# Quantifying The Benefits of a Cultural Festival: Social Cohesion and Personal Well-Being from The Wellington Diwali

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Dr Rick Weiss, Victoria University, Religious Studies, NZ
Professor Purnima Singh, Indian Institute of Technology Delhi, India
Assoc. Prof. Ronald Fischer, Victoria University, Psychology, NZ







# **Outline**

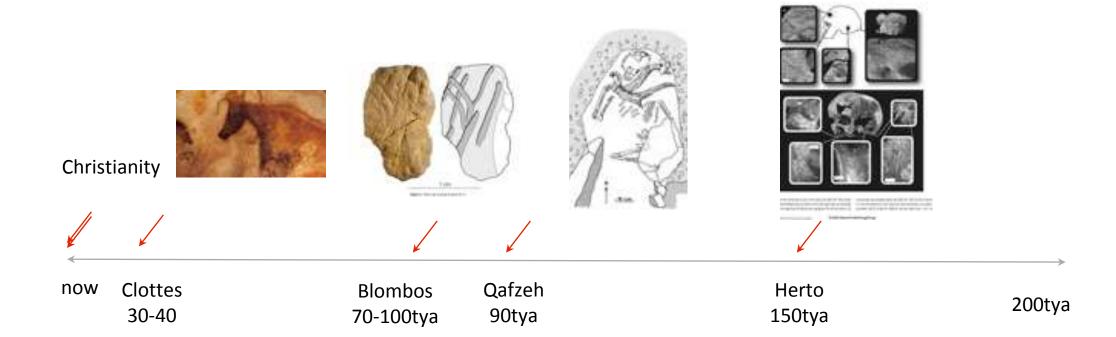
- What might rituals do? (10 mins)
  - Evolutionary theories
  - Previous evidence
  - Background Diwali
- The VUW, NZIRI 2014 Wellington Diwali Study (10 mins)
  - Hypotheses
  - Methods
  - Findings
- Implications of Findings (10 mins)
  - Methods/Theories
  - Applied
  - Future Directions

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- What might rituals do? (10 mins)
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  - Applied
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### Problem: rituals seem useless (or worse) yet endure

<----->



### **Evolutionary conservation suggests benefits**





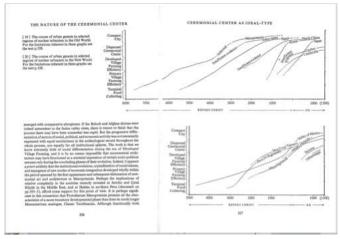
—Emile Durkheim (1912).

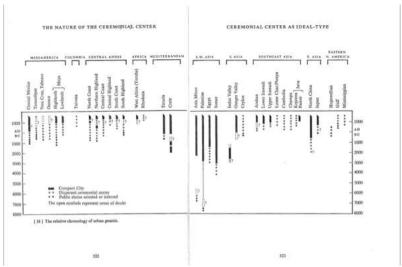
<sup>&</sup>quot;...the [ritual] group regularly produces an intellectual and moral uniformity ... Everything is common to everyone. The movements are stereotyped.

Everyone executes the same ones in the same circumstances; and this conformity of conduct only translates that of thought. Every mind being drawn into the same eddy, the individual type nearly confounds itself with that of the general type."

# **Archaeology suggests economic benefits**

Wheatley, P. (1971). The Pivot of The Four Quarters. Edinburgh University Press, Edinburgh.









Short Report



SSAGE

### **Extreme Rituals Promote Prosociality**

Psychological Science
XXOO 1-4

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DOI: 10.1177/0956797612472910

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Andreas Roepstorff<sup>1,3</sup>, and Joseph Bulbulia<sup>2,5</sup>

Department of Culture and Society, Aurhus University, "LEVYNA Laboratory for the Experimental Research of Religion, Masaryk University," Interactive Minds Centre, Aurhus University, "School of Psychology. Victoria University of Wellinators and "School of Art History. Classics and Religious





### Let's Dance Together: Synchrony, Shared Intentionality and Cooperation

### **How Do Rituals Affect Cooperation?**

irsiby, Bimo, Czech

An Experimental Field Study Comparing Nine Ritual Types

Ronald Fischer • Rohan Callander • Paul Reddish • Joseph Bulbulia

© Springer Science+Business Media New York 2013





### Participation in Mass Gatherings Can Benefit Well-Being: Longitudinal and Control Data from a North Indian Hindu Pilgrimage Event

Shruti Tewari<sup>1</sup>, Sammyh Khan<sup>2</sup>, Nick Hopkins<sup>2</sup>\*, Narayanan Sriniyasan<sup>3</sup>, Stephen Reicher<sup>3</sup>

1 Centre of Behavioural and Cognitive Sciences, University of Allahabad, Allahabad, Uttar Pradish, India, 2 School of Psychology, University of Dundee, Dundee, Scotland, United Kingdom, 3 School of Psychology, University of St Andrews, St Andrews, Scotland, United Kingdom





### The Fire-Walker's High: Affect and Physiological Responses in an Extreme Collective Ritual

Ronald Fischer<sup>1,2</sup>, Dimitris Xygalatas<sup>2,3</sup>, Panagiotis Mitkidis<sup>3,4,5</sup>, Paul Reddish<sup>2</sup>, Penny Tok<sup>2</sup>, Ivana Konvalinka<sup>6,7</sup>, Joseph Bulbulia<sup>2,8</sup>

1 Centre for Applied Cross-Cultural Research & School of Psychology, Victoria University Wellington, Wellington, New Zealand, 2 LEVYNA Laboratory for the Experimental Research of Religion, Masayk University, Benno, Cercin Republic, 3 Interactive Minds Centre (MIC), Department of Culture and Society, Anthus, Anthus University, Anthus, Denmark, 4 Centre for Advanced Hindight, Social Science Research Institute, Duble University, Durham, North Carolina, United States of America, 5 Interdictionary Centre for Organizational Architecture, School of Business and Social Sciences, Aarhus University, Aarhus, Denmark, 6 Cognitive Systems, Department of Applied Mathematics and Computer Science, Central European University, Budapest, Hungary, Braculty of Humanities and Social Sudies, Victoria University Wellington, New Zealand

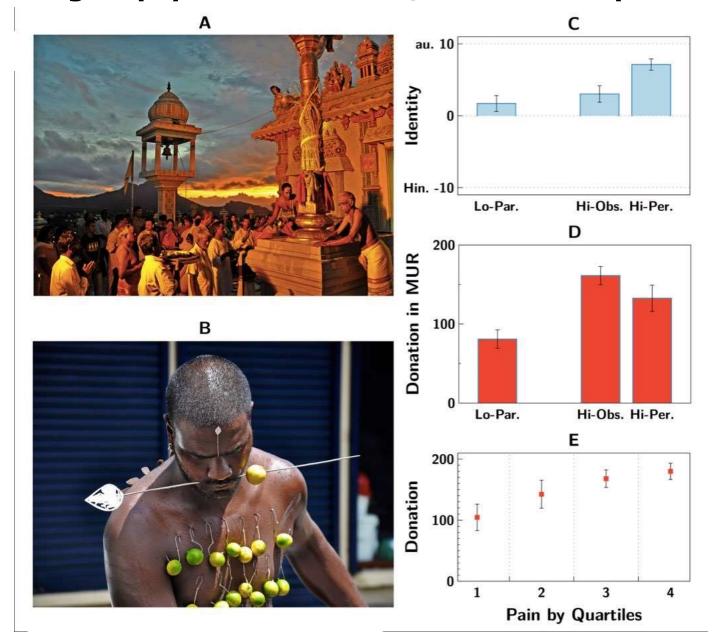
### Synchronized arousal between performers and related spectators in a fire-walking ritual

Ivana Konvalinka<sup>a,1</sup>, Dimitris Xygalatas<sup>a,b</sup>, Joseph Bulbulia<sup>c</sup>, Uffe Schjødt<sup>a</sup>, Else-Marie Jegindø<sup>a</sup>, Sebastian Wallot<sup>d</sup>, Guy Van Orden<sup>d</sup>, and Andreas Roepstorff<sup>a,b</sup>

\*Center of Functionally Integrative Neuroscience, Aarhus University, 8000 Aarhus, Denmark, \*Institute of Anthropology, Archaeology and Linguistics, Aarhus University, 8000 Aarhus, Denmark; \*Faculty of Humanities and Social Sciences, Victoria University, Wellington 6140, New Zealand; and \*Center for Cognition, Action and Perception, University of Cincinnats, Cincinnats, OH 4522.

Edited\* by Rillta Hari, Aalto University School of Science and Technology, Espoo, Finland, and approved March 28, 2011 (received for review December 14, 2010)

### Our group quantifies social/affective responses



# Diwali: Background

Diwali or Deepavali (row of lamps) celebrated globally.

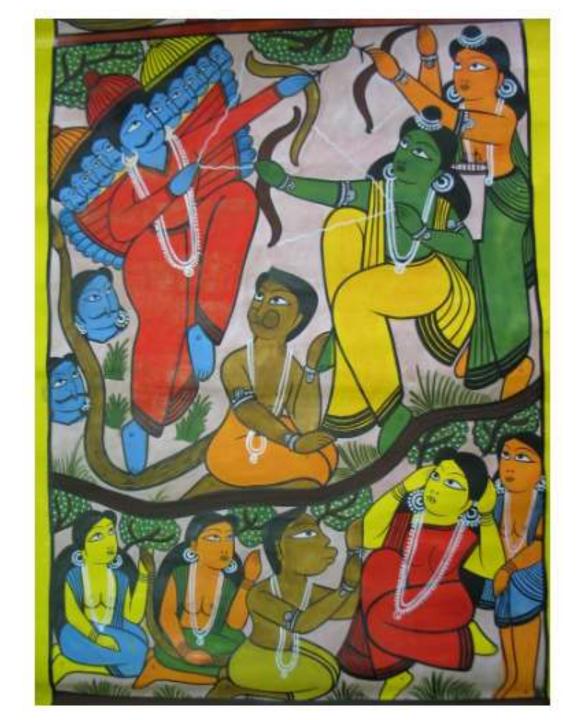
Called The Festival of Lights, Diwali signifies the triumph of light over darkness, good over evil and the renewal of life.

Diwali commemorates the return of Lord Rama, his wife and brother from their 14-year exile and their defeat of the ten-headed demon-king Ravana.

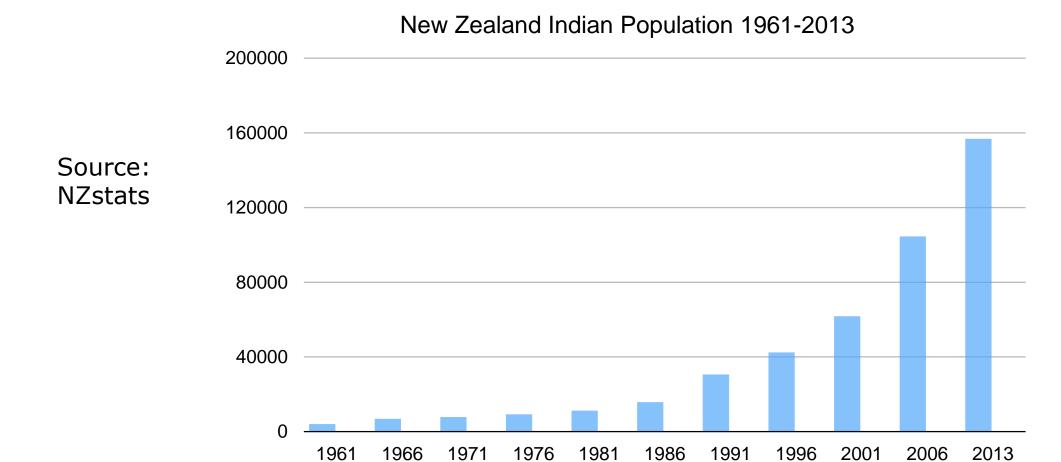
We find the story The Ramayana - epic Sanskrit poem

NOTE: many different interpretations given to the meaning/ stories vary. However most of the history: **ritual is accorded a sacred value**.

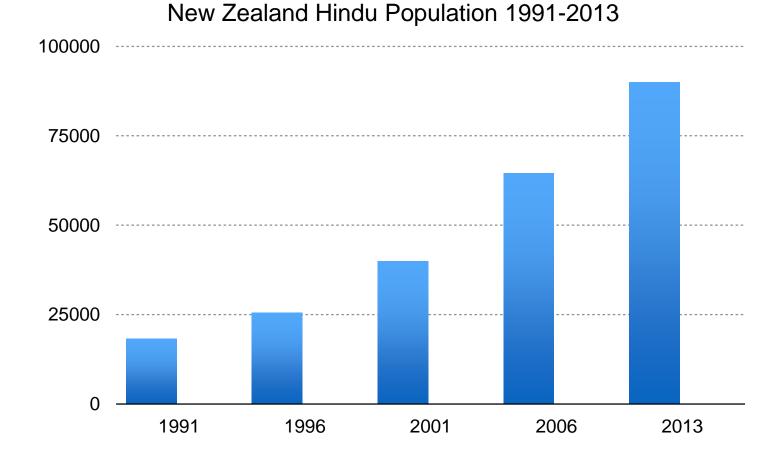
Source, accessed May 6, 2015 http://www.aucklandnz.com/diwali/about-diwali







### Source: NZstats



### NZ Diwali: political/economic/ social context

Prime Minister HELEN CLARK 2004:

"The Indian community is of long standing in New Zealand and it is wonderful to see the celebration of Diwali becoming a significant event in New Zealand's cultural calendar."

"I have just returned from a very exciting visit to India - the first New Zealand prime minister to go there in almost 20 years," she said.

"New Zealand and India have traditionally had a close relationship, and I want to see these ties grow even stronger. I acknowledge the efforts and dedication of Indians to making a new life and contributing to New Zealand society,"

Source, accessed May 6, 2015 http://www.aucklandnz.com/diwali/about-diwali





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### Social/Personal Effects of Diwali

Hypotheses

Extreme Rituals Promote Prosociality

Bisalcia Xygaintar <sup>1,1</sup>, Panagirda Mithidia <sup>1,1</sup>, Rocald Fischer<sup>2</sup>, Ped Briffish <sup>2</sup>, Javlon Survey <sup>2</sup>, Araba V. Greent <sup>2</sup>, Araba V. G

Participation in Mass Gatherings Can Benefit Well-Being:
Longitudinal and Control Data from a North Indian
Hindu Pilgrimage Event
Shrull Temati\*, Sammyh Khan\*, Nick Hopkins\*, Narayanan Srichanan\*, Stephen Reicher\*

- 1. Enhanced personal well-being
- 2.Enhanced connection outside Indian community

(family/friends/workers)

- 3. Enhanced connection with Indian community in Wellington.
- 4. Enhanced connection with Indian community in New Zealan

### Recruitment

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI



### PARTICIPANTS NEEDED

... and be in to WIN 1 of 3 \$50 AMAZON VOUCHERS TODAY

WHAT TO DO: SHORT REPEATED SURVEYS

**HOW LONG: 10 MINUTES** 

RECEIVE: \$20 SHOPPING VOUCHER



### MERCIAL WELLINGTON DIMALI ATTENDESS FOR ROSEARCH PRODUCT

With support from the halfs feasing in instance of Victoria University, we are conducting research into the bonefile of otheral activities. We are perchalately increased in low-patient where and performance on acts or bound may efficience the batch and we led being all performent and earliering. This research was result in increased sweatness of the femolitis of going adviction, applicably as part of others devices.

We are looking for people aged 18+ who will attend the Wellington Discali Fermul at the TSB Arena on Sunday 19th October:

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We are beging to recruit 90 participants, as if you or anyone you know would be interested to taking part, please contact Assac Lee via visual or phase.

If you have any questions please don't heatign to contact ou.

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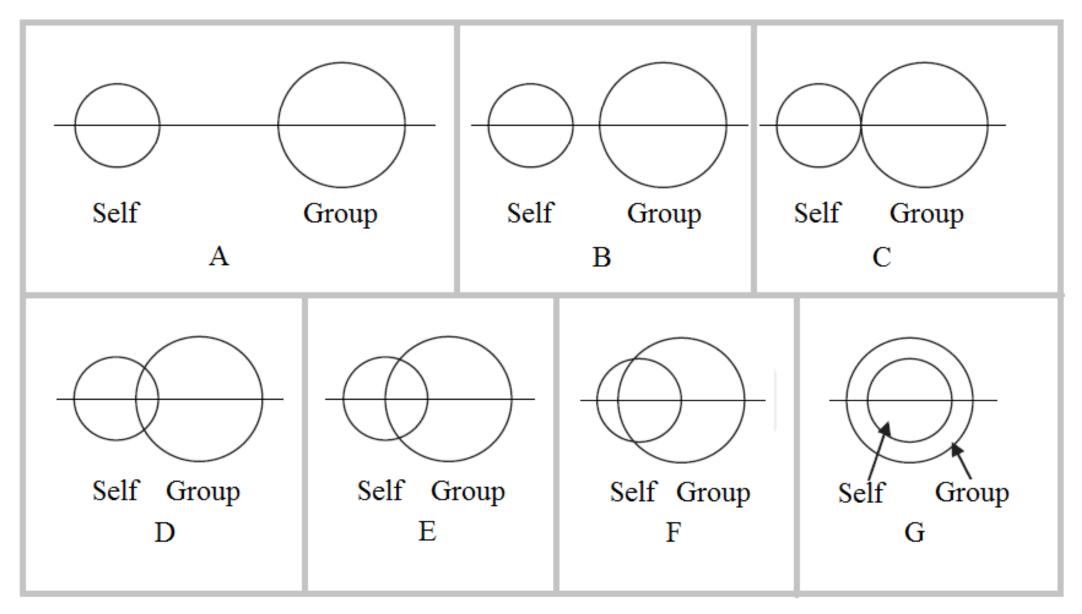
### **E.g.** of measures

	Not at all				Very Much			
People who celebrate Diwali think like me.	1	2	3	4	5	6	7	
People who celebrate Diwali share my values.	1	2	3	4	5	6	7	
People who celebrate Diwali have a lot in common with me.		2	3	4	5	6	7	
I think people who celebrate Diwali could be friends of mine.		2	3	4	5	6	7	
I would like to have a friendly chat with people who celebrate Diwali.		2	3	4	5	6	7	
I would like to spend time socializing with people who celebrate Diwali.	1	2	3	4	5	6	7	
I could become close friends with people who celebrate Diwali.	1	2	3	4	5	6	7	
How respected do you feel by people who celebrate Diwali?	1	2	3	4	5	6	7	
How accepted do you feel by people who celebrate Diwali?	1	2	3	4	5	6	7	
How liked do you feel by people who celebrate Diwali?	1	2	3	4	5	6	7	

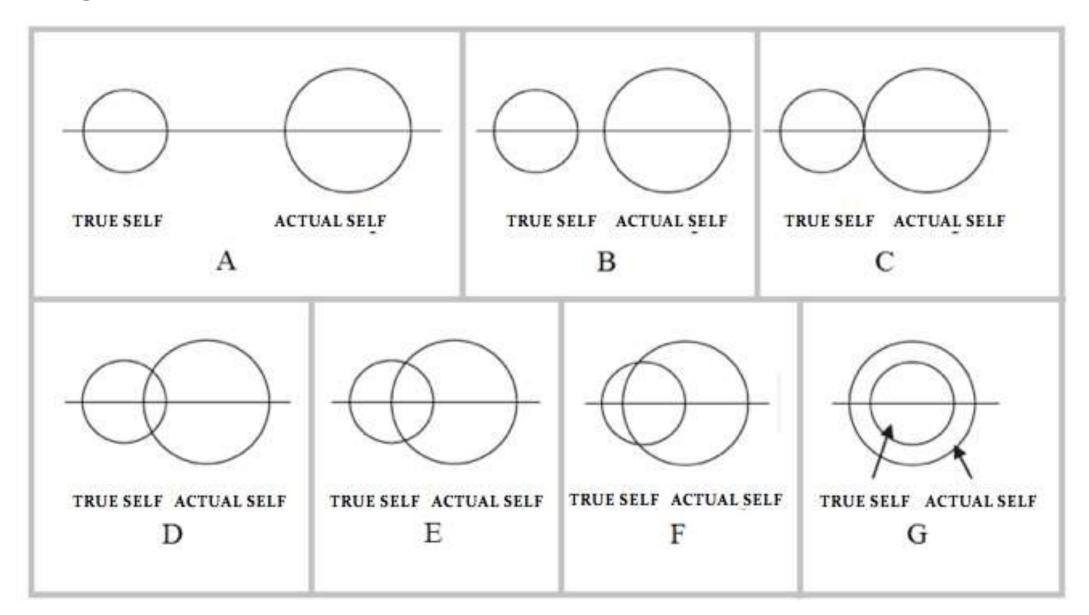
Using the relevant scales below, please indicate how you are feeling today where 1 indicates 'very poor/not at all' and 7 indicates 'very good/a great deal':

Ver	ery poor					Very Good	
Today, how would you describe your physical health?	1	2	3	4	5	6	7
Today, how would you describe your state of mind?	1	2	3	4	5	6	7
Today how would you describe your energy level?		2	3	4	5	6	7

### **E.g.** of measures



### **E.g.** of measures



### What did we observe?





























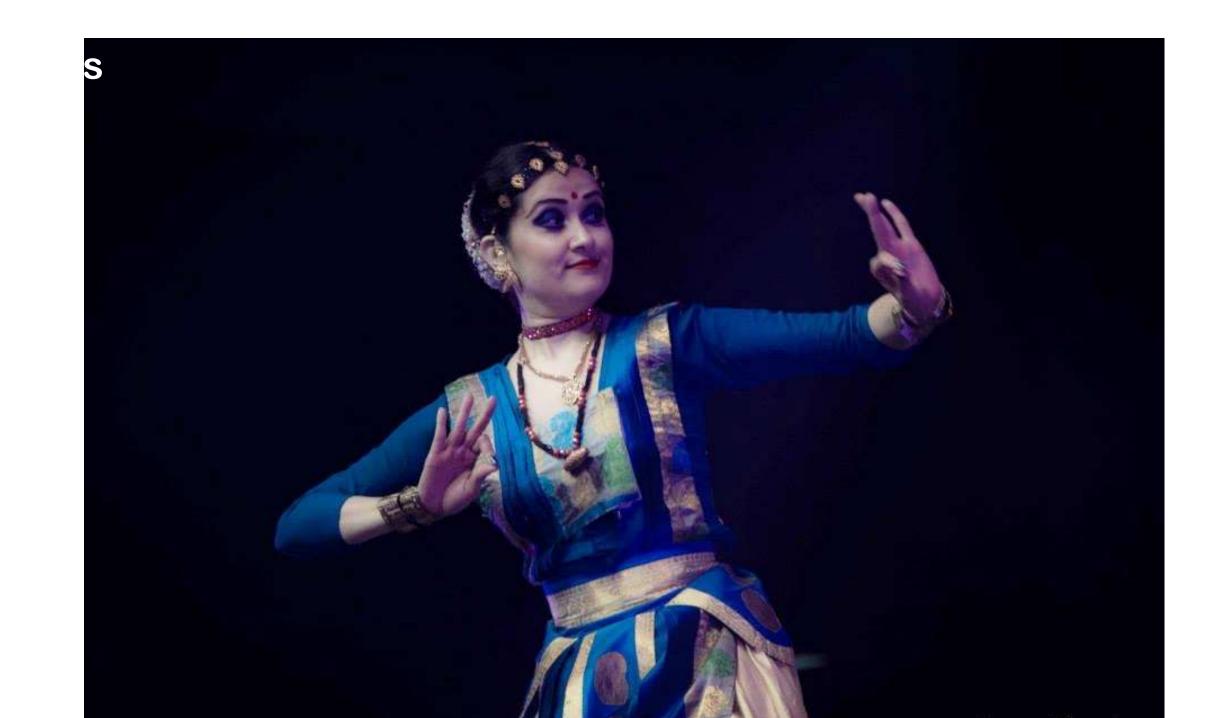












#### Reasons people gave for attending

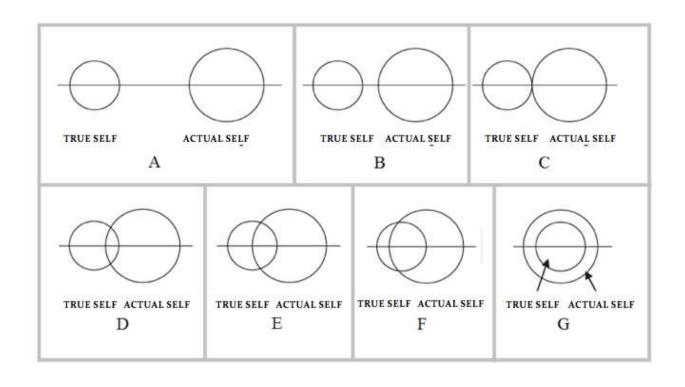
- · "Never been before"
- "Love India and anything Indian
- "Great food! Want a hena tattoo
- "Being an Indian it makes me feel proud to attend our home country festival
- · "I was invited
- "I always go wherever I am in the world.
- "Flat tradition
- "Because I used to celebrate Diwali in India with family. It is a fun, vibrant and family festival. But I am just here to see Bhangra (dance group)
- "Diwali is in my DNA."

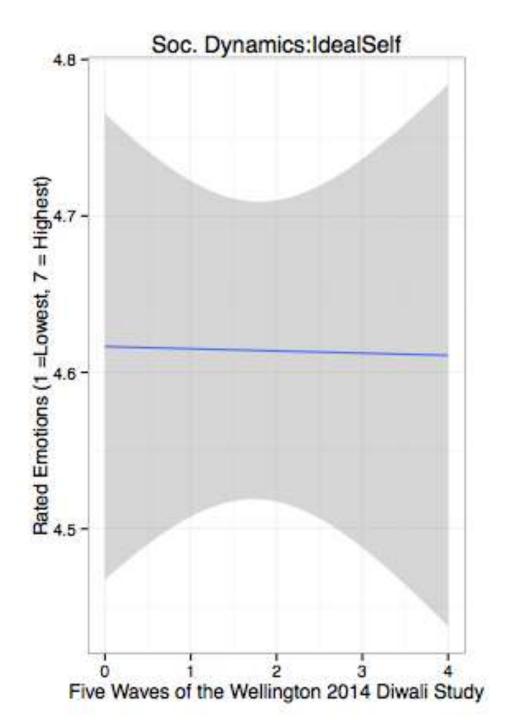
- "Usher
- "I'm attending because it's a festival I use to celebrate in Fiji
- "To meet fellow Indians and enjoy the lights
- "I enjoy attending cultural and religious events of all cultures, religions, and ethicities
- "I was attracted by the Indian culture and wanted to know what Diwali Festival is about.
- · "For food.
- "For cultural significance and introducing Diwali celebration in NZ to kids of Indian origin
- "I am an Indian and have been celebrating Diwali since birth. So, it is natural for me to attend it.
- "Diwali is part of my Pakeha culture now"

#### **Descriptive Results**

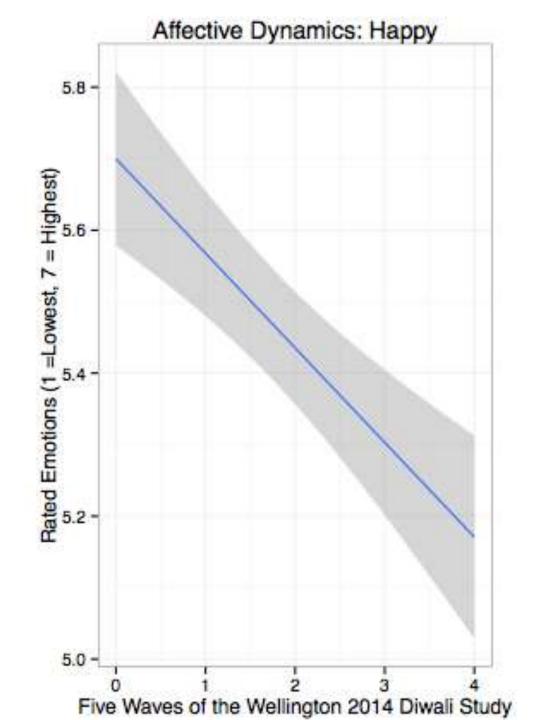
- Participants: N = 324
- All five surveys, n = 163 (101 female, 60 male)
- avg Age = 33 (SD = 12.19)
- **Gender**: 60% female (195 female, 125 male, 1 n/a)
- Ethnicity: 24% report Indian Ethnicity
- Hindu: 14% report being Hindu
- Came to specifically to celebrate Diwali: 43%
- Reported celebrating Diwali at home: 22% of sample (n = 195 who reported)
  - 78% of Hindus celebrate at home,
  - Of those who were not-Hindu, 13% celebrate Diwali at home
  - Of those who celebrate at home, 48% were not Hindu.

## Descriptive Results: IoS

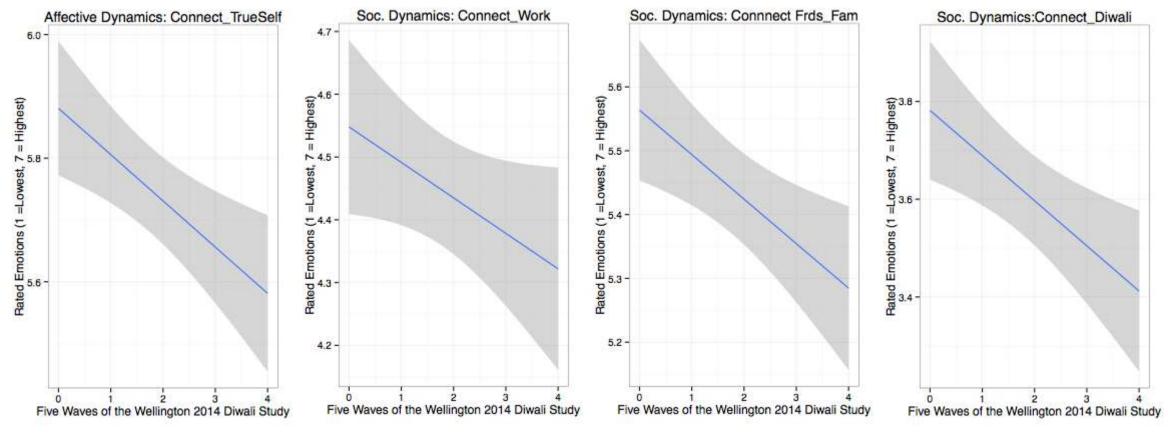




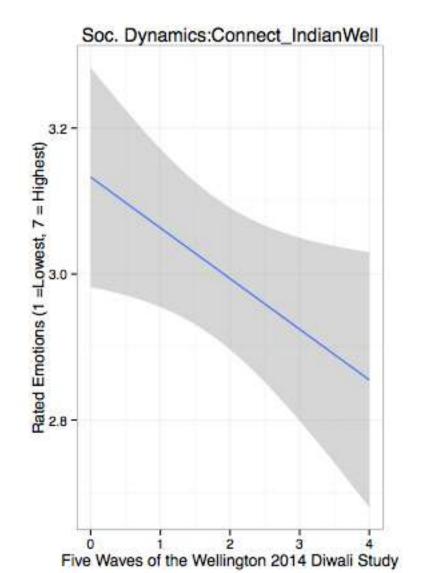
## Descriptive Results: Happy

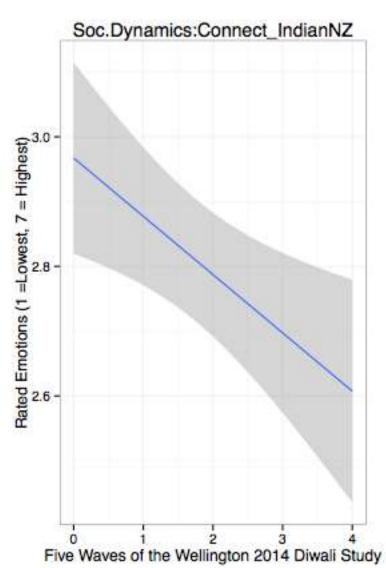


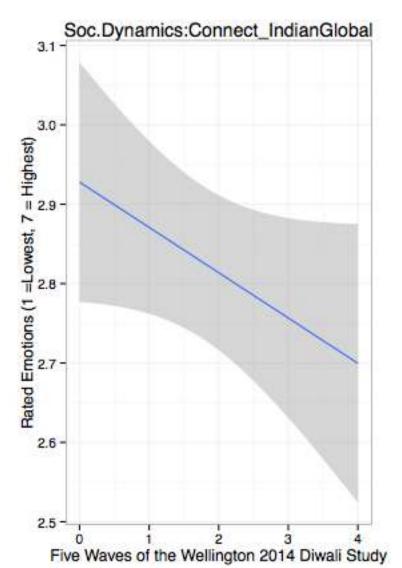
## **Descriptive Results: Social Connections**



## Descriptive Results: Connect with Indians

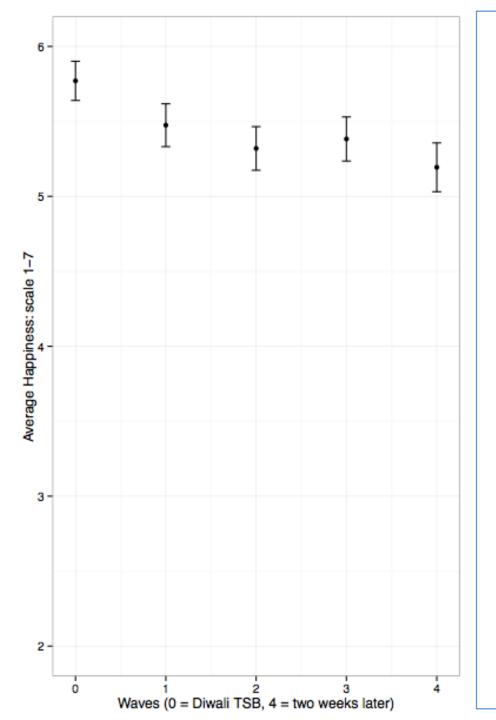




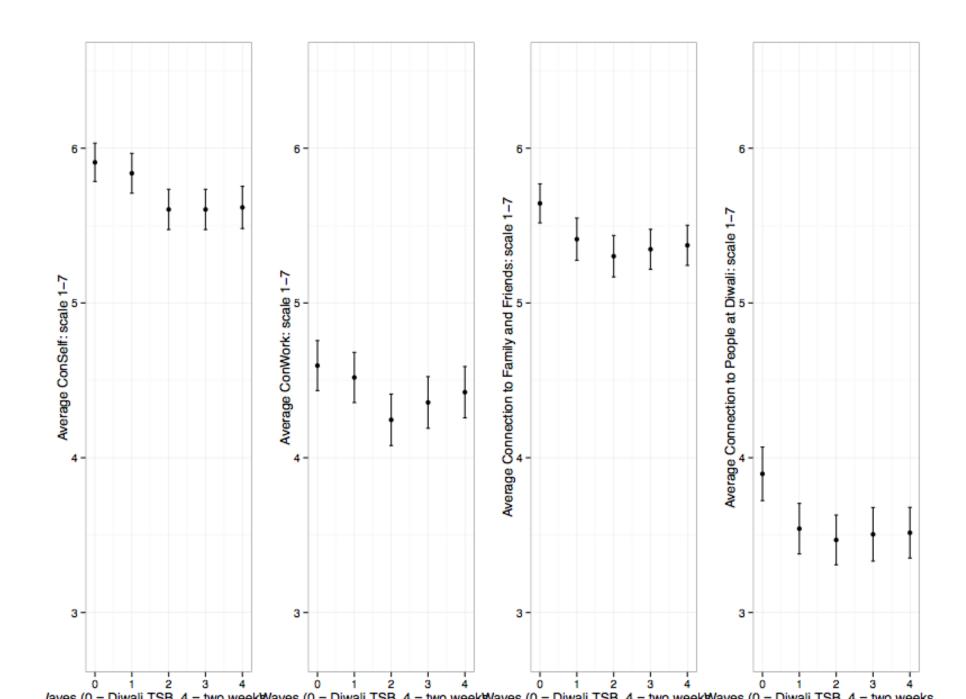


## Misleading?

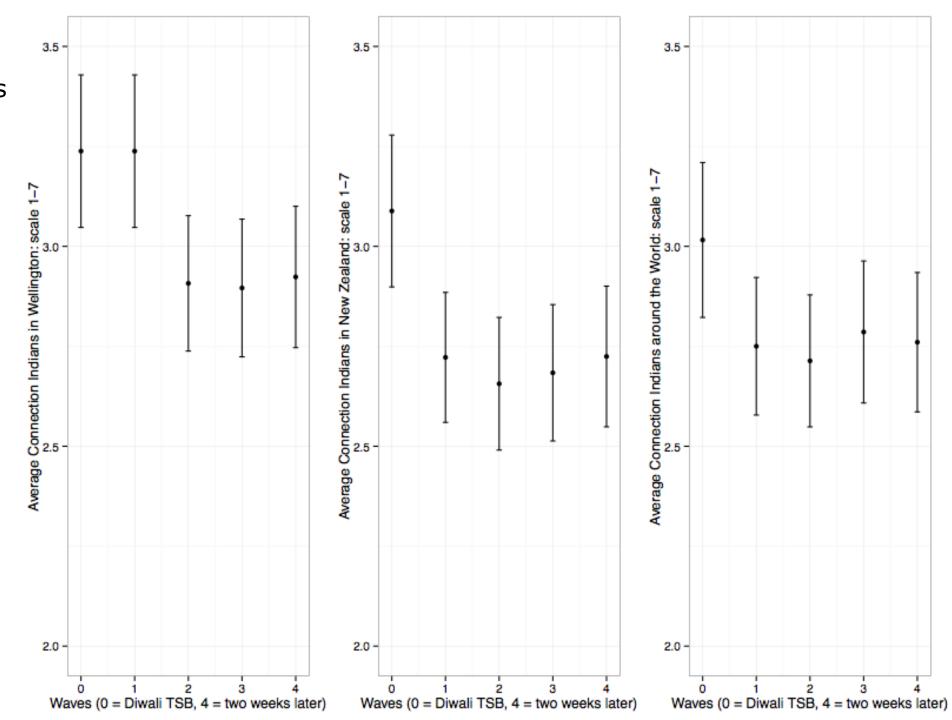
Happiness: more informative graph



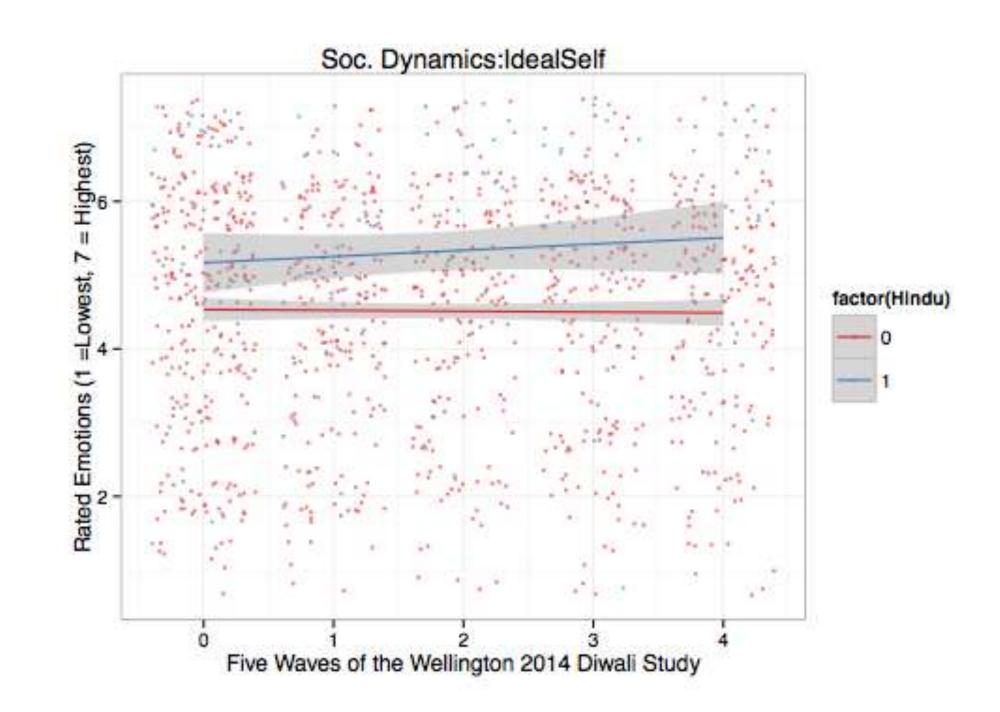
#### Social connections

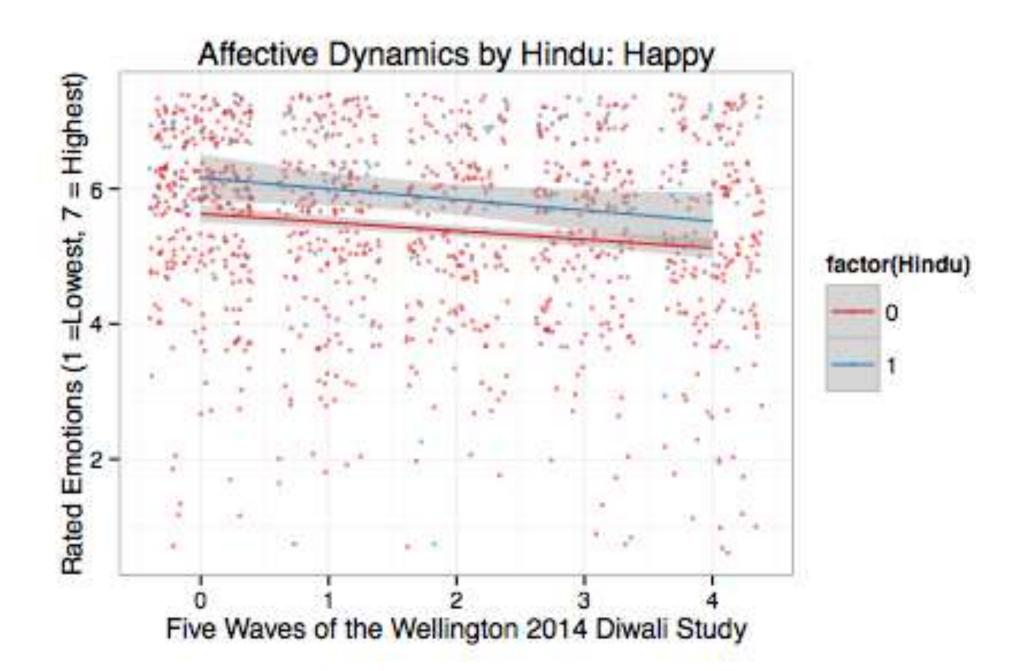


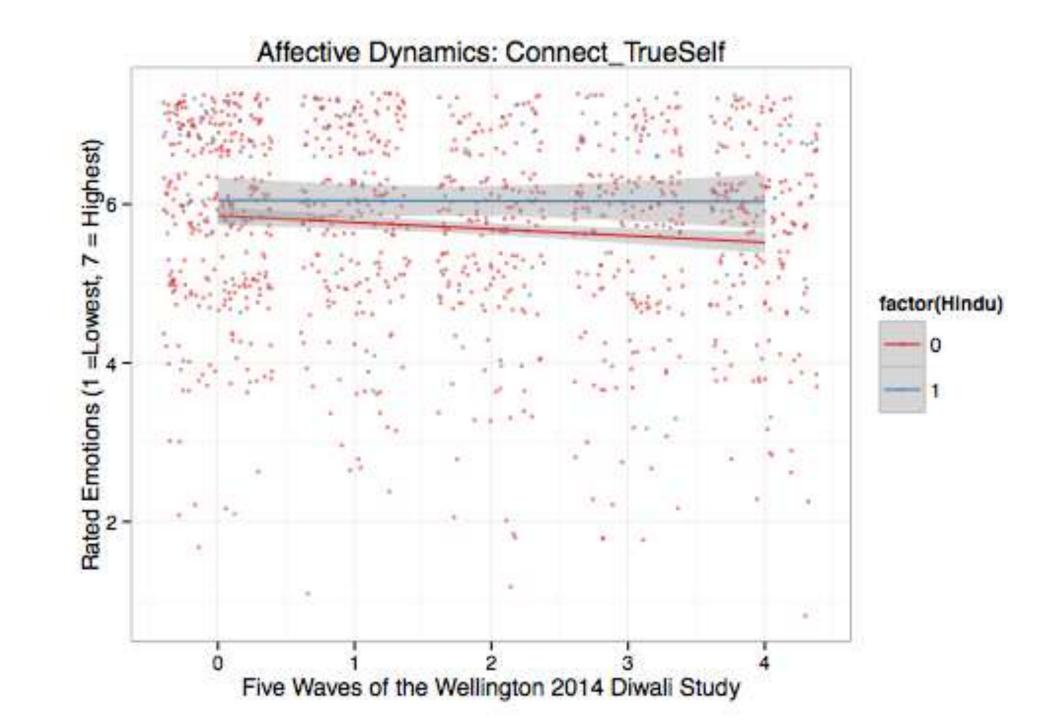
#### Connections to Indians

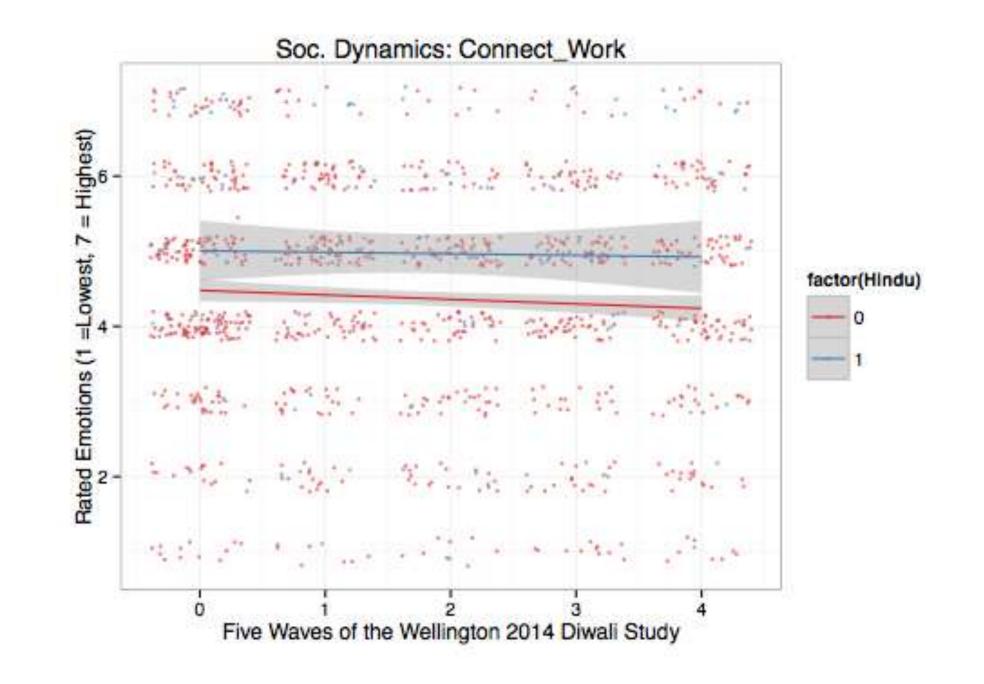


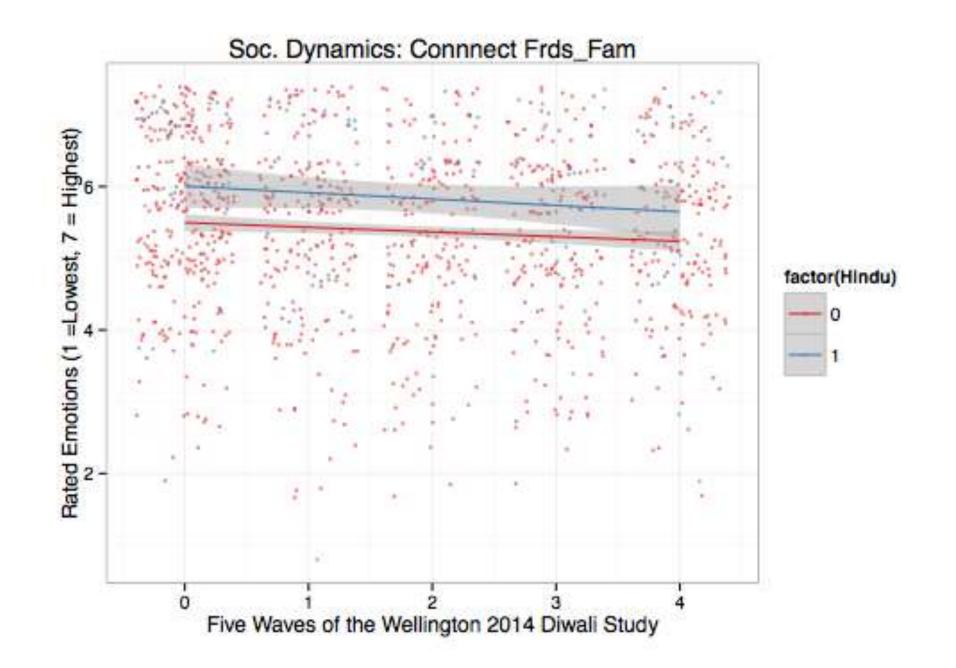
## Can we do better?

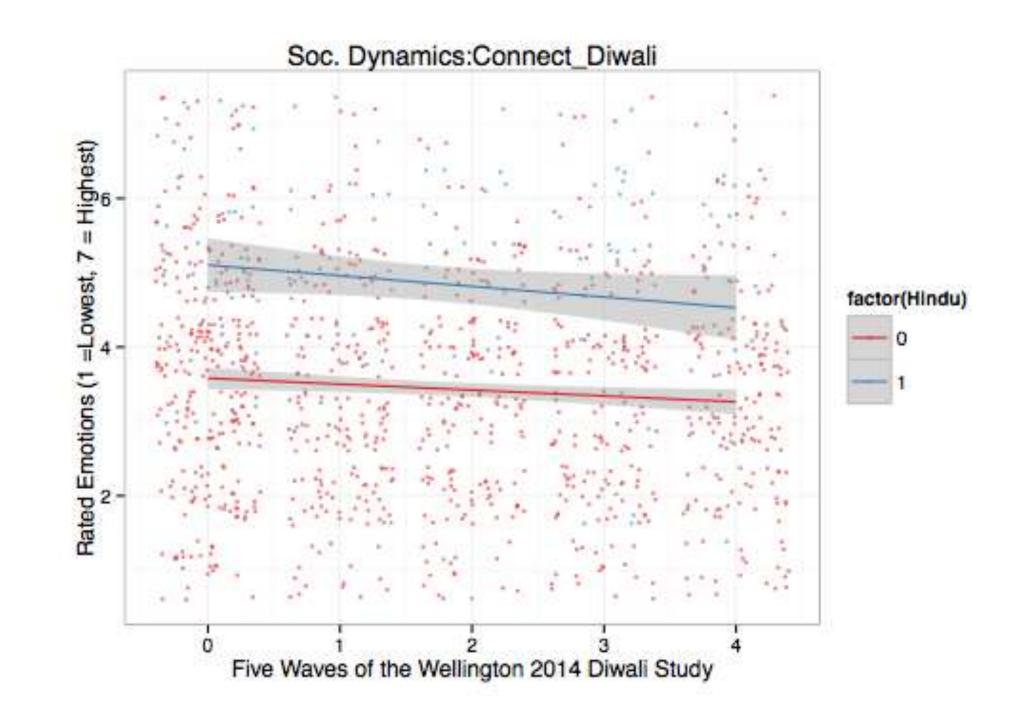


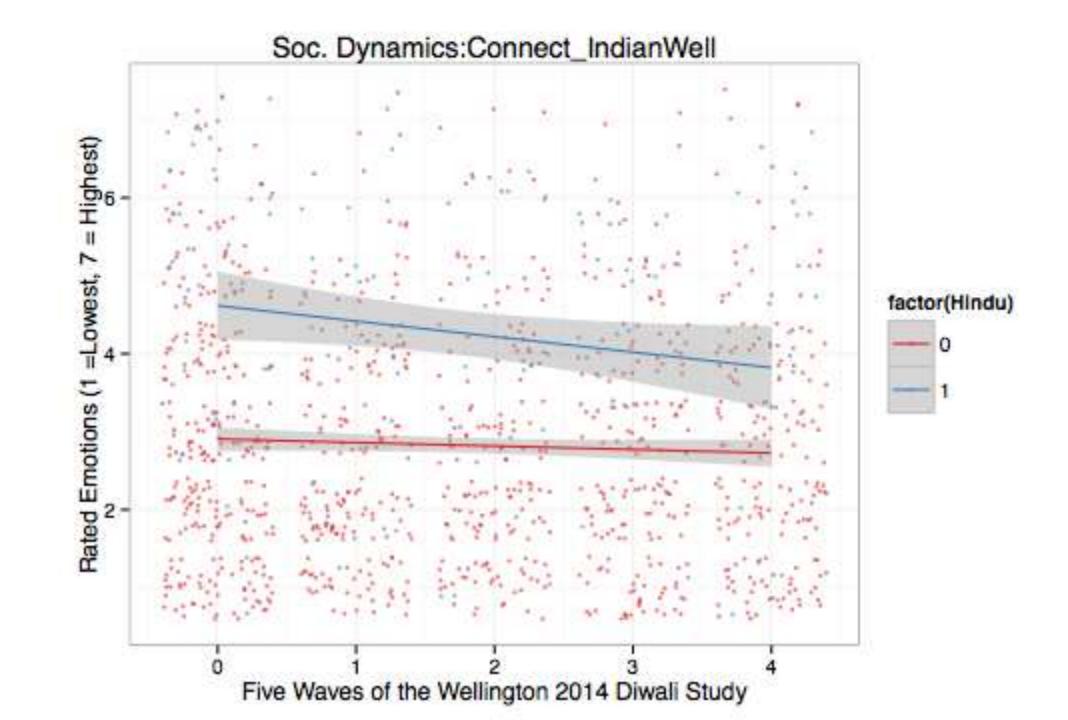


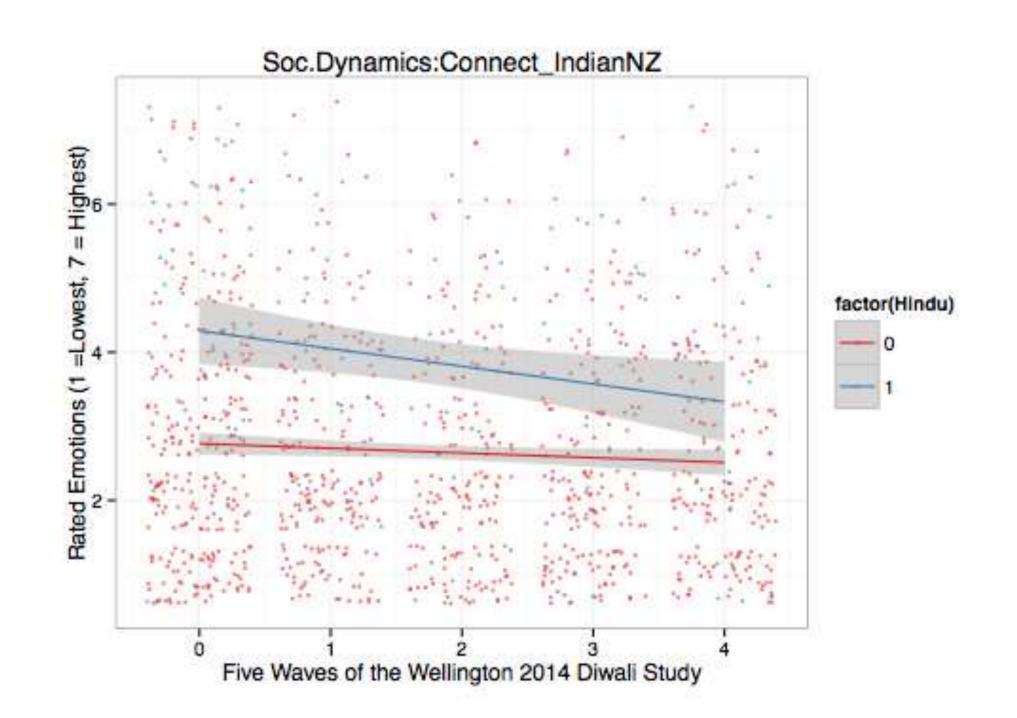


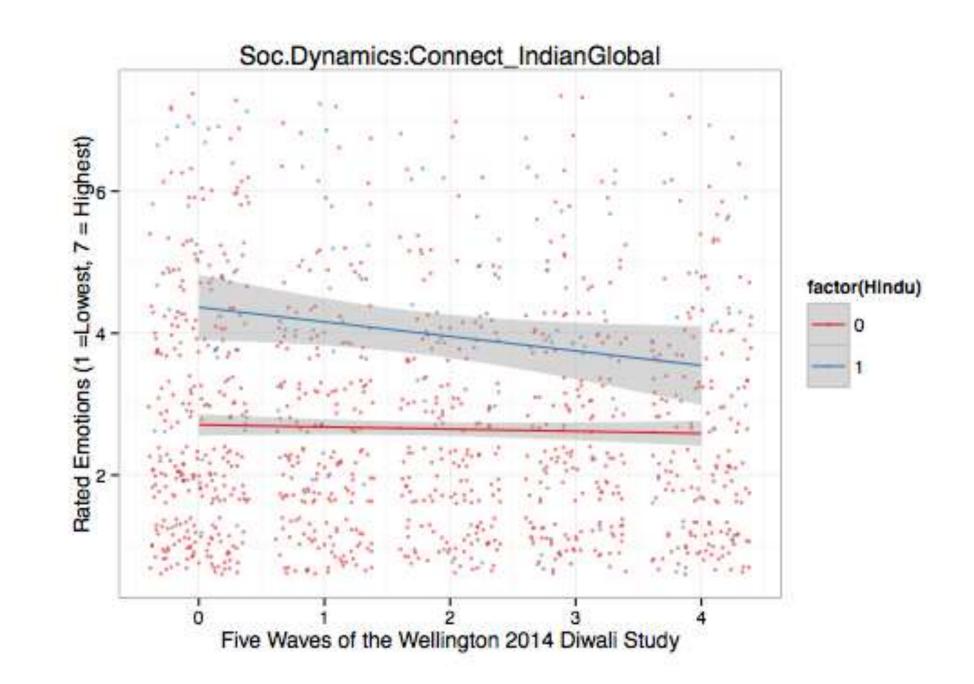










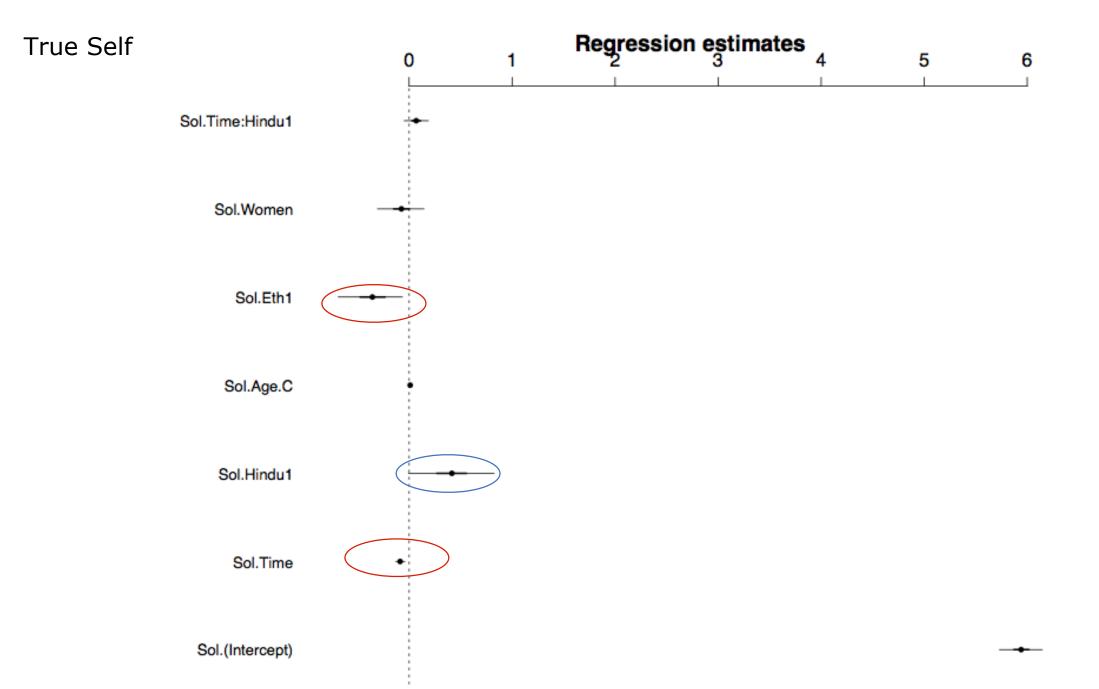


# Key point: religious commitments look to be important

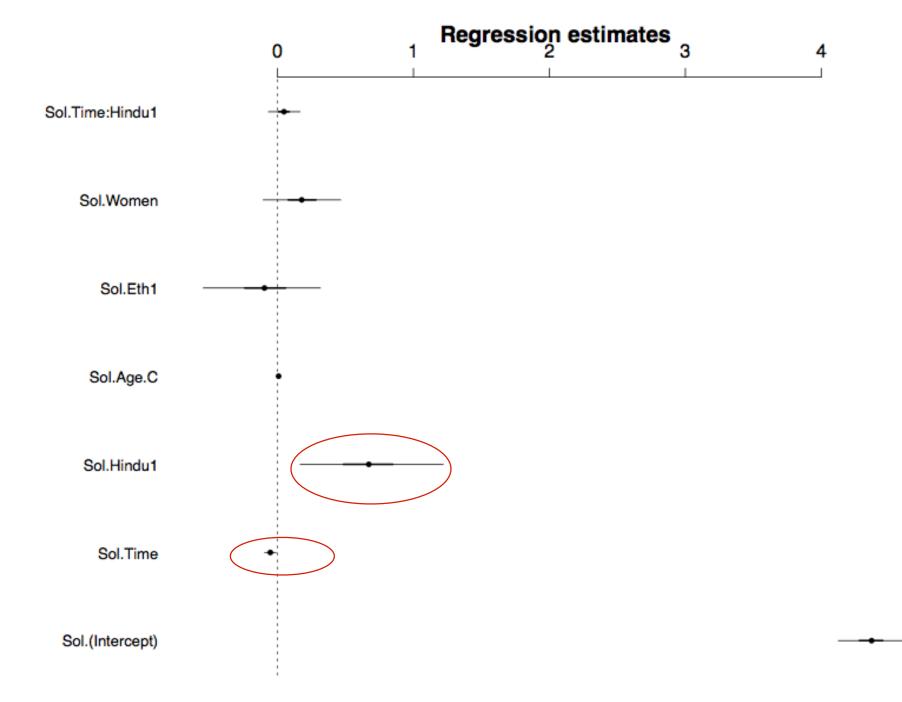
## Formal model results (necessary)

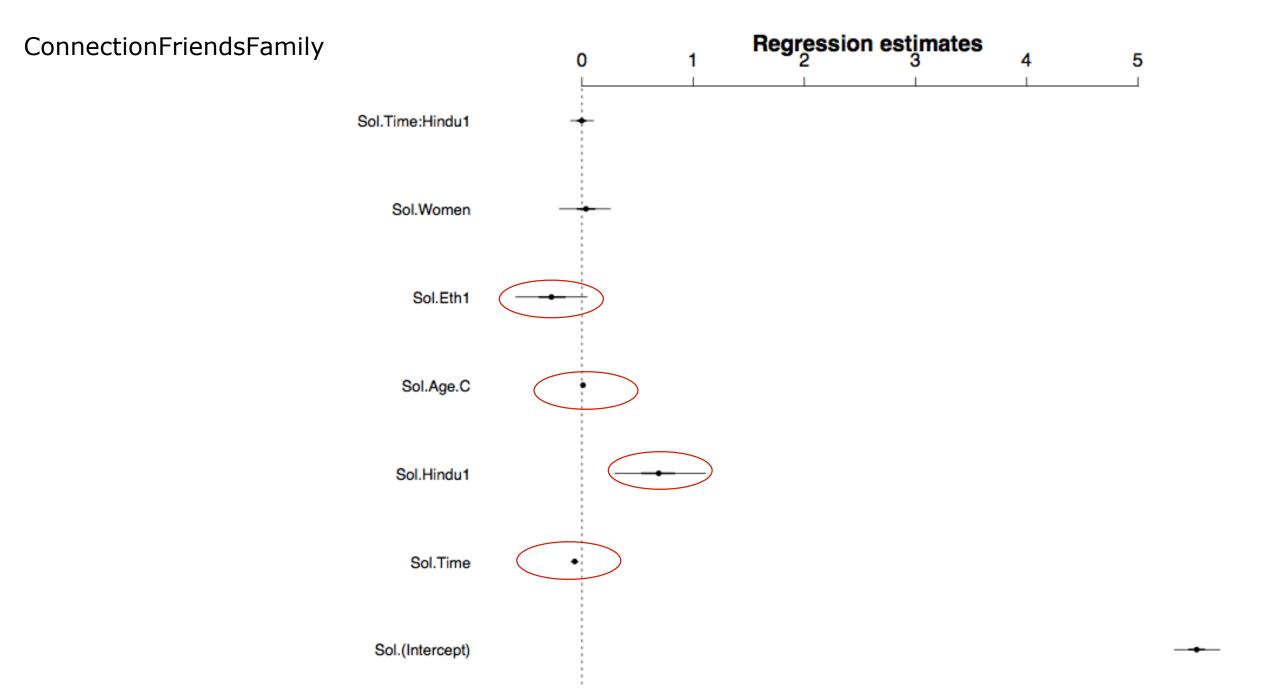
Happiness Regression estimates 0 5 Sol.Time:Hindu1 Sol.Women Sol.Eth1 Sol.Age.C Sol.Hindu1 Sol.Time

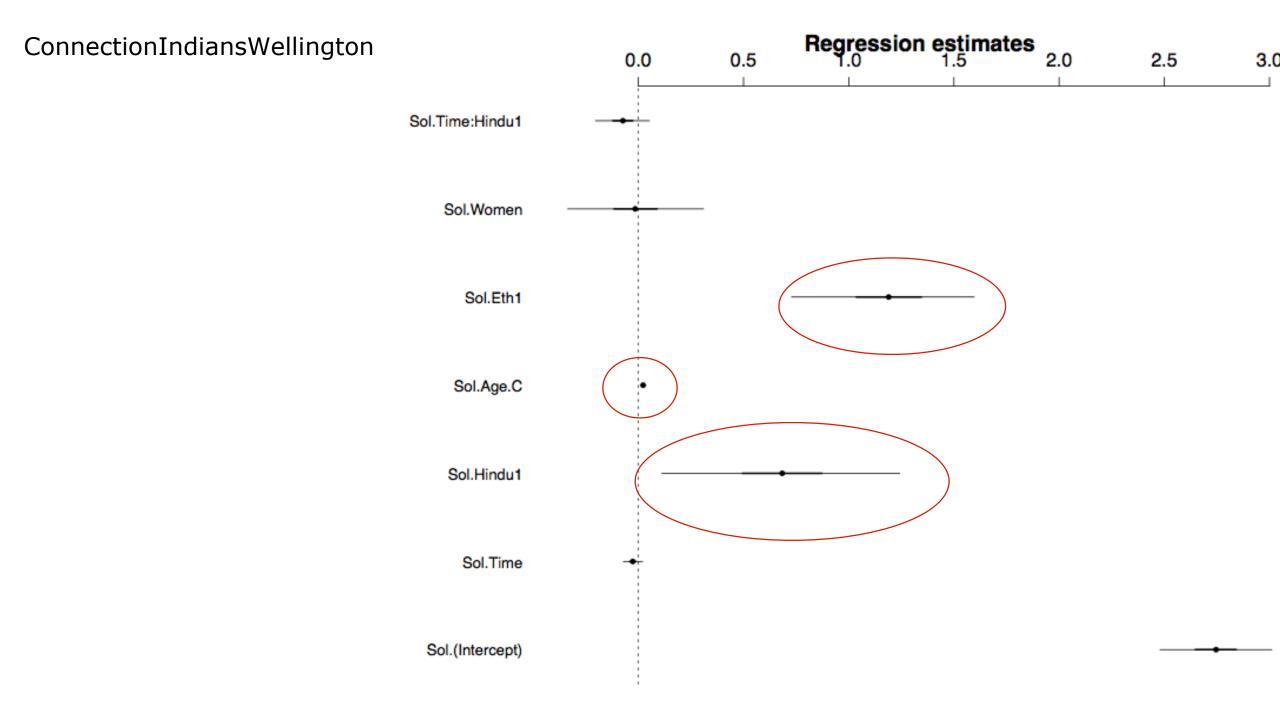
Sol.(Intercept)



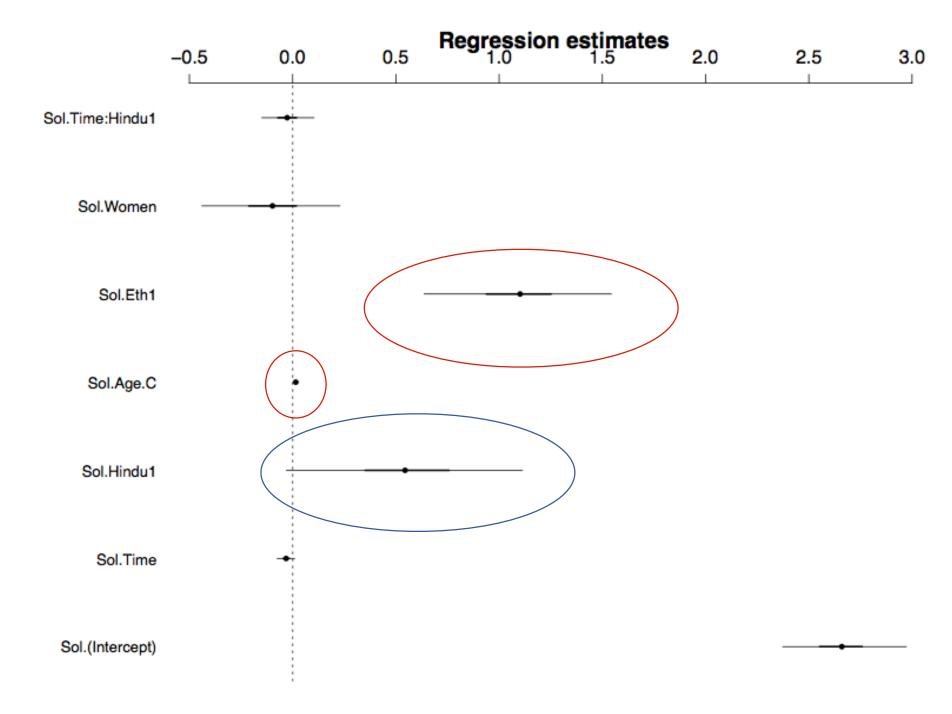
#### ConnectionWorkers



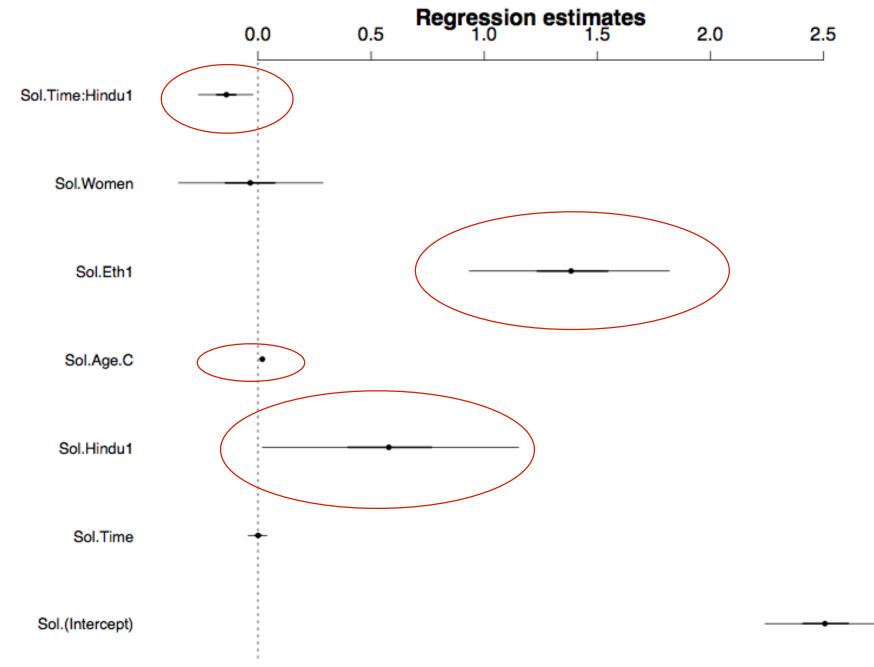




#### ConnectionIndiansNZ



#### ConnectionIndiansGlobal



## Summary of findings

- Diwali associated with an increase in happiness for everyone (Hindus probably start higher)
- Diwali is associated with an increase in a sense of being in touch with your true self, (Hindus might probably higher)
- Diwali is associated with an increase in connection to workers (Hindus start higher).
- Diwali is associated with an increase in connection to family (Hindus start higher).
- Indians, Hindus, and older people feel greater connection to Indians in Wellington, New Zealand, and Globally. Diwali is only associated with putting Hindus more in touch with Global Indians than they might otherwise feel.

#### Implications: theories about what rituals do

- Diwali in NZ affects participants' sense of well-being, whether or not a participant is religious.
- Diwali in NZ affects participants' sense of connection to co-workers, whether or not a participant is religious.
- Diwali in NZ affects participants' sense of connection to co-workers, whether or not a participant is religious.
- Diwali increases a sense of connection to the global Indian community, but we see this only in people who are Hindu.

#### **Outline**

- What might rituals do? (10 mins)
  - Evolutionary theories
  - Previous evidence
  - Background Diwali
- The VUW, NZIRI 2014 Wellington Diwali Study (10 mins)
  - Hypotheses
  - Methods
  - Findings
- Implications of Findings (10 mins)
  - Theories
  - Applied
  - Future Directions

#### Implications: applying knowledge

- Some preliminary evidence of multi-cultural social capital
- BUT, it looks as though Religious Affiliation matters. Having a sacred meaning is associated with bigger effects.

#### **Future Directions**

- Immediate
  - Publish studies with Indian collaborators using measures of religious identification.
  - Present results to stakeholders.
- Longer term:
  - Further studies with Indian communities in NZ
  - Better health, well-being, and work measures
  - Extend scope: secular rituals in NZ
  - Integration of ritual studies with longer term studies (NZAVS)
  - Comparative projects (involving historians)

## **Special Thanks**



#### **About Us**

- Centre for Strategic Studies
- · Events
- Staff
- > INZEC Research Grants
- East European Study Group

#### About the New Zealand India Research Institute

The New Zealand India Research Institute was established by the Council of Victoria University of Wellington in October 2012 as a consortium of scholars actively engaged in research on India in five New Zealand universities (Victoria, Otago, Canterbury, Massey and Auckland). The Auckland University of Technology and Walkato University joined subsequently.

- · promote and facilitate research on India and NZ-India relations
- · increase visibility of India related research done in NZ
- · promote postgraduate studies on India in NZ universities
- · promote academic exchanges between India scholars in NZ, India and other parts of the world - at institutional as well as individual



of the New Zealand India Research Institute

- · contribute to academic capacity building in NZ and India
- · engage with government, business and community organisations on India related policy research.

#### Our research

Research activities of the India Institute will focus on five thematic areas

- · Society and culture
- · Migration and diaspora
- · Economics and business
- · Environment and sustainability · Politics and security.

- NZRI <a href="http://www.victoria.ac.nz/hppi/centres/india-researc">http://www.victoria.ac.nz/hppi/centres/india-researc</a>
- Murali Kumar: community action trust NZ: http://www.catnz.org.nz/AboutUs.html



### A collaborative effort







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## The end

