# Does catching more fish increase the subjective well-being of fishers? Insights from Bangladesh

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# **Small-scale fisheries and** well-being

#### **FISHING AS A WAY OF LIFE**

Small-scale fisheries are vital to the socio-economic wellbeing of millions in coastal communities through food security and income. Beyond material benefits, fishing is deeply intertwined with cultural identity, social norms, and community cohesion<sup>1</sup>.

However, the increasing commercialization of small-scale fisheries, leading to profit-driven overfishing and environmental degradation, threatens de societal benefits of this ancient human-nature interaction<sup>2</sup>.

#### FISHING AND SUBJECTIVE WELL-BEING (SWB)

SWB entails people's appraisals of their own lives, including both reflective cognitive judgements, such as life satisfaction, and emotional responses to ongoing life events (positive versus negative momentary affect)<sup>3</sup>.

People in small-scale fishing communities have cited fishing among the top things that bring them most happiness<sup>4</sup>, but empirical evidence is lacking on the mechanisms governing the relationship between engaging in fishing activities and SWB<sup>5</sup>.

#### **FLOW STATE**

Flow is a state in which people are completely immersed in an activity in which their level of skill matches the challenge at hand, where the activity itself is intrinsically rewarding, and leads to a sense of control and positive affect<sup>6</sup>.

### **RESEARCH QUESTIONS**

Here we investigate how fishing influences momentary affect by assessing the experienced well-being of fishers and ask:

- How does the momentary affect of fishers vary among their daily activities
- Is fishing success associated with fishermen's affect?
- Can fishing activities lead to flow state, enhancing positive affect?



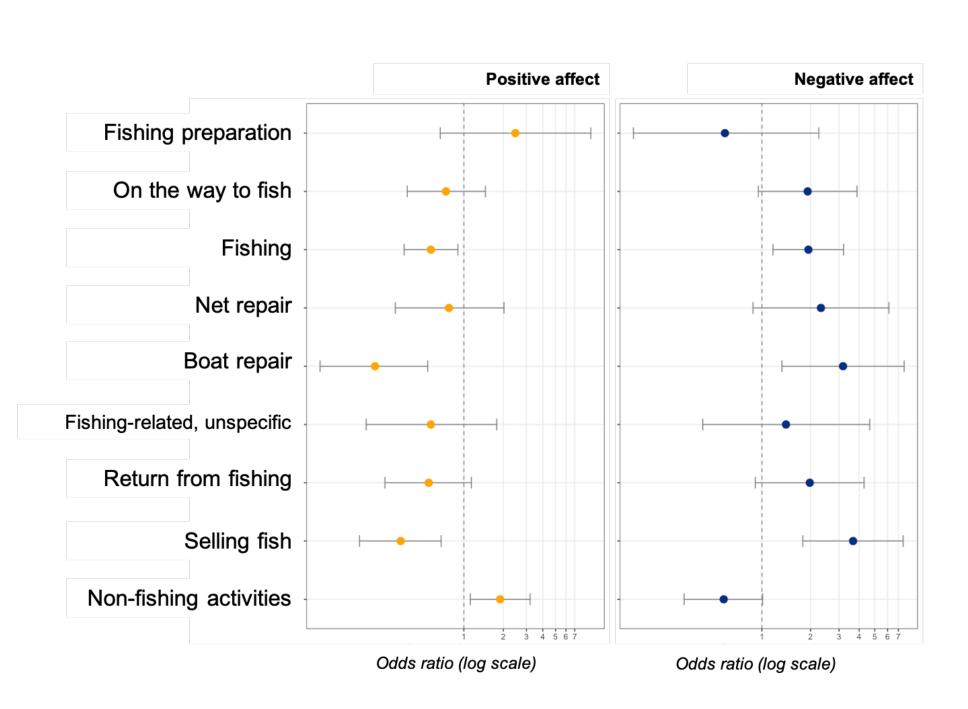
# Methodology

- Study Sites: Two fishing communities in Bangladesh rural Nijhum Dwip and urban Chittagong.
- Participants: 47 full-time fishers (27 from Nijhum Dwip, 20 from Chittagong).
- Data Collection: Experience Sampling Method (ESM) was used to survey participants about their current emotions, activities and fishing catch at random times throughout the day.
- Metrics: Positive affect (PA) and negative affect (NA) were calculated to gauge momentary SWB.



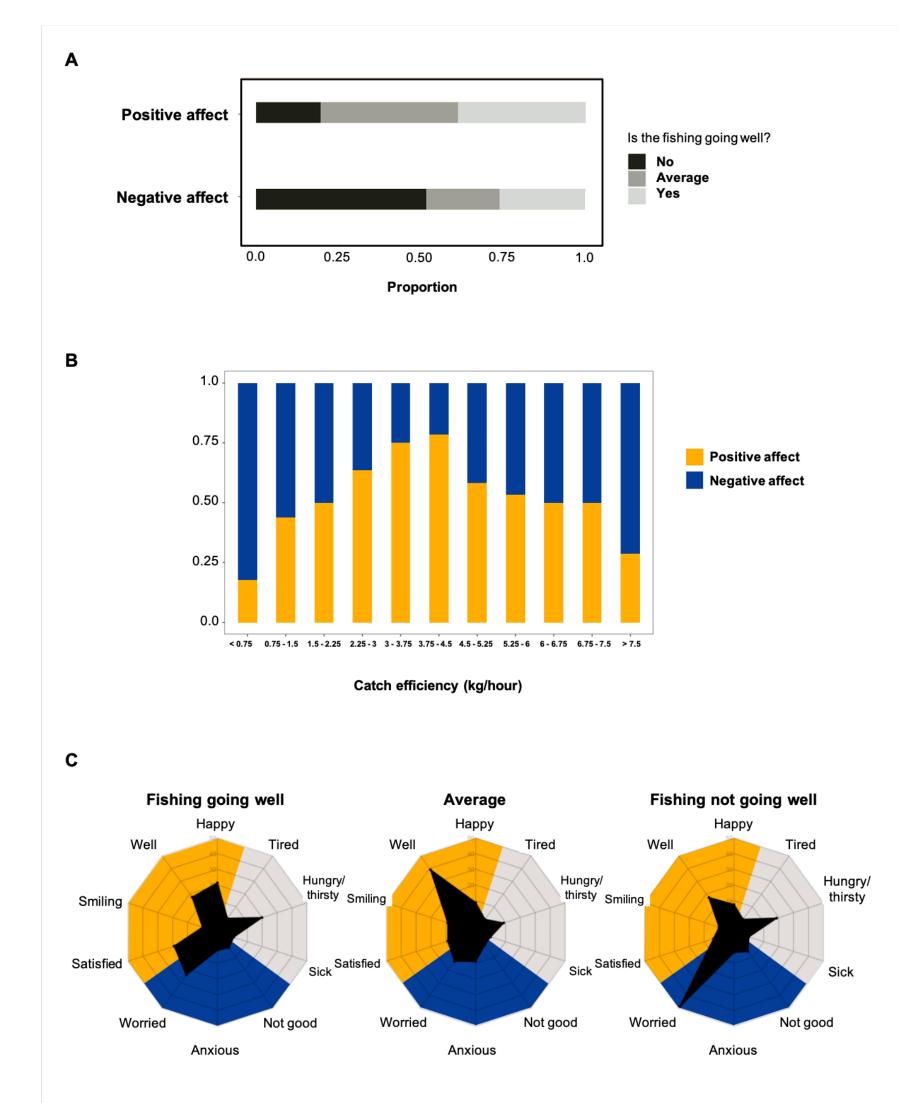
# Results

 Fishing activities were not directly associated with increased positive affect. The frequency of positive affect decreased as the fishing trip progressed.

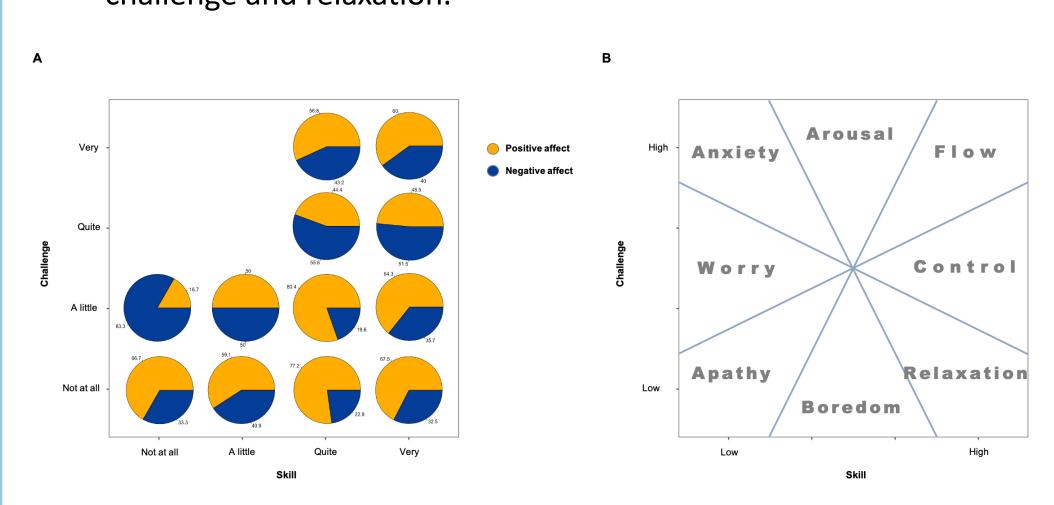


Odds of fishers reporting positive and negative affect depending on the activity they are doing. The reference activity is resting.

• Fishermen's subjective assessment of a fishing trip was significantly related to their affect, but the rate of fish catch was only related to affect over the lowest range.



• Challenging and highly skilled fishing activities, potentially associated with flow, were not associated with increased positive affect. Positive affect dominated at low levels of challenge and relaxation.



A) Proportions of reported positive and negative affect according to participant-assessed level of challenge and skill. B)Scheme of Csikszentmihalyi's flow fluctuation model<sup>7</sup>.

A) Response distribution of perceived fishing success for calls reporting positive and negative affect. B) Share of positive and negative affect with catch efficiency for hilsa fishers. C) Proportions of reported emotions and physical needs reported along with different fishing trip evaluations.

# Conclusions

- Our results contradict previous findings that fishing provides overwhelmingly positive feelings of thrill and adventure in fishermen.
- Catching more fish was not a key factor in providing more positive affect to fishers.
- Despite the positive role of small-scale fisheries for community well-being, our results question whether the fishing activity itself provides significant SWB benefits.

## **ACKNOWLEGMENTS**

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Link to publication:

## **REFERENCES**

- 1 Pollnac, R.B., & J.J. Poggie. Hum Ecol Rev, 15: 194-200 (2008)
- 2 Lapointe, M., et al. *People and Nature* 3(2), 391-404 (2021)
- 3 Diener, E., et al. *Nat Hum Behav* 2: 253–260 (2018)
- 4 Miñarro, S., et al. *PLoS ONE* 16: e0244569 (2021) 5 Weeratunge, N., et al. *Fish Fish* 15: 255–279 (2014)
- 6 Csikszentmihalyi, M. (1990, 2014)
- 7 Csikszentmihalyi, M., & Csikszentmihalyi, I.S. (1992)





