed Families	Responsive family	Survey population	Number of days
Dalian	16-17 Jul.1995	4	400	386	800	1600
Tianjin	20-21 Jul.1997	5	500	459	1000	2000
Shenzhen	1-2 Nov.1998	5	500	386	1000	2000
Total		14	1400	1231	2800	5600

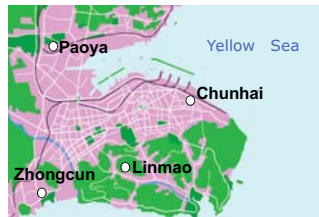
Empirical Context

- Surveyed city
- Surveyed area
- Characteristic of responders



Dalian

- Industrial city
- Urban Internal structure
 - Residence zone
 - Industry zone
 - Culture and education area
 - Business district

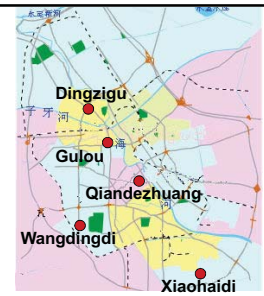


• Surveyed Areas

	Chunhai	Zhongcun	Linmao	Paoya
Location	Core area	southwestern city, suburb	Southern city, suburb	northwest of the city, urban fringe
Construction Time	early 1930s	late 1970s	late 1980s	early 1990s
Housing Types	two-story Japanese-style	four-to-six story buildings	middle or high buildings	middle or high buildings
Characteristics of Residents	workers The elderly	middle-aged working class	female the middle-aged	workers and administrators

Tianjin

- Historical and industrial city
- Urban Internal structure
 - Monocentric structure
 - Concentric zone
 - Residential suburbanization



• Surveyed Areas

	Qiandezhuang	Wangdingdi	Xiaohaidi	Dingzigu	Gulou
Location	Core area	Southwestern of new built-up area; inner suburb	Southeastern of new built-up area; inner suburb	northwestern of new built-up area; inner suburb	old built-up area
Built Time	rebuilt in 1990s	1984	began in 1978	began in 1978	before 1949
Housing Types	Monolayer & multi-story	middle and high buildings	multi-story buildings	multi-story buildings	Monolayer Multi-story
Characteristics of Residents	The elderly Low educated	The young High-educated	The middle aged residents	high in middle aged residents	The elderly Low educated

Shenzhen

- Special economic zone
- Newly developed city
- Urban Internal structure
 - Dispersive cluster structure



• Surveyed Areas

	Airongyuan	Lianhua Beicun	Shui-Huang	Xing'an	Xinxiu
Location	inner suburb	Inner city	Inner city	Out suburb	Old built-up area
Built Time	late 1980s	middle of 1990s	early 1990s	middle 1980s	Middle & late 1980s
Housing Types	multi-story buildings	middle- high buildings	Private multi-story buildings	multi-story buildings	six-to-seven story buildings
Characteristics of Residents	Young nuclear families working class	Young Nuclear families white-collar	rural residents	nuclear families administrators workers	nuclear families elderly

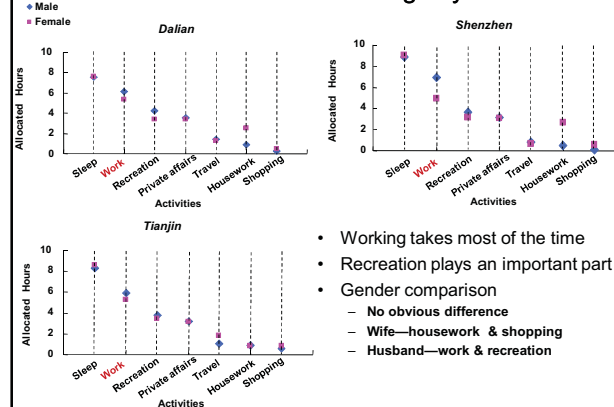
Time-use analysis

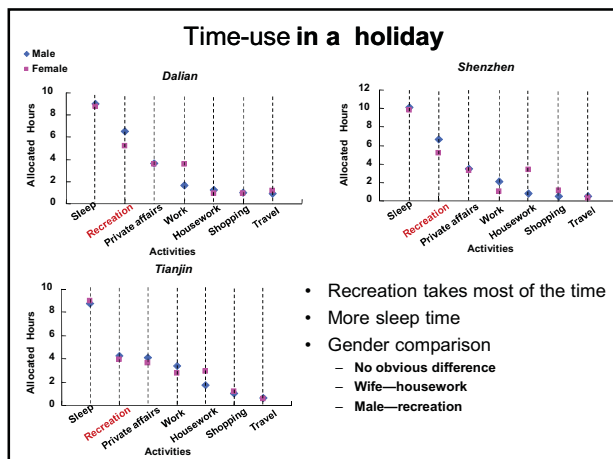
- Time allocation
- Life rhythm
- Time-spatial structure of daily activities

Classification of life time

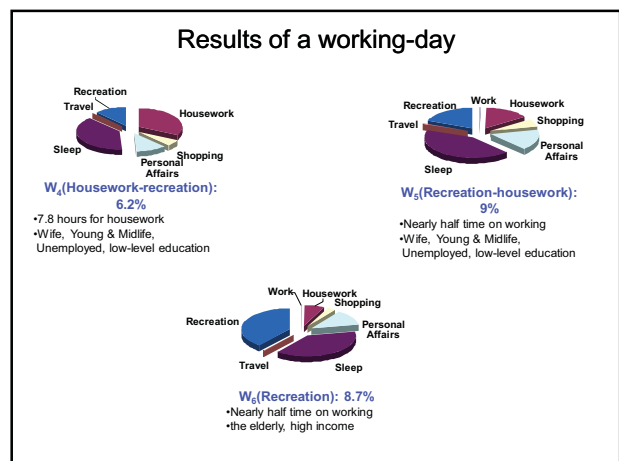
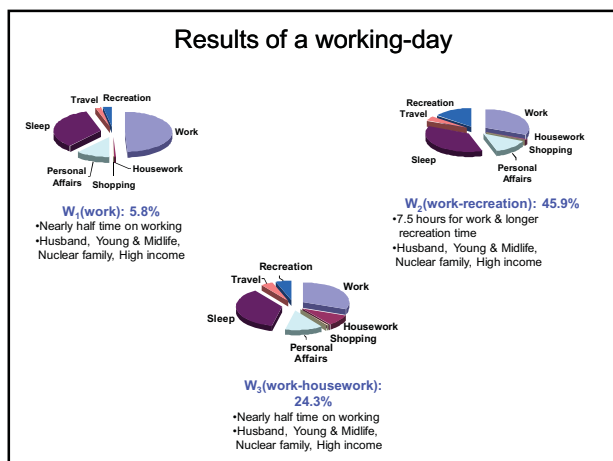
Trichotomy	Further Partition	Activities
Individual activity Time	sleeping	sleeping during night & nap
	private affairs	eating, bathing, seeing doctor, hairdressing, etc
Social Activity Time	working	full time work, part-time work; business outside workplace;
	housework	cooking, washing, cleaning the house, decorating taking care of the elderly, playing with children, educating children
	shopping	buying commodities
	movement	commuting, outing etc
Free Time	recreation	watching TV, reading, listening to the music etc
		chatting, playing cards, playing chess etc
		sporting
		watching movies, going to the library
		sociable activities
		activities in various clubs
		sightseeing, traveling

Time-use in a working day





- ### Different Types of Time-use
- Method
 - Clustering analysis
 - Index: Hours allocated to different activities
 - Case study—Shenzhen City
 - Results



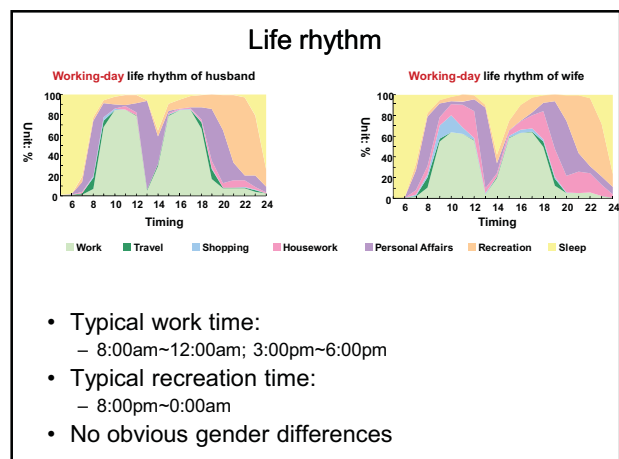
Results of holiday

•No working time—four types

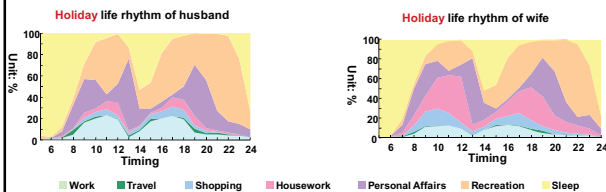
	H ₁	H ₂	H ₃	H ₄
Time-use	Recreation	Recreation-shopping	Recreation-housework	Housework
Rate	30.3%	9.3%	19.2%	18.2%
Group Characteristics	Husband White-collar & Retiree the Middle-aged & the Elderly High-level education	Wife the Middle-aged & the Young High income	the Middle-aged Middle-level income Middle-level education	Wife Unemployed Middle-level income

•Some working time—two types

	H ₅	H ₆
Time-use	Recreation-work	Work
Rate	6.6%	16.3%
Group Characteristics	Husband The Young & the Middle-aged White collar Middle-level income	Husband The Middle-aged Blue collar Low income Low-level education



Life rhythm



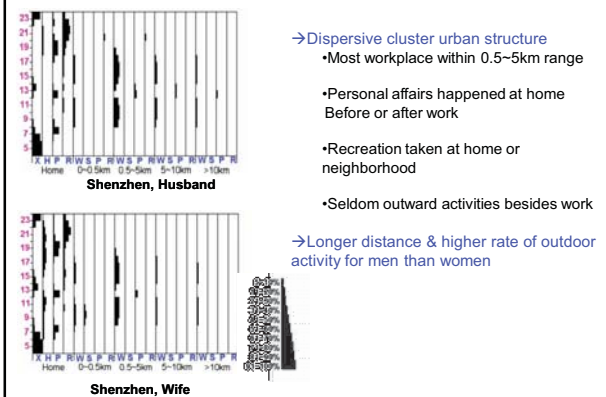
- Main activities—recreation
 - 10:00am~12:00am; 4:00pm~6:00pm
 - Peak—10:00pm
- One-hour lag than working days
- Gender difference
 - Wife: Shopping-Housework-lunch-Housework-supper
 - Husband: Recreation-lunch-recreation-supper

Time-spatial structure

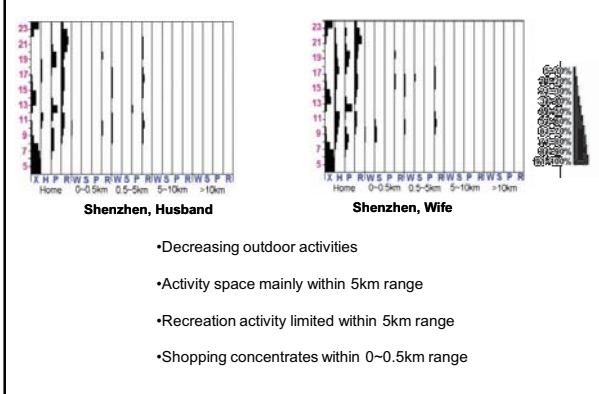
• Method

- Activity-space zone
 - Home
 - 0~0.5km: close to 10min range on foot
 - 0.5~5km: close to 30min range by bike
 - 5~10km: close to radius of the built-up area
 - Beyond 10km: suburb area
- Time-spatial structure graph
 - x-coordinate—Activity-space zone & Activity types
 - y-coordinate—Timing
 - Quadrant—Percentage of samples taking certain activity

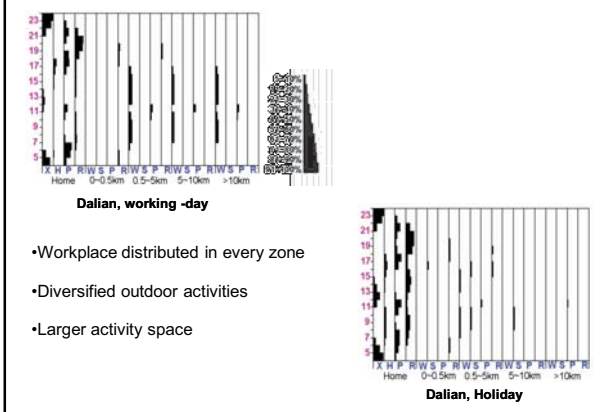
Activity Time-spatial structure of Shenzhen in a working day



Activity Time-spatial structure of Shenzhen in a Holiday



Activity Time-spatial structure of Dalian



Time-use Characteristics

- Working-day
 - Work is the dominant activity: 5~7 hours a day
 - Recreation mainly happen at home in the evening
- Holiday
 - More recreation activity
 - Working day: 3~4.5 hours a day
 - Holiday: 4~7 hours a day
 - Activity space is restricted around home and neighborhood
- Gender differences
 - Similar activity time-spatial structure
 - Different types of activities

Travel-activity Behavior

- Basic characteristic
- Travel mode
- Travel characteristic

Basic Characteristic

Indexes of outdoor activities
in a Working day

Index	Dalian	Tianjin	Shenzhen
Outdoor activity number	1.85	1.79	1.78
Average stop number	3.58	3.33	3.44
Average tour number	1.73	1.54	1.66
Time of outward activity (min)	547.7	541.7	519.4
Total population	196	360	274

Indexes of outdoor activities
a Holiday

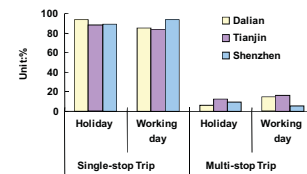
Index	Dalian	Tianjin	Shenzhen
Average activity number	1.70	1.74	1.48
Average stop number	3.33	3.26	2.81
Average tour number	1.63	1.52	1.33
Time of outward activity (min)	251.9	370.0	316.0
Total population	196	360	273

Travel Mode

- The dominant travel mode: walking and bicycle (>60%)
- Special mode in China: work unit commuting bus
- City comparison
 - Dalian: more walking & bus
 - Shenzhen: more private car;
 - Tianjin: more walking & bicycle

Travel Mode	Dalian	Tianjin	Shenzhen
Walking	59.9	41.5	47.6
Bicycle	6.5	49.7	16.8
Bus	27.3	3.6	15.7
Work-unit commuting bus	4.8	1.4	6.5
Private Car	0.0	0.8	4.2
Motorcycle	0.6	2.2	7.9
Taxi	1.0	0.8	1.1
tramcar	0.0	0.0	0.1

Travel Characteristic



- Dominant pattern: single-stop trip
 - Traditional urban structure
 - work unit housing
 - City comparison
 - Tianjin—more multi-stop trip
 - Shenzhen—more single-stop trip

Travel Characteristic

- Comparison of cities

		Dalian	Tianjin	Shenzhen
Commuting travel	Holiday	9.8	31.2	19.9
	Working day	52	51.2	68.7
Shopping travel	Holiday	41.7	49.8	30.6
	Working day	21.2	35.5	13.8
Recreation travel	Holiday	52.8	22.1	48.7
	Working day	37	21.2	15.9

Commuting Activity

- Commuting in Chinese Cities
- Time-spatial Characteristics
- Characteristics of commuting trip chain

Commuting in Chinese Cities

- Work unit housing & Compact urban structure
→ No or seldom commuting
- Social reform & Housing market & Suburbanization
→ Commuting problems emerging
 - Underdeveloped traffic system
 - Imbalance of residential & industrial land use

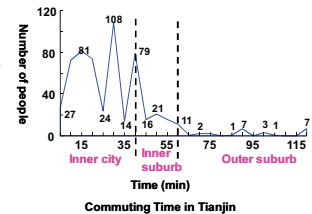
Commuting Time

- Average commuting time: 20~40min

City	Male	Female	Average
Dalian	36.08	40.42	38.11
Tianjin	29.51	28.37	28.99
Shenzhen	20.9	24.8	22.5

- Commuting time zone

- <40min—inner city
- 40~60min — inner suburb
- >60min — outer suburb

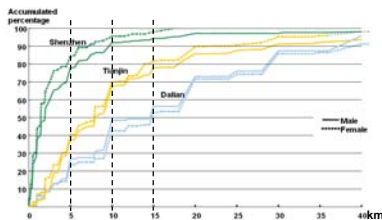


Commuting Space

- Commuting distance: 4~9km

Cities	Male	Female	Average
Dalian	8.82	9.53	9.15
Tianjin	5.37	4.63	5
Shenzhen	5.04	3.98	4.61

- Zonal structure & Distance decay



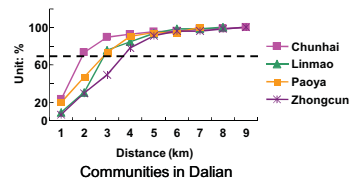
Commuting Space

- Residence location and commuting space

- Residents of inner city
 - Workplace near the residential places
 - 5~10km range
- Residents of suburban
 - Working in the inner city
 - 10~15km range

- Commuting space

- Chunhai (inner city): 0~5km
- Linmao & Paoya (inner suburb): 10km
- Zhongcun (out suburb): 15km



Commuting Trip Chain

City		Travel times	commuting tours	Rate of multi-stop travel (%)	Rate of multi-stop commuting tours (%)
Dalian	Male	1.73	1.12	14.5	21.9
	Female	1.6	1.16	21.7	29.3
Tianjin	Male	1.91	1.23	14.4	96.7
	Female	1.51	1.27	28.5	96.6
Shenzhen	Male	1.71	1.53	5.9	100
	Female	1.62	1.46	7.5	100

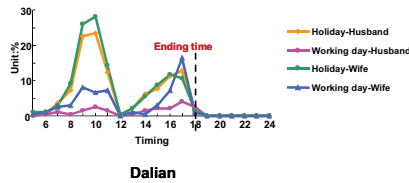
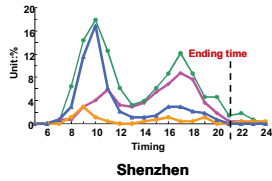
- Main types of commuting trip chain
 - Work-Home
 - Work-Shopping-Home
 - Work-Personal Affairs-Home
 - Recreation-Work-Home
- More multi-stop commuting trip chains for women than men
- Residents of inner city—More travel times
Residents of suburban—More multi-stop trip chains

Shopping Activity

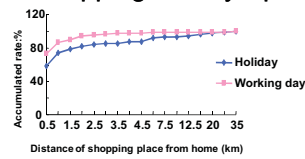
- Shopping Rhythm
- Characteristics of shopping activity space

Shopping Rhythm

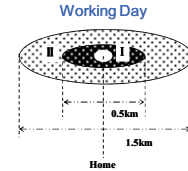
- More shopping activities on holidays
- Two peak time
 - 8:00am~11:00am; 4:00pm~5:00pm
- Gender difference
 - mainly on working days
- City difference
 - Ending time of Shenzhen is 9:00pm
 - Ending time of Dalian is 6:00pm



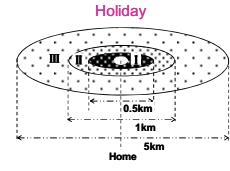
Shopping activity Space: in case of Shenzhen



- Distance Decay Law



- I — 0~0.5km, Basic shopping zone (75%)
- II — 0~1km, Main shopping zone (90%)



- I — 0~0.5km, Basic shopping zone (50%)
- II — 0~1km, Main shopping zone (75%)
- III — 0~5km, Daily shopping zone (90%)

Gender difference in Shopping Activity Space

- In case of Shenzhen

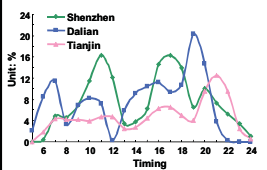
Distance from home	Unit: %			
	Holiday-Husband	Holiday-Wife	Working day-Husband	Working day-Wife
0-0.5km	38.6	65.85	58.82	75.25
0.5-1km	14.04	15.24	29.41	10.89
1-5km	31.57	13.42	11.77	11.88
>5km	15.79	5.49	0	0.91
Number of occurrence	57	164	17	101

Recreation Activity

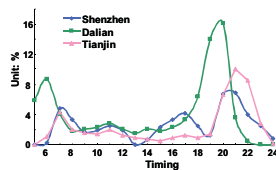
- Recreation rhythm
- Recreation activity space
- Time-spatial structure of recreation activity

Recreation Rhythm

- Similar recreation rhythm in three cities
- Much differences in outdoor recreation
 - Dalian
 - Peak time: morning & evening
 - Tianjin
 - Fewer recreation activities
 - Outdoor recreation happens in different periods of time
 - Shenzhen
 - More recreation activities
 - Peak time: 10:00am~12:00am; 4:00pm~6:00pm

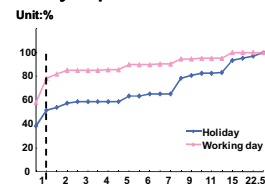


Outdoor recreation rhythm in Holiday



Outdoor recreation rhythm in Working day

Recreation Activity Space: in case of Shenzhen



- Distance decay
 - home: 40%~60%
 - 1km range: 50~80%
- Main recreation activity space (Distance of accumulated percentage up to 80%)
 - Working day: 1km
 - Holiday: 15km

Time-spatial Structure of Recreation Activity

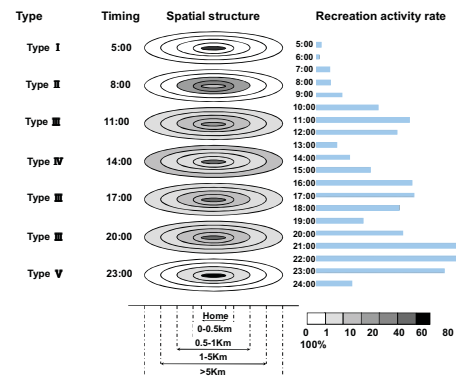
• Method

- Clustering analysis
- Recreation activity rate in different spatial zones every 1 hour

• Results

Class	Timing	Recreation Activity rate	Space Characteristic
I	5, 24	low	Home-based Type
II	6-9	low	Short distance; zonal structure
III	10-12, 16-18, 20	middling	Spatial dispersal structure
IV	13-15, 19	low	Long-distance activity
V	21-23	high	Home-based Type

Time-spatial Structure of Recreation Activity



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中国都市における単位制度および その変化

柴 彦威
北京大学城市与経済地理学

研究問題意識

- ① 改革開放後、単位制度がどのように変わってきたのか？
- ② この20年間、単位制度に関してどんな研究成果があるのか？
- ③ 単位制度の変化が都市住民の生活行動と都市構造へどのような影響をもたらしたか？

研究背景

- 近年、単位制度及びその変化に対する関心の高さ
- 中国都市における生活活動システムを理解する一つの鍵

最新成果

- David Bray: Social space and governance in urban China: the Danwei System from origins to reform, 2005
 - 視点: 制度学、社会学、計画学
 - 内容:
 - 中国における伝統的な空間
 - 1949年以前の社会組織
 - 革命的な空間的实践
 - 単位の機能変化
 - 単位空間の意味

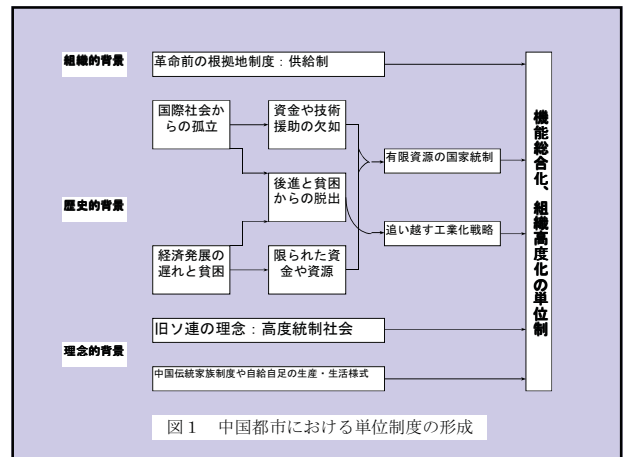


単位の概念

- 単位 (中国語でDANWEI): 工作单位、work unit 都市住民に就業の場を提供する組織
- 単位社会: 就業 + 住宅 + 福祉サービス + ?
- 単位の分類:
 - 事業単位: 政府機関などの行政単位 + 学校などの公的組織
 - 企業単位: 営利行為を行なう組織

単位制の形成

- 組織的背景:革命前の根拠地制度や供給制
- 歴史的背景:革命後の国際社会からの孤立や国力不足、工業化戦略の実施
- 理念的背景:中国伝統の家族制度や自給自足の生産・生活様式、旧ソ連における計画理念



単位制度とその変化

人事制度：人事管理制度、雇用制度、給料制度、評価と教育制度
 福祉制度：住宅福祉制度、集団福祉制度、文化福祉制度、保障制度
 社会保険制度（養老、医療、傷害、出産などの保険）

人事管理制度

- 国家財政に依存する事業単位と国家機能単位を対象
- 国家人事労働部門による単位人口規模と職務配置の管理
- 項目は単位名称、所属関係、レベル、任務、人口規模、内部組織構造、専門行術者の割合、幹部の格と数などに及ぶ

雇用制度

- 二種類:①幹部（公務員）雇用制
 ②工人（労働者）雇用制
- ①には三方法：国家統一分配の大卒
 転職の軍官
 労働者と無職青年と農民
- ②には三種類：固定工
 臨時工と季節工
 農民工

人事管理と雇用制度の変化

三つの管理と雇用システムへ：

- ① 国家公務員制：国家行政機能単位を対象
 1993年国務院が「国家公務員臨時条例」（公開、公平、公正）
- ② 事業単位人事管理制：人員の分類管理
 - a職員：等級制、職務別招募制
 - b 専門技術者：専門技術職招募制
 - c 雑務：技術等級招募制
- ③ 企業単位人事管理制：全員招募制と労働契約制
 1986年、幹部と工人の身分制が撤回

給料制度

職務等級給料制（地区別、部門別、職務等級別の給料水準）

変化：

- ①国家機能と事業単位：職務等級給料制（職務給料、等級給料、基礎給料、勤務年数給料）
- ②企業単位：等級給料制、計量給料制、技能給料制の組合

評価と教育制度

2つの管理システム：

- 共産党の組織部門：幹部の選択、審査、評価、教育
- 労働人事部門：普通労働者の評価、資格審査、教育

住宅福祉制度とその変化

国家福祉制→単位福祉制→住宅市場化

国家投資が主とした住宅建設、単位分配

単位が主とした国家、単位、個人の投資多様化、単位分配が主

多様化した住宅市場、個人購買が上昇、単位分配は終結

集団福祉や文化福祉制度とその変化

集団消費、文化消費関連施設の単位完備



単位から分離、社会化
コミュニティの重要性が増加

社会保険制度(養老、医療、傷害、出産などの保険)とその変化

国家、単位保険分配制



社会化、市場化体制

養老体制とその変化

単位養老保険制
（単位が養老金の支出、分配と管理など）
（1950－1980年代）



社会化養老保険制
（養老金徴収の多様化、個人及び商業的保険の介入）
（1980年代開始、1990年代実施）

医療制度とその変化

国家と単位統括の公費、労働保険医療制度
(1990年代初期まで)



社会医療保険制 (1994年開始)

(国家、単位、個人共同出資の社会医療保険
基金、国家は基本医療保険、単位は補充医療保
険、個人は商業的医療保険)

女性就業と生育制度

就業は男女平等、生育は単位保障



女性就業難、生育保障制度は難航

方向性：婦女権利保障体系とコミュニ
ティベースの社会化サービスシステム
の成立へ

保障制度とその変化

単位福祉＋社会救済の保障制度



社会化保障体系

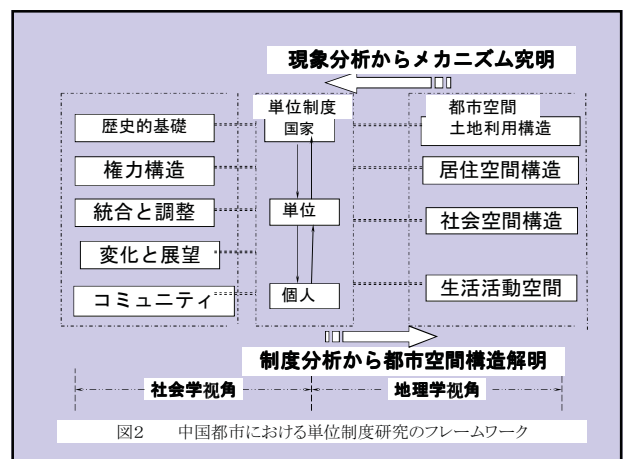
1999年：「城市居民最低生活保障条例」
(都市貧困層対策)

単位制に関する社会学研究

- 起源と形成プロセス
- 性質と機能
- 組織構造、権力構造と運営機構
- 福祉や社会保障などの関連制度
- 人間関係や性別差異
- コミュニティ
- 単位制の改革と弱体化及びその影響

単位制に関する地理学研究

- ・ Bjorklund (1986)：単位組織の参与観察と描写
- ・ 越沢 明(1988)：単位の市民への支配性について
- ・ 許学強等 (1989)：単位住宅制が中国都市社会空間構造形成への影響を言及
- ・ 袁家冬(1991)：単位制地域構造の言及
- ・ 柴彦威(1991)：単位に基づく中国都市の生活空間構造
- ・ 柴彦威(1996, 1999)：単位地区からなる混合居住地帯
- ・ 小野寺 (2000, 2001)：住宅供給における単位空間の完結度の下降



単位制度の変化による住民生活への影響

- ・ 通勤パターンの多様化
- ・ 居住地移動の活発化
- ・ 購買行動や余暇活動の複雑化
- ・ 生活活動空間の広域化

単位制度の変化による都市構造への影響

- ・ 都市構造の流動化と分散化
- ・ 都市社会空間構造の強化
- ・ 「単位大院」の解体
- ・ 都市コミュニティの形成
- ・ 都市空間構造の合理化

単位制度の終焉？

- ・ 単位制の改革、弱体化、解体
- ・ 単位制の「影」

VI

オーストラリア・
カトリック大学

11/25/2008

Australian
Catholic
University

Australian Sustainable Schools Initiative - What's going on in schools and in teacher education programs?

Dr Lyn Carter

Australian Catholic University

Summary of Talk




It is now beyond doubt that the global outlook is profoundly environmentally unsustainable. The links between limits to growth, hyper-consumption levels, climate change, biodiversity loss, water shortages and ecosystem destruction have been thoroughly documented and are now widely accepted. Clearly, a change of culture is required to reshape human relationships with the natural

systems, and education, whether at the university level or within the school sector, has a role to play. This talk discusses education for sustainability (EfS) and futures thinking focusing on the types of initiatives currently being implemented in Australia. In particular, it describes the Australian Sustainable Schools Initiative (AuSSI) that has been developed as a co-ordinated Federal, State and Territory government project that aims to produce a professional learning framework for educational communities that provide EfS. Many examples from both the university and school sector are included.

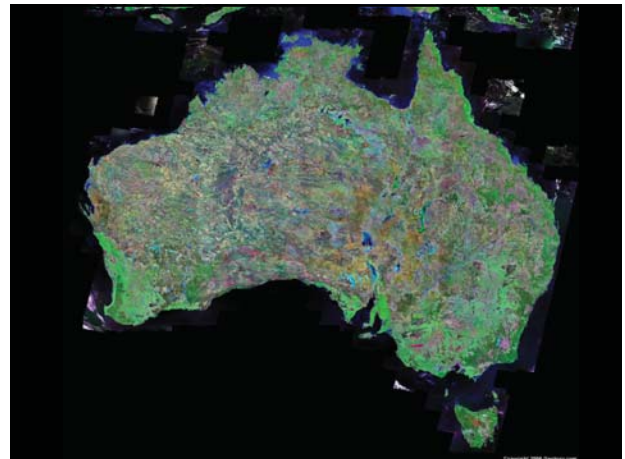
Brief Biography

Lyn lectures in science, technology and sustainability education to undergraduate primary and secondary teacher education students in the Trescowthick School of Education on the Melbourne Campus of the Australian Catholic University. She also lectures in postgraduate education particularly in the areas of research methodologies and contemporary issues in curriculum. Lyn was recently awarded a Citation for Outstanding Contribution to Student Learning from the Australian Learning and Teaching Council for her teaching in the Australian University sector. Her Citation (with Dr Caroline Smith) was for *leadership in the development and implementation of an Education for Sustainability focus within teacher education and professional learning programs*.

 **ACU National**
 Australian Catholic University
 Brisbane Sydney Canberra Ballarat Melbourne

Education for Sustainability Seminar Kobe University

Lyn Carter
 Australian Catholic University
 (ACU)
 Melbourne



Humanity is faced with global challenges of unprecedented complexity

- Population more than 6.5 billion
- Consumption of energy, water and other resources continues to rise as they increasingly disappear – over consumption a disease of the developed world
- Humans use 40% of all sun's energy falling on the earth and 100% of stored energy
- Increasing divide between rich and poor: 80-20
- Climate Change now widely accepted
- Growing awareness that it is now time to act
- United Nations Decade of Education for Sustainable Development – UN DESD

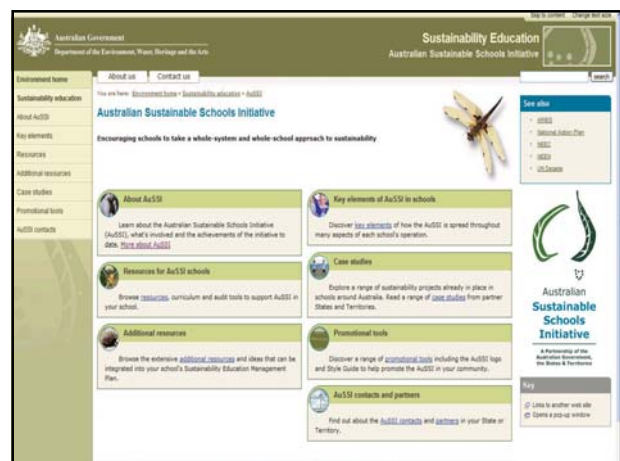
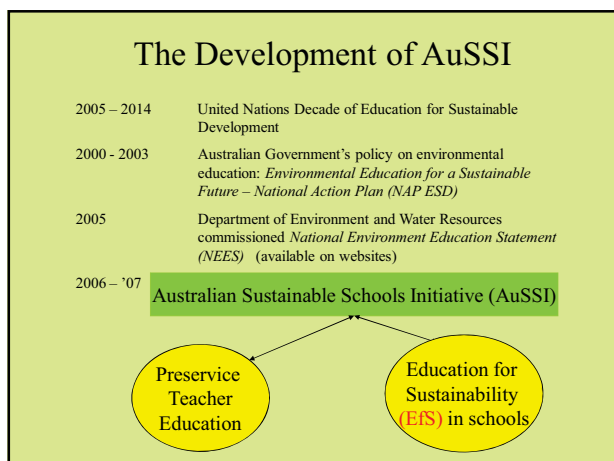
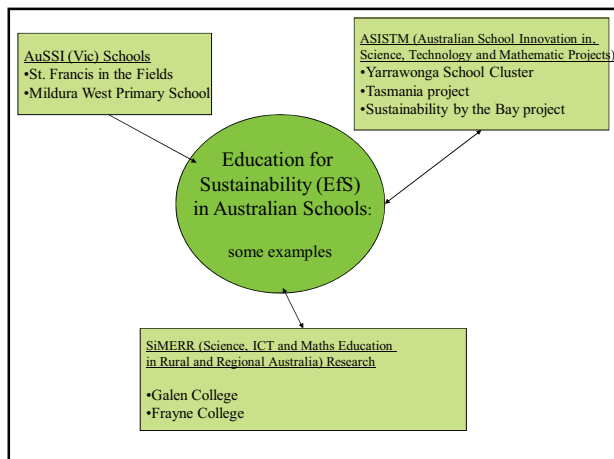
The Great Work of our time is to raise human consciousness to see itself in harmony with the whole creation as an integral part of the Earth Community, not to 'lord it over' the other life forms, but to be in respectful interdependence with them.



Thomas Berry, *The Great Work* (2000)

Catholic priest, cultural historian and ecotheologian

Education for Sustainability (EfS) in Australian Schools



Key Elements of AuSSI in Schools

- Effective EfS is more than the curriculum
- Commitment to AuSSI means sustainability is spread throughout all aspects of school's operations:
 - Governance/policy/charter
 - Teaching and learning
 - Resource and school grounds management
 - Conserving biodiversity
 - Community networks and partnerships

AuSSI in Victoria

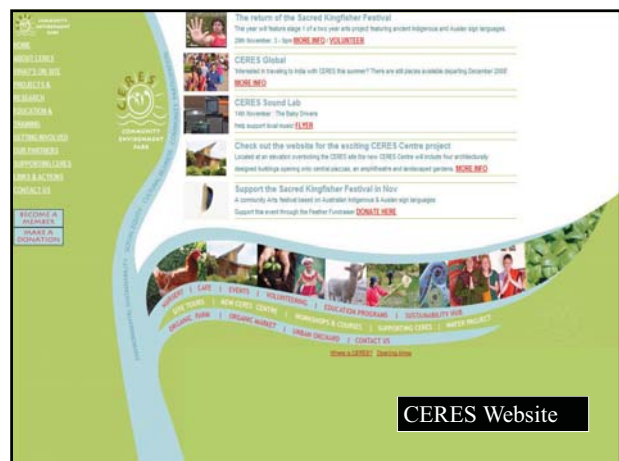
AuSSI (Vic) administered by:

Sustainability Victoria

<http://www.sustainability.vic.gov.au>

Centre for Education and Research in Environmental Strategies (CERES)

<http://www.ceres.org.au/>



AuSSI Vic 5 Star Accreditation.

Five modules schools complete at their own pace:

1. Core module (Schools Becoming Sustainable)-

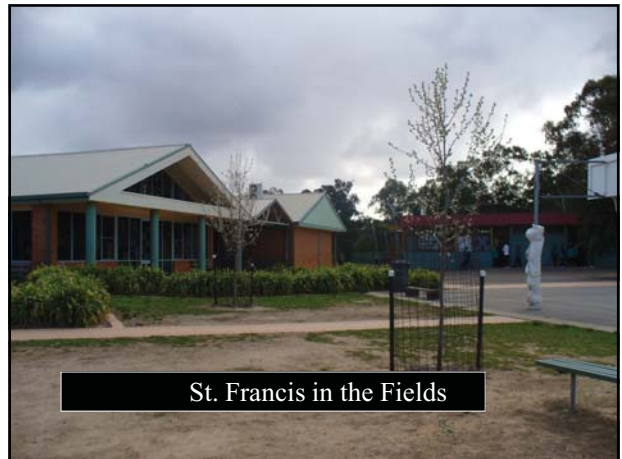
School Environment Management Planning (SEMP), curriculum review with a four year outlook and policy development. The core module includes professional learning about the direction and purpose of EfS and strategies to develop a long-term plan for sustainability for the school

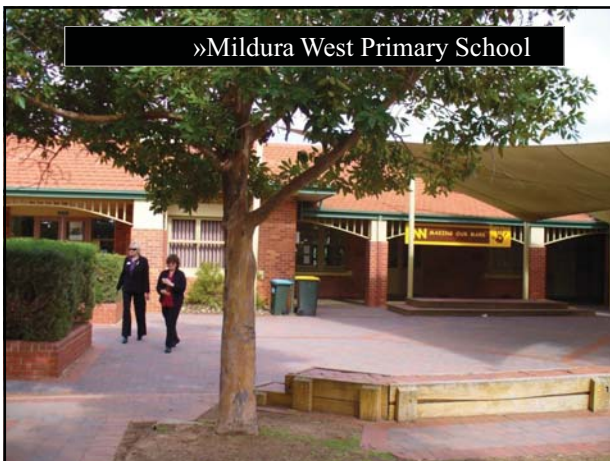
Four optional modules that require monitoring, evaluation, resource conservation and curriculum review

2. **Energy**- energy conservation, renewable energy, air quality and reduction in greenhouse gas emissions;
3. **Water**- water conservation and storm water management;
4. **Waste**- waste/litter minimisation and recycling;
5. **Biodiversity & School Grounds**- developing indigenous gardens that attract native butterflies and birds, developing theme and curriculum based gardens and habitats and developing watering systems.

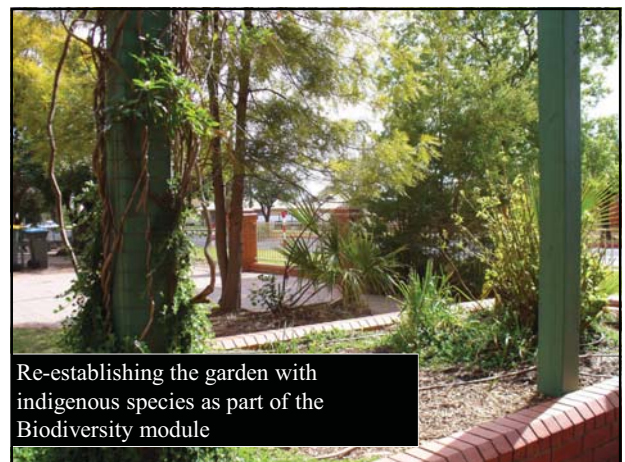
AuSSI (Vic) Schools

- St. Francis in the Fields
- Mildura West Primary School





»Mildura West Primary School



Re-establishing the garden with indigenous species as part of the Biodiversity module



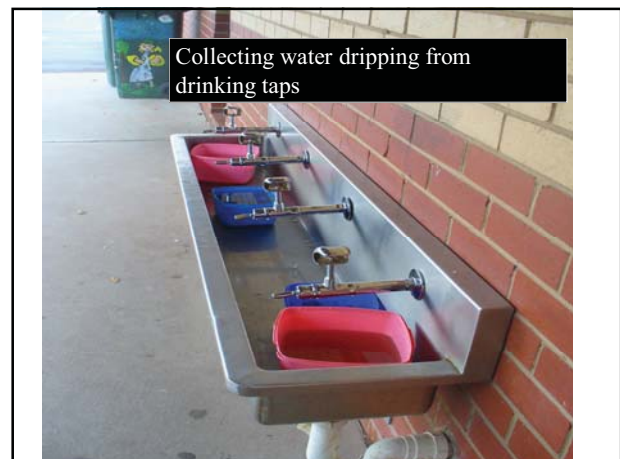
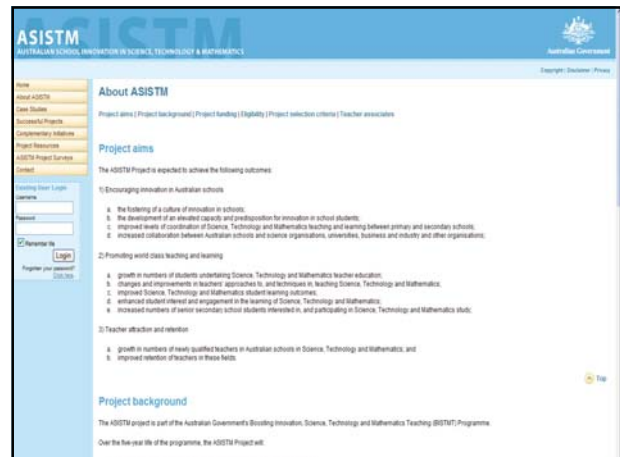
Water Tanks



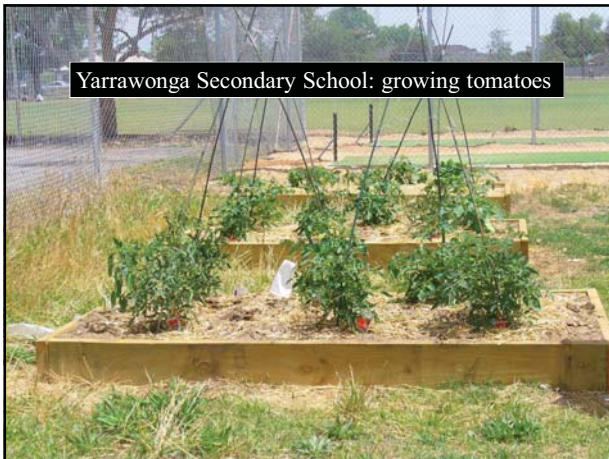
Composite bins

ASISTM (Australian School Innovation in Science, Technology and Mathematic Projects)

- Yarrawonga School Cluster
- Tasmania project
- Sustainability by the Bay project



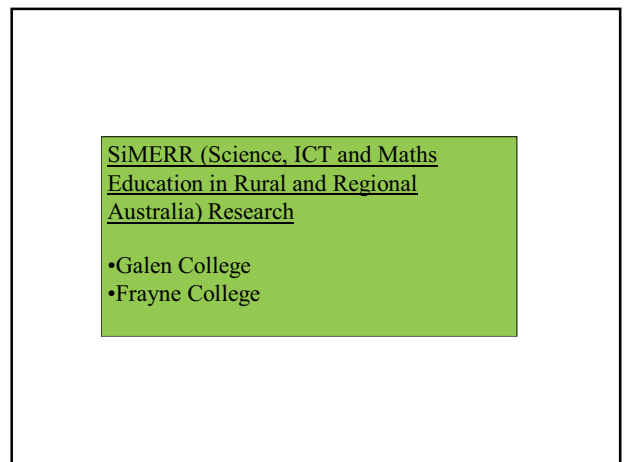




Yarrawonga Secondary School: growing tomatoes



Sustainable house design task



SiMERR (Science, ICT and Maths Education in Rural and Regional Australia) Research

- Galen College
- Frayne College



Building nesting boxes for indigenous birds

Effective teachers of EfS – characteristics of high levels of ecoliteracy:

1. A connection to and love of the earth and living things (biophilia)
2. A commitment to the values and practices underpinning sustainability including the value of place;
3. A knowledge base in biophysical earth systems;
4. A socio-cultural/critical understanding of the relationships and underpinning power structures mediated between humans and the natural world;
5. A knowledge of the concepts, tools and techniques of futures education for sustainable futures;
6. Knowledge of appropriate pedagogies for delivery that is consistent with the above strands.

Pedagogies for Education for Sustainability (EfS)

- Transformational
- Holistic and integrated
- Transdisciplinary
- Futures orientated
- Critical and reflective, problem posing, relational and systems learning
- Pedagogies of place

Education for Sustainable Development (ESD)

‘The ability of current generations to meet their needs without compromising the ability of future generations to meet their own needs.’

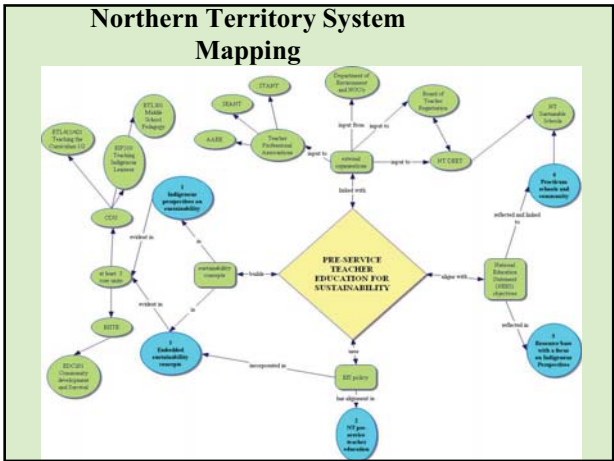
(Brundtland Report, UNEP, 1987- Our Common Future)

Key Action Themes for UN DESD

- Gender Equality
- Health Promotion
- Environment
- Rural Development
- Cultural Diversity
- Peace & Human Security
- Sustainable Urbanization
- Sustainable Consumption

Pre-service Education



[illegible]

- What we do at ACU:
 - Units: EDST 204 EDST 401 EDST 446
 - Fieldtrip

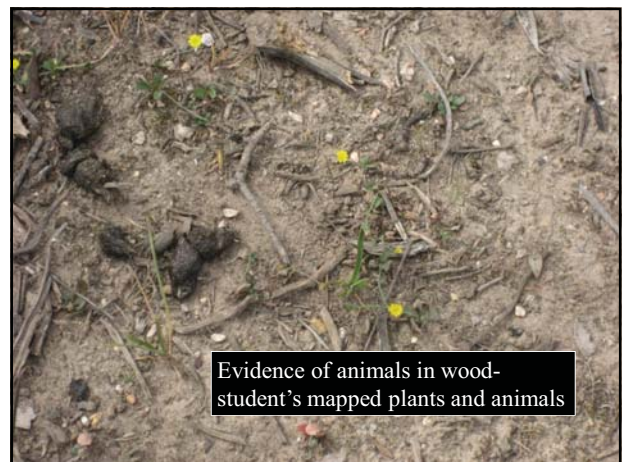




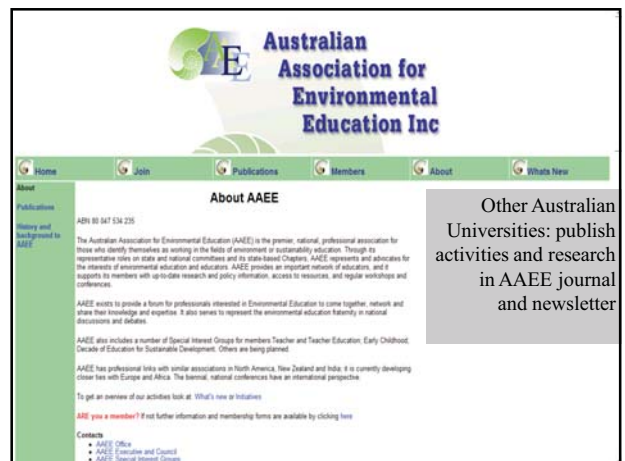
Student's preparing for ecology activities in Box-Ironbark woodland



Wildflowers in Box-Ironbark wood



Evidence of animals in wood-student's mapped plants and animals





VII

西オーストラリア
大学
(スポーツ科学)

11/25・26/2008

University of
Western Australia
(Sports Science)

西オーストラリア大学のスポーツ科学分野との学術交流会
「スポーツ科学の研究・教育交流と国際研究の動向」

【11月25日】

1. スポーツ科学分野での国際交流内容の検討（11：00～12：00, D204）
2. 研究交流会（13：30～17：00, 大会議室）

1) Lecture

Dr. Daniel J Green

Research Institute for Sport and Exercise Sciences, Liverpool John Moores University

School of Sport Science, Exercise and Health, The University of Western Australia

Title: Exercise as vascular medicine

2) Presentations

(1) Dr. Ooue Anna (PD in Graduate School of Human Development and Environment, Kobe University)

Title: Comparison of blood flow in conduit arteries and veins in the upper arm during passive heating and leg exercises in humans

(2) Jian Lin (Student of Master Course in Graduate School of Human Development and Environment, Kobe University)

Title: Thermoregulatory responses during prolonged intermittent exercise at medium intensity

(3) Tatsuro Amano (Undergraduate in Faculty of Human Development, Kobe University)

Title: The heat loss responses to isometric exercise under mildly hyperthermic conditions in sprinters and distance runners

(4) Nobuko Harada (MA in Graduate School of Human Development and Environment, Kobe University)

Title: The effects of a dual-task on step reaction to soft surface ground in older adults

【11月26日】

1. 授業への参加と交流（8：50～10：20, B108）
身体的応論の授業に参加していただいた。
2. 大学院生によるフィールドワーク（11：00～夕方）

参加スタッフ院生の感想

西オーストラリア大学とのスポーツ交流会では事前英語発表資料の作成や発表の練習，また，研究会の準備や資料作成がかなり大変だったが，これらでプログラム作成に必要な様々な能力が身についた．研究室での交流を通して，西オーストラリア大学の歴史や現状を知るだけでなく，英語コミュニケーションによりチャンスを得た．また，発表時に英語への不安や緊張感などのいろいろな意味で刺激を受けたが，英語発表経験を積む上ではよいと思う．さらに，研究者から自分の研究に対するコメントをいただくのは，これからの研究の発展にも役立つと考えられる．

(林建 人間発達環境学研究科)



EXERCISE AS VASCULAR MEDICINE

Professor Daniel J Green PhD


School of Sport Science, Exercise and Health, The University of Western Australia

講演要旨

運動は、心臓血管系リスクの減少に約 30% 貢献しており、これは降圧剤や低カロリーなどの薬物療法と同じくらいの効果である。しかし、運動が心臓血管系リスクファクターに及ぼす影響は相対的にはあまり高くない。したがって、心臓血管系を守る運動効果の他の説明が必要である。循環血液と動脈壁の間にある血管内皮は多数の傍分泌（分泌されたホルモンなどが近傍の細胞に作用する様式）ホルモンを産生し、それはアテローム産生を抑制する。内皮の機能異常は血管病の初期で複合的な症状と考えることができる。内皮による血管拡張において重要な生理学的刺激は動脈のずり応力である。運動は内皮上のずり応力の増加を繰り返し起こすことで血管へ直接効果を引き起こす。小筋群や大筋群の運動トレーニングは内皮機能の改善に関与することが明らかにされている。また、運動トレーニングは動脈の内腔径の変化や動脈の再構築を引き起こし、これがアテローム血栓のリスク低下に貢献しているかも知れない。血管機能の変化と構造のそれとの関係に関する研究は、運動トレーニングが微小血管に及ぼす影響に関するものとして、ヒトにおいて、新しい研究である。したがって、運動が血管に及ぼす直接的な効果は、運動トレーニングに関連する心臓発作の減少を十分に説明するものである。運動形態の違いがずり応力のパターンに関係することから、血管のずり応力への運動の直接的効果が考慮されれば、運動処方是最適になるかも知れない。

Abstract

Exercise is associated with an approximate 30% benefit in terms of decreased cardiovascular (CV) risk, a magnitude similar to that associated with antihypertensive and lipid lowering drug therapies. The impact of exercise on traditional cardiovascular risk factors is, however, relatively modest. Clearly, other explanations for the cardioprotective benefits of exercise must exist. The vascular endothelium, which forms the interface between the circulating blood and the artery wall, produces numerous paracrine hormones which are anti-atherogenic. Endothelial dysfunction can be considered an early and integral manifestation of vascular disease. An important physiological stimulus to endothelium-mediated vasodilation is arterial shear stress. Exercise exerts direct effects on the vasculature via the impact of repetitive increases in shear stress on the endothelium. There is strong evidence that exercise training of small and large muscle groups is associated with improvement in endothelial function. Exercise training also induces changes in artery lumen diameter, arterial remodelling, which may contribute to decreased atherothrombotic risk. Studies of the relationship between changes in artery function and structure in humans are now emerging, as is information relating to the impact of exercise training in microvessels. A direct effect of exercise on the vasculature therefore provides a plausible explanation for the reduction in cardiac events associated with exercise training. Since different forms of exercise are associated with distinct patterns of shear stress, it is likely that exercise prescription may be optimised if the direct effects of exercise on vascular shear stress are taken into consideration.



Changes in Vascular Function and Structure Following Exercise Training

Exercise as Vascular Medicine

Professor Daniel J Green
 Liverpool John Moores University, United Kingdom
 and The University of Western Australia, Perth




Research Institute for Sport and Exercise Sciences

Liverpool John Moores University











The University of Western Australia

Perth



School of Sports Science, Exercise, Health

University of Western Australia, Perth












Japan




Australia



The UK

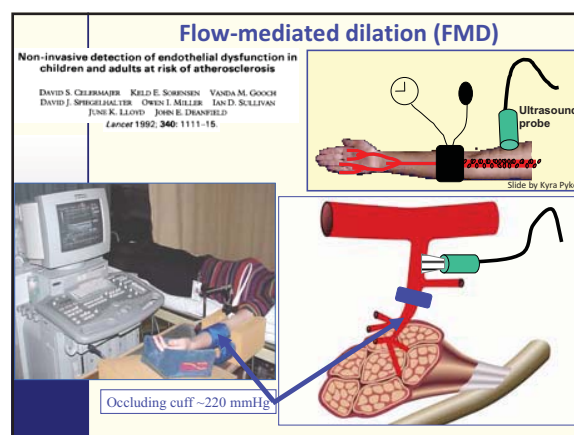
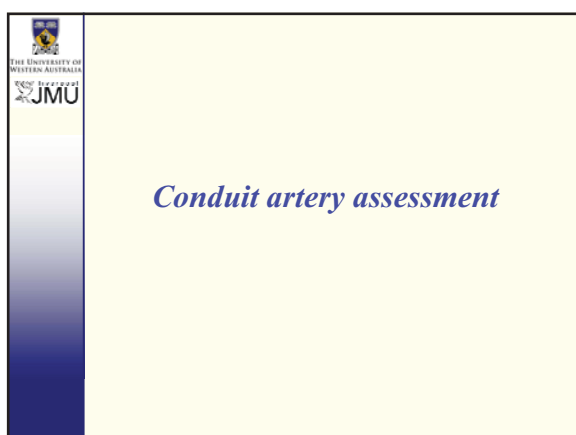
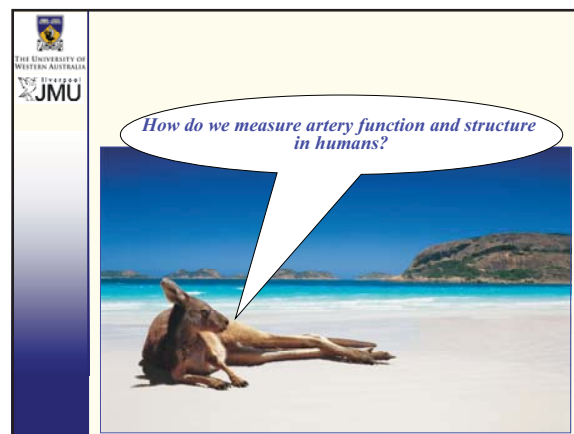
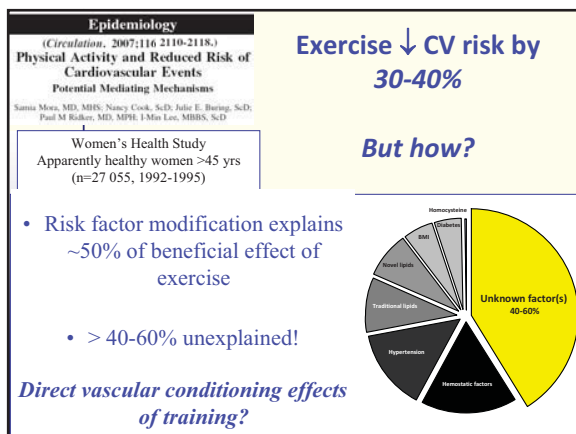
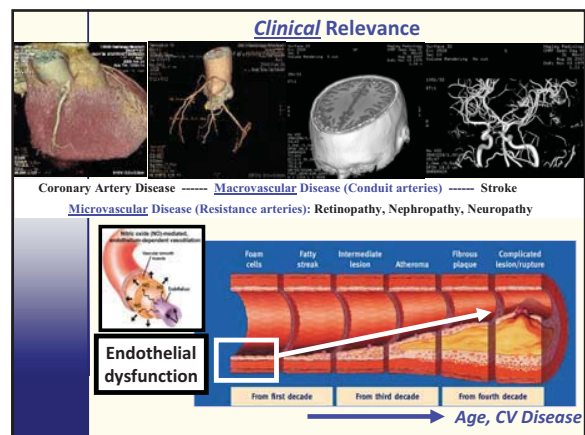
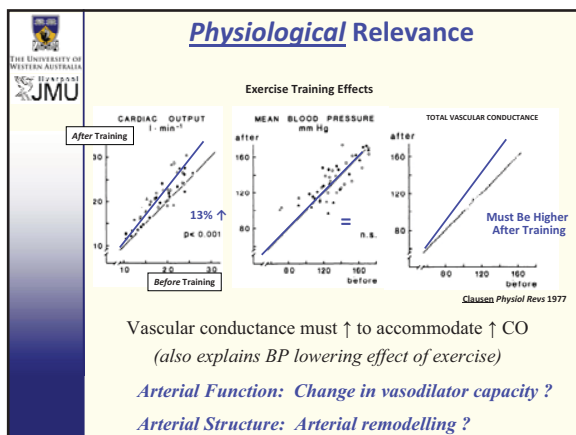


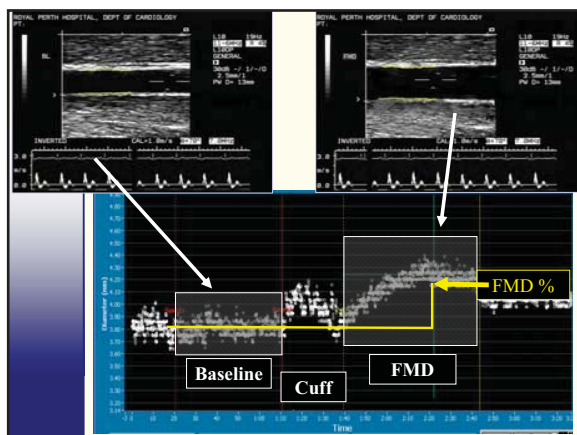
Everywhere?



Why should we care about artery function and structure?

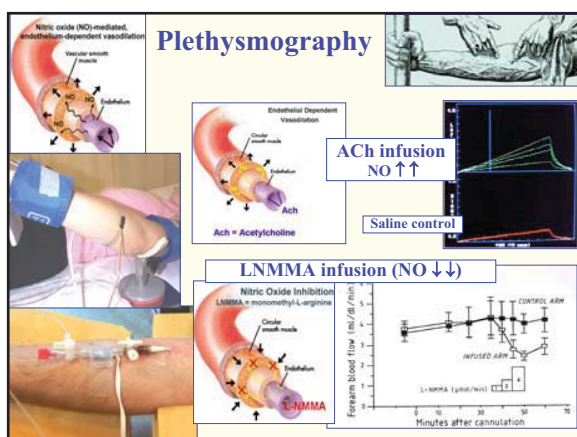






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Resistance artery assessments

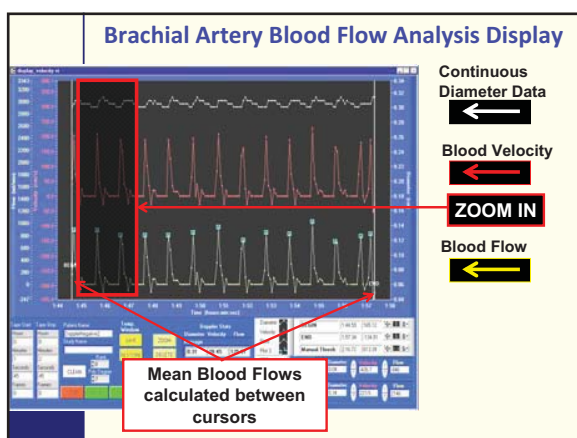


Ultrasound/Doppler:
Artery Diameter and Blood Flow

ROYAL PERTH HOSPITAL, DEPT OF CARDIOLOGY

NaH 0.00

ANGLE 11°



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Effect of Exercise on the Vasculature

Large muscle group dynamic exercise training

walking, running, swimming etc

Effect of exercise training on endothelium-derived nitric oxide function in humans

David I. Green^{1,2}, Andrew Maiorana³, Gerry O'Driscoll^{1,2} and Roger Taylor³


Randomised Cross-Over

MODE - Circuit Training
 - Aerobic - (70-85% of HRmax)
 - Resistance - (55-65% of MVC)

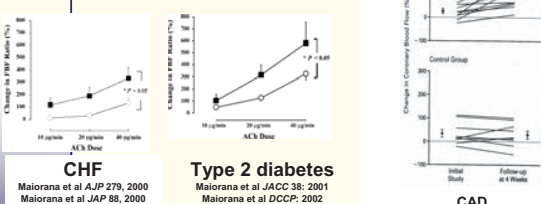
DURATION -
 3 x 1 hr/wk, for 8 weeks.

PROGRESSION -
 1 circuit,
 2,
 then 3 circuits over 2/3 wks

RANDOMISATION
 Baseline Assessment
 Non-Trained Trained
 Eight Week Assessment
 Trained Non-Trained
 Sixteen Week Assessment



Resistance Vessel Function



CHF
 Maiorana et al *AJP* 279, 2000
 Maiorana et al *JAP* 88, 2000

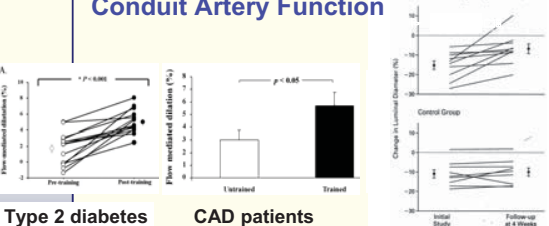
Type 2 diabetes
 Maiorana et al *JACC* 38: 2001
 Maiorana et al *DCCP*: 2002

CAD
 Hambrecht et al *NEJM* 2000

- Healthy subjects: 6/13 (46%) studies show improvement
- CVD/Risk factors: 11/16 (70%) studies show improvement

Training enhances resistance vessel function
 – Especially in subjects with risk factors and CV diseases

Conduit Artery Function



Type 2 diabetes
 Maiorana et al *JACC* 38: 2001
 Maiorana et al *DCCP*: 2002

CAD patients
 Walsh et al. *JAP* 285, 2003
 Walsh et al. *Eur Heart J* 2003

CAD
 Hambrecht et al *NEJM* 2000

- Healthy subjects: 3/6 (50%) studies show improvement
- CVD/Risk factors: 26/30 (87%) studies show improvement

Training significantly increased conduit vasodilation
 – Especially in subjects with risk factors and CV diseases

Exercise Training Normalizes Vascular Dysfunction and Improves Central Adiposity in Obese Adolescents

Katie Watts, BSc(Hons),* Peter Beye, MD,† Ann Sudarika, MD,† Elizabeth A. Davis, FRACP,†† Timothy W. Jones, FRACP,†† Gerard O'Driscoll, FRACP,*† Daniel J. Green, PhD*†§


Children

Obese
 Age- 8.9 ± 1.6 yrs
 Height- 1.45 ± 0.03 m
 Weight- 62.8 ± 5.6 kg (140lb)

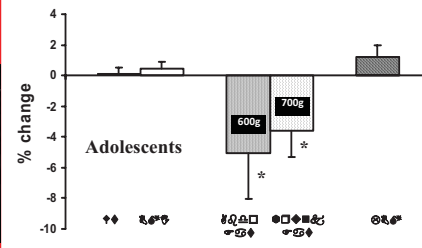
Lean
 Age- 8.6 ± 2.4 yrs
 Height- 1.35 ± 0.05 m
 Weight- 29.3 ± 2.5 kg (66lb)

Obese
 Age- 14.3 ± 1.1 yrs
 Height- 1.67 ± 0.02 m
 Weight- 96.4 ± 10.1 kg (212lb)

Lean
 Age- 14.9 ± 2.7 yrs
 Height- 1.64 ± 0.02 m
 Weight- 57.5 ± 3.1 kg (125lb)



Exercise Training Normalizes Vascular Dysfunction and Improves Central Adiposity in Obese Adolescents

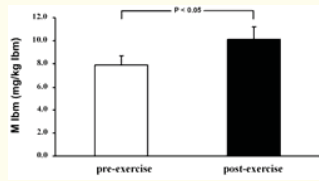


Adolescents

No change in body weight or BMI.
 Decreased measures of central adiposity

Emphasises importance of comprehensive assessment of body composition

Exercise Alone Reduces Insulin Resistance in Obese Children Independently of Changes in Body Composition



Obese Children

M = mg glucose needed per kg lean body mass to maintain BGI at 5.0mmol/L

8 wks exercise markedly improves insulin sensitivity in obese adolescents

Journal of the American College of Cardiology
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ISSN 0735-1017/04/\$30.00
doi:10.1016/j.jacc.2004.05.032

Exercise Training Normalizes Vascular Dysfunction and Improves Central Adiposity in Obese Adolescents

Katie Watts, BSc(Hons),^{*} Petra Beyé, MD,[†] Aris Sifariakas, MD,[†] Elizabeth A. Davis, FRACP,[‡] Timothy W. Jones, FRACP,[‡] Gerard O'Driscoll, FRACP,[§] Daniel J. Green, PhD[§]

Watts et al - J Pediatrics 2004 JACC 2004 Sports Med 2005 Circ editorial 2003

Exercise training normalises endothelial function in obese children and adolescents

So far

- **Large muscle group dynamic exercise training:**
 - Enhances coronary and peripheral resistance vessel vasodilator function
 - Enhances coronary and peripheral conduit artery vasodilator function
 - Effects more evident in subjects with CV disease and risk factors
 - Reflex changes or localised effect?*

Effect of localised (eg hand-grip) exercise training in humans

Localised Training and Arterial Function

Heart Failure (+ve)

- Homig *Circ* 1996
- Katz *JAP* 1997
- Hambrecht *JACC* 2000; *Circ* 1998
- Bank *J Card Fail* 1998

Healthy subjects (~ or -ve):

- Green *et al JAP* 1994
- Green *et al JAP* 1996
- Franke *et al Clin Physiol* 1998
- Maiorana *et al MSSE* 2001

Adaptations more readily apparent in subjects with impaired function a priori?

Localised Exercise and Conduit Structure/Function

Size and blood flow of central and peripheral arteries in highly trained able-bodied and disabled athletes

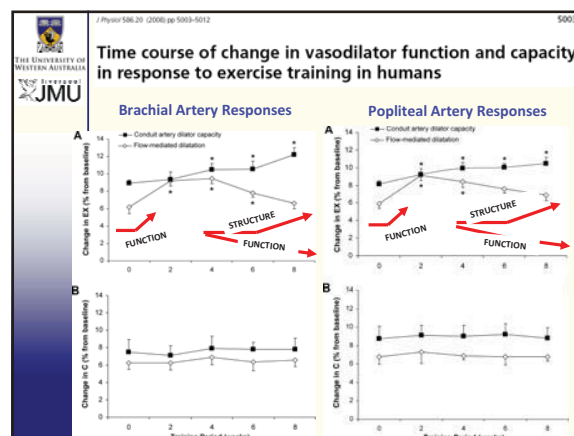
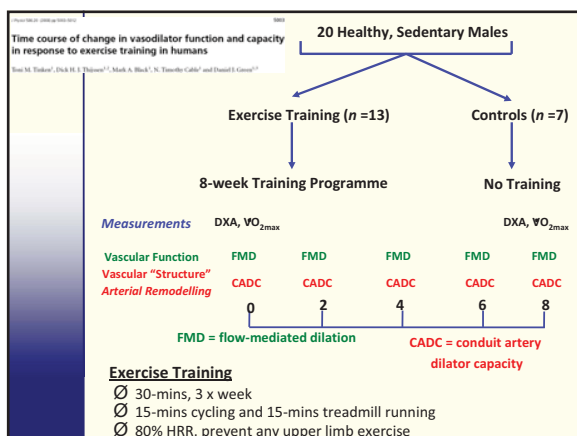
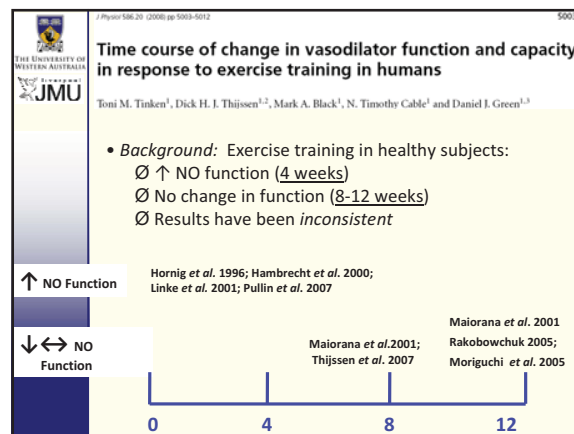
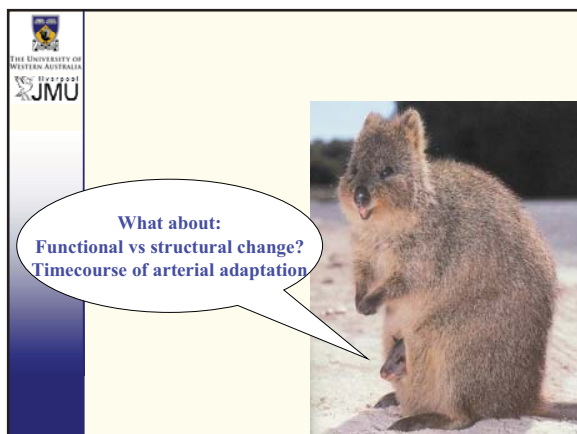
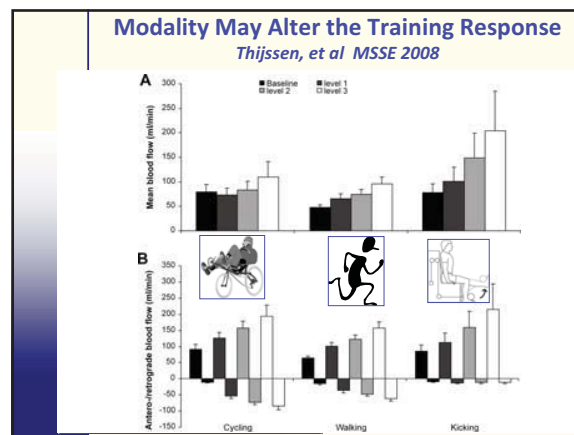
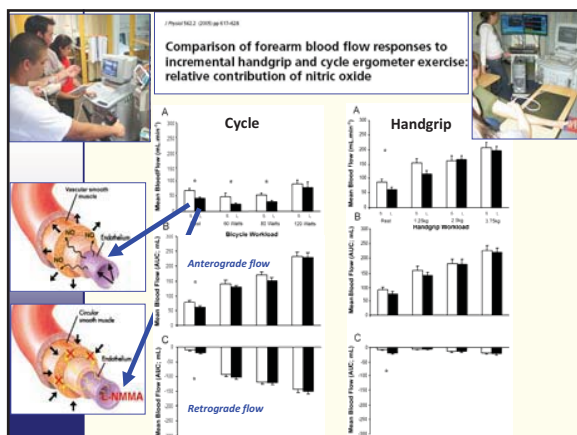
M. Huonker, A. Schmidt, A. Schmidt-Trucksäff, D. Grathwohl, and J. Keul[†]

- Large elastic arteries show less adaptation than smaller conduit arteries
- Localised adaptations evident in tennis players, amputees

- **Small muscle group training:**
 - Can induce resistance and conduit artery remodelling
 - Evidence for functional adaptations is poor in healthy subjects, but good in CVD
 - *Function may be more amenable to adaptation in those with initially impaired function*

Localised or intrinsic mechanisms since:

- Unilateral adaptations occur
- Not due to transmural pressure as BP is bilaterally affected
- **Localised changes in shear stress?**



Time course of change in vasodilator function and capacity in response to exercise training in humans

Exercise training and physical activity:

1. Enhance artery function
- then
2. Enlarge arteries via remodelling

Both adaptations decrease atherosclerosis

Does adaptation occur at all levels of the arterial tree?

Exercise prevents age-related decline in nitric-oxide-mediated vasodilator function in cutaneous microvessels

Mark A. Black¹, Daniel J. Green^{1,2} and N. Timothy Cable²

Table 1. Subjects characteristics at baseline

	Young		Sedentary older		Fit older	
	ACh (n = 12)	LH (n = 12)	ACh (n = 18)	LH (n = 18)	ACh (n = 16)	LH (n = 16)
Age (years)	26±1	27±1	59±1	60±1	58±2	58±1
Body weight (kg)	68±2	69±3	85±4	83±4	65±2	69±3
BMI	23±1	23±1	29±1	29±1	23±1	24±1
DEXA						
Fat mass (kg)	15±2	13±1	26±2	28±2	14±2	15±2
Lean body mass (kg)	52±3	53±3	57±3	54±4	49±2	52±3
% body fat	21±3	20±2	31±2	34±2	21±2	22±2
$\dot{V}O_{2\max}$ (ml kg ⁻¹ min ⁻¹)	50±3	48±3	28±1	28±1	46±3	44±2
Resting blood pressure (mmHg)						
Systolic	109±3	105±3	126±3	123±5	124±4	115±5
Diastolic	66±3	60±1	72±1	70±2	70±3	67±3

Values are mean±s.e.m., *P < 0.01 versus young subjects, †P < 0.01 versus older fit subjects. LH, local heating protocol; ACh, acetylcholine protocol.

Exercise prevents age-related decline in nitric-oxide-mediated vasodilator function in cutaneous microvessels

Table 2. Changes in characteristics with training in older sedentary individuals

	Entry		12 weeks		24 weeks	
	LH (n = 8)	ACh (n = 8)	LH (n = 8)	ACh (n = 8)	LH (n = 8)	ACh (n = 8)
Body weight (kg)	88±7	82±4	88±7	81±4	87±7	78±3*
BMI	30±2	30±2	30±2	29±1	29±1	28±1*
DEXA						
Fat mass (kg)	29±2	29±3	29±2	28±3	28±2	26±3*
Lean body mass (kg)	57±5	51±4	57±5	51±4	57±6	51±3
% body fat	33±2	35±4	31±2	34±3*	32±2	32±3
$\dot{V}O_{2\max}$ (ml kg ⁻¹ min ⁻¹)	26±2	27±3	28±1*	29±2*	30±2	34±3†
Resting blood pressure (mmHg)						
Systolic	130±6	121±6	121±4	118±5	120±6	118±4
Diastolic	72±2	69±2	68±2	66±2	69±3	64±3

Exercise Protocol:

- Pre-training Baseline
- 6 wks: 30% HRR 3/wk
- 6 wks: 30% HRR 5/wk
- 12 wks: 60% HRR 5/wk
- 24 wk Testing Point

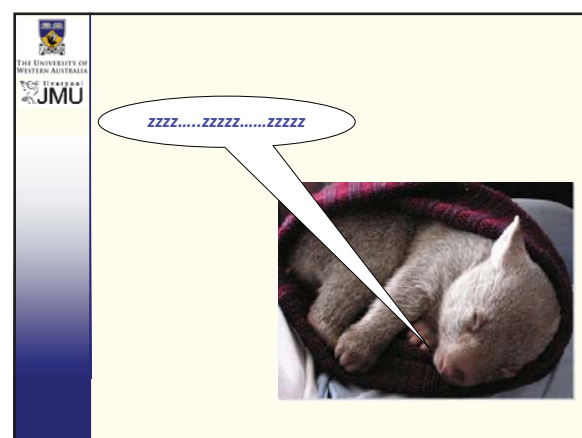
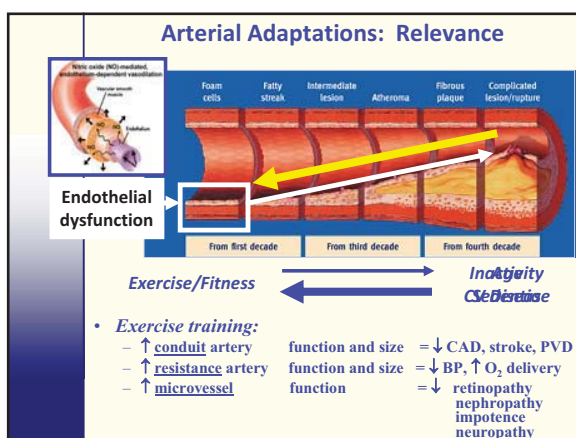
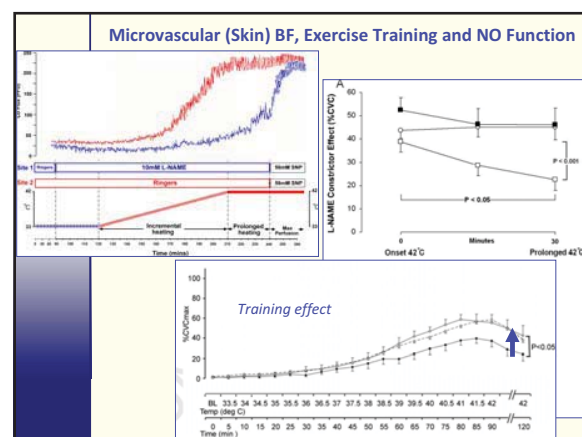
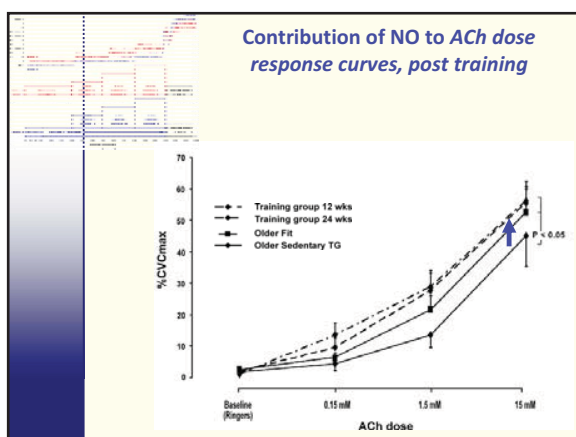
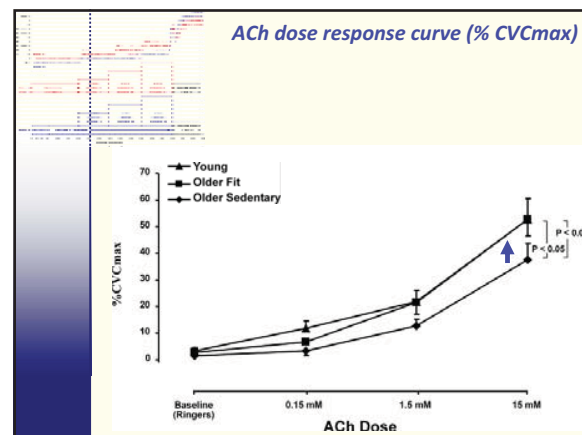
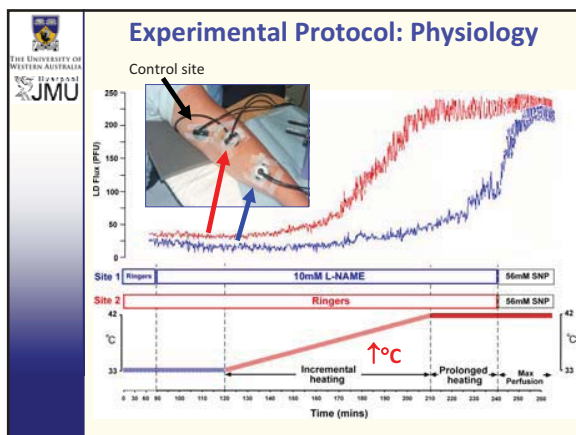
Methods : Microdialysis and Laser Flowmetry

Laser Doppler

Experimental Protocol: Pharmacology

Pharmacology Protocol:

- Site 1: Ringers, ACh Dose 1, ACh Dose 2, ACh Dose 3, 50mM SNP + 42°C
- Site 2: Ringers, 10mM L-NAME, ACh Dose 1, ACh Dose 2, ACh Dose 3, 50mM SNP + 42°C



Comparison of blood flow in conduit arteries and veins in the upper arm during passive heating and leg exercises in humans

Anna Ooue

Postdoctoral Research Fellow, Graduate School of Human Development & Environment
Kobe University

Abstract

This study compared the blood flow in the conduit arteries and veins of the upper arm between passive heating and leg exercises by using ultrasound Doppler. In passive heating experiment, hot water was circulated for 20 rested subjects in the supine position to keep the mean skin temperature at 37–38°C for 50 min after the rest for 55 min. In exercise experiment, 14 subjects performed a supine cycling exercise at 60–69% of maximal oxygen uptake for 30 min after the rest for about 55 min. Although blood flow in the conduit artery and superficial vein of the upper arm increased linearly with rising core temperature (ΔT_c) during passive heating, blood flow in these vessels slightly decreased in the early stage of ΔT_c elevation, then increased with a rise in ΔT_c during exercise, so that blood flow was significantly greater during the former condition than the latter at a given ΔT_c ($P < 0.05$). In contrast, blood flow in the deep vein of the upper arm did not change under either condition. Blood flow in the artery depended primarily on the blood velocity, but blood flow in the superficial vein was related to both blood velocity and diameter. Moreover, the mean skin temperature and skin blood flow during passive heating were significantly higher than during exercise at a given ΔT_c ($P < 0.05$). These results suggest that the controls of blood flow in conduit arteries and superficial veins, but not deep veins, are different between passive heating and exercise at a given ΔT_c . This difference is suggested not only to be due to the mean skin temperature but also exercise effects.

安静温熱負荷時と運動時における上腕部導管血管の血流応答特性

大上安奈

神戸大学大学院人間発達環境学研究科

発表要旨

本研究は超音波ドップラー法を用いて上腕部の導管動脈および導管静脈の血流応答を安静温熱負荷時と脚運動時において比較した。20名の被験者は仰臥位姿勢をとり、安静を約55分間保った後、温水を循環させ平均皮膚温を37–38℃で維持した（50分間）。別の14名の被験者は安静を約55分間保った後、60–69 $\dot{V}O_{2max}$ 強度の仰臥位自転車運動を30分間実施した。上腕部の導管動脈および表在性静脈の血流量は安静温熱負荷時において深部体温上昇に伴い直線的に増大したが、運動時において深部体温上昇初期にわずかに低下した後、深部体温上昇に伴い増大した。そのため、同一深部体温で比較した場合、前者の条件の血流量が後者のそれより有意に大きい値を示した（ $P < 0.05$ ）。一方、上腕部の深在性静脈の血流量はいずれの条件も深部体温上昇に伴い変化しなかった。導管動脈でみられた血流量の条件間の差は血流速度のそれに依存していたが、表在性静脈でみられたそれは血流速度と血管径の両者に関連していた。さらに、同一深部体温で比較した場合、安静温熱負荷時における平均皮膚温および皮膚血流量は脚運動時におけるそれらよりも有意に大きい値を示した（ $P < 0.05$ ）。これらの結果は上腕部の導管動脈および表在性静脈、深在性静脈ではなく、における血流量の調節は安静温熱負荷時と脚運動時で異なることを示唆している。このような条件間の違いは平均皮膚温の差だけではなく運動自体の影響も関連している。

Comparison of blood flow in conduit arteries and veins in the upper arm during passive heating and leg exercises in humans

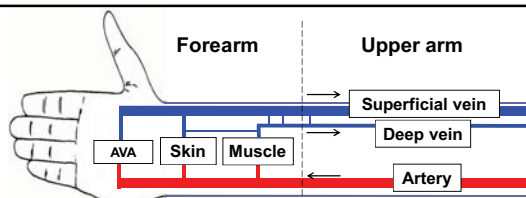
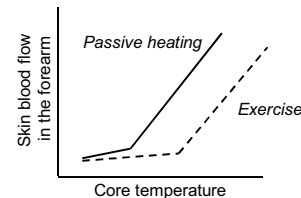
Anna Ooue, Ph.D.

Laboratory for Applied Human Physiology,
Kobe University

Introduction

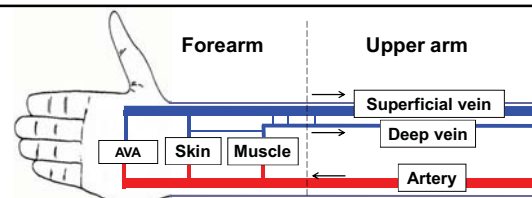
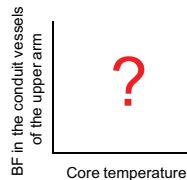
During passive heating and exercise, the splanchnic blood flow (BF) and inactive muscle BF are decreased, so that skin blood flow (SkBF) is increased for maintaining core temperature (T_c).

However, BF redistribution during exercise is more complex than during passive heating because of the competition of BF between skin and active muscle. In fact, the pattern of SkBF in the forearm to a rise in T_c is different between two conditions (Johnson and Park 1981; Kellogg et al. 1991).



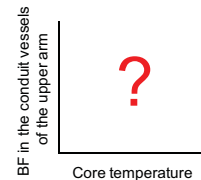
- **Conduit artery** supplies blood to the whole forearm and hand.
- **Superficial vein** returns blood from skin.
- **Deep vein** returns blood from muscle.

Because SkBF in the forearm during exercise is different from passive heating, BF in conduit vessels of the upper arm, especially artery and superficial vein, may be also different between two conditions. However, it is not clear.



Purpose

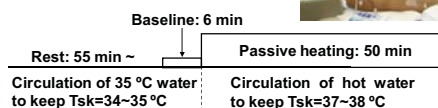
To examine how BF responds in the conduit artery and veins of the upper arm with a rise in T_c during passive heating versus the response during leg exercise.



Methods

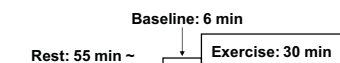
● Passive heating experiment

- Subjects: 15 men and 5 women
- Ambient condition: 25 °C, RH 50%
- Protocol:



● Leg exercise experiment

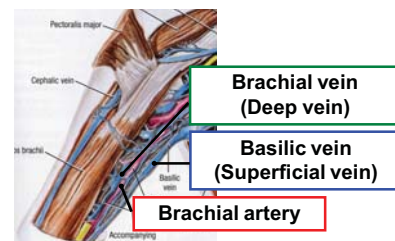
- Subjects: 12 men and 2 women
- Ambient condition: 28 °C, RH 50%
- Exercise intensity: 60~69%VO_{2max}
- Protocol:

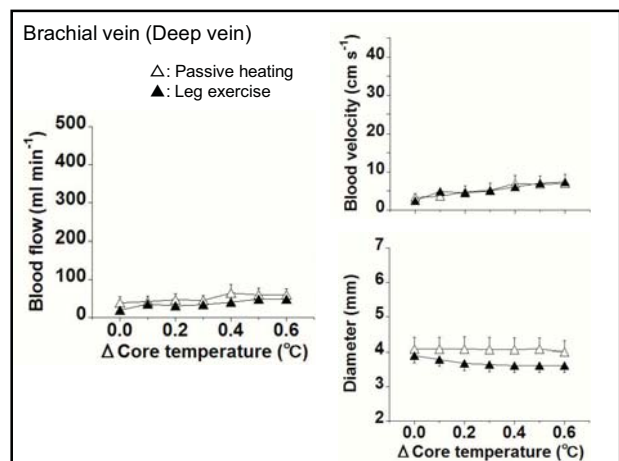
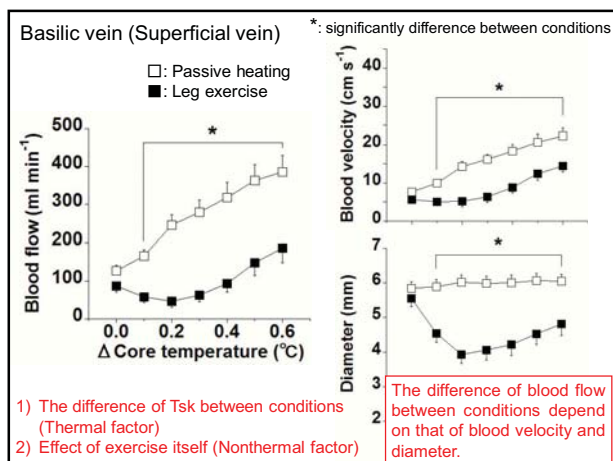
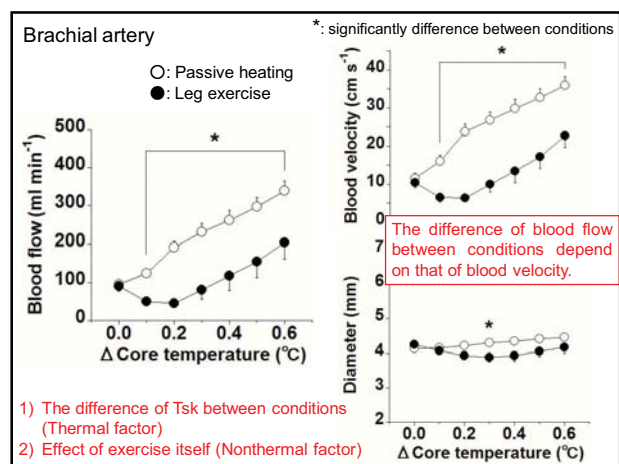
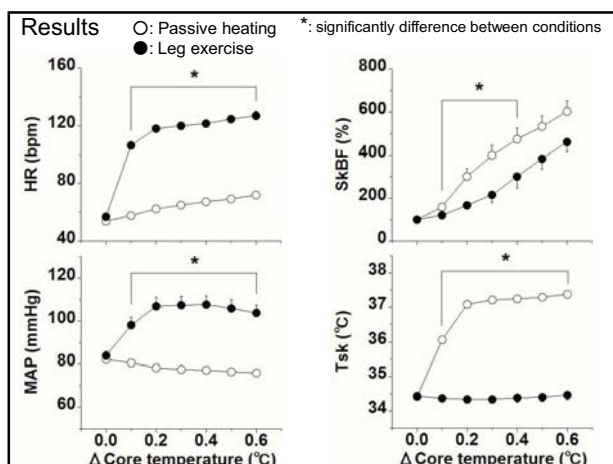


● Measurements

- Core temperature (T_c: esophageal temperature, and oral temperature)
- Local skin temperature
- Heart rate (HR), and Mean arterial blood pressure (MAP)
- Skin blood flow (SkBF) in the forearm (Laser-Doppler velocimetry)
- Blood velocity, and vessel diameter in the conduit artery and veins (pulsed and echo Doppler ultrasound)

$$\text{Blood flow (BF)} = \text{Blood velocity} * (\text{vessel diameter} / 2)^2 * \pi$$





Conclusion

- Changes in and the control of BF in the artery and superficial vein, but not the deep vein, is different between passive heating and exercise, even comparing the BF response versus changing ΔT_c .
- These differences may be induced by not only Tsk, but also exercise effects.

Thermoregulatory responses during prolonged intermittent exercise at the medium intensity

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Abstract

To investigate the thermoregulatory responses during prolonged intermittent exercise at the medium intensity ten healthy male subjects cycled under three different conditions at the same total workload, 1) continuous exercise at 50% maximal oxygen uptake ($\dot{V}O_{2\max}$) for 30 min (con-condition), 2) intermittent exercise at 50% $\dot{V}O_{2\max}$ for 60min (30-s intervals of exercise and rest; 30-s condition), and 3) intermittent exercise at 50% $\dot{V}O_{2\max}$ for 60min (3-min intervals of exercise and rest; 3-min condition) at an ambient temperature of 25°C and a relative humidity of 50%. In each experiment, heart rate (HR), esophageal temperature (T_{es}), skin temperature (chest, upper arm, forearm, thigh and lower leg), sweating rate (chest and forearm, SR), skin blood flow (chest and forearm, SkBF), total sweating loss (TSL) and oxygen uptake ($\dot{V}O_2$) were measured. HR, mean skin temperature and mean body temperature were significantly lower during the two intermittent conditions than continuous condition. Although there is no significant difference in T_{es} among three conditions, changes in SkBF, SR, TSL and $\dot{V}O_2$ were significantly smaller during the two intermittent conditions than the continuous condition. In addition, there are not a marked differences in these variables between 30sec- and 3min conditions. Thus, there were no significant differences in T_{es} among three conditions even $\dot{V}O_2$ during continuous condition was significantly greater than the two intermittent conditions. It is suggested that this is due to greater heat dissipation associated with higher skin blood flow and sweating rate during continuous condition than intermittent conditions. In addition, a significant difference in T_b indicates that heat storage in intermittent conditions is lower than that in continuous condition at medium exercise intensity.

中強度の長時間間欠運動時における体温調節特性

林 建

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発表要旨

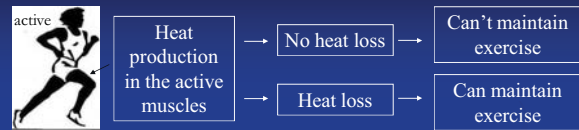
中強度間欠運動時における体温調節反応の特性を検討するために、同じ運動強度の継続運動時と比較した。10 名健康な男子大学生は室温 25℃、相対湿度 50%の環境下において 50% $\dot{V}O_{2max}$ の継続運動 (continuous) を 30 分間、同じ運動強度の間欠運動 (30s 運動+30s 休息, 30sec および 180s 運動+180s 休息, 3min) を 60 分間実施した。測定項目は心拍数 (HR), 食道温 (Tes), 皮膚温 (胸, 上腕, 前腕, 大腿および下腿), 発汗量 (胸および前腕, SR), 皮膚血流量 (胸および前腕, SkBF), 総体重減少量 (TSL) および酸素摂取量 ($\dot{V}O_2$) とした。条件間の Tes に有意な差はみられなかったが, 30sec および 3min 条件の HR, 平均皮膚温 (Tsk) および Tb は continuous 条件と比較して有意に低値を示した。また, SkBF, SR, TSL および $\dot{V}O_2$ は continuous 条件より 30sec および 3min 条件で有意に低くなったが, 30sec と 3min 条件間に有意な差はみられなかった。これらのことから, Tes の変化は条件間で差がないが, Tb に差があり, これは間欠運動時の熱産生量は継続運動時のそれより少なく, これに関連して蓄熱量も小さいことが考えられる。

Thermoregulatory responses during prolonged intermittent exercise at medium intensity

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Introduction

Thermoregulatory responses during exercise



Earlier studies in thermoregulatory responses during exercise

continuous : most
intermittent { high intensity : a few
medium intensity: none

High intensity intermittent exercise

References	Conditions	Intensity	Core temperature
Åstrand et al. (1960)	continuous	176W	↑
	Inter-mittent	30sec	352W
		1min	352W
		2min	352W
		3min	352W
Ekblom et al. (1971)	continuous	60%VO ₂	↑
	30sec	120%VO ₂	↑↑

Purpose: we have investigated the thermoregulatory responses during medium intensity continuous and intermittent exercise at same total workload, if we could see the same results during medium intensity as well as higher exercise intensity.

Methods

Subjects : ten males

(Age : 22.9 ± 1.4 years, Body mass : 62.8 ± 2.7 kg, Height : 171.2 ± 2.4 cm, VO_{2max} : 54.7 ± 2.3 ml / kg / min)

Experimental conditions

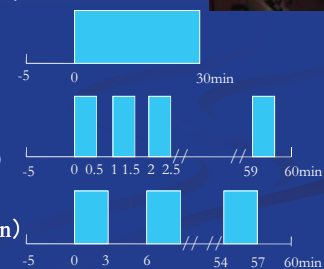
25°C and 50% relative humidity

Protocol

1) 50%VO_{2max} continuous exercise (continuous)

2) 50%VO_{2max} Intermittent exercise (30sE: 30sR, 30sec)

3) 50%VO_{2max} Intermittent exercise (180sE: 180sR, 3min)



Measurements:

○ Heart rate (HR), Blood Pressure (BP) and Oxygen uptake (VO₂)

○ Esophageal temperature (Tes), Skin temperature (chest, upper arm, forearm, thigh and calf, Tsk)

Mean body temperature (Tb) = 0.9 * Tes + 0.1 * Tsk

○ Sweating rate (chest and forearm, SR), Skin blood flow (chest and forearm, SkBF), and Total sweat loss (TSL)
Cutaneous vascular conductance (CVC) = SkBF / MAP

Data analyses

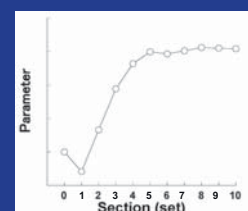
Continuous Intermittent (30sec, 3min)

Exercise period: 30min

60min

Data analyses: 3min per

6min per



Results 1

* :significantly different between con and 30sec
 † :significantly different between con and 3min

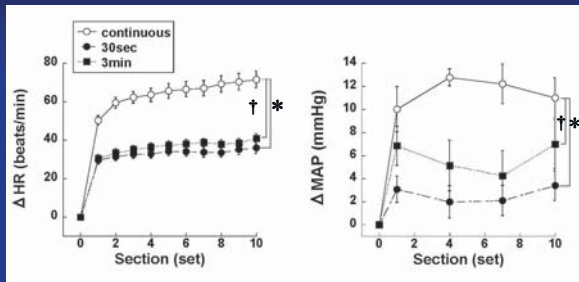


Fig.1

Results 2

* :significantly different between con and 30sec
 † :significantly different between con and 3min

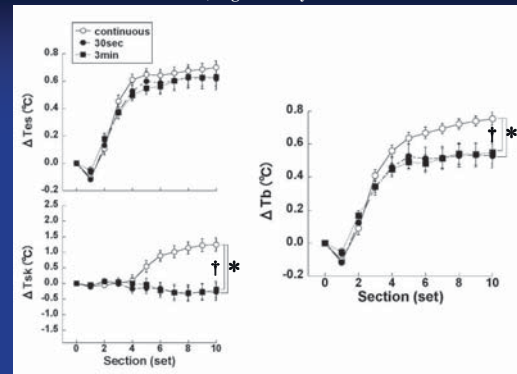


Fig.2

Results 3

* :significantly different between con and 30sec
 † :significantly different between con and 3min

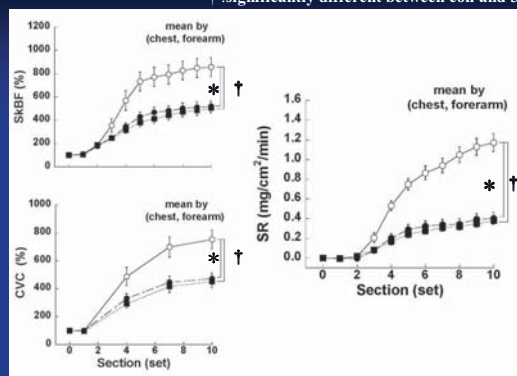


Fig.3

Results 4

* :significantly different between con and 30sec
 † :significantly different between con and 3min

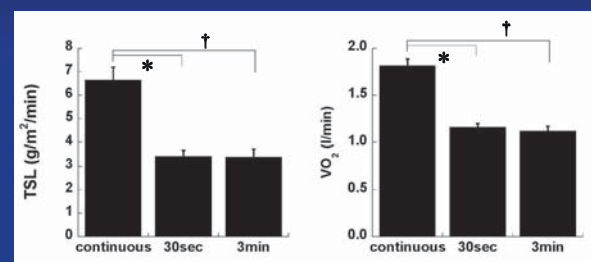


Fig.4

Discussion and conclusion

1) No difference in Tes among three conditions, even VO₂ during continuous condition was significantly greater than the two intermittent conditions.

- Due to greater heat dissipation associated with higher skin blood flow and sweating rate during continuous condition than intermittent conditions.
- this result is different from earlier studies in which change in core temperature during intermittent exercise was greater than continuous exercise. This was caused by different exercise intensity between earlier studies and this study.

2) Significant increase in Tb during continuous condition.

- indicating that heat storage during continuous exercise was greater than that during two intermittent exercises at medium exercise intensity.
- due to higher Tsk during continuous condition than two intermittent conditions.

Thank you for your attention!

The heat loss responses to isometric exercise under mildly hyperthermic condition in sprinters and distance runners.

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ABSTRACT

To clarify the distinction of heat loss responses to a sustained handgrip exercise (non-thermal factors) between sprinters and distance runners, we compared the sweating response and skin blood flow responses during isometric handgrip exercise in the two groups under mildly hyperthermic conditions. Eight men sprinters and seven men distance runners performed isometric handgrip exercise at 20, 35 and 50% maximal voluntary contraction (MVC) for 60s after supine rest for 50min in a climatic chamber with a regulated ambient temperature of 35°C and relative humidity of 50% to induce sweating response at rest by rising skin temperature without a marked change in internal temperature. Sublingual and mean skin temperatures (thermal factors) in both sprinters and distance runners groups were essentially constant throughout all exercise intensities. Changes in heart rate, mean arterial blood pressure and rating of perceived exertion with increased exercise intensity were similar in both groups. Responses of sweating rate and cutaneous vascular conductance on the chest, forearm, thigh and palm at each exercise intensities were not significantly different between sprinters and distance runners. Our results suggest that the physical trainings in sprinters and distance runners have similar effects on the sweating response and skin blood flow responses caused by non-thermal factors. However, there is a remain possibility that the heat loss responses caused by non-thermal factors may differ between sprinters and distance runners because the earlier studies indicated that cardiovascular responses was different between two groups during exercise for more than 2min.

短距離選手と長距離選手における静的運動時の熱放散反応特性

天野達郎

神戸大学発達科学部

発表要旨

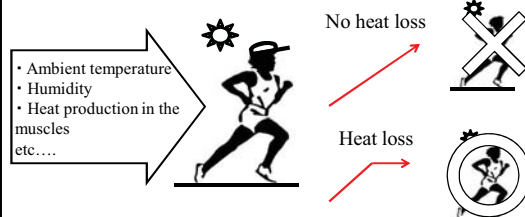
短距離選手と長距離選手において静的運動を行った時の両者の熱放散反応(非温熱性要因)の違いを明らかにするために、暑熱環境下において静的掌握運動を行った時の両群の発汗反応と皮膚血流反応を比較した。男性短距離選手8名および男性長距離選手7名が60秒間の静的掌握運動を最大随意筋力(MVC)の20%、35%および50%の強度で行った。安静状態で皮膚温を上昇させ、深部体温を変化させることなく発汗を引き起こすために環境温35℃、相対湿度50%に設定した人工気象室内で実験を行った。すべての運動強度を通して短距離選手と長距離選手両群の舌下温および平均皮膚温(温熱性要因)はほぼ一定であった。

心拍数、平均血圧および自覚的運動強度は運動強度とともに増加し、その変化は両群でほぼ同じだった。すべての運動強度において両群の胸、前腕、大腿および手掌の発汗量及び皮膚血管コンダクタンスの応答に違いはなかった。これらの結果は、短距離選手と長距離選手の運動トレーニングが非温熱性要因による発汗反応および皮膚血流反応に与える影響は同じであることを示している。しかし、両群の心臓血管系応答に違いを引き起こすため、2分間以上の静的運動を行った時の非温熱性要因による熱放散反応は両群間で異なるかもしれない。

The heat loss responses to isometric exercise under mildly hyperthermic conditions in sprinters and distance runners

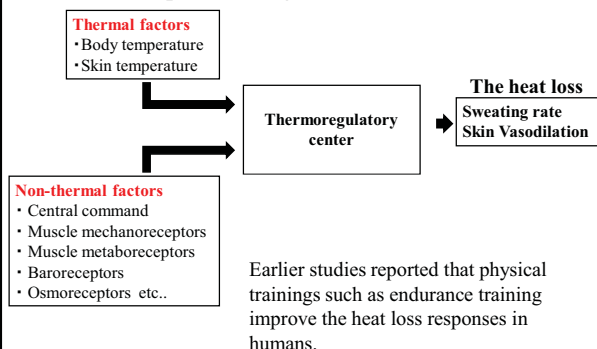
Tatsuro Amano
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Introduction



Body temperature during exercise is controlled by two ways. One is behavioral temperature regulation, for example, we wear a cap and get out of clothes when ambient temperature is high. Another is autonomic temperature regulation such as sweating and skin vasodilation.

Autonomic temperature regulation



Previous studies

Table 1 **The heat loss responses caused by thermal factors**

Authors	Experimental conditions	Heat loss responses
Michael et al. (1977)	Training program	Thresholds shifted to lower body temperature (Skin vasodilation and sweating)
Baum et al. (1976)	Passive heating	Sweating threshold Untrained > Distance runners
Irion (1987)	Bicycle ergometer	Sweating rate Distance runners > Sprinters

The heat loss responses caused by non-thermal factors

Yanagimoto et al. (2002)	Isometric handgrip exercise	Sweating rate Distance runners > Untrained
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Thus, there are many studies that showed difference in the heat loss responses caused by thermal factors between different physical training groups, however, there is no study that investigates difference caused by non-thermal factors between these groups.

There are many studies that reported different cardiovascular responses to isometric handgrip exercise between different physical training groups.

Table 2

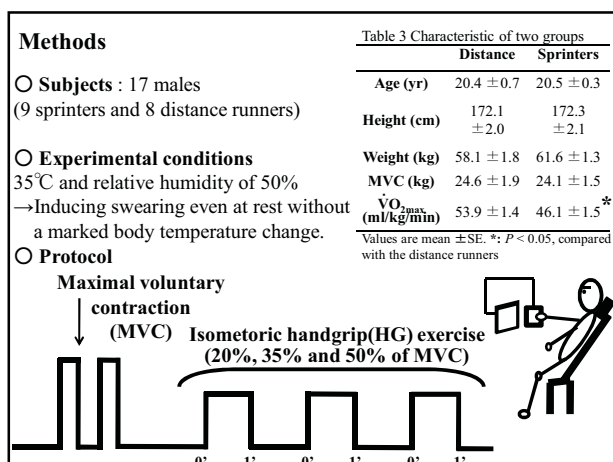
		Mean arterial blood pressure (MAP) and heart rate (HR)
Torok et al. (1995)	3 min	Sprinters > Distance runners
Sadamoto et al. (1992)	2 min	A close correlation between MAP and percentage of first-twitch (%FT) muscle fibers

Hypothesis

There is a possibility that the heat loss responses caused by non-thermal factors with isometric exercise are different between sprinters and distance runners.

Purpose

To investigate the heat loss responses caused by non-thermal factors in sprinters and distance runners



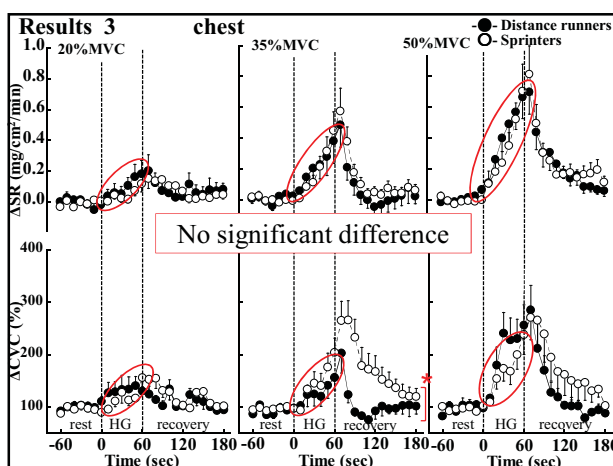
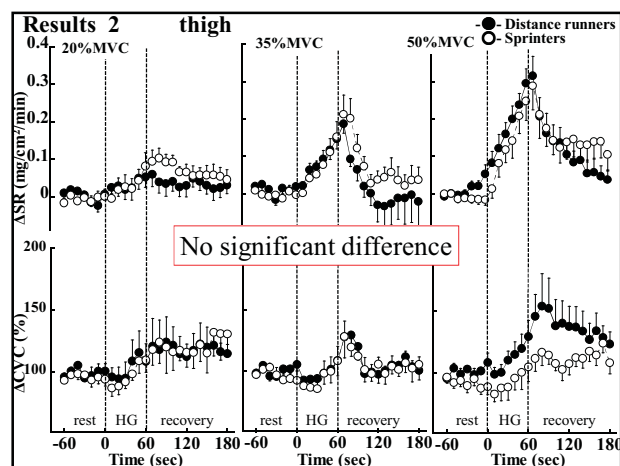
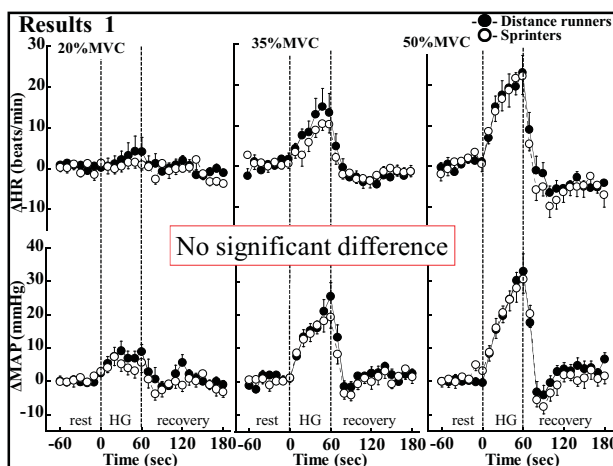
Measurements

Cardiovascular parameters

Heart rate, Blood pressures, Stroke volume, Cardiac output and Rating of perceived exertion (RPE)

Thermoregulatory parameters

Oral temperature (T_{or}), Skin temperatures (forehead, chest, upper arm, forearm, thigh, leg and palm), Sweating rate (SR : chest, forearm, thigh and palm), Skin Blood flow (SkBF : chest, forearm, thigh and palm), Cutaneous vascular conductance ($CVC = SkBF / MAP$) and Active sweat glands



Main results and discussions

○ Responses of HR, MAP, SR and CVC at each exercise intensities are not different between sprinters and distance runners.

◆ The change in MAP does not agree with the earlier studies that showed significant difference between the two groups. There may be two reasons why the result in this study is different with the earlier studies.

② **Difference in degree of %FT in muscle** → The earlier studies reported a close relationship between MAP and %FT muscles during HG exercise (Sadamoto, 1992). In this study, MAP is similar between sprinters and distance runners throughout the experiment, so it could expect that % FT in muscle does not markedly differ between two groups.

◆ The results of SR and CVC

The changes in SR and CVC during each exercise intensities are similar between sprinters and distance runners. This may be because changes in HR and MAP were similar between two groups. The load of the exercise is too low to induce difference in heat loss response between two groups. There may be difference in heat loss responses if the changes of HR and MAP were different between two groups.

The effect of a dual task on step reaction to a soft surface ground in older adults

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Abstract

The ability to maintain postural stability is a basic requirement for determinants of daily activity for older adults with independence, but there are a number of complicated environments to survive in real life and then falls are frequent. To avoid falling, a rapid step is a very important protective strategy to recovery balance and it can contribute to age-related changes in postural stability. To stabilize human posture, the somatosensory is very important for controlling posture stability, but changes in mechanical properties of the skin and its receptors with age reduce the afferent information from the bottoms of the feet for their posture control. Meanwhile, older adults may have difficulty in moving and controlling posture while concurrently performing some tasks.

The purpose of this study was to investigate the effect of dual task on step reaction to soft surface ground which could cause less afferent information from the bottom of feet for older females. Nine young and eleven older females participated in this study. There were two task conditions: stepping while grasping an empty cup (single task) and stepping while grasping a cup filled with water (dual task). In both the tasks they had to land on a low-resistant mattress placed in front of them. The results revealed that step velocities for both ages were significantly slower in dual task than in single task. An interested finding was that the initiation time of stepping reaction in dual task was significantly longer for the older subjects than in single task. Furthermore %DSP (duration of swing phase as the percentage of a total stepping reaction time) was significantly lower and %DDP (duration of double-stance phase as the percentage of a total stepping reaction time) was significantly higher for the older than for the young females in both the tasks. These results suggested that a soft surface caused balancing difficulty and could adversely affect the step performance for the older females in dual task resulted by increasing the burden on the central nerve system.

高齢者の二重課題が柔らかい床面へのステップ反応に及ぼす影響

原田信子

神戸大学大学院人間発達環境学研究科

発表要旨

高齢者が自立した快活な生活を送るためには姿勢を安定して保持することが必要である。しかし日常の生活は多くの複雑な環境に囲まれており、高齢者の転倒の発生の頻度は高くなる。転倒防止のためには、最初の素早い防御ステップ反応が重要であることが知られているが、高齢者はこの防御的ステップ反応が遅延するといわれている。また姿勢調整のためには足底からの体性感覚情報が必要であるが、加齢に伴い皮膚やその受容器の機械的特性が変化するために足底からの求心性情報が減少する。一方で高齢者は様々なことを同時に行うための姿勢調整が困難であることも指摘されている。

本研究では、柔らかいマット上にステップすることで足底からの求心性情報を減少することが二重課題のパフォーマンスにどのように影響するか検討した。対象者は健康女性成人 9 名（平均 19.0 歳）と、健康高齢女性 11 名（平均 69.0 歳）であった。ステップ反応は①空のコップを持つ、②全量の水が入ったコップを持つ（二重課題）の 2 条件下で、対象者は目の前に置かれた低反発マット上でステップ動作を行った。結果は、両対象者において二重課題のステップ速度が単一課題よりも遅くなった。興味深いことは、高齢者の二重課題における初動時間が単一課題よりも延長したことである。さらに両課題において、高齢者の%DSP（全ステップ反応時間に対する遊脚期時間のパーセンテージ）が若年者に比べて低く、%DDP（全ステップ反応時間に対する両脚支持期時間のパーセンテージ）が高かった。これらのことから、高齢女性は柔らかい地面上でバランスをとることは困難であり、さらに二重課題を行うことで中枢の情報処理の負担が増えるためにステップパフォーマンスに影響を与えることが推察された。

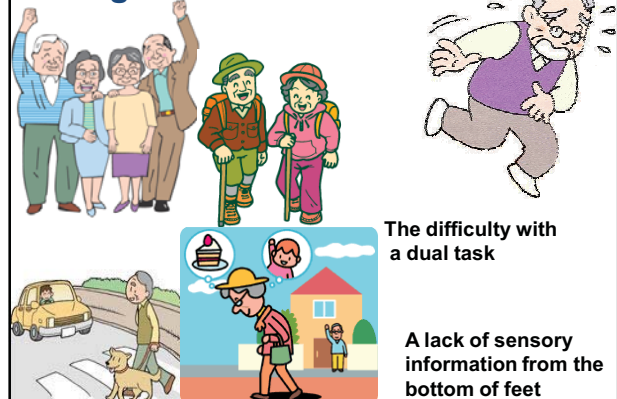
The effect of a dual task on step reaction to a soft surface ground in older adults

Graduate School of
Human Development and Environment,
Kobe University

Nobuko Harada, MA

Background

The delay of step reaction



Previous studies about compensatory step reaction

Researcher	Method	Results
McIlroy (1996)	Unpredictable perturbations	The older adults take additional steps , which were directed so as to preserve lateral stability.
Luchies (1994)	Pulled backward	The older adults often used multiple steps to regain balance.
Wojcik (1999)	Released from forward leans	The older female were not able to take a single rapid step because of the delay in response onset in older.

Previous studies

Older adults take multiple steps or a single step in order to regain their balance.

Researcher	Method	Results
McIlroy (1996)	Unpredictable perturbations	The older adults take additional steps , which were directed so as to preserve lateral stability.
Luchies (1994)	Pulled backward	The older adults often used multiple steps to regain balance.

Older adults delay the initiating time in step reaction and the delay in response may be related to reduction of peripheral sensory inputs.

Three Important sensory inputs to control posture

1. Vestibular system
2. somatosensory
3. visual system



Previous studies found that

- Meissner's corpuscles become sparse and irregular with increasing age. (Bolton 1965)
- Tactile and vibratory sensitivity decrease in age at the foot than at the hand site of older adults. (Kenshalo 1986)

Three Important sensory inputs to control posture

1. Vestibular system
2. somatosensory
3. visual system



The mechanical properties of skin and its receptors change with age and reduce the afferent sensory information from the bottom of feet.

- Tactile and vibratory sensitivity decrease in age at the foot than at the hand site of older adults. (Kenshalo 1986)

Previous studies about the effect of a dual task

Primary Task	Researcher	Secondly Task	Results of studies
standing	Shumway-Cook (2000)	Auditory memory task	Posture sway was increased in older adults
	Melzer (2001)	stroop test	Posture sway was increased in older adults.
walking	Lundin-Olsson (1997)	talking	Identifying fall-prone people is tending to stop talking
	Toulotte (2006)	Grasping a cup filled with water	Gait parameters (e.g. speed, stride) were lower in the fallers
Voluntary stepping	Melzer (2007)	stroop test	Step reaction was prolonged in older adults.

Older adults are affected by a dual task but it is doubtful about the clear difference between older and young adults or fallers and non-fallers.

Walking	Lundin-Olsson (1997)	walking	Identifying fall-prone people is tending to stop talking
	Toulotte (2006)	Grasping a cup filled with water	Gait parameters (e.g. speed, stride) were lower in the

Few studies have examined the effect of a dual task in condition of the changes on somatosensory from the bottom of feet.

Purpose

• Investigate the effect of a dual task on step reaction to a soft surface ground, which cause less somatosensory information from the bottom of feet.

We hypothesized that in a dual situation, older adults would have difficulty with controlling posture more than in a single task.

Method 1. subjects

• Eleven older healthy female

Age: 69.0 ± 3.1 years old
Height: 151.9 ± 3.9 cm
Weight: 51.3 ± 6.3 kg

• Nine young healthy female

Age: 19.0 ± 0.9 years old
Height: 157.4 ± 4.8 cm
Weight: 52.1 ± 6.1 kg

2. Experimental protocol

① Subjects were instructed to stand up right and barefoot on a force plate.

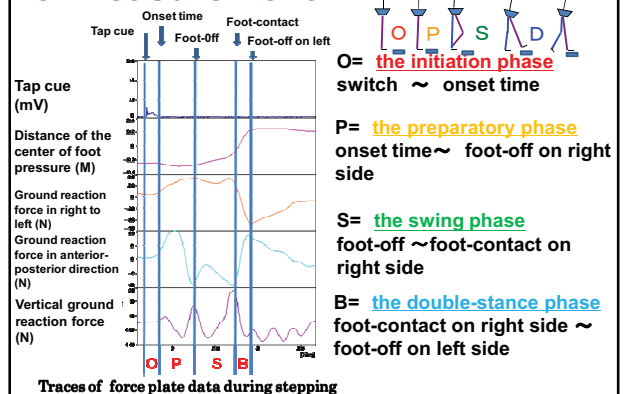


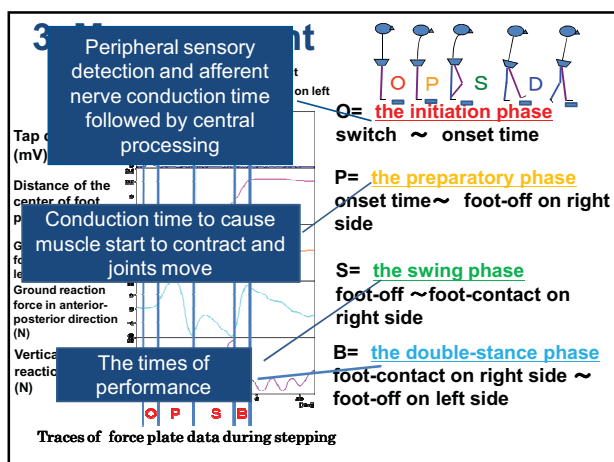
② They stepped forward as quickly as possible following tap cue on the back of heel, landed on a soft mattress, which caused less afferent information from the bottom of feet, placed toward and put their feet side by side.

③ They grasped an empty cup as a single task and a cup with filled water as a dual task during stepping.

④ They were instructed to focus on stepping as quickly as possible.

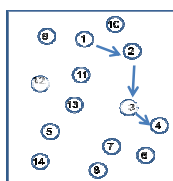
3. Measurement



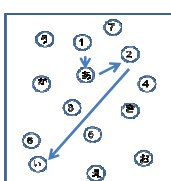


- total time of stepping (sec): $O+P+S+B$
- step length (cm) : L
- step velocity (cm/sec): $L / (O+P+S+B)$
- each reaction phase as the percentage of a stride time (%)
: $O, P, S, B / (O+P+S+B) * 100$

1. Trail Making Test A-B (TMT)



A test



B test

ΔTMT: TMT-A-TMT-B.
an assessment of capacities of a person's independence and self-serving behavior with attention.

2. Berg Balance Test

: including ability to sit, stand, reach, lean over, turn and look over each shoulder and step.

Result 1

Table 1. The result of relationship between ages for ΔTMT and BBT

	ΔTMT (sec)	BBT (point)
Older	75.0 ± 46.2	54.8 ± 1.4
Young	14.6 ± 6.2	55.9 ± 0.3

* : $p < 0.05$
* * : $p < 0.01$

The Older had difficulty with performing activity independently with attention compared to the young female.		The Older had difficulty with controlling balance compared to the young female.	
	ΔTMT (sec)	BBT (point)	
Older	75.0 ± 46.2	54.8 ± 1.4	
Young	14.6 ± 6.2	55.9 ± 0.3	

* : $p < 0.05$
* * : $p < 0.01$

Result 2

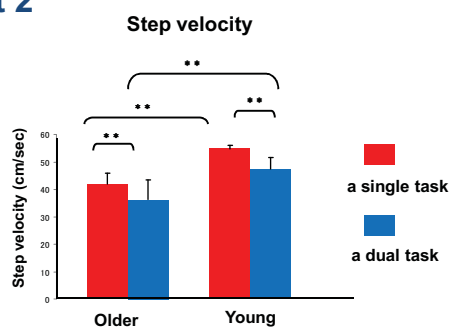
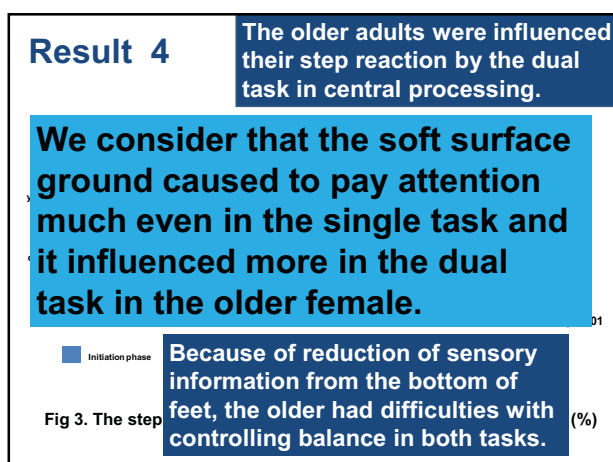
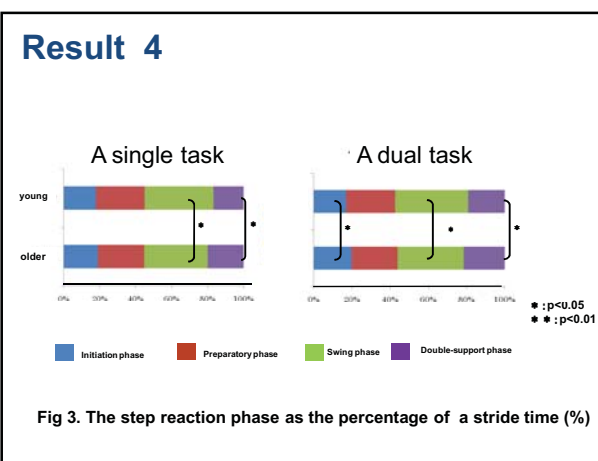
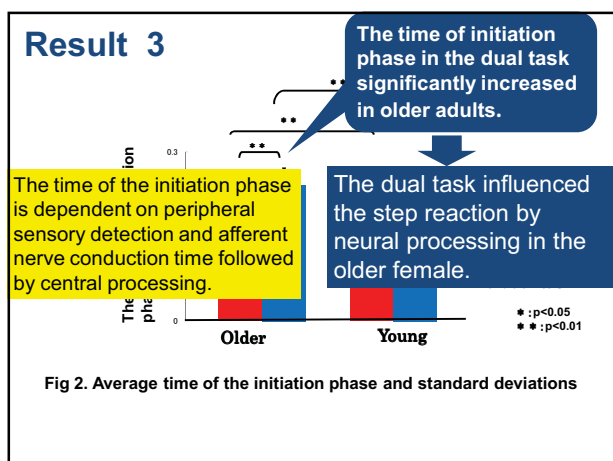
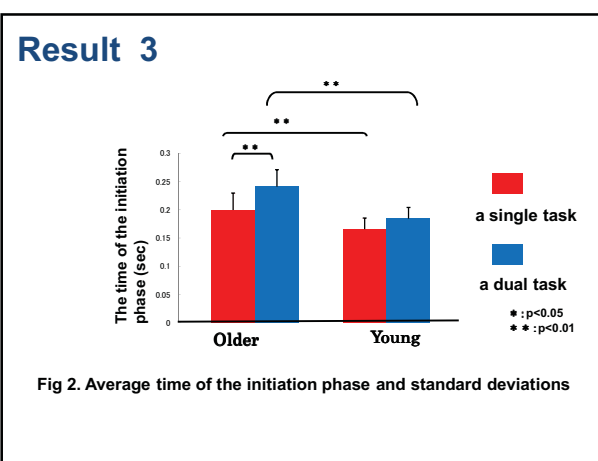
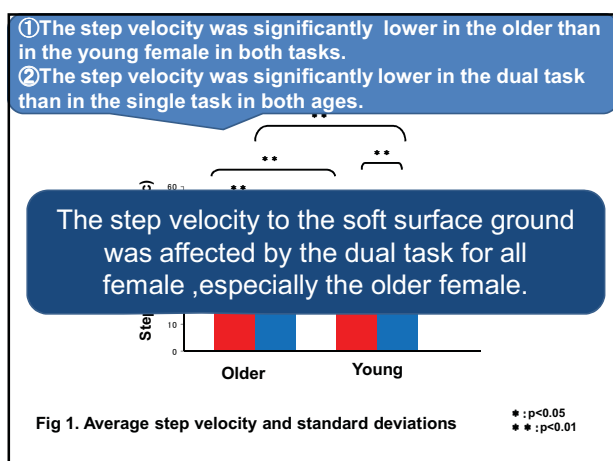


Fig 1. Average step velocity and standard deviations

* : $p < 0.05$
* * : $p < 0.01$



Conclusion

- The older female, who could have a decrease of sensory information from the bottom of feet, had difficulty with controlling posture so that they could have already allocated attentional demands before they started the step reaction against the soft surface ground.
- Adding another attentional demand could be adverse to effect the step reaction in the older female by increasing responsibility of central processing.

VIII

ワシントン大学

11/27～29/2008

University of
Washington

国際市民性教育推進ネットワーク・セミナー
～アメリカにおけるシティズンシップ教育の新潮流～

27th November, 2008 (Thu) / 2008年11月27日 (木)

Venue: Large Meeting Room, Faculty of Development / 於：発達科学部大会議室

9:15～10:15

Opening Address / 開会の辞

Professor Nobushige Imatani / 今谷順重教授

(Graduate School of Human Development & Environment, Kobe University

/ 神戸大学大学院人間発達環境学研究科)

Lecture: Associate Professor Susumu Oshihara / 鴛原進准教授

(Associate Professor, Ehime University / 愛媛大学)

“Flexible Citizenship and History Education Based Course of Study (2008) in Japan”

10:15～12:00

Lecture: Professor Walter Parker (University of Washington)

‘ “Global Citizenship” and the “International Education” Movement: A Case Study of U.S. Schools Today’

14:00～16:30

Lecture: Ms. Carol Coe (Doctoral Student at University of Washington, Former High School teacher)

“Developing citizenship skills through deliberative discussions: Exploring the Practice/Action Distinction”

28th November, 2008 (Fri) / 2008年11月28日 (金)

9:30～12:00

Venue: Large Meeting Room, Faculty of Development / 発達科学部大会議室

Workshop: Professor Walter Parker

‘Deliberative discussion for democratic citizenship education: A demonstration of a Structured Academic Controversy unit’

Workshop: Ms. Carol Coe

‘Deliberative discussion for democratic citizenship education: A demonstration of a Choices for the 21st Century unit’

14:00～16:30

Venue: Akashi Elementary School attached to Faculty of Human Development,
Kobe University / 神戸大学発達科学部附属明石小学校

ESD Class (by Hiroshi Inoue) Visitation & Discussion

/ 井上博嗣(附属明石小学校教員) のESD授業参加と討議

29th November, 2008 (Sat) / 2008年11月29日 (土)

All Day / 終日

Fieldwork / フィールドワーク

国際市民性教育推進ネットワーク・セミナー 活動報告書

神戸大学大学院人間発達環境学研究科

牛志玲

神戸大学大学院人間発達環境学研究科

李杰

11月27日には、神戸大学でワシントン大学の先生や院生と交流して、アメリカ教育制度に触れ、国際理解教育に関する実践事例をより深く理解することができた。

まず愛媛大学の鴛原進先生は「学習指導要領に基づく歴史学習は『国民』あるいは『日本人』の育成のみを目的としていると考えられている。しかし、取り上げられているのは「日本のいう国家の歴史」のみならず、「地域の歴史」を調べる学習もすべき内容として提示している。両者の学習から多様な見方・考え方の育成が可能となると考えられる。その場合、フレキシブル・シティズンシップ(Flexible Citizenship)という概念が重要になってくる」と提言した。

次に、パーカー先生が講演を行なった。「グローバルな市民権」や「世界市民」、「私たちの新しい世界経済のための教育」などの用語は今日、頻繁に使用されている。この研究は米国の公立学校での新しい「国際教育」運動を調べたものである。米国の公立学校はどんどん「国際教育」を採用している。パーカー先生は、「国際教育とは何ですか?」という問いを通して、その意味とプログラムの混乱を見出した。愛国心と世界主義のような相容れない勢力が争っているのである。

最後に、コーさんが自分の研究を発表した。彼女の発表テーマは「審議的な議論で市民権技能を伸ばす：訓練（プラクティス）と行動（アクション）の区別を探る」で、概要は以下ようになる。効果的な民主社会は博識で熟練した市民を必要とする。合衆国の公立学校は、この需要に応えることが求められる。しかし、そうするにはどうするのが最適だろうか？この発表は審議的な議論の活用について調査する。審議している過程をより理解するために、コーさんは2つのタイプの審議的な議論の比較ケーススタディを行なった：2つの質問がこの調査のための重要な視点を与えてくれる：(1)（民主的な技能を形成するための）訓練に使用される討議と、単に民主的な技能を形成するためでなく、（政策を決めて実施する）行動を起こすために使用される討議の間には、なにか違いがあるとすれば、どんな違いがあるのか？(2)「訓練のみの」討議での言葉の無力さ、あるいは「訓練して行動する」討議の言葉の力は、学生に相違を生じさせるのか？この研究の結果は審議している過程一般と、特に訓練と行動の区別への理解を知らせるものである。

先生達と院生達は交流活動の成果を踏まえ、一層アメリカのグローバル教育の真髓を知ることとなった。

二日目の午前中は、Parker 先生と Carol さんが民主主義のシティズンシップ教育について

でそれぞれのカリキュラムを詳しく紹介した。また、ワークショップを行い、来場の方々をグループにわけて、カリキュラムを実践して頂いた。みなさんが積極的に参加し、討論を展開したことが、非常に強い印象を残した。

午後、Parker 先生と Carol さんをはじめ一行が神戸大学発達科学部附属明石小学校まで6年生の「地球温暖化について考えよう」という授業を参観しに赴いた。最初、ゲスト・スピーカーの朝日新聞社の記者の方が、世界各地で撮った写真を見せながら、温暖化について生徒たちに紹介した。そして、地球温暖化問題について関心を持たせ、原因や影響、世界的な取り組みについて調べたり記者にインタビューしたりしてから、グループにわけて、これからの地球について考えさせ、自身に取り組める温暖化対策を提案しそれぞれに発表してもらった。授業中、生徒達が積極的に討論し、ユニークな提案したことには非常に感心した。その後、校長室でミーティングがおこなわれ、担当の井上博嗣先生と話し合い、授業について討議した。特に、Carol さんは、授業中生徒達の積極さに涙がでるほど感動されたとのことである。

三日目は、フィールドワークとして、Parker 先生と Carol さんを日本の伝統的なものがあふれる京都に案内した。



2008 年告示学習指導要領における歴史学習とフレキシブル・シティズンシップの育成
鴛原 進（愛媛大学）

Flexible Citizenship and History Education Based Course of Study (2008) in Japan
Susumu Oshihara, Ehime University

Paper presented at Kobe University, November 2008

概要

学習指導要領に基づく歴史学習は「国民」あるいは「日本人」の育成のみ目的として
いると考えられている。しかし、取り上げられているのは「日本のいう国家の歴史」の
みならず、「地域の歴史」を調べる学習もすべき内容として提示している。両者の学習
から多様な見方・考え方の育成が可能となると考えている。その場合、フレキシブル・
シティズンシップ(Flexible Citizenship)という概念が重要になってくる。

Abstract

“Goal of history education is national identity.” Many People think that Goal
of history education based Junior high school Course of Study is very simil
ar. History education based Junior high school Course of Study present both
National History and Local History. Both histories produce diversity. It is ver
y important concept “Flexible Citizenship”. It has possibility of connect “Nati
onal” and “Global”.

1. 本報告の目的と手順

本報告の目的は、3月28日に告示された「中学校学習指導要領」（「新指導要領」と略記）
に示されている社会科歴史的分野の特色を踏まえながら、それに基づく歴史学習における
グローバル・シティズンシップ(Global Citizenship)育成の可能性を考察することである。
フレキシブル・シティズンシップ(Flexible Citizenship)という概念を適応してみると、国
民育成のみと考えられてきた歴史学習においても、グローバル・シティズンシップの育成
は可能であると考えられることを示すことである。具体的な手順は、次の3点である。

- ① 新指導要領における社会科歴史的分野の特色を考察する。
- ② ①における資質育成の論理を考察する。
- ③ ①②により歴史学習におけるグローバル・シティズンシップ育成の可能性を考察する。

2. 新指導要領における社会科歴史的分野の特色

(1) 目標

新指導要領における中学校社会科の目標

広い視野に立って、社会に対する関心を高め、諸資料に基づいて多面的・多角的に考察し、我が国の国土と歴史に対する理解と愛情を深め、公民としての基礎的教養を培い、国際社会に生きる平和で民主的な国家・社会の形成者として必要な公民的資質の基礎を養う。

歴史的分野の目標は次のように新指導要領に示されている。

- (1) 歴史的事象に対する関心を高め、我が国の歴史の大きな流れを、世界の歴史を背景に、各時代の特色を踏まえて理解させ、それを通して我が国の伝統と文化の特色を広い視野に立って考えさせるとともに、我が国の歴史に対する愛情を深め、国民としての自覚を育てる。
- (2) 国家・社会及び文化の発展や人々の生活の向上に尽くした歴史上の人物と現在に伝わる文化遺産を、その時代や地域との関連において理解させ、尊重する態度を育てる。
- (3) 歴史に見られる国際関係や文化交流のあらましを理解させ、我が国と諸外国の歴史や文化が相互に深くかかわっていることを考えさせるとともに、他民族の文化、生活などに関心をもたせ、国際協調の精神を養う。
- (4) 身近な地域の歴史や具体的な事象の学習を通して歴史に対する興味や関心を高め、様々な資料を活用して歴史的事象を多面的・多角的に考察し公正に判断するとともに適切に表現する能力と態度を育てる。

(2) 改訂の要点

「中学校学習指導要領解説 社会編 平成 20 年 7 月文部科学省」（「解説」と略記）には、次頁枠囲み内ア～オの 5 点を歴史的分野の改訂の大きな要点として示している。

(3) 内容

歴史的分野の導入的な位置付けや歴史的に考察するときの技能の習得と関心・意欲の育成を目的とする大項目(1)「歴史のとらえ方」と、通史的な構成となっている(2)「古代までの日本」(3)「中世の日本」(4)「近世の日本」(5)「近代の日本と世界」(6)「現代の日本と世界」の5つの大項目で構成されている。

- ア 「我が国の歴史の大きな流れ」を理解する学習の一層の重視
 - (ア) 「我が国の歴史の大きな流れ」の理解という目標の一層の明確化
 - (イ) 学習内容の構造化と焦点化
 - (ウ) 各時代の特色をとらえる学習の新設
 - (エ) 古代までの学習の大観化
- イ 歴史について考察する力や説明する力の育成
 - (ア) 政治面などの変革の特色を考えて時代の転換の様子をとらえる学習
 - (イ) 時代の区分やその移り変わりに気付く学習
 - (ウ) 思考・判断・表現する学習と確かな理解
- ウ 近現代の学習の一層の重視
- エ 様々な伝統や文化の学習の重視
- オ 我が国の歴史の背景となる世界の歴史の扱いの充実

グローバル・シティズンシップの育成の視点から、まず目につくのは、日本と世界との関係である。「解説」に、世界の歴史の扱いの充実について述べられている。

我が国の歴史の大きな流れの理解のために、その背景となる世界の歴史の扱いを充実させた。例えば、内容の(2)のアで世界の古代文明や宗教のおこりに関する学習を充実させたり、近現代の欧米諸国のアジア進出を独立の中項目(5)アとして構成したり、第二次世界大戦後の学習内容に冷戦やその終結を位置付けたりした。また、国際関係が重きを占める近現代の学習を重視することで、我が国の歴史の展開を世界の動きと一層関連付けて学習するようにした。

この点は、日本の歴史の理解のためには、世界との関係が必要だというスタンスを踏襲し、それを充実させている。この点からは、今求められる「日本国民の教養」としての日本と世界という関係も見受けられる。

高等学校の地理歴史科における必修修との関連で、全国民が、日本の歴史を通史的に学ぶ場は中学校しかないという、教育課程編成上の問題もある。その中学校では、歴史的

野に 130 単位時間しか配当されない。「世界の歴史」よりも「我が国の歴史の展開」が優先されるのである。

3. 新指導要領社会科歴史的分野における資質育成の論理

あくまでも「国民」の育成を主眼とした歴史学習である。現在における「日本国民」には、我が国の歴史の大きな流れと伝統と文化の特色の理解が必要である。また、国際社会の一員である「日本国民」には、国際協調の精神を養うことが必要である。このような考え方を基本としている。ここで、とどまっていたら、グローバル・シティズンシップの育成の可能性は低くなる。これは、国民教育（国家の教育政策）としての歴史学習の限界であろう。

しかしながら、「国民」はグローバル・シティズンシップではないのか？という疑問が生まれてくる。「ナショナル」は「グローバル」の対概念なのであろうか？そのようにとらえれば、帰属性を前提とする歴史学習においてグローバル・シティズンシップの育成は、そもそも不可能と言えるのではないか。

筆者は、「グローバル」のもつ傘概念としての性格をもっと積極的にとらえるべきと主張したい。そうすれば、歴史学習においてグローバル・シティズンシップの育成は可能となる。傘概念はその中に多様な様相を持つ下位概念をたくさん有し、多様であり、それらに対して寛容であるという状態であるにとらえている。グローバル・シティズンシップを固定化したものととらえると、育成すべき資質の看板が異なるだけで、育成論理は新指導要領とかわらない。

4. 歴史学習におけるグローバル・シティズンシップ育成の可能性

フレキシブル・シティズンシップ(Flexible Citizenship)なる概念を核にして、育成しようとする「国民」とグローバル・シティズンシップの位置付けを考えていく。その次に、社会認識教育におけるカリキュラム構成の視点でも可能性を考察する。

(1) 「国民」とグローバル・シティズンシップ

カリフォルニア大学バークレー校の文化人類学者である Dr. Aihwa ONG は、理論的かつ実証的研究を通じて、フレキシブル・シティズンシップ(Flexible Citizenship)なる概念を提示している。この概念は、最近の米国における、Citizenship Education や社会科教育、多文化教育、グローバル教育等に影響を及ぼしつつある。(Dr. ONG 著書や分担執筆は〔参考文献〕参照。) 筆者は、このフレキシブル・シティズンシップを新たな概念として捉えるのではなく、もともと存在していたものと捉える必要があると考える。それを言語化できたために注目を浴びるようになったと考えている。それは、アイデンティティ内の多様性とその柔軟性を言語化しているとも考えられるからである。

①Aihwa ONG の問題意識, 研究対象

編著 2.-(3)には, 次のように紹介されている。

UCバークレーの文化人類学, 東南アジア研究の教授。彼女は東南アジア, 中国南部, カリフォルニアでのフィールドワークを行ってきた。彼女は, 現在, アジアの都市における政治(government), 危機, 安全保障に関心を抱いている。

②Dr. Aihwa ONG のフレキシブル・シティズンシップ

Dr. ONG は, 資本主義経済における「越境している人々」を取り上げ, その人たちの「トランスナショナリズム」と「変容」の関係を考察している。その際, 中国, 特に在外中国人たちを研究してきた。彼女の分析が示唆しているのは, 越境人, 例えば, 中国人という範疇においてトランスナショナルな一員である在外中国人たちの, 複雑でありながら, 「順応的な」帰属意識である。

トランスナショナルな移動とネットワークは, 地域に文化を形作り, 個人に新たなアイデンティティを形成する。この2点は, 国家戦略の転換において鍵となる重要なものであった。在外中国人が歴史的に中国と移動先国との顕著な関係を維持し続けたからだけではない。重要なのは, この在外のもつ移動性や順応性は, ただ単に中国人であるということに留まらないことである。それは, 「市民」の概念の新しい理解をも促すのである。これは, 現代の国民性の概念から, ある程度の地理的・歴史的な境界を有する新しい「〇〇人性」のようなものの到来を指摘できるのである。このような, 「〇〇人性」を幾重にも内在させ, それをその場に「順応しながら」, 「柔軟に」表出させているのである。

③グローバル教育への示唆

今までの, グローバル教育は, グローバル化社会への対応, 社会のグローバル化を議論してきた。そして, そこに求められる市民, あるいは, 市民性を議論してきた。比喩的に言えば, 「グローバル教育としての市民教育」といえよう。Dr. ONG の考えから, 市民の確立による社会の構築, 並びに, 個の絶対的自由 (愛国心を絶対視する自由を含む) におけるグローバル化の構築を読み取ることができる。比喩的に言えば, 「市民教育としてのグローバル教育」といえよう。

フレキシブル・シティズンシップとは, 様々な国家で活動する人々の実態を調査する中で言語化された概念である。ここでいう「フレキシブル」とは, しなやかな, 融通の利く, 順応性のある, などの意味である。それは, 複数の様相を同時に「体内に」もっていることが前提なのである。シティズンシップにおける帰属性を考える場合, 重要な概念となる。しかしながら, 大勢・体制に順応するという意味ではなく, その場その場の視野(Perspective)で考え, 行動できるということである。本当にフレキシブルであるためには, 全体がみえていることと, (比喩的であるが・・・)「コア」がしっかりしていることである。

その「コア」を、新指導要領（に代表される伝統的な国民教育）での歴史学習は、当然ながら「国民」に求めていると解釈できる。それは、フレキシブルなグローバル・シティズンシップの一つの型となりうるのではないか。その場合、「国民」以外の様相をもちうる多様性と、それらを柔軟に行き来できる思考を保证する必要がある。

(2) 社会認識教育におけるカリキュラム構成

フレキシブルなグローバル・シティズンシップの「コア」として「国民」の育成を歴史的分野が目指すと考える。社会科における他分野では、他の「コア」が可能であろうか。例えば、地理的分野において「地域人」や「国際人」を「コア」ととらえているのであろうか。あるいは、公民的分野において各帰属性を行き来するような内容になっているのであろうか。小学校においてはどうか。高等学校ではどうか。社会科をはじめとする社会認識教育においては、「コア」の差からカリキュラム構成を再検討する必要があると考える。それはまた、グローバル教育の内容を再構築する手立てにもなるのであろう。

グローバル教育において、多様性と寛容の重要性は主張されてきた。しかし、それをつないでいく関係性を視野に入れなければ多様性と寛容の意味は半減する。又、現実的でなくなる。人間は様々な関係の中で生きる社会的存在であるという考え方を重視する必要がある。その関係の中の、何に、どれぐらい重きを置くかにより、その人のその時点でのアイデンティティが生まれる。多様な様相は個人内では、根底で繋がっているものと考えべきであろう。それを、別個のものと考えたり、対立概念とみなすと、例えば、「国民」かグローバル・シティズンシップかという択一的な状態を生み出す。何に重きを置くかは異なるが、人間の持つ多様な関係性を断ち切っていく点では共通している。人間社会の関係をみ、考えていくことで、深い社会認識を通して、個人内に多様な関係間の拮抗状態をつくることができる。この拮抗状態でアイデンティティは健全に保持される。その拮抗状態を必要に応じて変化させるのがフレキシブルであるということであろう。

5. 新指導要領社会科歴史的分野におけるグローバル・シティズンシップ育成の可能性

フレキシブルなグローバル・シティズンシップ育成の視点において重要なのは、「日本と世界」という問題（「我が国の歴史の背景となる世界の歴史の充実」）よりも、「歴史のとらえ方」と所謂日本の歴史の通史的構成部分という二元論を新指導要領が採用していることを評価することである。「歴史のとらえ方」の中に、次のような中項目がある。

(内容)

イ 身近な地域の歴史を調べる活動を通して、地域への関心を高め地域の具体的な事柄とのかかわりの中で我が国の歴史を理解させるとともに、受け継がれてきた伝統や文化への関心を高め、歴史の学び方を身に付けさせる。

(内容の取扱い)

イ イについては、内容の(2)以下とかわらせて計画的に実施し、地域の特性に応じた時代を取り上げるようにするとともに、人々の生活や生活に根ざした伝統や文化に着目した取扱いを工夫すること。その際、博物館、郷土資料館などの施設の活用や地域の人々の協力も考慮すること。

特に、受け継がれてきた伝統や文化への関心を、地域の具体的な事柄における学習と関連させようということを読みとることができる。今回の改訂の要点のエ「様々な伝統や文化の学習の重視」にあるように、(深読みであろうが・・・)わざわざ教育基本法には付いていない「様々な」という文言をつけている。また、人々の生活や生活に根ざした文化という文言もある。

この「様々な」の発想を、地域の歴史と日本の歴史の通史的構成とに生かすことができれば、歴史の多様性を保証することにつながる。それは、単調な「伝統と文化」という幻想に支配されない現実からのアプローチになっていくのではないか。ただし、武道や茶道、華道などの、日本の「伝統と文化」だと広く認識されているものを否定するのではない。それを、**one of them** と捉えられる思考の重要性を主張しているのである。グローバル・シティズンシップ育成の可能性から、地域の歴史の学習は、重要な意味を持つと考える。

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3.-(2) は、自身が提起した概念であるフレキシブル・シティズンシップの育成と教育における有効性を論じたものである。

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**“Global Citizenship” and the “International Education” Movement:
A Case Study of U.S. Schools Today***

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Abstract

Terms such as “global citizenship,” “world citizen,” and “education for our new global economy” are used with frequency today. This study examines the new “international education” movement in U.S. public schools. Increasingly, U.S. public schools are adopting “international education.” I asked “What is it?” and found a jumble of meanings and programs. Contradictory forces, such as nationalism and cosmopolitanism, are at play.

I. Introduction

Not far from my home in Seattle is a public elementary school that closed for a thorough remodeling and re-opened amid fanfare with “international” in its new name and dual language immersion as its focus. Several years later, the middle school nearby added “international” to its name, too, with “global perspective” as its focus. Across town, a distressed high school was divided into small schools, and one of them became the “global studies academy.” Two other city high schools have added the International Baccalaureate.

These are not unusual events, which is my first point. A new “international education” movement—actually a new wave of an old movement—is underway across the United States. It consists of newly internationalized public schools along with state coalitions for international education, an annual International Education Week co-sponsored by the U.S. Departments of State and Education, an array of language initiatives, the Goldman Sachs Foundation’s awards for exemplary “international” schools, and more. Phrases like “the global economy,” “our increasingly interconnected world,” and “global citizens” roll off many tongues. Audiences nod their heads knowingly. Indeed, “international education” is the new common sense.¹

*A short version of this paper appears in the journal *Phi Delta Kappan* (November 2009).

¹ See Clifford Geertz, “Common sense as a cultural system,” in C. Geertz (Ed.), *Local knowledge* (pp. 73-93) (New York: Basic Books, 1983).

But what does it mean? What forms is it taking, and what work is it doing? This is my question. I have studied the current wave from three angles: observing a handful of public schools that have transformed themselves into “international” schools, interviewing movement activists who are helping to shape them, and examining government and foundation initiatives.²

Before proceeding, I should clarify two things. First, this study is a continuation of my interest in democratic citizenship education. I am wanting to know if the “international education” movement has any connection to citizenship education—if, for example, the rhetoric of “global citizenship” has any real meaning in the movement.

Second, I should clarify that the “international education” is nothing new. The current commotion is the latest instance of a perennial concern in education. Just since World War II there have been at least two waves of activity in the U.S.—today’s and another that began in the 1960s. Before that, between the two world wars, was a surge of activity centered on the World Conference on Education in Geneva in 1929; and still earlier, in 1893, was the International Education Congress of the Columbian Exposition in Chicago. Indeed, there is a sizeable literature—documentary, analytic, and historical—on “international education,” and one can only conclude that it has concerned educators and government officials for as long as there have been nations and their schools.³

II. National Security

National security appears to be the main engine of today’s international education movement in the U.S. It is the movement’s strong discourse. Discourse is language-in-use, or

² Methodological note: I captured a three-pronged sample of the current movement, certainly not its entirety. Discourse and frame analysis were the principal analytic tools: In each instance of “international education” examined in my samples of schools, activists, and media, I searched for problem frames, solution frames, and motivational (urgency) frames, and I deployed four methodological resources: A. Binder, *Contentious curricula* (Princeton University Press, 2002); R. Eyerman and A. Jamison, *Social movements: A cognitive approach* (University Park: Pennsylvania State University Press, 1991); M. Foucault, *The order of things: an archeology of the human sciences* (New York: Vintage, 1970); and R. Wodak and M. Meyer (eds.), *Methods of critical discourse analysis* (London: Sage, 2001). My thanks to Susan Mosborg and Steven Camicia for their able assistance.

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working language. It refers to the way language rules operate in relation to social circumstances and structures. Language has effects—it gets things done. It doesn't simply convey meanings; it makes meanings, reinforcing some and discarding others. A “strong” discourse drowns out its competitors, pushing aside other ways of speaking, listening, being heard, and making sense. In a hospital, *medicine* is the strong discourse. Whether you're a patient, nurse, physician, or visitor, it is medicine's vocabulary, conceptual apparatus, view of the world, and way of behaving that lord over the scene. Someone who introduces shamanism, witchcraft, or faith healing won't get far. Similarly, in a mental hospital, the strong discourse is *psychiatry*; in a temple of worship, it is *faith* and *theism*; in a corporation it is *growth* and *the bottom line*.

To those who assumed that world mindedness, global citizenship, intercultural understanding, or something of that sort was driving the movement, this may come as a surprise. *Today's wave is dominated by nationalism.*⁴

International education as a national security discourse has two key dimensions: economic and military. The economic way to secure the nation is to improve the nation's economic competitiveness with other nations — maintaining it or regaining it if it already has been lost. The military way is to strengthen the nation's armed forces, including its intelligence communities.

II – A. Economic Security

U.S. Secretary of Education Margaret Spellings makes the economic argument for international education. “Through the No Child Left Behind Act, we are committed to having every child in the United States learn and succeed in our global economy. . . .”⁵ She links school reform directly to success in today's world and defines that success in economic terms; school reform is a technology for accomplishing that goal.

The link is also expressed in a burgeoning number of state reports. For example, according to *North Carolina in the World: Increasing Student Knowledge and Skills About the World*, “Improving international education is about providing students the best opportunity for success in the emerging workforce.”⁶ Similarly, the Asia Society's annual conference “brings

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⁵ “International Education Week 2005 Announced,” <http://usinfo.state.gov/scv/Archive/2005/Nov/09-19221.html>.

⁶ North Carolina in the World, *North Carolina in the World: Increasing Student Knowledge and Skills About the World* (Raleigh: Center for International Understanding, 2005).

together high-level delegates from two dozen states. . . to address a significant problem in American education: the wide gap between the growing economic and strategic importance of Asia and other world regions to the United States, and U.S. students' limited knowledge about the world outside our borders.”⁷

In each of these, international education is positioned to address a key problem posed by globalization: the defense of the nation’s competitive edge in the new “flat” worldwide economy of the 21st century.⁸ Schools are seen as *the* solution. Only they can produce the “enterprising individuals” who will be successful in this flat new world.⁹ This is the calculus of neoliberalism (free-market fundamentalism), with its strategies of privatization, entrepreneurship, and free-trade agreements.¹⁰ Without it America will lose its edge to Dublin, Beijing, or Bangalore; or if lost already, never regain it.

This is plainly put in the influential report from the National Academies of Science, Engineering, and Medicine, urgently titled *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*. This excerpt frames the problem (competition in a flat world) and the urgency (impending loss of leadership) of finding a solution:

Thanks to globalization, driven by modern communications and other advances, workers in virtually every sector must now face competitors who live just a mouse-click away in Ireland, Finland, China, India, or dozens of other nations whose economies are growing. This has been aptly referred to as ‘the Death of Distance.’ . . . The committee is deeply concerned that the scientific and technological building blocks critical to our economic leadership are eroding at a time when many other nations are gathering strength. . . . Although many people assume that the United States will always be a world leader in science and technology, this may not continue to be the case inasmuch as great minds and ideas exist throughout the world. We fear the abruptness with which a lead in science and

⁷ www.internationalized.org/statesinstitute.htm.

⁸ Thomas L. Friedman, *The World Is Flat: A Brief History of the 21st Century* (New York: Farrar, Straus and Giroux, 2005).

⁹ Brian J. Caldwell, “The New Enterprise Logic of Schools,” *Phi Delta Kappan*, November 2005, pp. 223-25.

¹⁰ David Harvey, *A Brief History of Neoliberalism* (New York: Oxford University Press, 2005).

technology can be lost — and the difficulty of recovering a lead once lost, if indeed it can be regained at all.¹¹

Gathering Storm then moves to solutions. The first among four is K-12 education: “Enlarge the pipeline of students who are prepared to enter college and graduate with a degree in science, engineering, or mathematics by increasing the number of students who pass AP (Advanced Placement) and IB (International Baccalaureate) science and mathematics courses.”¹²

II – B. Military Security

The military dimension to the national security argument is framed as a communication problem: we don’t know our new enemies’ languages.

In 2003, Rep. Rush Holt (D-New Jersey) expressed this in the National Security Language Act: “We need to do more to make sure that America has the language professionals necessary to defend our national security. . . . Changing our (armed forces) recruiting methods alone will not solve the problem. To meet new security needs, we need to create a new domestic pool of foreign language experts and we can only do that by investing in the classroom. . . in foreign languages of critical need, such as Arabic, Persian, Korean, Pashto, and Chinese.” Later came Congressional Resolution No. 100 of 2005, which urged the U.S. to “establish an international education policy” that would “promote a world free of terrorism, further United States foreign policy and national security, and enhance [U.S.] leadership in the world.’ ”

In 2006, President George W. Bush himself introduced the National Security Language Initiative, which would provide \$114 million for the “teaching of language for national security and global competitiveness.”¹³ In his speech, the President laid out a combined front for the “war on terror” composed of a language-proficient military, language-proficient intelligence network, and language-proficient diplomatic corps that are able to “convince governments” in their own language, and a language-proficient American people who, all together, can participate with greater effect in “spreading freedom.”

¹¹ Committee on Prospering in the Global Economy of the 21st Century, *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future (Executive Summary)* (Washington, D.C.: National Academies Press, 2007), pp. 1-3, www.nap.edu.

¹² *Ibid.*, p. 6.

¹³ www.state.gov/r/summit/.

So, at least two national security arguments are at play in the current international education movement. Both are urgent — one with economic threat, one with military threat — and they overlap.

III. “Schools Are Broken”

The popular belief that the school system is broken also fuels the international education movement. This is a discourse of derision, and it tirelessly broadcasts the claim that public schools are failing to educate students for life in the new flat world.

The national security and school failure discourses are connected. Consider this statement from Operation Public Education, a reform project geared to “transforming America’s schools” so as to respond to “the challenge of human capital development” in the intensely competitive “level playing field of the global economy.”¹⁴

Terrorism and the war in Iraq are high on the list of the nation’s concerns, but the greatest danger facing America is, as (former IBM chairman) Louis Gerstner recognized, the challenge of human capital development. Our nation’s public schools, the foundation for this effort, are still failing far too many of our children despite an investment of some \$500 billion annually.¹⁵

The author, an advisor to the Secretary of Education, continues by reminding readers that “sadly, we’ve known about this threat for quite some time.” His reference point is the 1983 report *A Nation at Risk*, which claimed that the “mediocrity” of our schools was so profound that had it been imposed by “an unfriendly foreign power, we might well have viewed it as an act of war.”¹⁶

This is an urgent crisis-and-salvation narrative. The crisis story is that schools are failing miserably to educate students for the new world order. The salvation story is that only schools can rescue the nation. It is a simple formula: schools caused the crisis and schools can solve it.

There is no small amount of magical thinking in the claim that schools can save society, since schools themselves are embedded in society. Schools are not autonomous agents outside

¹⁴ Theodore Hershberg, “Value-Added Assessment and Systemic Reform: A Response to the Challenge of Human Capital Development,” *Phi Delta Kappan*, December 2005, pp. 276-83.

¹⁵ *Ibid.*, p. 276.

¹⁶ National Commission on Excellence in Education, *A Nation at Risk: The Imperative for Educational Reform* (Washington, D.C., 1983), p. 1.

the fray, steering society in this or that direction. They are more its caboose than its engine. Lawrence Cremin, the historian of American education, observed that this formula — he called it a “device” — has been used repeatedly across the nearly two centuries of our education system. It was used by proponents of vocational education in the early years of the 20th century, by the post-Sputnik proponents of math and science education in the 1950s, in the 1980s by *A Nation at Risk*, and now, apparently, by the international education movement. “To contend that problems of international competitiveness can be solved by educational reform,” Cremin wrote, “especially educational reform defined solely as *school* reform, is not merely utopian and millennialist, it is at best a foolish and at worst a crass effort to direct attention away from those truly responsible for doing something about competitiveness.”¹⁷

IV. Marginal Voices

While the strong discourses of national security and school failure may together dominate the movement, they don’t push other meanings and programs clear off the curriculum planning table. At the edges of that table, and closer to the ground of school practice, are other interpretations of both the problem and the solution. I found three. One, *global perspective*, gives international education a transnational cultural meaning; another, *cosmopolitanism*, gives it a transnational political meaning; a third, *student body*, gives it a cultural meaning again, but in a decidedly local, student-centered way.

IV – A. Global Perspective

The first of these emerged in the 1960s during an earlier wave of excitement about international education. In 1965, Congress passed the International Education Act. In 1969, the U.S. Department of Health, Education, and Welfare published an influential report that called for developing the capacity of students “to view the world system as a whole,” to comprehend “the interrelatedness of the human species *qua* species,” and to think in ways that are “free from the influence of ethnocentric perceptions.”¹⁸

¹⁷ Lawrence A. Cremin, *Popular Education and Its Discontents* (New York: HarperCollins, 1990), p. 103.

¹⁸ James M. Becker, *An Examination of the Goals, Needs, and Priorities in International Education in U.S. Secondary and Elementary Schools* (Washington, D.C.: U.S. Department of Health, Education and Welfare, 1969), pp. 268, 271.

The wave's high-water mark came in 1978 with the publication of Robert Hanvey's *An Attainable Global Perspective*, which argued for a transition from "pre-global" to "global consciousness." That meant understanding that we live in an interconnected world and developing what Hanvey called "perspective consciousness." Hanvey suggested that students needed to learn about political, ecological, economic, and cultural connections by studying problems that cut across national boundaries. "Perspective consciousness" was "the awareness on the part of the individual that he or she has a view of the world that is not universally shared, that this view of the world has been and continues to be shaped by influences that often escape conscious detection, and that others have views of the world that are profoundly different from one's own."¹⁹

The Reagan administration dealt a direct blow to this era of international education in the 1980s, a decade that saw fierce contests over the meaning of "international" and "global" in schools. A 1986 U.S. Department of Education report, "Blowing the Whistle on Global Education," accused the movement of pacifism, anti-capitalism, and capitulation to foreign enemies.²⁰

The discourse of global perspective has resurfaced into today's movement as a re-scaling of "multicultural education" from the nation to the globe. Knowledge, recognition, and respect for diverse cultures are taken out of the national container and extended to peoples everywhere. This approach wants to tackle the cultural provincialism and exceptionalism of American society along with high school graduates' slim knowledge of the world.

Here is an example of how this discourse shows up in today's movement. Teachers at one new public "international" middle school embrace "global perspective" as the school mission. On the school's web site, they display their objectives. Both perspective consciousness and the interconnectedness of the world system are evident:

1. Global Challenges: Examine and evaluate global issues, problems, and challenges (e.g., students understand that global issues and challenges are interrelated, complex, and changing, and that most issues have a global dimension).

¹⁹ Robert G. Hanvey, *An Attainable Global Perspective* (New York: Center for Global Perspectives, 1978), p. 5.

²⁰ Gregg L. Cunningham, *Blowing the Whistle on Global Education* (Denver: Regional Office, United States Department of Education, 1986).

2. Culture and World Areas: Study human differences and commonalities (e.g., students understand that members of different cultures view the world in different ways).
3. Global Connections: Analyze the connections between the United States and the world (e.g., students can describe how they are connected with the world historically, politically, economically, technologically, socially, linguistically, and ecologically).

IV – B. Cosmopolitanism

Another marginal discourse for international education boldly shifts territory to global citizenship and, in so doing, raises questions about loyalty and identity.

In contrast to putting the nation first, cosmopolitanism puts humanity and Earth first. In a brief essay that has drawn wide attention, University of Chicago ethicist Martha Nussbaum proposes a cosmopolitan education for students in American schools. She wants to transform civic education so that children are taught not that they are, above all, citizens of the United States and stewards of its interests, but that “they are, above all, citizens of a world of human beings.”²¹

To identify oneself as a citizen of the world breaks the old habit of loyalty to a nation and being defined primarily or solely by local origins and membership. That frees us, she argues (quoting Seneca), to dwell instead “in two communities — the local community of our birth and the community of human argument and aspiration that ‘is truly great and truly common, in which we look neither to this corner nor to that, but measure the boundaries of our nation by the sun.’”²²

If the global perspective approach to international education takes *cultural* education beyond the national container, cosmopolitanism does the same for *political* education. It tackles not only the problems of American provincialism and exceptionalism, but also *nationalism*. World citizenship, after all, is more a political than a cultural concept. In most states, students are required to recite the Pledge of Allegiance (to the nation, of course). The cosmopolitan school board member will ask why students aren’t pledging allegiance to the larger civic community: the human family. One school may express this by quietly dropping the morning pledge ritual;

²¹ Martha C. Nussbaum, *For Love of Country?* (Boston: Beacon, 2002), p. 6. See also Joel Spring’s cosmopolitan proposal in *A New Paradigm for Global School Systems: Education for a Long and Happy Life* (Mahwah, N.J.: Lawrence Erlbaum, 2007); and the study by Katharyne Mitchell and Walter C. Parker, “I Pledge Allegiance To. . . : Flexible Citizenship and Shifting Scales of Belonging,” *Teachers College Record*, 2008, pp. 775-804.

²² *Ibid.*, p. 7.

another by adding a second, cosmopolitan pledge; another by stronger forms of environmental education, teaching a course on the Universal Declaration of Human Rights, or introducing students to the International Red Cross curriculum on international humanitarian law.

IV – C. International Student Body

A third marginal approach returns the meaning of international education to culture but, in contrast to the global perspective, focuses squarely on the cultural composition of the school's student body. Some public "international" high schools serving high-need students in resource-starved urban areas have created a form of international education built on the demographic tapestry of the student body. Immigrant students, some of them refugees, add a new kind of diversity to the schools' already diverse populations. School leaders creatively seize the opportunity and claim theirs are international schools because they have an international student body.

Culture fairs showcase students' home cultures. English language learning is advanced as a central mission of the school and is, in effect, reframed as international education. The stresses on such schools — financial, the discourse of school failure, institutional racism — contribute to this reframing. "International education" can be deployed to mobilize new resources and media attention and, as one parent activist told me, "to attract market share back to the public schools."

The main emphasis of the approach, as a district superintendent said, "is making students and teachers aware of the diversity within their midst and finding ways to help them value that and trace that to wherever it originated." He continued:

Being a magnet for so many different kids to come together seems to me to be an advantage. . . . You can't avoid it. The kids are going to experience it on the playground, they're going to experience it in the classroom, in the lunchroom, on the bus. They're going to see kids who are different from them. It becomes almost a way of living. Even though kids may never leave this city, the world has come to them.²³

V. Conclusion: A Solution on the Loose

²³ Walter C. Parker and Stephen P. Camicia, "The New 'International Education' Movement in U.S. Schools: Civic and Capital Intents, Local and Global Affinities." Paper presented at the annual meeting of the American Educational Research Association, New York, April 2008.

International education today is a broad movement containing, even in my limited study, a disparate mix of meanings and motives. It is being deployed to bolster the nation's economic and military defenses, to liberate multiculturalism from its national container, to promote world citizenship, and, in some urban schools, to take advantage of a vibrant immigrant population. These are a handful of the alternatives curriculum planners will encounter when they consider how to "internationalize" school programs. The first two add up to a national security discourse, which is backed by no less than the federal government, major foundations, the National Academies, and the popular belief that the school system is broken. The other three aim in different directions and are peripheral by virtue of lacking this kind of institutional power to advance their goals. I have painted these five only in the broadest strokes, and no doubt there are more.

Table 1

Some strong and weak meanings of "International Education" in U.S. schools today

- economic competitiveness: "International" education will revitalize the school system while ensuring that the U.S. will retain (or if already lost, regain) its competitive edge in the new "flat" global economy. Science and math are priorities.
- military readiness: Teaching strategic languages in schools, K-12, will "make sure that America has the language professionals necessary to defend our national security" (National Security Language Act, 2003). Mandarin and Arabic are priorities.
- global perspective: Rather than only knowing and respecting diversity within our nation, students should know and respect the multitude of cultures on Earth. Multiculturalism is re-scaled from the nation to the globe, and some attention is paid to global connections and systems.
- cosmopolitanism: It is time to shift students' primary allegiance and locus of concern from the nation to the human family and Earth—from national citizen to global citizen. Some versions trumpet "multiple identities" (national, ethnic, and global), others shift fully to global humanity.
- student body: Immigration is putting the world in the classrooms, hallways, cafeteria, and playground. Seizing the opportunity, an "international" school is formed on the basis of its "international" student body. The cultural and linguistic diversity of students is prioritized.

The multiple discourses at play under the name "international education," some powerful, some weak, provide educators with a golden opportunity: to decide how best to prepare children and youth for a changing world. They can spread out the alternatives, weigh them against one another, and determine which one or two, or some hybrid, shall stand as "international education."

Deeply held values are woven into each of the alternatives, including conflicting understandings of patriotism and competing visions of what schools are for. Disagreement is inevitable. Voting against House Bill 266 in Utah, which would have provided more funding for the IB program in Utah's schools, Sen. Margaret Dayton said she is "opposed to the anti-American philosophy that's somehow woven into all the classes as they promote the U.N. agenda." Aligning herself with the first of the two national security discourses and clearly against cosmopolitanism, she clarified: "I would like to have *American citizens* who know how to function in a global economy, not *global citizens*."²⁴ Sen. Dayton's antipathy to IB is in stark contrast to the National Academies' support for it, but *both* operate within the strong discourse of economic competitiveness.

Is "international education" anchored somewhere? The short answer, looking through the window opened here, is "no." It would be an oversimplification to assert that international education In the United States today is nothing but a continuation of national defense education under a misleading name. It is partly and strongly that, to be sure, but more accurate is to portray the movement as plural and discordant. There are multiple meanings and practices underwritten by multiple ideologies, and there is plenty of hype. International education in U.S. schools today is a solution on the loose; it solves a variety of problems, serves an array of masters, and expresses diverse and often conflicting values. There is no coherence to the movement, only an illusion conjured by the common use of a name.

That nationalism plays a starring role really shouldn't surprise readers who, like me, were expecting the movement's centerpiece to be something different. As historians have made abundantly clear, public schools everywhere have routinely served national purposes.²⁵ In a nation's early years, the school system typically is devoted to developing a national community unified by common beliefs and customs. Later, the system turns to reproducing these in subsequent generations and making adjustments that are deemed necessary. International education is caught up in this pattern. As economist Kenneth Boulding observed during that earlier 1960s wave, the challenge is to

²⁴ Quoted in Ben Fulton, "Worldly Program Gets Avid Support," *Salt Lake Tribune*, 23 February 2008, pp. A1, A6.

²⁵ Andy Green, *Education and State Formation: The Rise of Education Systems in England, France and the USA* (London: Macmillan, 1990).

develop an image of the world system which is at the same time realistic and also not threatening to the folk cultures within which the school systems are embedded; for if educators do not find a palatable formula, the ‘folk’ will revolt and seek to divert formal education once again into traditional channels.²⁶

Because my sample of schools, activists, and media was limited and not random, the findings reported here cannot be generalized to the entirety of the current “international education” movement in U.S. schools. My interest was to find and clarify a set of actually-existing alternatives in hopes of expanding the universe of possibilities that educators might consider when deciding what curricular action to take. Only with some clarity about the various and at times conflicting aims of so-called “international education” can they hope to make wise curriculum decisions. Ultimately, my purpose here was to create space for thinking seriously about how education about the world is proceeding, and might otherwise proceed, in the public schools of the U.S. and other nations. Must citizenship education be forever tied to the nation-state? Can it be re-scaled to the world? These are my closing questions.

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²⁶ Kenneth Boulding, “Education for Spaceship Earth,” *Social Education*, November 1968, p. 650.

Developing Citizenship Skills through Deliberative Discussions: Exploring a Practice/Action Distinction

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Abstract

To function effectively, a democratic society needs a knowledgeable and skilled citizenry. Public schools in the United States are charged with meeting this demand. But how best to do so? This paper explores one possible avenue, the use of deliberative discussions in the high school classroom. In an effort to better understand the deliberative process, I conducted a comparative case study of two types of deliberative discussions: deliberations used primarily for skill development or practice and deliberations used primarily to decide a course of action. Two questions provide the focus for this research: (1) What differences, if any, are there between deliberations that are used for practice (to build democratic skills) and deliberations that are used not only to build democratic skills but also to take action (to decide and implement policy)? (2) Does the oral impotence of a “practice-only” deliberation or the oral empowerment of a “practice-and-action” deliberation make a difference to students? The results of this study inform our understanding of the deliberative process in general and the practice/action distinction in particular.

I. Introduction: A Dearth of Discussion

John Hughes’ 1986 film “Ferris Bueller’s Day Off” is a classic satire of the American high school. One scene depicts a particularly grotesque classroom. Student apathy is pervasive. The well-meaning but pedagogically challenged teacher tries to engage his students in discussion. Failing to get any responders to his plea (“Anyone? Anyone?”), time after time he ends up answering his own questions. Ferris Bueller’s classroom, though fictional, is not the kind of educational environment that we want for our students. Instead we hope for classrooms in which a lively exchange of ideas is a common occurrence. Rather than a room filled by the monotone droning of a teacher and the stultifying silence of students, we hope for an atmosphere of eager engagement in which diverse opinions and multiple ideas provide solid evidence that democratic skill building and citizen preparation are underway. At least at an intuitive level academics and educators agree that deliberative discussion, when used effectively, can promote learning.

But is the absence of lively classroom discussions problematic? Some scholars would claim it is, suggesting that our democratic form of government requires a citizenry trained in effective ways to talk (Allen, Gibson, 2001). Parker (1989) posits that “[o]pen, free, authentic talk is the coin

of participatory citizenship” (p. 354), so without discussion among its citizens, democracy degenerates. Parker makes clear that asking students to engage in deliberative discussions of controversial issues is one of the most rigorous forms of education available and one of the best preparations for “the reasoned argumentation of democratic living” (Parker, 2005, p. 350).

Support for moving beyond a stand-and-deliver pedagogy and its accompanying student passivity can be found in the work of progressive educators and their belief that experiential education is an important element in relevant and lasting learning. Barber (1989) argues for programs that empower students “through decision-making processes, that give them practical political experience, and that make them responsible for developing public forms of talk and civic forms of judgment (p. 355). He further suggests that such a curriculum “will be a powerful incentive to citizenship, for it will provide an education that is aimed not only at participation but works through participation” (p. 355).

In *Talking to Strangers* Danielle Allen builds a compelling case for “a habit of citizenship” that would have deliberation at its core. By “talking to strangers”—by discussing a problem through to a mutually accepted decision—we can, Allen believes, revitalize our democratic citizenry. Deliberation is a strikingly practical technique for establishing a “habit of citizenship” in the classroom. The subjective dimension of everyday school life provides multiple possibilities for instilling in the young “the habit of political friendship,” possibilities for deliberations in which they can practice this citizenly talk. If schools were to provide such practice, perhaps at graduation students would enter adult society primed for their role as informed and active citizens.

The International Education Association (IEA) Civic Education Study (Torney-Purta, 2002b) concluded its research by stating: “An ideal civic education experience in a democracy should enable students to . . . be comfortable in participating in respectful discussion of important and potentially controversial issues” (p. 203).

Sadly, the “ideal civic education experience” which the IEA study proposes is virtually non-existent in American schools. The Ferris Bueller spoof is not far from classroom truth. An examination of the educational landscape of American high schools reveals a dearth of classroom discussion (Cazden, 2001; B. E. Larson, & Parker, W. C., 1996; Oakes, 2005b). Oakes (2005a) makes the point that most U.S. classrooms are passive, “non-involving” places rather than active, engaging ones. She writes that in the 25 classrooms she and her colleagues observed, “passive activities . . . were dominant [and] the opportunities students had in any group of classes *to answer open-ended questions, to work in cooperative learning groups, to direct the classroom activity, or to*

make decisions about what happened in class were extremely limited. *In most classes these things just did not happen at all*” (p. 129, emphasis added). The reality is that there is now and always has been a dearth of discussion in our schools (Boler, 2004; Cazden, 2001; Haroutunian-Gordon, 1991; Hess, 2004; B. E. Larson, Parker, W.C., 1996; Simon, 2001). This being the case, students may leave high school ill equipped for effective citizenship, having had little or no practice in discussing controversial issues with their peers (Barber, 1989; M. Boler, 2004; Haroutunian-Gordon, 1991). Since talk is an essential skill for citizens of a democracy, the overall lack of democratic skill-building through deliberation and other forms of discussion in our public schools hardly seems wise (Barber, 1989; W. C. Parker, 2006).

In America calls for more classroom discussion, dialogue, deliberation, and debate are nothing new (Apple, 1995; Gutmann, 1987; Sleeter, 2004). In fact, recommendations for more frequent use of classroom discussion abound (Allen, 2006; Kelly, 1989). Parker (2003) argues that “dialogue plays an essential and vital role in democratic education, moral development, and public policy” (xviii). In a later article Parker (2005) posits that “[e]ngaging students in deliberations of academic controversies is arguably the most rigorous approach to disciplinary education available. . . . At the same time, such engagement prepares them for the reasoned argumentation of democratic living” (p. 350). In spite of such recommendations, discussion remains one of the least used educational strategies (Barber, 1989; Hess, 2004). Clearly, our commitment to this particular democratic skill is more one of lip service than actual practice.

Since deliberation is a requisite skill for effective citizenship (Goldfarb, 1998; W. C. Parker, 2005) and a requirement for a healthy democracy (Mendelberg, 2000), an examination of deliberation may prove beneficial to teachers who are always in search of a better educative activity or a more effective pedagogy and to scholars who, according to Mendelberg and Oleske (2000), “know little about how deliberation in fact works” (p. 169). My research attempts to change that; it offers a close examination of the process of deliberation as it occurs among high school students who have little formal training in discussion. Further, it provides insights into the meaning that deliberations have for them.

II. Deliberative Discussion and the Practice/Action Distinction

In my study I focus on one form of discussion – the practice of deliberation – examining it as a pedagogical tool for citizen preparation and trying to better understand it, especially from the student point of view.

What separates deliberation from other forms of discussion? Gastil (2008) offers a shorthand definition of deliberation, stating that people deliberate when “they *carefully examine a problem and arrive at a well-reasoned solution after a period of inclusive, respectful consideration of diverse points of view*” (p. 6, emphasis in original). To qualify as deliberation, then, various claims or various ideas must be given a fair hearing. Parker (2006) draws a distinction between deliberations and other classroom discussions, particularly seminars, and notes that deliberations are discussions for the purpose of making a decision about what a community should do. Consistent with Gastil’s and Parker’s conception of deliberation, I use the term deliberation to mean any discussion in which the participants consider more than one policy option as they attempt to reach a decision. My exploration of deliberation focuses on its *process*, studying the interactions and argumentation that occur as students work their way forward toward a decision.

An examination of classroom deliberation reveals at least two distinct purposes: (1) one for democratic skill development or *practice*, and (2) one to decide a course of *action*. Practice deliberations are meant to prepare students for effective citizenship. This is most often attempted by asking students to deliberate on controversial issues. They are expected to discuss different alternatives, giving each a careful hearing, and then reach a decision on what the best alternative is. Their decision is hypothetical, merely the end result of a discussion that offers practice in critical thinking. Students experience no consequences, no repercussions, because their decision is not put into place. Their decision does not affect policy. On the other hand, deliberations that call for decision-making action give students a voice in an authentic process. This moves the deliberation from a hypothetical or theoretical plane and places it firmly in the discussion-for-action category of authentic decision-making. Once enacted, proposals have various effects or consequences.

With this practice/action distinction in mind, I examined the following two questions: (1) *What differences, if any, are there between deliberations that are used for practice (to build democratic skills) and deliberations that are used not only to build democratic skills but also to take action (to decide and implement policy)?* (2) *Does the oral impotence of a “practice-only” deliberation or the oral empowerment of a “practice-and-action” deliberation make a difference to students?*

III. Methods

In order to better understand the distinction between deliberations for “practice only” and deliberations for “practice and action,” I conducted a study of four deliberations that occurred in the socio-cultural setting of a high school classroom. I focused on both the argumentation and

interaction that occurred during the process of deliberation and the meaning the deliberation had for the students who participated in it. Therefore, both the actual deliberations and the reflections of student participants were used to inform my understanding of the deliberative process.

Setting: Although deliberation of any kind is rare in most high schools, when it does occur, it usually happens in the confines of a single classroom. Therefore, I wanted to locate my observations in the socio-cultural setting of the classroom. The deliberations I observed took place at East Bay High School¹ located on the campus of Berkwald Community College. The students who choose to attend East Bay do so knowing that they will be taking some college classes while in high school. The students who choose to attend East Bay are probably not typical of high school students as a whole; they may have higher than average motivation and a greater interest in obtaining a college degree.

East Bay is in its second year of operation. During its first year, a single class of 35 freshmen was enrolled. During its second year, another class of freshmen was added, so the school enrollment stands at a relatively stable 70 students. This year a new freshman class will be added and that number will grow to over 100. In its fourth year of operation, the plan is to cap enrollment at 140 students in grades nine through twelve. East Bay draws from an economically stable, middle-class population. Many of its students come from a home-school environment, and East Bay is their first exposure to a public-school education. Many choose it, they admit in their pre-enrollment interviews and essays, because they do not feel comfortable or would not fit in at a traditional comprehensive high school. In many cases, these students are not “socially adept.” They have had a very limited exposure to life beyond their local area, which is known as one of the whitest counties in all of California. Therefore, the demographic fact that 99% of the students at East Bay are white should come as no surprise.

Participants: The participants in the deliberations were ninth- and tenth-grade students enrolled at East Bay. The size of each discussion group hovered between 15 and 20 students. In addition to listening to students during the deliberations, I also interviewed six student participants four weeks after the deliberations. This allowed time for the deliberations to be transcribed and available for their analysis and observations. Since these particular students were asked to examine, reflect on, and respond to transcripts of their previous deliberations, they served as informants, helping to deepen my thinking and aid my understanding of the deliberative process from a student’s point of view.

¹ East Bay and all other names used in this study are pseudonyms.

Selecting East Bay as a site for my study was a practical and expedient choice because the principal and teachers allowed me to hold the four deliberations during the school's advisory time. Since few classrooms would provide a setting in which I could observe regularly scheduled deliberations, my selection is a clear case of purposeful sampling (Patton, 2002). I believe the benefits of using a school in which the deliberations were not only allowed but scheduled for "researcher convenience" outweighed any possible drawbacks. I made this decision in much the same way that Mitra (2003) conducts in her "student voice" work. She chooses a sample based on how *representative* it is of the concept of student voice rather than how *representative* it is of school sites. If I had not chosen East Bay and worked with the principal and staff to schedule the deliberations on a specific day and class period, I could have ended up observing for days at a time without ever getting to see a deliberative discussion. Such was the experience of Cazden (2001) as she studied classroom discourse. Since I used the criterion of "availability of deliberative discussions" in choosing my research site, I make no attempt to generalize my findings to other school settings.

*Data Collection*²: Four deliberative discussions served as the foundation of this study. In addition, I gathered 48 written responses from student participants (reflections on the deliberations), and I interviewed six students, asking them to reflect on the experience and examine various portions of the transcripts. The four deliberations were designed to study the *practice-action* distinction. Two deliberations were designated as *practice-only* (for democratic skill-building); the topic under consideration was global terrorism.³ The other two deliberations were designated as deliberations for *practice-and-action* because the decisions that were reached would be put into effect. In the deliberations for practice-and-action the students had been given instructions (and permission of the principal) to develop guidelines for holding future discussions of controversial issues. It was up to the students to propose, decide, and enforce the guidelines.

² In setting up my research design I was aware that answers to my central question (What differences, if any, are there between classroom deliberations for practice only and deliberations for practice and action?) might differ considerably, depending on whom I asked. I was especially interested in the opinions of students. What meaning did they make of their participation in these two types of deliberative discussions? Students may view the deliberations differently than do their teachers or other adult observers. Because of my interest in student voice, I attempted to learn from all student participants. Both written responses and interviews were important in helping me understand the deliberative process from the student point of view. In this manner, I was attempting to follow the example set by Glesne (2006), who expresses a desire to locate some of her research "with and not on others" (p. 2, emphasis in original). I share that desire, and consequently, it influences my research and my findings.

³ The materials used for this deliberation (*Responding to Terrorism: Challenges for Democracy*) were adapted from Choices for the 21st Century Education Program, a program of the Watson Institute for International Studies at Brown University. The materials may be accessed online at <www.choices.edu>.

My primary methods of data collection were ethnographic in nature (Glesne, 2006). I used observation, interviews, and questionnaires:

1. Observation of the deliberations: Data were gathered from four deliberations. Each deliberation had approximately 15 to 20 students participants, although not every participant chose to speak during the actual deliberation. The deliberations were audio-taped⁴ and transcribed (Bogdan, 2007), and the transcripts were coded and studied in much the same way as Cazden (2001) looks at classroom discourse.
2. Written Reflections: During a follow-up visit to East Bay, students were asked to write short responses to several questions. These written reflections were used to further investigate the meaning that students made of their participation in the deliberative discussion process, helping me better understand the practice-action distinction from the students' points of view. All students who participated in the deliberation were invited to respond to these open-ended prompts (Maxwell, 2005). This collection of reflections written by the student discussants provided insight into the students' feelings and beliefs about their participation in the deliberations and their perceptions and interpretations of the deliberations.
3. Interviews: During my follow-up visit I conducted six semi-structured interviews (Opie, 2004) with a purposeful sample drawn from the field of student participants (Patton, 2002). These interviews were audio-taped and subsequently transcribed. During the interviews participants were shown transcripts of their deliberations and asked to further reflect on their meaning; thus students served as informants as well as subjects, since they were asked to reflect on and respond to previous deliberations. This decision was in keeping with my original intent to understand deliberation from the students' points of view or perspectives. The selection of students was intentional rather than random: I interviewed three males and three females representing high, medium, and low deliberative participation and a range of academic abilities. Open-ended questions were used to elicit student beliefs about the similarities and differences they observed in the two types of deliberations.

⁴ I audio-taped the deliberations in an attempt to increase student anonymity. No student names were connected to any of the deliberations. In the transcriptions and coding students are referred to by numbers rather than names or pseudonyms. In fact, I don't even know their names. This student anonymity allowed me to focus on the words that were said and the ideas that were presented in the deliberations. However, it did limit my understanding of some of the interactions that ensued. At times during my transcription of the data I would have liked to know some of the non-verbal reactions to what someone was saying. Ultimately, I was satisfied with the decision I made to use only voice data. It forced me to focus my analysis on the content of a student's ideas and arguments, a focus which was sufficient for this initial exploratory work.

Data Analysis: To analyze my data I used ideas gleaned from Gastil (2008), Horn (2007), Toulmin (1958), and Gee (2005). First, I examined the deliberations as a whole. Using criteria developed by Gastil (2006a) that identify the “ideal deliberation,” I considered both the analytic and the social processes of deliberation. According to Gastil, an “ideal deliberation” has a five-part *analytic* process containing (1) a solid information base; (2) key values; (3) a broad range of solutions; (4) the weighing of pros, cons, and tradeoffs among solutions; and (5) a “best possible” solution. Additionally, an “ideal deliberation” has a four-part *social* process containing (1) adequately distributed speaking opportunities; (2) mutual comprehension; (3) the consideration of everyone’s ideas and experiences; and (4) respectful communication.

Influenced by the work of Horn (2007), especially her development of the unit of analysis that she calls “episodes of pedagogical reasoning” or EPRs, I broke the transcripts into “units of argumentation” or UAs. Not everything that was said in the deliberations could be classified as UAs; however, as students attempted to explain or justify their positions, the vast majority of what was said did fit this category. Once the UAs had been identified, I analyzed them using an argumentation taxonomy developed by British philosopher, Stephen Toulmin (S. E. Toulmin, 2003) in 1958. Using his categories of claim, data, and warrant, each argument (or claim) was dissected so its strength and validity could be assessed.

I also attempted a rudimentary discourse analysis (S. Florio-Ruane, & Morrell, E., 2004; Gee, 2005) of the deliberations. Based especially on the discourse analysis work of Gee (2005), I asked several questions of the data. First, I asked how the discourse in the two different types of deliberation were “enacted.” Was one type of deliberation more “schoolish” than the other? Were the students “enacting” their identities differently from one deliberation to another? What did the data tell me about what students felt was “normal,” “right,” “good,” “correct,” “proper” (or the opposite) in a deliberation? What kinds of language were privileged or predominated (e.g., technical, everyday)? What kinds of evidence were privileged or predominated (e.g., statistical, expert opinion, personal experience)? What types of elaborations were privileged or predominated (e.g., words, images)? How were claims made? How were lines of argument developed? What persuasive “turns” were evident in the deliberations?

Data Quality and Limitations: The data I gathered have allowed me to begin an initial exploration of the deliberative discussion process and the practice/action distinction. However, the data are limited. First of all, the four deliberations I chose for analysis were all conducted in one school, a school that has virtually no racial and very little economic diversity. This limitation may

have provided me with a skewed understanding of what goes on in a deliberation. Given a larger basis of comparison—deliberations from several different schools and more racially and ethnically diverse student populations—I might find significant differences in the deliberations.

As with any ethnographic study, there is a danger of researcher subjectivity. My study is no exception. I tried hard to stay objective. I worried that collecting data at a school in which I had worked might affect student behavior as they tried to “please the teacher.” I worried that my knowledge of the students might also affect how I read the data. I decided to locate my research in a school in another state, at a school where I had no pre-conceived ideas of the various student participants. My positionality to the students was as an outsider, viewed (it seemed) as someone they did not need to impress. They were able to talk about the discussion topics without worrying “what Mrs. Coe will think.” I wasn’t grading them. In fact, my presence had no effect on their grades in any way. Their behavior appeared authentic; they had nothing to gain or lose from how they behaved in the discussion circle.

IV. Findings

The central finding of this study is that differences exist between deliberations for practice (to build democratic skills) and deliberations for practice-and-action (to decide and enact decisions). At first, this may seem intuitively obvious. Clearly, in this particular study the practice-action distinction was built into the deliberations. In the deliberations on terrorism, the discussants were well aware of the fact that any decision they reached would have no impact on local, national, or international policies of any kind. They voiced their opinions, presented evidence in support of those opinions, and grappled with one another’s ideas, but they knew that this was merely a classroom exercise. In the deliberations concerning the policies for controversial issues, the discussants were equally aware that they had been empowered to decide the policies and that they would be expected to live with the decision(s) they reached. Therefore, it is not surprising to find differences emerging from these two processes; however, the exact nature of those differences was impossible to predict before the data were analyzed. After data analysis several themes emerged. In this lecture I will list five of them but, in the interest of time, discuss just two.

Theme #1. Analytic and social processes vary between the two types of deliberation.

Using Gastil’s (2006) analytic and social process criteria, I looked at each deliberation as a case. First, I considered the deliberations in light of his five-part *analytic* process criteria: (1) a solid information base, (2) key values, (3) a broad range of solutions, (4) the weighing of pros, cons, and

tradeoffs among solutions, and (5) a “best possible” solution. Specific differences soon came to light. The information base used by the students for the practice deliberations was almost exclusively academic in nature. The students cited information from the Choices curriculum that they had been provided. Consequently, the information they used came from “outside” themselves. By contrast, the information base for the action deliberations was entirely personal in nature. When information was offered by the students, it consisted of stories or analogies used in an attempt to support their points of view. That information came from “inside” the students’ lives. An illustration of this phenomenon is the student who chose to personally reveal information about herself to help support her claim that Internet conversations “can get so out of hand”:

If you use Internet responsibly, it's fine. Like sometimes it can get so out of hand. I know that personally I am not a good face-to-face kind of person. I am always really worried that they're going to get mad at me—that's just me—but I know that I can't do things face-to-face very well, but if I'm online, then I'm just like hey, ya know, and then whatever happens happens. But I'm not worried that they're gonna' whack me or anything. (laughter)

This “information from inside” phenomenon is further illustrated by a second example, this one from a student who is offering support for her claim that “being mean can sometimes help a person change behavior.” She uses a personal anecdote:

Sometimes like I'll be teasing my mom, and I'll think that it's fun, and I think she's going along with it. I'll think it's all cool and I'll be like . . . ha ha . . . Mom, make me a sandwich, and she's like “I don't feel good,” and I'm like, “It's your job. Make me a sandwich, like make me a chicken pot pie, b-word.” And then she's like (student giggles), “You are being rude” and then she calls ME the b-word, and then I'm like “Wow, that hurt!” And then maybe I shouldn't call her the b-word, and “I'm sorry mom.” But if she answers like “Alicia, I really don't appreciate it,” I'd be like . . . “ha ha, you're fat,” and “Alicia, I don't like the way you're talking to me!” and I'd be like . . . “ha ha, you have grey hair!” (several students laugh)

That type of personal example was used frequently during the “practice-and-action” action deliberations but was used only once during the “practice-only” deliberations, when a student was trying to argue against an isolationist stance that another student had proposed. To give support to her claim, she offered this analogy:

Just letting them [other countries] fight their fight sometimes isn't the smartest idea because once they are done fighting their fight with them, they come after you or the person that is on the side. If you've ever played Risk or any of those games—I always played it with my brother—and my brothers, actually—and they would fight against each other, and then they would go against me after they were done, and then, like okay, let's combine forces because I was building up my force. So it's pretty much if you . . . if you put yourself in isolation or something—someone's gonna come along and—no matter what—I'm saying that if you put yourself in an area and don't actually care what's going around you, it usually comes back to hurt you.

Another analytic part of the deliberation process, according to Gastil (2006), is the range of solutions that are offered in a deliberation. Are different solutions, ones expressing both conservative and liberal positions, expressed? Is there a range of solutions that include both middle-of-the-road and more extreme positions? Here again I found differences between the two types of deliberation. In the “practice-only” deliberations the students expressed a variety of different positions, ranging from an isolationist to a one-world stance. In the “practice-and-action” deliberation students struggled to articulate any variety at all. A kind of groupthink emerged with students agreeing that discussions should be respectful and that freedom of speech should be allowed, but they failed to look for differences as to where they would draw their personal lines. Most often, they merely restated the importance of respect, for example, rather than introducing a new or different position. Consequently, they never moved beyond these general platitudes to begin hammering out a specific policy for the discussion of controversial issues at their school.

The three remaining analytic processes (values, weighing of pros and cons, and solutions) showed similarities between the two types of deliberation. In both cases values were implied but seldom articulated, the weighing of pros and cons was minimal, and time was up—the discussions were stopped—before solutions had been decided. Using Gastil's analytic criteria, neither type of deliberation taken as a whole would be considered strong. Potential conflicts over values were ignored as were attempts to argue against someone else's position. Students tended to offer their own arguments in favor of their position but seemed unable to mount a serious challenge against someone else's argument. The overall effect was one of several alternating monologues. Table #1 summarizes the analytic process similarities and differences between deliberations for practice and deliberations for action.

Table #1. Analytic Processes of Practice and Action Deliberations

Process	Gastil's Criteria	Practice-Only Deliberations	Practice-and-Action Deliberations
A n a l y t i c	Information Base	Academic	Personal
	Key Values	Implied	Implied
	Range of Solutions	Sufficient	Lacking
	Weighing Pros & Cons	Minimal	Minimal
	Solution	Incomplete	Incomplete

Using Gastil's (2006) analytic and social process criteria, I also analyzed the four-part *social* process of deliberation, which contains (1) adequately distributed speaking opportunities, (2) mutual comprehension, (3) consideration of everyone's ideas and experiences, and (4) respect. As with the analytic processes, here again there were both similarities and differences between the two types of deliberation. In both cases, there were sufficient opportunities for everyone who wanted to speak to have his or her turn. In both cases, the deliberations were marked by attempts at respectful discussion. Students listened to one another, and when they were talking, they addressed the entire group rather than initiating a "side bar" conversation. Differences between the two deliberative cases occurred with the two remaining criteria: mutual comprehension and consideration of ideas. With both, there was a stark contrast between "practice-only" and "practice-and-action" deliberations. For example, in the "practice-only" deliberation no checking for understanding of another's viewpoint occurred. It is impossible to say, based on the transcripts alone, why this was the case. Perhaps it was because students felt they already understood all the comments that were being made. Perhaps it was because they were more invested in what their peers said during the "practice-and-action" deliberation; perhaps with a forthcoming decision on the line that would affect their school lives, they felt the need to make sure they understood one another. Regardless of the reason(s), students frequently asked one another what they thought. Care was taken to include all voices in the conversation. Several times students who had not yet participated were invited to share an idea or opinion.

Another difference between the two types of deliberation came with the consideration of ideas. In the "practice-only" deliberation students seemed willing to occasionally disagree with one another's positions. Limited consideration of a couple of different ideas surfaced, but not enough to

claim that the consideration of ideas was sufficient. On the other hand, during the “practice-and-action” deliberations, there was no clash between ideas whatsoever. It was as though the group had a tacit agreement to let any statement go unchallenged. The reason(s) for this reticence are not clear. Additional data would need to be collected to hypothesize about the possible causes. As was mentioned previously, both deliberations were respectful. However, turn-taking and invitations into the discussion were more obvious in the “practice-and-action” deliberation. In fact, there were occasions in these deliberations for respectful silences. No such silences occurred in the “practice-only” deliberations. Each time a person finished speaking, another was quick to jump in—not with a comment that built on what had just been said, but rather with a brand new idea or argument. Table #2 summarizes the social process similarities and differences between deliberations for practice and deliberations for action.

Table #2. Analytic Processes of Practice and Action Deliberations

Process	Gastil’s Criteria	Practice-Only Deliberations	Practice-and-Action Deliberations
S o c i a l	Speaking Opportunities	Sufficient	Sufficient
	Mutual Comprehension	Not Attempted	Attempted
	Consideration of Ideas	Insufficient with some clash	Insufficient with no clash
	Respect	Sufficient	Sufficient

Theme #2. The amount and use of data to build an argument vary between the two types of deliberation.

The data clearly indicate that deliberations for practice only more closely conform to standard forms for argumentation (Cappella, 2002; S. E. Toulmin, 2003) than do deliberations for practice and action. They were by no means complete in their argumentation, but more often than not, an effort had been made by the student to provide some support in the form of evidence or example for the claim he or she was making. So, for example, if a student asserted that “countries other than the U.S. experience terrorism,” he supplied examples of terrorist acts directed against both France and Britain. In other words, he offered evidence—what Toulmin (2003) calls data—to support his claim. If a student asserted that the United States should act in conjunction with the United Nations, she provided support for that position—by suggesting that such a position would reduce the drain on U.S. resources and increase our military strength.

This attempt to provide data in support of various claims occurred frequently in the deliberations for practice. However, data were most always missing when claims were made in the deliberations for action.

The four arguments chosen for inclusion in Table #3 are typical of the larger body of arguments contained in the transcript. Claims were made. If the deliberation was for practice only, often those claims were backed up with data of some kind (evidence, examples, stories, analogies, illustrations, etc.). Most of the claims made during the deliberations for practice and action were presented without accompanying data. Warrants of any kind were seldom made explicit. If no data were presented in the argument, then of course a warrant is not possible either (since the warrant is what ties the data to the claim). Table #3 illustrates this theme.

Table #3. Analysis of Argumentation: Claims, Data, Warrants

Practice-Only Deliberation		Practice-and-Action Deliberation	
UA #1	Claim Terrorism is not just directed against the U.S. Data France and Britain have been attacked Warrant (No warrant stated)	UA #3	Claim Discussing ideas and beliefs is how we grow Data (No data offered) Warrant (No warrant possible)
UA #2	Claim We should go with the United Nations Data Limits drain on resources; gives us bigger army Warrant (No warrant stated)	UA #4	Claim We should review the ground rules Data (No data offered) Warrant (No warrant possible)

Other themes that emerged include the following:

Theme #3. The level of student engagement varies between the two types of deliberation with greater engagement resulting during “practice-and-action” deliberations.

Theme #4. A disconnect exists between the deliberations with stronger arguments and the deliberations that students claim have stronger arguments.⁵

⁵ This theme requires an operationalization of the term “stronger arguments.” For the purpose of this study, “stronger arguments” are arguments with some support (or data) rather than no support (or data) to back up their claims. Thus, if a student makes a claim that he/she supports with some kind of data, that will (by definition) be a stronger argument than one in which no support is offered. Using this fairly standard assessment of argument strength, we realize from the findings of Theme #2 that deliberations for practice consistently had stronger arguments presented than did

Theme #5. A disconnect exists between the deliberations with stronger arguments and the deliberations considered more engaging by the students.⁶

Themes #4 and #5 are, for me, the most perplexing and the most intriguing of all the ideas to emerge from this study. The disconnect between the quality of the deliberations, on the one hand, and the students' belief in both their quality and their appeal on the other, startled me. As a classroom teacher who facilitated hundreds of discussions during my 35-year teaching career, I held frequent classroom deliberations, some for practice only and some for practice and action. It didn't occur to me at the time that I might be sacrificing discussion quality to buy some increases in student interest and engagement. It didn't occur to me, either, that the skill-building that I knew was occurring as we practiced deliberation might not transfer over to other types of deliberation. A follow-up study could explore the differences that engagement (either intellectual or emotional) can play in shaping one's experience. In what ways can deliberation become both intellectually rigorous and emotionally satisfying?

V. Conclusion: Research Recommendations

Because my study was limited to deliberative discussions at one high school, the findings reported here cannot be generalized to deliberations in other high schools across the United States. However, based on this preliminary work, I believe additional research is warranted, and I would like to suggest three areas for additional exploration.

First, I propose to study the deliberative process among students from culturally diverse and/or traditionally marginalized populations. Since the issue of student voice is at the heart of deliberation, cultural influences that may shape a student's willingness or affinity to talk could play a significant role in how that student participates. Culture has such a powerful impact on shaping behavior that its effects are certainly worthy of examination.

deliberations for action. That's why Theme #4 came as such a surprise to me. I had already analyzed the data when I met with students to conduct interviews. I already "knew" that the practice-only deliberations contained a far greater number of strong arguments (i.e., claims backed by data) than did the practice-and-action deliberations. And then as I interviewed the students, one after another told me how much better or stronger or more powerful the deliberations for practice-and-action were. I pressed them to explain what made these deliberations stronger, and their responses made clear that they were basing their decisions not on a traditional assessment of argument strength (e.g. Toulmin, 2003, or Cappella, 2002) but on the level of engagement that they remembered experiencing.

⁶ Applying the same operationalized definition of "stronger arguments" that I used in Theme #4, the data show a negative correlation between the deliberations with stronger arguments and the deliberations that most engaged the students. Data indicate that students believed that the deliberations for practice and action were significantly more engaging than the deliberations for practice only. In the interviews and written responses not one student reported that the practice-only deliberations were more engaging. On the other hand, well over half of the students responding to a generic question about differences between the two types of deliberation chose to comment on the greater involvement and engagement during the practice-and-action deliberations.

Second, I propose to study the effects of status differences on the deliberative process. American high schools are notorious as places in which friendship groups can morph quickly into powerful cliques that sort and separate students by “popular” and “unpopular” designations. Such status differences may have a sizable impact on the deliberation process. Literature on small group practice theorizes that the participation of one or two high-status members in a group can lead to discussions that are less open and less balanced in participation than groups with member of relatively equal status (Humphreys, 1981).

Third, I propose to study the effects of participation in the deliberative process over time. The deliberations that were held at East Bay were conducted over the course of a two-day period. The students were new to the deliberative process. However, if given a regular diet of discussion, the students might very well deliberate in a more sophisticated manner. Their argumentation techniques might improve with practice. So a question for future research is *what effects, if any, occur as students receive training and practice in deliberation over the course of an entire school year?*

Clearly, there is still much to learn about deliberation in general and about the practice-action distinction in particular. My study is one attempt to shine a light on the deliberative process. While such information cannot help the pedagogically challenged teacher of Ferris Bueller’s classroom, it may serve as a point of discussion and possibility for those teachers who participate in the daily challenges of real high school classrooms and who work to turn inexperienced and immature teenagers into seasoned and effective citizens.

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"Structured Academic Controversy" (SAC)

Description This is an ambitious yet feasible form of instruction that helps students (a) join and discuss academic controversies that are at the heart of a course curriculum, (b) learn to deliberate controversies in groups, and (c) learn to take and defend positions. (d) If writing is added as the culminating activity/homework, then persuasive writing becomes the fourth objective.

Procedure:¹

1. Introduction.

- 1a. Tell students the academic, social (group process), and higher-order thinking (HOT) objectives.
- 1b. Display the materials needed: Background Information, Point, Counterpoint
- 1c. Give an overview of the procedure.

2. Pair/Team assignments. Assign each student to a pair, and two pairs to a team.

- 2a. Display pair and team assignments on a poster or transparency.
- 2b. Students meet in teams and choose a team name.

3. Pairs Study and Prepare.

- 3a. Pairs independently study the handout labeled Background Introduction and, below this, the controversial issue stated as a question (e.g., Background Information: *Should Britain Return the Elgin Marbles to Greece?*) It introduces the controversial issue and should be no longer than 1-3 pages.
- 3b. Pairs study the position to which they have been assigned: the point or the counterpoint. The position, with supporting arguments, is stated on a handout of 1-2 pages, the pair's task is either to do additional research on the issue and this position or to go directly to 3c.
- 3c. Each pair prepares a presentation that it will make to the other pair in the team. In this presentation, the pair states its position on the controversial issue and argues *for* it. Prompt students to develop *multiple* lines of reasoning to support their positions. Allow for additional research if needed.

4. Teams.

- 4a. Pairs present positions and supporting arguments to one another.
- 4b. Pairs reverse positions, feeding back each other's position and reasoning to the other's satisfaction (proving that each pair has listened and understood the other pair's presentation).
- 4c. Teams discuss the issue.
- 4d. Teacher invites students to drop the position to which they were assigned and continue to discuss the issue in teams, now reaching for a consensus.

5. Whole Class. Ask each team to report on its discussion (4d). Say something like, "Tell us about your consensus on the issue or, if you didn't come to a consensus, then where your disagreement is."

6. De-briefing. De-brief each objective in turn, asking students to what degree they think it was achieved. Then, for each objective

- 6a. Social objective: Identify group process problems that need attention next time.
- 6b. HOT objective: Identify higher-order thinking skills that need attention next time (e.g., distinguishing the *position* taken on an issue from the *arguments* mounted for or against it).
- 6c. Academic: Explain why this controversy is important to the course of study.

7. Follow-up Writing. Using the NAEP persuasive writing rubric, have students individually write an essay in which they express their 'own' post-discussion position and reasoning on this issue.

¹Read more about it: Johnson & Johnson, "Critical Thinking Through Structured Controversy," *Educational Leadership* 45(8), May 1988. Walter C. Parker, *Teaching Democracy* (Teachers College Press, 2003); and *Social Studies in Elementary Education*, 13th ed. (Allyn & Bacon, 2009).

Should Voting Be Required in Democracies?

The issue: Over twenty nations require citizens to register and vote. Should Japan have such a law?

Procedure

Discourse

1. You and a partner will be assigned to take a pro or con position on this controversial issue.
 2. You will study the issue and develop an argument for the position to which you were assigned.
 3. You will make a presentation to the opposing side, laying out your position and the reasons for it. And, you will listen carefully to the opposing side do the same.
 4. The two sides will come together and discuss the issue, and see if it is possible to arrive at a consensus.
-

Writing

5. Follow-up writing: You will draft a persuasive essay, arguing for the position you truly support.

Handout #2

Compulsory Voting

Background Information

Should Voting Be Required in Democracies?

Over twenty countries have some form of compulsory voting which requires citizens to register to vote and to go to their polling place or vote on election day. With secret ballots, it's not really possible to prove who has or has not voted so this process could be more accurately called "compulsory turnout" because voters are required to show up at their polling place on election day.

One of the most well-known compulsory voting systems is in Australia. All Australian citizens over the age of 18 (except those of unsound mind or those convicted of serious crimes) must be registered to vote and show up at the poll on election day. Australians who do not vote are subject to fines although those who were ill or otherwise incapable of voting on election day can have their fines waived.

Compulsory voting in Australia was adopted in the state of Queensland in 1915 and subsequently adopted nationwide in 1924. With Australia's compulsory voting system comes additional flexibility for the voter - elections are held on Saturdays, absent voters can vote in any state polling place, and voters in remote areas can vote before an election (at pre-poll voting centers) or via mail.

Voter turnout of those registered to vote in Australia was as low as 47% prior to the 1924 compulsory voting law. In the decades since 1924, voter turnout has hovered around 94% to 96%. [source: Matt Rosenberg www.geography.about.com]

These countries also have compulsory voting: Argentina, Australia, Austria, Belgium, Brazil, Chile, Costa Rica, Cyprus, Dominican Republic, Ecuador, Egypt, Fiji, France, Gabon, Greece, Guatemala, Honduras, Italy, Luxembourg, Mexico, Netherlands, Paraguay, Peru, Philippines, Singapore, Switzerland, Thailand, Turkey, Uruguay. (Note: underlined nations have strict enforcement; others vary on enforcement, some weak, some none) [source: International Institute for Democracy and Electoral Assistance]

Handout #3

Compulsory Voting

Point: Require voting.

Advocates for compulsory voting have several arguments for why the practice should be adopted by democratic societies. First, compulsory voting laws do increase voter turnout. Political scientists estimate that compulsory voting increases voter turnout by 8 to 15 percent. The increase is most often seen among people who normally do not vote, particularly the poor and less educated. As Simon Jackman notes, “to the extent that compulsory voting increases turnout, compulsory voting also removes socioeconomic differences in electoral participation.” In other words, say advocates, the higher the rate of voter participation in democratic elections, the more those elections can be said to represent legitimately the will of the people.

Advocates also see important civic outcomes in compulsory voting. In their view, voting is a necessary part of the work of a citizen. While they acknowledge that this responsibility might compel people to vote against their will, as American legal commentator John Dean notes, “so is the compulsion to drive only on the right side of the road. Requiring citizens to vote is no more restrictive than requiring them to register for the draft. And it is far less restrictive than requiring, for example, school attendance; to serve on juries, possibly for weeks or months at a time; to pay taxes; or to serve in the military when drafted. Voting is the least a citizen can do for his or her country.”

Furthermore, advocates claim an element of civic education through voting: if people know they must vote, they will pay closer attention to the issues and go to the polls more informed.

Handout #4

Compulsory Voting

CounterPoint: Do not require voting

Opponents of compulsory voting argue that citizens do not want compulsory voting, a fact supported by a 2004 survey conducted in the United States, by ABC News. In fact, opponents argue that low voter turnout may well be a sign of overall voter satisfaction, not disappointment, with the current system. Canadian academic Filip Palda agrees: “Those who obsess about voter turnout are perhaps the ones to whom we should pay the least attention. Politicians of established parties see low turnout as a rebuke. The less legitimate politicians feel, the more they try to pass laws that build around their regimes a Potemkin facade of citizen involvement. This is why Soviet Bloc countries forced their citizens to vote.” Because voting is an expression of faith in the political system, opponents of compulsory voting argue that deciding not to vote is one of the few tools citizens have to challenge corruption or fraud. When the people have reason to believe that their votes will not be counted, will be tampered with by election officials, or will be otherwise misrepresented, forcing them to vote compels them to endorse a false outcome. When there is only one candidate or when all candidates appear as poor options, compulsory elections only breed cynicism about the political process. In short, forcing people to vote in a corrupt or meaningless election actually weakens citizen power in a democratic society.

Opponents of compulsory voting also worry about the central government’s control of the information that compulsory voting requires. Today, when computers and information databases can reveal so much about a person, decentralized control of election information is an important way to protect citizens from an increasingly powerful national government. More fundamentally, opponents argue that voting is not an obligation but a privilege. If the goal is to foster citizen participation, then there are easier—and better—ways than compulsory voting to foster civic it. By increasing the level of education people receive, countries can help their citizens better understand public issues and to address them meaningfully. Finally, critics of compulsory voting say that forcing participation of millions of people who neither know nor care about an election is counterproductive.

Choices for the 21st Century Educational Program

Description

Choices for the 21st Century is a national education program produced by the Watson Institute for International Studies at Brown University.* The program is designed to introduce substantive international content into secondary school curriculum. The goal of the program is to empower young people with the skills, habits, and knowledge necessary to be engaged citizens who are capable of addressing international issues with thoughtful public discourse and informed decision making.

Procedure

1. Introduction

- Focus attention on the subject (e.g., terrorism), setting a context and conveying its importance.
- Review the purpose of deliberation, which is to consider a broad range of alternatives and give each alternative a thorough and fair hearing.
- Present a brief overview of this procedure.

2. Small Group Preparation

- Divide the class of students into four groups of equal size, assigning each group responsibility for one option. (Depending on the size of the class, the four groups may need to be sub-divided as they prepare for the forum.)
- Give each person in the group a copy of the appropriate handout (e.g., group one gets the handout on option #1, group two gets the handout on option #2, etc.). If time allows, students may be asked to do additional research their assigned positions.
- Individuals read and study the handout, selecting the strongest arguments. (The teacher may ask students to write a brief summary of their assigned option before discussing it with others in their group.)
- Groups discuss their assigned option, considering its merit and building the strongest case for its adoption.
- Each group selects a spokesperson to present its position and a spokesperson to answer questions. (Multiple spokespeople may be selected, each responsible for presenting one of the arguments in favor of the option or for fielding questions.)

3. Public Forum

- Presentations: Spokespersons will present their groups' position, one option presented at a time. (The maximum time allowed for each presentation should be announced in advance.)
- Question and Answer (Q&A) Period: Following each presentation, members of the audience may ask questions. (The time allowed for this Q&A period should be announced in advance.)
- Open Discussion: Following all of the presentations and the focused Q&A period, the moderator "opens the floor" for general discussion (a weighing of the issues). At this time, new options may be proposed and the original options altered or combined in new ways.

4. Decision and Reflection: Depending on the purpose of the forum, this concluding period may vary.

- The moderator may call for a vote on each option individually and on any new alternatives that have emerged.
- Students may be asked to develop their own options and defend them in a written response and reflection paper.
- The group may reflect together or individually on the process itself. What worked? What didn't? How can changes be made to improve the process in the future?

* Read more about the Choices Education Program by visiting its website at <<http://www.choices.edu/>>.

Handout #1

Option 1: Direct an Expanded Assault on Terrorism^{*}

Our country cannot tolerate acts of terrorism, those who perpetrate them, or those nations who harbor terrorists. As a peace-loving country, we have no choice but to take on the job of rooting out terrorism wherever it exists. It is our responsibility and duty to protect ourselves and help make the world safe from terrorists. The war on terrorism is a worldwide struggle and we must move forward with a worldwide offensive to combat it until all who threaten peace and security are destroyed. Although it is helpful to have the cooperation of other nations, we must be prepared to fight terrorism—using whatever methods it takes and alone if necessary—wherever and whenever it threatens. Nothing less than our own freedom is at stake.

Arguments for this position	Arguments against this position
<ul style="list-style-type: none"> Acting alone when necessary avoids the difficulties that arise from seeking cooperation with other nations that have different political interests and constraints. The only way to avert imminent threats to our security is to act preemptively. By engaging indigenous forces to fight terrorist groups and their government sponsors, we can save lives. Being free of the bureaucracy and political constraints of multinational decision-making will allow us to respond more quickly where and when we need to. 	<ul style="list-style-type: none"> If we expand the war on terrorism on our own terms, other countries may feel antagonism toward us, and such a unilateral action may fuel further terrorism. If we act without regard for international law, we will lose international support and isolate ourselves from the international community. The response fails to address the underlying causes of terrorism, so it does not interrupt the cycle of violence. Using force as a response to terrorism is bound to result in the deaths of innocent civilians. Our country must respond to terrorism in ways that preserve our national ethics and democratic traditions.

^{*} This handout is a reproduction of the “Options 1” page from a *Choices for the 21st Century* unit on terrorism. It has been modified to use as a demonstration model with an international audience.

Handout #2

Option 2: Support United Nations Leadership to Fight Terrorism*

Terrorism is a global, not a national, problem. Today our security and the security of the rest of the civilized world depend upon our ability to work together to address this universal threat. We must recognize the United Nations as the entity with the legitimacy to develop and maintain a long-term, truly international effort to control and eventually wipe out terrorism worldwide. We must play a leadership role in strengthening the effectiveness of the United Nations on security matters and offer our military, intelligence, and economic support to a UN-led effort to eradicate terrorist cells wherever they are found. We must stand with the world community against lawless terror.

Arguments for this position	Arguments against this position
<ul style="list-style-type: none"> Cooperating as a partner with other nations through the UN will create a truly international response to terrorism, one that reflects the interests and needs of all of the international community, and denies hiding places to terrorists anywhere. International cooperation brings together the financial, diplomatic, and intelligence tools necessary to address international terrorism. The UN is only as strong as its member states. In order to make the UN effective as an international organization it must have the full support of our country. We cannot afford to isolate ourselves from the international community. 	<ul style="list-style-type: none"> When our interests are threatened—here or abroad—we have a right to do what is necessary to defend ourselves, with or without the support of the other nations and international organizations. The UN already has conventions prohibiting terrorism and biological weapons and has been unable to enforce them. Why will the UN be any more effective now? The UN is too slow, too weak, and too indecisive to make any real difference. Giving the institution more power is at best a long-term proposition. It won't do anything for the terrorist threat today. Terrorism will not end until we address its root causes. If we pledge to join with the UN in an all-out campaign against international terrorism, we may be forced to spend our own resources on international initiatives that we may not fully approve of at the expense of defending ourselves at home.

* This handout is a reproduction of the "Options 2" page from a *Choices for the 21st Century* unit on terrorism. It has been modified to use as a demonstration model with an international audience.

Handout #3

Option 3: Defend Our Homeland*

On March 20, 1995 members of Aum Shinrikyo attacked Tokyo's subway system by releasing Sarin nerve gas aboard the trains. These terrorists brought death and destruction to our country. Twelve people died and over 5,500 were harmed, many with permanent injuries. We were attacked on our own homeland, and we now feel vulnerability. Clearly, we have enemies who are intent on doing us harm. The time has come to build up our national defenses against such terrorist acts. While civil liberties are important, we must recognize that we are in a new world. Our government must be allowed to take new steps to protect our security.

Arguments for this position	Arguments against this position
<ul style="list-style-type: none"> • We live in a world where a small handful of angry individuals can wreak havoc with a small amount of weapons-grade biological or chemical material or a "dirty bomb" in a suitcase. Being prepared for such attacks will save lives. • By limiting any response only to those who directly threaten us, we will avoid needlessly drawing the wrath of a wider circle of terrorist organizations. • Taking sides in the battles of other nations (such as Israel's struggles with Hezbollah) only increases our own vulnerability by drawing the attention of a wider circle of terrorists. The less we are involved in the affairs of other nations, the more secure we will be. • Resources saved from international involvement can be redirected to promote enhanced security at home. 	<ul style="list-style-type: none"> • Terrorism is globalized. It will be impossible to get a full picture of the terrorist threats facing us if we do not bring our intelligence resources together with those of the rest of the world. That integration of intelligence capacity will not happen if we withdraw from the international community. • Withdrawing from the international community will not protect us from possible attack. As long as there are haves and have-nots in the world, we will remain a target for terrorism. There is nowhere to hide. • We cannot defend our country against all possible means that terrorists have at their disposal. Our only practical and moral choice is to address the root causes of international terrorism. • The terrorist threat is everywhere. It is better to fight terrorism on foreign soil than to have it come again to our own shores.

* This handout is a reproduction of the "Options 3" page from a *Choices for the 21st Century* unit on terrorism. It has been modified to use as a demonstration model with an international audience.

Handout #4

Option 4: Address the Underlying Causes of Terrorism*

Terrorism is a crime against humanity and cannot be tolerated. However, strong military or police action will only perpetuate the cycle of violence. We must abandon any plans for such action and join with others to address the deeper issues underlying terrorism. Terrorism feeds on the frustration of some of the world's most disadvantaged peoples. We must join with the developed world to devote our attention and our resources to launching programs that address the underlying causes of terrorism. We must also examine our own policies in many parts of the world to see that we are not inflaming longstanding local and regional conflicts, fueling discontent, and creating a breeding ground for anti-Japanese sentiment.

Arguments for this position	Arguments against this position
<ul style="list-style-type: none"> • If we do not address the underlying causes of terrorism—including poverty, injustice, powerlessness, and hatred—we risk feeding the anger or the terrorists and creating new recruits to terrorist networks. • Taking a leadership role in addressing the humanitarian needs of populations in failing states will reduce animosity toward our country. • In order to be a credible force in addressing terrorism, we must demonstrate that we understand the causes of terrorism and are committed to taking action to address them. • By addressing the underlying causes of terrorism, we will be able to avoid putting our civil liberties at risk from repressive homeland security measures. 	<ul style="list-style-type: none"> • Addressing the underlying causes of terrorism will take time. Meanwhile we remain vulnerable to more terrorist attacks. We have to act now to stop terrorist attacks at their source. • Neither our country nor the international community has the resources to address all of the underlying causes of terrorism. • We cannot afford to redirect so much of our national budget to development efforts overseas at a time when those resources are needed to build up our defenses here at home. • If we focus our efforts on long-term solutions, we will be allowing terrorists to commit horrible crimes without immediate consequences. This will invite additional attacks both at home and abroad. • There will always be hatred. There will always be violence. No amount of foreign aid will change this. We have no real control over anything but our own security.

* This handout is a reproduction of the "Options 4" page from a *Choices for the 21st Century* unit on terrorism. It has been modified to use as a demonstration model with an international audience.

Handout #5

Responding to Terrorism Challenges for Democracy*

Option 1: Direct an Expanded Assault on Terrorism

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Option 2: Support United Nations Leadership to Fight Terrorism

Terrorism is a global, not a national, problem. Today our security and the security of the rest of the civilized world depend upon our ability to work together to address this universal threat. We must recognize the United Nations as the entity with the legitimacy to develop and maintain a long-term, truly international effort to control and eventually wipe out terrorism worldwide. We must play a leadership role in strengthening the effectiveness of the United Nations on security matters and offer out military, intelligence, and economic support to a UN-led effort to eradicate terrorist cells wherever they are found. We must stand with the world community against lawless terror.

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* This handout is a reproduction of the "Options in Brief" page from a *Choices for the 21st Century* unit on terrorism. It has been modified to use as a demonstration model with an international audience.

Editors' Postscript

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