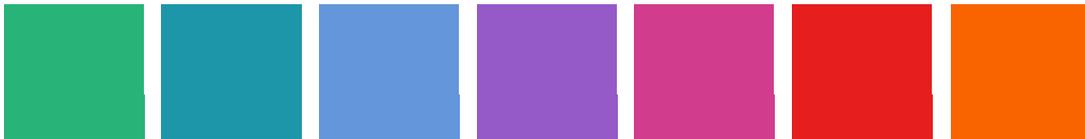




# Perceived outcomes of public libraries and service design

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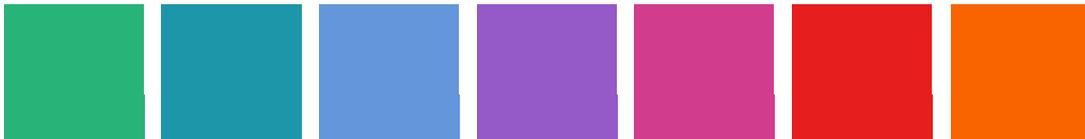
# 公共圖書館與服務設計 認知成果調查

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坦佩雷大學

芬蘭



**SIS**

SCHOOL OF INFORMATION SCIENCES



*Tampere*



坦佩雷,  
芬蘭



# The main entrance of Tampere city library



# 坦佩雷市立圖書館主入口



# Participants

- Pertti Vakkari
  - University of Tampere, Finland
- Ragnar Audunson, Svanhild Aabo
  - Oslo and Akershus University College of Applied Sciences, Norway
- Frank Huysmans<sup>1</sup>, Marjolein Oomes<sup>2</sup>
  - University of Amsterdam<sup>1</sup>; Institute for Public Libraries<sup>2</sup>, The Netherlands
- Sei-Ching Sin
  - Nanyang Technological University, Singapore (The US data)
- Nahyun Kwon
  - Myongji University, Seoul, South Korea

# 研究參與者

- **Pertti Vakkari**
  - 芬蘭 坦佩雷大學
- **Ragnar Audunson, Svanhild Aabo**
  - 挪威 奧斯陸與阿克什胡斯大學 應用科學學院
- **Frank Huysmans<sup>1</sup>, Marjolein Oomes<sup>2</sup>**
  - 荷蘭阿姆斯特丹大學<sup>1</sup>; 公共圖書館研究院<sup>2</sup>
- **Sei-Ching Sin**
  - 新加坡南洋科技大學 (負責美國資料)
- **Nahyun Kwon**
  - 南韓 首爾 明知大學

# The outline of talk

- Introduction
- Research methods
- Basic library statistics in the 5 countries
- The structure of perceived benefits
- Models explaining the perceived benefits in Finland
- Discussion from the angle of service design

# 演講大綱

- 前言
- 研究方法
- 五個國家圖書館基本統計資料
- “認知益處”的架構
- 芬蘭之認知益處模型
- 討論：從服務設計之角度

# Introduction

- *Outputs* are the products delivered by a system, whereas *outcomes* are the benefits the system produces to its users (Rossi & al. 2004)
- In evaluating systems or services it has been typical to count the # of outputs
  - # of book loans, # of relevant documents retrieved
- Increase in one's knowledge or recovery from daily responsibilities are examples of benefits (outcomes) produced by the (outputs of) libraries

# 前言

- “輸出” 是一個系統的產出，而“成果” 是此系統產出對其使用者的益處 (Rossi & al. 2004)
- 評估系統或服務的方式，向來是去計算其“輸出”的數量
  - 借書量, 相關文獻被檢出量
- “增進個人知識”或“從生活責任中恢復”就是圖書館的“輸出”所產生的“成果”之例子。

# Research questions

- How frequently do people benefit from public library services in various areas of life in the countries compared?
- Does the structure of benefits vary between these countries?

# 研究問題

- 這五個國家的民眾，從公共圖書館服務獲得生活上各領域益處之頻率為何？
- 本研究的“獲益架構”，在這個五個國家之間有什麼不同？

# Data

- A random sample of population aged 15(18)-80 years in each country
- *Finland*: Postal survey 5-6/2010 (N=1000)
- *Norway*: Web panel 9/2011 (N=1001)
- *The Netherlands*: Web panel 9/2012 (N=1502)
- *The US*: Web panel 12/2012 (N=1010)
- *South Korea*: Web panel 2013 (N=1000)
- For the analysis *18-80 years old library users were included*

# 資料蒐集

- 從每個國家15(18)-80 歲人口中隨機抽樣
- 芬蘭: 2010年5-6月進行郵寄調查 (受調者1000人)
- 挪威: 2011年9月進行網路調查 (受調者1001人)
- 荷蘭: 2012年9月進行網路調查 (受調者1502人)
- 美國: 2012年12月進行網路調查 (受調者1010人)
- 南韓: 2013年進行網路調查 (受調者1000人)
- 對 18-80 歲圖書館讀者進行分析

# Measurement

- Major areas of life: 1) education, 2) work and business, 3) everyday activities, and 4) leisure time were differentiated into 19 sub-fields in total based on earlier studies
- The respondents were asked *how frequently they have benefited from public library services* in the 19 segments of life listed
  - Scale: often - sometimes - seldom - never - cannot say
  - For the analysis “never” and “cannot say” collapsed
  - Scoring: often = 4, ---, never = 1

# 測量

- 生活中主要領域: 1) 教育, 2) 工作, 3) 日常活動, 以及 4) 休閒生活 被進一步分成**19**個子領域。
- 詢問受調者公共圖書館讓他們在這**19**個子領域獲益的頻率
  - 量表尺規: 經常 – 有時候 – 很少 – 從沒有 – 很難說
  - 分析時, “從沒有” 和 “很難就” 代表沒有獲益
  - 計分: 經常 = 4分, ---, 從沒有 = 1分

# Areas of life 1-2

- Work and business
  - Finding jobs
  - Executing specific work tasks
  - Developing job skills
- Education
  - Finding educational opportunities
  - Completing formal education (obtaining a degree)
  - Work related educational development
  - Self-education during leisure time

# 生活領域 1-2

- 工作
  - 求職
  - 執行特定工作任務
  - 發展工作技巧
- 教育
  - 尋找教育機會
  - 完成正規教育 (獲得學位)
  - 工作相關的教育發展
  - 休閒時的自我教育

# Areas of life 3-4

- Everyday activities
  - Household
  - Childcare and schooling
  - Housing including home repairs
  - Consumer issues
  - Health
  - Travel and vacation
  - Social relations
- Cultural activities
  - Reading fiction
  - Reading non-fiction
  - Cultural activities (e.g. going to theatre or a concert)
  - Creative activities (e.g. playing an instrument or singing)
  - Outdoor activities, exercise, sports
  - Interest in nature (e.g. picking mushrooms or bird watching)
  - Interest in history or society
  - Participating in and following current events

# 生活領域 3-4

- 日常活動
  - 家務
  - 兒童照顧與就學受教
  - 房舍照顧，包括修繕
  - 消費議題
  - 健康
  - 旅遊與度假
  - 社會關係
- 文化活動
  - 閱讀小說
  - 閱讀非小說
  - 文化活動（去劇院，音樂會）
  - 創意活動（演奏樂器，歌唱）
  - 戶外活動，運動
  - 對大自然有興趣（摘採野蕈，賞鳥）
  - 歷史或社會有興趣
  - 參與和追蹤時事



## Basic data on public libraries in 2011

Indicator	Finland	Norway	The Netherlands	South Korea	The US
Population	5 347 269	4 920 305	16 655 799	50 734 284	311 591 917
GDP per capita € <sup>1</sup>	28900	47500	32900	22666	36486
Municipalities	320	430	418	244	3141 Counties
Main libraries	308	430	163	574	9050
Branch libraries	486	314	736	212	7654
Libraries in total	794	744	899	786	16704
Book mobiles (stops)	153 (12378)	29 (1272)	<sup>3</sup> - (927)	1126	696 (-)
Opening hours	1 399 355	805000	-	3 050 268	36 399 173
Manpower years	4756	1 783	5030	7369	137 364
Operation costs per capita €	58.03	38.46	33.90	8.65	25.30
Collection items <sup>4</sup> per capita	7.4	4.3	1.8	1.5	2.9
Collection books per capita	6.6	3.8	1.7	1.4	2.6
Loans per capita	18.2	5.1	6.0	2.4	8.1
% borrowers in population	39.2 <sup>5</sup>	21.1	24.1 <sup>2</sup>	35.3 <sup>2</sup>	55 <sup>5</sup>
Visits per capita (physical)	9.9	4.4	4.4	5.3	4.9



# 公共圖書館基本統計資料，2011年

指標	芬蘭	挪威	荷蘭	南韓	美國
人口	5 347 269	4 920 305	16 655 799	50 734 284	311 591 917
人均國民生產毛額（歐元） <sup>1</sup>	28900	47500	32900	22666	36486
自治區	320	430	418	244	3141 Counties
圖書館總館	308	430	163	574	9050
圖書館分館	486	314	736	212	7654
圖書館總數	794	744	899	786	16704
行動書車 (站點)	153 (12378)	29 (1272)	<sup>3-</sup> (927)	1126	696 (-)
開放時數	1 399 355	805000	-	3 050 268	36 399 173
年度人力時數	4756	1 783	5030	7369	137 364
人均業務費（歐元）	58.03	38.46	33.90	8.65	25.30
人均擁有館藏量 <sup>4</sup>	7.4	4.3	1.8	1.5	2.9
人均擁書量	6.6	3.8	1.7	1.4	2.6
人均借書量	18.2	5.1	6.0	2.4	8.1
借書者佔全國人口百分比	39.2 <sup>5</sup>	21.1	24.1 <sup>2</sup>	35.3 <sup>2</sup>	55 <sup>5</sup>
人均到館量 (親訪實體圖書館)	9.9	4.4	4.4	5.3	4.9



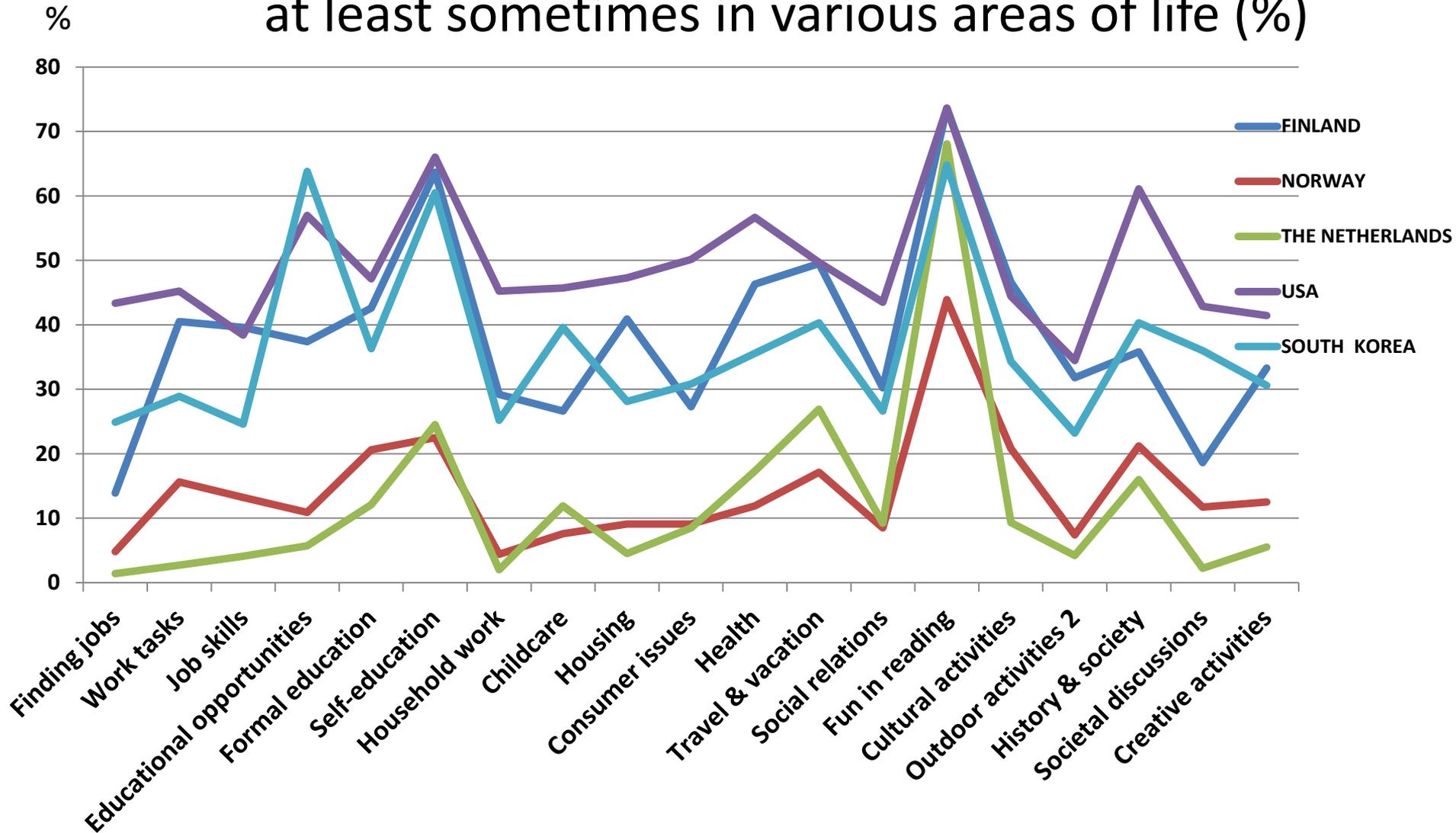
# Differences in library statistics

- Library resources and supply per capita largest in Finland and smallest in South Korea
  - # of mobile libraries per capita in South Korea is large, while small in Norway and the Netherlands
  - The US has relative good manpower supply per capita
- % of borrowers in population large in the US in particular, and in Finland and South Korea
- Loans and visits per capita largest in Finland
  - Loans per capita largish in the US and smallest in South Korea
- The larger the proportion of active users, the greater likely the benefits derived from library use

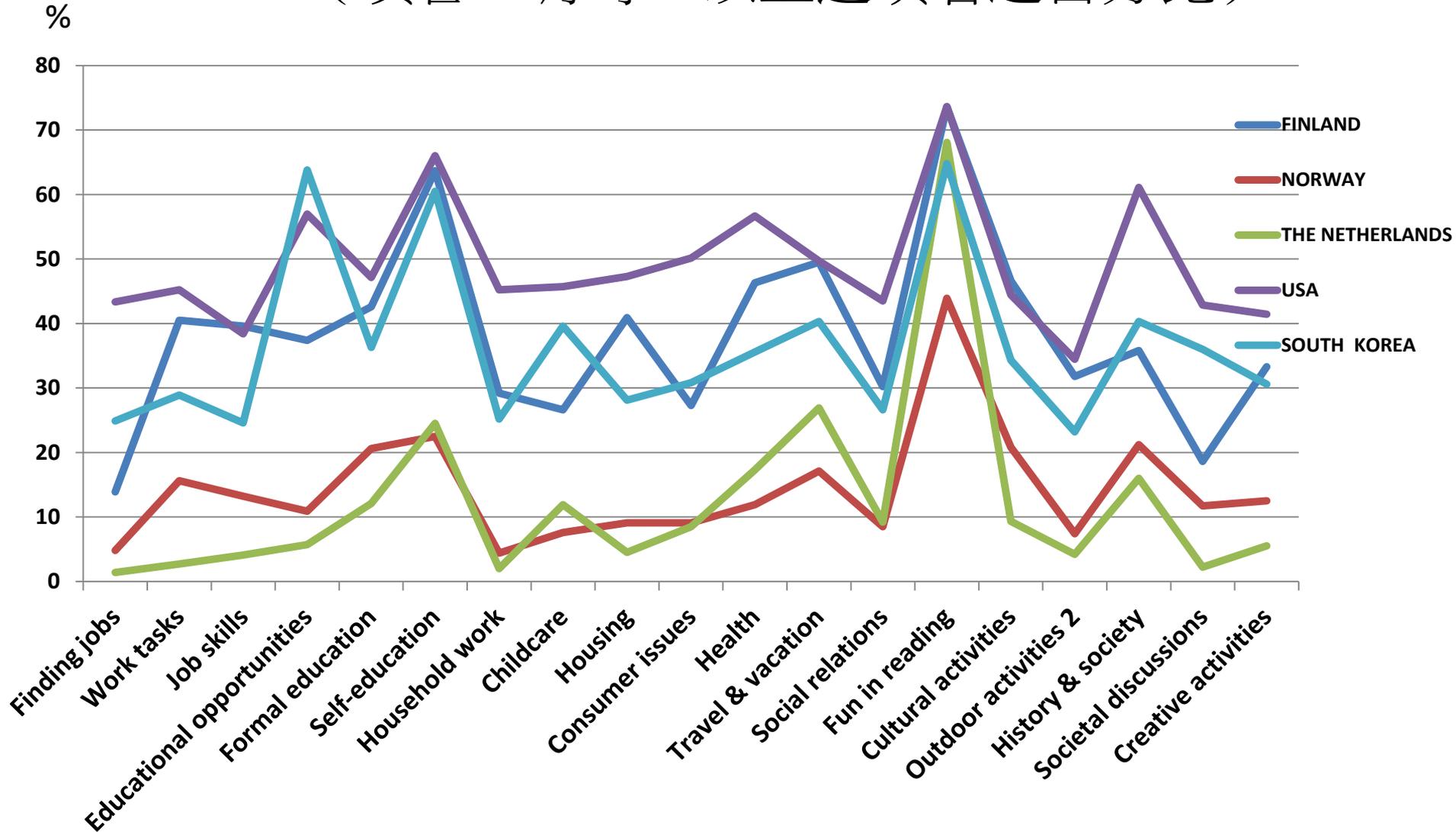
# 各國圖書館統計資料之差異

- 圖書館人均資源與供應量：芬蘭最高，南韓最低
  - 人均行動圖書館數量：在南韓很高，但是在挪威與荷蘭很低
  - 相對來說，美國的人均人力資源供應很好
- 借書者佔全國人口百分比的數字在美國很高，芬蘭和南韓也不錯
- 人均借書量和人均到館數是芬蘭最高
  - 人均借書量美國次之，南韓最低
- 有效讀者比例越高，使用圖書館而獲益的可能性就越大。

# The proportion of users who have benefited from the public library at least sometimes in various areas of life (%)



# 從公共圖書館獲益之讀者比例折線圖 (填答“有時”以上選項者之百分比)



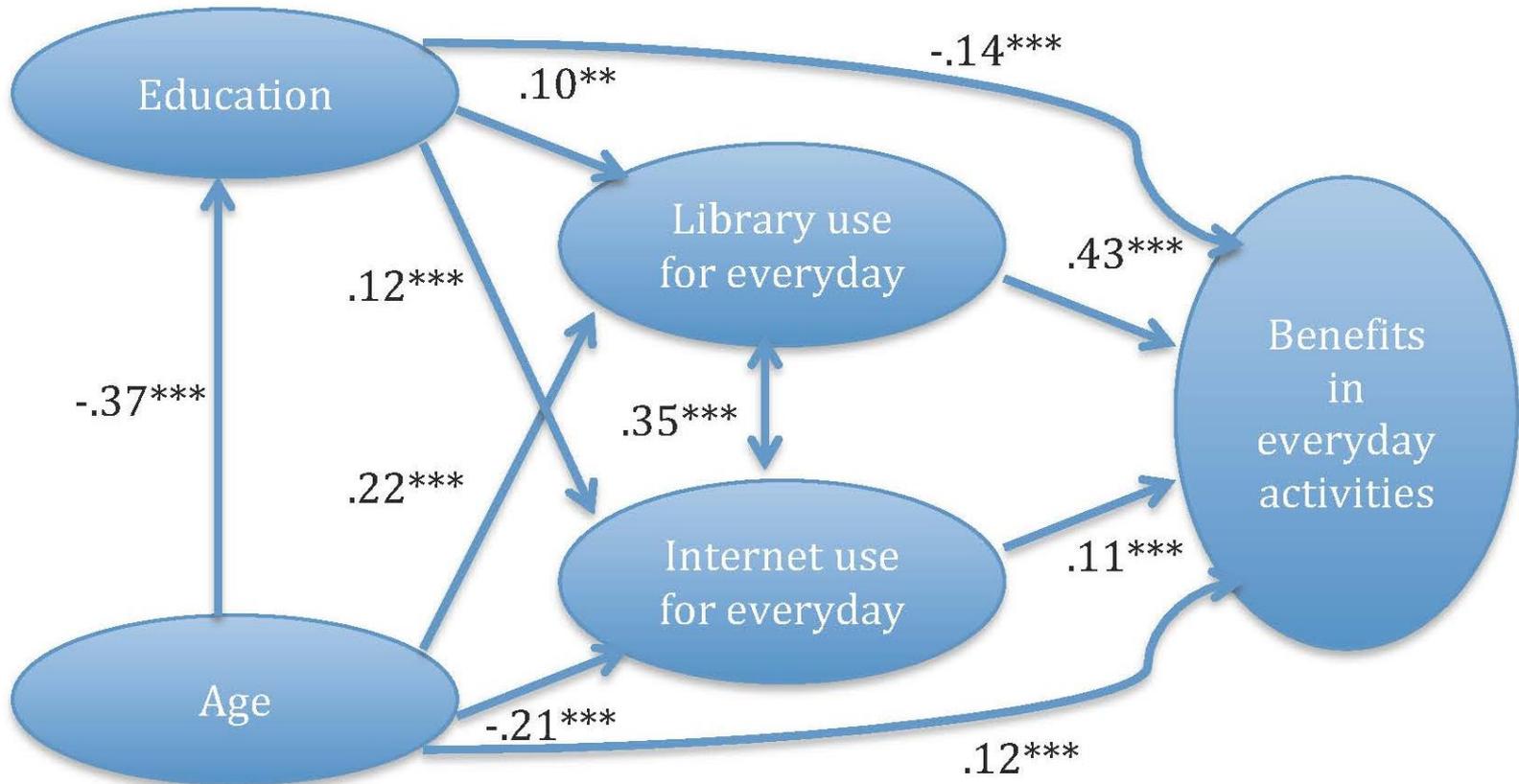
# The five most popular benefits in the countries compared (% benefited at least sometimes)

Finland	Norway	The Netherlands	South Korea	The US
Fun in reading (74)	Fun in reading (44)	Fun in reading (68)	Fun in reading (65)	Fun in reading (74)
Self education (64)	Self education (23)	Travel & vacation (27)	Educational opportunities (64)	Self education (66)
Travel & vacation (50)	History & society (21)	Self education (25)	Self education (61)	History & society (61)
Cultural activities (47)	Cultural activities (21)	Health (17)	Travel & vacation (40)	Educational opportunities (57)
Health (46)	Formal education (21)	History & society (16)	History & society (40)	Health (57)

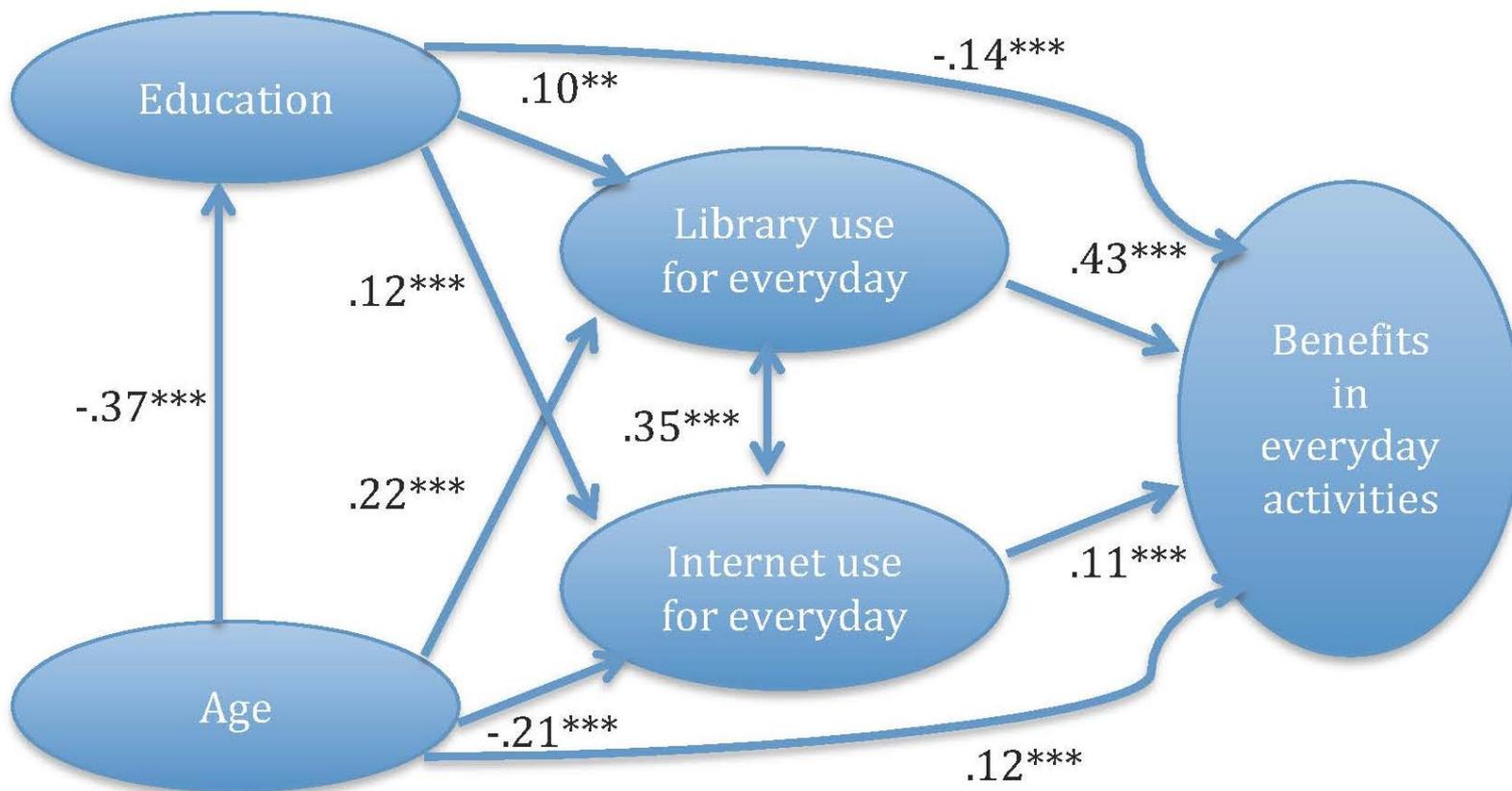
# 獲益最高前五個生活子領域：五國比較表 (填答“有時”以上選項者之百分比)

芬蘭	挪威	荷蘭	南韓	美國
為樂趣而閱讀 (74)	為樂趣而閱讀 (44)	為樂趣而閱讀 (68)	為樂趣而閱讀 (65)	為樂趣而閱讀 (74)
自我教育 (64)	自我教育 (23)	旅遊與度假 (27)	教育機會 (64)	自我教育 (66)
旅遊與度假 (50)	歷史與社會 (21)	自我教育 (25)	自我教育 (61)	歷史與社會 (61)
文化活動 (47)	文化活動 (21)	健康 (17)	旅遊與度假 (40)	教育機會 (57)
健康 (46)	正規教育 (21)	歷史與社會 (16)	歷史與社會 (40)	健康 (57)

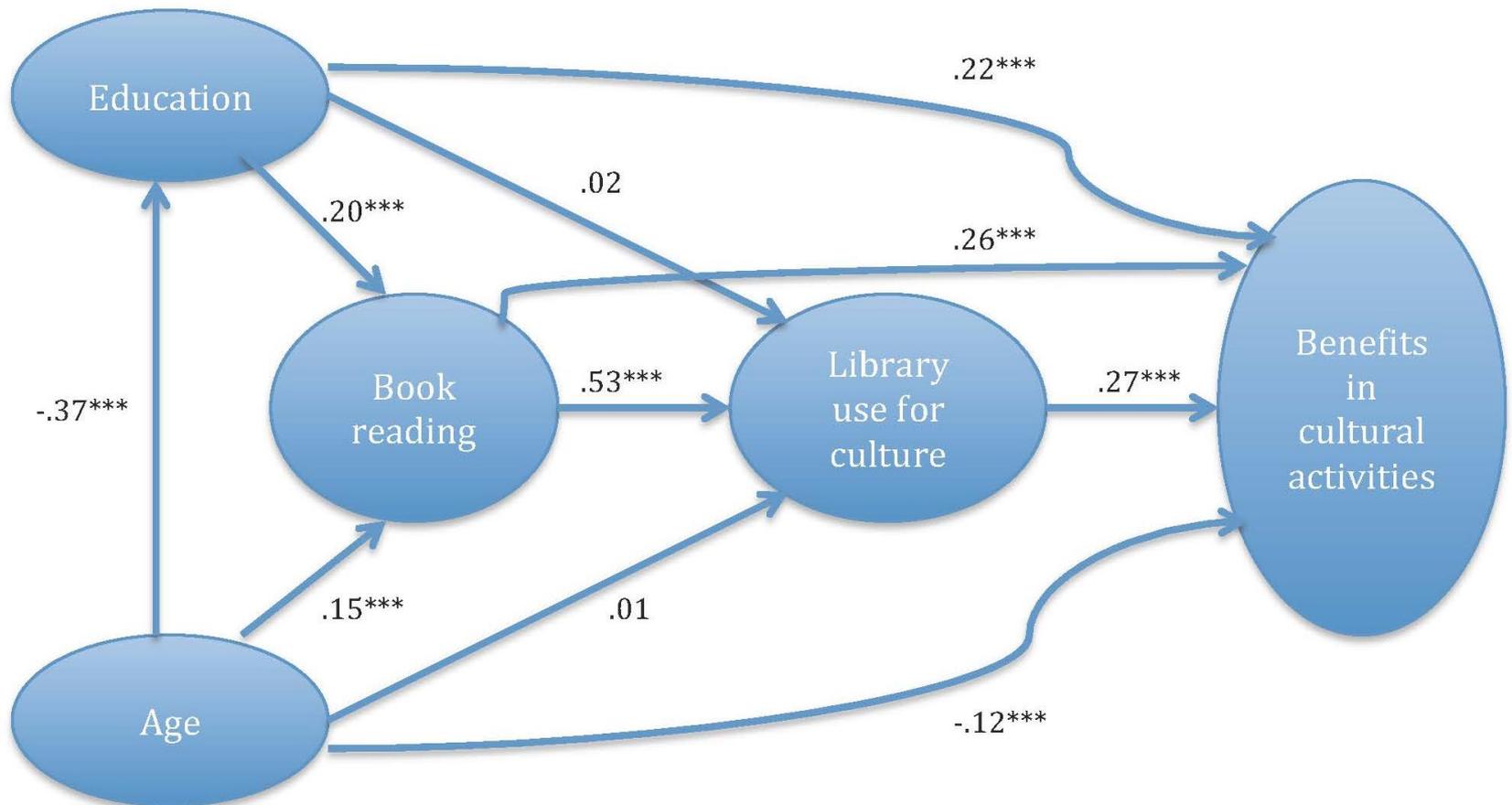
# A path model for benefits in everyday activities in Finland (n=856)



# 日常生活獲益路徑模型：芬蘭 (分析數=856)

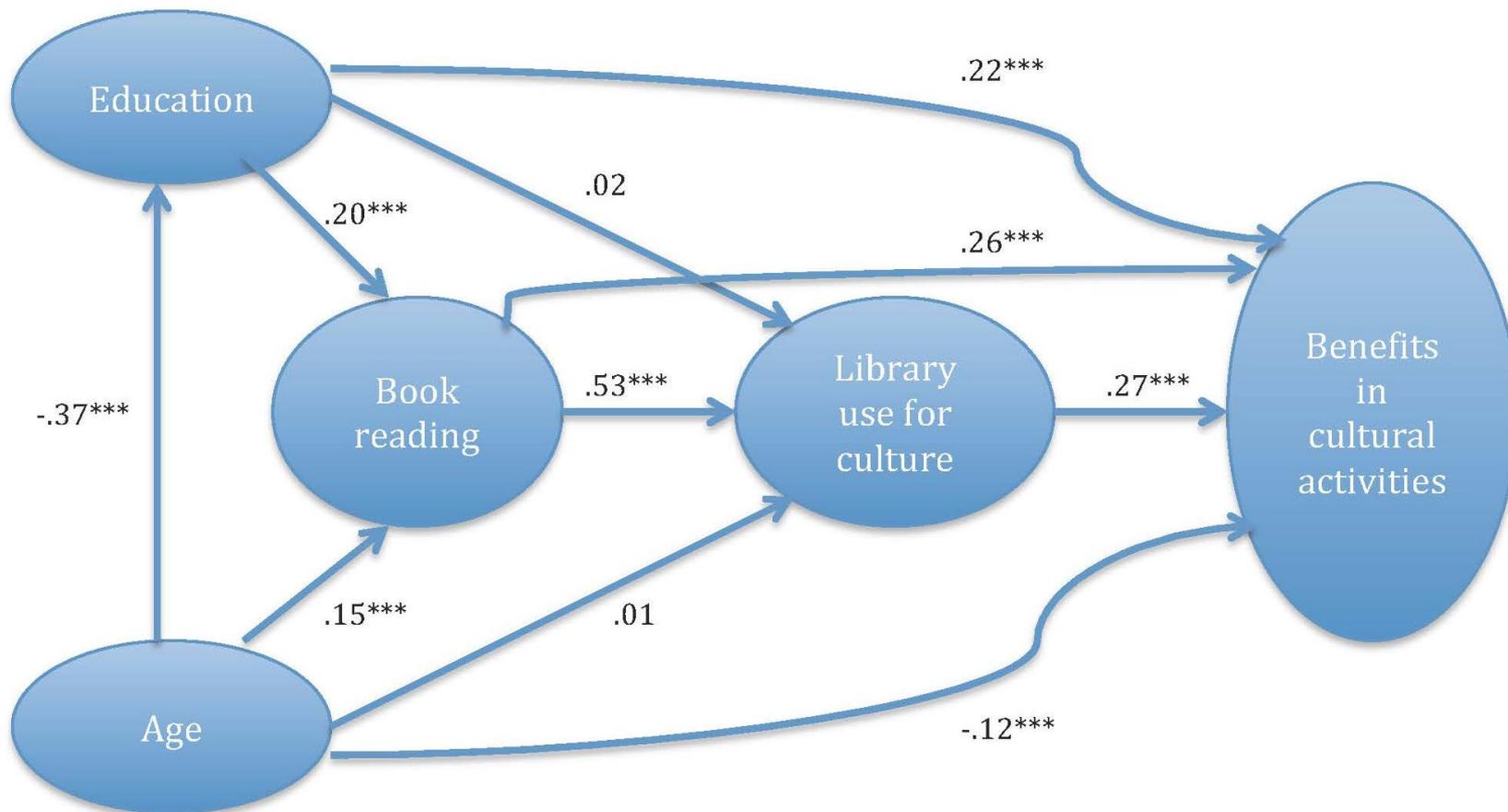


# A path model for benefits in cultural activities in Finland (n=856)

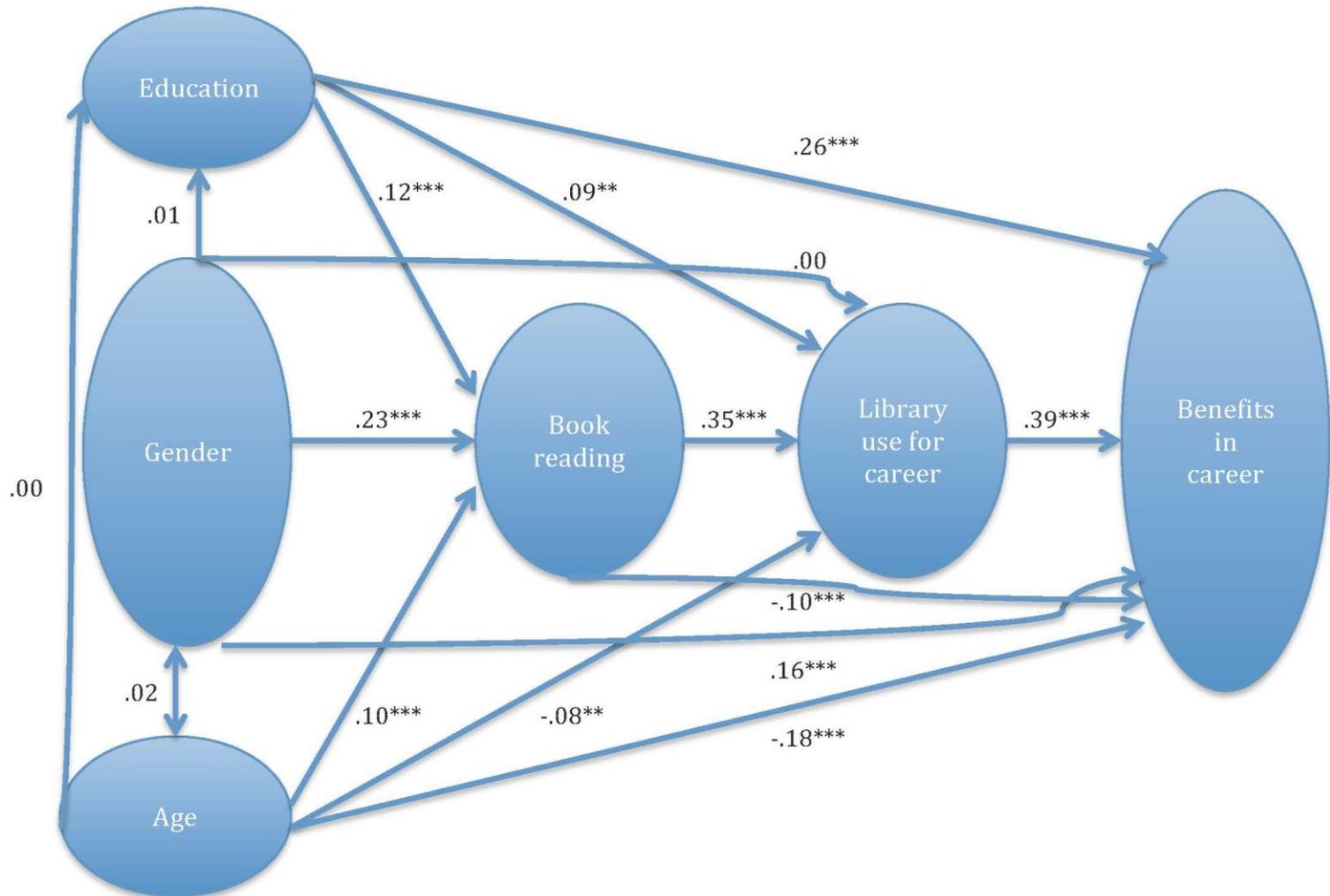


# 文化活動獲益路徑模型：芬蘭

(分析數=856)

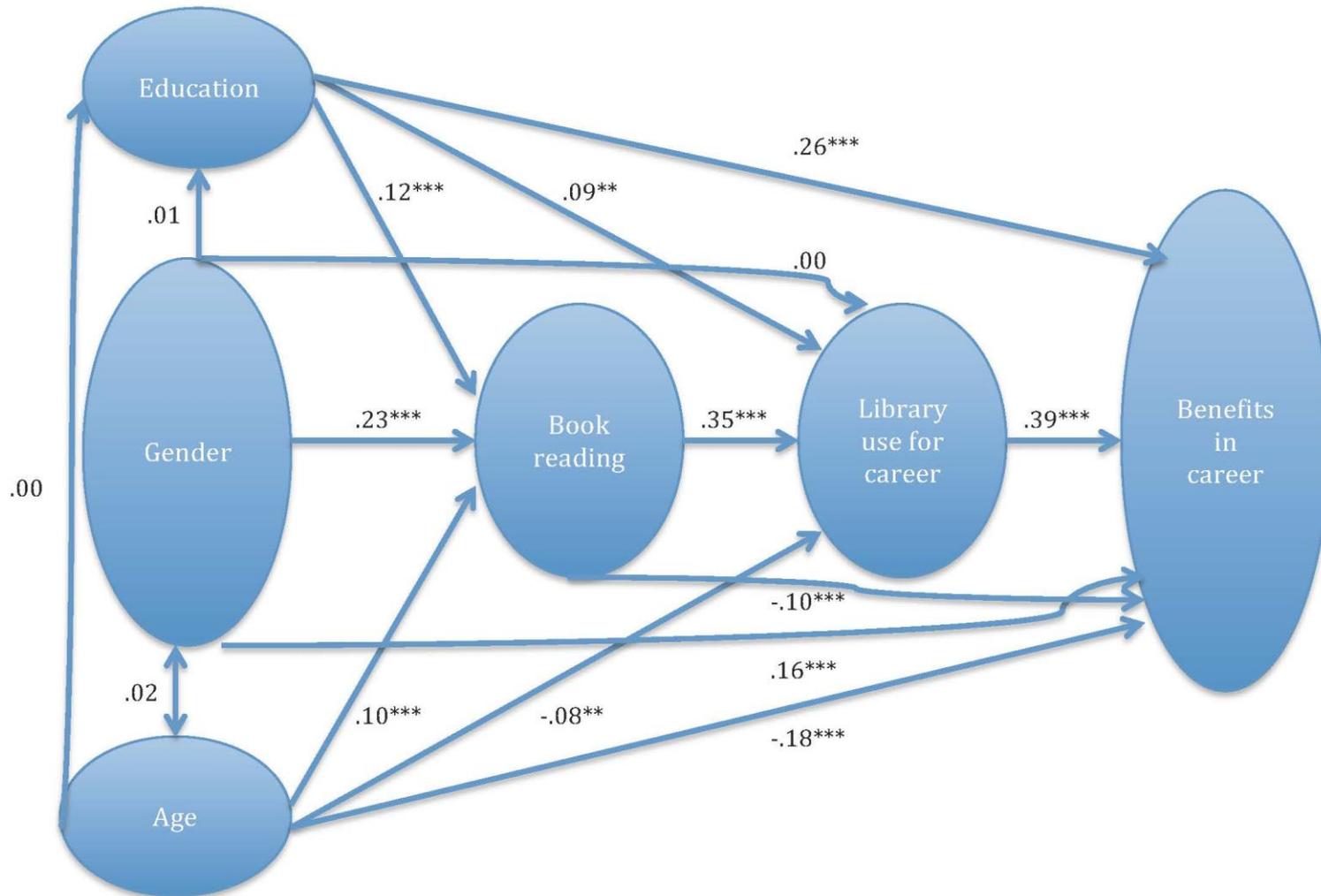


# A path model for benefits in career in Finland (n=837)



# 工作獲益路徑模型：芬蘭

(分析數=837)



# Discussion

- The level of perceived benefits across all areas of life is notably higher in the US, Finland and South Korea compared to Norway and the Netherlands
  - These differences are largest in education, while smaller in other major areas
- In Norway and the Netherlands benefits are perceived most in culture and then in education, while in the other countries education comes before culture
  - The role of the public library differs somewhat between these countries
  - In the former ones more emphasis on cultural benefits, while in latter one more on educational benefits
- The proportion of (active) users in the population an essential predictor of the level in perceived benefits
  - Differences in library resources and supply, and cultural differences

# 討論

- 相較於挪威和荷蘭，美國/ 芬蘭/ 南韓在各領域的認知獲益都比較高
  - 這個差異在“教育”領域特別明顯，在其它三大領域差距較小
- 挪威和荷蘭的認知獲益主要在“文化”領域，之後才是“教育”；但是其中三國則是“教育”領域高於“文化”
  - 在這些國家中，公共圖書館的角色有些不同
  - 前者比較強調公共圖書館的“文化”益處，而後者比較重視公共圖書館的“教育”益處
- “有效讀者佔全國人口比例”是認知獲益程度的一個重要預測指標
  - 圖書館的資源與供應不同, 其文化就會不同

# Discussion

- In all countries users derived most benefits from the public library in reading, self-education, and in history & society
  - These are the classical and established outcomes of the public library
- In service design emphasis on the services contributing to these benefits
  - Systems and services supporting fiction reading
    - E.g. recommender systems, browsing and serendipity
  - Large and versatile collections a basis for self-education in leisure time
  - Combine encounters and collaboration in libraries with people's wish to develop themselves by self-education

# 討論

- 在所有五個國家中，讀者從公共圖書館獲益最大的是：“閱讀”，“自學”和“歷史與社會”三個子領域。
  - 這三項是公共圖書館正統且建立已久的成果。
- 在服務設計方面，著重在對這些益處有用的服務：
  - 支援“閱讀小說”的系統與服務
    - 如：推薦系統，資訊瀏覽與資訊偶遇
  - 建議大量而多元館藏資訊，做為讀者休閒時間自學的基礎。
  - 民眾希望藉由。自學來自我成長，圖書館要規劃相會與合作的場域

# Discussion

- The mechanisms producing benefits from library use vary by socio-economic groups
  - Older and less educated groups benefit in everyday activities
  - Younger and higher educated groups benefit in career and cultural activities
  - Library use the major predictor for the level of benefits
- Diversify services accordingly

# 討論

- 不同社經背景的讀者族群，從利用圖書館獲得益處的機制不同：
  - 年長及教育程度較低者，在“日常活動”領域獲益。
  - 年輕及教育程度較高者，在“工作”和“文化活動”領域獲益。
  - “圖書館使用率”是獲益程度的預測指標。
- 圖書館可依此研究結果，對不同讀者群提供不同的服務。

# Thank you!



- Vakkari, P. & Serola, S. (2012) Perceived outcomes of public libraries. *Library & Information Science Research* 34(1): 37-44
- Vakkari, P. (2014). Models explaining the perceived outcomes of public libraries. *Journal of Documentation* 70(4): 640-657
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# 謝謝聆聽!



- Vakkari, P. & Serola, S. (2012) Perceived outcomes of public libraries. *Library & Information Science Research* 34(1): 37-44
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