

# Projet M2C : Measuring Climate Change Perception en India and France

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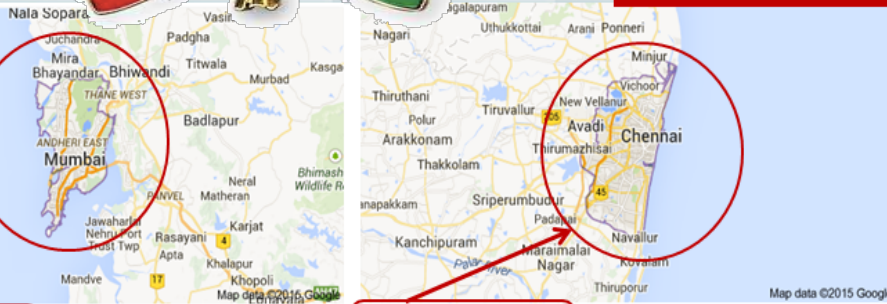
**OT –Med financed the Stay of Prof. Parul RISHI, Phd in Psychology, from april 15th to may 16th, 2015**

- Two objectives :
    - 1) translate and adapt the Climate Change Perception Inventory (Rishi & Mudaliar, 2012, 2014) **DONE**, conceive a validation study along the classical lines of psychometric criteria **DISCUSSED**
    - 2) write a state of the Art about the cultural similarities and differences between France and India in regard to man-environment relations **NEARLY FINISHED. To be submitted to NCC.**
- During her stay, Prof. Rishi will presented her work to all interested members of OT-Med in a conference **(May 12th, 2015)**
- From that on, an empirical study was planned. **IMERA-OT Med APPLICATION submitted in november 2015**

# An exploratory study on climate change distress and subjective well being in Indo-French coastal cities



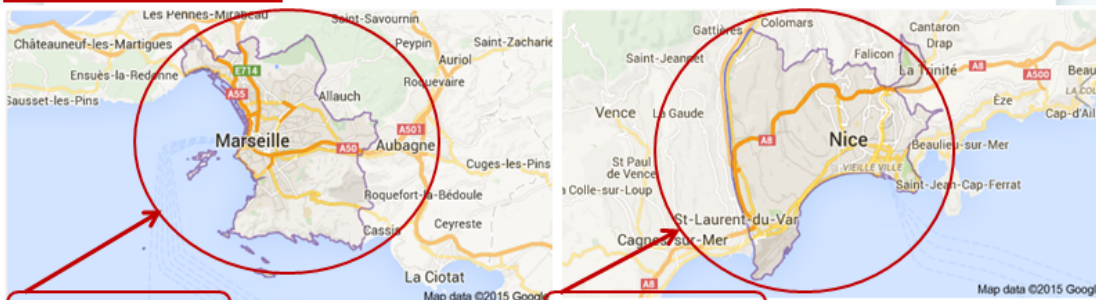
## Indian study sites



Mumbai, Maharashtra

Chennai, Tamil Nadu

## French study sites



Marseille France

Nice France

**RUCHI MUDALIAR**  
**Post doctoral fellow**

15<sup>th</sup> February to 15<sup>th</sup> November 2015

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**FERNAND BRAUDEL IFER**  
**INCOMING SCHOLARSHIP-2015**

Host institution: ESPACE



Co-Sponsored by : OT-Med



Post-Doc Supervisor :  
**Alexandra Schleyer-LINDENMANN**

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**Nice**



**Mumbai**



**A cross cultural  
comparative study  
of two French and  
two Indian coastal  
cities**

**Marseille**



**Chennai**



# Comparison India – France :

## Study Objectives

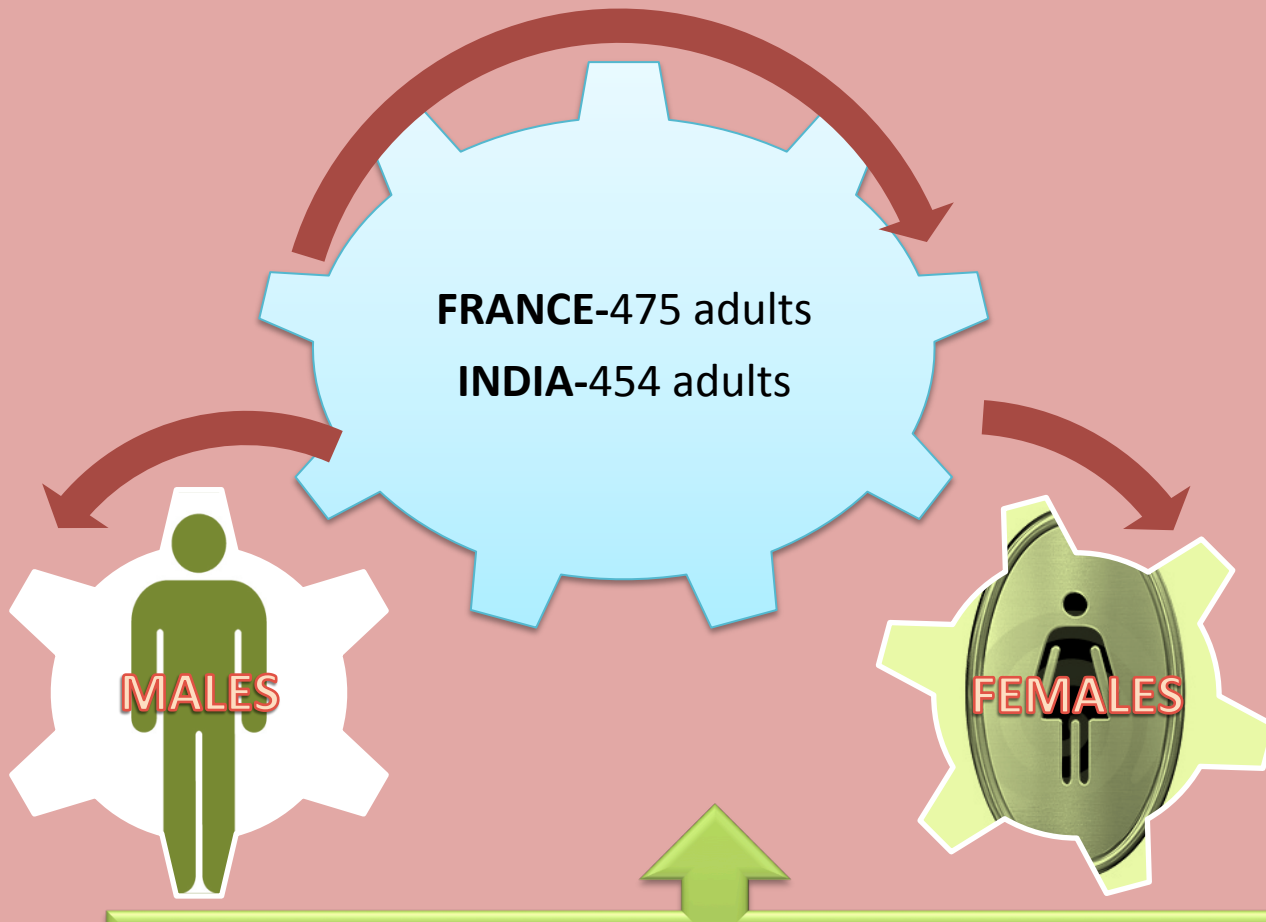
1. To assess the level of climate change distress and emotional concern

2. To identify the behavioral adaptation measures/coping strategies practiced

3. To assess the level of coastal subjective well being

4. To study the relation between climate change distress, coping / adaptation and coastal subjective well being

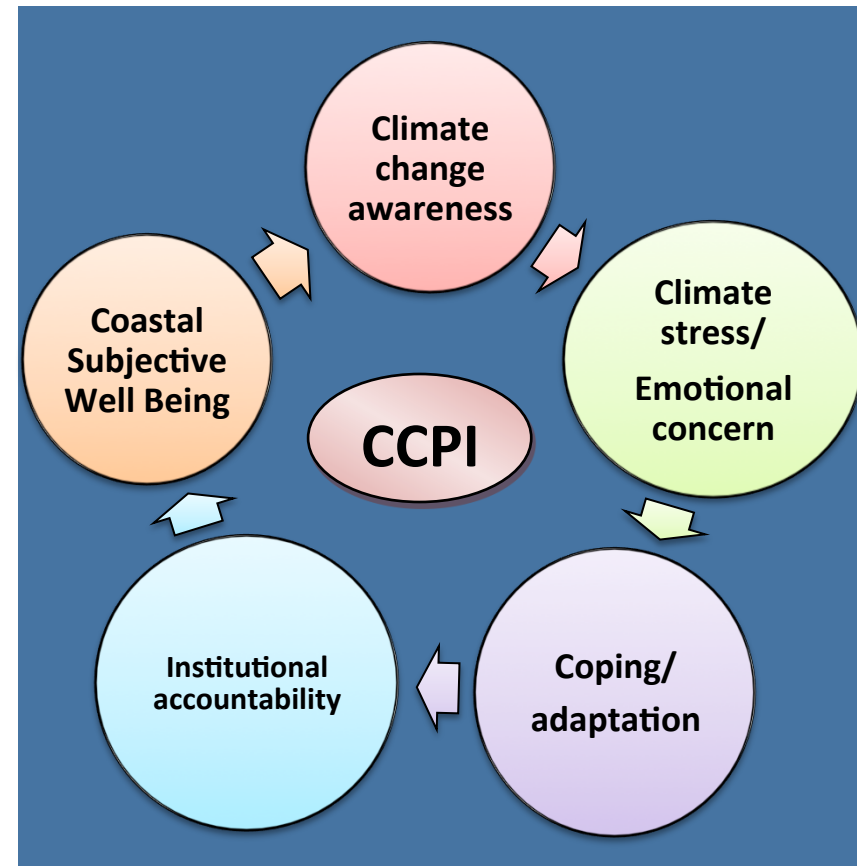
# Sample



Through stratified random sampling technique from both the countries. Different criteria : age groups : 18-24 yrs, 25-45 yrs, > 45 yrs ; time of residence, residence distance from coast and others

# Tool

- **Climate Change Perception Inventory (CCPI)** (Rishi & Mudaliar, 2014)
- Tool based on 5 point Likert type rating scale : from 1 (do not agree) to 4 (completely agree), 0 being “I don’t know”
- Translation into French and backtranslation by language teachers and expert colleagues (thank you !!)
- Cronbach’s Alpha (estimate of the reliability) of full inventory is 0.83.



# Examples of items

- **Subscale Climate Stress and Emotional Concern (18 items)**

*I feel anxious and stressful that the sea might get furious anytime and ruin our lives.*

- **Subscale Coping and Adapation (13 items)**

*As I live near the coast, I always keep considerably more stock of food items and other necessary things to meet coastal disaster.*

- **Subscale Coastal Well Being (4 items)**

*The quality of my surrounding coastal environment is close to my ideal.*

Answer mode : check the box corresponding most to your opinion/situation

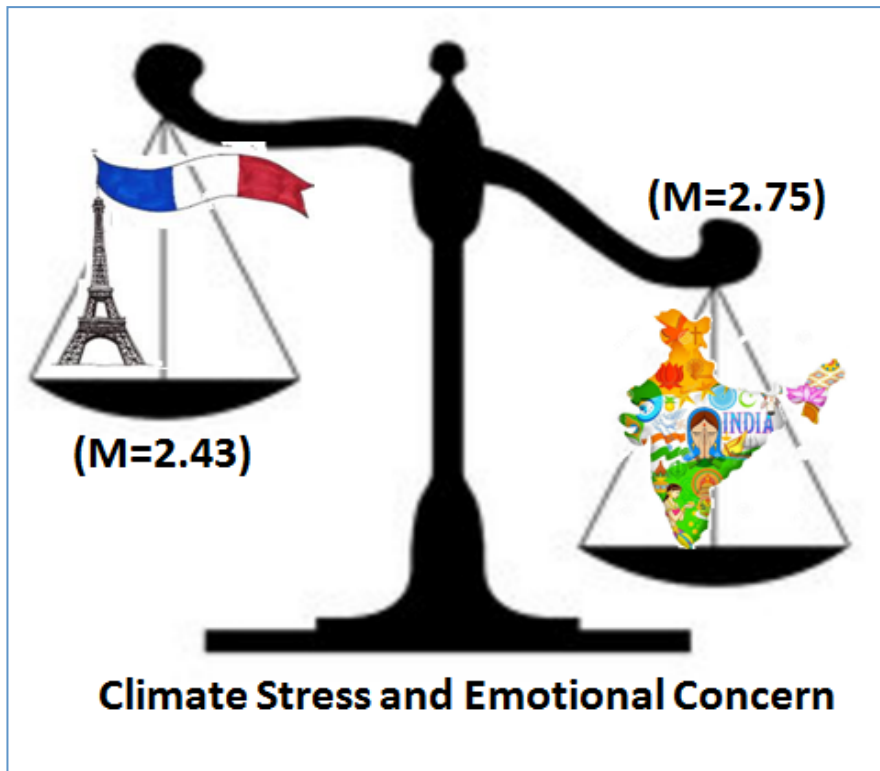
Strongly Agree	Agree	Disagree	Strongly disagree	Can't Say
(4)	(3)	(2)	(1)	(0)

# Major Findings



# Climate Stress and Emotional Concern

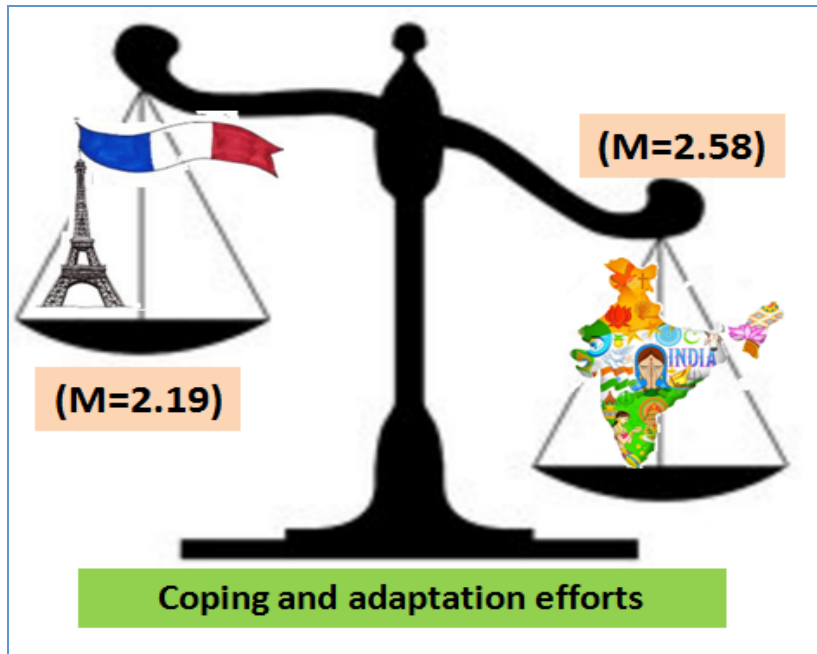
**H1 : There will be significant differences between climate change distress among Indo-French coastal population was proved correct.**



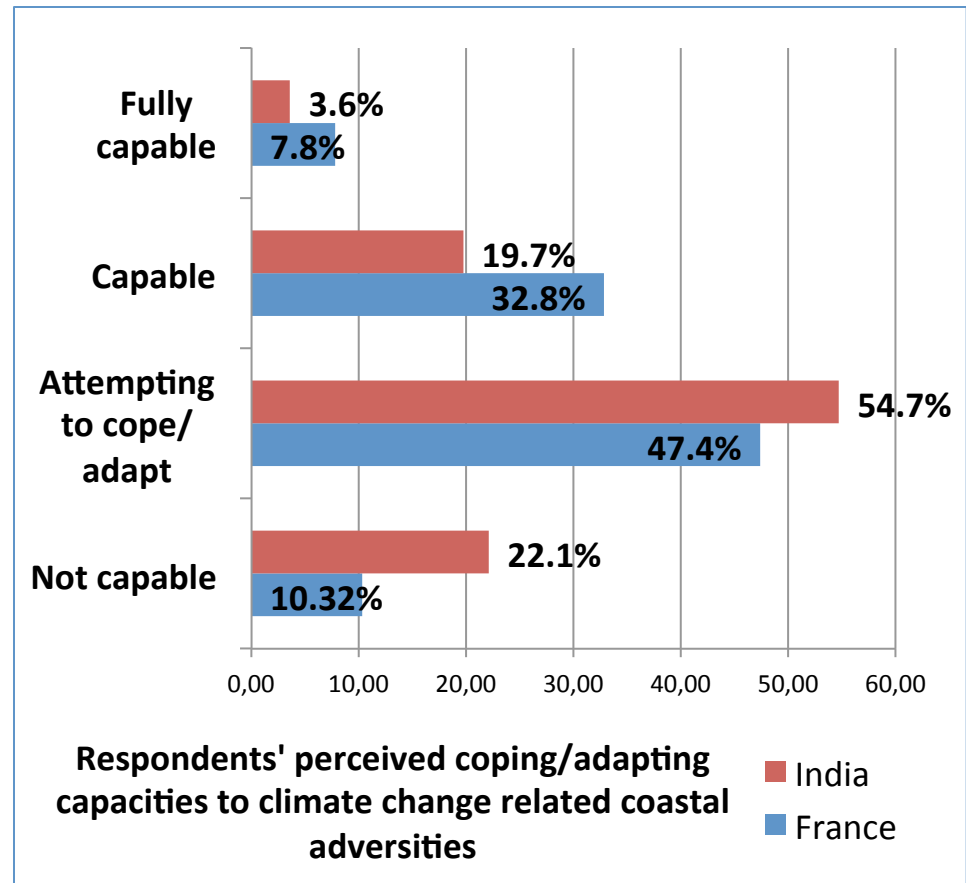
Indian coastal population experiences more climate stress and emotional concern ( $m = 2,75, sd = .43$ ) than their French counterparts ( $m = 2,43 ; sd = .48$ ). The difference of means is significant ( $F=74.863; p < .000$ )

# Behavioral adaptation measures and coping strategies

H2 : Indian and French coastal populations will differ in terms of behavioural adaptation measures/coping strategies to deal with climate change was proved.

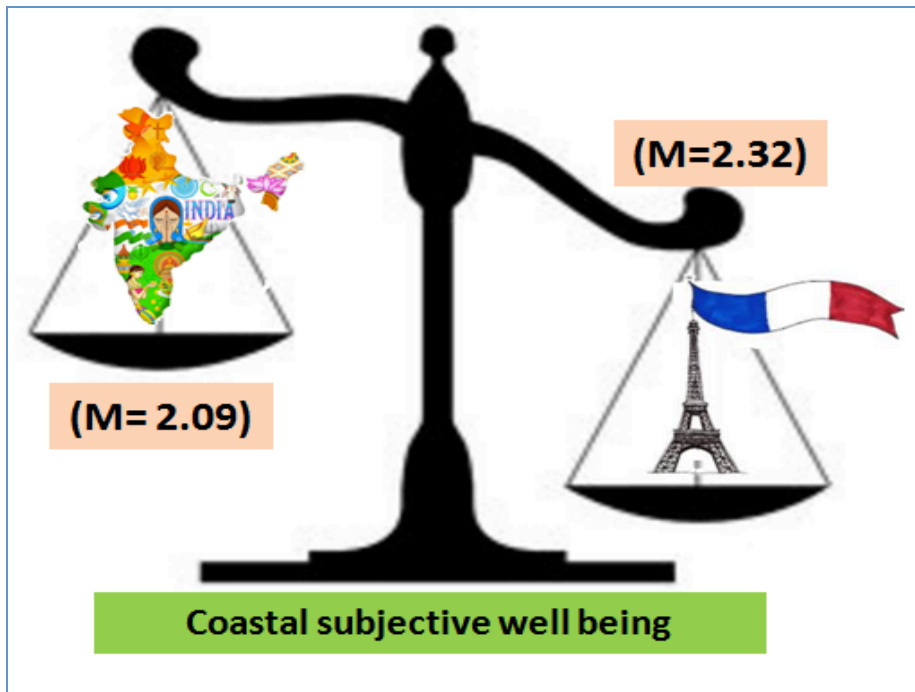


Indian coastal population attributes more importance to and reports more frequently behavioural adaptation measures ( $m = 2,58$ ) than their French counterparts ( $m = 2,19$ ). This difference is significant ( $F=34.136$ ;  $p = .000$ ).



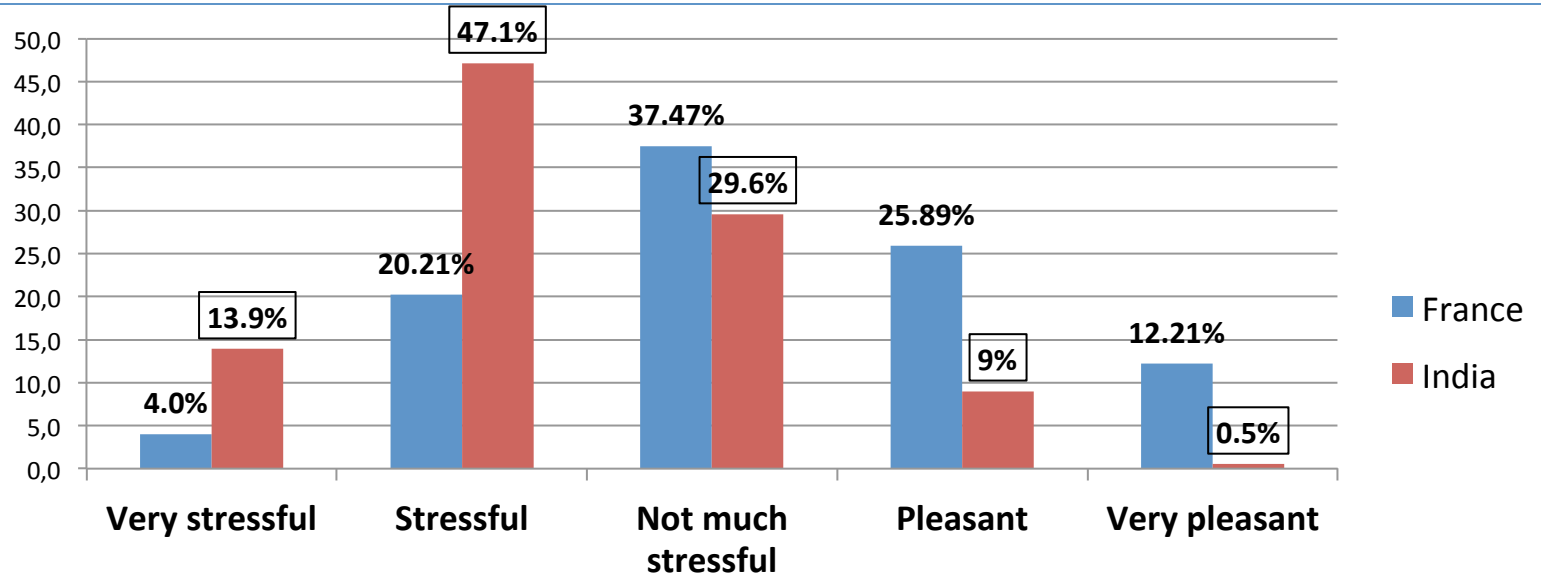
# Subjective Coastal Well Being

H3 : There will be a significant difference in the level of subjective well being was proved.



The Indian coastal population has a significantly lower level of subjective coastal well being than the French coastal population ( $F=25.167$  ;  $p < .000$ ).

# Perception of local coastal environment



Perception of coastal environment in the city





# Conclusion and perspectives

- A first data analysis along the hypotheses has been done => transform report into paper (underway, to be submitted to *Journal of Cross-Cultural Psychology*) ; several oral communications have been done or are accepted
- Deepen data analysis (the French questionnaire had additional questions, the results have not been analyzed yet)
- Push the explanatory dimension of the cross-cultural comparison (societal and cultural features which explain the differences between French and Indian population)
- Possibility to run an intra-cultural comparison (Marseilles vs Nice)

**Merci  
pour votre attention !**



**Thank You**

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## **ACKNOWLEDGEMENT**

The author acknowledges the financial support received by **FMSH (Paris)**, **OT- Med** and **ECCOREV** for conducting this cross-cultural study under the Fernand Braudel IFER (incoming) fellowship-2015.







# MAJOR FINDINGS (contd.)

## Hypothesis #4a

**There will be significant positive relationship between climate change distress and coping/adaptation in the Indian population was proved.**

- For the Indian data, Climate change distress has been explained through PCA on the basis of three components emotional anxiety, Dissatisfaction, resource stress and climate variability.
- Emotional anxiety was found to be significantly correlated with group/institutional coping ( $r=0.130$ ; significant at the 0.01 level), individual level coping ( $r=0.201$ ; significant at the 0.01 level), adaptation effort ( $r=0.265$ ; significant at the 0.01 level).

## Hypothesis #4b

**There will be significant positive relationship between climate change distress and coping/adaptation in the French population was proved to be incorrect.**

- For the French data, Climate change distress has been explained through PCA on the basis of three components-emotional resentment, dissatisfaction and climate change acceptance and emotional anxiety. No significant positive relationship was found between climate change distress and coping/adaptation in the French population.

# MAJOR FINDINGS (contd.)

## Hypothesis #4c

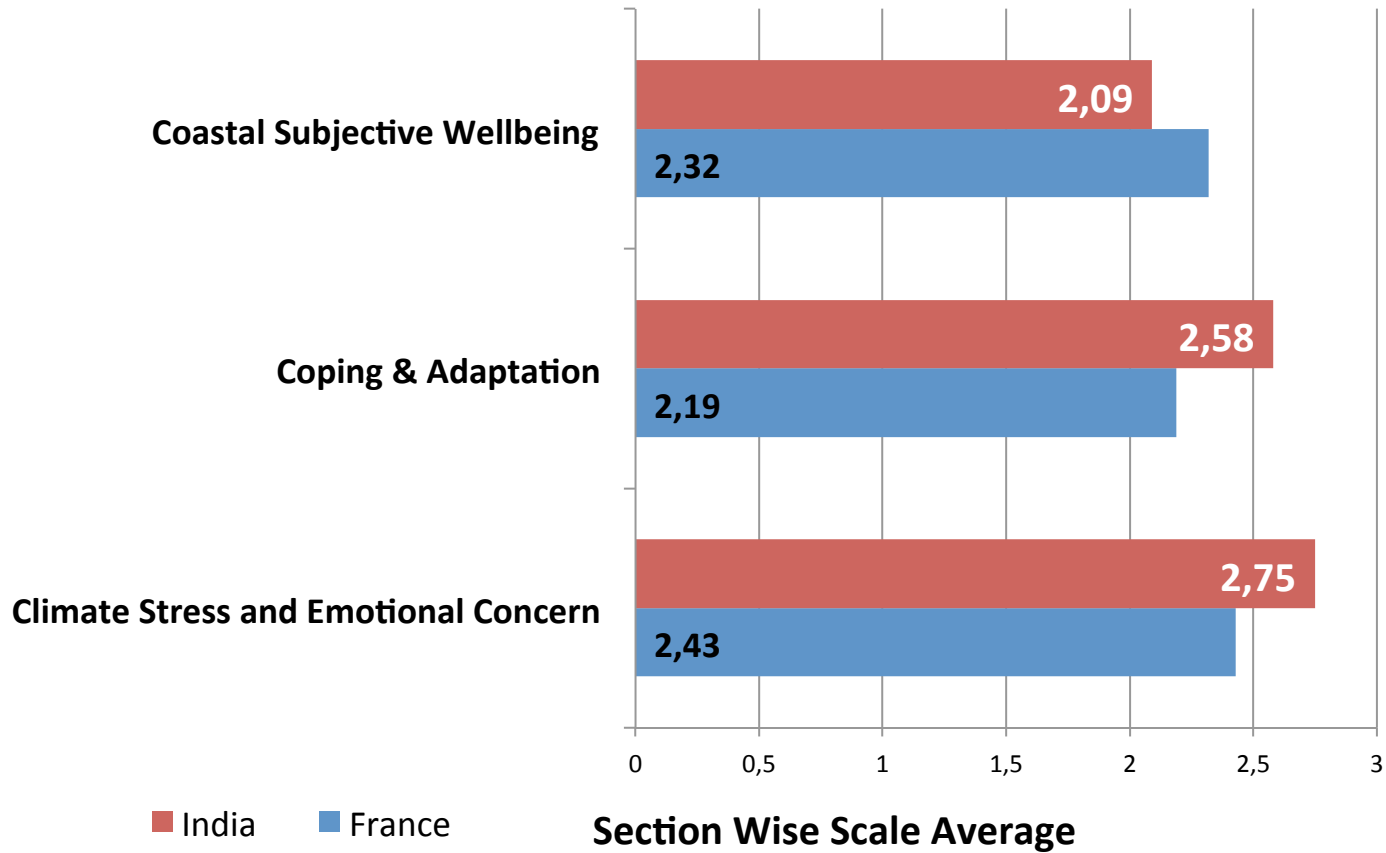
**There will be significant negative relationship between climate change distress and subjective well being in the Indian population was proved to be incorrect.**

- Emotional anxiety was found to be significantly positively correlated with coastal subjective well being ( $r=0.175$ ; significant at the 0.01 level). Also, dissatisfaction was found to be positively correlated with coastal subjective well being ( $r=0.149$ ; significant at the 0.01 level)

## Hypothesis #4d

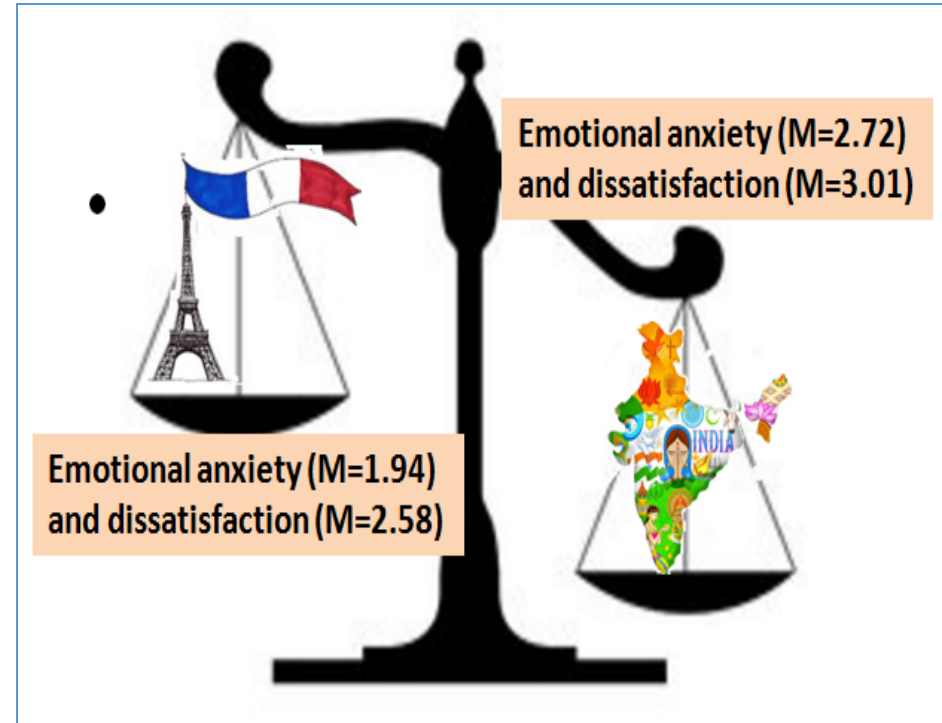
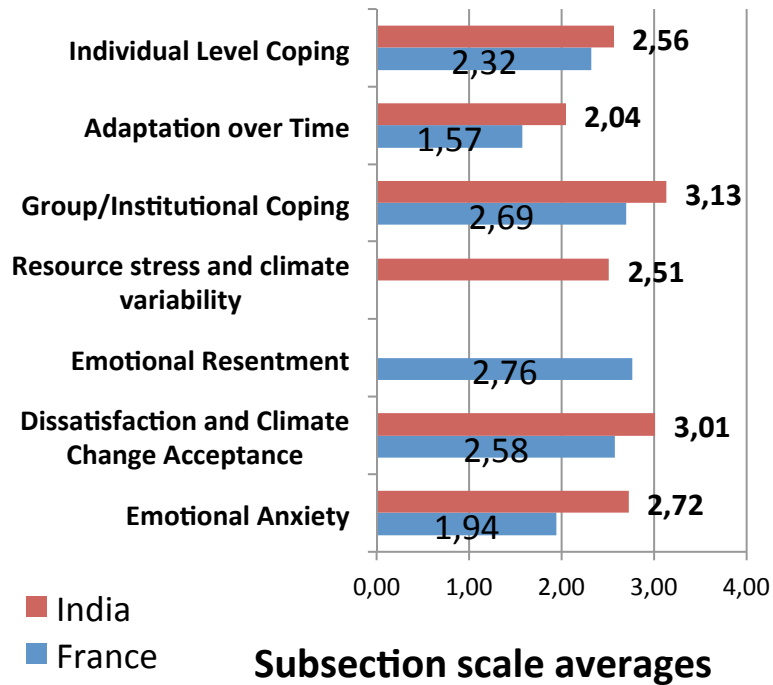
**There will be significant negative relationship between climate change distress and subjective well being in the French population was partially proved.**

- Coastal subjective well being was found to be significantly negatively correlated with Dissatisfaction and Climate Change Acceptance ( $r= -0.181$ ; significant at the 0.01 level)



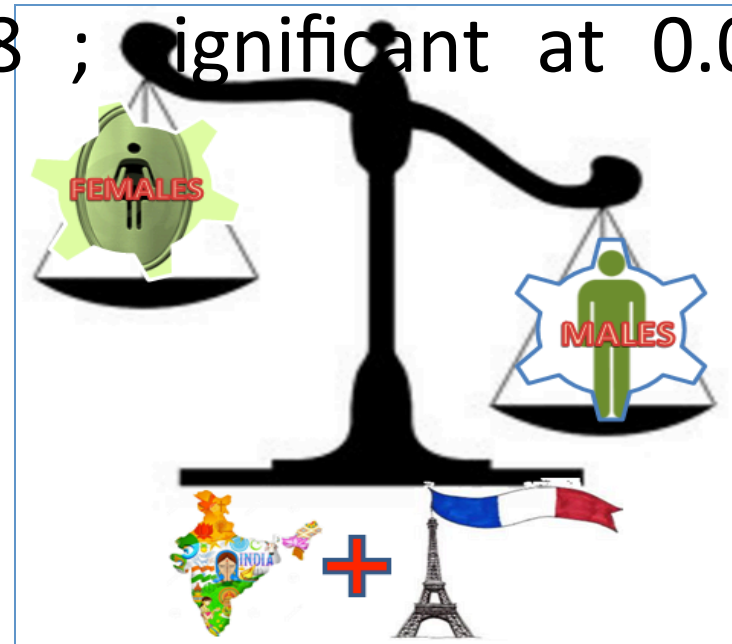


# MAJOR FINDINGS (contd.)



- In India however, A moderate level of climate induced resource stress was reported (M= 2.51) which was not found in France at all as indicated by the PCA. In France instead, a moderate amount of Emotional Resentment (M=2.76) was registered which was absent in India.

- Male residents in coastal populations of India and France seem to score systematically higher in CSWB as compared to their female counterparts ( $F=5.398$  ; significant at 0.020 level).





# Demographic Profile of Respondents

Sr. No.	Categorical variable	Description	Percentage distribution in sample (INDIA)	Percentage distribution in sample (FRANCE)
1.	Age group	Young adult (18-24 years)	49.7	27.22
		Adult (25-45 years)	32.1	39.87
		Senior adult (> 45 years)	18.3	32.91
2.	Sex	Male	42.7	47.67
		Female	57.3	52.33
3.	Living in the city	0-2 years	0	12.29
		2-5 years	26.9	15.25
		>5 years	73.1	72.45
4.	Family size	1-5 Members	84.1	98.03
		> 5 Members	15.9	1.72
5.	Distance of coast from home	Less than 2 kms	32.9	50.53
		Between 2-5 kms	33.1	31.08
		More than 5 kms	34.0	18.39