

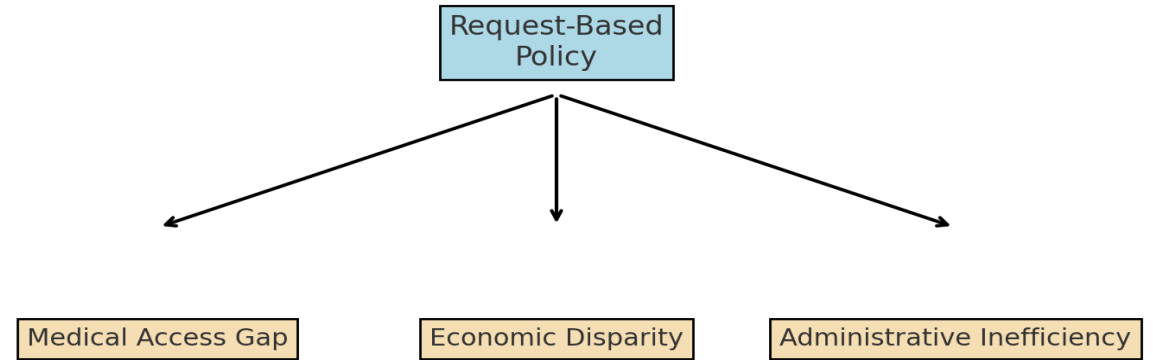
Psychosomatic Health Disparities and Fairness under COVID-19 in Japan: A New Model of Fairness and Resilience

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11:45-11:57, Plaza8, in 570: Health, Wellbeing and Ethics(Society and Health)

Based on IJERPH 2022 & Healthcare 2025

Japan's Non-Coercive Pandemic Response



- “Request-based” strategy: not legally enforced
- Revealed or accelerated disparities in:
 - – Access to medical resources (e.g., ICU beds)
 - – Distribution of financial capability, , **slow and opaque financial assistance**
 - – Institutional coordination failures, **and inconsistent policy execution**
- Raised questions of justice and fairness

3: Key Research Questions

1. How did psychosomatic health change during the pandemic?


2. What social, economic, and political factors explain disparities?

3. Can perceptions of fairness and justice act as effective factors?


4. How can we integrate empirical findings and normative theory through an interdisciplinary framework?

4: Conceptual Framework: Positive Political Psychology

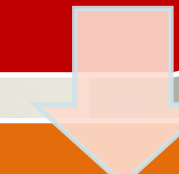
Our theoretical base includes the biopsychosocial model, positive psychology (PERMA, I COPPE), and political theories of justice.



We introduce the concept of **Positive Political Psychology**—a new interdisciplinary model—that can treat justice and well-being.



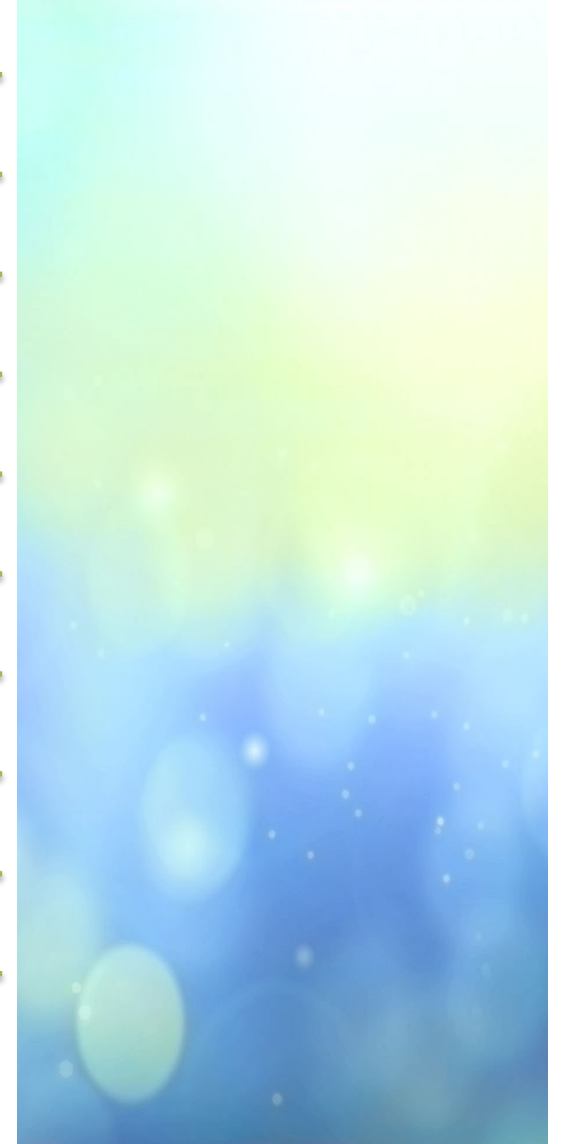
Political philosophy: Distributive justice (Rawls, Daniels) vs. Communitarian theory (ethical conception of justice and fairness).



This integrated structure allows us to connect psychosomatic conditions with multi-dimensional factors, highlighting the role of perceived justice in public resilience.

5:Data and Methodology

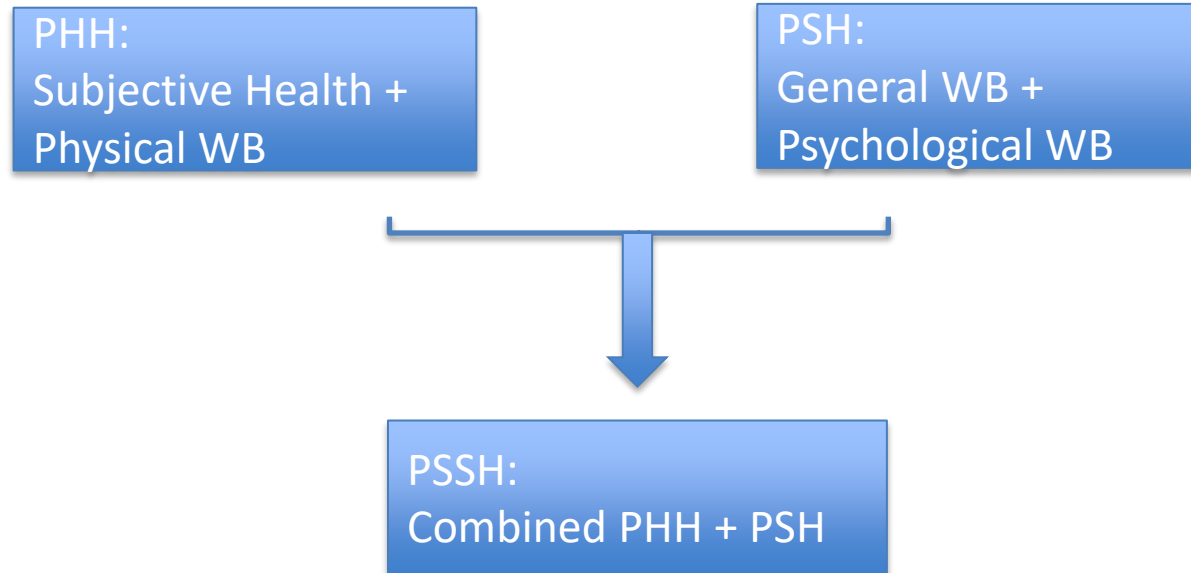
- Three nationwide online surveys in Japan:
 - May 2020 (N = 5,000)
 - March 2021 (N = 6,885)
 - October 2021 (N = 2,658)
- Key Measures:
 - SWLS, PERMA, I COPPE(I.Prilleltensky and others)
 - Psychological (PSH), Physical (PHH), Psychosomatic (PSSH) health indices
- Analysis:
 - Descriptive statistics
 - Pearson correlations
 - Multiple and logistic regression models

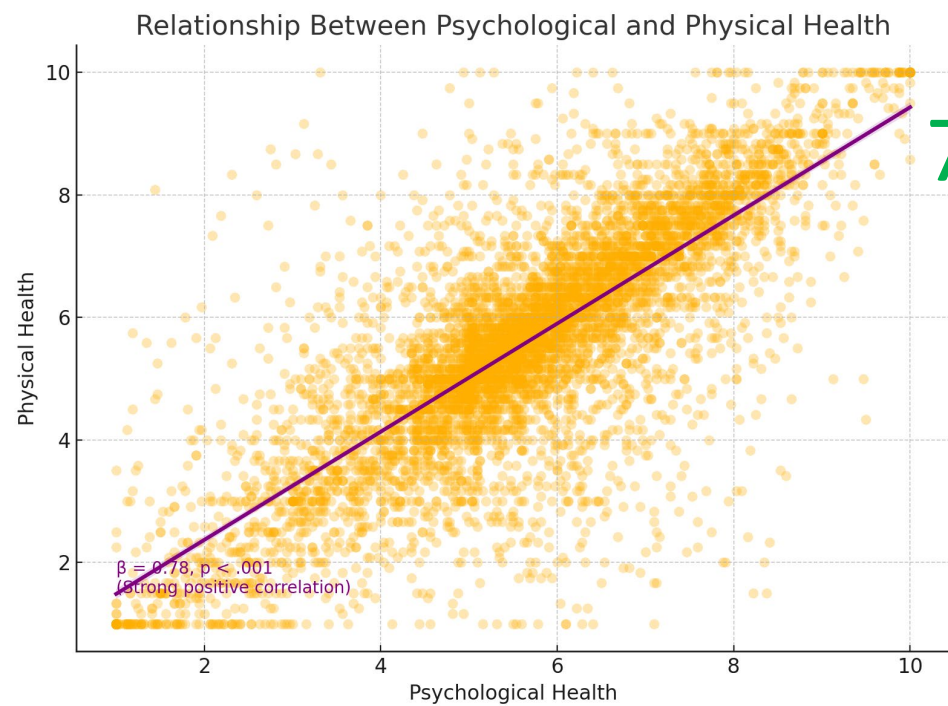


6. Psychosomatic Health Indicators

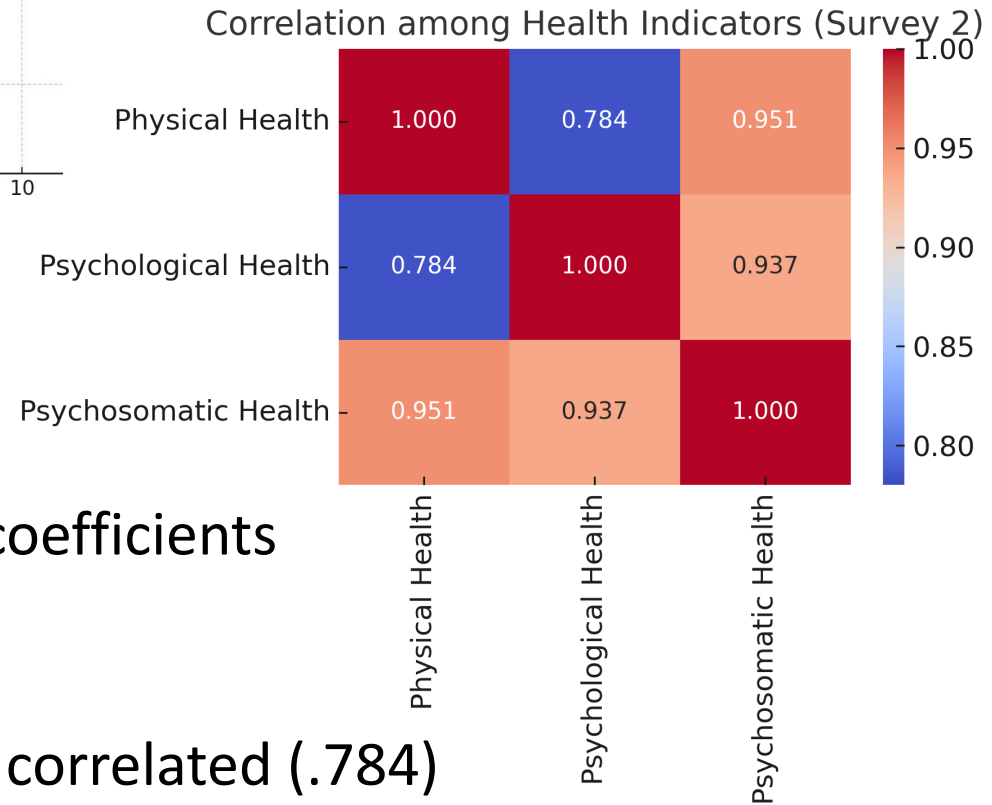
PERMA and I COPPE include physical and psychological items. Thus, we constructed composite indices as follows:

- **Physical Health (PHH)** = average of subjective health (PERMA) and physical WB (I COPPE)
- **Psychological Health (PSH)** = average of general WB (PERMA) and psychological WB (I COPPE)
- **Psychosomatic Health (PSSH)** = integrated index of PHH and PSH





7. Psychosomatic Health



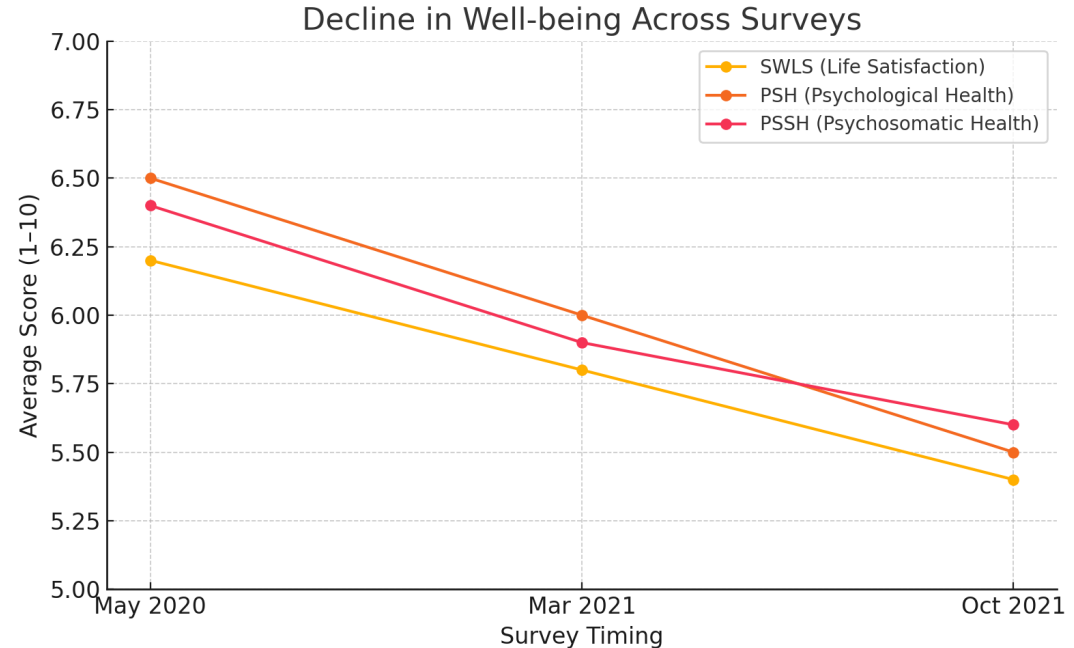
This heatmap illustrates Pearson correlation coefficients among three health indicators based on Survey 2 data:

- Physical and Psychological Health are highly correlated (.784)
- Each dimension is strongly associated with Psychosomatic Health (.951, .937)

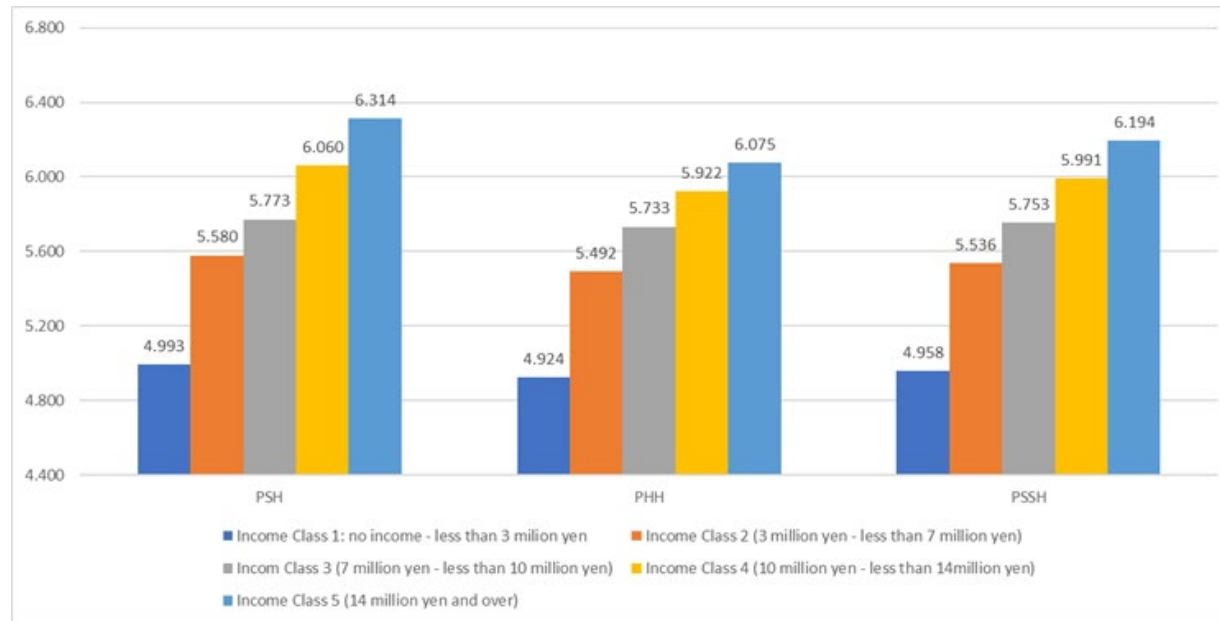
Colors represent the correlation strength, ranging from weak (blue) to strong (red).

8: Deterioration of Health under COVID—19

- Well-being declined overall. Life satisfaction dropped and psychosomatic symptoms increased.
- Yet, a subset improved—suggesting a polarization in outcomes.
- This complexity reflects structural inequality beneath uniform health metrics.



9. Income and Health Disparity




Income is strongly Associated with psychological/physical/psychosomatic health.

Note: PSH/PHH/PSSH: Psychological/ Physical/ Psychosomatic Health.

Survey 2: Income Class 1: N = 1363, Income Class 2: N = 2731, Income Class 3: N = 1075, Income Class 4: N = 399, Income Class 5: N = 194.

Survey 3: Income Class 1: N = 484, Income Class 2: N = 1015, Income Class 3: N = 385, Income Class 4: N = 164, Income Class 5: N = 101.



10. Multi-Dimensional Determinants of Psychosomatic Health

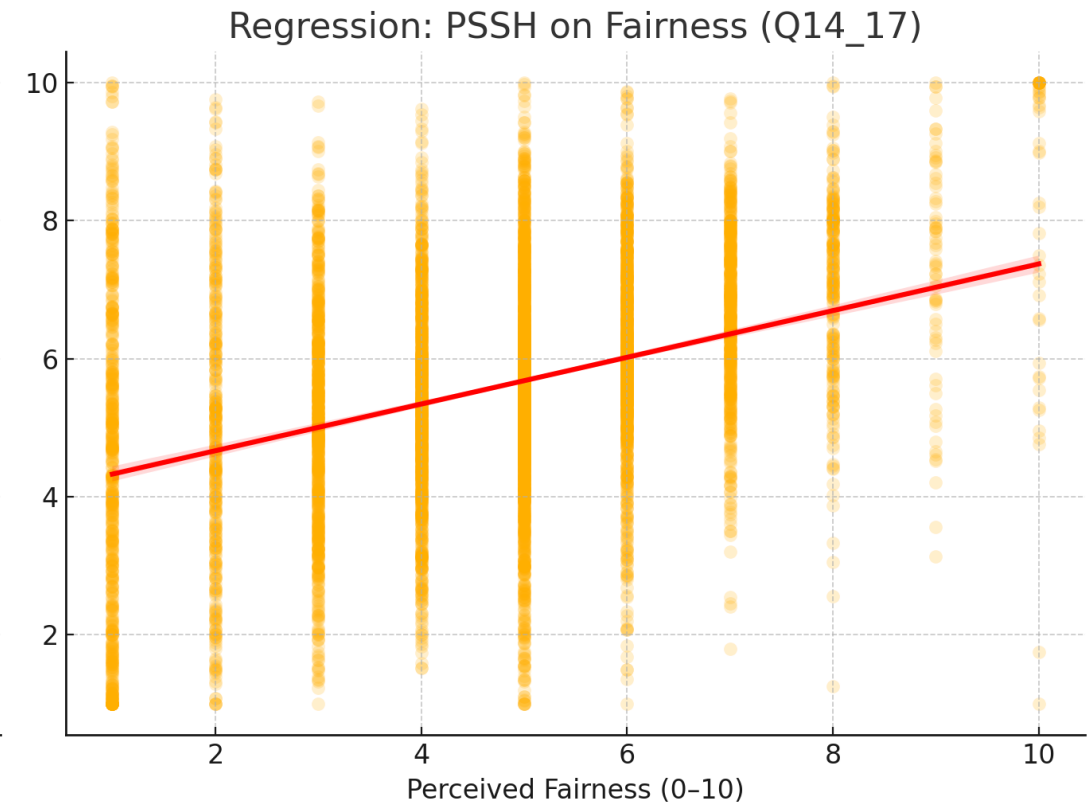
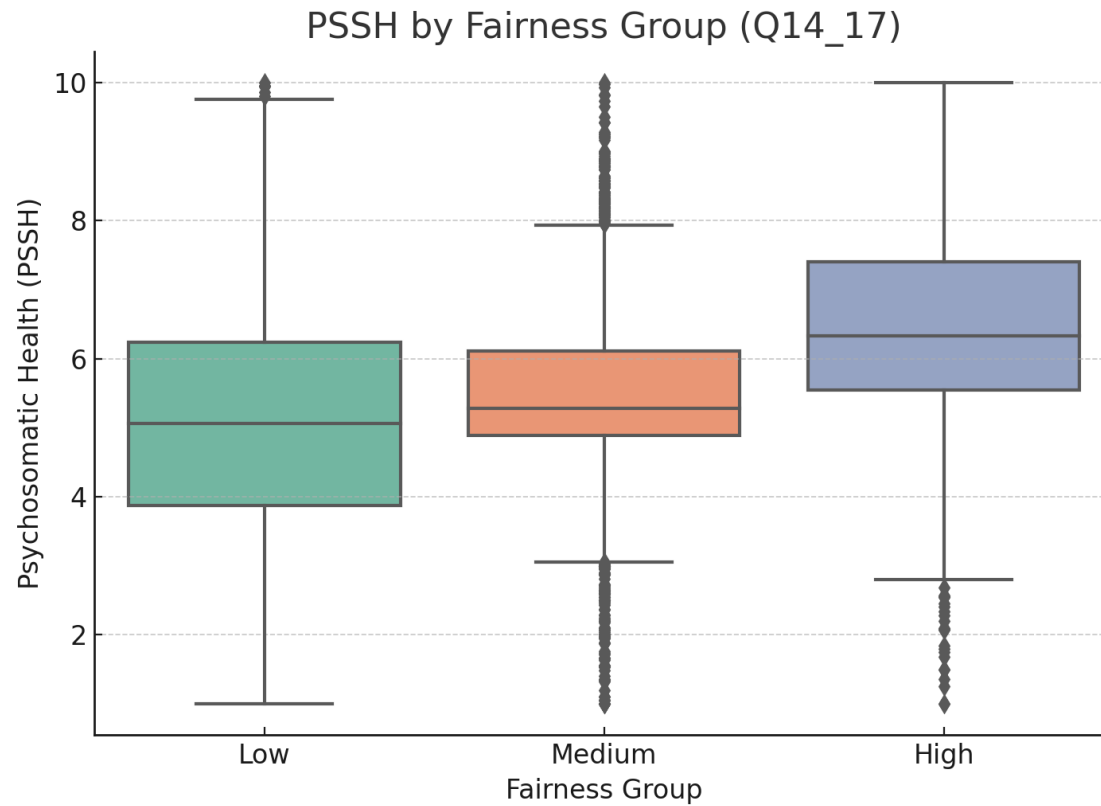
- Psychosomatic health was linked to multiple domains:
- **Biological**: exercise, eating habits
- **Economic**: Income, assets
- **Cultural**: education, access to nature
- **Social**: stratification, trust, inequality perception,
- **Political**: perceived justice, fairness, human rights
- Consistent across **all** three survey waves
- Indicates the **multi-dimensional nature of health disparity**
 - These domains were not only individually important—they interacted. Such interaction effects underline the value of a political-psychological approach.

11:Justice and Fairness

- Importantly, fairness had a **buffering effect for decreasing psychosomatic health**— those who perceived higher fairness were significantly less likely to report health deterioration. Perceived fairness was a predictor of better psychosomatic outcomes.
- This reinforces a key message shared in the international profile of our research: **fairness is measurable and impactful.**



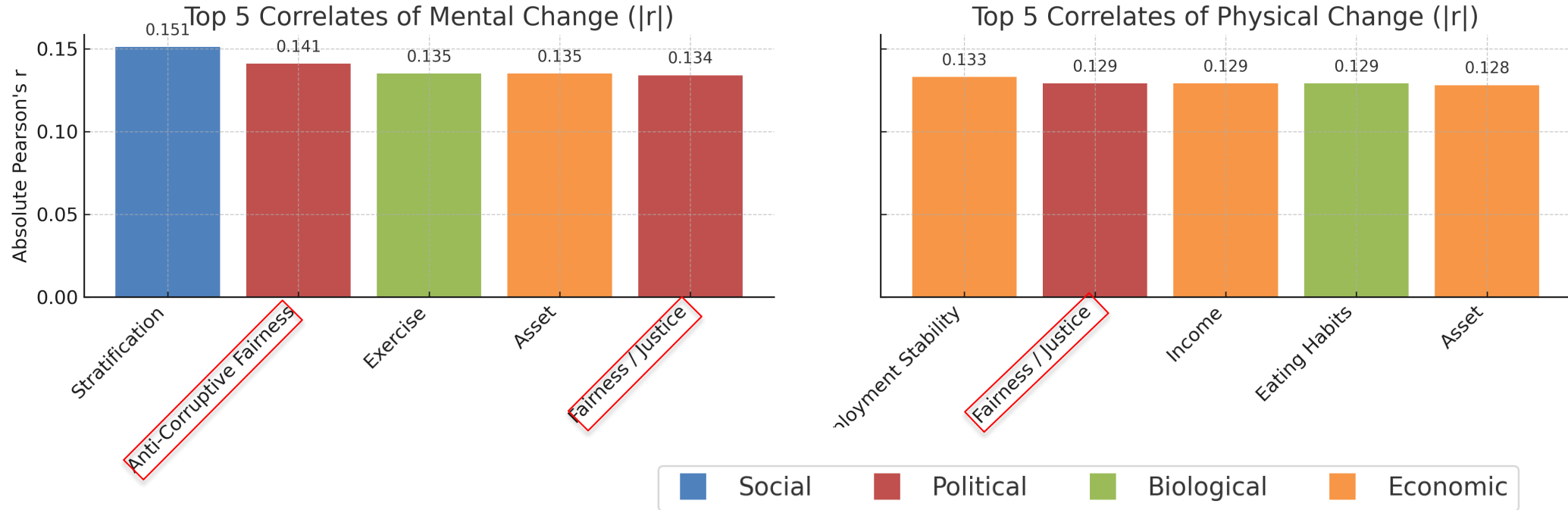
12. Fairness and Psychosomatic Health



- Note:
- Left: Boxplot shows how psychosomatic health (PSSH) varies by perceived fairness level (tertiles).
 - Right: Scatter plot with regression line and 95% confidence interval visualizes linear relationship.
 - Perceived Fairness is based on Q14_17: 'To what extent do you think society is fair and just?' (0-10 scale).

13. Top Predictors of Mental and Physical Change

Top Predictors of Mental and Physical Change by Domain



These charts compare the top five factors most strongly correlated (absolute Pearson's r) with **Mental and Physical Change** (Survey 1, 2020). Figures reflect the absolute values of correlations (positive impacts for health).

Data are derived from Survey 1 (Appendix E, Healthcare, 2025). Manual labels for each category of the factor are added under each bar. **Fairness/Justice** ranks 2nd in **Physical Change** and 5th in **Mental Change**, showing its consistent relevance. **Anti-Corruptive Fairness** ranks 2nd in **Physical Change**.

These indicators represent **subjective perceptions of change** during the COVID-19 pandemic.

14: Policy Implications: Multi-dimensional Communitarian Intervention

Public health must move beyond clinical access.

- Health equity requires multi-dimensional policy approaches:
 - Biological (healthcare access, physical care)
 - Economic (income support, job security)
 - Social (trust building, decrease of stratification)
 - Political (justice and fairness, human rights, anti-corruption)
- Communitarian interventions for multi-dimensional improvement

15. Fairness for Health Equity

- Our findings suggest that **integrating fairness** into health communication, policy, and aid distribution could improve psychosomatic resilience in future crises.
- Policies that enhance perceived justice—through transparent procedures and equitable support—may protect vulnerable populations from psychosomatic deterioration.
- Fairness should be considered a measurable, actionable determinant in public health planning.
- Then, promote **ethical fairness** as a measurable and actionable policy goal

16: Conclusion

The Japanese experience shows that health disparity is shaped by economic, social, and political perceptions.

Psychosomatic health (PSSH) declined overall, with polarization

Multi-dimensional factors influence health disparity fairness

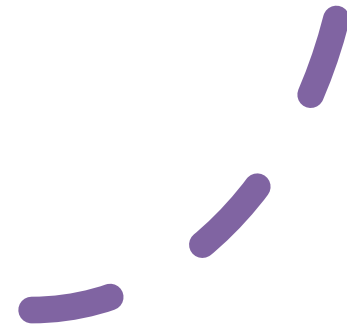
Perceived justice and fairness protects vulnerable populations

Our research, introduced as a model of 'Positive Political Psychology,' proposes that fairness and justice be treated as core components of health strategy.

Justice and fairness are not merely a moral value—it is a predictor of resilience.

17: Q&A

- Thank you very much. I welcome your questions.
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18: References

- Kobayashi, M. et al. (2022). Multi-Dimensional Dynamics of Psychological Health Disparities under the COVID-19 in Japan. *IJERPH*, 19(24), 16437.
- Kobayashi, M. et al. Social, Economic, and Ethico-Political Determinants of Psychosomatic Health Disparities (2025). *Healthcare*, 13(12),1362.
- Kobayashi, M. (2023). Well-being and Fairness in the COVID-19 Crisis in Japan: Insights from Positive Political Psychology. In *Social Fairness in a Post-Pandemic World: Interdisciplinary Perspectives*; Ishido, H., Mizushima, J., Kobayashi, H., Zhang, X., Eds.; Palgrave: NY, USA.
- Rawls, J. (1971). *Theory of Justice*, Harvard University Press.
- Daniels, N., Kennedy, B., Kawachi, I., Cohen, J., Rogers, L., (2001). *Is Inequality Bad For Our Health?* ,Beacon Press.
- Daniels, N. (1985). *Just Health Care*. Cambridge University Press.
- Marmot, M.G. (2015). *The Health Gap: The Challenge of an Unequal World*; Bloomsbury Pub Plc: New York, NY, USA.
- Sandel, M.J. (1982). *Liberalism and the Limits of Justice*; Cambridge University Press: Cambridge, UK,
- Seligman, M. (2011). *Flourish*. Free Press.
- Engel, G. (1977). The Need for a New Medical Model. *Science*.

Appendix

Positive Political Psychology

- An **interdisciplinary** approach that integrates philosophical theory with empirical psychology.
- This approach draws on the **normative** frameworks of political philosophy, such as liberalism and communitarianism, and examines them through **empirical** methods to assess their real-world relevance.
- It is grounded in the idea that justice and fairness are not only ethical ideals, but can be **measurable predictors of psychosomatic health**.
- By situating justice within both philosophical and empirical domains, this bridges the gap between **what ought to be** and **what can be observed** in people's lived experiences.
- This **conceptual innovation** has been explored as a model for understanding how justice, health, and well-being are inextricably linked.

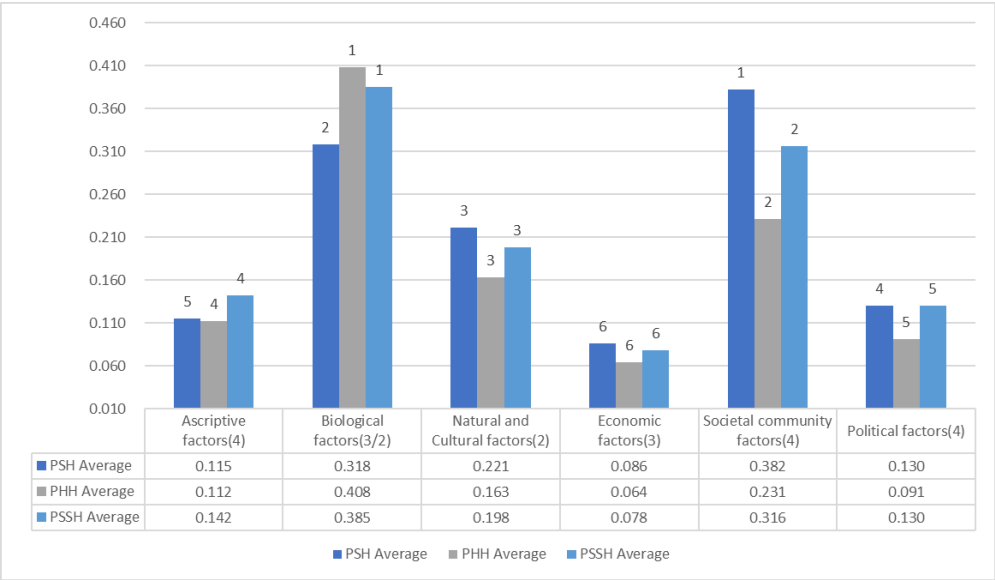
Visualization of Multi-dimensional Determinants

Total standardized β -coefficients for each category based on the 2022 and 2024 surveys.

	PSSH	
	Survey1	Survey2
Ascriptive factors	low	low
	[5]	[4]
Biological factors	moderate	moderate
	[2]	[1]
Natural and Cultural factors	low	low
	[4]	[3]
Economic factors	negligible	low
	[6]	[5]
Societal community factors	moderate	low
	[1]	[2]
Political factors	low	negligible
	[3]	[6]

Figures in brackets indicate the relative rank based on the strength of Pearson correlation coefficients.
Strength of β is labeled using standard health science thresholds:
Negligible: 0.01–0.10/ Low: 0.10–0.29/ Moderate: 0.30–0.49 / High: 0.50–1.00
Source: Table 2, Kobayashi and others (2025), Healthcare

Rough Estimation of Total Effects by Category (2022 & 2024)



Note: This figure is a *rough approximation* based on the sum of standardized partial regression coefficients (β) for all variables in each category, aggregated across two survey waves (2022 and 2024).

Due to differences in sample characteristics, variance, and model specification, direct comparison of coefficients across years is not valid.

This visualization is for heuristic purposes and does not provide exact inferential accuracy.