# Sustainable Well-Being:

- **The Pursuit of Happiness and Wellbeing: A Forlorn Hope?**

- **Environments for Health, Resilience and Wellbeing**

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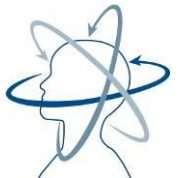
What is Health and Well-being?

Health: *physical and mental well-being*;

                       usually operationalised as the absence of symptoms, illness, disease and morbidity[1, 2]

Well-being: *subjective state of being:*

                       happy and contented;

                       comfortable and satisfied;

                       a quality of life;

Includes: physical, material, social, emotional, development and activity dimensions.[3,4]

1. WHO 1948; 2. WHO 2004

3. Danna & Griffin 1999; Diener 2000

Quality of Life:

The individual's perception of their position in life in the context of the <u>culture</u> and <u>value systems</u> in which they live:[1]

> **Goals**
>
> **Values**
>
> **Expectations**
>
> **Standards**
>
> **concerns**

1. WHOQOL Group, 1995

Happiness and Well-being

- **Happiness is related to several aspects of Well-being:**
  - **Good family relationships**
  - **More satisfying social life**
  - **Autonomy and self-esteem**
  - **Better work performance**
  - **Greater job satisfaction**
  - **Life satisfaction**

But what has it got to do with health?

Happiness and Health

- **When ill, people are generally less happy**
- **Depression and anxiety influences prognosis of several physical illnesses**
- **Does happiness influence future ill health?**
  - **Reduced mortality (in healthy and ill people)[1]**
  - **Independent of health status, age, demographic[1] and risk factors**
  - **Persist after controlling for negative affective states[1]**

1. Chida & Steptoe BMJ (2008)

Happiness and Health: Lack of Clarity

- **Happiness is beneficial over and above the absence of misery**

- **Growing evidence that happiness influences future ill health**

- **But, as yet, no intervention studies that improving happiness has convincingly favourable effects on health**

- **Positive affect (happiness) changing unhealthy behaviours (smoking, diet, physical activity): mixed evidence in support.[1]**

1. Pressman & Cohen (2005) Psychol Bull

Happiness and Health: Pathways of Influence

- **Biological [1] [2]:**
  - **Attenuates the inflammatory response**
  - **Lowers diurnal cortisol output**
  - **Healthier cardiac autonomic control**
  - **Health-related neuroendocrine and autonomic effects**

- **Psychosocial Processes:**
  - **Social connectedness and support[3]**
  - **Social network transmission: health related factors[4] and happiness[5]**

1. Prather et al (2007) Brain Behav Immun
2. Steptoe, Wardle and Marmot (2008) Proc Natt Acad Sci USA
3. Steptoe et al (2008) Br J Psychol
4. Christakis and Fowler (2007) N Engl J Med
5. Fowler and Christakis (2008) BMJ

Intriguing and Novel Hypotheses

Emotional states can be transferred directly by mimicry and 'emotional contagion': one person's mood fleetingly determines the mood of others.[1]

So can the spread of obesity[2] and smoking behaviour[3].

Thus:

Is happiness a network phenomenon: can it spread from person to person and do niches of happiness form within social networks?

Corollary:

Could happiness indirectly contribute to social transmission of health?

1. Hatfield, Cacioppo and Rapson (1994) Emotional Contagion NY Cambridge Univ Press
2. Christakis and Fowler (2007) N Engl J Med
3. Christakis and Fowler (2008) N Engl J Med

Dynamic Spread of Happiness in a Large Social Network[1]

Objectives: Evaluate whether happiness can spread from person to person and whether niches form within social networks.

Design: Longitudinal Study: Framingham Cohorts-4739 individuals (1983-2003)

Investigation: Whether happiness in an 'Ego' (key person) is affected by happiness of 'Alters' (people connected to the Ego)

Outcomes: Happiness scale; attributes of social networks and diverse social ties.

1. Fowler and Christarkis BMJ 2008

Framingham Heart Study Social Network [1]

- **Cohort of 5124: 1948 and 1971 "offspring Cohort"**

- **"Egos": connected by 'social ties' with family, friendship, spousal, neighbour and co-worker**

- **"Alters": a person having a relationship with an Ego (12067 – many in a studied cohort)**

Question: How each Alter influences an Ego (1971 – 2003)

Contact: follow-up 2-4 years

1. Fowler JH, Christakis NA BMJ 2009

Network Dataset Tracking:

- **Complete Information:**
  - **1971-2003 First Order Relations and at least one close friend**
  - **Home Address for neighbour relationships and workplace**

- **3 Friendship Ties:**
  - **Ego perceived friend: not reciprocated by Alter**
  - **Alter perceived friend: not reciprocated by Ego**
  - **Mutual friend: Reciprocal**

- **Hypothesis: hierarchy of influence on Ego:**
  Mutual > Ego > Alter

Framingham: Statistical Analysis

- **Association between happiness of connected individuals and clustering:**
  - **Induction: one person causes happiness in others**
  - **Homophily: happy persons choose one another and become connected**
  - **Confounding: Connected persons jointly experience contemporaneous exposures**

- **Regression Models of Ego happiness: age, gender, education and previous happiness; Alter happiness in current and previous exam**

- **Coefficient of interest: extent that net Alter's previous happiness is associated with net Ego's present happiness**

Framingham: Measures

- **Happiness (Centre for Epidemiological Studies for depression)**

- **Changes in happiness over time:**
  - **Exam 5 (1986)**
  - **Exam 6 (1996)**
  - **Exam 7 (2000)**

- **Baseline – vs. – Succeeding Wave: probability of ego being happy**

- **Prevalence of Happiness**

	Exam 6:	Exam 7:
Prevalence of Happiness	61%	59%
Become Happy		16%
Become Unhappy		13%
Remained Happy		49%
Remained Unhappy		22%

Framingham: Results

- **Happy people tend to be connected to one another**
- **Clusters (happy and unhappy) larger than expected by chance**
- **Association between Ego and Alter happiness significant up to 3 degrees of separation**
- **Connected people significantly influence happiness ONLY if they live close to the Ego.**
- **Numbers of direct social ties and indirect ties influence future happiness**

Framingham: Results

- **Emotional state of social relationships more important that total number of ties**
- **Effect decays with time and geographical separation**
- **Socio-economic status cannot explain clustering of happy people**
- **Unrelated to local levels of income or education**
- **Happiness: not just function of individual choice/experience**
- **Happiness is a property of groups of people**

Framingham: Principal Conclusions

- **People's happiness depends on the happiness of connected others**

- **Emotion of happiness: ? Evolutionary adaptive purpose of enhancing social bonds**

- **'Three degrees rule' similar to spread of obesity and smoking behaviour**

- **A collective phenomenon (cf: health)**

Framingham:
Relevance to Public Health

- **Cascade effects on others could follow Policy, Clinical or Behavioural Interventions which increase the happiness of one person**

- **Enhanced efficacy and cost-effectiveness**

- **Collateral health effects**

- **Happiness spreads broadly in social networks**

Framingham: Comments

- Groundbreaking Study:
  - Some psychosocial determinants of health could be transmitted through social connections
  - Major implications for design of policies and interventions
  - Reasonably robust results: generate new and productive research into happiness and well-being
  - Some methodological concerns:
    - Friendship selection non-random
    - Environmental confounding
    - Spatial correlation of socio-economic factors

Resilience and Well-being Clusters in South Wales Valley Community

Resilience:

The ability to perform better than expected in adverse circumstances.

Bouncing-back in adversity

Resilience and Well-being Clusters in South Wales Valley Community

Well-being:

Quality of Life (goals, values, expectations, standards, concerns)

Freedom (to lead a life that the person has reason to value)

Social Connections (family, friends, neighbours)

Health

Personal Activities (cultural, volunteering, working)

Happiness (10 cm line, questionnaire)

Health: A New Definition?

WHO (1948): ...“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”[1]

Proposed definition[2]:... “as the ability to adapt and self manage in the face of social, physical and emotional challenges.”

1. WHO 2006 Constitution of the WHO
2. Huber et al 2011 BMJ 343: d4163

Resilience and Well-being Clusters in a Disadvantaged Community

Population: S.Wales Valley Disadvantaged Community: high morbidity and mortality, low income, worklessness, benefit dependency, high teenage pregnancy, etc

Design: Exploratory and Scoping Observational and Qualitative Study

Research Questions:

Are there clusters of resilient people in the community?

What is the observed relationship between the exhibition of resilience and measures of well-being?

Is there any evidence of spread?

Population

Identifying presumed Resilient Persons:

– **Appearance of house and gardens**

– **Participation in known local cultural and social activities; community forums; representational roles and perceived local profile**

Adjacent Persons:

– **Within perimeter of 4 adjacent houses**

Controls:

– **Random selection > perimeter of 12 adjacent houses**

– **Excluded if meeting presumed 'resilience' characteristics or living within 4 adjacent houses occupied by person(s) with such presumed characteristics**

Emerging Findings

Presumed Resilient Group:	N	R+	Wb+	R-	Wb+
Key Person	18	13 (72%)	8 (62%)	5 (28%)	1 (20%)
Major Other	18	14 (63%)	10 (71%)	4 (22%)	0 (0%)

Adjacent Person Group:					
Adjacent Person	48	24 (50%)	14 (58%)	24 (50%)	5 (20%)

Control Group					
Key Person	20	4 (20%)	4 (100%)	16 (80%)	2 (13%)
Major Other	19	2 (11%)	2 (100%)	17 (89%)	2 (12%)

R=Resilience: + present   - absent
Wb = Well-being: + criteria met

Summary

- **Clusters of Resilient people found in the community**

- **Resilience and Well-being associated**

- **But, Resilience present when parameters of well-being not fully met**

- **Among Key and Adjacent persons Resilience and Well-being association has greater prevalence than in Control Group**

- **Absence of Resilience associated with minimal levels of Well-being**

Narrative and Dialogue Analysis

- **In Adjacent Persons occurrence of Resilience and magnitude of Well-being appears to be associated with strengths of mutual relationships with Key and Major Other persons.**

- **30% of Adjacent Persons had moved to live near Key persons from elsewhere in same community because of direct knowledge, or relationships with, key person.**

- **45% of Adjacent Persons moved to live in a perceived better part of the community.**

- **In 42% of Adjacent Persons unprompted statements that life was more satisfying and coping well since moving.**

- **Any work associated with both Resilience and Well-being.**

Tentative Conclusions

- **Findings in keeping with happiness that well-being depends on the well-being and resilience of others with whom they are closely connected.**

- **As well as possible spread of resilience and well-being, there may be an 'attraction effect' (ie people actively moving to be near perceived environments and people which allow them to lead lives they have reason to value)**

- **People are embedded in social networks and the resilience and well-being of one person affects the resilience and well-being of others.**

And So?

- **This ongoing study supports the hypothesis that some psychosocial determinants of health (and happiness) could be transmitted through social connections.**

- **Profound implications for the understanding of the determinants of health, for the achievement of sustainable well-being and the crafting of more successful interventions to modify behaviour at the levels of the individual and population.**

Some Questions?

- **44% judged Resilient scored low on Well-being: Why?**

- **Can Resilience and Well-being be seeded in disadvantaged communities?**

- **Is there an "attraction phenomenon" (induction) or are persons exhibiting choice to become connected (homophily)?**

- **Are clusters foci for the transmission of beliefs and attitudes?**

- **How can social network transmission be more effectively harnessed to achieve sustainable well-being?**

The Psychosocial Dimension:

- **Almost anytime you tell anyone anything, we are changing the way their brain works**

- **How people think and feel about their health problems determines how they deal with them and their impact**

- **Beliefs aggravate and perpetuate illness and disability[1, 2]**

- **Beliefs influence: perceptions, expectations, emotions, coping strategies, motivation and uncertainty[3]**

- **Work is central to Well-being and correlates with happiness**

- **Disadvantage is cumulative: prioritise transition to a more advantaged trajectory[4]**

1. Main & Spanswick 2000   2. Gatchell & Turk 2002   3. Waddell & Aylward 2010   4. Blane 1998

What's it all about Alfie?

The happy life is one of ideals, of symbols of something higher, greater, deeper and vaster than ourselves.

It is a profound human need to aspire to something more.

To be carried beyond that aspiration beyond horizon's edge.

Something surpassing selfish desires and personal goals.

Our life is ever striving and we call that striving **happiness**[1]

1. Schoch R, The Secret of Happiness: 2006

What am I doing at Ko Awatea?

- Learning from CMDHB and imparting lessons learned in Wales

- Key Challenges in (1) quality provision & delivery of healthcare and (2) improving population health

- Health Care & Health Improvement that are as good as, or better, than comparable systems elsewhere

- Clinical Leadership (Seminars for Leadership Academy)

- An Expert Advisory Panel (Independent Commentator)

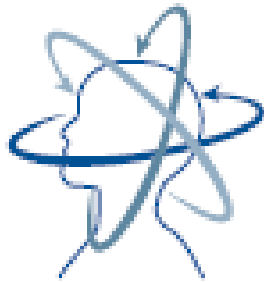- Knowledge management, health intelligence and health literacy

That's All Folks:

- Penblwydd Hapus i chi

- Iechyd Dda

- Kia Ora

- Diolch yn Fawr

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