

# Principled Support: Value Dimensions and Innovation at the National Level

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# Values: A definition

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- Bit of confusion in the literature, so...
  - Human values: Principles that guide behaviour
- Variety of models
  - often very specific to the domain of interest
    - e.g., business, the environment.



# Values and innovation

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- Most research has focused on single-nation, private businesses or similar organisations
  - atheoretical: values identified were often tied closely to the type of business under study, and were never replicated



# Values and innovation

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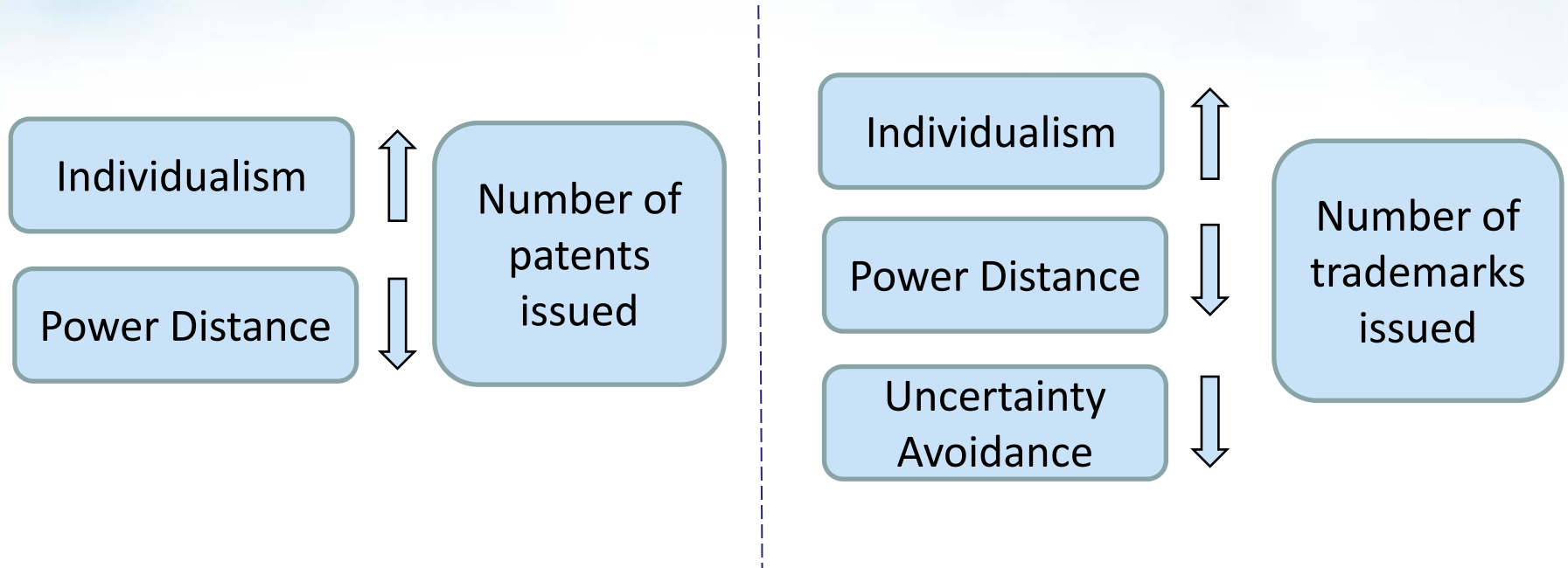
- Two studies reported by Shane (1992, 1993), using multinational samples:
  - Hofstede's (1980) data on four-dimensional model of cultural values
    - Individualism
    - Power Distance
    - Masculinity
    - Uncertainty Avoidance
  - innovation measure: number of patents and trademarks issued



# Values and innovation

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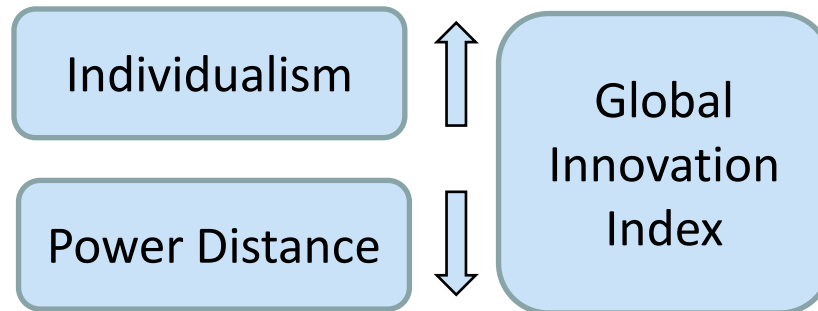
- Two studies reported by Shane (1992, 1993):
  - Results



# Values and innovation

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- Rinne et al. (in press)
  - Hofstede's data and a more comprehensive measure of national innovation (Global Innovation Index)
    - similar results regarding Power Distance and Individualism



# Other models of values

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- Other models have arisen recently that also provide data that are
  - multinational and
  - based on “global” human values (*not* domain-specific)

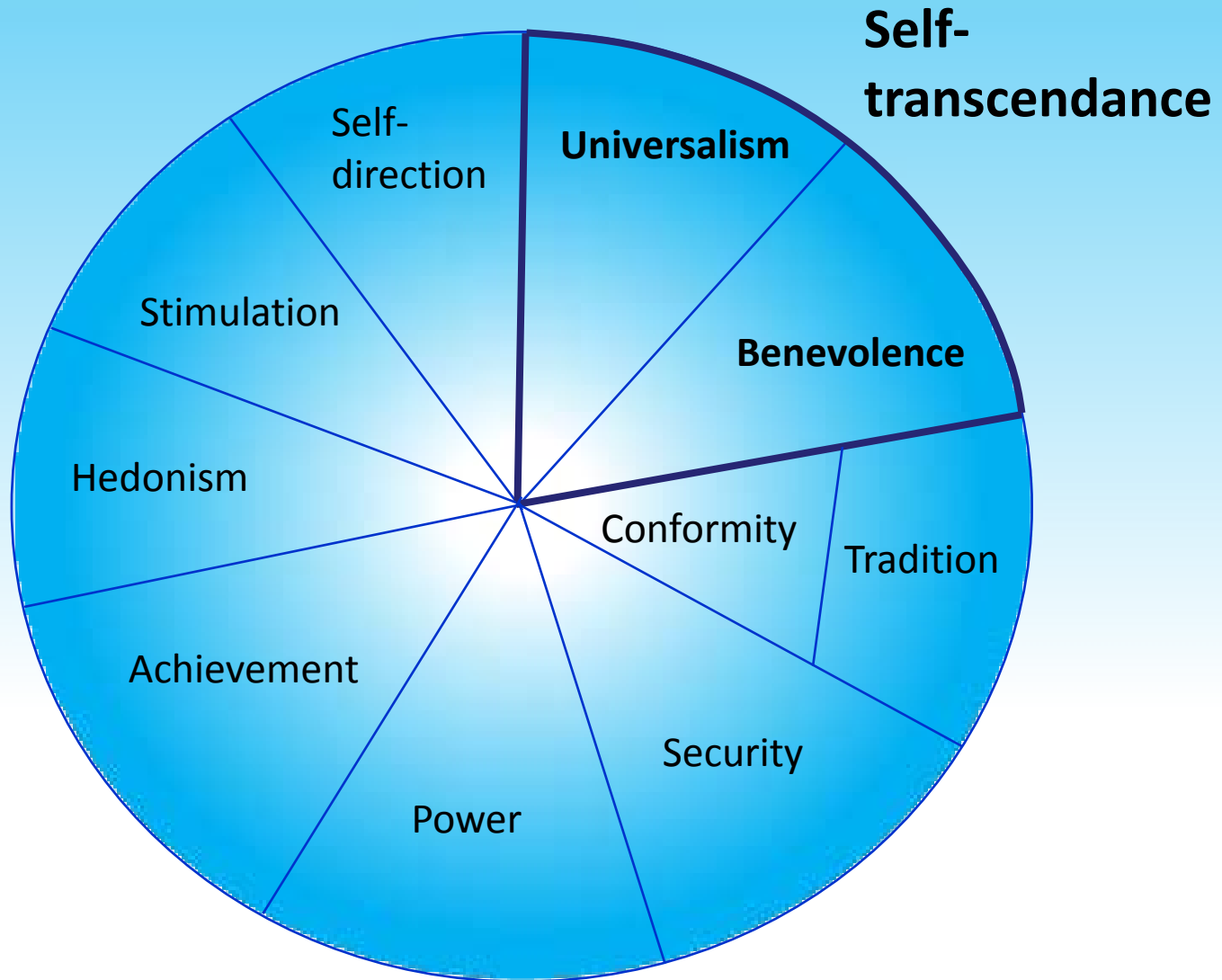


# Schwartz (1994, 2003)

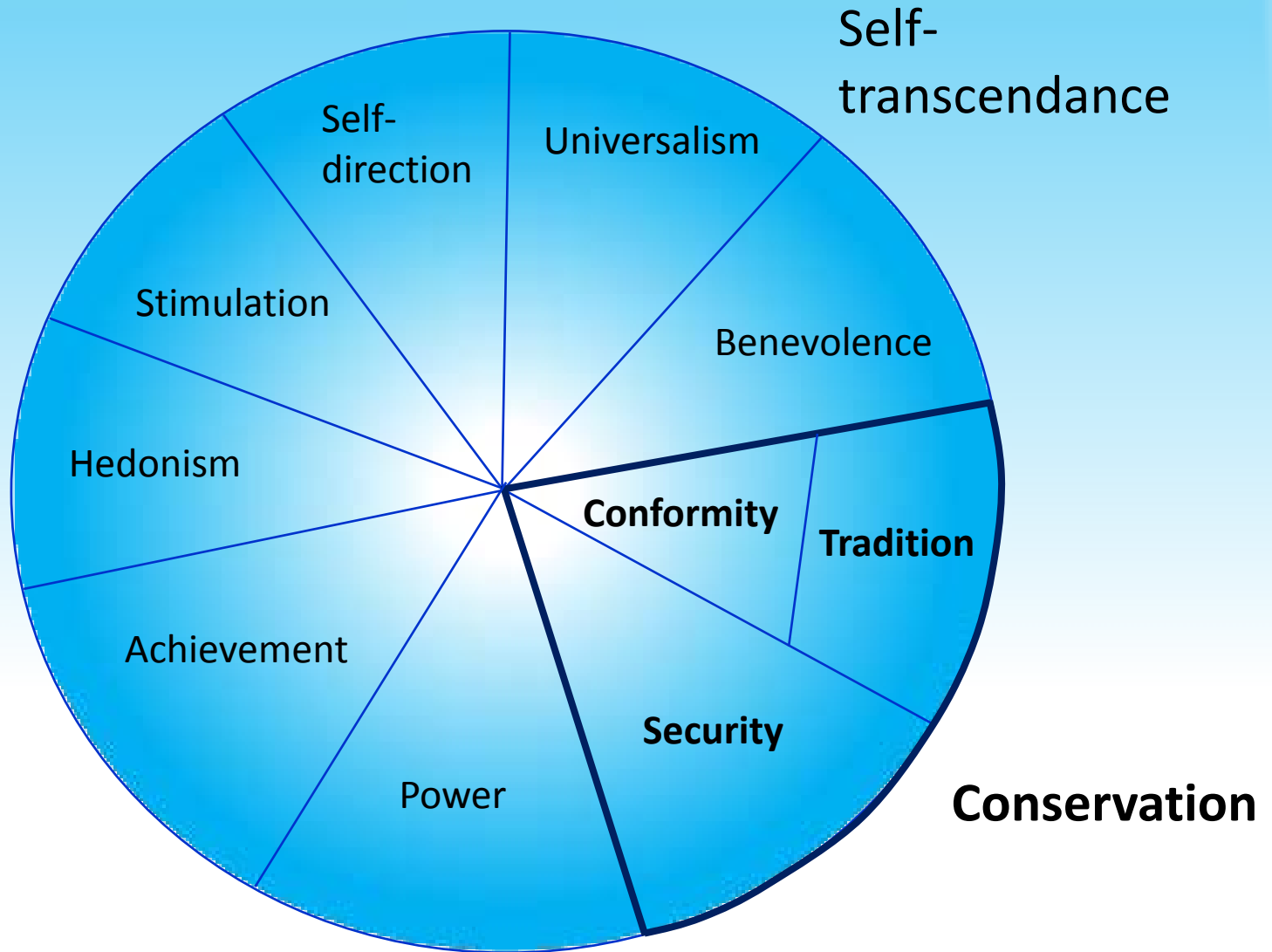




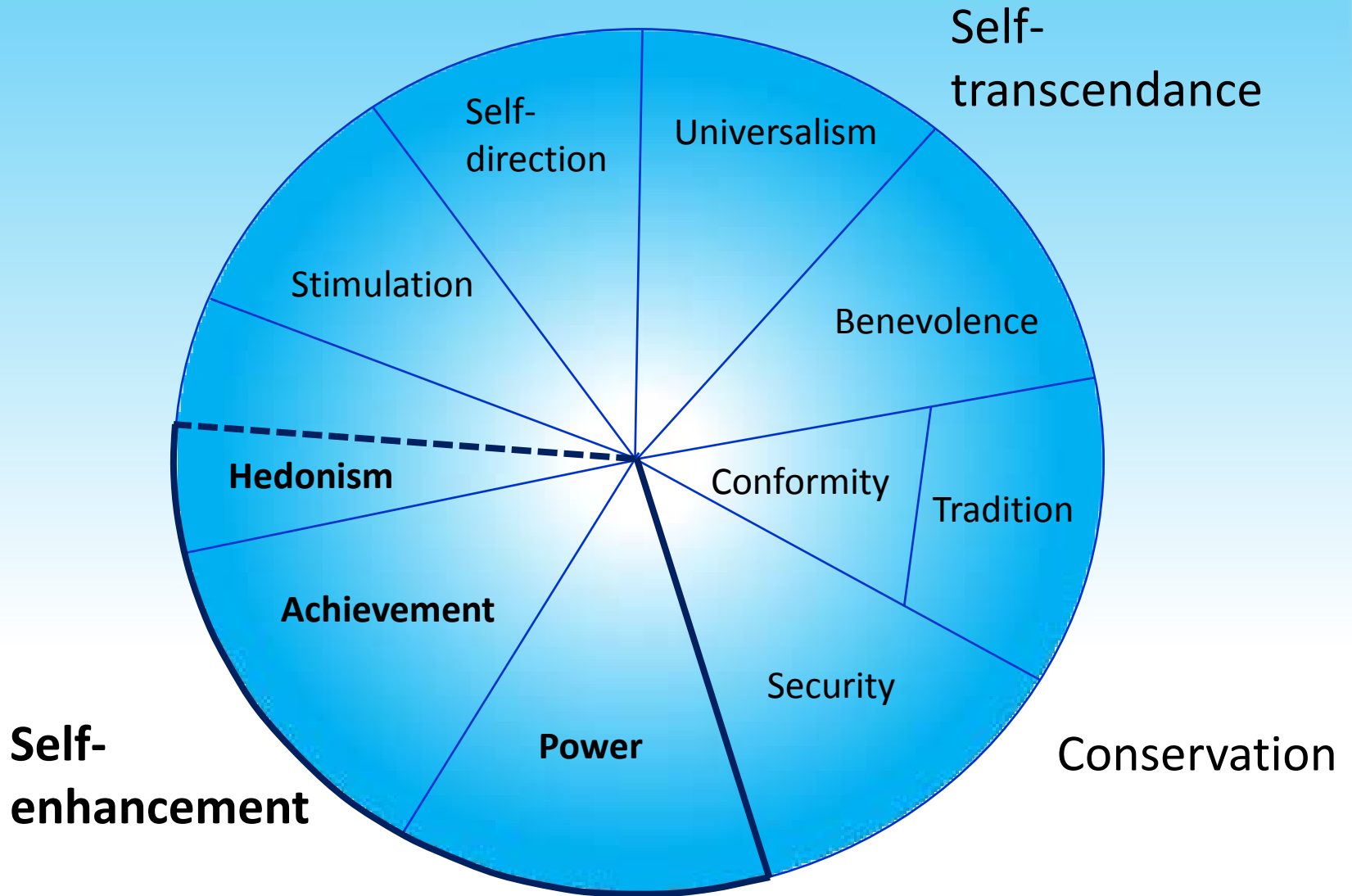
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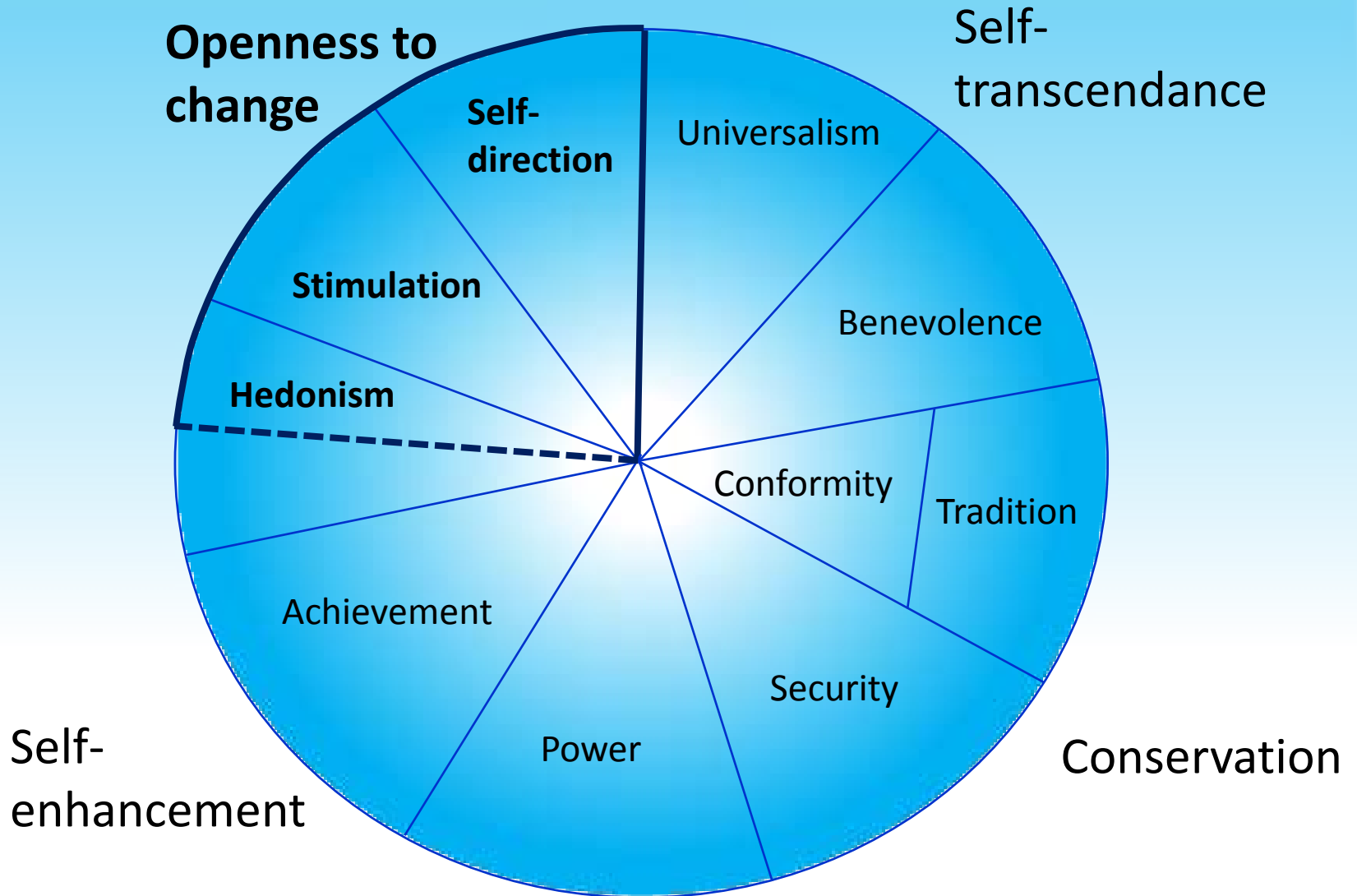
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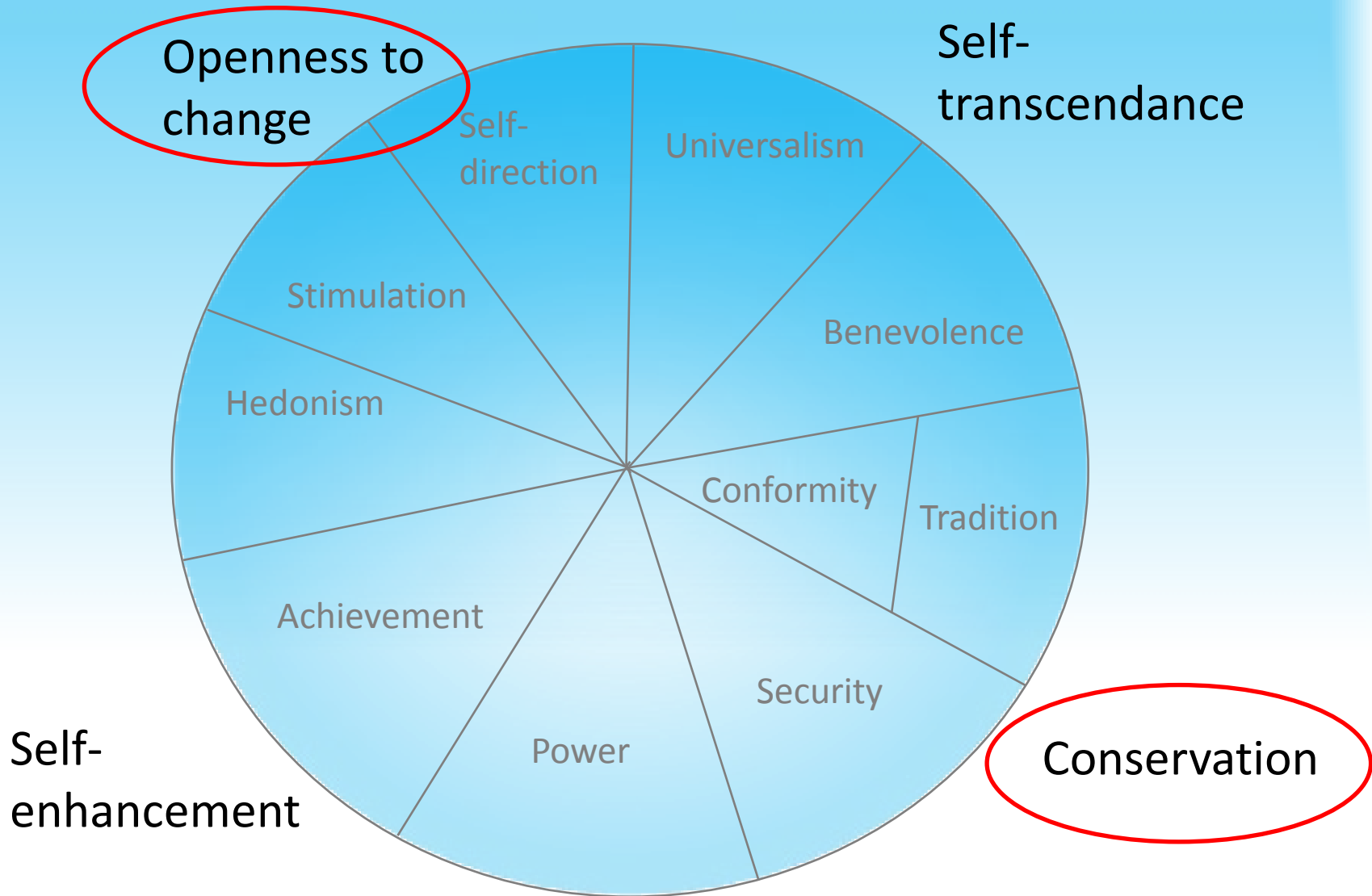
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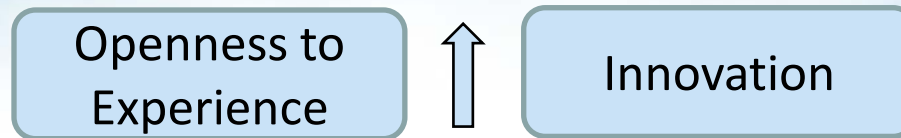
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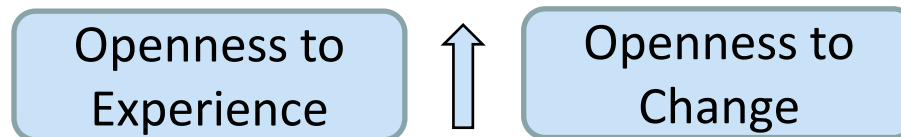
# Values – personality - innovation

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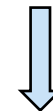
- Steel et al. (in press) have shown



- and Olver and Mooradian (2003) have shown



- therefore, we would expect that



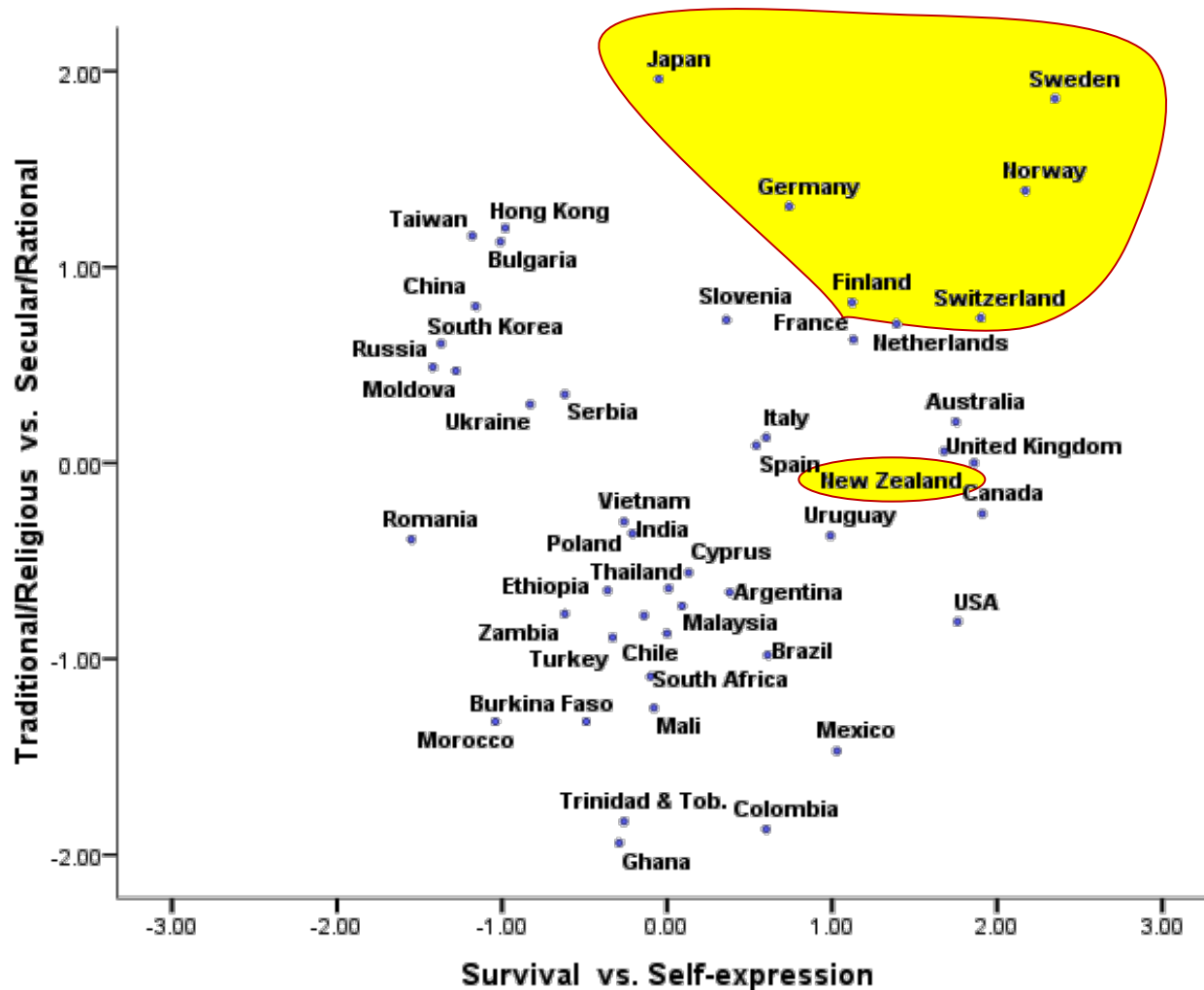
# Inglehart & Welzel (2005)

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- Premise: Socioeconomic development leads to 'human development'
  - increased autonomy and self-expression
- Analysis of the World Values Survey data showed two basic value dimensions
  - Traditional/Religious versus Rational/Secular
    - increasing autonomy
  - Survival versus Self-expression



# Inglehart & Welzel (2005): National scores



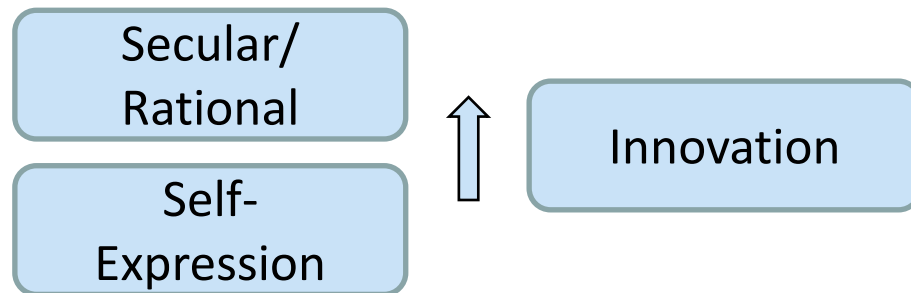
(refer to: [www.worldvaluessurvey.org](http://www.worldvaluessurvey.org))



# Inglehart & Welzel (2005)

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- Because inventiveness
  - requires independent thinking
  - and is integral to innovation
- we would expect that a culture that places higher value on autonomy and self-expression would show higher levels of innovation
  - therefore...



# The data

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- Data for Openness to Change and Conservation were taken from Ralston (in press)
  - SVS value dimension scores for 50 countries
  - “members of the business community”
- Data for Inglehart and Welzel’s dimensions can be found on the World Values Survey website
  - fifth “wave” of the WVS (2005)
  - dimension data for 47 countries
  - mainly randomly selected from the general population



# The data

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- Global Innovation Index (GII)(2010) scores
  - GII total score represents a combination of seven “pillars”
    - Institutions
    - Human Capacity
    - ICT and Uptake of Infrastructure
    - Market Sophistication
    - Business Sophistication
    - Scientific Outputs
    - Creative Outputs and Well-being
  - data for 133 countries
    - scores based on document analysis and ratings from business experts



# The data

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- Merged the data sets into two matrices
  - GII and Schwartz value dimensions
    - complete data for 47 countries
      - under-represented in Africa (2 countries)
  - GII and Inglehart and Welzel value dimensions
    - complete data for 46 countries
      - under-represented in Africa (5 countries)



# Analyses

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- Two multiple linear regressions
  - Openness to Change + Conservation = GII score
  - Secular/Rational + Self-expression = GII score



# Results

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- Both regression analyses were significant
  - for the SVS dimensions:
    - adjusted  $R^2 = .244$ ,  $F(2,44) = 8.40$ ,  $p < .001$
    - but only Conservation predicted the GII score
      - $\beta = -.551$ ,  $t = -3.78$ ,  $p < .001$
  - for the I&W dimensions:
    - adjusted  $R^2 = .697$ ,  $F(2,43) = 52.74$ ,  $p < .001$  [*note error*]
    - both dimensions were reliably related to the GII score
      - TRvRS:  $\beta = .609$ ,  $t = 7.34$ ,  $p < .001$
      - SvSe:  $\beta = .499$ ,  $t = 6.02$ ,  $p < .001$



# Discussion

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- No relationship for Openness to Change
  - perhaps a culture can be open to change without necessarily *creating* change...
- Conservation may act like a brake on innovation
  - or a complete veto



# Discussion

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- Similarly, tradition and conformity also showed up in the I & W analysis
  - it would seem that encouraging autonomy is beneficial for innovation
    - as is self-expression
- However, the model is based on socioeconomic development, so we may be looking at a circular effect

