

# Who finds what just?

Attitudes on global health resource allocation principles during pandemics and their association to **Identification With All Humanity**.

Evidence from England and Germany



*Friedemann Trutzenberg, Minne Luise Hagel & Michael Eid*

Vienna, 20 September 2024

Friedemann Trutzenberg | Department of Education and Psychology, Freie Universität Berlin





# Global scarce resource allocation in pandemics

# Ethical distributive justice principles

## Benefit maximisation (Utilitarianism)

Save as many as possible!



## Equality

Lottery!

First come, first served!



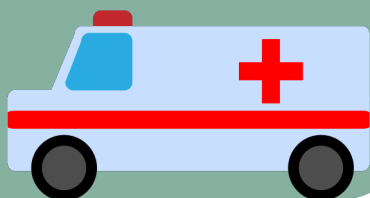
## Need (Equity) (Deontology)

Prioritise the vulnerable!



## Social usefulness

Health care personnel first!



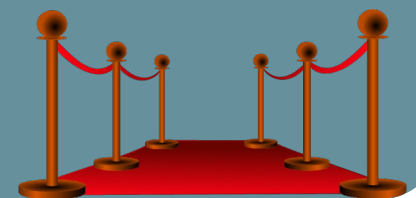
## Merit

Adherent individuals first!



## Entitlement

Nobelty first!



Boyd, 1997; Boylan, 2014; Campbell et al., 2001; Daniels, 1987; Day et al., 2020; Emanuel et al., 2022; Garrett et al., 1993; Gillon, 1997; Jonsen et al., 1998; Mikula, 1980; Persad et al., 2009; Tong, 2014; Vincent & Creteur, 2020

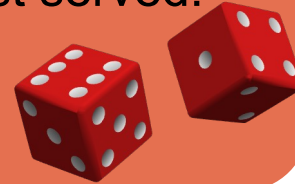
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<https://pixabay.com/vectors/dice-red-two-game-rolling-chance-25637/>; <https://pixabay.com/vectors/education-opportunity-equity-7200675/>;  
<https://pixabay.com/vectors/ambulance-hospital-medical-health-2411793/>;  
<https://pixabay.com/vectors/first-premier-winner-2023915/>; <https://pixabay.com/vectors/ambulance-hospital-medical-health-2411793/>

# Ethical distributive justice principles

**Benefit maximisation**  
(*Utilitarianism*)  
Save as many as possible!



**Equality**  
Lottery!  
First come, first served!

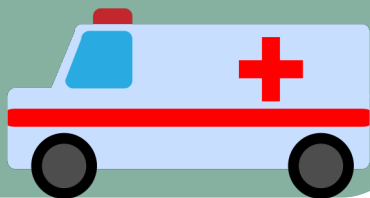


**Not new!**

**Priority**  
(*Priority*)  
Prioritise the vulnerable!



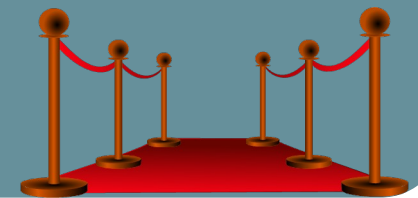
**Social usefulness**  
Health care personnel first!



**Merit**  
Adherent individuals first!



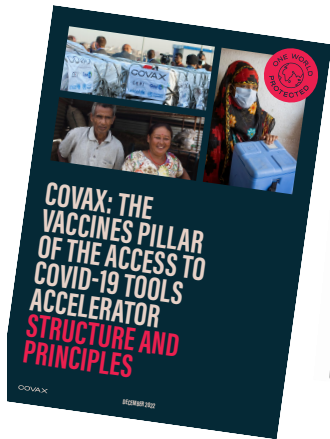
**Entitlement**  
Nobility first!



Boyd, 1997; Boylan, 2014; Campbell et al., 2001; Daniels, 1987; Day et al., 2020; Emanuel et al., 2022; Garrett et al., 1993; Gillon, 1997; Jonsen et al., 1998; Mikula, 1980; Persad et al., 2009; Tong, 2014; Vincent & Creteur, 2020

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# Solidarity



**The Washington Post**  
 Democratic Dies in Darkness  
**White House launching \$5 billion program to speed coronavirus vaccines**

'Project Next Gen' would succeed 'Operation Warp Speed' with a mission to develop next-generation vaccines and therapies

**Corona-Pandemie**  
**Berlin nimmt schwer kranke Patienten aus Frankreich auf**

Sa 28.03.20 | 16:02 Uhr

Nach ersten Covid-19-Patienten aus Italien soll Frankreich an der Berliner Charité behandelt werden



**The New York Times**  
**Pfizer Will Allow Its Covid Pill to Be Made and Sold Cheaply in Poor Countries**

The company announced a deal that could help significantly expand access to the Covid-19 treatment, but the agreement excludes a number of countries hit hard by the pandemic.

# Protectionism



**Advance Purchase Agreements**

SZ Meine SZ | SZ Plus | Ukraine | Israel | Politik | Wirtschaft | Meinung | Panorama  
**Corona-Pandemie**  
**Impf-Patente: Merkel widerspricht Biden**

Der US-Präsident vollzieht eine radikale Wende und will Lizenzen für Covid-19-Vakzine freigeben. Berlin und Brüssel setzen dagegen auf Exporte in ärmere Länder. Bundeskanzlerin Angela Merkel (CDU) hat skeptisch auf den Vorstoß der USA reagiert, die Patente für Impfstoffe befristet freizugeben, um so deren globale Verteilung zu beschleunigen. "Der Schutz von Innovation und Qualität ist die Grundlage von Innovation und Wachstum."



**Coronavirus puts Europe's solidarity to the test**

**CBC** | MENU

**NEWS** Top Stories Local Climate World Canada

**Canada has ordered more than 400 million COVID-19 vaccine shots: Here's the progress report**

Six months into vaccination campaign, some companies have delivered while others are a work in progress

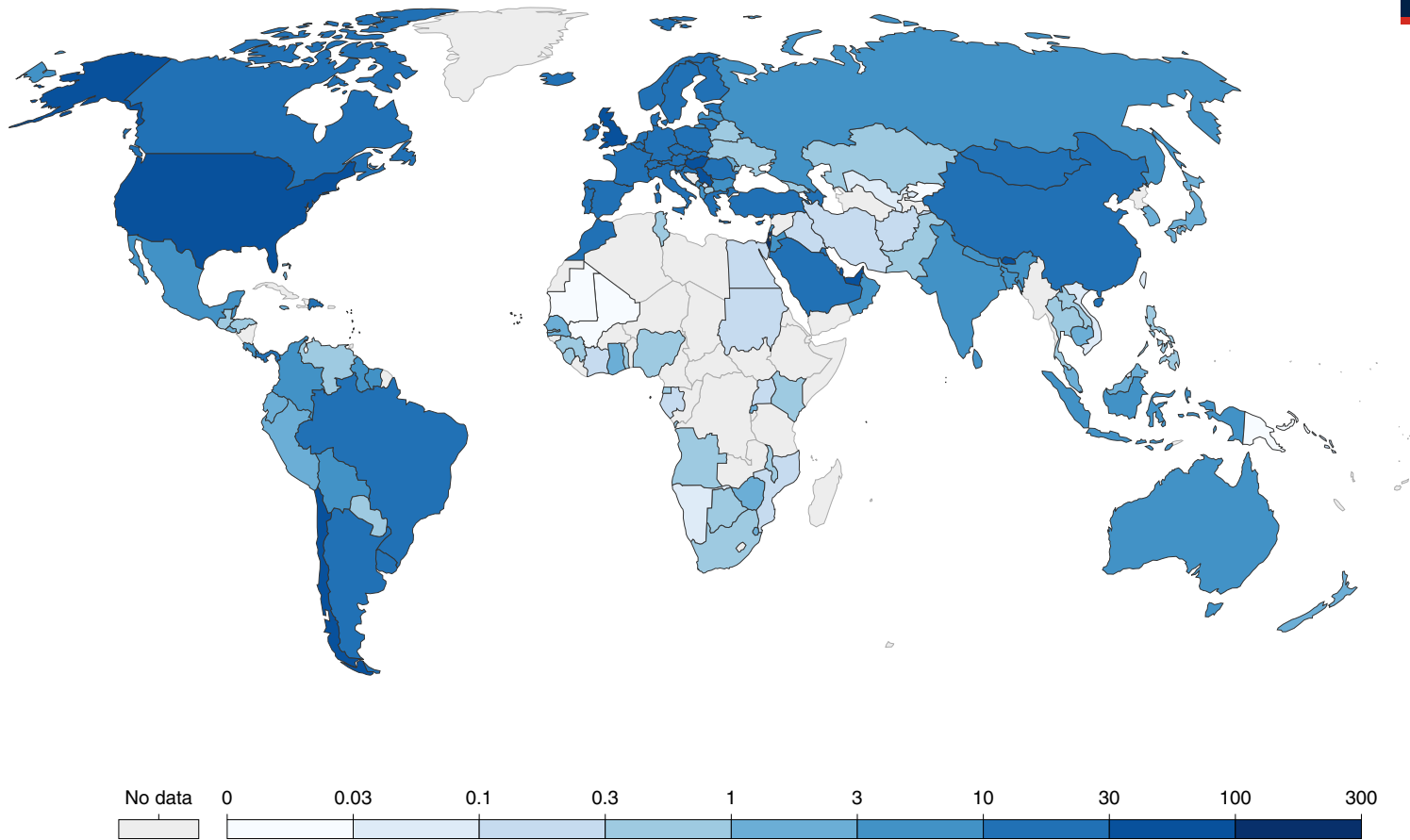
**The Guardian**  
**US secures world stock of key Covid-19 drug remdesivir**

**No other country will be able to buy remdesivir, which can help recovery from Covid-19, for next three months at least**  
 The US has bought up virtually all the stocks for the next three months of one of the two drugs proven to work against Covid-19, leaving none for the UK, Europe or most of the rest of the world.

Earlier this week, Germany and the Czech Republic decided to ban exports of medical protection equipment such as masks and gloves. The objective was to make sure that health workers have enough to deal with the coronavirus outbreak.

But this is something that Belgian health minister Maggie de Block criticised today.

Abbas, 2020; Ali et al., 2024; Bollyky & Bown, 2020; COVAX, 2020; Ganderberger et al., 2023; Herlitz et al., 2021; ICODA, 2024; McMahon et al., 2020; Sirleaf et al., 2021; Tandon, 2021; WHO, 2023a, 2023b; Wouters et al., 2021; see Jecker et al., 2023, and Luna & Holzer, 2021, for in-depth analyses



**Fig. 3 | Cumulative vaccine doses administered per 100 people in the total population.** Shown are the global data as of 7 April 2021. Single doses are counted, and may not equal the total number of people vaccinated, depending on the specific dose regime (some people may have received multiple doses).

Abbas, 2020; Ali et al., 2024; Campbell et al., 2001; Garrett et al., 1993; Ismail et al., 2021; Jecker et al., 2021; Jonsen et al., 1998; Katz et al., 2021; Lagman, 2021; Luna & Holzer, 2021; Mandavilli, 2024a; Mathieu et al., 2021; McMahon et al., 2020; Smith & Upshur, 2020; Tandon, 2021; WHO, 2023b, 2024



What do people think?

# Our insights so far

Citizens in England and Germany disapprove of national protectionism in pandemics. They opt for more efficiency, equity and equality in global health resource distribution.



Preferences for different principles are related following ethical proximity.

Preferences were similar across different health care resources, but substantially resource-specific, especially for some resources.





Vaccine

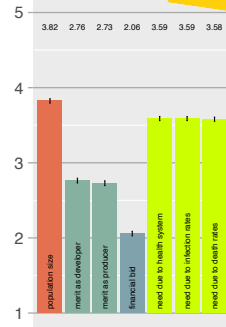


Tests  
COVID-19

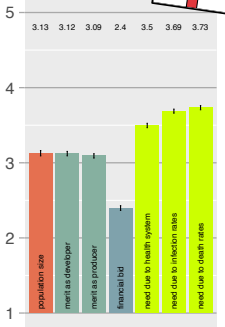


Ventilators

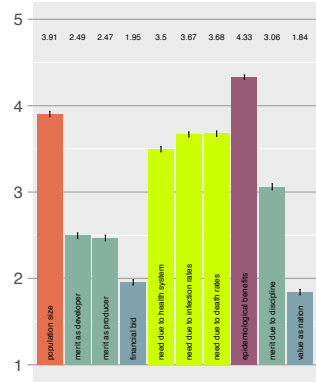
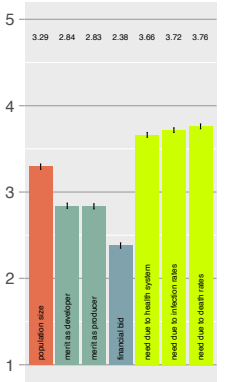
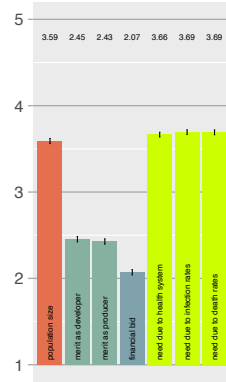
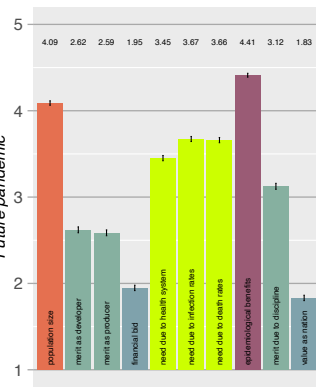
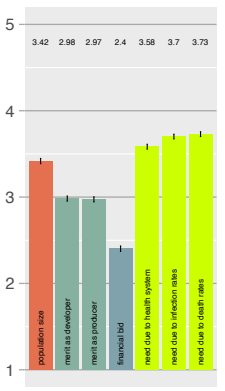
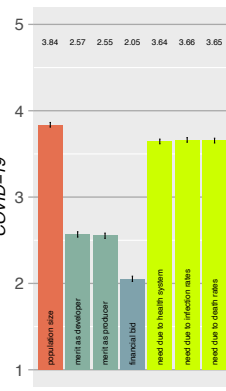
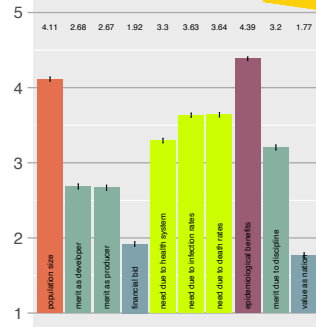
Germany, 2021  
regarding COVID-19



England, 2021  
regarding COVID-19



Germany, 2024  
regarding a potential future pandemic



# Justice principle

- Equality
- Merit
- Entitlement
- Need
- Benefit maximisation

A black and white photograph of a crowded subway train. The image is overlaid with several light blue arrows pointing in various directions, suggesting movement or search. A large, bold question mark is enclosed in a white circle on the right side of the image. The text "Who finds what just?" is written in a bold, black font across the top center of the image.



**Who finds what just?**

A bright yellow L-shaped graphic that frames the central text. It consists of a horizontal bar at the top, a vertical bar on the right side, and a horizontal bar at the bottom. The text 'Our study' is centered within the white space created by this frame.


Our study

# Samples

## Cohort 1

- ✓ Online questionnaire study
- ✓ Summer 2021
- ✓ Recruitment: Respondi (Bilendi)
- ✓  
- ✓ Representative
- ✓ Quality checked
- ✓ **N = 2692**  
( $n_{\text{England}} = 1328$ ,  $n_{\text{Germany}} = 1364$ )

## Cohort 2

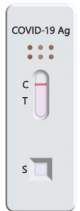
- ✓ Online questionnaire study
- ✓ Spring 2024
- ✓ Recruitment: Bilendi (Respondi)
- ✓ 
- ✓ Representative
- ✓ Quality checked
- ✓ **N =  $n_{\text{Germany}} = 1155$**

# Global Resource Distribution Principles Scale (GRDP)

Until enough COVID-19 vaccine can be produced to supply the entire world,  
I think it would be just if ...

1	Equality	<i>All countries equally (per capita)!</i>
2	Merit: Development	<i>Countries that developed the resource first!</i>
3	Merit: Production	<i>Countries that produced the resource first!</i>
4	Entitlement: Market	<i>Countries that pay more first!</i>
5	Need: Care	<i>Countries with worse treatment possibilities first!</i>
6	Need: Infections	<i>Countries with highest infection rates first!</i>
7	Need: Deaths	<i>Countries with highest death tolls first!</i>

2021



<https://pixabay.com/vectors/scuba-tank-diving-tank-oxygen-23932/>; <https://pixabay.com/vectors/covid-self-test-negative-corona-6155830/>; <https://pixabay.com/illustrations/vaccine-injection-covid-19-1a1a5779405/>

cf. Fischer et al., 2017



# Global Resource Distribution Principles Scale (GRDP)

**In a fictional future pandemic, until enough vaccine can be produced to supply the entire world, I think it would be just if ...**

1	Equality	<i>All countries equally (per capita)!</i>
2	Merit: Development	<i>Countries that developed the resource first!</i>
3	Merit: Production	<i>Countries that produced the resource first!</i>
4	Entitlement: Market	<i>Countries that pay more first!</i>
5	Need: Care	<i>Countries with worse treatment possibilities first!</i>
6	Need: Infections	<i>Countries with highest infection rates first!</i>
7	Need: Deaths	<i>Countries with highest death tolls first!</i>
8	Benefit maximisation: Efficiency	<i>End the pandemic globally asap!</i>
9	Merit: Adherence	<i>Societies that adhere to containment measures first!</i>
10	Entitlement: "Value"	<i>Countries with more "valuable" citizens first!</i>

2024

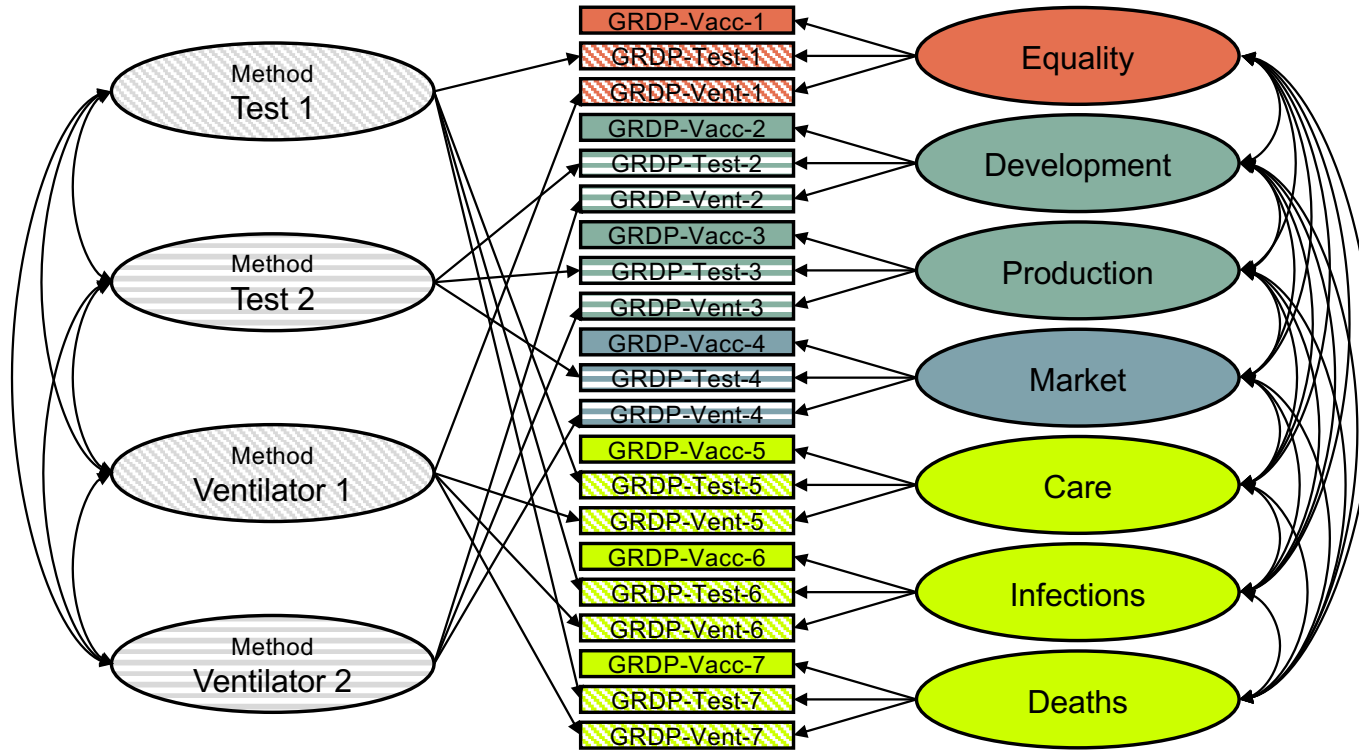


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cf. Fischer et al., 2017

# Global Resource Distribution Principles Scale (GRDP)

2021

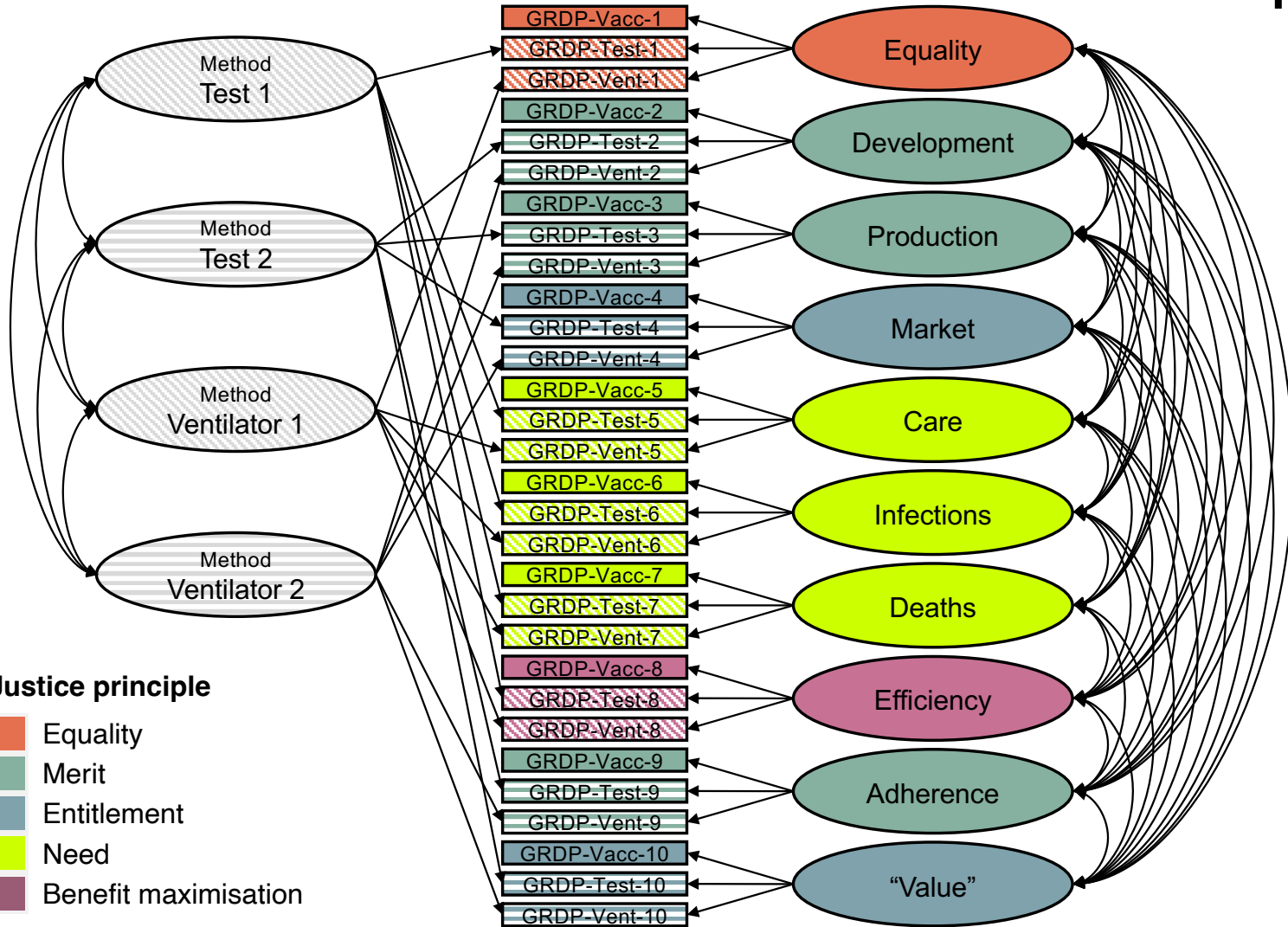


## Justice principle

- Equality
- Merit
- Entitlement
- Need
- Benefit maximisation

# Global Resource Distribution Principles Scale (GRDP)

2024



## Justice principle

- Equality
- Merit
- Entitlement
- Need
- Benefit maximisation

Model fit: 😊  
 Reliability: 😊  
 Variance: 😊



# Within-society justice attitudes

in “normal” times

## Basic Social Justice Orientation Scale (BSJO) (Hülle et al., 2018)

### **Equality**

e.g., “It is just if all people have the same living conditions”

### **Merit**

e.g., “It is just if hard-working people earn more than others”

### **Entitlement**

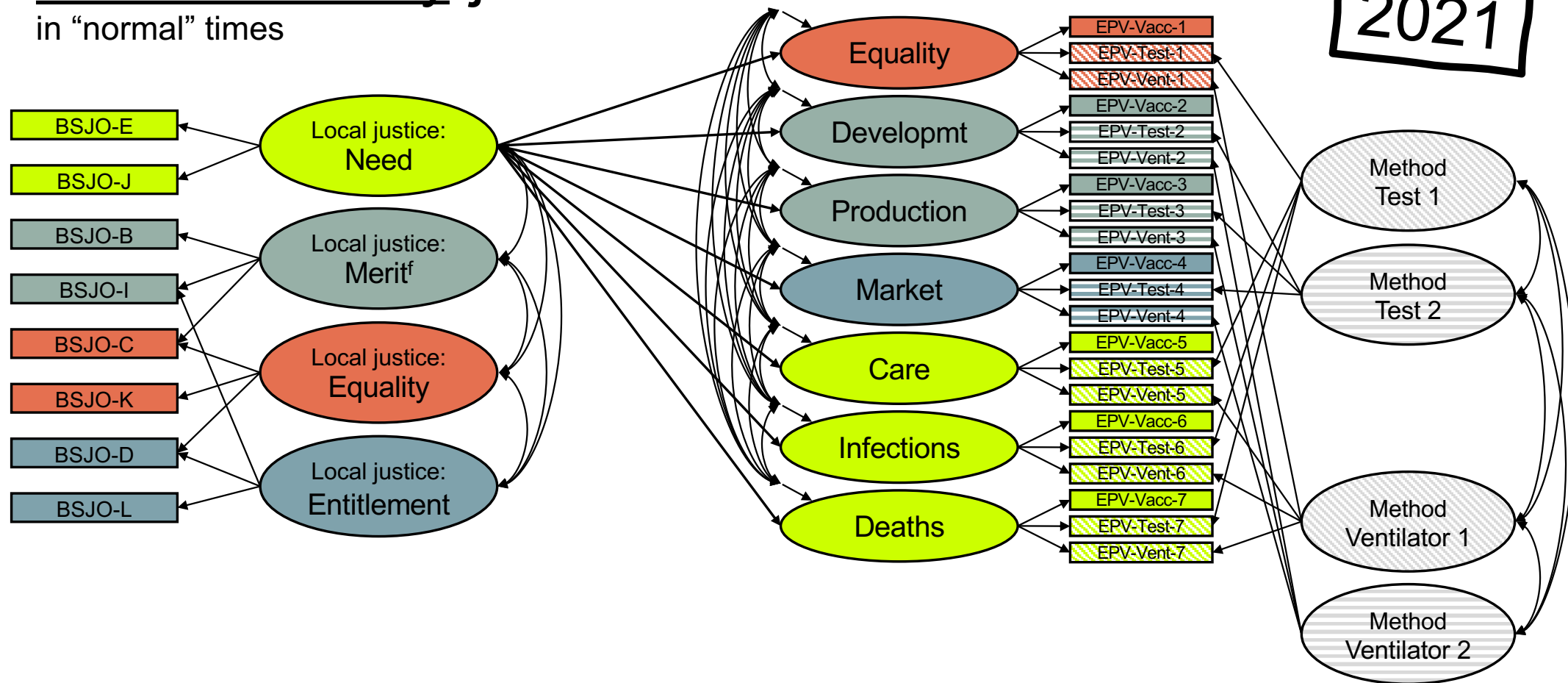
e.g., “It is fair if people on a higher level of society have better living conditions than those on the lower level”

### **Need**

e.g., “A society is just if it takes care of those who are poor and in need”

# Within-society justice attitudes

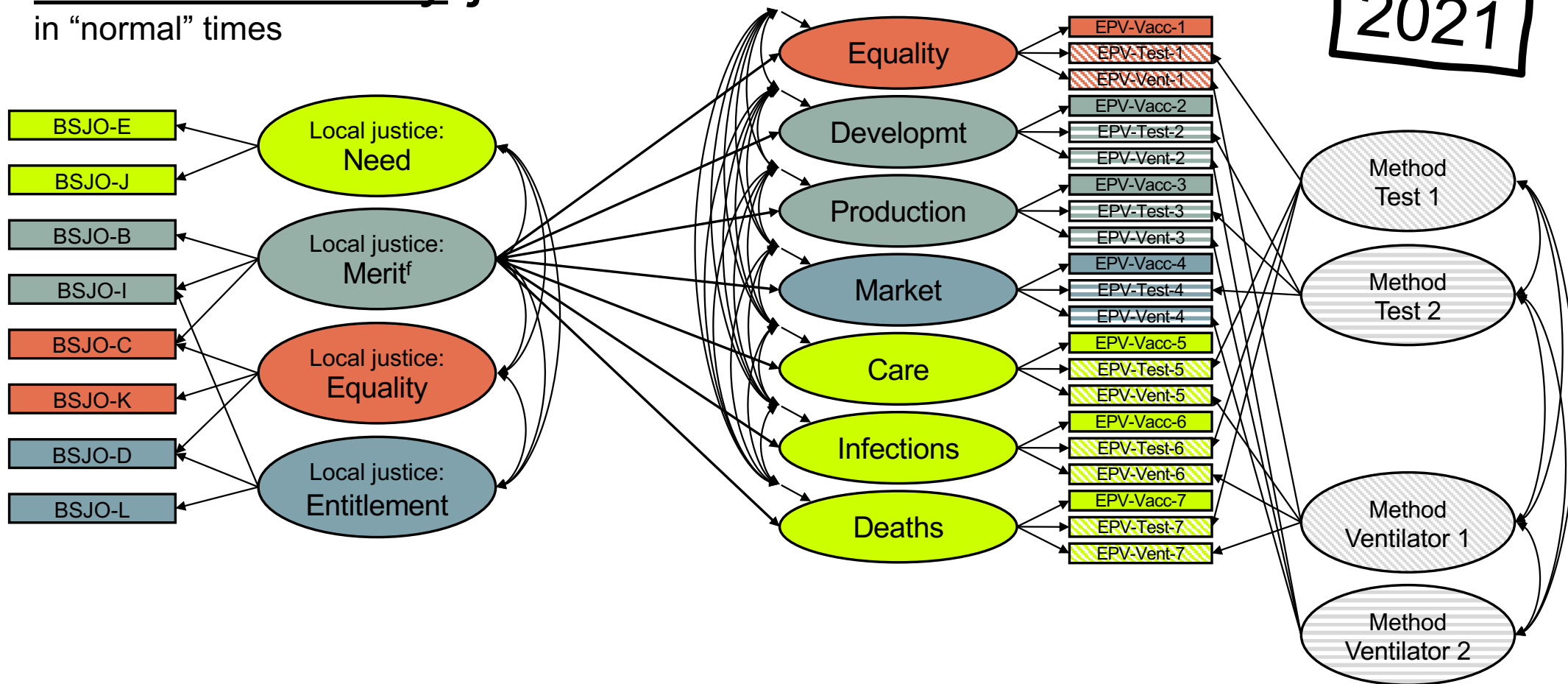
in "normal" times



originally labelled "equity"  
(Hülle et al., 2018, p. 668)

# Within-society justice attitudes

in “normal” times

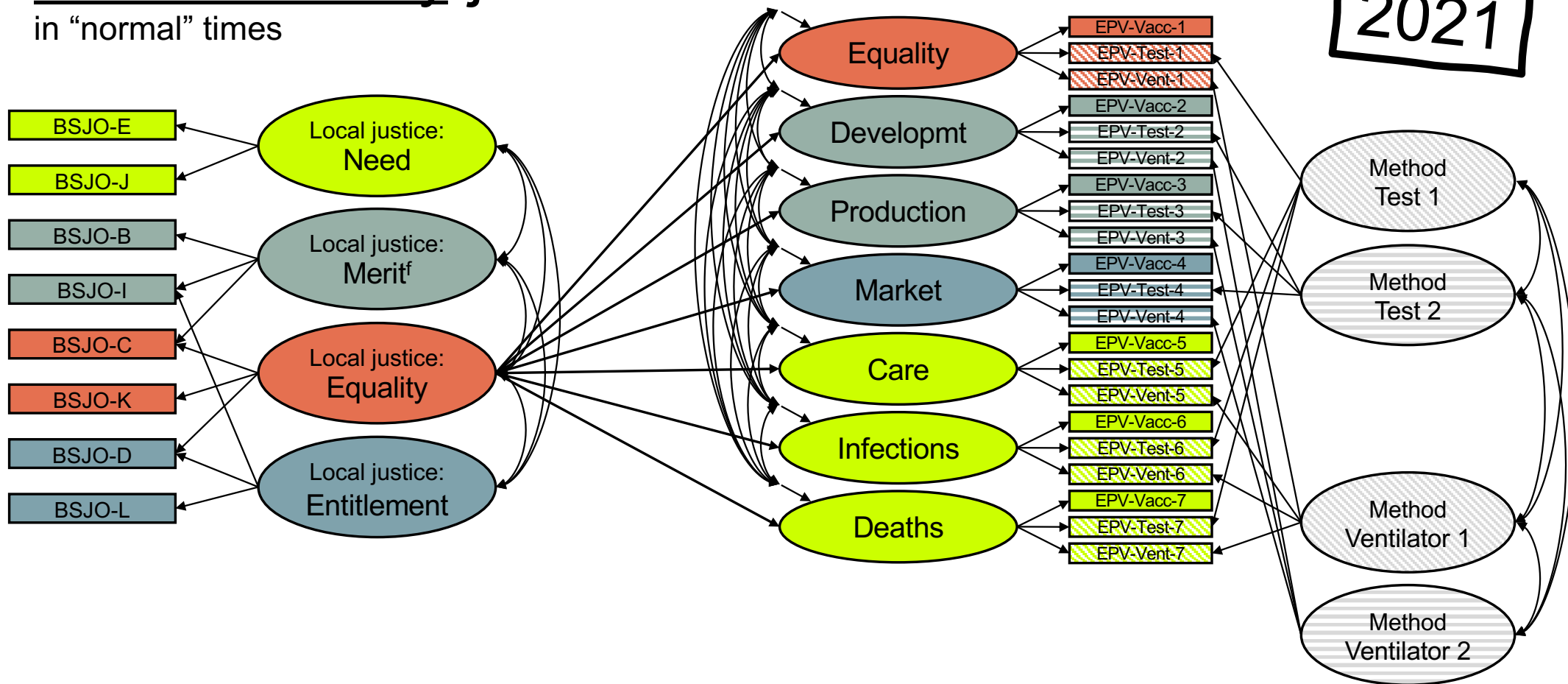


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# Within-society justice attitudes

in “normal” times

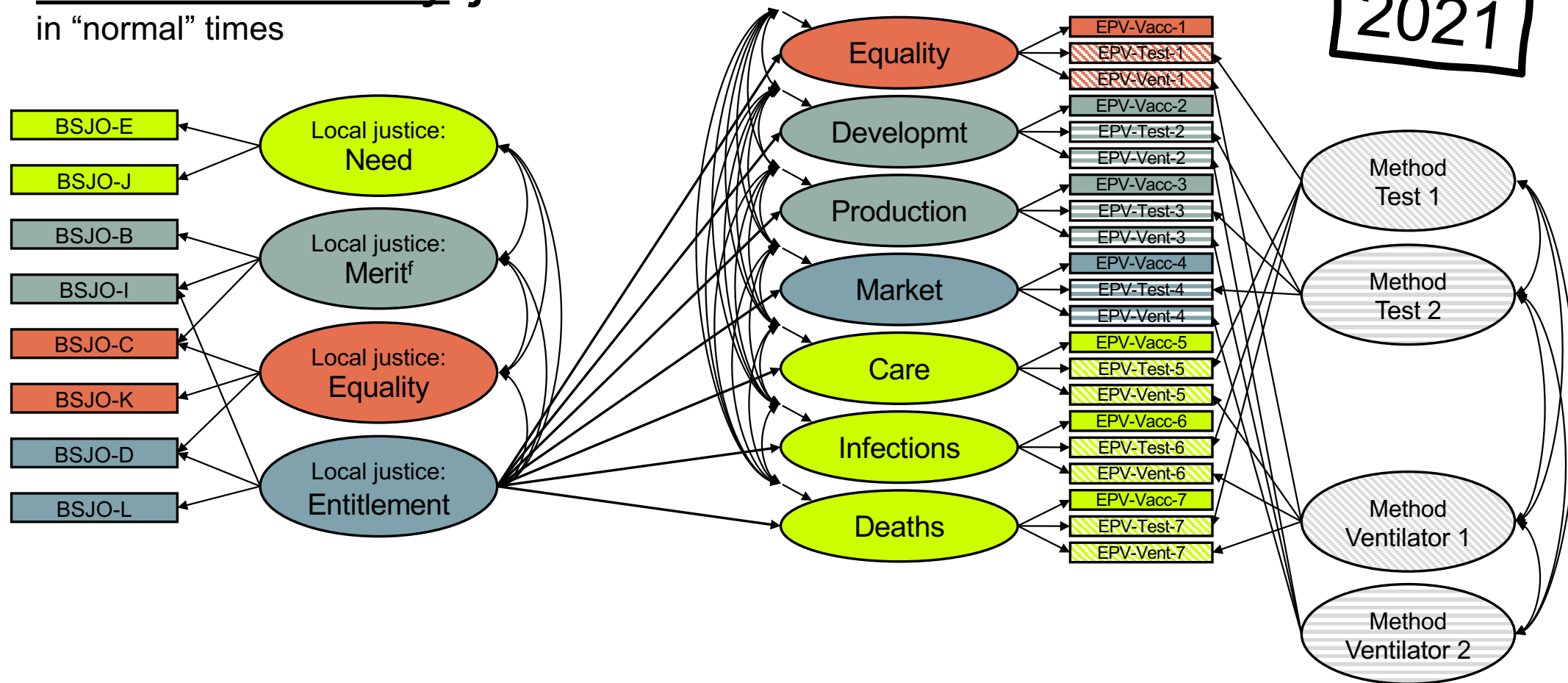


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# Within-society justice attitudes

in “normal” times

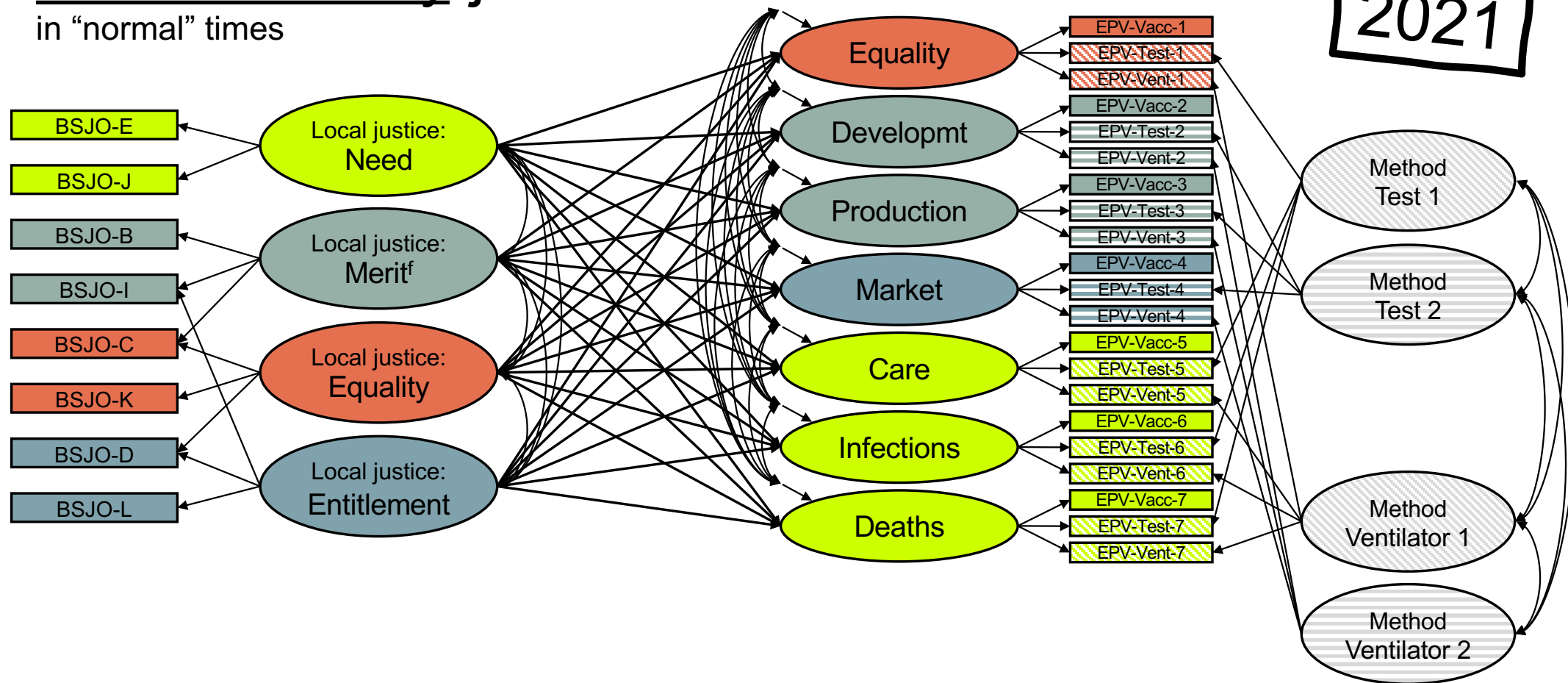


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# Within-society justice attitudes

in “normal” times



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# Within-society justice attitudes

in “normal” times

2021

Predictors

Outcomes

	Equality		Merit		Entitlement		Need	
	Germany	England	Germany	England	Germany	England	Germany	England
<b>Equality</b> (population size)	.46***	.45***	-.31*	-.18 (n.t.)	-.32***	-.22***	.50 (n.t.)	.41 (n.t.)
<b>Development</b> (merit as developer)	-.18***	-.12***	.30*	.34 (n.t.)	.29 (n.t.)	.35 (n.t.)	-.21***	-.09*
<b>Production</b> (merit as producer)	-.17***	-.12***	.29*	.33 (n.t.)	.28 (n.t.)	.34 (n.t.)	-.22***	-.09*
<b>Market</b> (financial bid)	-.27***	-.14***	.33 (n.t.)	.38 (n.t.)	.40***	.41***	-.38***	-.19***
<b>Care</b> (need due to health system)	.33 (n.t.)	.38 (n.t.)	-.22*	-.20 (n.t.)	-.20***	-.23***	.36***	.47***
<b>Infections</b> (need due to infection rates)	.27 (n.t.)	.36 (n.t.)	-.13.	-.16 (n.t.)	-.13**	-.21***	.32***	.47***
<b>Deaths</b> (need due to death rates)	.26 (n.t.)	.36 (n.t.)	-.13.	-.18 (n.t.)	-.13**	-.23***	.33***	.45***

Standardized regression coefficients  
 from separate models for each predictor facet  
 (p values corrected; Benjamini & Hochberg, 1995)

Holds in model  
 with other facets

https://pixabay.com/vectors/germany-flag-german-flag-1763774/, https://pixabay.com/vectors/flag-england-civil-state-red-28514/

# Within-society justice attitudes

in "normal" times

Outcomes

$R^2_{mult.}$

2021

Predictors

	$R^2_{mult.}$		Equality		Merit		Entitlement		Need	
	Germany	England	Germany	England	Germany	England	Germany	England	Germany	England
<b>Equality</b> (population size)	.26	.21	.46***	.45***	-.31*	-.18 (n.t.)	-.32***	-.22***	.50 (n.t.)	.41 (n.t.)
<b>Development</b> (merit as dev)	.11	.14	-.18***	-.12***	.30*	.34 (n.t.)	.29 (n.t.)	.35 (n.t.)	-.21***	-.09*
<b>Production</b> (merit as produc)	.11	.14	-.17***	-.12***	.29*	.33 (n.t.)	.28 (n.t.)	.34 (n.t.)	-.22***	-.09*
<b>Market</b> (financial bid)	.21	.24	-.27***	-.14***	.33 (n.t.)	.38 (n.t.)	.40***	.41***	-.38***	-.19***
<b>Care</b> (need due to health syste)	.15	.21	.33 (n.t.)	.38 (n.t.)	-.22*	-.20 (n.t.)	-.20***	-.23***	.36***	.47***
<b>Infections</b> (need due to infec)	.12	.21	.27 (n.t.)	.36 (n.t.)	-.13.	-.16 (n.t.)	-.13**	-.21***	.32***	.47***
<b>Deaths</b> (need due to death ra)	.13	.19	.26 (n.t.)	.36 (n.t.)	-.13.	-.18 (n.t.)	-.13**	-.23***	.33***	.45***

Standardized regression coefficients  
 from separate models for each predictor facet  
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Holds in model  
 with other facets

https://pixabay.com/vectors/germany-flag-german-flag-1763774/, https://pixabay.com/vectors/flag-england-civil-state-red-28514/



# What we have learned

Attitudes on global resource allocation strategies in pandemics can be predicted by...

...attitudes on general within-society justice  
(.11 <  $R^2$  < .26; attitude on *Need* strongest)



# Global justice attitudes

in “normal” times

Measure of justice beliefs about global inequality (JBGI) (Reese et al., 2014)

e.g., “Global inequality between people from developed and so-called developing countries is unjust.”

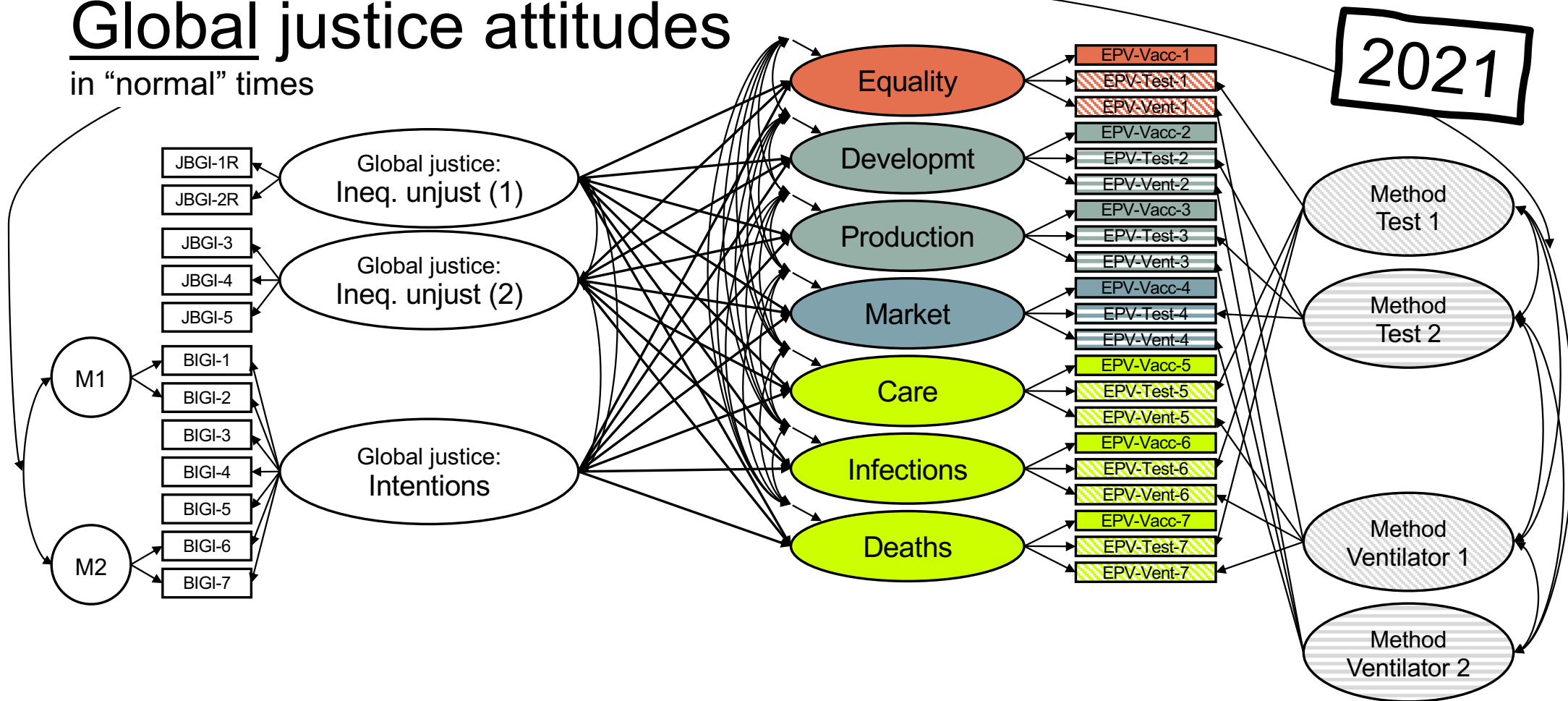
Measure of behavioral intentions toward global inequality (BIGI)

(Reese et al., 2012, 2014)

e.g., “I would reduce my standard of living if I could thereby contribute to decreasing global inequality.”

# Global justice attitudes

in "normal" times



# Global justice attitudes

in "normal" times

Outcomes

$R^2_{mult.}$

2021

Predictors

Global inequality unjust

Factor 1 (inverted)

Factor 2

Behavioral intentions



	$R^2_{mult.}$	$R^2_{mult.}$	Factor 1 (inverted)	Factor 1 (inverted)	Factor 2	Factor 2	Behavioral intentions
	Germany	UK	Germany	UK	Germany	UK	Germany
<b>Equality</b> (population size)	.36	.25	.49***	.30***	.55***	.45***	.58***
<b>Development</b> (merit as developer)	.17	.16	-.39***	-.40***	-.29***	-.29***	-.27***
<b>Production</b> (merit as producer)	.17	.17	-.39***	-.40***	-.31***	-.27***	-.27***
<b>Market</b> (financial bid)	.25	.22	-.50***	-.44***	-.42***	-.26***	-.30***
<b>Care</b> (need due to health system)	.22	.27	.36***	.40***	.45***	.49***	.44***
<b>Infections</b> (need due to infection)	.16	.23	.29***	.38***	.37***	.45***	.38***
<b>Deaths</b> (need due to death rates)	.15	.24	.28***	.41***	.36***	.47***	.37***

Standardized regression coefficients  
 from separate models for each predictor facet  
 (p values corrected; Benjamini & Hochberg, 1995)

# What we have learned

Attitudes on global resource allocation strategies in pandemics can be predicted by...

...attitudes on general within-society justice  
(.11 <  $R^2$  < .26; attitude on *Need* strongest)

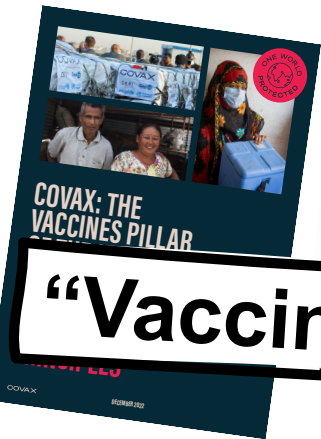
...attitudes on general global justice  
(.15 <  $R^2$  < .36)



# Solidarity



# Protectionism



**The Washington Post**  
Democratic Dies in Darkness  
**White House launching \$5 billion program to speed coronavirus vaccines**

'Project Next Gen' would succeed 'Operation Warp Speed' with a mission to develop next-generation vaccines and therapies

Corona-Pandemie

Berlin nimmt...

**"Vaccine cosmopolitanism"**

SZ Meine SZ | SZ Plus | Ukraine | Israel | Politik | Wirtschaft | Meinung | Panorama  
Corona-Pandemie

**Impf-Patente: Merkel widerspricht Biden**

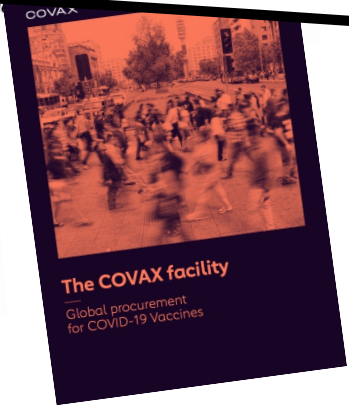
Der US-Präsident vollzieht eine radikale Wende und will Lizenzen für Covid-19-Vakzine freigeben. Berlin und Brüssel setzen dagegen auf Exporte in ärmere Länder.  
Bundeskanzlerin Angela Merkel (CDU) hat skeptisch auf den Vorstoß der Biden-Regierung reagiert. Die deutsche Regierung will die Impfstoffe befristet freigegeben, die weltweite Verteilung zu beschleunigen.

**"Vaccine nationalism"**

**Advance Purchase**

**The New York Times**  
**Pfizer Will Allow Its Covid Pill to Be Made and Sold Cheaply in Poor Countries**

The company announced a deal that could help significantly expand access to the Covid-19 treatment, but the agreement excludes a number of countries hit hard by the pandemic.



Environment | Global Europe | Health | Politics  
Europe's solidarity to the test

**Guardian**  
**Secures world stock of key Covid-19 drug remdesivir**

No other country will be able to buy remdesivir, which can help recovery from Covid-19, for next three months at least  
The US has bought up virtually all the stocks for the next three months of one of the two drugs proven to work against Covid-19, leaving none for the UK, Europe or most of the rest of the world.

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Politics  
**Canada has ordered more than 400 million COVID-19 vaccine shots: Here's the progress report**  
Six months into vaccination campaign, some companies have delivered while others are a work in progress

Earlier this week, Germany and the Czech Republic decided to ban exports of medical protection equipment such as masks and gloves. The objective was to make sure that health workers have enough to deal with the coronavirus outbreak.  
But this is something that Belgian health minister Maggie de Block criticised today.

Abbas, 2020; Ali et al., 2024; Bollyky & Bown, 2020; COVAX, 2020; Ganderberger et al., 2023; Herlitz et al., 2021; ICODA, 2024; McMahon et al., 2020; Sirleaf et al., 2021; Tandon, 2021; WHO, 2023a, 2023b; Wouters et al., 2021; see Jecker et al., 2023, and Luna & Holzer, 2021, for in-depth analyses

COVAX, 2020; COVAX, 2022; <https://pixabay.com/vectors/ai-generated-handshake-illustration-8548097/>; <https://www.washingtonpost.com/health/2023/04/10/operation-warp-speed-hand-145142/>; <https://www.nytimes.com/2021/11/16/health/covid-pill-pfizer.html>; <https://www.guardian.com/news/2020/06/03/covid-19-vaccine-patents>; <https://www.bbc24.de/panorama/2020/coronavirus/belgie/german-10e-potsdam-berlin-frankreich.html>; <https://www.sueddeutsche.de/politik/coronavirus-impf-patente-1.5286809>; <https://www.euractiv.com/section/coronavirus/news/coronavirus-puts-europes-solidarity-to-the-test/>; <https://www.cbc.ca/news/politics/canada-vaccine-deliveries-progress-report-1.6034624>; <https://www.theguardian.com/us-news/2020/jun/30/us-buys-up-world-stock-of-key-covid-19-drug>

# Global human identification

## Cosmopolitanism

“I see myself as a global citizen.”

Inglehart et al., 2018, V212; cf. McFarland et al., 2012, 2013; van Hoof, 2009

## Identification With All Humanity (IWAH)

“All humanity is my ingroup/family.”

Reese et al., 2015; cf. McFarland et al., 2012

“I am not an Athenian  
or a Greek, but a  
**citizen of the world.**”

Socrates,  
as cited in McFarland et al., 2019, p. 142



# Global human identification

## before COVID-19

- + Blood donations
- + Volunteering during Ebola
- + Fairtrade consumer choices
- + Support of equity
- + Rejection of protectionism

## COVID-19

- + Helping behaviour national
- + Helping behaviour international
- + Adherence to containment measures



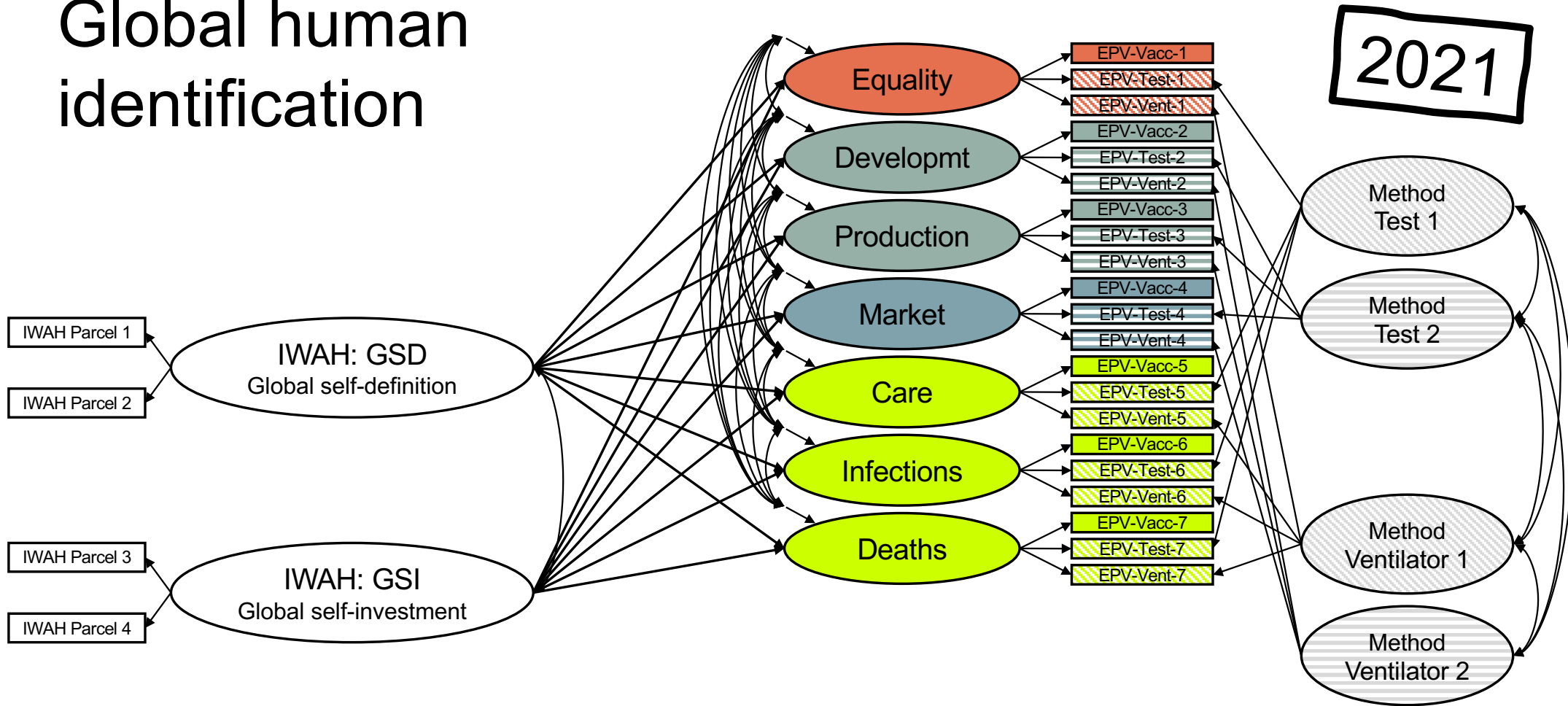
**Parochial altruism:**  
“I help my ingroup.”

Grimalda et al., 2021

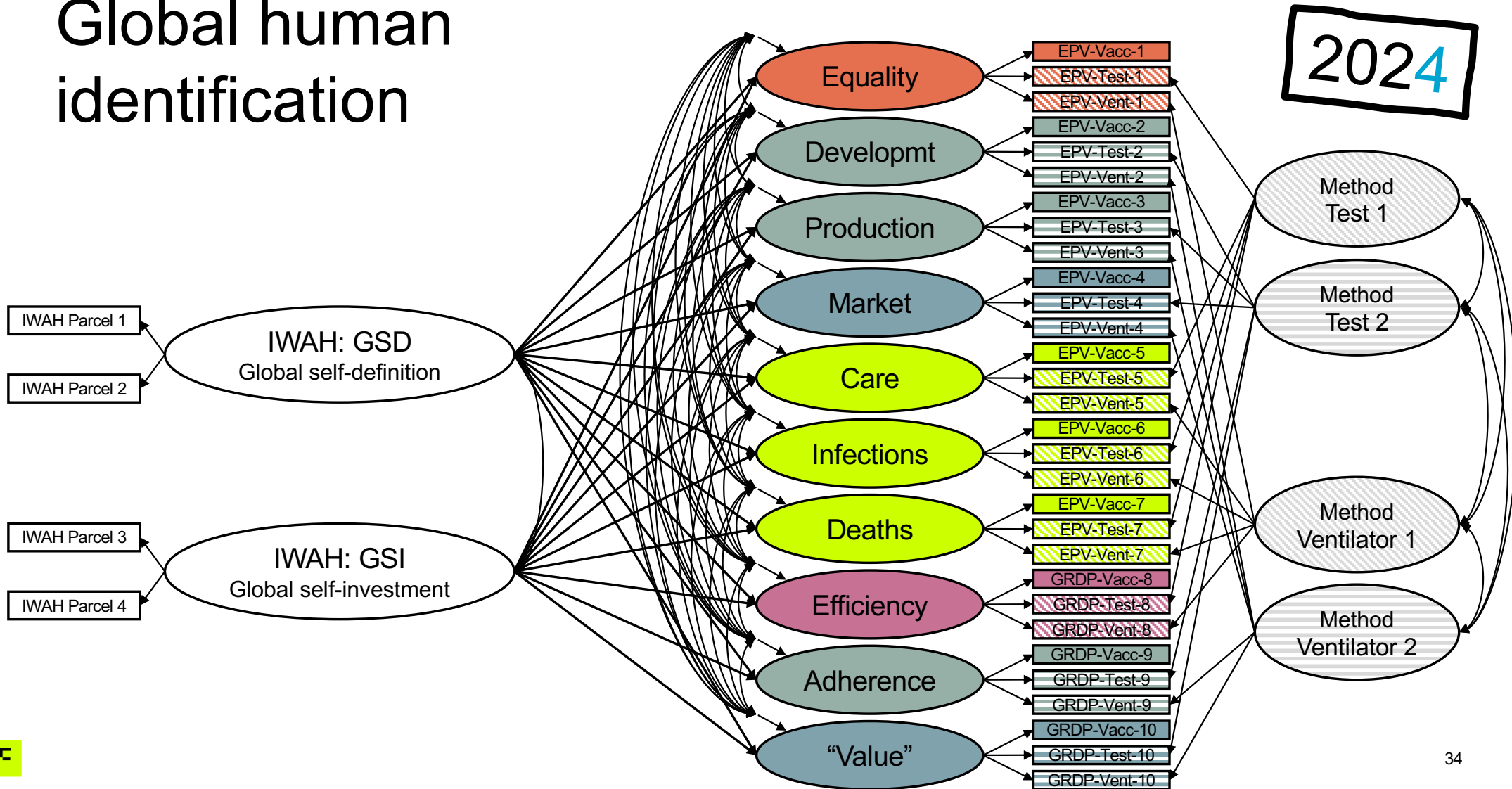
Cortes Barragan et al., 2021; Cortes Barragan & Meltzoff, 2023; Deng, 2021; Grimalda et al., 2021; Hamer et al., 2019; McFarland et al., 2012, 2019; Reese & Kohlmann, 2015; Uluğ et al., 2022; Wang et al., 2021; Zagefka, 2022



# Global human identification



# Global human identification



# Global human identification

Outcomes

$R^2_{mult.}$

Predictors

Global self-definition (GSD)

Global self-investment (GSI)

🇩🇪 2021
🇬🇧 2021
🇩🇪 2024
🇩🇪 2021
🇬🇧 2021
🇩🇪 2024

Outcome	🇩🇪 2021	🇬🇧 2021	🇩🇪 2024	🇩🇪 2021	🇬🇧 2021	🇩🇪 2024
<b>Equality</b> (population size)	.27	.10	.17	.47***	.29***	.31***
<b>Development</b> (merit as develop)	.05	.06	.04	-.17***	-.11***	-.15***
<b>Production</b> (merit as producer)	.05	.06	.04	-.17***	-.08*	-.15***
<b>Market</b> (financial bid)	.05	.06	.07	-.15***	-.08*	-.13***
<b>Care</b> (need due to health system)	.13	.13	.11	.31***	.29***	.27***
<b>Infections</b> (need due to infectio)	.12	.12	.09	.31***	.26***	.25***
<b>Deaths</b> (need due to death rates)	.13	.12	.11	.31***	.25***	.27***
<b>Efficiency</b> (epidemiological benefits)			.14			.24***
<b>Adherence</b> (merit due to discipline)			.00			-.01
<b>Value</b> (value as nation)			.06			-.10**

Standardized regression coefficients  
(see above)

Holds in model with other facets



https://pixabay.com/vectors/germany-flag-german-flag-1763774/, https://pixabay.com/vectors/flag-england-civil-state-neu-28514/

A decorative graphic consisting of several yellow rectangular blocks. A horizontal bar spans the width of the page, with a vertical bar extending downwards from its right end. A smaller vertical bar is positioned on the left side, extending upwards from the horizontal bar. A large yellow rectangle is located at the bottom of the page.

# Conclusions

# What we have learned

Attitudes on global resource allocation strategies in pandemics can be predicted by...

...attitudes on general within-society justice  
(.11 <  $R^2$  < .26; attitude on *Need* strongest)

...attitudes on general global justice  
(.15 <  $R^2$  < .36)

...global human identification  
(.00 <  $R^2$  < .27; *Global Self-Investment* strongest)



Effect sizes vary  
between allocation  
strategies.

# Next steps

- Models including all found relevant predictors!
- Include demographic predictors!
- Other justice contexts!
- ...

# Thank you very much!

M.Sc. Friedemann Trutzenberg

Methods and Evaluation Division

Education and Psychology Department

Freie Universität Berlin



[friedemann.trutzenberg@fu-berlin.de](mailto:friedemann.trutzenberg@fu-berlin.de)



<https://orcid.org/0000-0003-0460-2300>



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