

Tesis doctoral – PhD Thesis  
Programa de Doctorado en Psicología

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**Percepción de la desigualdad económica en diferentes ámbitos  
y actitudes hacia el cambio social**

**Perceived economic inequality in different domains and  
attitudes towards social change**

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*A mi familia*

*“Ninguna persona es una isla;  
la muerte de cualquiera me afecta,  
porque me encuentro unido a toda la humanidad;  
por eso, nunca preguntes por quién doblan las campanas;  
doblan por ti.”*

John Donne

*“Defender la alegría como una trinchera  
defenderla del escándalo y la rutina  
de la miseria y los miserables  
de las ausencias transitorias  
y las definitivas”*

Mario Benedetti

*“Por la ignorancia se desciende a la servidumbre,  
por la educación se asciende a la libertad.”*

Diego Luís Córdoba

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# Resumen

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La desigualdad económica es uno de los problemas más relevantes de nuestro tiempo, afectando negativamente a las personas y las sociedades en su conjunto (Peterson, 2017; Pickett & Wilkinson, 2015). Pese a que la desigualdad económica se ha incrementado en las últimas décadas, el apoyo a políticas encaminadas a reducirla no ha seguido el mismo ritmo (Son Hing et al., 2019). En parte, esto se debe a que la desigualdad económica se tolera y justifica en gran medida en base a ciertas ideologías justificadoras del sistema (Mijs, 2021; Starmans et al., 2017). Por tanto, hace falta un mayor acuerdo y apoyo mayoritario hacia políticas encaminadas a impulsar el cambio social y reducir la desigualdad económica.

Además, la desigualdad es un fenómeno multidimensional (Anand et al., 2020), que se extiende por distintos ámbitos muy significativos en las vidas de las personas, como por ejemplo en el acceso a atención médica o una educación de calidad (OECD, 2016, 2019a). Sin embargo, el estudio acerca de cómo percibimos y reaccionamos a la desigualdad económica, a menudo se ha centrado exclusivamente en las diferencias de ingresos o riqueza. De forma importante, la percepción y actitudes sobre la desigualdad puede variar en función del aspecto que consideremos. Algunas investigaciones recientes sugieren que la desigualdad en salud y educación entre las personas ricas y pobres podría tolerarse menos que las diferencias de ingresos (Howarth et al., 2019; Macchia y Ariely, 2021). Considerar los aspectos que se toleren menos y generen más consenso en torno a lo injusto de la desigualdad económica podría ayudar a señalar la necesidad de reducirla.

La presente tesis tiene por objetivo principal analizar cómo la percepción de la desigualdad económica en salud y educación—más allá de las diferencias de ingresos— puede fomentar el apoyo a la redistribución y la acción colectiva para reducir la desigualdad económica.

La tesis se compone de un total de siete capítulos: dos capítulos teóricos iniciales, cuatro capítulos empíricos y un capítulo final en el que se desarrolla la discusión general y conclusiones de la tesis. Atendiendo a los capítulos teóricos, en el Capítulo 1, presentamos un marco conceptual ilustrando las ventajas de adoptar un enfoque multidimensional en el estudio de la desigualdad económica percibida. Asimismo, en este capítulo desarrollamos la relación teórica y empírica entre la desigualdad económica percibida, las actitudes hacia ella y el apoyo a acciones para reducirla (e.g., redistribución y acción colectiva). En el Capítulo 2, realizamos un planteamiento general de la problemática que esta tesis trata de resolver y proponemos una serie de preguntas empíricas, objetivos específicos e hipótesis que ponemos a prueba en los capítulos empíricos.

En cuanto a los capítulos empíricos, en el Capítulo 3 exploramos las actitudes hacia la desigualdad en salud, educación, e ingresos, y su relación con la disposición a participar en acciones colectivas para reducir la desigualdad (e.g., protestas). Para ello, analizamos datos secundarios de la encuesta del Latinobarómetro 2020 con una muestra de 18 países de Latinoamérica. Los resultados indicaron que en la mayoría de los países existía una mayor preocupación por las desigualdades en el acceso a la sanidad y las oportunidades en educación, en comparación con las diferencias de ingresos. Además, un análisis de clases latentes reveló dos perfiles: uno preocupado por la salud y la educación mayormente, y otro no preocupado por la desigualdad en ningún ámbito. Cada una estas preocupaciones, así como la pertenencia al perfil que mostraba más preocupación por la desigualdad en salud y educación, predijeron una mayor disposición a participar en acciones colectivas.

En el Capítulo 4, analizamos el efecto de la percepción de la desigualdad económica en salud y educación—además de los ingresos—en el apoyo a la

redistribución y acciones colectivas para reducir la desigualdad, a través de las actitudes hacia la misma. Realizamos cuatro estudios prerregistrados con muestra de población española. Los dos primeros exploraron la relación entre las variables siguiendo un diseño transversal, mientras que los dos últimos emplearon diseños experimentales para poder establecer relaciones de causalidad. En general, los resultados mostraron que la percepción de las disparidades económicas en salud y educación—por encima de las diferencias en ingresos—reducía la tolerancia hacia la desigualdad, lo que a su vez fomentaba el apoyo a la redistribución y las acciones colectivas.

En el Capítulo 5, exploramos cómo percibir el solapamiento entre la desigualdad de ingresos y las diferencias en salud o educación puede conducir a una menor aceptación de la desigualdad económica, y en última instancia, a una mayor intención de apoyar políticas redistributivas y acciones colectivas para reducir la desigualdad. Realizamos un estudio correlacional y tres estudios experimentales con este objetivo, de nuevo prerregistrados y con muestra española. En el Estudio 1, encontramos que el solapamiento percibido predecía una menor aceptación de la desigualdad económica y un mayor apoyo a las acciones colectivas y la redistribución. En los Estudios 2a y 2b, mostramos que exponer a los/as participantes a información sobre un mayor solapamiento disminuía la aceptación de la desigualdad económica y aumentaba el apoyo a las acciones colectivas y la redistribución en sociedades ficticias. En el Estudio 3, replicamos estos resultados en el contexto real de España.

En el Capítulo 6, analizamos el acuerdo general en la intolerancia hacia la desigualdad económica en los dominios de salud, educación e ingresos. Además, exploramos el consenso ideológico en estos temas. Para ello, realizamos dos estudios de campo prerregistrados en la puerta de colegios electorales españoles durante las elecciones nacionales del 23 de julio de 2023 y las elecciones europeas del 9 de junio de

2024. Encontramos que se aceptaban menos las desigualdades en salud y educación (Estudios 1 y 2) se apoyaban más medidas redistributivas (Estudio 2) para reducir estas diferencias, en comparación con las disparidades en ingresos. Además, observamos menores diferencias entre personas con distinta ideología en cuanto a la aceptación de las desigualdades en salud (Estudio 1) y el apoyo a las acciones redistributivas para abordar la salud y la educación (Estudio 2) comparado con la desigualdad de ingresos.

Por último, en el Capítulo 7, discutimos los resultados de los capítulos empíricos tratando de elaborar respuestas a las preguntas de investigación que formulamos al comienzo de la tesis. Además, exponemos algunas implicaciones y contribuciones teóricas y prácticas de la tesis. Asimismo, reconocemos varias limitaciones y señalamos líneas de acción futuras para próximas investigaciones. Finalmente, presentamos una breve conclusión de este trabajo.

En suma, los resultados de esta tesis sugieren que adoptar una visión más amplia de desigualdad económica, considerando aspectos significativos para la vida de las personas como la salud o la educación —además de los ingresos o la riqueza— podría ayudar a obtener un mayor acuerdo y apoyo a acciones para abordar el problema de la desigualdad. Estos hallazgos podrían informar el diseño de campañas y comunicaciones políticas encaminadas a fomentar la concienciación sobre la desigualdad económica e influir en la opinión pública para promover el cambio social y reducir la desigualdad en sus múltiples formas.



# **Abstract**

---

Economic inequality is one of the most relevant problems of our time, negatively affecting individuals and societies as a whole (Peterson, 2017; Pickett & Wilkinson, 2015). Although economic inequality has increased in recent decades, support for policies to reduce it has not kept pace (Son Hing et al., 2019). In part, this is because economic inequality is largely tolerated and justified based on certain system-justifying ideologies (Mijs, 2021; Starmans et al., 2017). Therefore, there is a need for collective and coordinated responses, agreement, and majority support for policies aimed at driving social change and reducing economic inequality.

Moreover, inequality is a multidimensional phenomenon (Anand et al., 2020) that cuts across several very significant areas in people's lives, such as access to healthcare or quality education (OECD, 2016, 2019b). However, the study of how we perceive and react to economic inequality has often focused exclusively on differences in income or wealth. Importantly, perceptions and attitudes about inequality can vary depending on which aspect we consider. Some recent research suggests that inequality in health and education between rich and poor people may be less tolerated than differences in income (Howarth et al., 2019; Macchia & Ariely, 2021). Considering which aspects of economic inequality are less tolerated and generate more consensus around the unfairness of economic inequality could help to point to the need to reduce it.

The main aim of this thesis is to analyze how perceptions of economic inequality in health and education—beyond income differences—can foster support for redistribution and collective action to reduce economic inequality.

The thesis comprises seven chapters: two initial theoretical chapters, four empirical chapters, and a final chapter in which a general discussion and conclusions of the thesis are developed. Following the theoretical chapters, in Chapter 1 we present a conceptual framework illustrating the advantages of adopting a multidimensional

approach to studying perceived economic inequality. Furthermore, in this chapter we develop the theoretical and empirical relationship between perceived economic inequality, attitudes towards it and support for actions to reduce it (e.g., redistribution and collective action). In Chapter 2, we provide a general statement of the problem that this thesis seeks to address and propose a series of empirical questions, specific objectives, and hypotheses that we test in the empirical chapters.

As for the empirical chapters, in Chapter 3 we explore attitudes towards inequality in health, education, and income, and their relationship with the willingness to engage in collective actions to reduce inequality (e.g., protests). To do so, we analyzed secondary data from the Latinobarometer 2020 survey with a sample of 18 Latin American countries. The results indicated that in most countries there was greater concern about inequalities in access to healthcare and educational opportunities, compared to income differences. In addition, a latent class analysis revealed two profiles: one concerned mostly about health and education, and one not concerned about inequality in any area. Each of these concerns, as well as membership to the profile concerned about health and education, predicted a greater willingness to engage in collective action.

In Chapter 4, we analyze the effect of perceptions of economic inequality in health and education—in addition to income—on support for redistribution and collective action to reduce inequality, through attitudes towards inequality. We conducted four pre-registered studies with a sample of the Spanish population. The first two explored the relationship between variables following a cross-sectional design, while the last two employed experimental designs to establish causal relationships. Overall, the results showed that perceptions of economic disparities in health and education—over and above differences in income—reduced tolerance of inequality, which in turn fostered support for redistribution and collective action.

In Chapter 5, we explore how perceiving the overlap between income inequality and disparities in health or education may lead to a lower acceptance of economic inequality, and ultimately to a higher intention to support redistributive policies and collective actions to reduce inequality. We conducted a correlational study and three experimental studies with this objective, pre-registered and with Spanish samples. In Study 1, we found that perceived overlap predicted lower acceptance of economic inequality and higher support for collective action and redistribution. In Studies 2a and 2b, we showed that exposing participants to information about greater overlap decreased acceptance of economic inequality and increased support for collective action and redistribution in fictitious societies. In Study 3, we replicated these results in the real-life context of Spain.

In Chapter 6, we analyze the general agreement on intolerance towards economic inequality in the domains of health, education, and income. In addition, we explore ideological consensus on these issues. To do so, we conducted two pre-registered field studies at the door of polling stations during the Spanish national elections on the 23<sup>rd</sup> of July 2023, and the European elections on the 9<sup>th</sup> of June 2024. We found less acceptance of inequalities in health and education (Studies 1 and 2) and more support for redistributive measures (Study 2) to reduce these differences, compared to disparities in income. In addition, we observed smaller differences between people with different ideologies in acceptance of health inequalities (Study 1) and support for redistributive actions to address health and education (Study 2) compared to income inequality.

Finally, Chapter 7 discusses the results of the empirical chapters in an attempt to elaborate answers to the research questions we formulated at the beginning of the thesis. In addition, we outline some theoretical and practical implications and contributions of

the thesis. We also acknowledge several limitations and point out future directions for future research. Finally, we present a brief conclusion of this work.

In sum, the results of this thesis suggest that taking a broader view of economic inequality, considering significant aspects of people's lives such as health or education—in addition to income or wealth—could help to gain greater agreement and support for actions to address the problem of inequality. These findings could inform the design of political campaigns and communications to raise awareness of economic inequality and influence public opinion to promote social change and reduce inequality in its many forms.



# Capítulo 1

---

*Una Aproximación Multidimensional a la  
Desigualdad Económica*





*“We ought to pay much more attention than we conventionally do to economic inequality in an appropriately broad sense, taking note of the fact that income inequality, on which economic analysis of inequality so often concentrates, gives a very inadequate and biased view of inequalities, even of those inequalities that can be powerfully influenced by economic policy.”*

Amartya K. Sen (pp. 384-385, 1997)

### **¿Desigualdad de qué? Más allá de los ingresos económicos**

La desigualdad económica juega un papel muy importante en las sociedades actuales, afectando transversalmente a su funcionamiento (Peterson, 2017; Pickett y Wilkinson, 2015). Por tanto, su estudio y abordaje cobra especial relevancia. Siguiendo la aproximación del premio Nobel en economía Amartya Sen (1995), la primera pregunta que conviene plantearse en el estudio de la desigualdad económica es: ¿desigualdad de qué? Esto es, qué variable estamos considerando para juzgar si existe igualdad o desigualdad económica y en qué medida.

La evaluación de la desigualdad económica a menudo se ha reducido al análisis de las diferencias de ingresos y/o la riqueza. Por ejemplo, comúnmente se ha usado el coeficiente de Gini (Atkinson, 1970, 2015), una medida que se basa en la comparación de los ingresos (o la riqueza) de los individuos de una sociedad, donde un valor de 0 representa perfecta igualdad (todas las personas tienen el mismo ingreso) y un valor de 1 indica máxima desigualdad (una sola persona concentra todos los ingresos). Esta aproximación tiene sus ventajas, como la disponibilidad de este indicador en múltiples países o la simplicidad de usar un solo indicador comparativo (Chiappero-Martinetti, 2020). Sin embargo, este enfoque es limitado porque 1) no contempla otros ámbitos relevantes para el bienestar (e.g., salud, educación) con los que el ingreso guarda una relación ambigua, y 2) obvia que distintas personas pueden tener necesidades y

dificultades distintas a la hora de convertir los ingresos en bienestar y libertad para vivir sus vidas (Sen, 1995, 1997; Chiappero-Martinetti, 2020).

En primer lugar, la desigualdad puede juzgarse en distintos ámbitos. Éstos incluyen los ingresos, pero también la educación, la salud, el acceso a la justicia o la participación política, entre otros (Anand et al., 2020). De forma importante, puede que aquellas personas que están en contra de la igualdad de ingresos defiendan la igualdad en otro(s) ámbito(s). Por ejemplo, algunas personas podrían rechazar la igualdad de rentas y, al mismo tiempo, defender con firmeza la igualdad de oportunidades, asegurando que todas las personas deberían tener acceso a una educación de calidad o a una buena atención médica. Dado que las actitudes hacia la desigualdad en distintos dominios pueden ser diferentes, el estudio de la desigualdad económica exclusivamente basado en los ingresos ofrece una visión limitada de quiénes están a favor o en contra de la igualdad. Esta lógica sugiere que un enfoque más amplio y holístico podría reducir la polarización política en este tema y encontrar puntos de acuerdo para reducir la desigualdad.

En segundo lugar, las personas podemos tener distintas necesidades (e.g., diferentes características físicas y sociales) que pueden influir, más allá de los ingresos, en nuestra capacidad para hacer (o no hacer) lo que valoramos en la vida (Sen, 1995). Por ejemplo, podríamos imaginar el caso de dos personas: la persona A y la persona B. Ambas tienen los mismos ingresos económicos. Sin embargo, la persona A tiene una enfermedad crónica que requiere un tratamiento muy costoso y la persona B tiene buena salud. La evaluación de la desigualdad entre estas personas podría no ser adecuada si solamente nos fijamos en los ingresos, puesto que la persona A podría tener más dificultad para convertir esos ingresos en lo que verdaderamente valora. Por tanto, es necesario tener un enfoque más amplio de la desigualdad, que no solo abarque los ingresos económicos.

## El enfoque de las capacidades

Siguiendo la lógica expuesta en las líneas anteriores, Amartya Sen (1995, 1997) y Martha Nussbaum (1997) introdujeron el *enfoque de las capacidades*. Así, se pone el desarrollo y bienestar humano por delante de los objetos materiales que una persona puede poseer (e.g., ingresos económicos) como indicador de éxito en la vida. Los recursos monetarios, sean ingresos, riqueza o consumo, son muy importantes en el desarrollo del bienestar, pero también lo son otros recursos y bienes comunes, como la salud o la educación. Además, lo que realmente importa desde esta perspectiva es lo que la gente puede hacer (o no) con estos recursos y las oportunidades que tienen para desarrollar su máximo potencial, según sus intereses y expectativas.

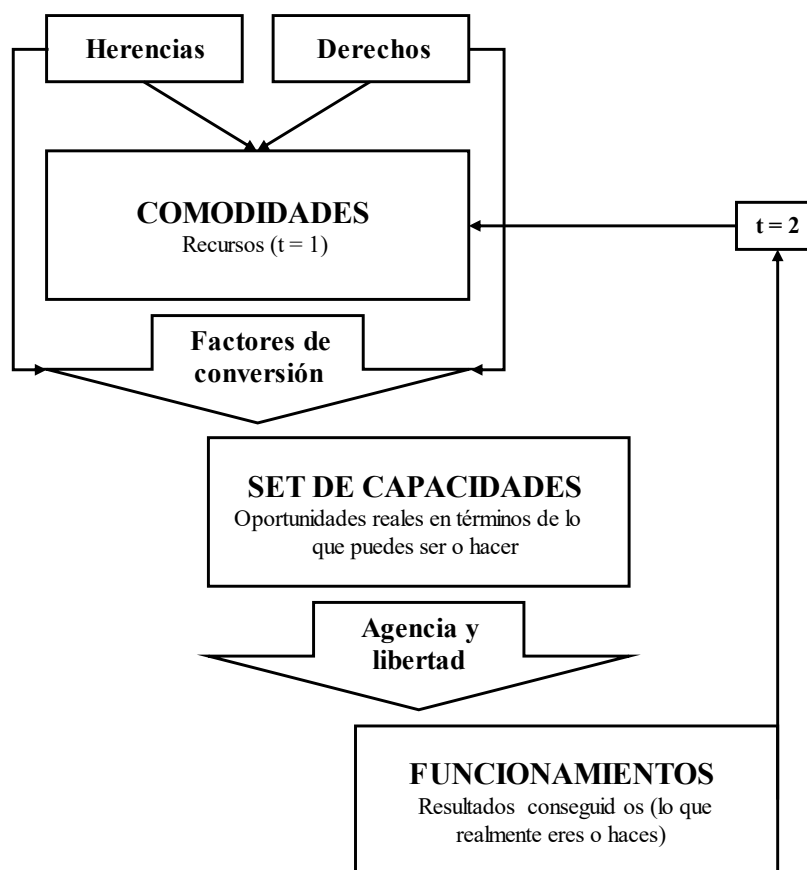
Algunos conceptos clave para comprender este enfoque son las *capacidades* y los *funcionamientos*. Las capacidades se entienden como las oportunidades reales que una persona tiene para hacer o ser lo que considera importante en la vida; mientras que los funcionamientos se refieren a lo que la persona realmente consigue (resultados). Algunos ejemplos de capacidades básicas pueden ser disfrutar de una buena salud o tener acceso al conocimiento y una buena educación, entre otros. Otro concepto relevante para el enfoque de las capacidades es el de *agencia y libertad*. Con estos términos se reconoce que la gente tiene diferentes valores, prioridades y objetivos, y se enfatiza la importancia de dotar a las personas con la capacidad de ser libres para perseguir su propia idea de una buena vida.

De acuerdo con esta perspectiva, las personas contarían con una serie de recursos iniciales dependiendo de los recursos heredados y los derechos fijados por ley o las normas. La habilidad para convertir estos recursos iniciales en capacidades (lo que, en potencia, las personas pueden hacer o ser) se ve afectada por una serie de factores de conversión que ocurren a distintos niveles: (a) personal, como características

físicas/mentales, edad, género, etc.; (b) social, como las instituciones o las normas sociales (i.e., religión, cultura, racismo, sexismo, etc.); o (c) ambientales, como el clima, la contaminación, etc. Una vez adquiridas esas capacidades, estas pueden convertirse en funcionamientos/resultados (lo que las personas realmente son o hacen finalmente), a través de su agencia y libertad (valores, prioridades, objetivos, etc.), para alcanzar lo que consideren importante en la vida. En la *Figura 1* mostramos este proceso.

**Figura 1**

*Modelo del enfoque de las capacidades*



Fuente: Figura adaptada y traducida de McKnight et al. (2019)

Nota: t = 1 y t = 2 significan Tiempo 1 y Tiempo 2. En la figura, se señala que los funcionamientos alcanzados en primera instancia pueden afectar a las comodidades en la siguiente etapa.

Además, este proceso es dinámico e interdimensional. Es dinámico porque los funcionamientos pueden afectar a los recursos iniciales en la siguiente etapa. Por ejemplo, la capacidad de la gente para tener una buena salud puede estar influenciada por su

historia previa de salud. De forma más importante, es interdimensional porque las capacidades o funcionamientos en un dominio pueden afectar a las capacidades/funcionamientos en otro dominio. A modo de ejemplo, la capacidad financiera puede afectar a la capacidad para superar un cáncer debido a los costes del tratamiento, pero dicha enfermedad también puede afectar a la capacidad para trabajar y conseguir un buen sueldo durante el desarrollo de la enfermedad.

### **Aplicaciones prácticas del enfoque de las capacidades**

En las últimas décadas han surgido distintas aproximaciones multidimensionales al estudio de la desigualdad y el bienestar que toman como base el enfoque de las capacidades. Por ejemplo, el Índice del Desarrollo Humano (HDI, por sus siglas en inglés) se desarrolló por las Naciones Unidas con el fin de enfatizar que las personas y sus capacidades deberían ser el criterio principal para evaluar el desarrollo de un país, y no el crecimiento económico solamente (UNDP, 2024). Este indicador, además de los ingresos, observa otras dos dimensiones clave: la salud y la educación. Para evaluar estas dimensiones, se consideran medidas del ingreso nacional bruto per cápita, la esperanza de vida, y los años esperados de escolarización, respectivamente. Posteriormente, se introdujo el Índice de Desarrollo Humano Ajustado por Desigualdad (IHDI), que ajusta los promedios del HDI en función de la distribución desigual de los logros dentro de una sociedad, ofreciendo una visión más realista del desarrollo teniendo en cuenta la desigualdad que puede haber entre distintos grupos o individuos.

Un ejemplo más reciente y amplio puede ser el *Multidimensional Inequality Framework* (MIF; CASE, 2020), que evalúa la desigualdad en múltiples dimensiones. Asimismo, la Unión Europea también cuenta con el *EU Multidimensional Inequality Framework*, reconociendo el carácter complejo y multifacético de la desigualdad (Véase *Figura 2*). Otra aplicación puede ser el *Better Life Index* (OCDE, 2020), en cuya web se

señala que “en la vida hay más que las frías cifras del PIB y las estadísticas económicas” (OCDE, 2024). El número de dimensiones varía de una aproximación a otra, y se reconoce que distintas personas y colectivos pueden valorar diferentes aspectos para el desarrollo y el bienestar. En general, todos estos ejemplos subrayan la necesidad de un enfoque integral y multidimensional de la desigualdad, contemplando el bienestar humano en todas sus facetas más allá de los ingresos económicos.

## Figura 2

### *Dominios del EU Multidimensional Inequality Framework*



Fuente: Gráfico recuperado de <https://composite-indicators.jrc.ec.europa.eu/multidimensional-inequality>

## Teoría de la igualdad compleja

Además del enfoque de las capacidades, otra aproximación multidimensional al estudio de la (des)igualdad es la *Teoría de la igualdad compleja*, del filósofo y político Michael Walzer (1983). Esta propone que la justicia consiste en que la posesión de un determinado bien no domine o controle la posesión de otros bienes. Por ejemplo, sería

injusto que aquellas personas que poseen mayor riqueza económica pudieran monopolizar el acceso a los recursos educativos o sanitarios. La igualdad compleja no tendría que ver con que no existiera desigualdad en un ámbito (e.g., riqueza económica), sino más bien con que esta desigualdad no se extendiese por otras esferas. Aunque también se reconoce que acabar con el monopolio de un bien (e.g., que haya unos pocos que tenga mucha riqueza mientras otros muchos no) sería una forma de acabar con su dominio sobre otros bienes.

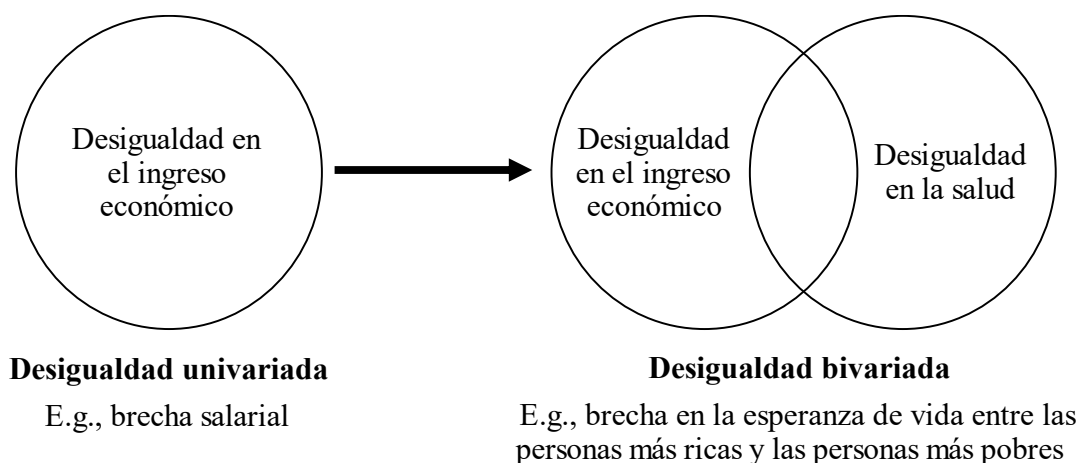
De acuerdo con esta teoría, existen multitud de bienes a los que dotamos socialmente de un significado o valor distinto (e.g., salud, educación, ingresos, etc.). Cada bien social o conjunto de bienes sociales constituiría una esfera distributiva en la que ciertos criterios o principios serían los adecuados para distribuirlos. En este sentido, algunas investigaciones han mostrado que usamos distintos principios distributivos según se trate de ingresos, salud, o educación, entre otras cosas (Iglizzi et al., 2024). Por ejemplo, podríamos establecer el principio de aquellas personas con más habilidades financieras deberían obtener mayores ingresos. Pero este principio no debería aplicarse a las esferas de educación o salud, donde la igualdad de oportunidades educativas o la necesidad de recibir un tratamiento, respectivamente, podrían ser los principios que guíen la distribución de estos recursos.

En suma, desde esta perspectiva también se argumenta que los distintos bienes sociales no pueden ser reducidos a una sola medida o unidad de valor (como el ingreso económico). Esta teoría critica una concepción de la desigualdad unidimensional, con los recursos materiales como única medida, y aboga por una visión multidimensional o al menos bidimensional, considerando la influencia que puede tener la desigualdad en un ámbito sobre otro ámbito. A modo de ejemplo, desde una perspectiva unidimensional de la desigualdad económica podríamos observar si la persona A tiene más dinero que la

persona B, mientras que desde una perspectiva bidimensional, también advertiríamos si la persona que tiene más dinero también tiene en consecuencia un mejor acceso a los servicios sanitarios o a los recursos educativos (véase la *Figura 4*).

#### Figura 4

Diagrama conceptual de la desigualdad univariada vs. bivariada



#### Desigualdad bivariada: desigualdad económica en salud y educación (I)

En la práctica, la desigualdad de ingresos económicos es extremadamente dominante sobre otras esferas de la vida de las personas. Por ejemplo, existen multitud de datos que ilustran la desigualdad en salud entre las personas más ricas y las más pobres globalmente. En los países de la OCDE, las personas del quintil más bajo de ingresos tienen de media tres veces más posibilidades de tener necesidades médicas sin cubrir por su coste que aquellos en el quintil superior de ingresos; siendo España uno de los países con mayores diferencias (OECD, 2019b). Teniendo las mismas necesidades, una persona con bajos ingresos tiene un 12% menos de probabilidad de visitar a un especialista comparada con una persona con altos ingresos (OECD, 2019b). Asimismo, el 35% de la población en el quintil de menor ingreso reporta una o más enfermedades crónicas, en comparación con 24% de la población en el quintil con el ingreso más alto (OECD, 2019a; véase la *Figura 5*). Otro dato importante es el de la esperanza de vida; en España, las



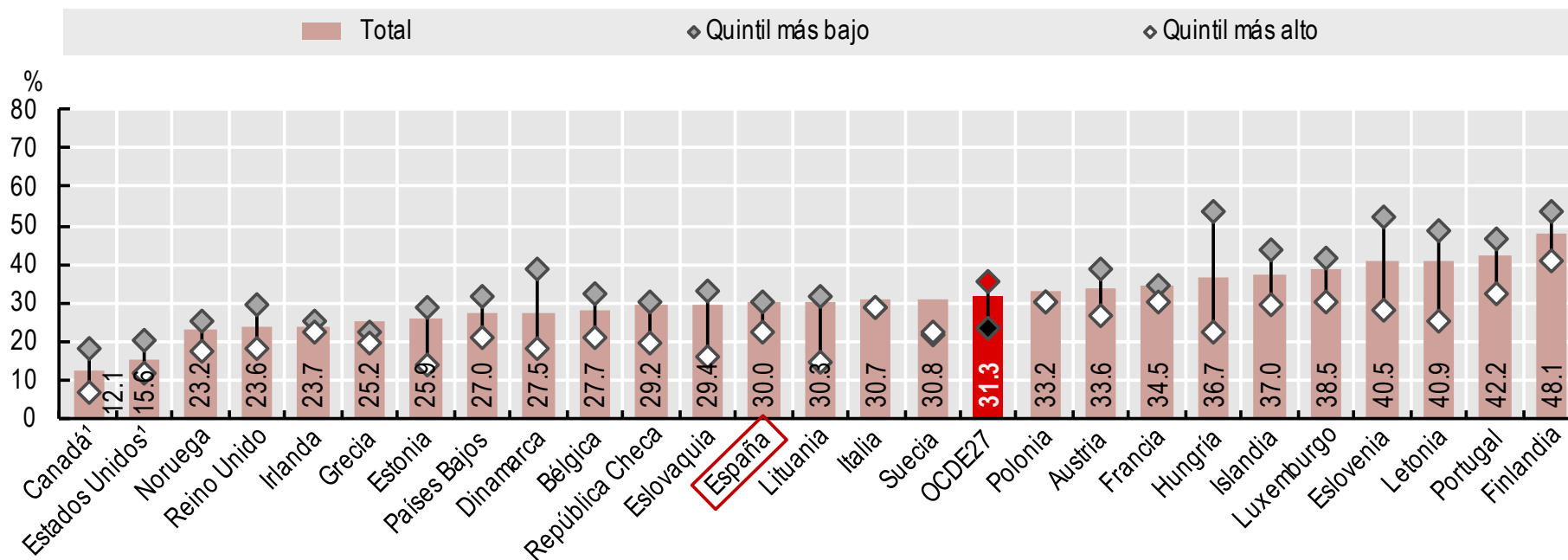
personas más pobres viven entre 3 y 4 años menos que las personas más ricas (Redondo-Sánchez et al., 2022).

En el caso de la educación, la situación también es muy desigual. En más de 30 países que participaron en la evaluación PISA 2015 (entre los que se encuentra España), los colegios con alumnado con menor estatus socioeconómico tienen un menor acceso a recursos y personal educativo que los colegios con un alumnado más aventajado (OECD, 2016). De media, en los países de la OCDE, el alumnado más desfavorecido tiene 2,8 veces más probabilidades que el más favorecido de no alcanzar el nivel básico de competencia en ciencias (OECD, 2016). Este grupo de estudiantes también tiene un 80% más de probabilidades de repetir curso en primaria o secundaria en comparación con sus pares, incluso después de tener en cuenta su rendimiento en dos ámbitos de evaluación. España encabeza esta lista de 72 países que participaron en PISA 2015 muy por encima de la media (OECD, 2016; véase la *Figura 6*).

Aunque los ámbitos en los que se extiende la desigualdad económica pueden ser innumerables, en esta tesis nos centraremos en el caso de la desigualdad en salud y educación entre las personas con más ingresos económicos y aquellas con menos. ¿Por qué en estos ámbitos en específico? En primer lugar, tanto la salud como la educación se han destacado como capacidades básicas para el desarrollo, esto es, aquellas que deben estar aseguradas para todo el mundo (Nussbaum, 1997). Este enfoque es similar al de los derechos humanos, entre los que la salud y la educación también guardan un papel muy relevante (*United Nations*, 1948, art. 25 y 26).

**Figura 5**

Porcentaje de personas con una o más enfermedades crónicas por quintil de ingresos en países de la OCDE

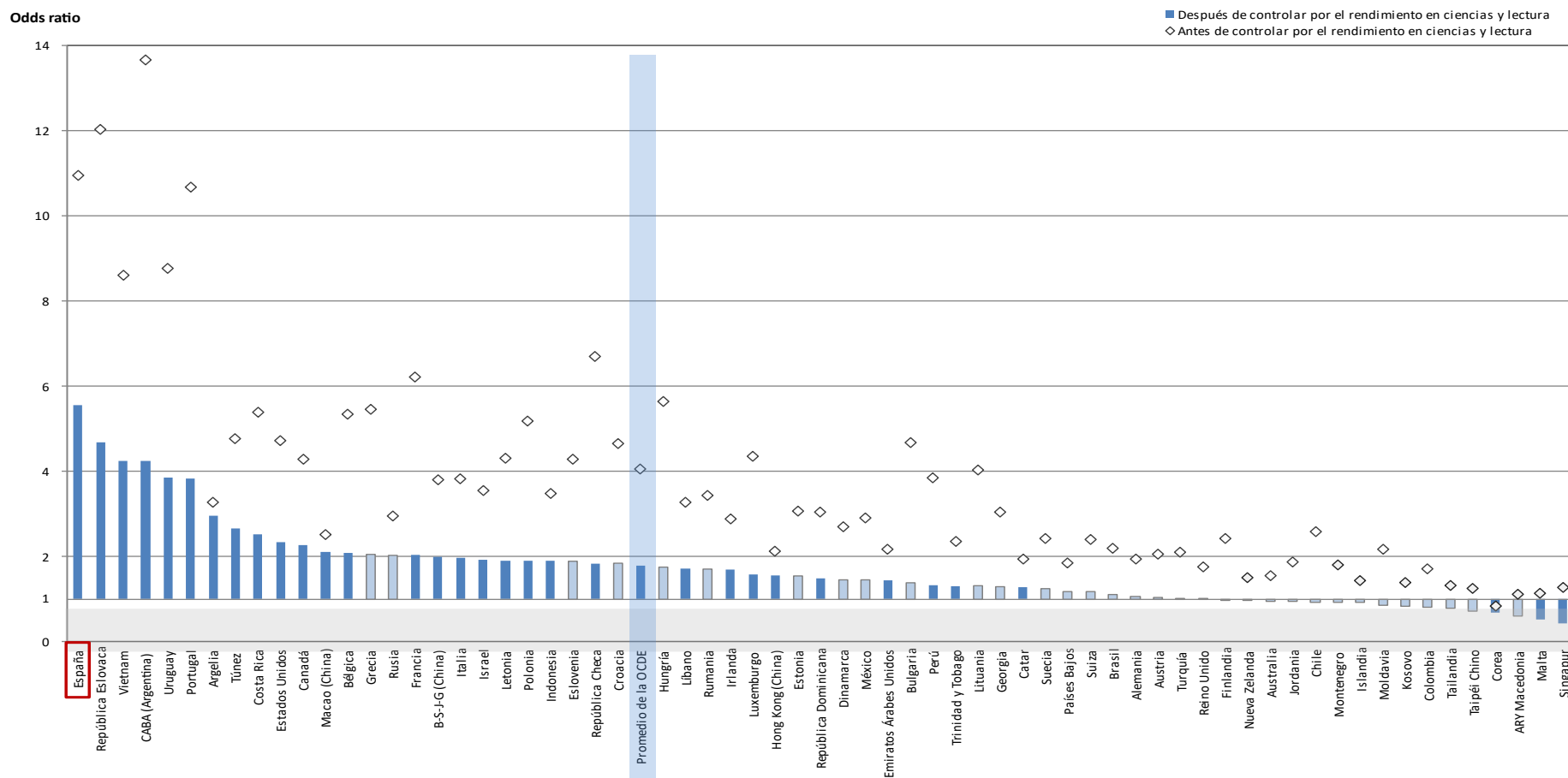


<sup>1</sup>Los resultados de Canadá y Estados Unidos no son directamente comparables con los de otros países debido a diferencias en la definición de la variable (se consideran 8 enfermedades en lugar de 14), lo que resulta en un sesgo descendente.

Fuente: Gráfico adaptado y traducido de OCDE (2019a).

**Figura 6**

*Probabilidad de repetir un curso debido al estatus socioeconómico en 72 países que participaron en PISA 2015*



Nota: Los valores estadísticamente significativos están marcados en un tono más oscuro.

Fuente: Gráfico adaptado y traducido de OCDE (2016).

En segundo lugar, cuando los ingresos económicos influyen en el acceso a los servicios de salud y educación, se crea un bucle que perpetúa y agrava la desigualdad económica. Pongamos el caso de una familia con bajos recursos económicos. Esta familia quizá pueda invertir poco dinero en la educación de su hijo/a, lo que se traduce en una educación de baja calidad para el mismo. Con una educación deficiente, este hijo/a podría tener menos oportunidades para conseguir un empleo bien remunerado. En el caso de sufrir una enfermedad grave y no poder curarla pronto y adecuadamente por el costo de los recursos sanitarios, es posible que pierda su empleo y vea reducidos más aún sus ingresos económicos. Con esta situación, es probable que pueda invertir poco dinero en la educación de sus propios hijos/as, perpetuando la desigualdad intergeneracional.

En esta tesis, con una aproximación desde la psicología social, nos centraremos en explorar cómo se perciben estas desigualdades y qué actitudes podemos tener hacia ellas, más allá de las meras diferencias de ingresos. Pensamos que puede existir cierto consenso en que todo el mundo debería tener acceso a estos recursos independientemente de su nivel de ingresos. Por tanto, poner el foco en estas diferencias, podría influir en las actitudes hacia la desigualdad económica y, en última instancia, motivar el apoyo a acciones para reducirla.

### **La psicología social de la desigualdad económica**

Hasta este punto, hemos expuesto cómo en las últimas décadas el estudio de la desigualdad económica desde disciplinas como la economía, sociología y ciencias políticas ha evolucionado hacia un enfoque multidimensional, considerando aspectos como la salud y la educación. Esto contrasta con la visión tradicional centrada en el ingreso económico o la riqueza como único indicador de la desigualdad. Desde la disciplina de la psicología social, el estudio de la desigualdad económica es mucho más reciente; se trata de un campo joven que ha suscitado creciente interés últimamente (Jetten

y 2019). Siguiendo con la lógica anteriormente expuesta, las preguntas clave son: ¿cómo se ha estudiado la desigualdad económica desde la psicología social? ¿se ha seguido una aproximación multidimensional, o una vez más, un enfoque centrado casi exclusivamente en las diferencias de ingresos/riqueza?

El primer concepto clave para esbozar una respuesta a estas preguntas es el de la ‘desigualdad económica subjetiva’. Esta hace referencia tanto a la percepción (e.g., el nivel de desigualdad que se observa) como a las actitudes (e.g., tolerancia o aceptación) hacia la misma (Castillo et al., 2022; Schmalor y Heine, 2022). Más adelante hablaremos de las actitudes hacia la desigualdad económica, pero por el momento nos centraremos en la *desigualdad económica percibida*. La psicología social no sólo se interesa por el efecto que tiene la desigualdad económica objetiva en cómo se sienten, piensan o comportan las personas, sino también por el papel relevante de la desigualdad económica percibida. Esta distinción es importante porque la desigualdad económica percibida en ocasiones no se corresponde con la objetiva (García-Castro et al., 2022; Gimpelson y Treisman, 2018; Knell y Stix, 2020; Willis et al., 2024).

Además, el estudio de la percepción de la desigualdad económica es relevante puesto que ha mostrado tener un efecto notable sobre las personas (Willis et al., 2022). Por ejemplo, una mayor percepción de desigualdad económica incrementa la distancia social y la ansiedad por el estatus (Melita et al., 2021; Sánchez-Rodríguez, Willis, y Rodríguez-Bailón, 2019). En otras palabras, las personas se sienten menos conectadas entre sí y más preocupadas por la posición que ocupan en la escalera social. Esto, a su vez, se asocia con un menor bienestar subjetivo (García-Sánchez et al., 2024). Distintas investigaciones también han señalado que una mayor desigualdad económica percibida conlleva consecuencias negativas para la salud (Gugushvili et al., 2020; Han, 2014). Asimismo, se ha mostrado el efecto de la desigualdad económica percibida sobre distintas

actitudes políticas (e.g., un mayor apoyo a la redistribución; García-Castro et al., 2022; García-Sánchez et al., 2020).

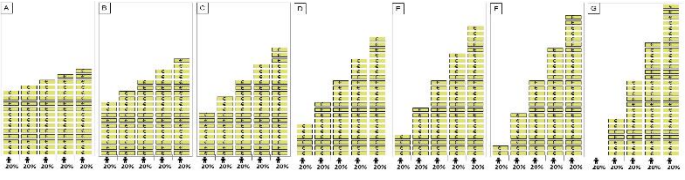
Para saber si en el estudio de la desigualdad económica percibida se ha seguido un enfoque multidimensional necesitamos plantearnos cómo se ha medido y cómo se ha manipulado experimentalmente este constructo. Atendiendo a las medidas, algunas implican estimaciones de la distribución de la riqueza por quintiles de ingresos económicos (Norton y Ariely, 2011), o de la brecha salarial entre distintas ocupaciones (Willis et al., 2015). Otras medidas utilizan representaciones gráficas de la distribución de ingresos (Rodríguez-Bailon et al., 2017). Asimismo, otra forma bastante común de medición es a través de ítems tipo Likert preguntando en qué medida las diferencias de ingresos son grandes o pequeñas (Heiserman y Simpson, 2021).

En cuanto a las manipulaciones experimentales, una de las más comunes se basa en presentar sociedades ficticias (Sánchez-Rodríguez, Willis, Jetten, et al., 2019), y dar información sobre la distribución de los ingresos económicos (más o menos desigual dependiendo de la condición experimental) y lo que se puede comprar con ellos en estas sociedades. Otras investigaciones emplean juegos económicos en los que las personas participantes deben distribuir recursos económicos de acuerdo con ciertas reglas (Bechtel et al., 2018). En otros casos, con mayor validez ecológica pero menor control experimental, se da información sobre los niveles de desigualdad de ingresos o riqueza en la sociedad real (Davidai, 2018).

Véase la *Tabla 1* para un resumen de algunas de las medidas y las manipulaciones experimentales de desigualdad económica percibida más comunes.

**Tabla 1**

*Tabla resumen con algunas de las medidas y manipulaciones experimentales más comunes de desigualdad económica percibida*

<b>Medidas de desigualdad económica percibida</b>		
<b>Tipo</b>	<b>Descripción</b>	<b>Ejemplos</b>
1) Distribución por quintiles de ingresos económicos	Estimar el porcentaje de riqueza que posee cada uno de los quintiles de ingresos en una sociedad.	Norton y Ariely (2011)
2) Brecha salarial percibida	Estimar los salarios de trabajadores/as sin cualificación y de los/las CEOs de grandes empresas.	Willis et al. (2015)
3) Medida diagramática	Elegir el gráfico que represente mejor la estructura económica de la sociedad.	Rodríguez-Bailón et al. (2017)
		
4) Ítems o escalas tipo Likert	Señalar en una escala tipo Likert, en qué medida las diferencias de ingresos son grandes o pequeñas. E.g., “Las diferencias en ingresos en mi país son demasiado grandes”.	Heiserman y Simpson (2021)
<b>Manipulaciones experimentales de la desigualdad económica percibida</b>		
<b>Tipo</b>	<b>Descripción</b>	<b>Ejemplos</b>
1) Paradigma de las sociedades ficticias ( <i>Bimboola</i> )	Se pide a las personas participantes que imaginen que van a vivir en una sociedad ficticia, y se les presenta información acerca de los ingresos económicos que tienen los distintos grupos sociales y lo que pueden comprar (cuya distribución es más o menos desigual dependiendo de la condición experimental).	Sánchez-Rodríguez et al. (2019)
2) Participación en juegos económicos	Se pide a las personas participantes que distribuyan de acuerdo con ciertas reglas una serie de recursos, a menudo dinero, o fichas/puntos que luego suelen intercambiarse por recompensa económica.	Bechtel et al. (2018)
3) Información acerca de los niveles de desigualdad	Se presenta información en forma texto y/o gráficos sobre la distribución de los ingresos económicos o la riqueza de dicha sociedad.	Davidai (2018)

En suma, las medidas y las manipulaciones experimentales de la desigualdad económica subjetiva empleadas hasta el momento, salvo escasas excepciones (e.g., la desigualdad percibida en la vida cotidiana que se discutirá más adelante), siguen manteniendo una visión reducida de la desigualdad económica basada en las diferencias de ingresos económicos. Además, se han señalado distintas limitaciones metodológicas que en ocasiones tienen que ver con la propia naturaleza de los ingresos económicos: son números fríos y abstractos, alejados de la realidad de la mayoría de las personas, que pueden desconocerse y no comprenderse completamente, por lo que están sujetos a errores y sesgos (Easterbrook, 2021; García-Sánchez, 2023; Pedersen y Mutz, 2019). Estos indicadores tienen la ventaja de que pueden compararse con los indicadores económicos objetivos (e.g., Gini), pero precisamente al hacerlo, nos damos cuenta de que la relación es inconsistente o nula, por lo que quizá no estamos siguiendo la aproximación más adecuada para captar la realidad psicológica de la desigualdad (García-Castro et al., 2022).

### **Una aproximación multidimensional a la desigualdad económica percibida**

Nuestro argumento en esta tesis es que una aproximación multidimensional a la desigualdad, poniendo el foco en ámbitos significativos de la vida de las personas, como la salud o la educación, puede darnos una visión más rica de cómo se percibe y responde la desigualdad económica por el público general. La pregunta clave en este punto es, ¿la desigualdad económica se percibe de forma multidimensional? Quizá, aunque teóricamente tenga sentido considerar múltiples dimensiones (e.g., desde el enfoque de las capacidades o la teoría de la igualdad compleja), la gente mantenga una percepción simplificada basada en los ingresos económicos. En respuesta a esta pregunta, algunas investigaciones recientes han puesto de manifiesto que *la percepción de la desigualdad económica es un fenómeno multidimensional* que se extiende por distintas áreas de la vida



de las personas más allá de la esfera exclusivamente monetaria (García-Sánchez, Willis, Rodríguez-Bailón, García-Castro, et al., 2018; García-Sánchez et al., 2022).

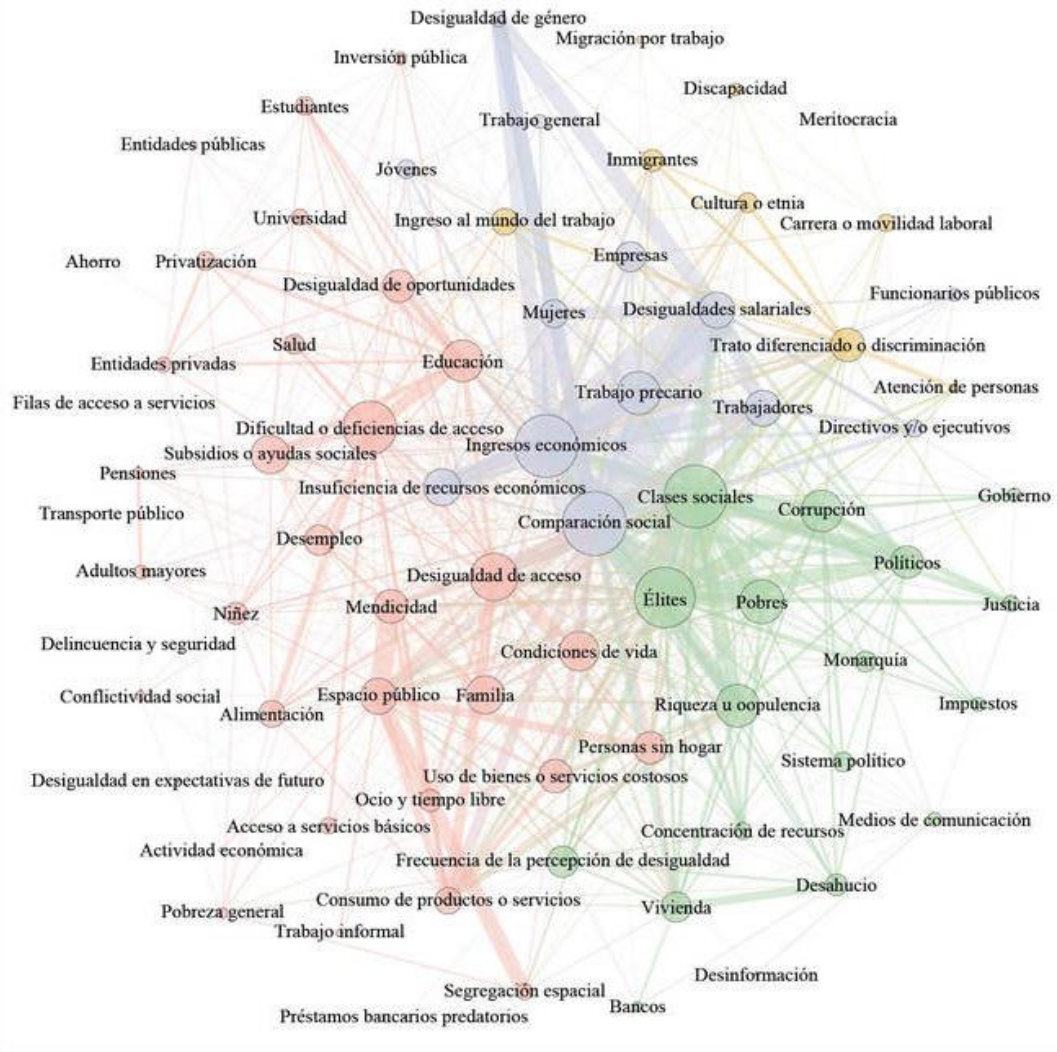
García-Sánchez, Willis, Rodríguez-Bailón, García-Castro et al. (2018) y García-Sánchez et al. (2022) realizaron una serie de estudios siguiendo una aproximación cualitativa para explorar cómo se percibe la desigualdad económica y si, efectivamente, es una cuestión que va más allá de las meras diferencias de ingresos. Uno de estos estudios fue en el contexto colombiano ( $N = 1624$ ; García-Sánchez, Willis, Rodríguez-Bailón, García-Castro, et al., 2018) y el otro en contexto español ( $N = 290$ ; García-Sánchez et al., 2022). Ambos estudios siguieron métodos mixtos y obtuvieron resultados similares. Las personas participantes debían responder a una pregunta abierta acerca de cómo percibían la desigualdad económica en su país. Posteriormente, se llevó a cabo un análisis de contenido y se codificaron las distintas respuestas, para después realizar un análisis de frecuencias y un análisis de redes identificando las posibles asociaciones entre las categorías mencionadas. En la *Figura 7*, puede observarse el gráfico de redes con las categorías resultantes del análisis y las relaciones entre ellas (muestra española; García-Sánchez et al., 2022).

Las múltiples categorías resultantes se agruparon en 4 dimensiones que pueden distinguirse con un color diferente en la figura: 1) *desigualdad de oportunidades* (rojo); 2) *desigualdad entre clases sociales* (e.g., ricos vs. pobres, élites; verde); *desigualdad de ingresos económicos y trabajo* (azul); y *desigualdad entre grupos sociales específicos* (e.g., personas inmigrantes o de etnia gitana; amarillo). Por tanto, aunque el ingreso económico juega un papel importante en este mapa de las percepciones, otras cuestiones como la desigualdad de oportunidades a través de las disparidades en el acceso a los servicios de salud o educación también desempeñan un rol muy relevante. En la muestra

colombiana se encontró un patrón similar de resultados (García-Sánchez, Willis, Rodríguez-Bailón, García-Castro, et al., 2018).

**Figura 7**

*Gráfico de red de las categorías de análisis sobre las percepciones de la desigualdad en España*



*Nota: El tamaño de cada nodo representa la cantidad de menciones que tuvo cada categoría (grado de centralidad). Las líneas simbolizan la intensidad del vínculo entre las categorías (coocurrencia), de manera que cuanto más gruesa es la línea, más veces coocurrieron estas categorías. La ubicación de los nodos indica también el grado de centralidad e interconexión con los demás nodos de la red. Por último, el color representa los grupos de categorías con mayor probabilidad de estar asociados entre sí.*

Fuente: García-Sánchez et al. (2022)

Para seguir ilustrando este ejemplo, cabe resaltar algunos de los pasajes de las personas participantes de la investigación con población española (García-Sánchez et al., 2022):

*Por cuestiones económicas, una persona de familia obrera tiene muchas menos posibilidades de adquirir cultura (teatro, libros, cine) y por tanto puede desarrollar menos sus intereses o su intelecto (252:3).*

*En la sanidad hay personas que se pueden permitir ir a clínicas privadas, pero otras muchas tienen que ir a lo público y pueden llegar a esperar meses para que les atiendan (128:3).*

En suma, estos resultados sugieren que las personas perciben la desigualdad económica a través de sus experiencias cotidianas (e.g., en su experiencia en el uso de los servicios o en sus interacciones con otros grupos sociales) y se enfocan en aspectos importantes para el bienestar y desarrollo humano (e.g., la salud o la educación), en lugar de en representaciones abstractas y numéricas referentes a la distribución de ingresos económicos. Este razonamiento nos acerca al concepto de ‘desigualdad percibida en la vida cotidiana’.

*La desigualdad percibida en la vida cotidiana* se ha definido como la percepción —a través de eventos diarios— de la forma en la que se distribuyen los recursos entre distintos individuos o grupos (García-Castro et al., 2019, 2021). Este concepto también tiene su origen reciente en la crítica a las medidas de la desigualdad económica percibida usadas tradicionalmente basadas en los indicadores numéricos y abstractos de la desigualdad de ingresos. En su lugar, se argumenta que las personas suelen observar la desigualdad en su contexto más inmediato, a través de sus interacciones directas y las comparaciones sociales teniendo en cuenta las personas que conocen.

Desde esta aproximación, se han desarrollado la *Perceived Economic Inequality in Everyday Life* (PEIEL; García-Castro et al., 2019) y una manipulación experimental. De forma importante, la desigualdad percibida en la vida cotidiana tiene un efecto significativo sobre algunas actitudes políticas como el apoyo a la redistribución, por encima de otras medidas clásicas como la estimación de brechas salariales (García-Castro et al., 2019, 2020). Sin embargo, este enfoque se centra más en la cuestión del contexto cotidiano (e.g., desigualdad entre personas conocidas) que en las dimensiones específicas en las que puede desarrollarse la desigualdad. En esta tesis, sí que nos enfocaremos en diferentes dominios, como la salud o la educación. Aun así, sin duda, este es un buen ejemplo de cómo ampliar el foco más allá de los ingresos económicos.

### **Desigualdad percibida en distintos ámbitos y actitudes hacia el cambio social**

La relevancia social de adoptar un enfoque multidimensional en el estudio de la percepción de la desigualdad radica en que, *cómo* percibimos la desigualdad económica puede tener un papel muy relevante en las respuestas que damos ante la misma, incluso por encima de los indicadores objetivos (García-Castro et al., 2022; Willis et al., 2022). Distintas percepciones pueden dar lugar a diferentes actitudes o acciones encaminadas a reducir (o mantener) la desigualdad económica. Por ejemplo, podemos imaginar a una persona a la que le parece bien que haya diferencias de ingresos, por las razones que sea. Por mucho que perciba y sea consciente del nivel de las diferencias de ingresos, seguramente no apoyará políticas o acciones encaminadas a reducir la desigualdad económica. Sin embargo, puede que a la misma persona no le parezca bien que las personas más pobres tengan un peor acceso a la salud o educación, y percibir estas diferencias sí que la motiven a reducir la desigualdad económica.

En esta línea, la investigación previa muestra que, en ocasiones, la mera percepción de las diferencias de ingresos no se traduce en un apoyo mayor a políticas o

acciones dirigidas a la reducción de la desigualdad económica (Hoyt et al., 2018; Kuziemko et al., 2015). Quizá, esta desconexión entre la brecha percibida de ingresos y el apoyo a la redistribución no es solamente fruto de que la desigualdad económica se subestime (Norton y Ariely, 2011) o se justifique (Trump, 2020); puede que la gente también *reaccione* y entienda la desigualdad a través de las diferencias que observan entre ricos y pobres en las listas de espera del hospital o en los másteres que no pueden permitirse, entre otras cosas. Sin embargo, estas percepciones han pasado desapercibidas en la investigación desde la psicología social debido a la forma en que se ha operacionalizado la desigualdad.

### **Desigualdad bivariada: desigualdad económica en salud y educación (II)**

Como se ha expuesto anteriormente, la desigualdad económica puede manifestarse en muchas dimensiones de la vida de las personas, pero en esta tesis nos vamos a centrar en los ámbitos de salud y educación, además de los ingresos. Antes, hemos expuesto la importancia que tienen estos ámbitos como capacidades y derechos básicos, vitales para el desarrollo de los individuos y las sociedades y claves en el mantenimiento de la desigualdad. Además de estos motivos, las investigaciones cualitativas sobre la desigualdad percibida también señalan que estos son ámbitos relevantes en cuanto a cómo las personas perciben y entienden la desigualdad económica (García-Castro et al., 2021; García-Sánchez, Willis, Rodríguez-Bailón, García-Castro, et al., 2018; García-Sánchez et al., 2022).

Así, algunas investigaciones recientes han arrojado algo de luz sobre lo que parece ser un camino prometedor en el estudio de la percepción de la desigualdad económica en los ámbitos de salud y educación. Por ejemplo, en la investigación de Macchia y Ariely (2021), las personas participantes respondían a la medida clásica de la estimación de la riqueza a través de los distintos quintiles de ingresos económicos, pero además, también

debían estimar el porcentaje de personas con un buen estado de salud y buenos recursos de educación en cada uno de esos quintiles. Asimismo, a otro grupo de personas se les pidió que indicaran cómo distribuirían estos recursos (i.e., riqueza, salud y educación) a través de los distintos quintiles en un país imaginario. En cuanto a los resultados, se destaca que se encontraron diferencias entre las preferencias distributivas en los distintos dominios. En concreto, la gente aceptaba más desigualdad en riqueza que en salud o educación, donde se preferían distribuciones casi perfectamente igualitarias.

En una investigación centrada en la desigualdad económica en el ámbito de la educación, Day y Norton (2023) exploraron cómo se percibían las diferencias en la financiación de las universidades estadounidenses. En este caso, en lugar de quintiles de ingresos, pedían a las personas participantes que imaginaran el 20% de las universidades con menos financiación, después el 20% siguiente, y así hasta llegar al 20% con más financiación. Las personas participantes debían estimar qué porcentaje de la financiación universitaria correspondía a cada grupo, así como indicar el porcentaje que les parecería ideal. Encontraron que la desigualdad en la financiación educativa se subestimaba; y que aprender sobre ella llevaba a las personas a pensar que esta desigualdad era más injusta.

De forma similar, Howarth et al. (2019) compararon los niveles de aceptación de la desigualdad de ingresos y la desigualdad económica en salud. En concreto, preguntaban a las personas participantes cuál era la diferencia aceptable entre los ingresos más altos y los más bajos a tiempo completo, y cuál era la diferencia aceptable en la esperanza de vida entre las personas más ricas y las más pobres, respectivamente. Ante estas dos preguntas, el porcentaje de personas que escogían la opción más igualitaria (e.g., que no hubiera diferencias) en términos de ingresos fue solamente del 5%, mientras que en la pregunta sobre la salud el porcentaje ascendía hasta el 46%. Los autores/as discuten los resultados de acuerdo con la teoría de la igualdad compleja de

Walzer (1983) y concluyen que puede que la desigualdad económica se tolere menos cuando se contempla el efecto de la desigualdad de ingresos en otras esferas como la de salud.

En suma, las investigaciones expuestas suponen un buen paso inicial al estudio de la percepción de la desigualdad económica en salud y educación. En conjunto, muestran cómo las *actitudes* hacia la desigualdad en esos dominios pueden ser diferentes a las actitudes hacia la desigualdad de ingresos. En concreto, puede que estas desigualdades se toleren menos que las meras diferencias de ingresos. Sin embargo, a excepción de la investigación de Day y Norton (2023), no se ha explorado la relación entre la *percepción* de desigualdad en estos dominios y las actitudes hacia estas diferencias o hacia la desigualdad económica de forma más general. Asimismo, sería relevante conocer si estas percepciones pueden tener una influencia, más allá de la percepción de las diferencias de ingresos, en el apoyo a acciones para reducir la desigualdad. En la presente tesis, exploraremos estas cuestiones.

### **Actitudes y acciones para reducir la desigualdad: redistribución y acción colectiva**

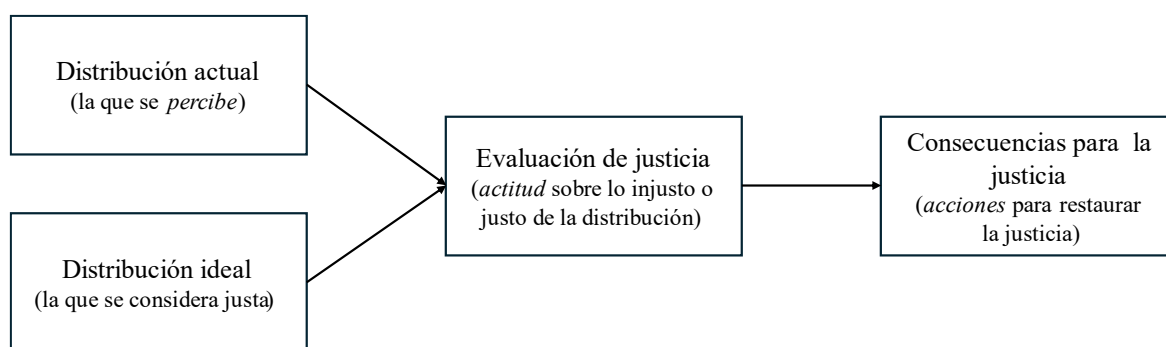
La relación entre la percepción de desigualdad, las actitudes hacia la misma y las acciones para reducirla está descrita teóricamente desde el *enfoque de la justicia distributiva* (Jasso et al., 2016). Desde esta perspectiva, ante un contexto desigual, una persona *percibe* la distribución de recursos actual y la compara con la distribución que consideraría justa de acuerdo con una serie de principios de justicia, generando así una evaluación (*actitud*) sobre lo justo o injusto de la distribución de los recursos. Esta evaluación llevaría a una serie de consecuencias, como por ejemplo *acciones* para restaurar la justicia (e.g., redistribución de los recursos). Desde este enfoque, también se contempla que los principios de justicia empleados para elaborar la idea de la distribución

justa pueden ser distintos para recursos diferentes, lo cual también da sentido a la aproximación multidimensional. En la *Figura 8* ilustramos este proceso.

Una de las acciones principales que tienen un impacto directo en la reducción la desigualdad económica es la redistribución de recursos (Doerrenberg y Peichl, 2014). La redistribución se ha definido ampliamente como el uso de impuestos y transferencias sociales para mitigar la concentración de la riqueza y reducir la expansión de la pobreza (García-Sánchez, Willis, Rodríguez-Bailón, Palacio Sañudo, et al., 2018; Luebker, 2014). De acuerdo con la clásica *hipótesis de la redistribución* (Meltzer y Richard, 1981), niveles más altos de desigualdad implicarían una mayor desventaja para la mayoría de la gente, lo cual se debería traducir en mayor apoyo a la redistribución económica. Sin embargo, a menudo incrementos en los niveles de la desigualdad objetiva no se acompañan de un mayor deseo de redistribución, por lo que recientemente esta hipótesis se ha modificado para argumentar que es la percepción de desigualdad la que tiene una influencia positiva en el apoyo a la redistribución (Choi, 2019).

### Figura 8

*Diagrama conceptual del proceso de justicia distributiva*



Fuente: Diagrama traducido y adaptado de Jasso et al. (2016).

Otra acción que puede ser una herramienta efectiva para promover el cambio social y reducir la desigualdad económica es la acción colectiva (Louis, 2009). En esta tesis, operacionalizamos la acción colectiva como la participación en acciones conjuntas,



protestas o manifestaciones para reducir la brecha entre las personas más ricas y las más pobres. Los *modelos de acción colectiva* señalan distintas variables como posibles precursoras de la movilización social, entre las cuales la percepción de injusticia es una de las más consistentes (van Stekelenburg y Klandermans, 2013; van Zomeren et al., 2008). Así, se ha propuesto teóricamente que la percepción de la desigualdad económica como injusta e ilegítima puede fomentar la participación en acciones colectivas con el objetivo de reducirla (Jetten et al., 2021).

Existe evidencia empírica que avala todos estos modelos teóricos. De forma más específica, una mayor percepción de la desigualdad económica se asocia con menor aceptación o tolerancia hacia la desigualdad económica, y esto, a su vez con un mayor apoyo a la redistribución (García-Castro et al., 2019, 2020) y/o mayor intención de participar en acciones colectivas para reducir la desigualdad (Jo y Choi, 2019; Solt, 2015). Aunque, hasta donde alcanza nuestro conocimiento, no existe evidencia empírica directa sobre el rol específico de la percepción de la desigualdad en salud y educación en el apoyo a políticas redistributivas y la acción colectiva, diversas observaciones sugieren que este enfoque podría ser especialmente prometedor.

Por ejemplo, mientras que las políticas dirigidas a reducir las disparidades de ingresos o de riqueza suelen carecer de un apoyo sólido (Son Hing et al., 2019), las políticas que promueven la atención sanitaria universal o las oportunidades educativas equitativas suelen obtener un amplio respaldo (Edlund y Lindh, 2021; Missinne et al., 2013). Esto sugiere que enmarcar las políticas redistributivas en términos de la reducción de las diferencias en salud y educación entre ricos y pobres podría generar un apoyo más robusto que si se enmarcan únicamente como medidas para reducir la brecha de ingresos o riqueza. Además, históricamente se han producido importantes estallidos sociales contra los recortes presupuestarios en sanidad o educación, como las protestas españolas

de la «ola blanca» y la «ola verde» (Iglesias-Onofrio et al., 2018) o la movilización estudiantil en Chile (Huenupi, 2021), lo que sugiere que estas temáticas pueden ser claves en la movilización social. En suma, pensamos que la desigualdad percibida en sanidad y educación podría contribuir a conseguir un apoyo más amplio a las acciones para reducir la desigualdad económica.

### **Consenso ideológico en torno a la desigualdad en salud y educación**

Una perspectiva multidimensional de la desigualdad puede llevar a que existan algunos puntos de acuerdo entre personas que, *a priori*, podrían tener ideas diferentes. Por ejemplo, puede que la persona A esté en contra de la igualdad de rentas y que la persona B esté a favor. Sin embargo, ambas podrían estar de acuerdo en que personas pobres y ricas deben tener el mismo acceso a los servicios de salud y educación. Este puede ser un caso bastante plausible, como exponemos a continuación.

La división ideológica es uno de los grandes problemas actuales en un contexto de creciente polarización (Casal Bértoa y Rama, 2021; Garzia et al., 2023), pero sin duda también es una barrera importante para la implementación de medidas para reducir la desigualdad económica. Así, las diferencias de ingresos económicos a menudo se justifican ideológicamente en base a creencias meritocráticas (e.g., aquellas personas que ganan más lo hacen porque se han esforzado más y por tanto se lo merecen; Castillo et al., 2019; García-Sánchez et al., 2020). Estas diferencias ideológicas escalan a nivel político, de forma que las personas con una ideología política de derechas tienden a justificar y aceptar mayores niveles de desigualdad de ingresos, en comparación con las personas con una ideología política de izquierdas (Jost et al., 2003; Lindqvist, 2024). En consecuencia, es menos probable que las personas con una orientación política hacia la derecha participen en protestas para reducir la desigualdad o apoyen políticas redistributivas (Armingeon y Weisstanner, 2022; Hoyt et al., 2018).

Sin embargo, aunque la aceptación de la desigualdad económica en los ámbitos de salud y educación también puede estar sujeta a sesgos ideológicos, puede que sean cuestiones con más consenso ideológico que las diferencias de ingresos. Esto podría ser así por varios motivos. En primer lugar, mientras que las diferencias de ingresos pueden justificarse fácilmente en base al esfuerzo o el mérito (e.g., la persona más pobre no se ha esforzado lo suficiente), puede que esta justificación no sea válida para justificar que un niño no tenga acceso a una educación de calidad o una persona enferma de cáncer no pueda pagarse un tratamiento. La salud y la educación, reconocidos ampliamente como derechos fundamentales, puede que respondan más a los principios distributivos de igualdad o necesidad que al del mérito (Gibbs et al., 2019; Iglizzi et al., 2024).

En segundo lugar, la salud y sobre todo la educación, tal como se ha expuesto anteriormente, son pilares imprescindibles de la igualdad de oportunidades (Alesina et al., 2018; OECD, 2019b, 2020a). Si la igualdad de oportunidades se ve amenazada, esto puede resonar también al votante de derechas puesto que es una de las bases de la creencia meritocrática (e.g., todas las personas deben tener las mismas oportunidades de forma que puedan conseguir recompensas que se merecen de acuerdo con su esfuerzo; Castillo et al., 2019). La percepción de desigualdad de oportunidades puede llevar a pensar que la desigualdad de ingresos es resultado de un proceso injusto que poco tiene que ver con el esfuerzo (Trautmann, 2022). En esta línea, se ha mostrado que la brecha ideológica entre liberales y conservadores en la reducción de las diferencias de ingresos es menor cuando se da información sobre la desigualdad de oportunidades (Hoyt et al., 2018).

En suma, al poner el foco en las desigualdades en salud y educación, se puede apelar a valores compartidos evitando la polarización, y facilitando la implementación de políticas más equitativas que cuenten con un apoyo más amplio y transversal. De esta manera, una aproximación multidimensional a la desigualdad económica también

ofrecería un camino más viable para el cambio social y político en favor de una sociedad más justa y equitativa.

### **Conclusión**

En conclusión, en este capítulo hemos expuesto la necesidad de adoptar una aproximación multidimensional al estudio de la desigualdad económica, superando la visión tradicional centrada exclusivamente en las diferencias ingresos o riqueza. En general, esta aproximación busca poner el centro en las personas y sus capacidades en distintos ámbitos significativos en sus vidas, como por ejemplo la salud o la educación. Desde la psicología social, el estudio de la desigualdad económica es relativamente reciente y también se ha focalizado en estudiar la percepción de las diferencias de ingresos o riqueza entre las personas que más y menos tienen. Por tanto, existe un hueco en la literatura sobre cómo percibimos las desigualdades en otros ámbitos. En esta tesis, trataremos de arrojar luz a esta cuestión, centrándonos en las percepciones de la desigualdad en salud y educación entre las personas más ricas y las más pobres. Y, de forma más importante, exploraremos cómo estas percepciones pueden ser claves y suponer puntos de acuerdo para promover el cambio social a través de la acción colectiva y el apoyo a políticas redistributivas para reducir la desigualdad económica.



## Capítulo 2

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*Planteamiento General,  
Preguntas de Investigación  
y Objetivos*



La desigualdad económica es uno de los problemas más acuciantes de las sociedades contemporáneas, con efectos perjudiciales tanto para los individuos como para el tejido social en su conjunto (Peterson, 2017; Pickett y Wilkinson, 2015). Esta creciente desigualdad no se limita solo a los ingresos y la riqueza, sino que se extiende a múltiples ámbitos de la vida cotidiana, como la salud y la educación (Anand et al., 2020). Por ejemplo, informes recientes muestran que las brechas entre las personas más ricas y las más pobres en el acceso a servicios de salud de calidad y oportunidades educativas persisten e incluso siguen aumentando (Chmielewski, 2019; OECD, 2016, 2019a).

Sin embargo, a pesar de los claros efectos negativos de la desigualdad económica, las respuestas políticas y sociales no han sido proporcionales a la magnitud del problema (Son Hing et al., 2019). Aunque la desigualdad ha ido en aumento, las iniciativas para mitigarla no han seguido el mismo ritmo (Ashok et al., 2015; Mijs, 2021). A pesar de que reducir la desigualdad económica es una meta social de nuestro tiempo—reducir las desigualdades es uno de los Objetivos del Desarrollo Sostenible 2030 (Naciones Unidas, 2015)—estamos lejos de alcanzarla. Y, en parte, lo que nos aleja de esta meta podría ser la falta de consenso en el apoyo a las políticas públicas que podrían reducir estas disparidades (Armingeon y Weisstanner, 2022; OECD, 2021; Pew Research Center, 2020)

Desde la perspectiva de la psicología social, se ha propuesto que la percepción de la desigualdad puede ser más influyente que la desigualdad objetiva para entender las reacciones sociales a la misma (Gimpelson y Treisman, 2018; Willis et al., 2022). La percepción de una distribución desigual de recursos influye en las actitudes hacia la desigualdad y en el apoyo a acciones para reducirla (García-Castro, García-Sánchez, et al., 2022; Jo y Choi, 2019). De forma más específica, algunos estudios han mostrado



que cuando las personas perciben una alta desigualdad, tienden a tolerarla menos y muestran una mayor disposición a apoyar políticas redistributivas y acciones colectivas (García-Castro et al., 2020; García-Castro, González, et al., 2022). Sin embargo, esta relación no siempre se da, ya que las ideologías (e.g., ideología política, creencia en la meritocracia) pueden actuar como barreras que favorecen la tolerancia a la desigualdad (Rodríguez-Bailon et al., 2017; Starmans et al., 2017) y limitan el apoyo a medidas redistributivas, incluso ante una percepción de alta desigualdad (García-Sánchez et al., 2019, 2020; Trump, 2020).

Dada esta problemática, se hace necesario explorar estrategias alternativas que nos permitan alcanzar un mayor acuerdo en la lucha contra la desigualdad económica. En la búsqueda de estos caminos alternativos, la revisión de la literatura realizada en el capítulo anterior, así como algunas investigaciones previas (García-Sánchez et al., 2018, 2022), sugieren que existe un hueco en la literatura en este ámbito. Aunque la desigualdad económica es un fenómeno multidimensional, las investigaciones han tendido a centrarse predominantemente en la desigualdad de ingresos y riqueza (García-Sánchez et al., 2018, 2022). Esto ha dejado un vacío en el entendimiento de cómo las desigualdades en otros ámbitos, como la salud y la educación, impactan las actitudes y el apoyo a acciones para reducir la desigualdad.

Desde una perspectiva multidimensional, el *objetivo general* de esta tesis es analizar cómo la desigualdad económica percibida en distintos ámbitos (e.g., salud, educación, ingresos) influye en el apoyo a acciones para reducirla. Aunque la desigualdad económica puede extenderse por varios dominios, además de las diferencias en ingresos, en esta tesis nos centramos en dos dominios donde puede que haya más consenso y apoyo general en contra de estas desigualdades: la salud y la educación. A través de este enfoque, esperamos contribuir a una comprensión más

completa de las dinámicas que subyacen a la percepción de la desigualdad y a la formulación de políticas más efectivas y consensuadas para combatirla.

### **Preguntas y objetivos de investigación específicos**

Para cumplir con este objetivo general, a lo largo de esta tesis, nos hemos formulado una serie de preguntas de investigación que iremos respondiendo a lo largo de los cuatro capítulos empíricos que siguen. A continuación, iremos delineando estas preguntas, así como la lógica e importancia que subyace a las mismas. Del mismo modo, indicaremos en qué capítulos tratamos de responder a estas preguntas.

En primer lugar, las escasas investigaciones que han abordado la desigualdad económica subjetiva desde una perspectiva multidimensional han señalado que las personas no tienen las mismas *actitudes* sobre la desigualdad en los ingresos/riqueza que sobre las desigualdades en salud o educación. Por ejemplo, Macchia y Ariely (2020) encontraron que se prefieren distribuciones más igualitarias en salud y educación que en riqueza. Sin embargo, hasta el momento se desconocía si estas actitudes hacia la desigualdad económica en salud y educación podían jugar un papel diferencial—más allá de las actitudes hacia la desigualdad en ingresos—en el apoyo a acciones para reducir la desigualdad económica (e.g., participación en acciones colectivas o políticas que favorezcan la redistribución).

Así, la primera pregunta de investigación que formulamos es: **¿Las *actitudes* sobre la desigualdad económica en salud y educación—además de las diferencias en ingresos—pueden fomentar el apoyo a acciones para reducir la desigualdad económica?** En los Capítulos 3 y 4 tratamos de dar respuesta a esta pregunta, con la predicción de que las actitudes hacia la desigualdad económica en salud y educación—además de las diferencias de ingresos—tendrían un efecto positivo sobre el apoyo a acciones para reducir la desigualdad económica (*H1*).

En segundo lugar, tal como se ha indicado anteriormente, la *percepción* de desigualdad es un antecedente clave de las actitudes hacia la misma, y en última instancia, del apoyo a acciones para reducirla (García-Castro et al., 2020; García-Castro, González, et al., 2022). Aunque algunas investigaciones han mostrado que la desigualdad económica se percibe en los dominios de salud y educación, más allá de las diferencias de ingresos (García-Sánchez et al., 2018, 2022), no se había estudiado el rol que podrían tener estas percepciones en el apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella.

Por tanto, nos preguntamos: **¿La percepción de la desigualdad económica en salud y educación—más allá de las diferencias en ingresos—puede influir en el apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella?** En el Capítulo 4 exploramos esta cuestión, esperando que la percepción de la desigualdad económica en salud y educación—más allá de las diferencias de ingresos—tuviera un efecto positivo sobre el apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella (*H2*). Esto guarda especial relevancia práctica porque en los casos en los que la desigualdad se subestima (Day y Norton, 2023; Norton y Ariely, 2011), podemos aumentar la percepción de desigualdad ofreciendo información sobre los niveles reales de la misma, y por tanto fomentar el apoyo a acciones para su reducción.

En tercer lugar, argumentamos que la desigualdad en ingresos y las desigualdades en salud y educación no son fenómenos aislados, sino que están fuertemente interconectados. Tras explorar si las percepciones y actitudes hacia la desigualdad económica en salud y educación pueden jugar un papel independiente de las percepciones y actitudes hacia las diferencias de ingresos, en el Capítulo 5 nos interesamos por la percepción sobre *la interconexión* entre estas desigualdades.

Así, la pregunta que nos realizamos en el Capítulo 5 es: **¿Percibir el solapamiento de las diferencias en ingresos con la desigualdad en salud y educación puede afectar al apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella?** Esperábamos que cuanto más se percibiera el solapamiento entre las diferencias en ingresos y la desigualdad en salud y educación, mayor fuera el apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella (H3).

En cuarto lugar, exploramos un aspecto clave de la problemática que trata de abordar esta tesis: la falta de acuerdo respecto a las actitudes hacia la desigualdad. La desigualdad de ingresos se tolera en gran medida y se justifica en base a ideologías (e.g., ideología política o creencias meritocráticas; Mijs, 2021; Rodríguez-Bailon et al., 2017). Por ejemplo, la gente de derechas tolera más la desigualdad de ingresos que la gente de izquierdas (Jost et al., 2003; Lindqvist, 2024), o aquellos con más creencias meritocráticas justifican estas diferencias argumentando que aquellos que ganan más lo hacen porque son más hábiles o se han esforzado en mayor medida (Castillo et al., 2019; García-Sánchez et al., 2020).

Sin embargo, algunos estudios sugieren que puede que haya menos tolerancia a las desigualdades en salud y educación en comparación con las diferencias de ingresos (Howarth et al., 2019; Macchia y Ariely, 2021). Así mismo, las ideologías que sirven para justificar la desigualdad de ingresos podrían tener un rol menor en cuanto a las desigualdades en salud y educación, a menudo consideradas derechos básicos (*United Nations*, 1948, art. 25 and 26) y recursos necesarios para tener igualdad de oportunidades (Alesina et al., 2018; OECD, 2019b, 2020a).

En esta línea, nos preguntamos: **¿Hay más acuerdo en las actitudes sobre la desigualdad económica en salud y educación, en comparación con las diferencias**

**en ingresos?** Esta pregunta la respondemos en parte en el Capítulo 3, y la exploramos más a fondo en el Capítulo 6, hipotetizando que la desigualdad económica en salud y educación se aceptaría menos que las diferencias de ingresos (*H4*). Además, en el Capítulo 6 analizamos el papel de la ideología y esperábamos que existieran menos diferencias ideológicas en las actitudes hacia la desigualdad en salud y educación en comparación con la desigualdad de ingresos (*H5*).

En último lugar, formulamos una pregunta que busca resaltar la relevancia práctica de nuestra investigación. La literatura previa ha mostrado que el efecto de incrementar la percepción de desigualdad de ingresos sobre el apoyo a acciones para reducir la desigualdad económica normalmente es pequeño (Ciani et al., 2021), por lo que se hace necesario encontrar estrategias alternativas. Otras investigaciones han mostrado que informar sobre las desigualdades de ingresos no era suficiente para movilizar a las personas que justificaban el sistema; sin embargo, dar información sobre la desigualdad de oportunidades sí que movilizaba a estas personas (Hoyt et al., 2018). Dado que es posible que la desigualdad en salud y educación se tolere menos y que haya más consenso ideológico en estas cuestiones que acerca de la desigualdad de ingresos, cabe pensar que poner el foco en estas desigualdades podría ser una forma más eficaz de movilizar al público para reducir la desigualdad económica.

Por tanto, la última pregunta que nos realizamos es: **¿Enmarcar la desigualdad económica en términos de las diferencias en salud y educación—comparado con las diferencias en ingresos—puede ser una *estrategia más efectiva* para fomentar el apoyo a acciones para reducir la desigualdad económica?** En los Capítulos 4 y 6 presentamos distintos escenarios con la hipótesis de que presentar la desigualdad económica en términos de las diferencias en salud y educación—comparado con las diferencias en ingresos—puede llevar a un mayor apoyo a acciones para reducir la

desigualdad económica, tales como la acción colectiva o la redistribución (*H6*).

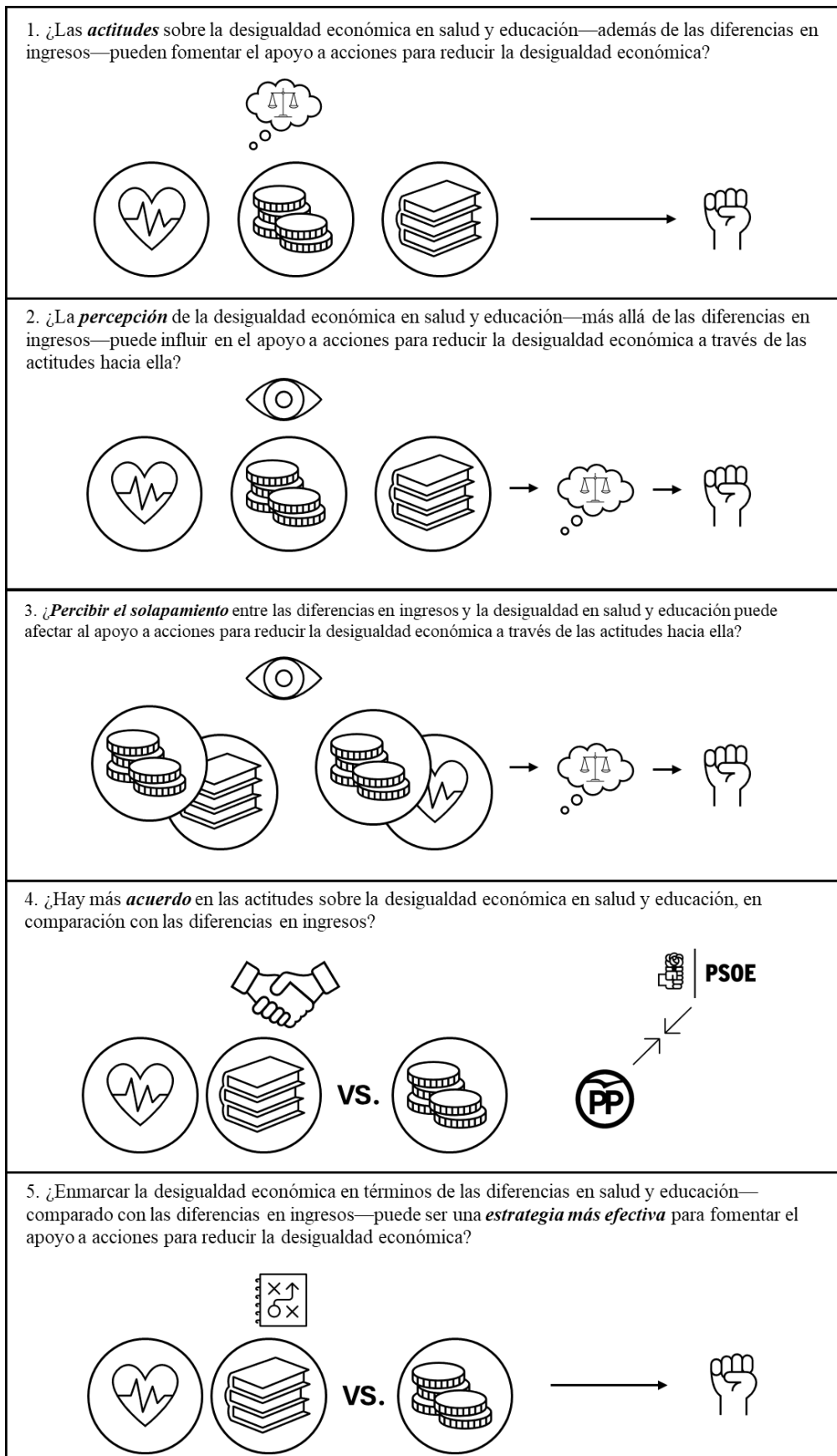
Pensamos que la respuesta a esta pregunta y las anteriores podría, en su conjunto, informar a la comunicación y el diseño de campañas políticas, contribuyendo así a la formulación de estrategias exitosas con más apoyo público para abordar este desafío global.

En cuanto a la estructura de la tesis doctoral, esta se compone de un total de 7 capítulos. Los dos primeros han presentado un marco conceptual donde se ha profundizado en la problemática que tratamos de resolver y la relación teórica y empírica entre las variables que estudiaremos, así como una formulación de las preguntas, objetivos e hipótesis que abordaremos a lo largo de los capítulos empíricos. Los 4 capítulos empíricos tendrán el formato de artículos de investigación independientes, por lo que cada capítulo contará con una introducción y discusión propias en las que se repetirán los conceptos claves para ese artículo. Después de los capítulos empíricos, presentamos el último capítulo con una discusión general de los resultados encontrados en la tesis. Con el objetivo de cumplir con los requisitos para optar a la mención internacional de doctorado, algunos capítulos se presentan en inglés y otros en castellano.

Véase la *Figura 1* para una infografía de cada pregunta de investigación. Asimismo, en la *Tabla 1* se presenta un resumen de las preguntas, objetivos, hipótesis y los capítulos empíricos en las que se abordan.

**Figura 1**

*Infografías de las Preguntas de Investigación*



**Tabla 1**

*Resumen de las Preguntas, Objetivos, Hipótesis y los Capítulos Empíricos en las que se Abordan*

<b>Objetivo general</b>			
Explorar la relación entre la desigualdad económica subjetiva en distintos ámbitos (salud, educación e ingresos) y el apoyo a acciones para reducirla (acciones colectivas y redistribución).			
<b>Preguntas de investigación</b>	<b>Objetivos específicos</b>	<b>Hipótesis</b>	<b>Capítulos</b>
1. ¿Las <i>actitudes</i> sobre la desigualdad económica en salud y educación— además de las diferencias en ingresos—pueden fomentar el apoyo a acciones para reducir la desigualdad económica?	Analizar la relación entre, por una parte, las actitudes hacia la desigualdad económica en salud, educación, e ingresos, y por otra parte, el apoyo a acciones para reducir la desigualdad económica	H1. Las actitudes hacia la desigualdad económica en salud y educación—además de las diferencias de ingresos—tendrán un efecto positivo sobre el apoyo a acciones para reducir la desigualdad económica	Capítulos 3 y 4
2. ¿La <i>percepción</i> de la desigualdad económica en salud y educación— más allá de las diferencias en ingresos— puede influir en el apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella?	Analizar la relación entre, por una parte, la percepción de la desigualdad económica en salud, educación e ingresos, y por otra parte, el apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella.	H2. La percepción de la desigualdad económica en salud y educación— más allá de las diferencias de ingresos—tendrá un efecto positivo sobre el apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella.	Capítulo 4
3. ¿Percibir <i>el solapamiento</i> entre las diferencias en ingresos y la desigualdad en salud y educación puede afectar al apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella?	Analizar la relación entre, por una parte, la percepción de solapamiento entre las diferencias en ingresos y la desigualdad en salud y educación, y por otra parte, el apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella.	H3. La percepción de solapamiento entre de las diferencias en ingresos sobre la desigualdad en salud y educación tendrá un impacto positivo en el apoyo a acciones para reducir la desigualdad económica a través de las actitudes hacia ella.	Capítulo 5



<p>4. ¿Hay más <i>acuerdo</i> en las actitudes sobre la desigualdad económica en salud y educación, en comparación con las diferencias en ingresos?</p>	<p>Analizar el consenso en las actitudes sobre la desigualdad económica en salud, educación e ingresos.</p>	<p>H4. La desigualdad económica en salud y educación se aceptará menos que las diferencias de ingresos.</p>	<p>Capítulos 3 y 6  Capítulo 6</p>
<p>5. ¿Enmarcar la desigualdad económica en términos de las diferencias en salud y educación—comparado con las diferencias en ingresos—puede ser una <i>estrategia más efectiva</i> para fomentar el apoyo a acciones para reducir la desigualdad económica?</p>	<p>Analizar el efecto de enmarcar la desigualdad económica en términos de las diferencias en salud y educación comparado con las diferencias en ingresos sobre el apoyo a acciones para reducir la desigualdad económica.</p>	<p>H5. Existirán menos diferencias ideológicas en las actitudes hacia la desigualdad en salud y educación en comparación con la desigualdad de ingresos.</p> <p>H6. Enmarcar la desigualdad económica en términos de las diferencias en salud y educación—comparado con las diferencias en ingresos—puede llevar a un mayor apoyo a acciones para reducir la desigualdad económica</p>	<p>Capítulos 4 y 6</p>

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## Chapter 3

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*Inequality Concerns About Health,  
Education, and Income Jointly Predict  
Collective Actions*



**Inequality Concerns About Health, Education, and Income Jointly Predict  
Collective Actions**

**Las preocupaciones por la desigualdad en salud, educación e ingresos predicen  
conjuntamente las acciones colectivas**

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### Abstract

*Introduction:* Income inequality is often tolerated and justified, but when it brings about disparities in other domains of life (e.g., health or education), one may see it with different eyes. In this research, we aimed to explore concerns about economic inequality in health, education, and income, and their relationship to supporting collective actions to reduce inequality. *Methods:* We used survey data ( $N = 20,204$ , 18 countries) from the Latinobarometer 2020. We conducted descriptive analyses, latent class analyses, and analyses of multilevel linear regression to test our hypothesis. *Results:* We found that people were more concerned about health access and education opportunities than income inequality. We also identified two classes of people: one class concerned about education and health and the other unconcerned about inequality in any domain. In addition, results showed that all concerns and class membership predicted greater support of collective actions to reduce inequality. *Conclusions:* These preliminary findings suggest that concerns about education and health disparities may serve to increase awareness of overall inequality and mobilize the public.

*Keywords:* subjective economic inequality; education opportunities; health access; income inequality; collective actions

## Resumen

*Introducción:* La desigualdad de ingresos a menudo se tolera y justifica, pero cuando esta conlleva desigualdades en otros ámbitos de la vida (e.g., salud o educación), puede que se vea con ojos diferentes. En esta investigación, tratamos de explorar la preocupación por la desigualdad económica en salud, educación e ingresos, así como su relación con el apoyo a acciones colectivas para reducir la desigualdad. *Método:* Usamos datos secundarios ( $N = 20.204$ , 18 países) del Latinobarómetro 2020. Llevamos a cabo análisis descriptivos, análisis de clases latentes y análisis de regresión multinivel. *Resultados:* Encontramos que la gente estaba más preocupada por el acceso a la salud y las oportunidades en educación que por la desigualdad en el ingreso. También identificamos dos perfiles de personas: unas preocupadas por la educación y la salud, y otras poco preocupadas por la desigualdad en ninguno de los ámbitos. Además, los resultados mostraron que todas las preocupaciones y los distintos perfiles predecían un mayor apoyo a las acciones colectivas para reducir la desigualdad. *Conclusiones:* Estos hallazgos preliminares sugieren que la preocupación por las desigualdades en salud y educación podrían servir para incrementar la conciencia sobre la desigualdad general y movilizar al público.

*Palabras clave:* desigualdad económica subjetiva; oportunidades en educación; acceso a la salud; desigualdad de ingresos; acciones colectivas

## Introduction

Economic inequality is a pervasive problem that spreads through distinct social spheres beyond income or wealth disparities. For instance, socioeconomically disadvantaged individuals have lower life expectancy, less access to medical services, greater probability of repeating a grade, and lower performance in education than their counterparts with a higher socioeconomic status (OECD, 2016, 2019a). Although there is general agreement that economic inequality is a serious issue, there is a lack of collective action and majority support for policies aimed at reducing it (OECD, 2021).

It is hypothesized that justice evaluations about the actual distribution of resources may lead to behaviors aimed at restoring justice (Jasso et al., 2016). More specifically, it is theoretically proposed that concerns about inequality would trigger engagement in collective actions (i.e., support of protests) to redress inequality when it is perceived as unfair (Jetten et al., 2021). But income inequality is not always judged as unfair (Starmans et al., 2017). As an example, salary-gaps might be seen as fair to the extent that they reflect differences in effort and deservingness (e.g., meritocratic beliefs; Barr & Miller, 2020, García-Sánchez et al., 2020). However, how fair is it that someone suffering from cancer cannot afford medical treatment? Recent evidence suggests people might be more concerned about economic inequality in health and education than in terms of income/wealth disparities alone (Macchia & Ariely, 2021). Importantly, greater concerns about inequality may lead to higher support of collective actions to reduce it (Jo & Choi, 2019).

In this research, we seek to corroborate and extend these preliminary findings by exploring concerns about economic inequality in various domains (health, education, and income) and their relationship to support of collective actions to reduce inequality. While most literature has focused exclusively on income or wealth, we also studied concerns



about health access and education opportunities. Moreover, we explored whether concerns about inequality in each domain had a unique and independent effect on collective actions to reduce it, and if the combination of these concerns could better explain social mobilization. Furthermore, we analyzed these issues in Latin America, a unique and especially relevant context because it is one of the most unequal regions in the world. Economic inequality in this region has been reduced in the last years, but the prevalence of protests and demonstrations have increased (Díaz & Palacio, 2020; Justino & Martorano, 2016).

### **Concerns About Inequality Across Domains**

Literature on subjective economic inequality has mainly focused on perceptions and concerns about income gaps or wealth distributions (Castillo et al., 2022; Willis et al., 2022). This approach, however, involves several theoretical and methodological limitations (García-Castro et al., 2019; García-Sánchez et al., 2022). For instance, people may find it difficult to understand numeric and abstract representations of monetary resources, they could lack information about economic issues, and cognitive biases might influence their estimations (Castillo et al., 2022; Pedersen & Mutz, 2019). Furthermore, recent theoretical proposals and empirical research have shown that perceived inequality is a multidimensional phenomenon that encompasses various domains of people's everyday lives (García-Castro et al., 2021; García-Sánchez et al., 2022; CASE, 2020). Therefore, the view of economic inequality solely based on the distribution of wealth and income leaves out other information relevant to the way people perceive their society. For instance, it does not consider differences in access to health services or education opportunities.

Importantly, from a multidimensional angle, concerns about inequality may vary across domains because different distributive justice principles may apply for each of

them (Jasso et al., 2016; Starmans et al., 2017). For instance, people can justify income inequality by thinking that their socioeconomic position is the result of hard work (García-Sánchez et al., 2020). However, this belief could be less relevant to a person suffering from cancer who needs unaffordable treatment. In this line, while merit is a relevant aspect for distributing economic resources, health and education can be considered human rights (United Nations, 1948, art. 25 and 26), and therefore, might be less dependent on deservingness.

To our knowledge, very few studies to date have compared people's concerns about economic inequality in different domains. As an exception, Macchia and Ariely (2021) asked participants to imagine that they were moving to a different country and that their place within the income distribution would be randomly assigned. Next, they had to indicate how they would distribute wealth, good educational resources, and good health across income quintiles. Results showed that people accepted more inequality in wealth than in the domains of health or education, in which they desired an almost egalitarian distribution. Consistently, Howarth et al. (2019) showed that the number of people preferring egalitarian sharing was much lower in the wealth domain than in the health sphere (e. g., 5% vs. 46%). Although this evidence is preliminary, it points out that some domains of economic inequality might be less accepted than others. Furthermore, researchers must investigate whether concerns about inequality, beyond monetary or financial resources, can be associated with participation in collective actions.

### **Concerns about Inequality and Collective Actions**

Whether economic inequality can foster collective actions is still an open question. From a theoretical perspective, social grievances—such as the experience of large economic gaps—are at the heart of protests (Jetten et al., 2021; van Stekelenburg & Klandermans, 2013; van Zomeren et al., 2008). In fact, in an analysis of worldwide

protests, Ortiz et al. (2020) observed that the lack of economic justice was the main reason that motivated people to protest. However, other empirical research has found that indicators of economic inequality at a macrolevel (e.g., Gini index) are barely associated with collective actions to reduce it (Jo & Choi, 2019), or they may even be negatively associated (Dubrow et al., 2008; Solt, 2015).

Concerns about economic inequality, rather than objective indicators, might be a better predictor of people's responses to inequality (Jo & Choi, 2019; Willis et al., 2022). Although research on the relationship between concerns about economic inequality and support of collective actions is surprisingly scarce, some studies show a positive association (Jo & Choi, 2019). For instance, the belief that the government should reduce income inequality between the rich and the poor was related to a greater participation in collective actions in Chile (Castillo et al., 2012) and Latin America (Justino & Martorano, 2016). Consistently, using cross-national data from 45 countries, Jo and Choi (2019) showed that perceived income inequality and preferences for redistribution were positively associated with involvement in collective actions. Nevertheless, none of these studies have investigated whether concerns about economic inequality across various domains (e.g., health or education) could play a differential role in support of collective actions to reduce it.

Indirect evidence suggests that exploring the effect of concerns about economic inequality in domains such as health and education (beyond income disparities) on collective actions is a promising direction. For instance, Ortiz et al. (2020) showed that 12% of protests worldwide denounced inequalities in income and wealth, but another 17% of protests were driven by reforms that threaten the quality and quantity of public services, such as education and health. From this perspective, recent outstanding social movements have had education inequalities at their cores, such as in the cases of Chile

(Huenupi, 2021), Colombia, and Brazil (Nava & Grigera, 2022). In addition, protests against health disparities have increased, becoming much more visible after the onset of the COVID-19 pandemic (Daniels, 2021; Kim et al., 2020; Rodríguez-Bailón, 2020). Thus, it seems that considering concerns across various domains—instead of just considering wealth or income inequality—could better explain participation in collective actions.

### **The Present Research**

In this research, we addressed some limitations of previous literature. Although economic inequality translates to several social spheres, such as health or education, most of the studies in this field have focused exclusively on how people perceive and react to income or wealth disparities (e.g., salary gaps; Castillo et al., 2022). Therefore, concerns about economic inequality in other domains have been largely unexplored. Another important gap in literature is that evidence regarding the relationship between concerns about economic inequality and support of collective actions is surprisingly scarce (Jo & Choi, 2019). Specifically, to our knowledge, no one had tested whether concerns about economic inequality in health and education would predict support of collective actions.

We settled two main objectives. First, we analyzed concerns about economic inequality in health, education, and income. We predicted that people would be more concerned about education opportunities or health access than income inequality (H1). Moreover, we identified people's profiles based on their concerns about health access, education opportunities, and income inequality. Second, we examined the relationship between concerns about inequality and support of collective actions to reduce inequality. We expected that concerns about health access, education opportunities, and income inequality would be associated with greater support of collective actions to reduce

inequality (H2). In addition, we explored whether people's profiles based on their concerns about inequality could predict support of collective actions to reduce inequality.

Furthermore, we used data from Latinobarometer 2020, which provides a unique perspective in the study of inequality. Latin America has one of the highest levels of income inequality in the world (UNU-WIDER, 2022), despite the reduction of inequality that the region has experienced in recent decades (Justino & Martorano, 2016). This pattern, however, may have been reversed by the COVID-19 pandemic, which has hit the most vulnerable social groups harder (Blofield et al., 2020). Moreover, Latin America was one of the regions with the largest incidence of protests between 2006–2020 (Ortiz et al. 2020), and this tendency continues to date (Díaz Pabón & Palacio Ludeña, 2020). Therefore, the social unrest in Latin America might not solely be driven by changes in objective economic indicators, but could rather be associated with a combination of subjective mechanisms, such as concerns about inequality.

## Method

### Participants

We used high quality survey data from the Latinobarometer 2020 (Corporación Latinobarómetro, 2020)<sup>1</sup>. The sample comprised 20,204 participants interviewed in 18 Latin American countries ( $N_{average} = 1,122.4$ ,  $Min = 1,000$ ,  $Max = 1,204$ ). Specifically, the countries included were Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela. Because we used a listwise deletion method based on the variables of interest, the final dataset was composed of 16,463 cases ( $M_{age} =$

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<sup>1</sup> See <https://www.latinobarometro.org/lat.jsp> to know more about the characteristics of the sample and sampling methods.

40.35 years,  $SD = 16.21$ ,  $Min = 16$ ,  $Max = 96$ , 50.02% female) within the 18 countries ( $N_{average} = 914.61$ ,  $Min = 638$ ,  $Max = 1,056$ ). Statistics of each country are available in Supplementary Materials.

## Measures

### ***Concerns About Inequality in Income, Education, and Health***

Concerns about inequality across domains were assessed with the following question: “In your opinion, which are the worst types of inequality in (country)?” Participants were provided a range of options and were able to choose (1) or not choose (0) each of them. Our main interests were the options “Education opportunities,” “Access to health services,” and “Income inequality”. The other options participants could choose from are presented in Supplementary Material (p. 2). Participants selected one, two, all, or none of these options.

### ***Support of Collective Actions to Reduce Inequality***

We used three measures related to people’s support of collective actions to reduce inequality: “How willing would you be to demonstrate and protest for *higher wages and better working conditions*?”, “How willing would you be to demonstrate and protest for *better health and education*?”, and “How willing would you be to demonstrate and protest for *a more egalitarian society*?”. All items had a 10-point Likert-response format ranging from 1 (*not at all willing*) from 10 (*completely willing*). The first two items reflected the intention to protest for reducing inequality in each specific domain. We also included the third item as we were interested in knowing whether concerns about health and education could also relate to the willingness to protest for equality in a wider sense.

### ***Covariates***

***Political Ideology.*** This covariate was assessed through a single-item measure (“In politics, people normally speak of “left” and “right.” On a scale where 0 is left and

10 is right, where would you place yourself?”). Lower scores indicated more inclination to the left political ideology.

**Educational Attainment.** To measure educational attainment, participants indicated their level of education. They specified if they had any studies, last year of education, if they had complete (or incomplete) superior technical studies, or complete (or incomplete) university studies. Responses were coded from 0 to 17 to indicate higher levels of education as scores increased.

**Subjective Social Class.** Participants’ subjective social class was assessed by a single-item measure (“People sometimes describe themselves as belonging to a social class. Would you describe yourself as belonging to...?”)? Responses could range from 1 (*upper class*) to 5 (*lower class*). Responses were recoded to indicate a higher social class as scores increased to facilitate the interpretation of results.

**Gini and Human Development Index (HDI).** The Gini was retrieved primarily from the World Income Inequality Database (UNU-WIDER, 2022). We used the World Bank (2022) data to retrieve economic indicators when we did not find information for some country-year groups. We retrieved HDI from the United Nations Development Programme (UNDP, 2022).

### **Analytical Strategy**

First, we explored concerns about economic inequality across domains. We analyzed frequencies to find out which domains were more prevalent at individual and country levels. Moreover, we conducted a latent class analysis (LCA) to identify underlying latent classes of people based on their responses to concerns about education opportunities, access to health services, and income inequality. LCA is a statistical procedure used to identify qualitatively different subgroups within populations who share certain characteristics (Weller et al., 2020). This method has been used to describe

common patterns in individuals' responses as to how they perceive economic inequality (García-Castro et al., 2021).

Secondly, we tested whether concerns about inequality across domains could be associated with greater support of collective actions to reduce inequality. We estimated two linear multilevel regression models by each outcome variable: one model included as main predictors concerns about (a) education opportunities, (b) access to health services, (c) and income inequality, along with covariates; in the other model, we included the participant's class membership, resulting from the combination of concerns about inequality, as a predictor. These are two ways of evaluating Hypothesis 2; separate and combined inequality concerns in terms of education, health, and income would be associated with greater support of collective actions to reduce inequality. Models were conducted with random-intercepts and fixed-slope (using Maximum Likelihood estimator). We used Country as the clustering variable and estimated fixed effects for the predictors because of the limited number of countries to estimate random slopes. All fitted models accounted for the potential influence of individual- and contextual-level variables that can be associated with support for collective actions, such as political ideology, educational attainment, social subjective class, gender, age, Gini, and HDI (Justino & Martorano, 2016).

All the analyses reported in this paper were supported by R software (R Core Team, 2022). The R code to reproduce our analyses is available at: [https://osf.io/b6f9m/?view\\_only=85ef8ea1b9c24cab9ff532771e34f839](https://osf.io/b6f9m/?view_only=85ef8ea1b9c24cab9ff532771e34f839).

## Results

### Concerns About Economic Inequality Across Domains

In line with H1, analyzing differences between proportions revealed that, in general, people worried more about education opportunities ( $\chi^2 = 2264.7$ ,  $p < .001$ , CI



95% [.22–.23]) and health access ( $\chi^2 = 3009.6$ ,  $p < .001$ , CI 95% [.26–.28]) than income inequality. A significant share of people mentioned education opportunities (43.1%; CI 95% [42.4–43.8%]) and health access (47.0%; CI 95% [46.3–47.7%]) as the worst expressions of inequality in their country. In contrast, only 20.2% (CI 95% [19.7–20.8%]) of people referred to income inequality. That is, the prevalence of inequality concerns in the domains of education and health was at least two times that of the domain of income inequality. At the country level, we observed the same tendency.

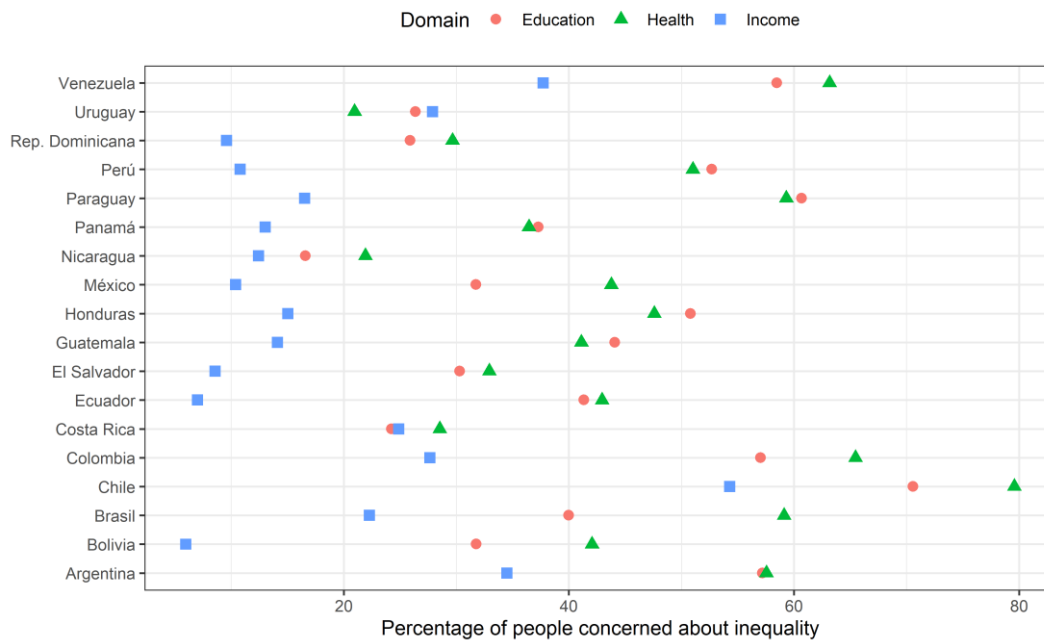
Despite we found some differences between countries<sup>2</sup>, in general, concerns about education opportunities and health access were higher than concerns about income inequality (Figure 1). Likewise, the average percentages (between countries) of people who mentioned education and health domains were greater than the mean proportion of people who referred to income (Figure 2). Consistently, supplementary analyses showed that people were more willing to protest for better health and education than for higher wages and better working conditions (See Section 3.2. of Supplementary Materials).

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<sup>2</sup> In the cases of Uruguay and Costa Rica, we cannot observe differences between concerns about income inequality and concerns about education opportunities and health access. This might be due to the relative strength of public education and health systems of these countries in comparison with other Latin American countries (Cecchini et al., 2014).

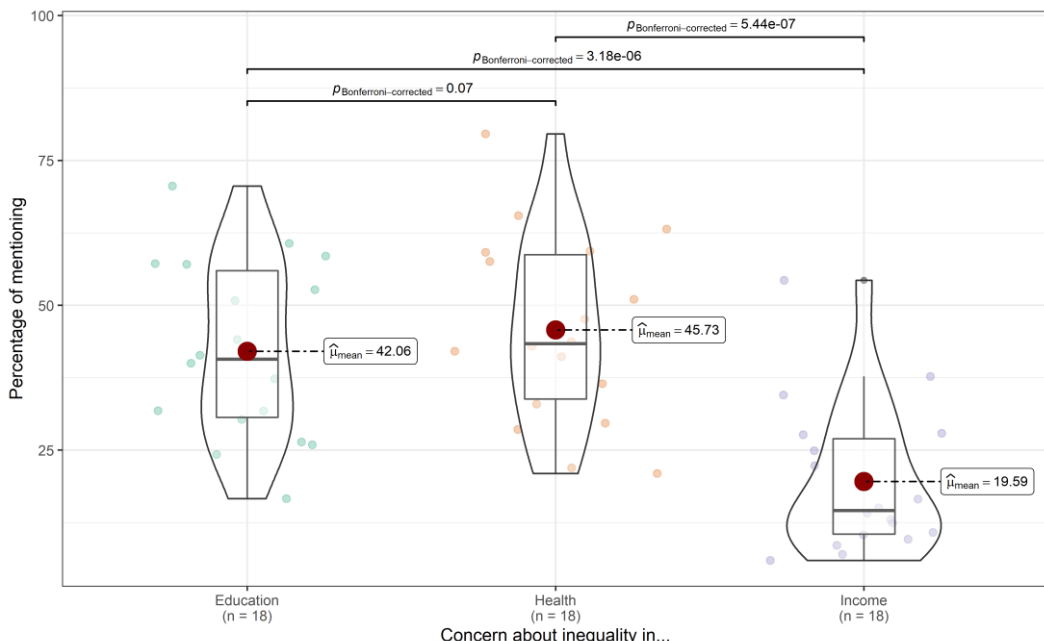
**Figure 1**

Percentage of people that mentioned each domain of economic inequality in each country



**Figure 2**

Violin plot with average percentage (between countries) of people that mentioned each domain of economic inequality



Note: Red dots indicate the average percentage of the 18 countries in each variable; width of each graph shows the form of the distribution of the data; boxplots indicate the interquartile range above the mean in each variable; horizontal lines show the median; and coloured small dots refer to the scores in each country; p values of comparison between means after Bonferroni correction are shown in the upper side.

We also found various profiles of people regarding inequality concerns through LCA. First, we estimated a one-class model, and then added classes until we identified the model with the best fit. We examined model fit based on our theoretical understanding of inequality concerns and the following statistical criteria (Weller et al., 2020): the Bayesian information criterion and the Akaike information criterion, with lower values of these statistics indicating better model fit (Nylund-Gibson, 2007; Weller et al., 2020). Thus, we decided to retain a two-class model. Table 1 presents LCA results for various class models.

**Table 1**

*Fit statistics for Latent Class Model Solutions of Concerns about Inequality of Education, Health, and Income.*

Number of classes	<i>AIC</i>	<i>BIC</i>	$G^2$	$\chi^2$	<i>Entropy</i>	<i>MLL</i>	<i>df</i>
1	62075.51	62098.63	3583.238	3855.743	1.885121	-31034.75	4
2	<b>58500.27</b>	<b>58554.23</b>	6.500481e-07	6.435309e-07	1.776294	-29243.13	0
3	58508.27	58593.07	7.850027e-08	7.273968e-08	1.776294	-29243.13	-4

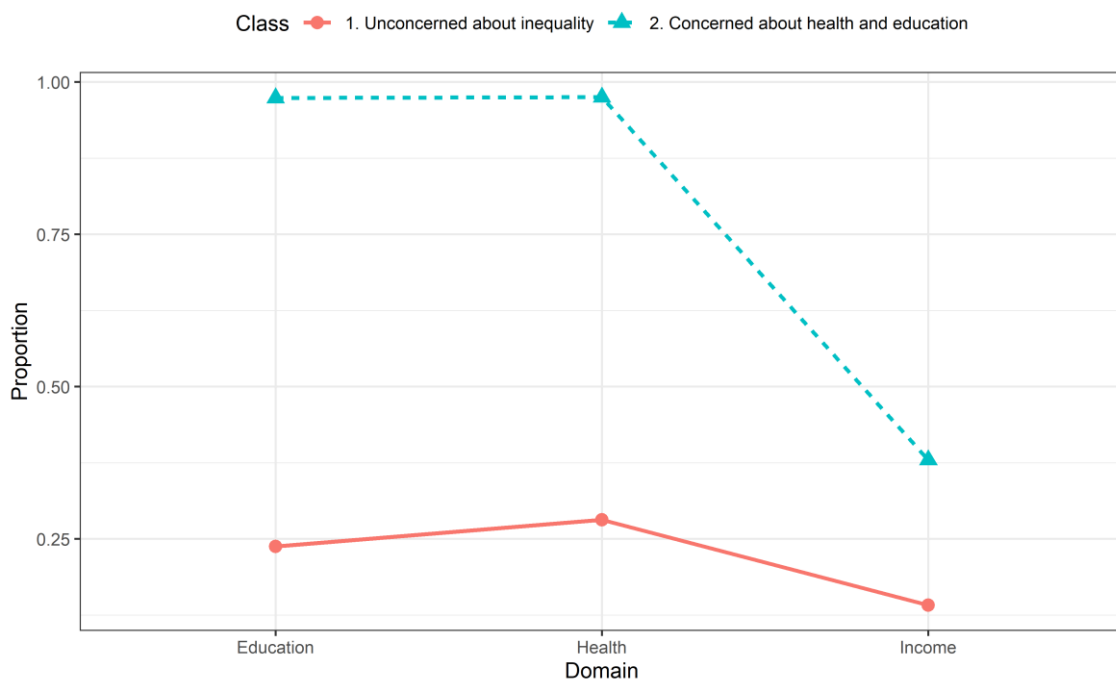
*AIC* = Akaike Information Criterion; *BIC* = Bayesian Information Criterion; *df* = degrees of freedom;  $G^2$  = likelihood ratio/deviance statistic; *MLL* = maximum log-likelihood;  $\chi^2$  = chi-square goodness of fit.

Regarding profiles in concerns about inequality, Class 1 was the most prevalent (69.36%,  $n = 11,419$ ), while Class 2 was less frequent (30.64%,  $n = 5,044$ ). Participants in Class 1 (unconcerned about inequality) had a low probability of mentioning education opportunities (23.78%) and health access (28.15%), and an even lower probability of considering income inequality (14.12%) one of the worst expressions of inequality in their country. In contrast, people in Class 2 (concerned for health and education inequalities) had a very high probability of mentioning education opportunities (97.34%) and health access (97.49%), and still a low probability of referring to income inequality (37.95%). Importantly, whereas people unconcerned about inequality were unlikely to

mention any of the domains, people concerned about health and education were still less concerned about income inequality (Figure 3). See Supplementary materials (Table S3) to know about some determinants of class membership (e.g., age, gender, political ideology).

**Figure 3**

*Probability of mentioning each domain of economic inequality as a function of latent class membership*



### **Concerns About Economic Inequality Across Domains and Support of Collective Actions to Reduce Inequality**

Consistent with H2, multilevel regression analysis revealed that concerns about inequality across domains might lead to greater support of collective actions to reduce inequality. Specifically, concerns about inequality in the domains of health and education were positive and significantly associated with support of collective actions across all three measures, even after controlling for income inequality concern (Table 2; M1a, M2a,

M3a). We also controlled for covariates<sup>3</sup>. That is, the greater concern about health access and education opportunities, the greater willingness to participate and demonstrate for higher wages, better working conditions, better health and education, and a more egalitarian society.

Moreover, class membership obtained in the LCA was also a significant predictor of collective actions (Table 2; M1b, M2b, M3b). More specifically, people highly concerned (vs. unconcerned) about education and health were more willing to demonstrate and protest for higher wages, better working conditions, better health and education, and a more egalitarian society. All models confirmed our second hypothesis.

**Table 2**

*Multilevel Regression Models of Collective Actions to Reduce Inequality*

<i>Predictors</i>	<b>Higher wages and better working conditions</b>		<b>Better health and education</b>		<b>A more egalitarian society</b>	
	<i>M1a</i> <i>Estimates</i>	<i>M1b</i> <i>Estimates</i>	<i>M2a</i> <i>Estimates</i>	<i>M2b</i> <i>Estimates</i>	<i>M3a</i> <i>Estimates</i>	<i>M3b</i> <i>Estimates</i>
(Intercept)	7.68 *** (0.58)	7.94 *** (0.41)	8.39 *** (0.52)	8.41 *** (0.38)	8.20 *** (0.49)	8.12 *** (0.35)
Education opportunities	<b>0.21 ***</b> <b>(0.06)</b>		<b>0.19 ***</b> <b>(0.05)</b>		<b>0.24 ***</b> <b>(0.05)</b>	
Access to health services	<b>0.27 ***</b> <b>(0.06)</b>		<b>0.36 ***</b> <b>(0.05)</b>		<b>0.22 ***</b> <b>(0.05)</b>	
Income inequality	<b>0.15 *</b> <b>(0.07)</b>		<b>0.21 ***</b> <b>(0.06)</b>		<b>0.14 *</b> <b>(0.06)</b>	

<sup>3</sup> Women (vs. men), youth, and left-wing people were more likely to support the three collective action indicators; subjective social class negatively predicted willingness to protest for higher wages and better working conditions and also for a more egalitarian society (the later only when we included class membership as predictor); and educational attainment was negatively related to willingness to protest for higher wages and working conditions but positively related to willingness to protest for a more egalitarian society. None of the predictors at the country level were significantly associated with support of collective actions.

Education opportunities (country-level)	0.57 (3.08)		1.77 (2.77)		1.30 (2.58)	
Access to health services (country-level)	1.49 (3.09)		-0.60 (2.77)		-0.81 (2.58)	
Income inequality (country-level)	-2.51 (1.91)		-2.91 (1.71)		-2.55 (1.60)	
Class membership		<b>0.45 ***</b> <b>(0.06)</b>		<b>0.52 ***</b> <b>(0.05)</b>		<b>0.45 ***</b> <b>(0.06)</b>
Class membership (country-level)		0.88 (1.19)		-0.01 (1.09)		-0.53 (1.00)
Political Ideology	<b>-0.01 ***</b> <b>(0.00)</b>	<b>-0.01 ***</b> <b>(0.00)</b>	<b>-0.01 ***</b> <b>(0.00)</b>	<b>-0.01 ***</b> <b>(0.00)</b>	<b>-0.01 ***</b> <b>(0.00)</b>	<b>0.01 *</b> <b>(0.01)</b>
Subjective Social Class	<b>-0.05 *</b> <b>(0.03)</b>	<b>-0.05 *</b> <b>(0.03)</b>	-0.00 (0.03)	-0.00 (0.03)	0.00 (0.03)	<b>-0.02 ***</b> <b>(0.00)</b>
Gender	<b>-0.34 ***</b> <b>(0.05)</b>	<b>-0.33 ***</b> <b>(0.05)</b>	<b>-0.30 ***</b> <b>(0.05)</b>	<b>-0.30 ***</b> <b>(0.05)</b>	<b>-0.31 ***</b> <b>(0.05)</b>	<b>-0.31 ***</b> <b>(0.05)</b>
Age	<b>-0.03 ***</b> <b>(0.00)</b>	<b>-0.02 ***</b> <b>(0.00)</b>	<b>-0.02 ***</b> <b>(0.00)</b>	<b>-0.03 ***</b> <b>(0.00)</b>	<b>-0.02 ***</b> <b>(0.00)</b>	<b>-0.02 ***</b> <b>(0.00)</b>
Educational attainment	<b>-0.02 **</b> <b>(0.01)</b>	<b>-0.02 **</b> <b>(0.01)</b>	0.00 (0.01)	0.00 (0.01)	<b>0.01 *</b> <b>(0.01)</b>	<b>0.01 *</b> <b>(0.01)</b>
Gini Index (country-level)	3.61 (4.43)	3.24 (3.95)	2.83 (3.98)	1.24 (3.62)	1.55 (3.71)	-0.03 (3.33)
HDI (country-level)	5.30 (3.11)	3.54 (2.72)	2.90 (2.79)	0.71 (2.49)	2.54 (2.60)	0.60 (2.30)
			<b>Random Effects</b>			
Within-country variance	10.53	10.53	8.96	8.96	9.56	9.56

Between-country variance	0.48	0.48	0.39	0.41	0.33	0.34
Intraclass correlation	0.04	0.04	0.04	0.04	0.03	0.03
N (countries)	18	18	18	18	18	18
N (participants)	16463	16463	16463	16463	16463	16463
Marginal R <sup>2</sup> / Conditional R <sup>2</sup>	0.043 / 0.085	0.037 / 0.079	0.035 / 0.075	0.026 / 0.068	0.025 / 0.058	0.019 / 0.053

Note: \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$

## Discussion

The first aim of our research was to explore concerns about economic inequality in three domains: health, education, and income. Confirming H1, in general and in almost every country, people were more concerned about health and education disparities than about income inequality. Notwithstanding, we observed variations between countries that may reflect differences in their political systems and should be further explored. Furthermore, we found two profiles of people (or classes) by combining their concerns about economic inequality across domains. The first class was people not concerned about economic inequality in any domain, and the second class was people concerned about health access and education opportunities. Crucially, both classes had a low probability of mentioning income inequality as one of the worst expressions of inequality in their country.

These results support findings of prior research showing that people might desire more egalitarian distribution in the domains of health and education compared to income or wealth (e.g., Howarth et al., 2019; Macchia & Ariely, 2021). More broadly, these results speak in favor of recent empirical evidence (García-Sánchez et al., 2018, 2022) and theoretical proposals (CASE, 2020) that point to economic inequality as a

multidimensional phenomenon that goes beyond income or wealth domains. Importantly, our findings might signal that, compared to health and education, income could be a less relevant domain in people's concerns about economic inequality. This does not mean that income disparities are less important. Instead, we argue that taking into account other types of inequality, rather than only income disparities, could be critical to better understand people's concerns about economic inequality (Jachimowicz et al., 2020). As such, it may be important to increase awareness of inequality by encompassing all the domains that impact people's everyday lives.

Our second aim was to analyze the relationship between concerns about economic inequality and support of collective actions to reduce inequality. In line with the H2, we found that concerns about health access and education opportunities (besides income inequality) were positively associated with support of collective actions to reduce inequality. In the same line, results showed that people concerned about health and education (Class 2) was more prone to engage in collective actions than those unconcerned about inequality (Class 1).

These findings are consistent with theoretical approaches of distributive justice signaling the key role of justice evaluations about the actual distribution (e.g., concerns about inequality) as a driving force to restore justice (Jasso et al., 2016). In our study, concerns about inequality were associated with greater willingness to participate in collective actions to reduce economic inequality. Importantly, people were especially concerned about health and education, which may signal that redistributive justice principles could be different for each domain. We did not explore the different mechanisms that may operate in justice evaluations of inequality in each domain as it was beyond the scope of this research. Nevertheless, we hypothesize that while income inequality can be seen as fair by reasons of effort and deservingness (Barr & Miller, 2020,



García-Sánchez et al., 2020), it may be harder to justify inequality in health and education with such meritocratic beliefs.

Results also speak in favor of theoretical models of collective actions describing that concerns about inequality may trigger social mobilization (Jetten et al., 2021; van Stekelenburg & Klandermans, 2013; van Zomeren et al., 2008). In the same line, previous empirical evidence has shown that concerns about income inequality may promote collective actions (e.g., Jo & Choi, 2019; Justino & Martorano, 2016). However, our research might add that concerns about economic inequality across different domains (e.g., health or education) could play a differential role in participation in collective actions to reduce it. This is, concerns about each domain may have independent effects that can contribute, all together, to collective actions aimed at reducing economic inequality. In this sense, we argue that taking into account that people understand and react to economic inequality in different dimensions might be relevant for pursuing social change.

Another important contribution of our research is that it may help to understand the case of Latin America, where economic inequality has decreased but protests have risen in last decades (Díaz Pabón & Palacio Ludeña, 2020; Justino & Martorano, 2016; Ortiz et al., 2020). Some have argued that despite reductions of inequality, people remained dissatisfied with the quality of public services, such as education or health (Justino & Martorano, 2016). For instance, Chile's recent social movement in favor of public education illustrates this reality (Huenupi, 2021). Our findings highlight the importance of concerns about economic inequality in these domains and their clear connection with participation in collective actions to reduce inequality. This research might shed some light on a path for the emergence of social movements to reduce

economic inequality in Latin America, still one of the most unequal regions in the world (UNU-WIDER, 2021).

At this point, we acknowledge some limitations of this research and outline some directions for future investigations. First, this study design does not allow probing relationships of causality. Future studies should implement experimental designs to test whether concerns about economic inequality in different domains could actually promote collective actions. Second, we analyzed responses to single-item measures, which have limited psychometric properties. Nevertheless, the series of results presented were based on various collective-actions indicators used in survey research. In the future, we encourage other researchers to use other measures, such as scales with several indicators, registering participation in collective actions, or designing behavioral tasks. Third, the characteristics of the sample may jeopardize the generalization of our findings to other regions of the world, where public services of health and education might be covered more efficiently (such as Europe). Future studies should explore this question in different regions of the world, so we can examine potential differences between political systems, cultures, economic models, and so forth.

### **Conclusions**

One key idea that we can take away from this research is that people might be more concerned about other domains of economic inequality (e.g., health access or education opportunities) rather than income differences. Nevertheless, the message is not that income inequality does not matter, as income disparities are at the base of economic and social inequalities. In this sense, our findings may denote a lack of connection between income differences and their effect on related domains such as health or education. We must reduce income disparities to reduce inequality in the other domains. Working only on education or health inequalities would have a minor impact on economic

inequality (Breen & Chung, 2015) and its several negative effects for individuals and our society.

The other important message of our research is that concerns about other domains of inequality besides income disparities (e.g., health, education, or other unexplored domains) may contribute to social mobilization. Connecting with the prior idea, as concerns about health and education could be higher than concern about income inequality, they might serve as a common ground for initiating collective actions to reduce economic inequality. This preliminary evidence may have important implications for policy implementation. Specifically, media and political discourses could emphasize the effect of economic inequality in health and education as a way of increasing concerns about economic inequality and mobilizing the public to reduce it.



## Chapter 4

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*Beyond Income Disparities: Perceived Health and  
Education Inequities Drive Actions to Reduce  
Economic Inequality*



## **Beyond Income Disparities: Perceived Health and Education Inequities**

### **Drive Actions to Reduce Economic Inequality**

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### Abstract

Perceiving large income disparities has a limited impact on attitudes towards reducing economic inequality. In this research, we proposed a novel and alternative strategy by focusing on other aspects intrinsically related to economic inequality such as the unequal access to essential resources like health and education. We investigated whether recognizing inequality in health and education, beyond income disparities, could motivate people to reduce economic inequality. In four preregistered studies ( $N_{Study1} = 513$ ,  $N_{Study2} = 1536$ ,  $N_{Study3} = 443$ ,  $N_{Study4} = 400$ ), we showed that perceived economic inequality in health and education, over and above perceived income disparities, lead to greater intolerance towards inequality and increased support for redistributive policies and collective actions. Our findings suggest that heightened awareness of economic inequality in aspects meaningful for individuals' lives, such as health or education, may foster support for redistributive policies and engagement in collective actions to mitigate such disparities.

**Keywords:** Economic Inequality; Health Disparities; Education Disparities; Redistributive Policies; Collective Actions; Intolerance towards Inequality



## Introduction

Economic inequality has become a focal point of public discourse, highlighting pervasive disparities that exist in societies across the globe. For instance, after the publication of the World Inequality Report by Chancel et al. (2022), multiple newspapers and TV programs in Spain showed that the wealthiest 10% in the country earned eight times more than the poorest 50% (e.g., RTVE, 2021). One might expect such information about income disparities to influence political decisions and public opinion, but this might not be the case. Previous research suggests that awareness of the extent of income disparities is not sufficient to mobilize people who tend to legitimize the system (Hoyt et al., 2018). In fact, the effect of such awareness on attitudes towards redistribution, a potential mechanism for addressing inequality, is rather small (Kuziemko et al., 2015; Ciani et al., 2021).

While income disparities serve as a standard indicator for people to perceive inequality, it is essential to recognize their interconnection with other domains that significantly influence individuals' daily lives, such as health or educational inequalities (García-Castro et al., 2021; García-Sánchez, García-Castro, et al., 2022). Nevertheless, most research on perceptions of economic inequality has focused on examining numeric estimates of income gaps or wealth distributions, overlooking a broader spectrum of inequality perceptions (Castillo et al., 2022; García-Sánchez et al., 2018; García-Sánchez, García-Castro, et al., 2022). In this research, we explored perceived inequality in health and education<sup>4</sup> between the rich and the poor. In other words, the perception of how health

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<sup>4</sup> Throughout this text, when we discuss 'inequality in health, education, and income' we are specifically referring to economic inequality within these domains. This encompasses the disparities between the affluent and the less affluent in terms of their resources of health, education, and income. It is crucial to distinguish this concept from health disparities arising from genetic factors or lifestyle choices, as well as education disparities resulting from differences. Our focus is about economic inequality in these domains.

and education resources are distributed between the haves and the have nots. We argue that these omitted perceptions of inequality in health and education may play a key role, over and above perceived income inequality, in shaping public attitudes to reduce economic inequality.

To our knowledge, no other study has delved into the relationship between perceived inequality in health and education and support for actions that reduce economic inequality. In this research, across two correlational studies and two experimental studies, we investigated whether higher perceived inequality in health and education—over and above perceived income inequality—may increase intolerance towards inequality and support for redistribution and collective actions to reduce it.

### **Perceived Economic Inequality Can Lead to Attitudes Towards its Reduction**

Perceived economic inequality is defined as the perception of how resources are distributed among the people in a given society (Akyelken, 2020; Castillo et al., 2022). This definition includes, but is not limited to, monetary resources (e.g., salary gaps, income, or wealth distributions). These perceptions, rather than objective indicators of economic inequality, play a key role in our reactions towards it (Willis et al., 2022). More specifically, in this research, we focus on how perceiving economic inequality in different resources (e.g., income, health, or education) could influence attitudes and actions aimed at its reduction. This approach is mainly based on distributive justice theories (Jasso et al., 2016), and redistribution (Choi, 2019) and collective actions models (Jetten et al., 2021). In the following lines, we will outline these frameworks while highlighting some gaps in the literature and practice that our research aims to address.

According to distributive justice theoretical frameworks, justice evaluations (e.g., if inequality is seen as fair or unfair) are partially determined by perceptions of the actual distribution of resources. In turn, these justice evaluations motivate people to engage in

actions to reduce inequality, such as support for redistribution and collective actions (Jasso et al., 2016). Some empirical studies have shown that greater perceived economic inequality may lead to greater intolerance towards it, which at the same time could promote actions to reduce it (García-Castro et al., 2019, 2020). Although this literature acknowledges that justice evaluations might differ depending on the resources being distributed (e.g., income, health, or education; Sabbagh & Schmitt, 2016; Walzer, 1983), empirical evidence is lacking to ground specific hypotheses regarding how resources like health or education should be distributed between the haves and the have-nots.

Collective actions and redistribution can be effective strategies to reduce economic inequality (Doerrenberg & Peichl, 2014; Louis, 2009). On the one hand, theoretical frameworks of collective actions argue that the perception of illegitimate economic inequality would predict a greater willingness to engage in collective actions to redress inequality (Jetten et al., 2021; van Stekelenburg & Klandermans, 2013). On the other hand, redistribution models posit that increasing perceived economic inequality may lead to a higher demand for redistribution (Meltzer & Richard, 1981; Choi, 2019). In this line, empirical studies consistently demonstrate that higher perceived economic inequality is associated with increased engagement in collective actions (Hoyt et al., 2018; Jo & Choi, 2019) and support for redistribution (Choi, 2019; García-Castro, García-Sánchez, et al., 2022; García-Sánchez et al., 2020).

However, these theoretical models of redistribution or collective actions focus on perceptions of income or wealth inequality, which omits other domains intrinsically related to economic inequalities, such as health and educational disparities. Empirical evidence is also scarce in this respect. As an exception, Soler-Martínez et al. (2023) found that concerns about inequalities in health, education, and income predicted a greater willingness to protest to reduce inequality. However, this study investigated how worried

people were about these issues rather than the perceived size of these disparities. Overall, we argue that there is a literature gap on how people perceive and understand health and education disparities, and the role of these perceptions on attitudes towards reducing economic inequality.

### **Why Consider Perceived Economic-Based Inequalities in Health and Education, Beyond Income Disparities?**

Scholars and organizations are calling for a more nuanced study of economic inequality, distinguishing between different “types” of economic-based inequalities beyond income disparities (Jachimowicz et al., 2020; CASE, 2020). For instance, the European Union (EU Multidimensional Inequality Monitoring Framework, 2024) or the U.S. Census Bureau (Glassman, 2019) have elaborated multidimensional inequality measures considering economic-based disparities in health and education, among others, to better understand and more effectively address the problem of economic inequality. Moreover, recent empirical evidence has shown that perceptions of economic inequality are not exclusive to income or wealth distributions; people also recognize inequality in access to education or health, which impacts their everyday life (García-Sánchez et al., 2018; García-Sánchez, García-Castro, et al., 2022). This research suggests that education and health domains are closer and more meaningful for the people, which may inform their attitudes toward inequality more effectively than thinking in abstract inequalities.

Furthermore, there is an important practical reason for studying the effect of perceiving other domains of economic inequality rather than income disparities alone. Previous research has shown that income inequality is often legitimized and tolerated (García-Sánchez et al., 2021; Starman et al., 2017; Trump, 2020). When this happens, perceiving income disparities has a limited impact on support for redistribution (García-Sánchez et al., 2020, 2021) and social mobilization (Hoyt et al., 2018). People legitimize

income inequality, for instance, by thinking that salary gaps are fair as they reflect differences in merit (Castillo et al., 2019; García-Sánchez et al., 2020). However, these meritocratic principles might not apply to justify economic-based disparities in access to healthcare or education, which might be widely considered universal human rights (United Nations, 1948, art. 25 and 26).

Soler-Martínez et al. (2023) showed disparities in health access and education opportunities were less tolerated than income disparities. Macchia and Ariely (2021) found similar results. Similarly, Brown et al. (2023) found that highlighting racial health disparities compared to racial income inequality enhanced support for actions to reduce racial inequality (e.g., protests or support for policies). Importantly, while redistribution encounters some resistance (Bechtel et al., 2018; Wienk et al., 2022), policies to reduce health and education disparities may be more popular among the public (Franko, 2016; Jensen & Naumann, 2016; McCall & Kenworthy, 2009; Missinne et al., 2013). Moreover, there have been significant social outbursts against budget cuts in health or education, such as the Spanish “white wave” and “green wave” protests (Iglesias-Onofrio et al., 2018). Therefore, perceived inequality in health and education may serve as alternative and more efficient pathways to foster broader support for actions to reduce economic inequality, such as collective actions or redistributive policies.

### **The Present Research**

While previous literature had almost exclusively focused on how people perceive income gaps, our research considered other important features of economic inequality such as health or education disparities. To our best knowledge, no other study had explored the effect of perceived inequality in health and education on intolerance towards inequality and support for redistribution or collective actions. Furthermore, we studied this issue in Spain, which is a novel and relevant context. Previous studies examining

perceptions of health and education have often relied on North American (Day & Norton, 2023; Macchia & Ariely, 2021) and Latin American samples (Soler-Martínez et al., 2023), where these disparities are more pronounced. However, the European context of Spain presents a unique scenario, with potentially less noticeable differences, thanks to the presence of public healthcare and education systems (Bernal-Delgado et al., 2018; Egido & Valle, 2015).

Our research provides insights that contribute to theoretical frameworks positing that perceptions of inequality may lead support for redistribution or collective actions to reduce it (Choi, 2019; Jasso et al., 2016; Jetten et al., 2021). Thus, enhancing our understanding and addressing the lack of support for measures to redress economic disparities (Son Hing et al., 2019). In short, we argue that while emphasizing the extent of income disparities in the public debate may encounter resistance and result in limited public mobilization (Hoyt et al., 2018), our approach to shifting the focus to health and education offers a compelling alternative.

In the current research, we tested whether perceiving health and education disparities between the rich and the poor, besides perceiving income differences, could reduce tolerance towards inequality and, in turn, increase support actions towards its reduction, such as collective actions and redistribution. We carried out four studies. The first and second studies employed correlational designs, while the third and the fourth studies adopted an experimental design, allowing for causal inferences. We pre-registered our hypotheses for all the studies<sup>5</sup>. All preregistrations, data, code, and materials can be found at [https://osf.io/gna2x/?view\\_only=ca6fcb4340bb449a8530eb76c3e36e9f](https://osf.io/gna2x/?view_only=ca6fcb4340bb449a8530eb76c3e36e9f)

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<sup>5</sup> We also preregistered other hypotheses, but we did not include them in this paper to maintain consistency across the studies. We also slightly modified variable names from the preregistration for the same purpose (see Supplementary Materials).

## Study 1

In Study 1, we conducted a correlational study. First, based on distributive justice frameworks and previous evidence (e.g., García-Castro et al., 2020; García-Castro, González, et al., 2022), we hypothesized that perceived inequality in health, education, and income would be positively related to intolerance towards inequality (H1.a). In addition, following preliminary evidence showing that inequality in health and education could be less tolerated than income disparities (Macchia & Ariely, 2021; Soler-Martínez et al., 2023), we expected that perceptions of inequality in health and education would be more strongly related to intolerance towards inequality than perceived income inequality (H1.b). Moreover, based on models of redistribution (Choi, 2019) and collective actions (Jetten et al., 2021), as well as previous research (García-Castro et al., 2020; García-Castro, González, et al., 2022), we predicted that perceived inequality in health, education, and income would be positively related to support for collective actions (H2) and redistribution (H3) via increased intolerance towards inequality.

## Method

### *Participants*

Five hundred and thirteen people participated in this study. Following the preregistered criteria, participants were excluded from the analysis if they: (a) were younger than 18 years old, (b) did not complete all measures of interest, (c) or were not Spanish. Thus, the final sample was composed of 489 participants ( $M_{age} = 26.26$ ,  $SD = 10.45$ ,  $Min_{age} = 18$ ,  $Max_{age} = 73$ ), of whom 72.39% self-identified as women, 26.38% as men, and 1.23% as “other” (see Supplementary Materials for more sociodemographic information). A sensitivity analysis with G\*Power 3.1 (Faul et al., 2007) indicated that this sample size allowed to detect a minimum effect size of  $f^2 = .022$  ( $R^2 = .022$ ) with 80% of power for multiple regression analyses (fixed model,  $R^2$  increase) with 3 tested

predictors and 3 total predictors. Data was collected using an incidental sampling procedure. Participants were recruited through advertisements on social media platforms and university bulletin boards. As an incentive, each participant entered a €50 prize drawing for their participation. Interested participants completed an online survey on the *Qualtrics* platform.

### **Measures**

**Perceived Inequality in Health, Education, and Income.** We assessed perceived inequality in health, education, and income by using three measures consisting of two items each, adapted from Heiserman & Simpson (2021): “In your judgment, how large or small are the differences in *health/ education/ income* between the rich and poor in Spain?” (1 *Very small* – 7 *Very large*) and “In your judgment, how high or low is *economic inequality in health/ economic inequality in education/ income inequality* in Spain?” (1 *Very low* – 7 *Very high*). These items were moderately correlated for each domain ( $r_{Health} = .74, p < .001, M = 5.34, SD = 1.22$ ;  $r_{Education} = .67, p < .001, M = 5.47, SD = 1.13$ ;  $r_{Income} = .53, p < .001, M = 6.29, SD = 0.75$ ).

**Intolerance Towards Inequality.** We employed the Spanish version of the Support for Economic Inequality Scale (Montoya-Lozano et al., 2023, adapted from Wiwad et al., 2019). The scale consists of 5 items (e.g., “The negative consequences of economic inequality have been largely exaggerated.”;  $\Omega = .78, M = 5.85, SD = .99$ ). Responses ranged from 1 (*Totally disagree*) to 7 (*Totally agree*).

**Support for Collective Actions.** We used a 6 items-measure adapted from previous literature on social mobilization (Becker et al., 2013; van Zomeren et al., 2008; e.g., “I would be willing to attend a demonstration against economic inequality”;  $\Omega = .92, M = 5.06, SD = 1.51$ ). Responses ranged from 1 (*Totally disagree*) to 7 (*Totally agree*).



**Support for Redistribution.** Participants completed a 7 items-measure adapted from García-Sánchez, Castillo, et al. (2022) (e.g., "The government has a responsibility to reduce the income gap between those who have more and those who have less.";  $\Omega = .82$ ,  $M = 5.53$ ,  $SD = .1.13$ ). Responses ranged from 1 (*Totally disagree*) to 7 (*Totally agree*).

### *Analytical Strategy*

We tested *H1.a.* using a multiple linear regression analysis. Specifically, intolerance towards inequality was regressed on perceived economic inequality in health, education, and income. In addition, we conducted Paternoster's tests (Paternoster et al., 1998) to compare the regression coefficients (*H1.b*). Moreover, we used mediation analyses to test *H2* and *H3*, such that: perceived economic inequality in health, education, and income were predictor variables, intolerance towards inequality was the mediator, and support for redistribution and collective actions were the criterion variables. We conducted mediation analyses simultaneously to account for unique variance for each predictor and outcome variable. Data analyses were performed using R (R Core team, 2024).

## **Results**

### *Preliminary Analyses*

Consistent with our expectations, perceived inequality in health, education, and income were positively associated with intolerance towards inequality. Moreover, perceived inequality in health, education, and income were positively related to support for collective actions and redistribution. Lastly, intolerance towards inequality was positively correlated with support for collective actions and redistribution. See Table 1 to observe correlations and means of all variables of interest.

**Table 1***Means, Standard Deviations, and Correlations in Study 1*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Perceived health inequality	5.34	1.22					
2. Perceived education inequality	5.47	1.14	.50***				
3. Perceived income inequality	6.29	0.75	.45***	.42***			
4. Intolerance towards inequality	5.85	0.99	.41***	.44***	.48***		
5. Support for collective actions	5.06	1.51	.40***	.39***	.31***	.67***	
6. Support for redistribution	5.53	1.13	.34***	.38***	.33***	.67***	.72***

*Note.* *M* and *SD* represent mean and standard deviation, respectively. \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ .

### ***Perceived Inequality in Health, Education, and Income, and Intolerance towards Inequality***

Confirming *H1.a*, a multiple analysis of linear regression showed that perceived inequality across all domains positively predicted intolerance towards inequality ( $b_{health} = .13$ ,  $SE = .04$ ,  $p < .001$ ;  $b_{education} = .20$ ,  $SE = .04$ ,  $p < .001$ ;  $b_{income} = .41$ ,  $SE = .06$ ,  $p < .001$ ;  $R^2 = .31$ ). Contrary to our expectations (*H1.b*), the regression coefficient of perceived income inequality was higher than the regression coefficient of perceived inequality in health ( $z = 4.11$ ,  $p < .001$ ) or education ( $z = 3.00$ ,  $p = .003$ ). But still, each predictor explained unique variance on intolerance towards inequality.

### ***Perceived Inequality in Health, Education, and Income, and Support for Redistribution and Collective Actions through Intolerance towards Inequality***

Consistent with our hypotheses, mediation analyses revealed that perceived inequality in health, education, and income positively predicted support for redistribution (*H2*) and collective actions (*H3*) through intolerance towards inequality (see Figure 1). Altogether, perceived inequality in every domain and intolerance towards economic

inequality accounted for 45.37% of the variance in support for redistribution and 46.84% in the case of collective actions.

### Figure 1

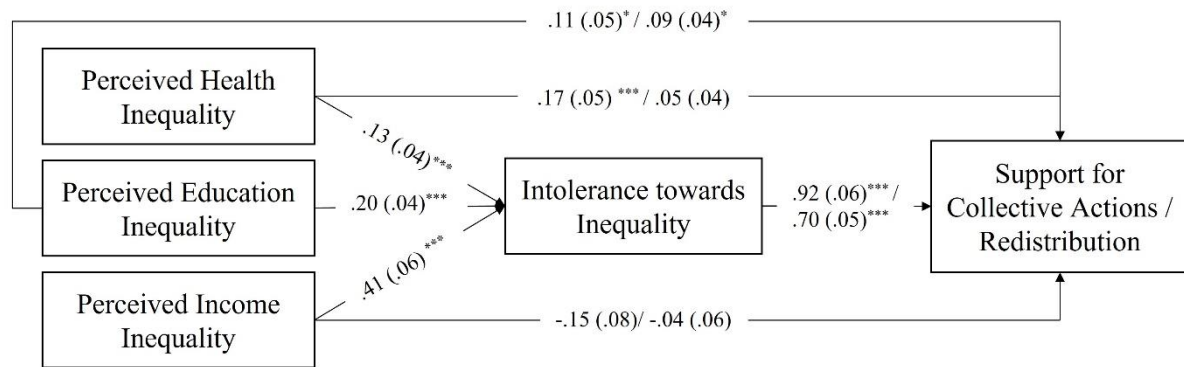
*Model Depicting the Effect of Perceived Inequality in Health, Education, and Income on Support for Collective Actions and Redistribution via Intolerance Towards Inequality*

**Indirect effects on support for collective actions**

Health:  $b = .12$ , 95% CI [.05, .19]  
 Education:  $b = .18$ , 95% CI [.11, .26]  
 Income:  $b = .38$ , 95% CI [.26, .49]

**Indirect effects on support for redistribution**

Health:  $b = .09$ , 95% CI [.04, .14]  
 Education:  $b = .14$ , 95% CI [.08, .19]  
 Income:  $b = .29$ , 95% CI [.20, .37]



*Note.* Study 1;  $N = 489$ . Reported values are unstandardized estimates ( $b$ ) and standard errors (between parentheses). \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . When two regression coefficients separated by a slash are shown, the first one refers to support for collective actions and the second one to support for redistribution.

### Discussion

In Study 1, as expected (*H1.a*), we found that perceived inequality in health, education, and income independently predicted intolerance towards inequality. Unexpectedly (*H1.b*), the regression coefficient of perceived income inequality was higher than the regression coefficients of perceived inequality in health and education. Our rationale was that health and education inequalities could be less easily justified than income disparities and therefore, the relationship with intolerance towards inequality would be stronger for the former ones. Trying to find some explanation for this discrepancy, we noticed that intercepts of perceived inequalities in health and education

were higher than the intercept of perceived income inequality. This could reveal that although slopes of health and education were flatter than the income one, low levels of perceived inequality in these domains could already elicit high levels of intolerance towards inequality (See Supplementary Materials section 5.1. for a more detailed explanation and a representation of the lines of regression). In any case, all of these perceptions explained unique variance of intolerance towards inequality. Moreover, intolerance towards inequality mediated the relationship between, on the one hand, perceive inequality in health, education, and income, and on the other hand, support for redistribution (*H2*) and collective actions (*H3*).

Regarding some limitations of this study, it relied on a limited sample with sociodemographic characteristics not representative of the general Spanish population. Furthermore, in the same way that perceptions of inequality in different domains have unique effects, it might be possible to distinguish between attitudes towards inequality (e.g., intolerance) in different domains. Therefore, in Study 2, we sought to address these concerns.

## Study 2

In Study 2, our objective was to replicate and extend the findings of the previous study through a nationwide survey conducted in Spain. Moreover, we delved into the specific role of intolerance towards inequality across different domains as a mediator. This time, we also predicted the main effects of perceived inequality and intolerance towards inequality in each domain on support for redistribution and collective actions. Specifically, we expected that perceived inequality in health, education, and income would positively predict support for redistribution (*H1*) and collective actions (*H2*). Likewise, we predicted that intolerance towards inequality in health, education, and income would be positively related to support for redistribution (*H3*) and collective

actions (*H4*). Attending to indirect effects, we hypothesized that perceived inequality in health, education, and income would positively affect support for redistribution (*Hypothesis 5*) and collective actions (*Hypothesis 6*) through intolerance towards inequality in the corresponding domains.

## Method

### *Participants*

The sample was composed of 1,536 participants ( $M_{age} = 48.41$ ,  $SD = 17.21$ ,  $Min_{age} = 18$ ,  $Max_{age} = 94$ , 51.4% women and 48.6% men). The sample was stratified by quotas based on gender, age, social class, and region of residence to mirror the distribution of the Spanish population. A sensitivity analysis with G\*Power 3.1 (Faul et al., 2007) indicated that this sample size allowed to detect a minimum effect size of  $f^2 = .007$  ( $R^2 = .007$ ) with 80% of power for multiple regression analyses (fixed model,  $R^2$  increase) with 3 tested predictors and 6 total predictors. The sample was recruited by the company *Netquest*, which provides independent quality data for social researchers. Participants completed an online survey on the *Qualtrics* platform.

### *Measures<sup>6</sup>*

**Perceived Inequality in Health, Education, and Income.** We assessed perceived inequality in health, education, and income using three measures consisting of one-single item each, adapted from Heiserman and Simpson (2021): “In Spain, to what extent are there differences in the *health status/ education level/ income* between the rich and the poor?” ( $M_{income} = 6.51$ ,  $SD = .87$ ;  $M_{health} = 5.41$ ,  $SD = 1.44$ ;  $M_{education} = 5.72$ ,  $SD$

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<sup>6</sup> This study is a part of a bigger survey. Thus, other variables than those described in this study were included in the survey. See Questionnaire Study 2 [[https://osf.io/gna2x/?view\\_only=ca6fcb4340bb449a8530eb76c3e36e9f](https://osf.io/gna2x/?view_only=ca6fcb4340bb449a8530eb76c3e36e9f)] to see the other measures.

= 1.24). Participants answered using a 1 (*Any difference*) to 7 (*Many differences*) Likert scale.

**Intolerance towards Inequality in Health, Education, and Income.** We measured intolerance towards inequality in health, education, and income using three measures consisting of one single item each, adapted from Heiserman and Simpson (2021): “To what extent are you worried about *health/ education/ income* inequality between the rich and the poor in Spain?” ( $M_{income} = 5.38, SD = 1.40; M_{health} = 5.25, SD = 1.48; M_{education} = 5.35, SD = 1.43$ ). Responses ranged from 1 (*Not worried at all*) to 7 (*Very worried*).

**Support for Collective Actions.** We used a 4 items-measure (e.g., “Participate in demonstrations demanding the reduction of economic inequality”,  $\Omega = .88, M = 4.21, SD = 1.64$ ); with Likert response format ranging from 1 (*Not at all willing*) to 7 (*Totally willing*).

**Support for Redistribution.** We employed the same 7 items-measure as in Study 1 to assess support for redistribution ( $\Omega = .87, M = 5.22, SD = 1.26$ ).

#### **Covariates.**

**Income Level.** We operationalized socioeconomic status as income level. Participants indicated the amount of their families’ monthly net income in a range of ten options: (1) < 600€; (2) 601-1000€; (3) 1001-1500€; (4) 1501-2000; (5) 2001-2500€; (6) 2501-3000; (7) 3001-3500€; (8) 3501-4000€; (9) 4001-5000€; (10) 5001-8000€; (11) > 8000€.

**Gender and age.** Participants indicated their self-identified gender and their age.

#### **Analytical Strategy**

We used multiple regression analyses to test *H1* to *H4*. For testing *H1* and *H2*, we regressed support for redistribution and collective actions on perceived inequality in

health, education, and income. Likewise, to test *H3* and *H4*, support for redistribution and collective actions were regressed on intolerance towards inequality in health, education, and income. Lastly, we used mediation analyses to test *H5* and *H6*. Thus, perceived inequality in health, education, and income served as predictors, intolerance towards inequality in each specific domain as the mediators, and support for redistribution and collective actions as outcome variables. We controlled for sociodemographic covariates in all the analyses.

## Results

### *Preliminary analyses*

Tests of Pearson's correlation showed significant relationships between all variables of interest (see *Table 2*).

**Table 2**

*Means, Standard Deviations, and Correlations in Study 2*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Per. health inequality	5.41	1.44							
2. Per. education inequality	5.72	1.24	.48***						
3. Per. income inequality	6.51	0.87	.41***	.31***					
4. Int. health inequality	5.25	1.48	.50***	.28***	.28***				
5. Int. education inequality	5.35	1.43	.36***	.39***	.26***	.68***			
6. Int. income inequality	5.38	1.40	.33***	.19***	.35***	.67***	.55***		
7. Support for collective actions	4.21	1.64	.20***	.10***	.16***	.35***	.29***	.39***	
8. Support for redistribution	5.22	1.26	.30***	.19***	.32***	.40***	.37***	.51***	.49***

*Note.* *M* and *SD* represent mean and standard deviation, respectively. \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . Per. is an abbreviation of 'Perceived'. Int. is an abbreviation of 'Intolerance towards'.

***Perceived Inequality in Health, Education, and Income, and Support for Redistribution and Collective Actions***

We found partial support for *H1* and *H2* (see *Table 3*). As expected, we found that when participants perceived higher levels of economic inequality in terms of health or income, they were more likely to support redistribution and collective actions. However, contrary to our expectations, perceived education inequality did not predict support for redistribution nor collective actions.

***Intolerance towards Inequality in Health, Education, and Income, and Support for Redistribution and Collective Actions***

Regarding *H3* and *H4*, results revealed that intolerance towards health and income inequality were significant predictors of support for redistribution and support for collective actions. In the case of education, we found no effect on support for collective actions, but those who showed greater intolerance towards education inequality tended to support more redistribution. See *Table 3* for statistics and effects of covariates.

**Table 3**

*Predictors of Support for Redistribution and Collective Actions in Study 2*

<i>Predictors</i>	<b>Support for redistribution</b>				<b>Support for collective actions</b>			
	Model 1		Model 2		Model 3		Model 4	
	<i>b (SE)</i>	<i>p</i>	<i>b (SE)</i>	<i>p</i>	<i>b (SE)</i>	<i>p</i>	<i>b (SE)</i>	<i>p</i>
(Intercept)	1.97 (.26)	<.001	2.44 (.16)	<.001	2.20 (.36)	<.001	1.51 (.22)	<.001
Per. health inequality	.16 (.03)	<.001			.20 (.03)	<.001		
Per. education inequality	.03 (.03)	.261			-.02 (.04)	.580		
Per. income inequality	.33 (.04)	<.001			.18 (.05)	<.001		
Int. health inequality			.06 (.03)	.046			.16 (.04)	<.001
Int. education inequality			.09 (.03)	.001			.06 (.04)	.134
Int. income inequality			.36 (.03)	<.001			.32 (.04)	<.001



Age	.01 (.00)	<b>.002</b>	.00 (.00)	<b>.011</b>	-.00 (.00)	.158	-.01 (.00)	<b>.011</b>
Gender	.06 (.06)	.340	-.04 (.06)	.454	.00 (.09)	.967	-.12 (.08)	.136
Income Level	-.05 (.01)	<b>&lt;.001</b>	-.02 (.01)	.051	.01 (.02)	.570	.03 (.02)	<b>.035</b>
Observations	1534		1536		1533		1535	
R <sup>2</sup> / R <sup>2</sup> adjusted	.149 / .146		.275 / .272		.051 / .047		.174 / .171	

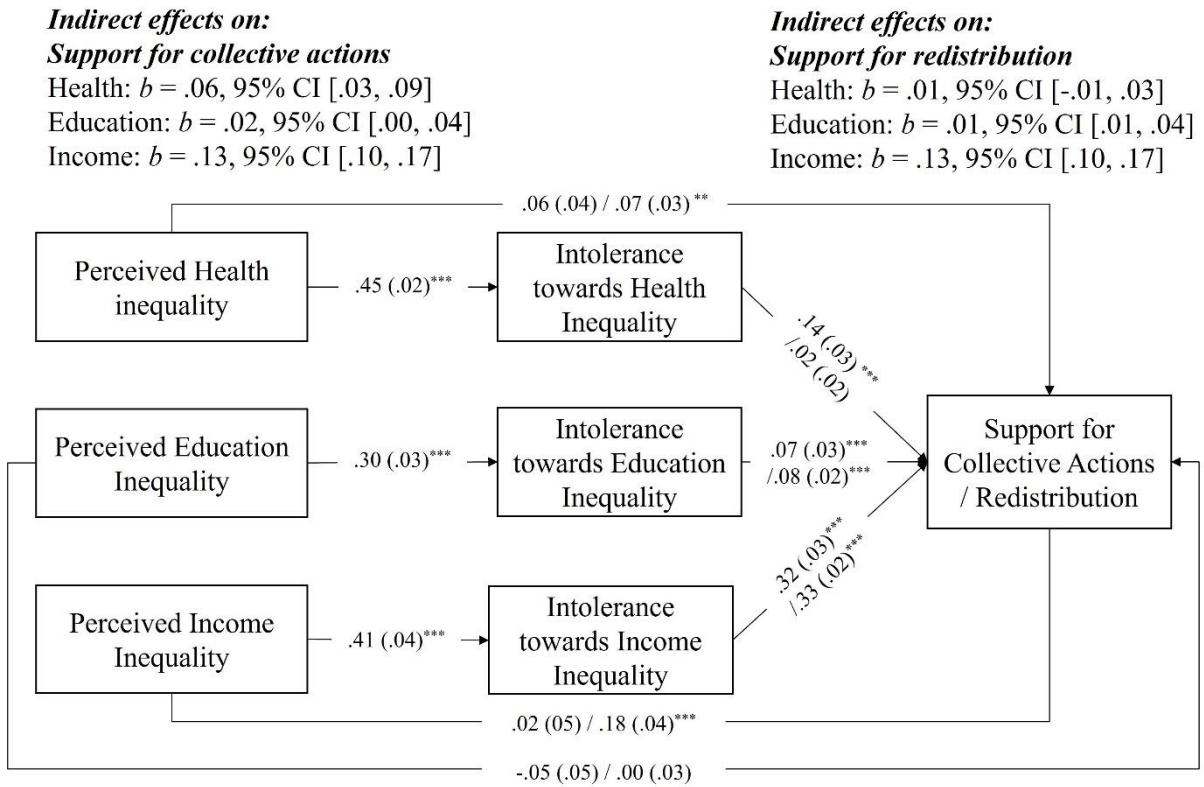
*Note.* *b*, *SE*, and *p* represent unstandardized regression coefficients, standard errors, and *p*-values, respectively. Per. is an abbreviation of ‘Perceived’. Int. is an abbreviation of ‘Intolerance towards’.

***Perceived Inequality in Health, Education, and Income, and Support for Redistribution and Collective Actions through Intolerance towards Inequality in each Domain***

In regard to *H5* and *H6*, we found the mediational pathway in almost every case (see *Figure 2*). The only exception was the null indirect effect of perceived inequality in health on support for redistribution, but it had an indirect effect on collective actions through greater intolerance towards health inequality. Moreover, greater perceived education and income inequalities were indirectly related to higher levels of support for redistribution and collective actions via a greater intolerance towards inequality in education and income, respectively. Additionally, we also explored the effects of perceived inequality in each domain through intolerance towards inequality in the other domains on collective actions and redistribution, which were also significant in some cases (See *Table 1* in Supplementary Materials for these effects and the effects of covariates).

**Figure 2**

*Model Depicting the Effect of Perceived Inequality in Health, Education, and Income on Support for Redistribution and Collective Actions via Intolerance Towards Inequality in each Domain*



*Note.* Study 2;  $N = 1536$ . Reported values are unstandardized estimates ( $b$ ) and standard errors (between parentheses). \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . When two regression coefficients separated by a slash are shown, the first one refers to support for redistribution and the second to collective actions.

**Discussion**

In this study, we replicated and extended the findings of Study 1 with a larger sample intended to be more representative of the Spanish population. First, we explored the direct effects of perceived inequality in each domain on support for redistribution and collective actions. Perceived inequality in health and income positively predicted support for redistribution (H1) and collective actions (H2). Nevertheless, perceived inequality in education was not a significant predictor for support for redistribution and collective

actions after controlling for perceived inequality in the other domains. Similarly, intolerance towards inequality in each domain had an independent positive effect on support for redistribution (H3). Concerning collective actions (H4), intolerance towards inequality in health and income were significant positive predictors, but this was not observed in the domain of education.

Additionally, we replicated the mediational pathway found in Study 1. We found that, generally, perceived economic inequality in each domain was related to greater support for redistribution and collective actions via increased intolerance towards inequality in each specific domain (H5 and H6). This indirect pathway was only non-significant for perceived health inequality predicting support for redistribution through intolerance towards health inequality, although the direct effect was still found. In the case of education, we observed an indirect effect without a main effect, which highlights the significance of considering indirect influences in how perceptions of inequality impact attitudes and behaviors. Previous studies, such as García-Castro et al. (2020), have similarly observed null main effects but notable indirect effects of perceptions on redistribution via intolerance.

One limitation of our previous studies is that we focused on inequality outcomes, specifically health status and educational level. This approach was guided by the research tradition on the measure of perceived income disparities (e.g., salary gaps; Castillo et al., 2022). However, in the case of education and health, previous studies conducted by Macchia & Ariely (2021) and Soler-Martínez et al. (2023) have primarily investigated inequalities in access to healthcare and education, which subsequently contribute to disparities in these outcomes. Importantly, inequality in access to these resources might be less tolerated than unequal outcomes (Lynch & Gollust, 2010). Recognizing this, we adapted our approach in subsequent studies to concentrate on access to healthcare and

education as key variables of interest. Furthermore, another important limitation is the inability to establish causal relationships due to the cross-sectional design. Therefore, in Study 3, we sought to address this shortcut by employing an experimental design aimed at manipulating perceived health, education, and income inequality.

### Study 3

In this study, we implemented an experimental design to find evidence of the causal link between perceptions of economic disparities in health, education, and income, and support for redistribution and collective actions. In the experimental conditions, we asked participants to think and write about the disparities between a poor person and a rich person in relation to their health, education, or income. As main effects, we expected that intolerance towards inequality (*H1a*), support for collective actions (*H2a*), and support for redistribution (*H3a*) would be greater in the conditions of inequality in health, education, and income, compared to the control condition. Moreover, we retrieved the idea of Study 1 of comparing the effect of the different domains, so we predicted that intolerance towards inequality (*H1b*), support for collective actions (*H2b*), and support for redistribution (*H3b*) would be higher in the conditions of inequality in health and education compared to income inequality condition. Regarding indirect effects, we hypothesized that intolerance towards economic inequality would mediate the effect of the conditions of inequality in health, education, and income (vs. the control condition) on support for collective actions (*H4a*) and redistribution (*H5a*). Similarly, we expected that the effect of the conditions of inequality in health and education (vs. income inequality condition) on support for collective actions (*H4b*) and redistribution (*H5b*) would be mediated by intolerance towards inequality. We believed that using an experimental design, in which the potential effects of third variables is controlled for, could yield the results we initially expected.

## Method

### *Participants and Design*

Four hundred forty-three people participated in this study. The exclusion criteria were the same as in Study 1. The final sample was composed of 392 participants ( $M_{age} = 23.21$ ,  $SD = 7.69$ ,  $Min_{age} = 18$ ,  $Max_{age} = 72$ ), of whom 74.74% self-identified as women, 22.70% as men, and 2.55% as “other”. We followed an experimental between-groups design. More specifically, we divided participants into 4 four groups (income [ $n = 110$ ] vs. health [ $n = 100$ ] vs. education [ $n = 94$ ] vs. control [ $n = 88$ ]). A sensitivity analysis with G\*Power 3.1 (Faul et al., 2007) indicated that a minimum of 88 participants per condition allowed to detect a minimum effect size of  $f = .177$  with 80% of power for ANCOVA with 4 groups and 5 covariates.

### *Procedure*

We obtained the sample using an incidental sampling procedure, through advertisements on social media platforms and university bulletin boards. Participants entered a €50 prize drawing for their participation. They accessed the experiment through *Qualtrics* platform. First, participants were randomly assigned to one of four conditions. In each experimental condition, they were asked to think about a rich person and another poor person and write for two minutes about the differences between them regarding their health (health condition), education (education condition), or income (income condition). In the control condition, they had to think about a tall person and another small person and write for two minutes about the differences between them regarding their clothing size (see Supplementary Materials). After the task, they answered all measures of interest.

### *Measures*

**Manipulation Checks.** We included three questions with a 7-point Likert response format to check the manipulation. "In your opinion, to what extent there are

differences in health between rich people and poor people?", "In your opinion, to what extent there are differences in education between rich people and poor people?", and "In your opinion, to what extent there are differences in income between rich people and poor people?" (1 *Very few differences* – 7 *Many differences*).

Importantly, we were concerned about where to place the manipulation checks in the survey. Placing them before the dependent variables could prime the concept of economic inequality in each domain, also in the control condition, but placing them at the end of the survey could capture an attenuated effect of the manipulation in the experimental conditions (Fayant et al., 2017; Hauser et al., 2018). Thus, in the control condition, participants responded to all questions at the end of the questionnaire while participants in the experimental conditions responded only to the question related to their assigned condition right after the manipulation.

**Intolerance towards Inequality.** It was assessed by a 2 items-measure adapted from the literature about attitudes towards inequality (Schmalor & Heine, 2022): "In your opinion, to what extent the differences you have described are unfair/fair?" (1 *Very unfair* - 7 *Very fair*) and "In your opinion, to what extent the differences you have described are unacceptable/acceptable?" (1 *Very unacceptable* - 7 *Very acceptable*). Punctuations were reverse coded, such that higher values mean greater intolerance towards inequality ( $r = .63$ ,  $M = 5.31$ ,  $SD = 1.52$ ).

**Support for Collective Actions.** We used the same measure as in Study 1 ( $\Omega = .93$ ,  $M = 5.05$ ,  $DT = 1.58$ ).

**Support for Redistribution.** We employed the same measure as in Study 1 and 2 ( $\Omega = .86$ ,  $M = 5.49$ ,  $DT = 1.23$ ).

### **Covariates.**

**Political Ideology.** This covariate was assessed through a single-item measure (“In politics, people normally speak of ‘left’ and ‘right’. On a scale where 1 means left and 7 means right, where would you place yourself?”). Lower scores indicated more inclination to the left political ideology.

**Income Level.** Participants indicated the amount of their families’ monthly net income in a range of ten options: (1) < 650€; (2) 651-1300€; (3) 1301-1950€; (4) 1951-2600; (5) 2601-3250€; (6) 3251-3900; (7) 3901-4550€; (8) 4551-5200€; (9) 5201-5800€; (10) > 5800€.

**Parent's Education.** It was assessed through the question “What is the education level of your parents?” They indicated it for their mother figure and father figure, and we computed the mean between them. Possible options were (1) Without studies, (2) Primary studies, (3) Secondary studies, (4) Superior studies, and (5) University studies.

**Gender and age.** Participants indicated their self-identified gender and their age.

### **Analytical strategy**

To test the main effects of condition on intolerance towards inequality, support for collective actions, and support for redistribution (*H1*, *H2*, and *H3*, respectively), we conducted between subjects ANCOVAs followed by post hoc analyses using Tukey’s HSD for pairwise comparisons. Lastly, for indirect effects (*H4* and *H5*), we ran mediational analyses by converting experimental conditions into dummy variables representing the effect of health, education, and income conditions (vs. control condition). In all analyses, we controlled for covariates.

## Results

### *Manipulation checks*

Unexpectedly, we did not find significant differences in the manipulation check scores between conditions (including control condition) in perceived inequality in health (Health:  $M_{\text{marginal}} = 5.43$ ,  $SE = .14$ ; Control:  $M_{\text{marginal}} = 5.61$ ,  $SE = .14$ ;  $F[3,388] = 1.45$ ,  $p = .23$ ,  $f = .11$ ), education (Education:  $M_{\text{marginal}} = 5.48$ ,  $SE = .13$ ; Control:  $M_{\text{marginal}} = 5.68$ ,  $SE = .14$ ;  $F[3,388] = 2.22$ ,  $p = .09$ ,  $f = .12$ ), nor income (Income:  $M_{\text{marginal}} = 5.93$ ,  $SE = .13$ ; Control:  $M_{\text{marginal}} = 5.68$ ,  $SE = .14$ ;  $F[3,388] = 2.05$ ,  $p = .11$ ,  $f = .13$ ). Despite this result, we proceeded to test our hypotheses as planned.

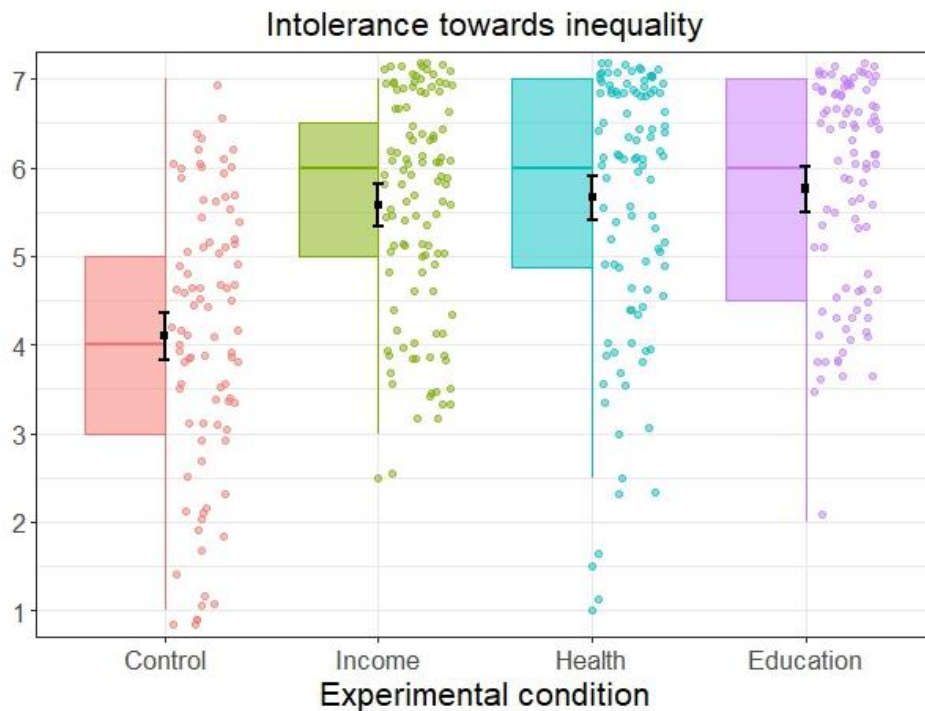
### *Main Effects on Intolerance Towards Inequality, Support for Redistribution, and Support for Collective Actions*

Regarding *H1*, a one-way ANCOVA revealed a significant effect of the condition on intolerance towards inequality (Control:  $M_{\text{marginal}} = 4.10$ ,  $SE = .14$ ; Health:  $M_{\text{marginal}} = 5.66$ ,  $SE = .13$ ; Education:  $M_{\text{marginal}} = 5.76$ ,  $SE = .13$ ; Income:  $M_{\text{marginal}} = 5.58$ ,  $SE = .12$ ;  $F[3,383] = 37.63$ ,  $p < .001$ ,  $f = .18$ ). As expected (*H1a*), Tukey's HSD revealed that participants in the control condition presented lower intolerance towards inequality compared to those in the health ( $d = -1.56$ ,  $SE = .19$ ,  $t(383) = -8.33$ ,  $p < .001$ ) education ( $d = -1.66$ ,  $SE = .19$ ,  $t(383) = -8.79$ ,  $p < .001$ ) or income inequality conditions ( $d = -1.47$ ,  $SE = .18$ ,  $t(383) = -8.08$ ,  $p < .001$ ). Nevertheless, contrary to our expectations (*H1b*), there were no differences in intolerance towards inequality between the income inequality condition and the conditions of health ( $d = -.08$ ,  $SE = .17$ ,  $t(383) = -.47$ ,  $p = .967$ ) or education ( $d = -.19$ ,  $SE = .18$ ,  $t(383) = -1.04$ ,  $p = .728$ ). See *Figure 3*.



**Figure 3**

*Distribution of Intolerance Towards Inequality across Experimental Conditions*



*Note.* Study 3;  $N = 392$ . The boxplot with jittered points illustrates the spread and central tendency of Intolerance towards inequality across different experimental conditions. Each box represents the interquartile range (IQR), with the median marked by the bold line inside. The black squared dot inside the box indicates the means, and the black lines represent error bars. Whiskers extend to the minimum and maximum values within 1.5 times the IQR.

Concerning  $H2$  and  $H3$ , we found no evidence supporting these hypotheses. One-way ANCOVAs did not show any significant difference between conditions in support for collective actions (Control:  $M_{\text{marginal}} = 5.00$ ,  $SE = .14$ ; Health:  $M_{\text{marginal}} = 5.04$ ,  $SE = .12$ ; Education:  $M_{\text{marginal}} = 5.13$ ,  $SE = .13$ ; Income:  $M_{\text{marginal}} = 5.02$ ,  $SE = .12$ ;  $F [3,383] = .29$ ,  $p = .83$ ,  $f = .05$ ) nor support for redistribution (Control:  $M_{\text{marginal}} = 5.41$ ,  $SE = .11$ ; Health:  $M_{\text{marginal}} = 5.53$ ,  $SE = .10$ ; Education:  $M_{\text{marginal}} = 5.49$ ,  $SE = .10$ ; Income:  $M_{\text{marginal}} = 5.50$ ,  $SE = .09$ ;  $F [3,383] = .73$ ,  $p = .53$ ,  $f = .08$ ). See *Table 2* in Supplementary Materials for the effects of covariates.

**Indirect Effects on Support for Redistribution and Collective Actions via Intolerance Towards Inequality**

Although we did not find a main effect on support for collective actions and redistribution, we found evidence of indirect pathways in line with previous studies and our *H4* and *H5* (See *Figure 4*). As expected, health, education, and income inequality conditions (vs. control) were linked to greater support for collective actions (*H4a*) and redistribution (*H5a*) through increased intolerance towards inequality. See *Table 3* in Supplementary Materials for the effect of covariates.

**Figure 4**

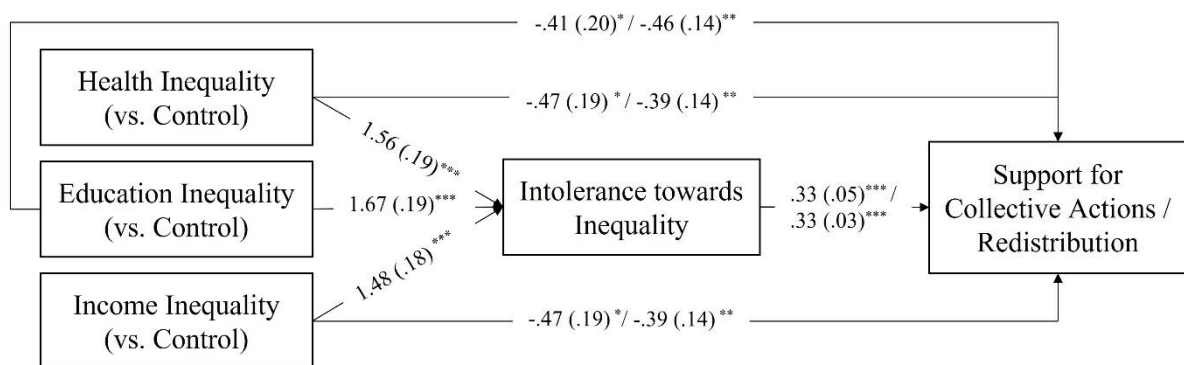
*Model Depicting the Effect of Health, Education, and Income Inequality Conditions (vs. Control) on Support for Collective Actions and Redistribution via Intolerance Towards Inequality*

**Indirect effects on support for collective actions**

Health:  $b = .51$ , 95% CI [.32, .70]  
 Education:  $b = .54$ , 95% CI [.35, .74]  
 Income:  $b = .48$ , 95% CI [.30, .66]

**Indirect effects on support for redistribution**

Health:  $b = .51$ , 95% CI [.35, .67]  
 Education:  $b = .54$ , 95% CI [.38, .71]  
 Income:  $b = .48$ , 95% CI [.33, .64]



*Note.* Study 3;  $N = 392$ . Reported values are unstandardized estimates ( $b$ ) and standard errors (between parentheses). \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . When two regression coefficients separated by a slash are shown, the first one refers to support for collective actions and the second one to support for redistribution.

Nevertheless, contrary to our expectations, when comparing health and education conditions to income inequality condition, we did not find an indirect effect on support

for collective actions (*H4b*) nor redistribution (*H5b*) via intolerance towards inequality. See *Table 4* in Supplementary Materials for estimates of this model along with covariates.

## Discussion

In Study 3, we found that writing and reflecting on inequality in income, health, and education, compared to the control condition, increased intolerance towards inequality (*H1a*). Although, we did not find a main effect on support for collective actions (*H2a*) or redistribution (*H3a*), intolerance towards inequality mediated the positive effects of experimental conditions (vs. control) on these variables (*H4a* and *H5a*). Thus, we replicated the mediational pathway of the previous studies. This null main effect, but significant indirect effect of perceived economic inequality, has been found in other experiments showing that perceived inequality increases support for redistribution through intolerance towards inequality (García-Castro et al., 2020), pointing out its relevant mediating role. Moreover, we did not find that health or education conditions had a greater effect than income condition on the dependent variables (*H1b-H5b*).

Nevertheless, the null effect of the experimental conditions on the manipulation checks suggests that our results may be due to other related processes. For instance, the experimental manipulation may have increased the salience of inequality, rather than altering how much inequality people perceive. That is, participants thought about inequality in health, education, or income, but their perceptions of these inequalities did not increase due to the task they did. Therefore, we ran a fourth study with a different design and experimental manipulation to solve these concerns.

## Study 4

In this study, we ran an experiment presenting fictitious scenarios of high (vs. low) inequality in each domain inspired by the text participants filled in the previous study. We hypothesized that intolerance towards inequality (*H1a*), support for collective

actions (*H2a*), and support for redistribution (*H3a*) would be greater in the conditions of high (vs. low) inequality in each domain (health, education, and income). Moreover, in the conditions of high inequality, we expected that the means of intolerance towards inequality (*H1b*), support for collective actions (*H2b*), and support for redistribution (*H3b*) would be higher in health and education conditions compared to income condition. Regarding indirect effects, we hypothesized that intolerance towards economic inequality would mediate the effect of the conditions of high (vs. low) inequality in health, education, and income on support for collective actions (*H4a*) and redistribution (*H5a*). Finally, we expected that intolerance towards inequality would mediate the effect of the conditions of high inequality in health and education (vs. high inequality in income condition) on support for collective actions (*H4b*) and redistribution (*H5b*).

## Method

### *Participants and Design*

Four hundred people participated in this study. The exclusion criteria were the same as in the previous study. The final sample was composed of 371 participants ( $M_{age} = 30.22$ ,  $SD = 13.94$ ,  $Min_{age} = 18$ ,  $Max_{age} = 100$ ), of whom 73.05% self-identified as women, 26.68% as men, and 0.27% as “other”. We followed an experimental mixed design with 2 conditions between-groups (“high inequality” [ $n = 177$ ] vs. “low inequality” [ $n = 194$ ]) and 3 conditions within-subjects (“health inequality” vs. “education inequality” vs. “income inequality”). A sensitivity analysis with G\*Power 3.1 (Faul et al., 2007) indicated that the sample provided allowed to detect a minimum effect size of  $f < .119$  with 80% of power for an ANOVA (repeated measures, between factors) with 2 groups and 3 repeated measures.

### **Procedure**

We obtained the sample using an incidental sampling procedure, through advertisements on social media platforms and providing QR codes with the survey link in the university cafeterias. As in the previous study, participants entered a €50 prize drawing for their participation, and they accessed the experiment via *Qualtrics* platform. Participants were randomly assigned to either a low inequality condition ( $n = 177$ ) or a high inequality condition ( $n = 194$ ). Then, all participants learned about different fictitious scenarios of inequality in health, education, and income, in a randomized order. After each scenario, they responded to the measures of the dependent variables.

### **Measures**

As participants completed the dependent variables three times (one after each scenario of health, education, and income disparities), we utilized a condensed version of the measures used in the previous studies to minimize participant burden and repetition.

**Manipulation Checks.** We included a question with a 9-points Likert response format after each experimental manipulation. "In your opinion, how big or small are the disparities in income/ access to health/ access to education between the richest and poorest people in this society? (1 *Extremely small* – 9 *Extremely large*)

**Intolerance towards Inequality.** We employed a 2 items-measure with 9-points Likert response format: "The differences between the richest and poorest people in this society are unfair" and "The differences between the richest and poorest people in this society are unacceptable" ( $r = .86$ ; 1 *Totally disagree* - 9 *Totally agree*).

**Support for Collective Actions.** We used a 2 items-measure with 9 points Likert response format: "I would be willing to protest to reduce the differences between the richest and poorest people in this society" and "People should organize and work together

to reduce the differences between the richest and poorest people in this society" ( $r = .75$ ; 1 *Totally disagree* - 9 *Totally agree*)

**Support for Redistribution.** It was assessed by a 2 items-measure with 9 points Likert response format: "I would support policies aimed at reducing the differences between the richest and poorest people in this society" and "The government should reduce the differences between the poorest and richest people in this society" ( $r = .85$ ; 1 *Totally disagree* - 9 *Totally agree*)

**Covariates.** We assessed political ideology, income level, parent's education, gender, and age with the same measures as in the previous study.

### ***Analytical strategy***

To test the effects of high (vs. low) inequality conditions in each domain (health, education, and income) on intolerance towards inequality (*H1a*), support for collective actions (*H2a*), and support for redistribution (*H3a*), we conducted between-subjects ANCOVAs. To test the effect of the domains of high inequality health and education (vs. high inequality in income) on the dependent variables (*H1b*, *H2b* and *H3b*) we conducted within-subjects ANCOVAs and post hoc analyses (Tukey's HSD for pairwise comparisons). Moreover, for indirect effects, we ran mediational analyses with condition (high vs. low inequality) in each domain as predictor, intolerance towards inequality as mediator, and support for collective actions (*H4a*) and redistribution (*H5a*) as criterion variables. Lastly, we also conducted mediational analyses with dummy variables representing the effect of high inequality in health and education (vs. income condition), and the same mediator and criterion variables (*H4a* and *H5b*). In all analyses, we controlled for covariates.

## Results

### *Preliminary analyses*

We present descriptive analyses of each variable of interest depending on the experimental condition (see *Table 4*).

**Table 4**

*Means and Standard Deviations of Dependent Variables by Condition in Study 4*

	Condition	Intolerance towards inequality		Support for collective actions		Support for redistribution	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Health	Low inequality	5.75	2.45	5.89	2.19	6.55	2.19
	High inequality	7.50	1.93	7.26	1.84	7.61	1.84
Education	Low inequality	5.47	2.31	5.67	2.14	6.41	2.22
	High inequality	7.32	1.91	7.18	1.71	7.64	1.63
Income	Low inequality	4.56	2.44	4.96	2.25	5.77	2.30
	High inequality	6.47	2.07	6.41	1.91	6.86	1.95

*Note.* *M* and *SD* represent mean and standard deviation, respectively.

### *Manipulation checks*

As expected, means of the manipulation check were higher in the conditions of high (vs. low) inequality for health ( $M_{\text{Low}} = 4.83$ ,  $M_{\text{High}} = 7.81$ ,  $t(369) = -14.76$ ,  $p < .001$ , *Cohen's d* = -1.53), education ( $M_{\text{Low}} = 4.51$ ,  $M_{\text{High}} = 7.59$ ,  $t(369) = -15.02$ ,  $p < .001$ , *Cohen's d* = -1.56), and income ( $M_{\text{Low}} = 4.38$ ,  $M_{\text{High}} = 7.65$ ,  $t(369) = -15.02$ ,  $p < .001$ , *Cohen's d* = -1.59).

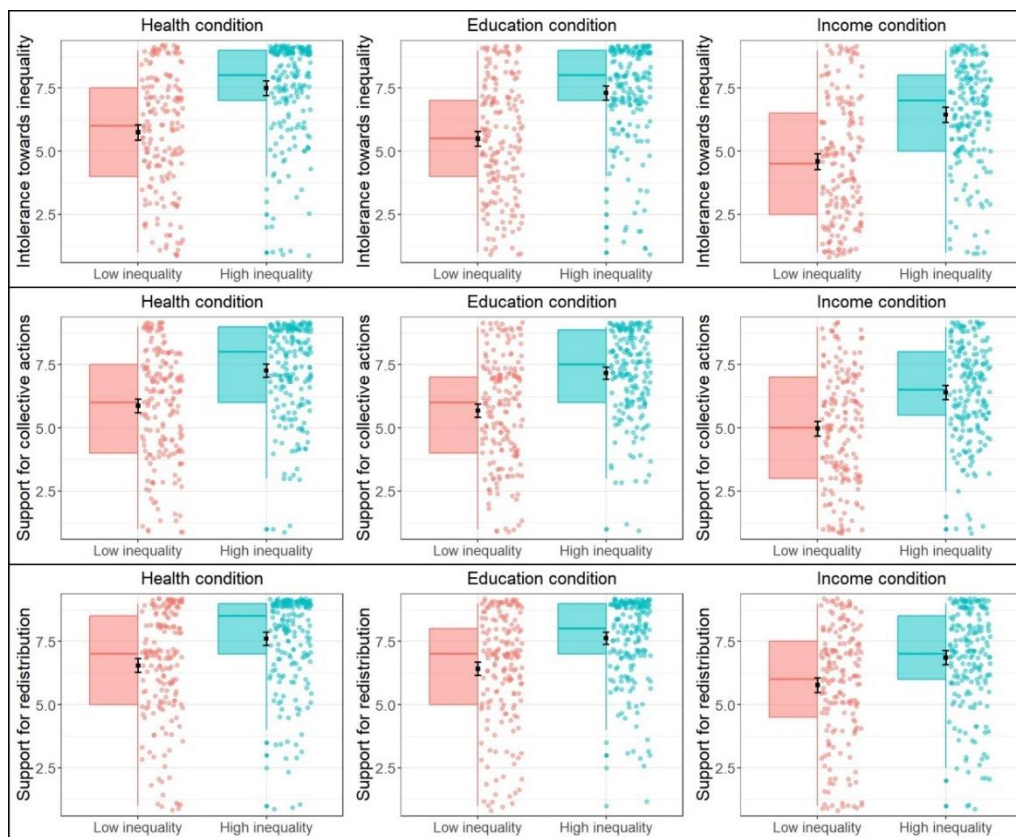
### *Main Effects on Intolerance Towards Inequality, Support for Collective Actions, and Support for Redistribution*

As hypothesized (*H1a*), intolerance towards inequality was greater in the conditions of high (vs. low) inequality in health ( $F[1,364] = 69.33$ ,  $p < .001$ ,  $f = .44$ ), education ( $F[1,364] = 81.85$ ,  $p < .001$ ,  $f = .47$ ), and income ( $F[1,364] = 73.57$ ,  $p < .001$ ,  $f = .45$ ). Similarly, as predicted (*H2a*), means of support for collective action were higher

in the conditions of high (vs. low) inequality in health ( $F[1,364] = 50.97, p < .001, f = .37$ ), education ( $F[1,364] = 69.24, p < .001, f = .44$ ), and income ( $F[1,364] = 52.02, p < .001, f = .38$ ). Lastly, also confirming  $H3a$ , support for redistribution was greater in the conditions of high (vs. low) inequality in health ( $F[1,364] = 50.97, p < .001, f = .37$ ), education ( $F[1,364] = 69.24, p < .001, f = .44$ ), and income ( $F[1,364] = 52.02, p < .001, f = .38$ ). See Figure 5.

**Figure 5**

*Distribution of Intolerance Towards Inequality (Panel 1), Support for Collective Actions (Panel 2), and Support for Redistribution (Panel 3) across Experimental Conditions.*



*Note.* Study 4;  $N = 371$ . The boxplot with jittered points illustrates the spread and central tendency of Intolerance towards inequality across different experimental conditions. Each box represents the interquartile range (IQR), with the median marked by the bold line inside. The black squared dot inside the box indicates the means, and the black lines represent error bars. Whiskers extend to the minimum and maximum values within 1.5 times the IQR.



All estimates and effects of covariates can be found in Supplementary Materials (Table 5).

Furthermore, supporting our hypotheses (*H1b*, *H2b* and *H3b*), in the conditions of high inequality, there were significant differences between health, education, and income domains in intolerance towards inequality ( $F[2,387.26] = 37.35, p < .001, f = .44$ ), support for collective actions ( $F[2,386.10] = 37.34, p < .001, f = .44$ ), and support for redistribution ( $F[2,386.71] = 36.59, p < .001, f = .43$ ). More specifically, post hoc analyses revealed that participants showed greater intolerance towards inequality in the conditions of high inequality in health ( $d = 1.03, SE = .13, t(389) = 8.15, p < .001$ ) and education ( $d = .84, SE = .13, t(389) = 6.58, p < .001$ ) compared to high income inequality condition. Similarly, there was a greater support for collective actions in the conditions of high inequality in health ( $d = .83, SE = .10, t(388) = 7.77, p < .001$ ) and education ( $d = .76, SE = .10, t(388) = 7.17, p < .001$ ) than in the condition of high income inequality. Lastly, support for redistribution was higher in the conditions of high inequality in health ( $d = .74, SE = .10, t(388) = 7.33, p < .001$ ) and education ( $d = .76, SE = .10, t(388) = 7.50, p < .001$ ) compared to the condition of high income inequality. See boxplots in high inequality conditions in Figure 5. All estimates and effects of covariates can be found in Supplementary Materials (Table 6).

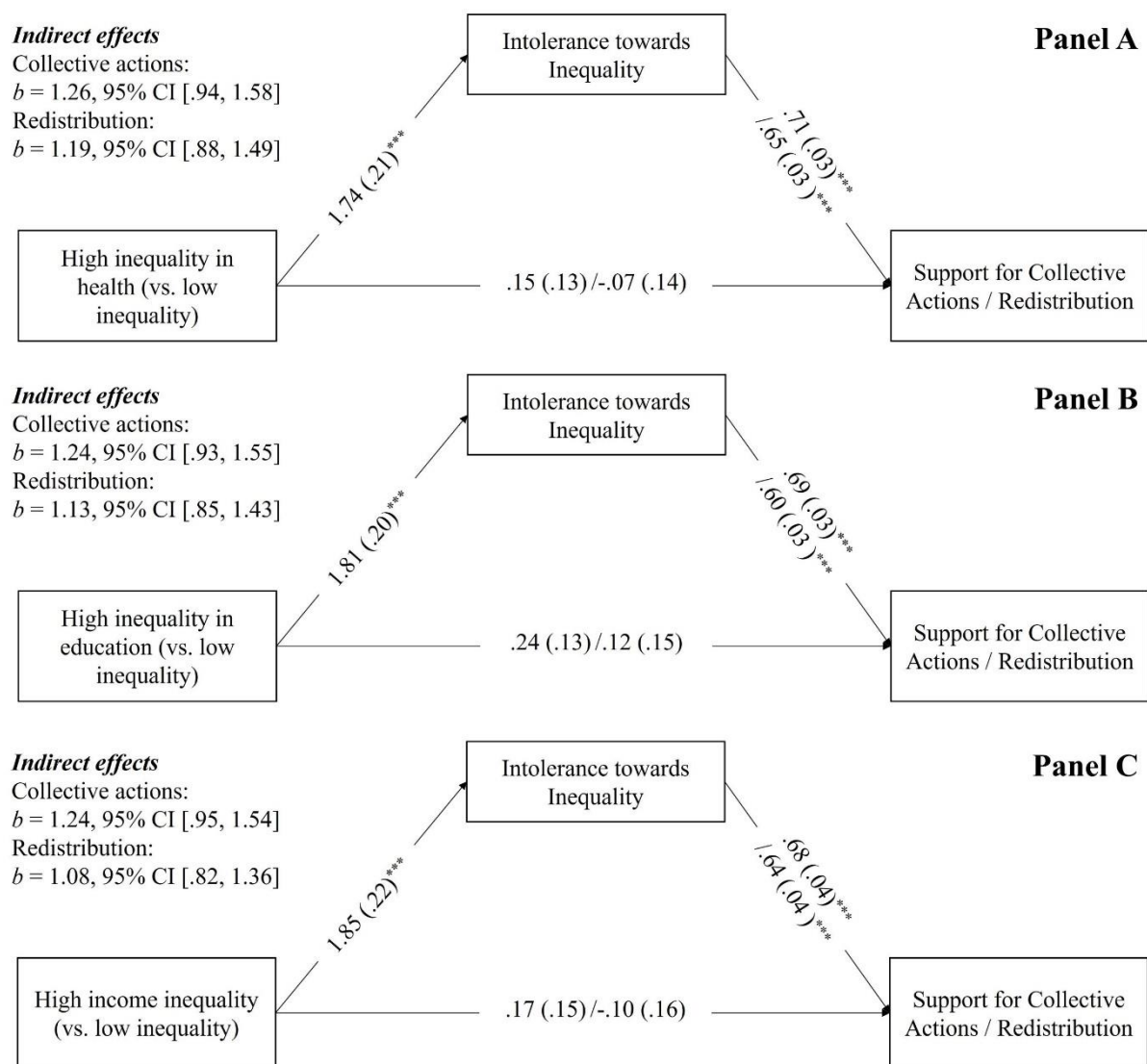
***Indirect Effects on Support for Collective Actions, and Support for Redistribution through Intolerance Towards Inequality***

As predicted, in every domain of inequality—health, education, and income—the high inequality conditions (versus low inequality) had a positive indirect effect on support for collective actions (*H4a*) and support for redistribution (*H5a*) through increased intolerance towards inequality. More specifically, participants exposed to high levels of inequality in these domains, compared to those who read about low inequality scenarios,

demonstrated greater intolerance towards inequality, which in turn increased their support for both collective actions and redistribution measures. These results can be seen in Figure 6 (see Table 7 in Supplementary Materials for the effect of covariates).

**Figure 6**

*Model Depicting the Effect of High Inequality (vs. Low Inequality) in Health (Panel A), Education (Panel B), and Income (Panel C) on Support for Collective Actions and Redistribution via Intolerance Towards Inequality*

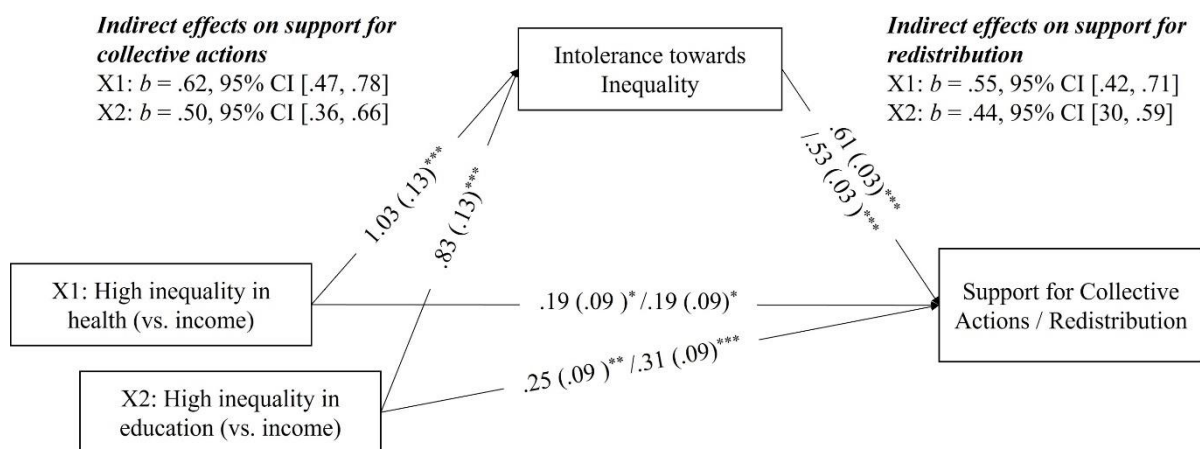


*Note.* Study 4;  $N = 371$ . Reported values are unstandardized estimates ( $b$ ) and standard errors (between parentheses). \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . When two regression coefficients separated by a slash are shown, the first one refers to support for collective actions and the second one to support for redistribution.

Furthermore, the conditions of high inequality in health and education, compared to high income inequality, showed significant indirect effects on support for collective actions and redistribution through enhanced intolerance towards inequality. Participants faced with high health and education inequality, compared to those in the condition of high income inequality, exhibited more pronounced intolerance towards inequality, which led to greater support for collective actions and redistribution policies. These findings are illustrated in *Figure 7* (See *Table 8* in Supplementary Materials for the effect of covariates).

### Figure 7

*Model Depicting the Effect of High Inequality in Health and Education (vs. High income inequality) on Support for Collective Actions and Redistribution via Intolerance Towards Inequality*



*Note.* Study 4;  $N = 196$ . Reported values are unstandardized estimates ( $b$ ) and standard errors (between parentheses). \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . When two regression coefficients separated by a slash are shown, the first one refers to support for collective actions and the second one to support for redistribution.

### Discussion

In Study 4, we conducted an experiment to address the inconsistencies and shortcomings observed in our previous studies. Studies 1 and 2 employed a correlational design, and the experimental manipulation in Study 3 did not work effectively, as

indicated by the manipulation checks. However, in Study 4, we successfully manipulated perceived inequality across the domains of health, education, and income.

Our findings confirmed all our hypotheses. Participants exposed to scenarios of high inequality exhibited significantly greater intolerance towards inequality (*H1a*), stronger support for collective actions (*H2a*), and higher support for redistribution policies (*H3a*) compared to those exposed to low inequality scenarios. This trend was evident across all three domains. Moreover, our study extended previous findings by showing that, compared to the high income inequality condition, participants in conditions of high inequality in health and education showed greater intolerance towards inequality (*H1b*), and stronger support for collective actions (*H2b*) and redistribution (*H3b*). This is the first time that comparing the different domains, we find that focusing on high levels of inequality in health and education, compared to focusing on high income disparities alone, may suppose an advantage to enhance intolerance towards inequality, support for collective actions, and redistribution.

Furthermore, consistent with previous findings, intolerance towards inequality served as a significant mediator. Specifically, the effect of high inequality conditions on support for collective actions (*H4a*) and redistribution (*H5a*) was mediated by increased intolerance towards inequality. This mediation effect was consistent across all three domains. Likewise, intolerance towards inequality partially explained the differences between high income inequality condition and high inequality in health and education conditions on support for collective actions (*H4b*) and redistribution (*H5b*).

### **General Discussion**

Perceiving income disparities might have a limited mobilizing power to reduce economic inequality to some segments of the population (Ciani et al., 2021; Hoyt et al., 2018). But people perceive economic inequality not only in terms of income distributions

(García-Castro et al., 2021; García-Sánchez et al., 2018). Instead, they also recognize and are concerned about the impact of economic inequality on other important domains of their lives, such as health or education (Macchia & Ariely, 2021; Soler-Martínez et al., 2023). However, previous research on the role of perceiving inequality in these domains on attitudes toward reducing economic inequality is scarce. In this research, we aimed to explore whether perceiving inequality in health and education—beyond perceived income disparities—could act as additional fuel for mobilizing the public to reduce economic inequality. Furthermore, we studied this issue in the European context of Spain, where these disparities could be potentially less noticeable than in other countries like North America (e.g., Macchia & Ariely, 2021) or Latin America (e.g., Soler-Martínez et al., 2023) due to the presence of a strong system of public healthcare and education.

Overall, we found that perceptions of health and education inequities may have an independent effect—over and above perceived income disparities—on attitudes towards economic inequality and support for actions to reduce it. In Studies 1 and 2, following a correlational design we found that perceptions of inequality in health, education, and income, explained unique variance of support for redistribution and collective actions via intolerance towards inequality. Next, Study 3 followed an experimental design to find evidence of causality. Although this mediational effect was replicated, manipulation checks failed, showing problems with the experimental manipulation, and main effects of the experimental condition on support for redistribution or collective actions were not significant. Thus, we ran Study 4 with a different experimental manipulation where participants in high inequality conditions (vs. low) in each domain demonstrated higher intolerance towards inequality, and in turn, greater support for collective actions and redistribution.

Furthermore, we compared the role of health, education, and income. In Study 1, we found that the coefficient of regression on intolerance towards inequality was higher for perceived income disparities than the predictive value of health or education perceptions. Although it is contrary to what we expected, we believe that this might signal that low perceptions of health and education inequalities could already elicit high levels of intolerance (See Supplementary Materials section 5.1. for a more detailed discussion). In Study 3, there were no differences between income, health, or education conditions but it might be due to limitations of the experimental manipulation (e.g., failed manipulation check). Nevertheless, in Study 4 we found that the conditions of high inequality in health and education (vs. high income inequality), arouse greater intolerance towards inequality, and higher support for redistribution and collective actions. Thus, although more research is needed on this question, it seems that this alternative strategy of focusing on health and education instead of income disparities alone, could be a more efficient way of increasing intolerance towards inequality and fostering more actions to reduce it.

Our findings are aligned with several theoretical models of distributive justice (Jasso et al., 2016), support for redistribution (Choi, 2019) and support for collective actions (Jetten et al., 2021; van Stekelenburg & Klandermans, 2013). Moreover, our research supports and extends previous empirical evidence. For instance, García-Castro, González, et al. (2022) also found a mediational pathway in which higher perceived economic inequality was related to a greater desire for redistribution via increased intolerance towards economic inequality. Other studies have also highlighted the positive relationship between perceptions of economic inequality and support for redistribution (Choi, 2019; Gimpelson & Treisman, 2018) or collective actions to reduce economic inequality (Hoyt et al., 2018; Jo & Choi, 2019).

What we might add to this body of literature is the relevance of considering different aspects of economic inequality, as each one may play an independent role in the proposed processes of these theories. In this line, our results serve as a complement to recent evidence (García-Sánchez et al., 2018; Macchia & Ariely, 2021; Soler-Martínez et al., 2023) endorsing a multidimensional approach to the study of economic inequality. We argue that this multidimensional approach is of great importance because of two main reasons. First, we address an existing gap in literature almost exclusively focused on the income domain, although people indeed perceive economic inequality embedded in several domains of their lives, such as health or education (García-Sánchez et al., 2018). Second, perceived income inequality has shown to have a limited impact on attitudes towards its reduction (Ciani et al., 2021) and is often tied to ideological differences (García-Sánchez et al., 2020; Hoyt et al., 2018). But on the other hand, as shown by our study and previous research, health and education disparities might be less tolerated (Macchia & Ariely, 2021; Soler-Martínez et al., 2023) and arise more actions to reduce them than income disparities alone (Brown et al., 2023).

Regarding the limitations of this research, we believe that the sample in our studies may have some shortcomings and strengths. Although participants in Studies 1, 3 and 4 were mostly students and university staff, in Study 2 we had a larger sample from the general Spanish population stratified by quotas. While our findings might be limited to the Spanish population, we could find some parallelisms with other European countries regarding a long tradition of public healthcare and education systems. This is also important because previous studies about perceptions of inequality in health or education were mostly based on samples from contexts where these disparities are more evident (e.g., Latin America or North America; Day & Norton, 2023; Macchia & Ariely, 2021; Soler-Martínez et al., 2023). Perhaps, in the context of this research, with strong values about

universal public healthcare and education, shifting the focus to disparities in health and education might increase intolerance towards economic inequality in a broader sense. This, in turn, could foster support for actions to reduce it. In light of these findings, future studies could examine these perceptions across diverse socio-economic contexts and cultural settings.

Another consideration involves the close conceptual proximity among perceived inequalities in each domain. To what extent are they distinguishable or interdependent? While we acknowledge the related nature of these inequalities, our data indicates a correlation of, at best,  $r = .50$ . Importantly, perceived inequality in each domain emerged as a significant predictor of the variables of interest when accounting for the effects of perceived inequality in the other domains. Furthermore, in Study 3, most participants predominantly focused on their assigned domain of inequality, scarcely mentioning the others (see Supplementary Materials to see some original quotes). Thus, while perceptions of inequality across domains may exhibit interrelatedness, differentiation among them is feasible and offers several advantages. Examining inequality in health, education, and income could contribute to a more nuanced understanding of attitudes towards inequality, as perceived inequality in each domain may explain additional variance of this phenomenon. Thus, subsequent studies could delve into the potential interdependence of these domains.

Furthermore, our rationale for exploring alternative pathways to mobilize the public is partly grounded in evidence suggesting that messages about income disparities alone may prove insufficient when they encounter system justification beliefs (Hoyt et al., 2018). While our research represents a preliminary step toward addressing this issue, we did not directly test whether perceived inequities in health and education are also susceptible to these ideological barriers. Future research should investigate whether



presenting messages about inequality in health and education can influence attitudes towards inequality, transcending diverse system justification ideologies. However, our results suggesting that health and education inequalities might be less easily tolerated than income disparities alone point in this direction. It is plausible that messages concerning health and education inequities may encounter less resistance among the public.

Overall, this research has some practical implications. Our findings suggest a pathway from individual perceptions of economic inequality to policy advocacy and implementation. First, raising awareness about health and education disparities through media or public campaigns could help individuals recognize the extent and impact of these inequalities beyond income disparities. This increased awareness can lead to greater public concern and stronger intolerance towards inequality. In turn, these changes in public opinion could fuel social change through collective actions, activism, and demand for policies aimed at reducing inequality. Lastly, these social demands could influence legislators to prioritize policies that address economic inequality, such as progressive taxation or increased funding for public health and education. By outlining this pathway, we highlight the practical implications of our findings and provide a clear strategy for translating individual perceptions of inequality into meaningful policy advocacy and implementation.

### **Conclusion**

In conclusion, our research emphasizes a multidimensional approach to the study of perceptions of economic inequality, advocating for a strategic shift from an exclusive focus on income disparities to a more inclusive consideration of inequality in health and education. Instead of concentrating solely on income disparities in public discourse, redirecting attention to universally valued domains such as health and education could provide a pragmatic strategy to overcome potential resistance and mobilize broader public

support. Our research suggests that besides the fact that “The richest 10% earns 8 times more than the poorest 50%” (RTVE, 2021), messages like “Life expectancy gap between the rich and the poor is up to 11 years” (Antena 3 Noticias, 2019) or “Poor students repeat a grade 4 times more” (El País, 2019) could also play an important role on people’s attitudes towards inequality. This alternative perspective opens avenues for implementing effective measures, including redistributive policies and collective initiatives, to tackle the multifaceted challenge of economic inequality.



## Chapter 5

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*Overlapping Inequalities: Connecting Income  
Inequality with Health and Education Disparities  
Motivates Its Reduction*



# **Overlapping Inequalities: Connecting Income Inequality with Health and Education Disparities Motivates Its Reduction**

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## **Abstract**

People often justify income disparities. But what if these disparities create inequality in access to healthcare or higher education? Across four studies, we aimed to investigate whether perceiving income inequality overlap with health and education could lead to lesser acceptance of economic inequality and greater support for actions to reduce it. In Study 1 ( $N = 320$ ), we found that perceived overlap predicted lower acceptance of economic inequality and greater support for collective actions and redistribution. Next, we found that exposing participants to information about high (vs. low) income inequality overlap with health (Study 2a;  $N = 178$ ) and education (Study 2b;  $N = 184$ ) decreased acceptance of economic inequality and increased support for collective actions and redistribution in fictitious societies. In Study 3 ( $N = 371$ ), we replicated these results in a real-world context. Future interventions could show these overlapping inequalities to gain broader support for economic inequality reduction.

**Keywords:** Perceived economic inequality; Health inequality; Education inequality; Collective actions; Redistribution

## **Introduction**

Some people might consider it acceptable that certain individuals have a few more zeros in their bank accounts than others. Income inequality is often accepted and legitimized, and therefore, support for actions to reduce it is limited (García-Sánchez et al., 2019, 2021; Son Hing et al., 2019; Trump, 2020). However, income inequality is also manifested in other important aspects of people's lives, such as their health or education, beyond just the size of their bank accounts. For instance, less affluent individuals have less chance of surviving cancer than their counterparts (Cheng et al., 2021). Likewise, one of the main predictors of a student's academic achievement is socioeconomic status (Selvitopu & Kaya, 2023; von Stumm et al., 2020). Importantly, these overlapping inequalities seem to be less tolerated by the public than income disparities alone (Howarth et al., 2019; Macchia & Ariely, 2021; Soler-Martínez et al., 2023). However, previous research has been mostly focused on how people perceive and react to income/wealth distributions (Castillo et al., 2022; García-Sánchez et al., 2018).

Could connecting health and education disparities to income inequality motivate people to reduce it? In this research, we aim to analyze whether perceiving greater overlap between income inequality and health and education disparities could diminish acceptance of economic inequality and enhance support for actions to reduce it.

### **Perceived Overlap Between Income Inequality and Health and Education Disparities**

People perceive economic inequality embedded in several domains of their lives beyond the monetary sphere (García-Castro et al., 2021; García-Sánchez, García-Castro, et al., 2022). Thus, considering the multiple domains in which economic inequality manifests (e.g., health, education, political participation, social life) can lead to better



understanding and addressing it (Multidimensional Inequality Framework; London School of Economics, 2024). In this work, we specifically focus on the perceived income inequality overlap with health and education.

Health and education are particularly important for individuals' well-being and development (e.g., Human Development Index; United Nations Development Programme, 2024) and are widely considered universal human rights (United Nations, 1948, art. 25 and 26). Nevertheless, social disparities in these domains are pervasive, and cuts in social spending have worsened this situation in the last decades (Abásolo et al., 2017; Stuckler et al., 2017). These disparities exist, and importantly, people may be relatively unaware of them (Day & Norton, 2023; Shankardass et al., 2012). Thus, increasing perceptions of overlap between income inequality and health and education disparities might tap into important shared values and highlight the need to reduce social inequalities.

### **(Un)acceptance of Income Inequality Overlap with Health and Education, and Support for Actions Towards its Reduction**

According to Walzer's theory of 'complex equality' (1983), inequality in one domain (e.g., income) would be less acceptable if it overlaps with inequality in other spheres of life. Each resource (e.g., income, health, education) has its own social meaning and the shared rules used to distribute them should be independent. For instance, following a meritocratic rule, some people might accept income inequality if they consider that those who work harder get more money (Castillo et al., 2019; García-Sánchez et al., 2019). Nevertheless, income inequality may also translate into the inability to access a cancer treatment or a university degree. In this case, the shared rules to distribute health and education equally or on the basis of need (Igliozzi et al., 2024), are being compromised.

Empirical evidence has provided support for Walzer's theory. For instance, in Howarth's et al. (2019) research, very few people (5%) desired absolute income equality. Nevertheless, when asked about differences in life expectancy between the richest and the poorest, the percentage of people wanting absolute equality rose to 46%, and 80% wanted more equality. Likewise, Macchia & Ariely (2021) found that people preferred much more egalitarian distributions across wealth quintiles of health and educational resources compared to income. Similarly, using international survey data from 18 countries, Soler-Martínez et al. (2023) showed that people were more concerned about unequal access to health services and educational opportunities than about income disparities alone.

Importantly, if inequality is perceived as more unacceptable and illegitimate, people may support more actions aimed at reducing it, such as collective actions or redistribution. Collective actions (e.g., protests) are considered effective tools for social change, as they can inform policy changes and shape public opinion (Louis, 2009). Theoretical models of collective action have pointed out that perceived legitimacy/unfairness of inequality is one of the key predictors of social mobilization (Agostini & van Zomeren, 2021; Jetten et al., 2021). In the case of redistributive policies, they have a direct impact on reducing inequality (Doerrenberg & Peichl, 2014). Similarly, perceptions and attitudes towards inequality have been proposed as key factors influencing support for redistribution (Choi, 2019).

Previous empirical evidence has shown that perceptions about economic inequality can lead to reduced acceptance of it (García-Castro et al., 2019, 2020), which in turn could foster support for redistribution (Choi, 2019; García-Castro, García-Sánchez, et al., 2022; García-Castro, González, et al., 2022), and collective actions (Hoyt et al., 2018; Jetten et al., 2021; Jo & Choi, 2019). Nevertheless, these studies

explored the perceived extent of income disparities, but not the perceived overlap with other inequalities. Recent evidence suggests that this broader approach could be fruitful. Soler-Martínez et al. (2023) found that concerns about unequal access to healthcare or opportunities in education—beyond concerns about income disparities—could predict engagement in collective actions. Likewise, in Brown's et al. (2023) research, participants were more likely to support collective actions and policies to reduce racial inequality when this was framed in terms of health disparities compared to when income disparities were highlighted. These findings suggest that if health or education disparities are perceived as less acceptable than income differences, the perceived connection between these inequalities may enhance intentions to reduce economic inequality.

### **The Present Research**

In this research, we aimed to bridge a literature gap previously focused on how people perceive and react to income gaps or wealth distributions that has overlooked the importance of such disparities in other domains of life, such as health and education. Furthermore, we address one of the main problems when it comes to reducing economic inequality: The public acceptance of it and lack of actions toward its reduction.

Across four preregistered studies, using correlational (Study 1) and experimental approaches (Studies 2a, 2b, and 3), we tested whether perceived income inequality overlap with health and education could lead to diminish acceptance of economic inequality and enhance support for redistribution and collective actions. Data, code, materials, and preregistrations can be found in the following link:

[https://osf.io/z47bt/?view\\_only=a623910975964d8da93b5f80932b2438](https://osf.io/z47bt/?view_only=a623910975964d8da93b5f80932b2438)

## Study 1

First, we ran a cross-sectional study. We expected that the greater perceived income inequality overlap with health and education, the lesser acceptance of economic inequality (H1), and the greater support for collective actions (H2) and redistribution (H3).

### Method

#### *Sample*

The study enrolled three hundred forty-eight individuals. Data were excluded if participants: (a) did not complete all measures of interest, (b) failed an attention check, (c) were younger than 18 years old, or (d) did not identify as Spanish. After applying these criteria, the final sample consisted of 320 participants ( $M_{age} = 23.65$ ,  $SD = 7.53$ ,  $Min_{age} = 18$ ,  $Max_{age} = 70$ ), comprising 75.62% self-identified women, 22.81% men, and 1.56% identifying as "other" (refer to Supplementary Materials for additional sociodemographic details). A sensitivity analysis utilizing G\*Power 3.1 (Faul et al., 2007) confirmed that the sample size provided sufficient statistical power (80%) to detect an effect size of  $f^2 < .03$ ,  $p = .05$ , for linear multiple regression analyses with 2 predictors. Data collection utilized an incidental sampling method. Specifically, the survey was primarily distributed through the university's mailing list, which reached all students and staff members, potentially leading to a more academically oriented sample. To incentivize participation, respondents were entered into a €50 prize drawing upon completing the online survey through the *Qualtrics* platform.

#### *Measures*

**Perceived Income Inequality Overlap with Health and Education.** We used a single-item measure per domain adapted from the Inclusion of Others in the Self (IOS) scale (Aron et al., 1992). Participants were asked to choose one of seven pictures with

varying degree of overlap representing the influence of income inequality on health/education (See Figure 1 and Supplementary Materials;  $M_{Health} = 4.71$ ,  $SD = 1.50$ ;  $M_{Education} = 4.9$ ,  $SD = 1.39$ ).

### Figure 1

*Image of Two of the Options in the Measure of Perceived Income Inequality Overlap with Health*



**Acceptance of Economic Inequality.** We employed the Spanish version of the Support for Economic Inequality Scale (Montoya-Lozano et al., 2023, adapted from Wiwad et al., 2019). This scale encompassed five items (e.g., "The negative consequences of economic inequality have been largely exaggerated";  $\Omega = .83$ ;  $M = 2.28$ ,  $SD = 1.11$ ), ranging from 1 (*Totally disagree*) to 7 (*Totally agree*).

**Support for Redistribution:** It was evaluated using a seven-item scale adapted from (García-Sánchez, Castillo, et al., 2022) (e.g., "The government has a responsibility to reduce the income gap between those who have more and those who have less.";  $\Omega = .87$ ,  $M = 5.36$ ,  $SD = 1.25$ ). Responses ranged from 1 (*Totally disagree*) to 7 (*Totally agree*).

**Support for Collective Actions.** We used a 6 item-measure based on previous literature of collective action (van Zomeren et al., 2008); e.g., "I would be willing to attend a demonstration against economic inequality";  $\Omega = .94$ ,  $M = 4.74$ ,  $SD = 1.66$ ).

Responses were recorded on a seven-point Likert scale, ranging from 1 (*Totally disagree*) to 7 (*Totally agree*).

**Other Measures.** For exploratory purposes, we also included a measure of meritocracy after the variables of interest. As socio-demographics, we measured age, gender, political ideology, parents' education, income level, and subjective socioeconomic status.

### ***Analytical Strategy***

Multiple regression analyses were conducted with perceived income inequality overlap with health and education as predictor variables, while acceptance of economic inequality, support for collective actions, and support for redistribution served as criterion variables. We included age, gender, political ideology, parents' education, and income level as covariates.

### ***Transparency and Openness***

The hypotheses, sample sizes, data exclusions, measures, and analyses were preregistered. Preregistrations, all study materials, data, and analysis scripts are publicly available at [https://osf.io/z47bt/?view\\_only=a623910975964d8da93b5f80932b2438](https://osf.io/z47bt/?view_only=a623910975964d8da93b5f80932b2438)

All analyses were performed using R (R Core team, 2024).

## **Results**

### ***Perceived Overlap, Acceptance of Economic Inequality, and Support for Collective Actions and Redistribution***

As hypothesized (H1), perceived income inequality overlap with health and education predicted less acceptance of economic inequality ( $b_{Health} = -.12$ , 95% CI [-.19, -.04];  $b_{Education} = -.12$ , 95% CI [-.20, -.04]). Importantly, both types of overlap predicted unique variance in acceptance of economic inequality. Confirming H2, the greater perceived income inequality overlap with health and education, the greater support for

collective actions ( $b_{Health} = .14$ , 95% CI [.04, .24];  $b_{Education} = .18$ , 95% CI [.08, .29]).

Likewise, as expected (H3), perceived income inequality overlap with health and education positively predicted support for redistribution ( $b_{Health} = .15$ , 95% CI [.07, .23];  $b_{Education} = .14$ , 95% CI [.05, .23]). Both types of overlap explained unique variance.

This is, they were significant predictors after controlling for the effect of the other.

Table 1 shows the results of the multiple regression analyses along with covariates.

**Table 1**

*Multiple Regression Models of Acceptance of Economic Inequality, Support for Collective Actions, and Support for Redistribution*

	<b>Acceptance of Economic Inequality</b>	<b>Support for Collective Actions</b>	<b>Support for Redistribution</b>
<i>Predictors</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>
(Intercept)	3.12 *** (0.47)	4.56 *** (0.62)	5.11 *** (0.50)
<b>Health Overlap</b>	<b>-0.12 ** (0.04)</b>	<b>0.14 ** (0.05)</b>	<b>0.15 *** (0.04)</b>
<b>Education Overlap</b>	<b>-0.12 ** (0.04)</b>	<b>0.18 *** (0.05)</b>	<b>0.14 ** (0.04)</b>
Age	-0.00 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Gender	-0.31 * (0.12)	0.53 *** (0.16)	0.33 * (0.13)
Political ideology	0.29 *** (0.04)	-0.58 *** (0.05)	-0.36 *** (0.04)
Parent's education	0.03 (0.05)	-0.19 ** (0.06)	-0.15 ** (0.05)
Income level	-0.00 (0.05)	0.16 * (0.06)	0.02 (0.05)
Observations	316	316	316
R <sup>2</sup> / R <sup>2</sup> adjusted	.317 / 0.301	.476 / 0.464	.396 / 0.383

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

See Supplementary Materials for a discussion on the effect of covariates.

## **Discussion**

In Study 1, confirming our hypotheses, we found that perceived income inequality overlap with health and education was associated with reduced acceptance of economic inequality and increased support for collective actions and redistribution. However, this study had limitations inherent to the cross-sectional design, precluding making causal inferences about the observed relationships.

### **Studies 2a and 2b**

To address the limitations of Study 1, we employed experimental designs in Studies 2a and 2b. Additionally, we aimed to disentangle the independent effects of perceived income inequality overlap with health (Study 2a) and with education (Study 2b), as in the previous study both concepts were concurrently activated. We maintained the same hypotheses as in Study 1 (H1-H3) and we also expected an indirect positive effect of perceived overlap on support for redistribution (H4) and collective actions (H5) through diminished acceptance of economic inequality.

## **Method**

### ***Sample***

Studies 2a and 2b recruited a total of four hundred and eight participants. After applying the same exclusion criteria as in the previous study, the final sample comprised 362 participants<sup>7</sup> ( $N_{Study\ 2a} = 178$ ,  $N_{Study\ 2b} = 184$ ), with a mean age of 23.27

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<sup>7</sup> Attrition rate was higher in Studies 2a and 2b (12.71%) and Study 3 (11.05%) compared to Study 1 (8.05%). We believe this might be due to the design of the studies. For instance, in Studies 2a and 2b, participants had to read information about fictitious societies and answer the measures twice, which might cause some fatigue. In Study 3, they also had to read a journal article. In contrast, in Study 1, participants did not have to read any information and only answered the measures once.



( $SD = 6.96$ ,  $Min_{age} = 18$ ,  $Max_{age} = 75$ ). Gender distribution among participants included 68.42% self-identified women, 31.02% men, and 0.55 % identifying as "other" (for additional sociodemographic details of each study, refer to Supplementary Materials). A sensitivity analysis conducted using G\*Power 3.1 (Faul et al., 2007) confirmed that the sample size in both studies provided adequate statistical power (80%) to detect an effect size of  $f < .10$ ,  $p = .05$ , for ANOVA analyses with repeated measures within factors. We followed the same procedure as in Study 1 to obtain the sample.

### ***Design and procedure***

We employed an experimental within-subjects design based on the paradigm of fictitious societies, widely used in the study of perceptions of inequality (Willis et al., 2022). Participants engaged in an online survey where they were exposed to two different fictitious societies, labeled as Society X and Society Y. First, participants read a text about Society X stating that income inequality did not influence health (condition of “low overlap”; Study 2a; e.g., “*individuals with lower economic status attend healthcare centers of the same quality, [...] and can access treatments as advanced as those available to individuals with higher socioeconomic status.*”) or education (Study 2b; e.g., “*individuals with lower economic status attend educational institutions of the same quality [...] and can afford higher education as much as individuals with higher socioeconomic status*”) in that society. Second, participants were presented with a text about Society Y describing that income inequality did influence health/education inequality (condition of “high overlap”; see Supplementary Materials). This presentation order was intended to mirror the process of increasing recognition of disparities, which would be the focus of any real-world intervention aimed at changing perceptions. After reading about each society, participants completed the manipulation

checks and the dependent variables. Participants completed the study via *Qualtrics* platform.

### **Measures**

As participants completed the variables twice, we utilized a condensed version of the measures in Study 1 to minimize participant burden and repetition.

**Manipulation Check.** To assess the effect of the manipulation, we included the items used in Study 1 to measure the perceived income inequality overlap with health and education.

**Acceptance of economic inequality.** It was measured with two items adapted from previous literature on attitudes towards economic inequality (Schmalor & Heine, 2022): “To what extent do you think that economic inequality is unfair/fair?” (1 *Very unfair*; 7 *Very fair*) and “To what extent do you think that economic inequality is unacceptable/acceptable?” (1 *Very unacceptable*; 7 *Very acceptable*);  $r_{t1} = .60$ ,  $r_{t2} = .64$ .

**Support for collective actions.** We used three items based on the measure of Study 1 (e.g., “I would be willing to attend demonstrations against economic inequality”;  $\Omega_{t1} = .89$ ;  $\Omega_{t2} = .89$ ). Responses ranged from 1 (*Totally disagree*) to 7 (*Totally agree*).

**Support for redistribution.** Similarly, we employed three items to assess participants attitudes towards redistribution (e.g., “There is a great need to redistribute wealth from those who have more to those who have less.”; 1 *Totally disagree* - 7 *Totally agree*;  $\Omega_{t1} = .82$ ;  $\Omega_{t2} = .79$ ).

**Other measures.** For exploratory purposes, we included some questions after the last dependent variable about the perceived right for health/education, perceived equality of opportunities, similarity of the fictitious society to Spain, and perceived influence of inequality in health/education on income. As socio-demographics, we

measured age, gender, political ideology, parents' education, income level, and subjective socioeconomic status.

### ***Transparency and Openness***

The hypotheses, sample sizes, data exclusions, measures, and analyses were preregistered. Preregistrations, all study materials, data, and analysis scripts are publicly available at [https://osf.io/z47bt/?view\\_only=a623910975964d8da93b5f80932b2438](https://osf.io/z47bt/?view_only=a623910975964d8da93b5f80932b2438)

All analyses were performed using R (R Core team, 2024).

### ***Analytical Strategy***

To test hypotheses H1, H2, and H3, repeated-measures analysis of covariance (ANCOVA) analyses were conducted. In these analyses, perceived income inequality overlap with health and education (“high overlap” vs. “low overlap”) served as the within-subject factor, while acceptance of economic inequality, support for collective actions, and support for redistribution were the dependent variables. To examine hypotheses H4 and H5, mediation analyses were conducted using the condition (“high overlap” vs. “low overlap”) as the main predictor, acceptance of economic inequality as the mediating variable, and support for collective actions and support for redistribution as the criterion variables, respectively. In all analyses, we employed a multilevel modeling approach to account for the nestedness of the data. In particular, we used linear mixed-effects models with random intercepts for participants to account for the repeated measures within individuals. Covariates including age, gender, political ideology, parents' education, and income level, were controlled in these analyses to minimize potential confounding effects. All statistical analyses were conducted using R (R Core Team, 2024).

## Results

### *Manipulation Checks*

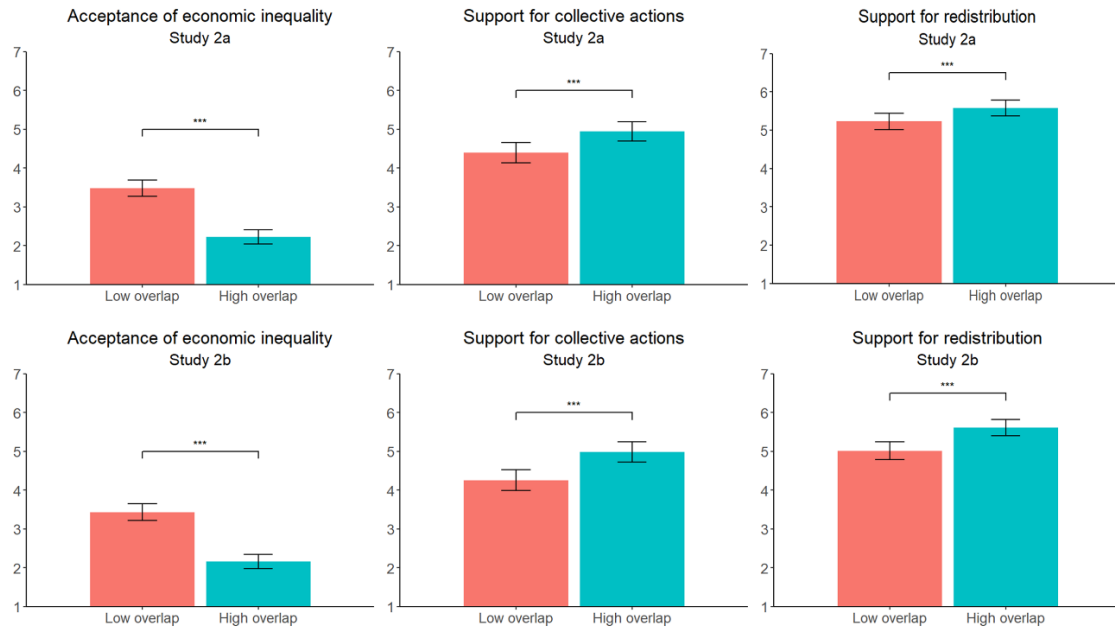
Manipulation checks were sensitive to our experimental manipulations. In Study 2a, in the condition of “high overlap” (vs. “low overlap”), participants perceived greater income inequality overlap with health ( $M_{High} = 5.87$ ,  $M_{Low} = 3.33$ ,  $t(177) = 12.82$ ,  $p < .001$ , *Cohen’s d* = .96). Likewise, in Study 2b, participants exposed to the condition of “high overlap” (vs. “low overlap”) perceived higher income inequality overlap with education ( $M_{High} = 5.85$ ,  $M_{Low} = 3.13$ ,  $t(183) = 16.93$ ,  $p < .001$ , *Cohen’s d* = 1.25).

### *Direct Effects of Perceived Overlap on Acceptance of Economic Inequality and Support for Collective Actions and Redistribution*

In line with H1, participants in the conditions of “high overlap” (vs. “low overlap”) showed lesser acceptance of economic inequality in both studies (Study 2a:  $M_{Low} = 3.48$ ,  $M_{High} = 2.22$ ,  $F(1, 174.77) = 110.22$ ,  $p < .001$ ,  $\eta^2 = .39$ ; Study 2b:  $M_{Low} = 3.43$ ,  $M_{High} = 2.15$ ,  $F(1, 181.09) = 108.55$ ,  $p < .001$ ,  $\eta^2 = .37$ ). Confirming H2, in “high overlap” conditions, there were higher means of support for collective actions (Study 2a:  $M_{Low} = 4.39$ ,  $M_{High} = 4.94$ ,  $F(1, 174.31) = 38.11$ ,  $p < .001$ ,  $\eta^2 = .18$ ; Study 2b:  $M_{Low} = 4.25$ ,  $M_{High} = 4.99$ ,  $F(1, 180.51) = 40.05$ ,  $p < .001$ ,  $\eta^2 = .18$ ). Likewise, as expected (H3) participants in “high overlap” conditions were more likely to support redistribution (Study 2a:  $M_{Low} = 5.23$ ,  $M_{High} = 5.58$ ,  $F(1, 174.65) = 16.66$ ,  $p < .001$ ,  $\eta^2 = .09$ ; Study 2b:  $M_{Low} = 5.01$ ,  $M_{High} = 5.61$ ,  $F(1, 180.22) = 49.28$ ,  $p < .001$ ,  $\eta^2 = .21$ ). See *Figure 2*.

**Figure 2**

*Mean Acceptance of Economic Inequality, Support for Collective Actions, and Support for Redistribution in Studies 2a and 2b*



*Note.* Error bars represent 95% confidence intervals. \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ .

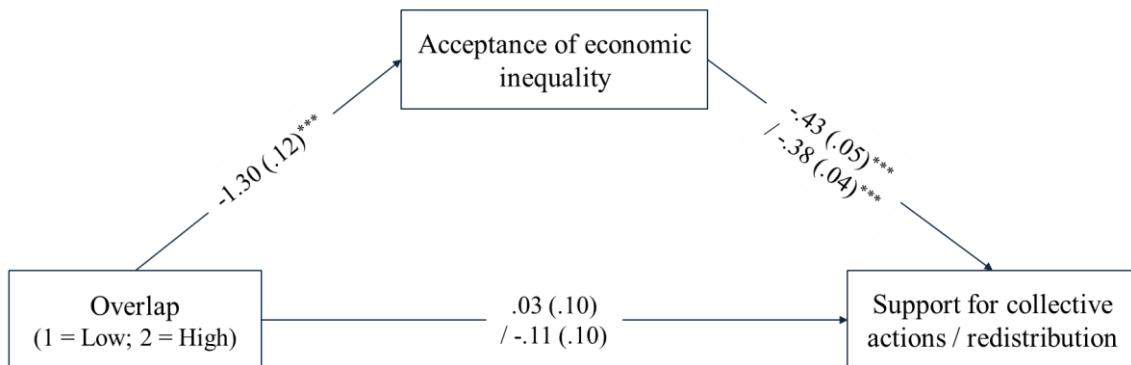
### ***Indirect Effects of Perceived Overlap on Support for Collective Actions and Redistribution through Acceptance of Economic Inequality***

Confirming H4, we found that the “high overlap” conditions (vs. “low overlap”) had an indirect effect on support for collective actions (Study 2a:  $b = .56$ , 95% CI [.41, .74]; Study 2b:  $b = .70$ , 95% CI [.52, .89]) through diminished acceptance of economic inequality. Likewise, as expected (H5), greater perceived overlap was indirectly linked to greater support for redistribution (Study 2a:  $b = .49$ , 95% CI [.34, .64]; Study 2b:  $b = .44$ , 95% CI [.33, .59]) via lesser acceptance of economic inequality. See *Figure 3*. Additionally, see Supplementary Materials for the effect of covariates.

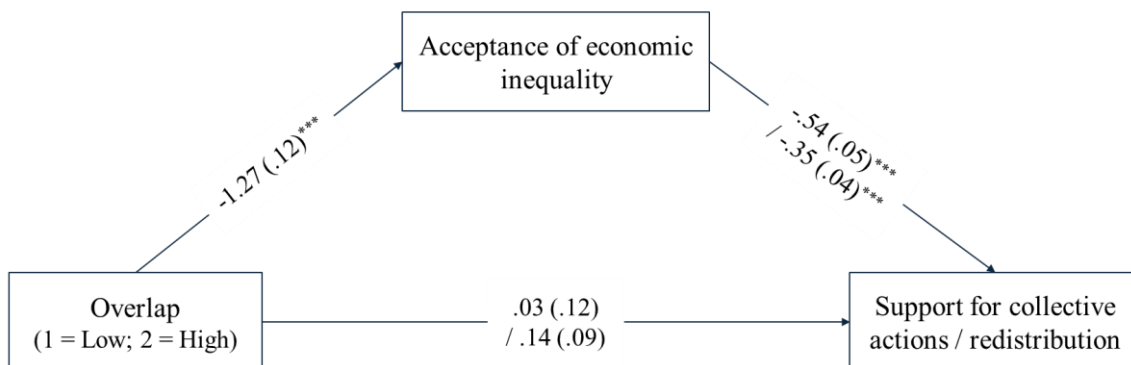
### Figure 3

*Models Depicting the Effect of Perceived Income Inequality Overlap with Health [Study 2a] and Education [Study 2b] on Support for Collective Actions and Redistribution via Acceptance of Economic Inequality*

#### Panel a. Study 2a



#### Panel b. Study 2b



*Note.* Panel a: Study 2a,  $N = 178$ ; Panel b: Study 2b,  $N = 184$ . Reported values are

unstandardized estimates (b). \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ .

When values are separated by a slash, the first value refers to support for collective actions and the second value to support for redistribution.

### Discussion

In Studies 2a and 2b, we replicated and extended the results of the previous study by finding evidence of causality with experimental designs. However, using fictitious societies in our experimental manipulations may introduce certain limitations.

One significant concern is the potential lack of external validity, as these hypothetical

scenarios may not fully capture the complexities of real-world societies. Participants' responses might be influenced by the artificial nature of the vignettes, which may limit the generalizability of the findings to actual societal conditions (Mitchell & Tetlock, 2009; Vlaev, 2012). Nevertheless, the use of fictitious societies also offers important strengths, such as increased experimental control and the ability to isolate specific variables of interest. This method allows us to avoid the problem that public opinion often depends on emotionally charged political values and ideologies, enabling a clearer examination of the causal relationships under study (Mitchell & Tetlock, 2009).

Additionally, although the within-subject design has several advantages (e.g., greater statistical power), it also has some potential disadvantages (Chariness et al., 2012). For instance, as participants learned about two different societies, there might be some potential anchor and comparison effects that could have affected our results. Specifically, in our experiments, participants were exposed to the "low overlap" condition before the "high overlap" condition, which could have biased their responses due to anchoring (Furnham & Boo, 2011). This order effect might have influenced their perceptions and judgments in the second condition, potentially inflating the observed differences between the two conditions. Therefore, although within-subject designs reduce variability and increase the sensitivity of detecting effects, it is important to acknowledge that such designs are not immune to order effects and other biases.

### **Study 3**

To address the limitations of Studies 2a and 2b, we implemented a different experimental paradigm in Study 3. Following a between-subject design, participants were presented with newspaper articles contextualized within the socio-political landscape of Spain. We tested the same hypotheses as in the previous study.

## **Method**

### ***Sample***

Four hundred eighteen people took part in this study. After applying the same exclusion criteria as in the previous studies, the final sample was comprised by  $N = 371$  ( $M_{age} = 24.81$ ,  $SD = 8.83$ ,  $Min_{age} = 18$ ,  $Max_{age} = 70$ ) of whom 67.39% were self-identified women, 31.81% men, and 0.81% “other” (for additional sociodemographic, see Supplementary Materials). A sensitivity analysis conducted using G\*Power 3.1 (Faul et al., 2007) confirmed that the sample size provided adequate statistical power (80%) to detect an effect size of  $f < .14$ ,  $p < .05$ , for ANCOVA analyses with 2 groups and 5 covariates. We followed the same procedure as in the previous studies to obtain the sample.

### ***Design and Procedure***

We employed an experimental between-subjects design and showed participants different bogus newspaper articles to manipulate perceptions of inequality (Velandia-Morales et al., 2022; Willis et al., 2015). Participants were randomly assigned to one of two conditions (“high overlap” vs. “low overlap”). At the beginning of the online survey, they read a newspaper article highlighting that income inequality influences either to a great extent or to a low extent health and education. These texts were similar to the ones presented in the previous studies but applied to the context of Spain (e.g., “*In Spain, despite public healthcare and education systems, individuals with lower incomes have less access to healthcare and education resources compared to those with higher incomes*”; see Supplementary Materials). After reading the article, participants completed the manipulation checks and the dependent variables, and they were debriefed. The survey was conducted on *Qualtrics* platform.



## ***Measures***

Manipulation checks, acceptance of economic inequality ( $r = .71$ ), and support for collective actions ( $\Omega = .88$ ) and redistribution ( $\Omega = .83$ ) were assessed with the same measures as in Studies 2a and 2b.

**Other measures.** For exploratory purposes, after the dependent variables, we will include a question about perceived income inequality, perceived health inequality, perceived education inequality, and the perceived credibility of the journal article. As socio-demographics, we measured age, gender, political ideology, parents' education, income level, and subjective socioeconomic status.

## ***Transparency and Openness***

The hypotheses, sample sizes, data exclusions, measures, and analyses were preregistered. Preregistrations, all study materials, data, and analysis scripts are publicly available at [https://osf.io/z47bt/?view\\_only=a623910975964d8da93b5f80932b2438](https://osf.io/z47bt/?view_only=a623910975964d8da93b5f80932b2438)

All analyses were performed using R (R Core team, 2024).

## ***Analytical Strategy***

First, we performed independent measures analysis of covariance (ANCOVA) analyses with the experimental condition as the independent variable, and acceptance of economic inequality (H1), support for collective actions (H2), and support for redistribution (H3) as the dependent variables. Then, we conducted mediational analyses (H4 & H5) following the same strategy as in the previous studies.

## **Results**

### ***Manipulation Checks***

We found evidence of the effectiveness of our experimental manipulation. In the condition of “high overlap” (vs. “low overlap”), participants perceived greater income inequality overlap with health ( $M_{Low} = 4.27$ ,  $M_{High} = 4.86$ ,  $t(369) = -3.90$ ,  $p < .001$ ,

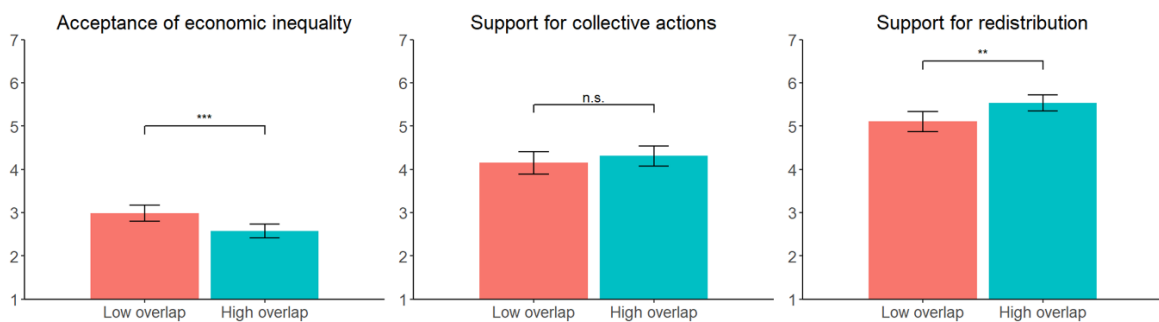
Cohen's  $d = -.41$ ) and education ( $M_{Low} = 4.47$ ,  $M_{High} = 5.15$ ,  $t(369) = -4.20$ ,  $p < .001$ , Cohen's  $d = -.44$ ).

### ***Direct Effects of Perceived Overlap on Acceptance of Economic Inequality and Support for Collective Actions and Redistribution***

As expected (H1 & H3), participants in the conditions of “high overlap” (vs. “low overlap”) showed lesser acceptance of economic inequality ( $M_{Low} = 2.99$ ,  $M_{High} = 2.58$ ,  $F(1, 362) = 13.33$ ,  $p < .001$ ,  $\eta^2 = .04$ ) and greater support for redistribution ( $M_{Low} = 5.10$ ,  $M_{High} = 5.54$ ,  $F(1, 362) = 10.78$ ,  $p = .001$ ,  $\eta^2 = .03$ ). Nevertheless, contrary to our expectations (H2), the effect of the experimental condition was not significant in the case of collective actions ( $M_{Low} = 4.15$ ,  $M_{High} = 4.31$ ,  $F(1, 362) = 1.03$ ,  $p = .31$ ,  $\eta^2 = .00$ ). See *Figure 3*.

**Figure 4**

*Mean Acceptance of Economic Inequality, Support for Collective Actions and Support for Redistribution in Study 3*



*Note.* Error bars represent 95% confidence intervals. \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . n.s. indicates  $p > .05$ .

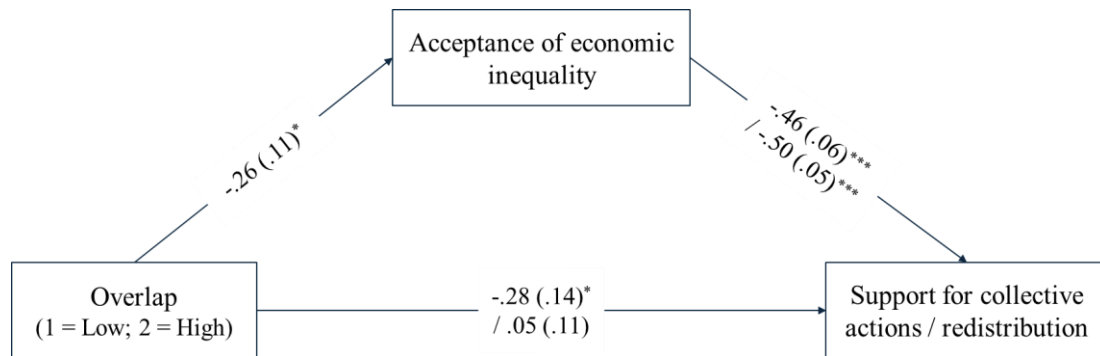
### ***Indirect Effects of Perceived Overlap on Support for Collective Actions and Redistribution through Acceptance of Economic Inequality***

Confirming H4 and H5, we found that greater “high overlap” (vs. “low overlap”) was indirectly linked to greater support for collective actions ( $b = .11$ , 95% CI [.01, .22]) and redistribution ( $b = .13$ , 95% CI [.02, .24]) through diminished acceptance of

economic inequality. See *Figure 5*. Additionally, see Supplementary Materials for the effect of covariates.

**Figure 5**

*Model Depicting the Effect of Perceived Income Inequality Overlap with Health and Education on Support for Collective Actions and Redistribution via Acceptance of Economic Inequality*



*Note.* Study 3;  $N = 371$ . Reported values are unstandardized estimates (b). \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . When values are separated by a slash, the first value refers to support for collective actions and the second value to support for redistribution.

**Discussion**

In Study 3, we provided more evidence supporting previous findings and overcoming some limitations of previous studies. Furthermore, by presenting participants with newspaper articles reflecting the socio-political landscape of Spain, we created a more ecologically valid setting for investigating the relationship between perceived income inequality overlap with health and education, and socio-political attitudes. In this case, we did not find a significant direct effect of the experimental condition on support for collective actions, but the indirect effect through diminished acceptance of economic inequality remained significant.

The null finding may reflect the complexities of real-world contexts, where individuals often hold emotionally charged political values and ideologies (Mitchell &

Tetlock, 2009). For instance, political ideology had a significant influence on support for collective actions and the other dependent variables in all studies (See *Table 1* and *Supplementary Materials*). Moreover, research has shown that people tend to overestimate their likelihood of engaging in cooperative behaviors in hypothetical scenarios compared to real-life situations where such actions may entail tangible costs (Vlaev, 2012). However, as shown in Study 1 and Studies 2a and 2b, there is evidence of this relationship, and even in the current study, the connection remains significant through the mediating variable of acceptance of inequality. Therefore, the absence of a direct effect in this study might indicate that the decision to engage in collective action is a multifaceted process influenced by a range of contextual and individual factors, with our experimental manipulation accounting for only a small proportion of the variance.

### **General Discussion**

Although income inequality is often justified, it might be different when this inequality overlaps with other important spheres of people's lives, such as health or education. Across four studies, using different methodological approaches and experimental paradigms, we found significant and consistent empirical evidence showing that greater perceived income inequality overlap with health and education could lead to diminished acceptance of economic inequality and increased support for redistribution and collective actions.

Our results resonate with previous research showing that the greater perceived economic inequality, the lesser acceptance of economic inequality, and the greater support for redistribution (García-Castro et al., 2020; García-Castro, González, et al., 2022) and collective actions (Jetten et al., 2021; Jo & Choi, 2019). We contribute to this body of research by focusing on the perceived income inequality overlap with health

and education, rather than only on the perceived extent of income disparities. This multidimensional approach is consistent with that of other researchers (García-Castro et al., 2021; García-Sánchez et al., 2018) and organizations (e.g., London School of Economics and Political Science, 2024) to better understand and address the effects of inequality.

These findings have some theoretical and practical implications. We built upon Walzer's theory of "complex equality" (1983) by showing that greater perceived income inequality overlap with health and education could actually lead to lesser acceptance of economic inequality, and also to greater actions to restore equality. The practical significance is also considerable: Media and political campaigns could focus on showing the overlap between income inequality and health or education, as a way of fostering support for actions to reduce economic inequality.

Furthermore, our research presents some limitations. For instance, since our sample was mainly recruited through the university's mailing list, it may overrepresent young and university affiliated people (e.g., students, staff). Relatedly, although we controlled for this covariate, political ideology in our sample was skewed to the left (the mean was around 3 on a scale of 1 *Left* – 7 *Right*; See Supplementary Materials). Moreover, our studies were based in Spain, where there is a specific system of public healthcare and education. In other contexts, like in the United States, this result could be different as people might relate the extreme health and education inequalities due to income and place of residence. Future studies could maximize the generalizability of these findings by exploring this issue with broader samples and other contexts.

Furthermore, we highlight the role of acceptance of economic inequality in connecting perceived income inequality overlap and support for actions to reduce it. However, there might be more psychological mechanisms explaining this effect. For

instance, some recent research (Igliozzi et al., 2024) indicates that while merit plays an important role on attitudes towards the distribution of income (e.g., those who make more effort should get a higher salary), we might prefer to distribute healthcare and education in the basis of need or equality (e.g., those who need more should get more of these resources or everyone should get the same, respectively). Future research could further explore these differences in distributive values.

Relatedly, it is important to recognize the limitations of the cross-sectional mediation analyses employed in Studies 2 and 3, as these do not provide strong evidence for causal mediation and can lead to biased estimates (Maxwell & Cole, 2007; Fiedler et al., 2011). Additionally, we did not attempt to manipulate acceptance of inequality, due to the significant challenges involved in manipulating this construct and because our primary focus was on the perceived influence of income inequality on health and education disparities. Nevertheless, previous longitudinal evidence suggests that perceived inequality can lead to decreased tolerance toward it, which in turn may increase support for actions to reduce inequality (García-Castro, González et al., 2022). Therefore, while our findings suggest a plausible causal pathway, more rigorous methodologies, such as longitudinal or experimental studies, are needed to confirm and extend these results.

Lastly, while there is a considerable ideological divide around the acceptance of income inequality (García-Sánchez et al., 2019, 2021; Hoyt et al., 2018), framing economic inequality through its overlap with health and education may find less resistance among the public (Howarth et al., 2019; Macchia & Ariely, 2021; Soler-Martínez et al., 2023). Nevertheless, we did not directly test in our research whether this message is less subject to ideological divides than other messages exclusively focused on income disparities. Forthcoming studies could further investigate whether showing

income inequality overlap with health and education is actually a more effective strategy to overcome the ideological barriers.

### **Conclusion**

The main message of this research is that showing income inequality overlap with health and education could help to diminish acceptance of economic inequality and foster support for actions to reduce it (e.g., collective actions or redistributive policies). From another perspective, our research also shows that thinking that public healthcare and education solve this overlap could lead to greater acceptance of economic inequality. Nevertheless, although public healthcare and education are good tools to provide access to these resources, people often need real opportunities to use them. For instance, a person may have access to free healthcare services, but without transportation to the medical facility or the financial means to afford prescribed medications, they may still struggle to effectively utilize this resource. Reducing overall economic inequality is needed to address these challenges. Our research could inform how media and political campaigns frame economic inequality with this goal.





## Chapter 6

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*Ideology Divides, Yet Not Always: Agreement on the  
Unacceptance of Economic Inequalities in Health  
and Education*



**Ideology Divides, Yet Not Always: Agreement on the Unacceptance of Economic  
Inequalities in Health and Education**

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### Abstract

In times of rising economic inequality and increasing ideological polarization, finding points of agreement to address these issues is challenging. This study aimed to explore general agreement on the (un)acceptance of different economic-based disparities (in health, education, and income). Moreover, we analyzed ideological consensus on these issues. We ran two field studies ( $N_1 = 258$ ;  $N_2 = 281$ ) during Spanish elections in 2023 and 2024. We found that people generally accepted less inequality in health and education (Studies 1 and 2) and supported more redistributive actions (Study 2) to address these disparities compared to income inequality. Moreover, we observed smaller differences across political ideology regarding the unacceptance of health disparities (Study 1) and support for redistributive actions to address health and education (Study 2) compared to income disparities. Likewise, there were less differences between people endorsing high and low meritocratic beliefs on their support for redistributive actions to reduce education disparities (vs. income). Our results highlight economic-based disparities in health and education as potential areas for bipartisan policy consensus to combat inequality effectively.

**Keywords:** Political ideology; acceptance of economic inequality; health inequality; education inequality; meritocracy.

## Introduction

In recent decades, the world has witnessed a troubling increase in inequality between the haves and the have-nots (Alvaredo et al., 2017; OECD, 2015). The salary gap between the highest and lowest earners continues to widen, while economic-based disparities in life expectancy and educational attainment also increase (Chmielewski, 2019; OECD, 2015, 2019b). At the same time, we also live in more polarized societies (Garzia et al., 2023). Such polarization exacerbates the divide, making it challenging to find common ground and implement policies that address these critical issues.

Ideology often serves as a justification for economic inequality, with different ideological perspectives providing distinct rationales for the acceptance or rejection of disparities (Azevedo et al., 2019; García-Sánchez et al., 2019; Rodríguez-Bailon et al., 2017). Right-wing individuals and parties, for instance, are generally more accepting of salary differences, while their left-wing counterparts advocate for more equitable income distribution (Jost, Glaser, et al., 2003; Lindqvist, 2024). However, while some aspects of economic inequality, such as income differences, are easily justified on ideological basis (García-Sánchez et al., 2019; Rodríguez-Bailon et al., 2017), other forms, like disparities between the rich and the poor in access to healthcare and education, might be less easily tolerated by most of the people (Macchia & Ariely, 2021; Soler-Martínez et al., 2023) and perhaps less dependent on ideology.

In this research, we aim to explore the potential general agreement about the (un)acceptance of various aspects of economic inequality, focusing on health and education, compared to income disparities. Moreover, we examine whether the ideological on acceptance of economic inequality could be smaller in the domains of health and education, compared to income. By examining different public perceptions

and messages about the unfairness of economic inequality, we seek to identify a common ground that can facilitate the development of policies to reduce it.

### **Acceptance of Income, Health and Education Inequalities**

Justice distributive framework posits that the unfairness or unacceptability of a distribution is contingent on the specific resource being distributed (Jasso et al., 2016; Walzer, 1983). Recent research underscores this differential acceptance of inequality of different resources. For instance, studies by Macchia and Ariely (2021) and Soler-Martínez et al. (2023) indicate that disparities in access to health and educational opportunities are less accepted than income or wealth disparities. Relatedly, while there is often a lack of robust support for policies targeting income or wealth disparities (Son Hing et al., 2019), policies promoting universal healthcare or equitable educational opportunities, frequently garner wide support (Lee & Stacey, 2024; Missinne et al., 2013). This evidence suggests a more general agreement on the unacceptance of economic-based disparities in health and education compared to income alone.

### **Political Ideology and Acceptance of Income Inequality**

Beyond the resources being distributed, system-justifying ideologies significantly influence the unacceptance of economic inequality (García-Sánchez et al., 2019; Goudarzi et al., 2020). System justification theory posits that individuals are motivated to defend and rationalize the status quo, often to maintain a sense of order and predictability (Jost, 2019; Jost & van der Toorn, 2012). Political ideology, particularly right-wing ideology or conservatism can function as a system-justifying belief system (Jost, Glaser, et al., 2003). Evidence shows that right-wing individuals are more accepting of income inequality than their left-wing counterparts (Jost, Glaser, et al., 2003; Lindqvist, 2024). Therefore, conservatives are less likely to engage in collective actions

or support policies aimed to reduce economic inequality (Armingeon & Weisstanner, 2022; Hoyt et al., 2018).

Ideologies legitimizing economic inequality are often rooted in the belief that income disparities reflect differences in merit and effort (García-Sánchez et al., 2019; Shepelak, 1989). Right-wing ideology also emphasizes meritocracy and the equality of opportunities, suggesting that those who work harder and demonstrate greater ability deserve higher salaries (Evans, 1997). Nevertheless, when these beliefs are challenged, right-wing individuals could also take actions to restore what they believe is a fair system. In this regard, Hoyt et al. (2019) found that conservatives only engaged in activism against income inequality when they were confronted with information highlighting inequality of opportunities, which challenged their belief in a fair system.

### **Political Ideology and Acceptance of Health and Education Disparities**

Although acceptance of economic-based disparities in health and education could also be subject to political ideology (Herwartz & Theilen, 2013; Lee & Stacey, 2024), we argue that this ideological gap could be narrower for health and education than for income. Several arguments can explain why this might be the case. First, whereas income distribution is often linked to merit (García-Sánchez et al., 2019; Mijs, 2021), health and education are regarded as fundamental rights (Ruger, 2006; United Nations, 1948, art. 25 and 26). These resources are perceived as essential for individual well-being and societal development (Bonati et al., 2021; Edlund & Lindh, 2021; OECD, 2019b), making justice principles of equality and need more critical for their distribution than merit (Gibbs et al., 2019; Igliazzi et al., 2024).

Another crucial argument is that health and education are foundational to achieving equality of opportunities (Alesina et al., 2018; OECD, 2019a, 2020). This might resonate particularly with right-wing voters, who highly value the principle of

equality of opportunity that underpins their belief in a meritocratic system (Castillo et al., 2019; Evans, 1997). Empirical evidence supports these arguments. Hoyt et al. (2019) found that when participants were provided with information about income disparities, there was a significant ideological divide in collective actions between conservatives and liberals. However, this gap narrowed when participants learned about inequalities in opportunities. Similarly, Jensen et al. (2017) found that perceptions of welfare recipients were highly influenced by ideology, with left-wingers viewing the unemployed as unlucky victims and right-wingers seeing them as lazy. However, when it came to sickness, no discernible effect of ideology was observed, indicating a more unified view on health disparities.

### **The Present Research**

The present research aimed to study the agreement on the unacceptance of inequality in health, education, and income. First, we explored the general agreement on these disparities, hypothesizing that people would agree more on the unacceptability of health and education disparities than those of income. Second, we investigated the gap between different political ideologies, expecting a significant gap between right and left-wingers regarding income disparities, but smaller differences by political ideology on the unacceptance of economic-based health and education disparities.

We conducted two preregistered field studies. The studies were carried out on national and European elections' days in Spain, at voting precincts, as they provided a context particularly relevant and salient for the study of political ideology. The electoral context offered a unique opportunity to examine how political ideology influences attitudes towards inequality, as political discourse and ideological identification were specially heightened. Data, code, materials, and preregistrations can be found in the following link: [https://osf.io/8rh45/?view\\_only=cb0a6b5861e848329c07782600ec972b](https://osf.io/8rh45/?view_only=cb0a6b5861e848329c07782600ec972b)



Importantly, this research addresses both practical and academic needs. On the practical side, reducing polarization is fundamental for well-functioning democracies. In a context of increasing polarization and inequality, finding points of agreement is crucial for developing effective policies to reduce social disparities. On the theoretical side, despite the substantial body of literature on economic inequality, to our knowledge no previous studies have explored the ideological divide on economic-based health and education disparities across the political spectrum. Our research fills this gap, providing insights that can help bridge ideological divides and foster more inclusive policy discussions.

### Study 1

First, we ran a study on July 23<sup>rd</sup>, 2023, during the national elections' day in Spain, at voting precincts. For this study, we hypothesized that people would accept less inequality in health (H1a) and education (H1b) compared to income. Moreover, we expected that political ideology would have a lesser effect on acceptance of health (H2a) and education (H2b) disparities than on acceptance of income inequality. These hypotheses were preregistered ([https://osf.io/ryn64/?view\\_only=e05441a2950041b69788af58a3a97a34](https://osf.io/ryn64/?view_only=e05441a2950041b69788af58a3a97a34)).

### Method

#### *Participants*

Two hundred and ninety-two people participated in this study. Data were excluded from the analysis if participants were younger than 18 years old or did not identify as Spanish. After applying these criteria, final sample was composed of 258 participants ( $M_{age} = 41.67$ ,  $SD = 16.49$ ,  $Min_{age} = 18$ ,  $Max_{age} = 81$ ), comprising 57.75% self-identified women, 41.86% men, and 0.39% identifying as "other" (see Supplementary Materials for additional sociodemographic details). A sensitivity analysis with G\*Power 3.1 (Faul et

al., 2007) indicated that with 258 participants, 2 groups and 2 measurements correlated at .5, we could detect a minimum effect size of  $f = .088$  with 80% of power for ANOVA: repeated measures, within-between interaction.

### **Procedure**

Participants were handed a paper questionnaire just after they voted, along with an explanation of the informed consent and a brief introduction to the study about political attitudes. The questionnaire had an estimated duration of two minutes.

### **Measures**

**Political ideology.** Political ideology was measured by two different forms. First, we asked about the political party voted. Participants could choose among different options: SUMAR, PSOE, PP, VOX, or Other. SUMAR and PSOE were coded as left-wing parties (1), while PP and VOX were coded as right-wing parties (2; PolitPro, 2024). Second, political ideology was also assessed through a single-item measure ("In politics, people normally speak of 'left' and 'right'. On a scale where 1 means left and 7 means right, where would you place yourself?"). Higher scores indicated more inclination to the right political ideology.

**Acceptance of income inequality.** It was measured by the item: "How much difference would you consider acceptable in income (e.g., salaries) between the rich and the poor in Spain?" (1 *Any difference* – 7 *Many differences*).

**Acceptance of health inequality.** It was assessed by the item: "How much difference would you consider acceptable in health (e.g., life expectancy, diseases) between the rich and the poor in Spain?" (1 *Any difference* – 7 *Many differences*).

**Acceptance of education inequality.** It was measured by the item: "How much difference would you consider acceptable in education (e.g., years of education, school dropout) between the rich and the poor in Spain?" (1 *Any difference* – 7 *Many differences*).

### *Analytical Strategy*

To test H1, we conducted repeated measures ANOVAs to probe the differences in acceptance of income inequality and acceptance of inequality in health/education. Regarding H2, we conducted mixed ANOVAs 2x2 to test the interaction between political ideology (comparing different parties or left-right orientation) and acceptance of inequality in different domains (income vs. health/education).

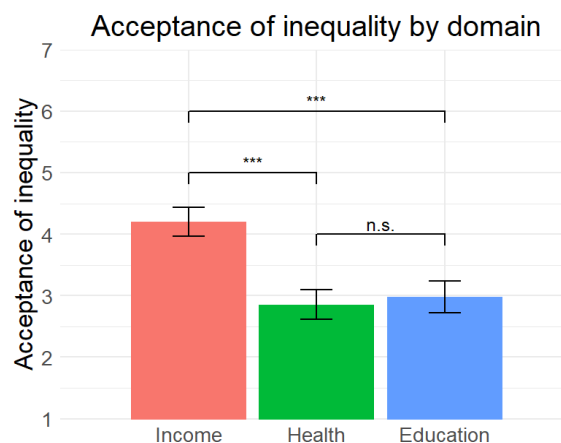
## **Results**

### *Acceptance of Income, Health, and Education Inequalities*

The repeated measures ANOVAs revealed significant differences in the acceptance of inequality across health, education, and income (Health:  $M_{\text{marginal}} = 2.86$ ,  $SE = .13$ ; Education:  $M_{\text{marginal}} = 2.98$ ,  $SE = .13$ ; Income:  $M_{\text{marginal}} = 4.20$ ,  $SE = .13$ ;  $F[2,581.27] = 98.28$ ,  $p < .001$ ,  $f = .58$ ). Participants showed a markedly higher acceptance of inequality in income compared to health ( $d = 1.35$ ,  $SE = .11$ ,  $t(581) = 12.67$ ,  $p < .001$ ) or education ( $d = 1.23$ ,  $SE = .11$ ,  $t(581) = 11.52$ ,  $p < .001$ ), confirming our hypothesis (H1). Moreover, acceptance of health and education inequalities did not significantly differ ( $d = -0.12$ ,  $SE = .11$ ,  $t(581) = -1.14$ ,  $p = .491$ ). See *Figure 1*.

### **Figure 1**

*Mean Acceptance of Inequality by Domain in Study 1*



*Note.* Error bars represent 95% confidence intervals. \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . n.s. indicates  $p > .05$ .

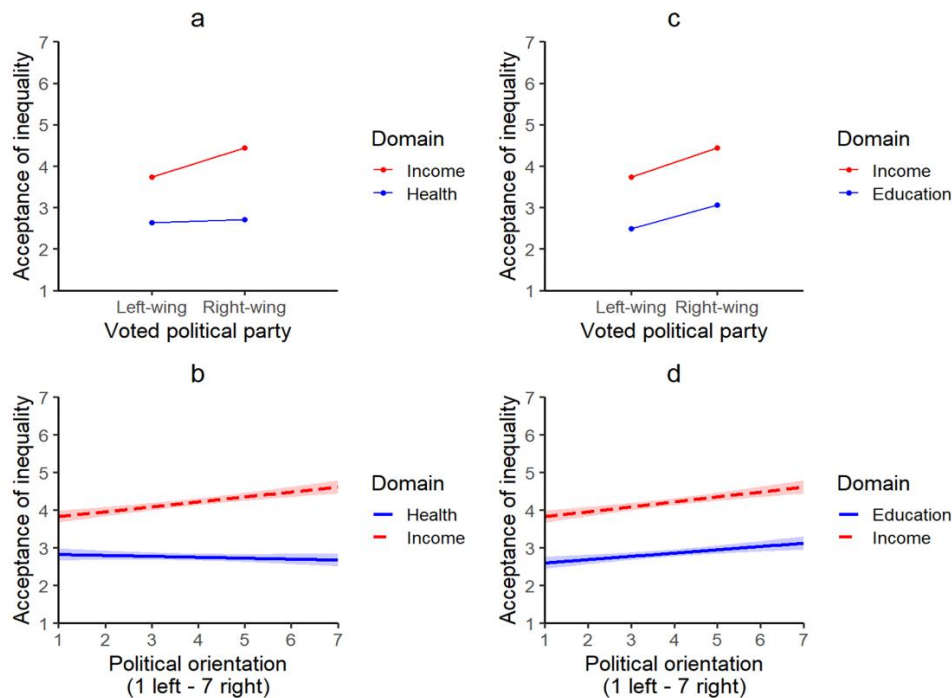
***Interaction Effect of Political Ideology and Inequality Domain on Acceptance of Inequality***

Confirming H2a, the mixed ANOVA results for the interaction between political ideology and the domain of inequality (health vs. income) revealed significant interaction effects ( $F[1,221] = 6.14, p = .014, f = .17$ ; see *Figure 2 Panel a*). Specifically, the ideological gap between right-wing individuals (PP and VOX voters) and left-wing individuals (SUMAR and PSOE voters) in the acceptance of health inequality was narrower than in the acceptance of income inequality. In other words, voting for a right wing party had a greater effect on the acceptance of income inequality ( $b = .70, p = .013$ ) than on the acceptance of health inequality ( $b = .07, p = .791$ ). Likewise, the analysis using the left-right self-placement scale confirmed these findings ( $F[1,244] = 6.56, p = .011, f = .16$ ; see *Figure 2 Panel b*). Right-wing orientation had a stronger role on the acceptance of income inequality ( $b = .13, p = .054$ ) than on the acceptance of health inequality ( $b = -.02, p = .719$ ). Put differently, political ideology only mattered when participants were thinking about income inequality; when they were thinking about health inequality there were no significant differences between people of different political orientations.

Regarding H2b, we did not find evidence for smaller differences across ideology on acceptance of education inequality compared to income inequality (see *Figure 2 Panels c and d*). There was no effect of interaction between the domain of inequality (education or income) and voted party ( $F[1,220.71] = 0.25, p = .616, f = .03$ ) or political orientation ( $F[1,243.48] = 0.49, p = .483, f = .05$ ). In other words, neither voting for a right-wing party nor right-wing orientation had a different effect on acceptance of inequality depending on the domain (education or income).

**Figure 2**

*Effects of Interaction Between Political Ideology and Domain of Inequality on Acceptance of Inequality*



*Note.* Panels a and c show political ideology measured as voted political party (left-wing party vs. right-wing party). Panel b and d shows political ideology assessed as political orientation.

## Discussion

In Study 1, we found evidence suggesting that there is greater consensus on the unacceptability of health and education disparities compared to income differences. As expected (H1), participants generally accepted less inequality in health and education than in income. Additionally, we found partial support for H2 regarding the ideological gap. In general, right wing voters and ideologically oriented to the right (vs. left) accepted more inequality, but this gap was smaller in the acceptance of health disparities compared to income disparities. This indicates that regardless of political affiliation or orientation, there is a more unified stance against health inequalities. However, this interaction effect

between political ideology and the domain of inequality was not observed when comparing education versus income disparities.

We believe this null interaction effect might be due to the participants' interpretation of the question regarding education disparities: "How much difference would you consider acceptable in education (e.g., years of education, school dropout) between the rich and the poor in Spain?". Some participants might have interpreted it as whether it is acceptable that more educated individuals earn more money, linking education to economic outcomes, while our intended focus was the opposite—that socioeconomic background does influence educational attainment.

To address this inconsistency, in Study 2, we reframed the question to emphasize access to educational resources rather than outcomes, explicitly highlighting that these disparities are due to socioeconomic background. Furthermore, to deepen our understanding, Study 2 also measured support for redistributive actions aimed at reducing these disparities. By examining support for specific policies, we aimed to capture not just the unacceptance of inequality but also the willingness to endorse practical measures to address it. Additionally, we incorporated a measure of meritocratic ideology, together with political ideology, to explore its role in the acceptance of disparities.

## **Study 2**

We conducted Study 2 on June 9th, 2024, coinciding with the European elections, at voting precincts. The study aimed to further investigate the consensus on the unacceptance of economic-based disparities in health, education, and income, while also examining support for redistributive actions to address these disparities.

Furthermore, we included a measure of meritocratic ideology to complement our exploration of political ideology and its influence on attitudes toward economic inequality. While political ideology encompasses a broader spectrum of beliefs and values

related to governance and social organization, meritocratic ideology focuses on the belief that people are/should be rewarded based on merit (Castillo, 2019; Son Hing et al., 2011). By including this measure, we aimed to investigate whether beliefs in meritocracy would similarly affect the acceptance of economic disparities and support for redistributive actions, and whether this effect would differ from political ideology. This addition allowed us to gain a more nuanced understanding of how different ideological frameworks shape acceptance of inequality and support for policies aimed at reducing it.

We expected that income inequality would be more accepted than health inequality (H1a) and education inequality (H1b). Additionally, we anticipated greater support for redistributive actions to reduce health inequality (H1c) and education inequality (H1d) compared to income inequality. We also hypothesized an interaction effect between political ideology and the domain of inequality. Specifically, we expected that there would be smaller differences across political ideology on the acceptance of health (H2a) and education inequalities (H2b) and support for redistributive actions to reduce health (H2c) and education (H2d) disparities, compared to ideological differences regarding income inequality. Similarly, we also hypothesized an interaction effect between meritocratic ideology and the domain of inequality. We expected that meritocratic ideology would have a lesser effect on the acceptance of health (H3a) and education inequalities (H3b) and support for redistributive actions to reduce health (H3c) and education (H3d) disparities (vs. income inequality) (H3b). These hypotheses were preregistered ([https://osf.io/rvjbd/?view\\_only=0273bc90de824312816f56d531d596e4](https://osf.io/rvjbd/?view_only=0273bc90de824312816f56d531d596e4)).

## **Method**

### ***Participants***

Three hundred and three participants took part in this study. We followed the same exclusion criteria as in Study 1. The final sample was composed of 281 participants ( $M_{age}$

= 42.53,  $SD = 14.51$ ,  $Min_{age} = 18$ ,  $Max_{age} = 80$ ), of whom 48.40% self-identified as women, 48.75% as men, and 2.85% as "other" (see Supplementary Materials for additional sociodemographic details). A sensitivity analysis with G\*Power 3.1 (Faul et al., 2007) indicated that with 281 participants, 2 groups and 2 measurements correlated at .5, we could detect a minimum effect size of  $f = .084$  with 80% of power for ANOVA: repeated measures, within-between interaction.

### ***Procedure***

We followed the same procedure of Study 1, but this time, instead of a paper questionnaire, participants were provided with a tablet with access to the online questionnaire on Qualtrics platform just after they voted. The questionnaire had an estimated duration of four minutes. In the questionnaire, we asked participants to imagine that in the coming months, the European Parliament is debating some important issues related to health, education, or income. Then, we presented participants with some excerpts that could be said on these issues: "It is very unfair that a poor person [can access much worse healthcare/ can access much worse education/ have much worse salary] than a rich person". After each quote, participants responded to the dependent variables. See Supplementary Materials for more details.

### ***Measures***

**Political Ideology.** As in the previous study, we measured voted political party and political orientation. In this study, we included PODEMOS among the possible options, as in the previous elections this party was together with SUMAR but this time they were separated.

**Meritocratic Ideology.** We used two items adapted from Castillo et al. (2019): "People usually get what they deserve." and "In general, people are rewarded for their efforts." (1. Completely disagree - 7. Completely agree;  $r = .64$ ).



**Acceptance of Health, Education, and Income Inequality.** After reading the quotes about the unfairness of inequality in each domain, participants were asked "To what extent do you agree with this message?" (1 *Completely disagree* - 7 *Completely agree*). Scores were recoded to indicate higher acceptance with higher punctuations.

**Support for Redistributive Actions to Reduce Health, Education, and Income Disparities.** We used the question: "To what extent would you agree to implement redistributive measures to reduce these differences between the rich and the poor?" (1 *Completely disagree* - 7 *Completely agree*).

### ***Analytical Strategy***

To test H1, we conducted repeated measures ANOVAs to probe the differences in acceptance of inequality in the different domains as well as support for redistributive actions. Regarding H2, we conducted mixed ANOVAs 2x2 to test the interaction between political ideology (voted party and left-right orientation) and domains of inequality (income vs. health/education) on acceptance of inequality and support for redistributive actions. Similarly, we ran mixed ANOVAs 2x2 to explore the interaction effects of meritocratic ideology and domains of inequality (income vs. health/education) acceptance of inequality and support for redistributive actions.

## **Results**

### ***Means, Standard Deviations, and Correlations***

In *Table 1*, means, standard deviations and correlations among all measures of interest are shown.

**Table 1***Means, Standard Deviations, and Correlations in Study 2*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Political ideology	4.13	2.15							
2. Meritocracy	3.72	1.60	.21***						
3. Acc. health	2.93	2.33	.31***	-.02					
4. Red. health	5.21	1.95	-.37***	-.05	-.50***				
5. Acc. education	2.98	2.33	.30***	-.08	.52***	-.41***			
6. Red. education	5.25	1.93	-.39***	.04	-.46***	.67***	-.46***		
7. Acc. income	3.82	2.21	.38***	-.01	.45***	-.52***	.39***	-.40***	
8. Red. income	4.83	2.03	-.48***	-.08	-.46***	.64***	-.39***	.67***	-.54***

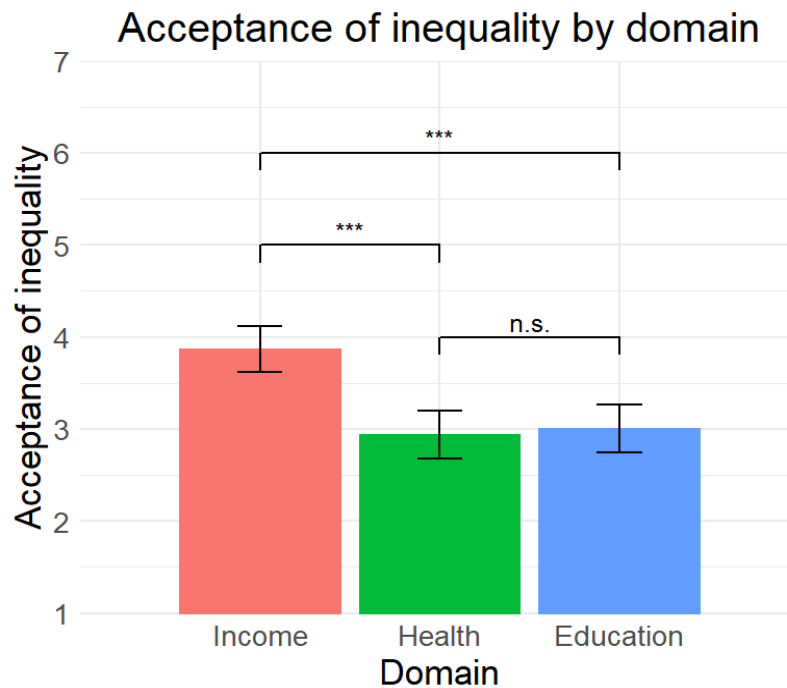
*Note.* *M* and *SD* are used to represent mean and standard deviation, respectively. Acc. is an abbreviation of ‘Acceptance of inequality in’, and Red. is an abbreviation of ‘Support for redistributive actions to reduce disparities in’. \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$

### ***Acceptance of Inequality and Support for Redistributive Actions in Different Domains***

In line with our hypotheses (H1a, H1b), there were significant differences in the acceptance of inequality across health, education, and income ( $F[2,554.43] = 24.90, p < .001, f = .30$ ). Participants showed higher acceptance of income inequality compared to health ( $d = .89, SE = .14, t(557) = 6.26, p < .001$ ) or education ( $d = .85, SE = .14, t(556) = 5.96, p < .001$ ), while acceptance of health and education inequalities did not significantly differ ( $d = -0.04, SE = .14, t(557) = -0.31, p = .949$ ). In other words, there was more general agreement with the messages about the unfairness of health and education inequality than with the message about the unfairness of income disparities. See *Figure 3*.

**Figure 3**

Mean Acceptance of Inequality by Domain in Study 2

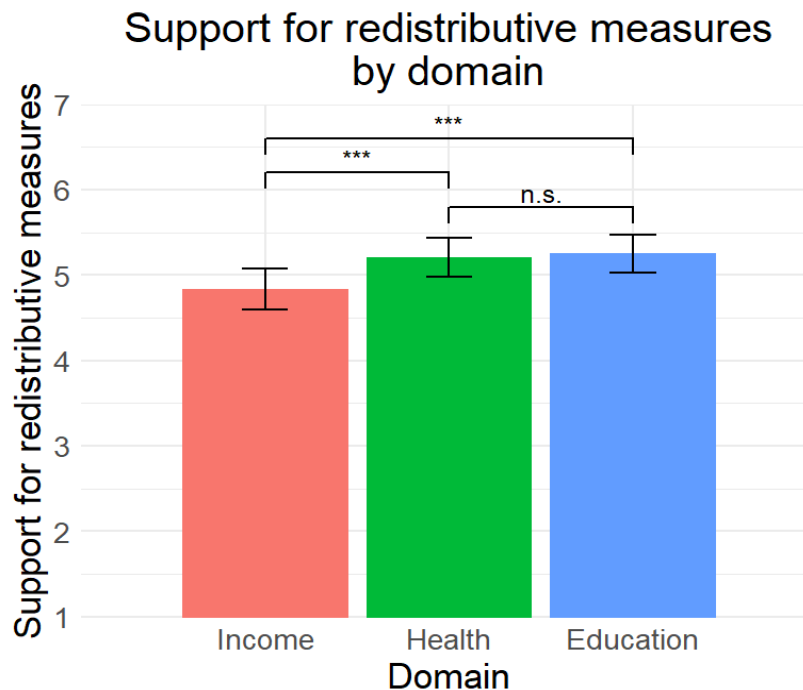


Note. Error bars represent 95% confidence intervals. \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . n.s. indicates  $p > .05$ .

Moreover, not only people accepted less inequality in health and education compared to income, but they were also more supportive of redistributive actions to reduce these disparities ( $F[2,557.91] = 11.21, p < .001, f = .20$ ). That is, confirming our hypotheses (H1c, H1d), support for redistributive measures was higher for the messages about health ( $d = -.38, SE = .10, t(558) = -3.90, p < .001$ ) and education inequalities ( $d = -.42, SE = .10, t(558) = -4.27, p < .001$ ), than for the message about income disparities. Moreover, there was no difference in support for redistributive actions between health and education domains ( $d = -.04, SE = .10, t(558) = -0.37, p = .928$ ). See Figure 4.

**Figure 4**

*Support for Redistributive Measures by Domain in Study 2*



*Note.* Error bars represent 95% confidence intervals. \* indicates  $p < .05$ . \*\* indicates  $p < .01$ . \*\*\* indicates  $p < .001$ . n.s. indicates  $p > .05$ .

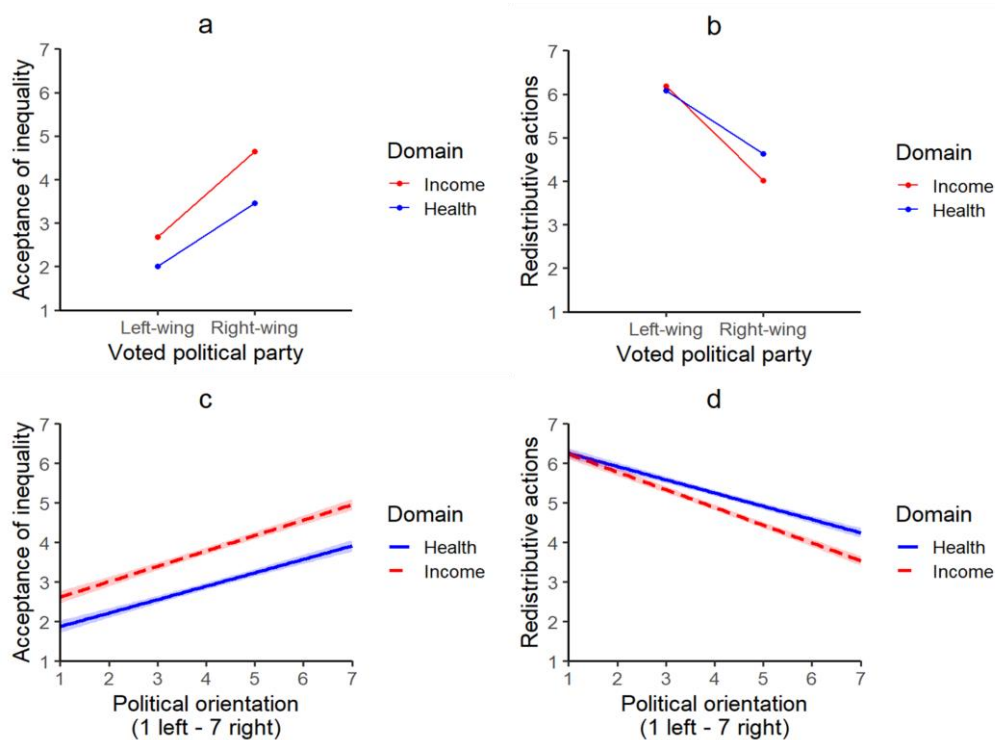
### ***Interaction Effect of Political Ideology and Inequality Domain on Acceptance of Inequality and Support for Redistributive Actions***

We found partial support for H2. First, when comparing health with income domains, we did not observe a significant interaction between political party voted and domain of inequality on acceptance of inequality ( $F[1,234.36] = 2.87, p = .092, f = .11$ ; *Figure 5 Panel a*), but we did find the effect of interaction on support for redistributive actions ( $F[1,234.90] = 10.64, p = .001, f = .21$ ; *Figure 5 Panel b*). That is, voting a right-wing party (vs. left) had a weaker negative effect on support for redistributive actions in the health domain ( $b = -1.46, p < .001$ ) compared to the income domain ( $b = -2.17, p < .001$ ). Likewise, the domain of inequality (health vs. income) did not moderate the effect of political orientation on acceptance of inequality ( $F[1,276.68] = 0.55, p = .458, f = .04$ ;

Figure 5 Panel c), but it did moderate the effect on support for redistributive actions ( $F[1,277.52] = 5.96, p = .015, f = .15$ ; Figure 5 Panel d). Specifically, there was less ideological gap in support for redistributive measures to reduce disparities in health ( $b = -.34, p < .001$ ) compared to income ( $b = -.45, p < .001$ ). See Figure 5.

**Figure 5**

*Interaction Effects Between Political Ideology and Domain of Inequality (Health vs. Income) on Acceptance of Inequality and Redistributive Actions*



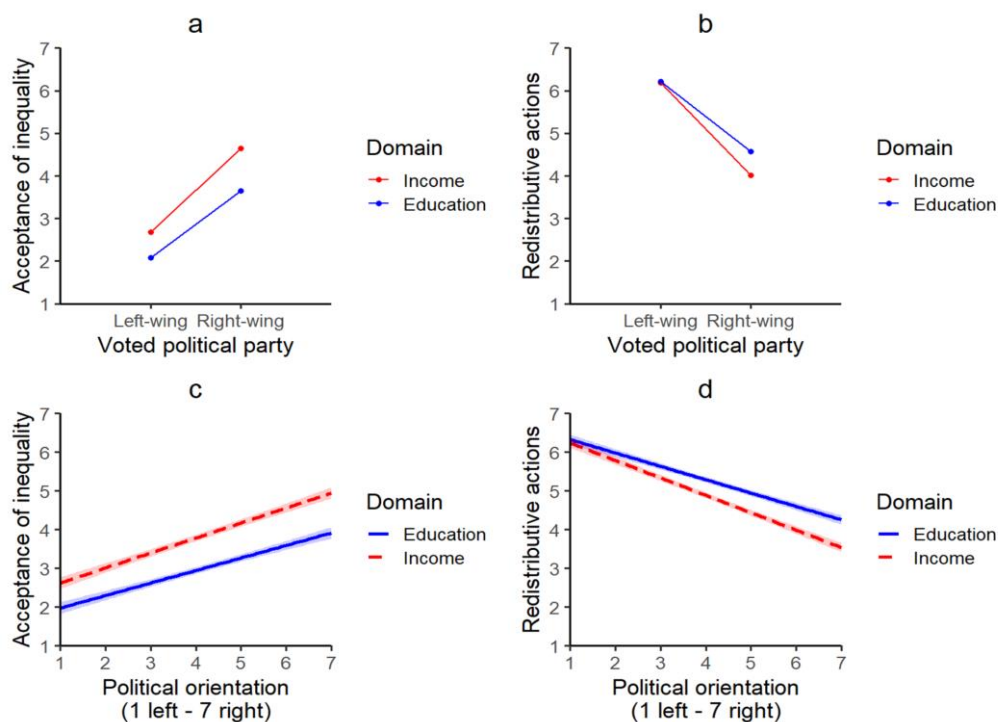
*Note.* Panels a and b show political ideology measured as voted political party (left-wing party vs. right-wing party). Panels c and d show political ideology assessed as political orientation.

Second, we also found some support for the hypotheses regarding the moderating role of education (vs. income). Although, again, we did not observe a significant interaction effect between political party voted and domain of inequality on acceptance of inequality ( $F[1,235.39] = 1.44, p = .23, f = .08$ ; Figure 6 Panel a), we found the effect of interaction on support for redistributive actions ( $F[1,235.61] = 7.00, p = .008, f = .17$ ; Figure 6 Panel b). Specifically, there were less differences between right-wing voters and

left-wing voters in support for redistribution for the health domain ( $b = -1.64, p < .001$ ) than for the income domain ( $b = -2.17, p < .001$ ). Similarly, we did not observe a moderation of the effect of political orientation on acceptance of inequality depending on the domain (education vs. income;  $F[1,276.68] = 0.55, p = .458, f = .04$ ; *Figure 6 Panel c*), but the moderation effect on support for redistributive actions was significant ( $F[1,278.28] = 5.54, p = .019, f = .14$ ; *Figure 6 Panel d*). Our results indicate that the ideological divide on support for redistributive actions was narrower for education inequality ( $b = -.45, p < .001$ ) compared to income disparities ( $b = -.35, p < .001$ ). See *Figure 6*.

**Figure 6**

*Interaction Effects Between Political Ideology and Domain of Inequality (Education vs. Income) on Acceptance of Inequality and Redistributive Actions*



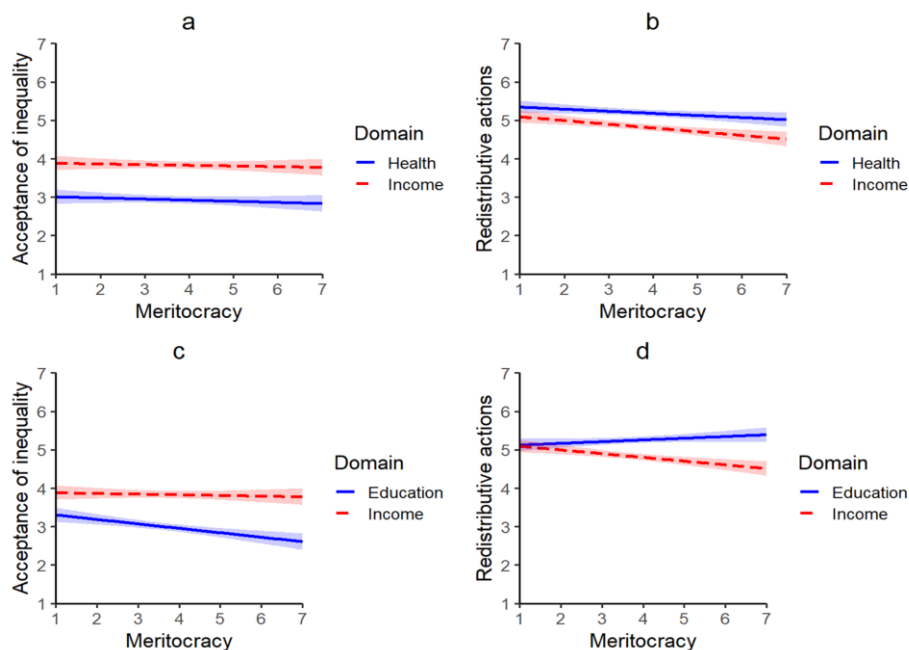
*Note.* Panels a and b show political ideology measured as voted political party (left-wing party vs. right-wing party). Panels c and d show political ideology assessed as political orientation.

***Interaction Effect of Meritocratic Ideology and Inequality Domain on Acceptance of Inequality and Support for Redistributive Actions***

Regarding the role of meritocratic ideology, when comparing health and income domains, we did not find the expected interaction with domain of inequality neither on acceptance of inequality ( $F[1,269.11] = 0.02, p = .900, f = .01$ ) nor on support for redistributive actions ( $F[1,270.93] = 0.43, p = .513, f = .04$ ). In the case of education vs. income, although domain of inequality did not moderate the effect of meritocratic ideology on acceptance of inequality ( $F[1,270.89] = 1.08, p = .301, f = .06$ ), it moderated the effect of meritocratic ideology on support for redistributive actions ( $F[1,271.33] = 5.38, p = .021, f = .14$ ). Specifically, as expected, the negative effect of endorsing meritocratic ideology on support for redistributive actions was weaker in the domain of education ( $b = .04, p = .554$ ) compared to income ( $b = -.10, p = .197$ ). See *Figure 7*.

**Figure 7**

*Interaction Effects Between Meritocratic Ideology and Domain of Inequality on Acceptance of Inequality and Redistributive Actions*



*Note.* Panels a and b show health vs. income while Panels c and d show education vs. income.

## Discussion

In Study 2, we replicated and extended the findings of the previous study. First, replicating findings of Study 1, we found that people generally accepted less inequality in health and education than in income. More specifically, we found that there was higher agreement with a hypothetical message in the European Parliament about the unfairness of inequality in health and education (vs. income). Moreover, in this study, we tested whether this unacceptance of inequality could translate into more support for redistributive actions. Indeed, there was greater support for redistributive measures to reduce disparities framed with the message about health and education than in the case of income disparities.

Second, we found some evidence pointing out that there might be a smaller ideological divide regarding health and education inequalities compared to income disparities. Although this time the effect of political ideology on acceptance of inequality was not moderated by the domain of inequality, there was an interaction effect on support for redistributive actions. More specifically, the ideological gap on support for redistributive measures was narrower in the domains of health and education, compared to income. This is important because in the previous study we found a null effect when comparing education and income. But in this case, after framing education inequality in terms of lack of access, we found the expected effect.

These results suggest that while ideological divides might persist in abstract judgments of fairness regardless of the domain of inequality, there may be more consensus on support for actions to address specific types of inequality such as health or education (vs. income). Alternatively, the null effect could be due to methodological issues. Some participants reported difficulties in understanding the question, which may be attributed to the phrasing that involves a double negation. Additionally, some



participants might have been uncertain whether they were being asked about their agreement with the situation itself (i.e., whether they find the situation acceptable) rather than their agreement with the assertion of its unfairness. Thus, future research should consider simplifying the wording or using alternative measures to ensure clarity and better capture the intended responses.

Regarding the role of meritocratic ideology, our findings did not fully align with our hypotheses. When comparing health and income domains, we did not observe the expected interaction effects of meritocratic ideology on either acceptance of inequality or support for redistributive actions. Similarly, for education versus income, there was no significant interaction effect on acceptance of inequality, although meritocratic ideology did moderate the effect of domain on support for redistributive actions. Specifically, people who scored high and low on meritocratic ideology agreed more in their support for redistributive measures to address education disparities (vs. income differences). This suggests that framing inequality in terms of education disparities (vs. income) could overcome the barrier of meritocratic ideology regarding support of redistributive measures.

However, meritocracy did not significantly correlate with any of our measures, except for political ideology, and at a very low level. This is consistent with our framework for health and education, where meritocratic ideology is expected to play a minor role. However, previous literature suggests that meritocratic beliefs should influence acceptance and support for redistributive measures concerning income inequality (e.g., García-Sánchez et al., 2019). The lack of significant correlations, especially with income disparities, could indicate that our measure may not have adequately captured the nuances of meritocratic beliefs or that participants may have interpreted the questions differently. Future research should investigate this further to

better understand the influence of meritocratic beliefs on attitudes toward inequality in different domains.

### **General discussion**

Increasing inequality is a pressing global issue that exacerbates social divides. This rising ideological polarization often prevents efforts to achieve consensus on addressing inequality. While substantial literature exists on economic inequality, there is a notable gap in understanding the consensus on economic-based health and education disparities, particularly across the political spectrum. Our research addresses this gap, aiming to identify areas of agreement that could inform more effective and inclusive policies. We aimed to explore the consensus on the unacceptance of economic-based disparities in health, education, and income, and to examine how political ideology influences these attitudes. Our findings suggest that people generally find health and education inequalities less acceptable than income inequalities, and that political ideology plays a lesser role in shaping attitudes towards health and education disparities compared to income disparities.

Across two studies, conducted during the Spanish national and European elections, we consistently found that, on average, participants accepted less inequality in health and education than in income. This finding is consistent with previous studies on the acceptance of inequality across these three domains in other samples from Latin America or U.S.A. (Macchia & Ariely, 2021; Soler-Martínez et al., 2023). Furthermore, Study 2 also included measures of support for redistributive actions, confirming that participants were more willing to endorse policies aimed at reducing health and education disparities compared to income disparities. This indicates a broader consensus on the unacceptability of disparities in access to fundamental resources like healthcare and education.

Moreover, in Study 1, political ideology, measured as voted political party and political orientation, had a lesser effect on the acceptance of health disparities compared to income disparities. Study 2 showed that the ideological gap on support for redistributive actions was narrower for health and education disparities than for income disparities. Moreover, we explored the role of meritocratic ideology, finding that it also has a lesser effect on support for redistributive measures to reduce education disparities than income disparities. Altogether, these findings suggest that the ideological divide on the acceptance of economic inequality might be smaller on certain aspects of it, such as economic-based disparities in access to healthcare and education, compared to preferences about income distributions. These results contribute to further understanding the nuanced role of political ideology in shaping attitudes towards inequality and support for redistributive policies, indicating that health and education disparities might serve as less contentious grounds for policy intervention.

However, this research presents some limitations, likely stemming from methodological issues. In Study 1, the expected interaction effects between education versus income and political ideology were not observed. Nevertheless, reframing the questions about education in Study 2 yielded positive results. Additionally, in Study 2, acceptance of inequality, measured by the level of agreement with a statement about the unfairness of inequality in each domain, was not influenced by the interaction between political ideology and domain of inequality. This null result might be attributed to difficulties some participants reported in understanding this measure, potentially due to the phrasing of the questions. Likewise, meritocratic ideology did not significantly correlate with our main measures, except for political ideology, and even then, at a lower level than typically observed.

These methodological challenges may be partly due to the fast-paced nature of data collection in a dynamic, real-world setting. Conducting the study with a general population in Spain during a politically charged election period provided a unique opportunity to capture authentic attitudes toward inequality in a highly relevant context. However, this urgency may have contributed to some participants' difficulties in understanding the questions, affecting the clarity and precision of their responses. Despite these challenges, the field study context enhances the ecological validity of our findings and underscores the importance of addressing inequality in real-world, politically relevant scenarios. Future research should refine measures, particularly those assessing meritocratic ideology, and ensure clarity in survey questions to better capture the intended responses.

This research may also have theoretical implications. Our research contributes to the understanding of distributive justice (Jasso et al., 2016; Walzer, 1983) and system justification theory (Jost & van der Toorn, 2012; van der Toorn & Jost, 2014) by showing how different types of inequalities are accepted across the political spectrum. Moreover, our research adds to the existing body of literature on economic inequality by offering a multidimensional perspective that extends beyond income disparities. Other authors have also suggested the need for this multidimensional perspective (García-Sánchez et al., 2018, 2022). By examining health and education inequalities alongside income disparities, our study highlights the importance of considering various domains of inequality to fully understand public attitudes and ideological divides. Broadening the understanding of inequality to include domains that are more meaningful to people and have an impact on their lives may serve as a meeting point from which to build consensus on the need to reduce inequality. Future studies could also explore other domains of

economic inequality, such as political participation and housing, to further examine these ideological divides.

Our findings suggest that policymakers might find more public support for initiatives aimed at reducing economic inequality by focusing on health and education disparities instead of exclusively targeting income differences. Given the increasing ideological polarization, concentrating on these areas could provide a starting point for building consensus and implementing effective policies to combat inequality. By highlighting the agreement on the unacceptability of health and education disparities, advocates and policymakers can leverage this consensus to promote more equitable and inclusive policy measures. In sum, this research suggests a useful strategy to address economic inequality: Framing redistributive actions to reduce social disparities by emphasizing the importance of addressing economic-based inequalities in health and education.

### **Conclusion**

In conclusion, our research examined the consensus on the unacceptability of economic-based disparities in health, education, and income. Across two studies during Spanish elections, we found that health and education inequalities were deemed less acceptable than income inequalities. Moreover, there was a smaller ideological gap on attitudes towards health and education disparities, compared to income differences. Overall, our findings suggest that focusing on health and education inequalities could garner broader public support for redistributive actions. Despite some methodological limitations, our study highlights the importance of a multidimensional approach to addressing economic inequality. By leveraging the consensus on health and education disparities, policymakers could promote societal changes to address economic inequality and its consequences.



# **Chapter 7**

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*General Discussion and Conclusions*





In this thesis, we have studied how perceptions of economic inequality in different domains could influence support for actions to reduce it (e.g., collective actions or redistribution). We adopted a multidimensional approach, considering how economic inequality affects various aspects of people’s daily lives, such as health and education. Specifically, we explored perceptions and attitudes towards economic-based inequalities in health and education—beyond income disparities. With this goal in mind, we formulated several questions and developed empirical studies to outline some answers to them. In the following sections, we will elaborate on the responses to these questions, summarizing the main results of the previous empirical chapters and discussing its potential implications for theory and practice. Additionally, we will comment on the limitations of this work, while highlighting some avenues for future research. Lastly, we will finish with some concluding remarks.

### **Responses to Empirical Questions**

#### **1. Could *attitudes* about economic inequality in health and education—in addition to differences in income—foster support for actions to reduce economic inequality?**

As expected, confirming our Hypothesis 1 (*H1*), attitudes towards economic inequality in health and education—in addition to income differences—positively influenced support for actions to reduce economic inequality. We found evidence for this claim through the empirical Chapters 3 and 4. In Chapter 3, we analyzed secondary data from the Latinobarometer 2020. We found that attitudes about inequality in access to healthcare, attitudes about unequal opportunities in education, and attitudes about income disparities jointly predicted greater willingness to participate in collective actions (e.g., protests). Moreover, we conducted a latent class analysis with the attitudes in these domains and found two classes of people: one class concerned about health and education, and the other not concerned about inequality in any domain. We found that those

concerned about health and education (vs. those not concerned) were more prone to support collective actions.

In Chapter 4, we found a similar pattern of results. In Study 2 of this chapter, we conducted a cross-sectional study with a quota sampling of the Spanish population. Results suggested that attitudes towards inequality in health, education, and income jointly predicted more support for redistribution. In Studies 3 and 4, after experimentally manipulating the inequality domain with different fictitious scenarios, attitudes towards inequality in each domain predicted greater willingness to participate in collective actions and greater support for redistribution. These results suggest that if we can shape attitudes towards economic-based disparities in healthcare and education, we could foster actions to reduce economic inequality (e.g., collective actions and redistribution). This leads us to the following empirical question.

**2. Could *perceptions* of economic inequality in health and education—beyond differences in income—influence support for actions to reduce economic inequality through attitudes towards it?**

In empirical Chapter 4, we confirmed our Hypothesis 2 (*H2*), which stated that perceived economic inequality in health and education—beyond income differences—had a positive effect on support for actions to reduce economic inequality through attitudes towards inequality. More specifically, in Study 1, we found that perceptions of inequality in health, education, and income—all together—significantly predicted greater support for redistribution and collective actions through increased intolerance towards economic inequality. In Study 2, we replicated and extended these findings with a quota sampling of the Spanish population and specifically targeting attitudes towards inequality in each domain. These studies, however, used correlational data, which limited the causal

inferences we could make about this idea. Therefore, in Studies 3 and 4, we designed two experiments to provide causal evidence regarding our Hypothesis 2.

In Studies 3 and 4, we confirmed that manipulating perceived economic inequality in health, education, and income, changes people's attitudes toward inequality, which in turn shape their redistributive preferences and their willingness to participate in collective actions. Specifically, in Study 3, we asked participants to think about rich and poor people and to write about their differences in terms of health, education, or income (depending on the condition). In the control condition, they had to think and write about the differences in clothing size between a tall and a short person. We found an effect of the experimental manipulations (vs. control) on attitudes towards it and, via these attitudes, on support for collective actions and redistribution.

In Study 4, we presented fictitious scenarios depicting high (vs. low) inequality in health, education, and healthcare. We used a mixed experimental design, manipulating perceived inequality and inequality domains. Participants were randomly assigned to the condition of "high inequality" or the condition of "low inequality" (between-participant condition). Then, they were shown three fictitious scenarios about inequality in each domain (within-participant condition). Finally, they completed the measures of interest after each scenario. We found that, in every domain of inequality—health, education, and income—the high inequality conditions (versus low inequality) had a positive indirect effect on support for collective actions and support for redistribution via increased intolerance towards inequality.

Importantly, perceptions in each domain explained an additional unique variance of attitudes towards inequality and support for actions to reduce it. However, we do not argue that perceptions of inequality in different domains are independent processes, as these inequalities are intrinsically interrelated. In the next empirical question, we focused

on the perceived overlap between income inequality and disparities in health and education.

**3. Could *perceiving the overlap* of income differences with inequalities in health and education affect support for actions to reduce economic inequality through attitudes towards it?**

The answer to our third empirical question is also positive. As expected in Hypothesis 3 (*H3*), we found that perceiving the overlap between income inequality and health and education disparities leads to greater support for redistribution and collective actions via diminished acceptance of economic inequality. We tested this assumption in empirical Chapter 5. Specifically, in Study 1, we tested the relationship between the perceived overlap of income inequality with health and education disparities following a cross-sectional design. As this concept of ‘perceived overlap’ is novel in this field, we assessed it by adapting the pictorial measure of the Inclusion of Other in the Self scale (IOS; Aron et al., 1992). Participants were asked to choose one of seven pictures with varying degrees of overlap representing the influence of income inequality on health/education. We found that perceiving a higher overlap between income disparities and health or education inequalities predicted lower acceptance of economic inequality and stronger support for redistribution and collective actions to reduce economic inequality.

In Studies 2a, 2b, and 3, we used experimental designs to find evidence of causality and test the mediational model in which perceived overlap could lead to greater support for actions to reduce inequality via attitudes towards it (e.g., acceptance of inequality). In Study 2a, following a within-participants design, participants were shown two scenarios depicting a fictitious society where income disparities greatly influenced health inequality (‘high overlap’ condition) or had no influence on it (‘low overlap’

condition). After seeing each scenario, they had to complete the dependent variables. In Study 2b, we followed the same procedure, but instead of health, we considered the domain of education. In both studies, we found that participants reported greater support for redistribution and collective actions via diminished acceptance of inequality when they read the ‘high overlap’ conditions compared to the ‘low overlap’ conditions.

In Study 3, we extended the findings of the previous studies by creating a more ecologically valid experimental manipulation and following a between-subjects design. Specifically, participants were presented with a journal article explaining that income inequality influenced either to a great extent (‘High overlap’ condition) or to a low extent (‘Low overlap’ condition) health and education disparities in Spain. Again, participants in the ‘High overlap’ condition were more willing to support redistribution and collective actions to reduce economic inequality via diminished acceptance of it. Although the experimental condition did not directly affect support for collective actions, the indirect effect through attitudes towards economic inequality remained significant.

These findings suggest that showing the overlap of economic inequality with other domains, instead of presenting income disparities alone, could increase support for actions to reduce economic inequality. However, as well as attitudes and support for actions to reduce income disparities often face little agreement and ideological divides, it remained unexplored whether this alternative approach could encounter the same barriers or not. In the following empirical question, we addressed this concern.

#### **4. Could there be more *agreement* in attitudes about economic inequality in health and education compared to differences in income?**

The response to this empirical question tends to be positive again, as we found that there is more agreement on attitudes towards economic-based inequalities in health and education compared to income disparities. More specifically, we found that there was

more general agreement on the unacceptance of economic inequality in health and education (*H4*). Moreover, we found evidence pointing out that these issues could overcome the ideological barrier that often applies to income inequality. In other words, there might be fewer ideological differences in attitudes towards economic-based inequalities in health and education compared to income disparities (*H5*).

To test our *H4*, we compared the level of general agreement about the (un)acceptance of economic inequality in health, education, and income in Chapters 3 and 6. In Chapter 3, with the secondary data from the Latinobarometer, we found that a significant share of people mentioned inequality in health access (47.0%) and education opportunities (43.1%) as the worst expressions of inequality in their country. In contrast, only 20.2% of people referred to income inequality. In almost every country, there were more people concerned about inequalities in health and education than about income.

In Study 1 from Empirical Chapter 6, we asked participants how much inequality they would consider acceptable in health/education/income between the rich and the poor in Spain. Mirroring previous results, we found that people generally accepted less inequality in health and education compared to income. In Study 2, we asked participants to imagine that the European Parliament would soon be debating significant health, education, or income issues. We found more public agreement with statements about the unfairness of health and education disparities, compared to income inequality.

Furthermore, in Chapter 6, we also tested whether the ideological gap could be smaller on attitudes towards economic-based inequalities in health and education compared to income disparities (*H5*). Studies 1 and 2 were conducted in a special and relevant context to explore this issue. Specifically, we ran these studies at voting precincts during the national and European elections, respectively. In Study 1, we found that while people who had voted for a right-wing party accepted more income inequality, they

accepted similar levels of health inequality compared to their counterparts voting for a left-wing party. We found a similar pattern of results using political orientation instead of voting preference. However, in this study, we did not find that the ideological gap was smaller in education than in the income domain.

In Study 2, we tested this idea again, presenting participants with excerpts about the unfairness of inequality in each domain and asking them about their agreement with these statements and also about their support of redistributive measures. Unexpectedly, the ideological divide between right-wing and left-wing was not smaller for the question about the agreement on the unfairness of inequality in health or education compared to income. However, consistent with previous results, there was more ideological consensus between right and left-wingers on support for redistributive measures to reduce health and education disparities than income inequality. We also tested the role of meritocracy, showing that the negative effect of endorsing meritocratic ideology on support for redistributive actions was weaker in education than in the income domain.

Thus, although more research is needed on this question, we could find some points of agreement in attitudes about economic-based inequalities in health and education. These findings, along with the ones presented earlier, suggest that framing economic inequality in terms of disparities in health or education could be a more effective strategy to foster actions to reduce economic inequality. We specifically focus on this possibility in the next and last empirical question.

**5. Could framing economic inequality in terms of differences in health and education—compared to income disparities—be a more *effective strategy* for building support for action to reduce economic inequality?**

Lastly, through empirical Chapters 4 and 6 we found evidence showing that framing economic inequality in terms of disparities in health and education—compared

to income differences—could be a more effective strategy to enhance support for actions to reduce economic inequality, such as redistribution or collective actions (*H6*). In Chapter 4, Study 4, participants were presented with different fictitious scenarios depicting high levels of disparities in health, education, or income. We found that when participants were exposed to health and education inequalities (vs. income inequality), they were more likely to support redistribution and collective actions to reduce the differences between the rich and the poor in those fictitious societies. Moreover, we also found an indirect positive effect of the experimental condition (health/education vs. income) on support for redistribution and collective actions through enhanced intolerance towards inequality.

In Chapter 6, Study 2, participants read messages that framed economic inequality in terms of disparities in health, education, or income. As explained earlier, participants had to indicate their level of agreement with these messages and their willingness to support redistributive measures. Not only did participants agree more with the messages about the unfairness of economic-based disparities in health and education compared to income, but they also were more likely to support redistributive measures to reduce these disparities. We could combine this evidence with the one presented in the previous section, showing that the ideological differences in support for redistribution are smaller when people are exposed to messages about health and education disparities compared to income inequality.

Taken together, these results highlight the applicability of the findings of this thesis. We believe these results could inform the development of campaigns and other communication strategies to depict economic inequality as a broader issue—we could focus on economic-based disparities in health and education, rather than solely on income



disparities. In the following lines, we elaborate more on the implications of our research both for theory and practice.

## **Theoretical and Practical Implications**

### **Multidimensional Approach**

This doctoral thesis may have some implications for studying perceived economic inequality. First, we followed a multidimensional approach to studying perceived economic inequality. This approach is consistent with some economic-philosophical perspectives, such as the capabilities approach of Amartya Sen and Martha Nussbaum (Nussbaum, 1997; Sen, 1997), which tried to bring human development to the center, focus on what people can really do and be in life, and go beyond abstract and detached economic indicators such as the GDP. Other metrics to evaluate inequality and wellbeing, such as the Human Development Index (HDI; UNDP, 1990), or the Multidimensional Inequality Framework (MIF; CASE, 2020) are based on this approach. In this thesis, we retrieved this perspective to apply it to *subjective* economic inequality instead of objective indicators.

Our findings also align with recent empirical research highlighting the multidimensionality of economic inequality perceptions. For instance, some authors (García-Castro et al., 2021; García-Sánchez et al., 2018, 2022) have shown that people actually perceived economic inequality beyond numeric estimates of income or wealth, embedded in several domains of their lives. Moreover, unequal access to healthcare services or opportunities in education played an important role in these perceptions. The concept of economic inequality in everyday life introduced by García-Castro et al. (2019, 2021) also emphasizes that people make sense of economic inequality paying more attention to their daily life experiences and interactions than solely income differences. Likewise, Phillips et al. (2020) argued that people do not have static numbers in

representing inequality in their minds; rather, they attend to inequality cues in their environments.

Our main contribution to this previous research is that we showed the utility of this multidimensional approach by highlighting its role in supporting actions towards reducing economic inequality. In particular, our results suggest that broadening the concept of economic inequality to connect income/wealth disparities to other inequalities could foster support for policies aimed at redistributing economic resources and social mobilization to reduce economic inequality. Furthermore, a multidimensional approach could help address the resistance against reducing economic inequality by framing it through less polarized topics, such as inequalities in access to education or healthcare between the rich and the poor.

### **Justice Distributive Framework**

The relationship between perceived inequality and support for actions to redress it via attitudes towards inequality that we describe in this research is consistent with the justice distributive framework (Jasso et al., 2016). Specifically, this theoretical framework proposes that when someone observes a distribution of resources, the observer's *perception* of this distribution is compared with the ideal distribution (how resources should be distributed according to the observer). Then, as a result of this comparison, a judgment about the (un)fairness of the distribution is made (*attitude towards inequality*). Lastly, this evaluation can lead to *actions* to redress inequality.

Perceived economic inequality has been shown to affect attitudes towards economic inequality and, in turn, support for actions to reduce it (García-Castro et al., 2020, 2022). Our results support this theoretical framework and extend this empirical evidence by showing the effect of the perceived distribution of different resources, such as health or education, on actions to reduce inequality through attitudes towards it.

Furthermore, our research shows that inequality in each domain can play a unique role in this process and that focusing on the overlap between different spheres of inequality could impact supporting actions to reduce inequality.

### **Theory of Complex Equality**

Our results are also consistent with Michael Walzer's theory of complex equality (1983). This theory proposes a model of distributive justice where each domain (e.g., health, education, income) could be considered a distinct sphere of justice. According to this theory, inequality in one sphere would be unfair to the extent that it dominates or spills over into other spheres. In this thesis, we corroborated this model by showing that perceiving this overlap could lead people to accept less economic inequality and, in turn, support more actions to reduce it.

Moreover, the theory of complex equality (1983) also suggests that the distributive principles should differ for each sphere. Although we did not investigate these distributive principles, Iglizzi et al. (2024) recently showed that in health and education domains people might prefer distributions based on need or equality rather than merit. Our research aligns with this idea by showing that the ideal distribution of resources might vary according to the resource being distributed: People preferred more egalitarian distributions of health and education between the rich and the poor compared to income. Other authors have found similar results (Howarth et al., 2019; Macchia & Ariely, 2021).

### **Support for Collective Actions and Redistribution**

Theoretical models of collective action posit that the perception of illegitimate inequality would lead to willingness to engage in collective actions to redress it (Jetten et al., 2021; van Stekelenburg & Klandermans, 2013). Likewise, rational choice models of redistribution describe that enhancing awareness of perceived economic inequality may lead to a higher demand for redistribution (Meltzer & Richard, 1981; Choi, 2019). Our

findings are consistent with both theoretical models by highlighting the association between perceptions and attitudes towards inequality with support for redistribution and collective actions to reduce economic inequality.

Our results are also aligned with previous empirical research on the role of perceived inequality in fostering redistribution (Choi, 2019; Gimpelson & Treisman, 2018) or collective actions (Hoyt et al., 2018; Jo & Choi, 2019). However, by exploring perceptions of inequality across various domains, the current thesis uncovers potential new pathways through which these perceptions might influence support for redistribution and collective actions.

### **Methodological Contributions**

This thesis may have some methodological contributions. For instance, in Chapter 5 we implemented a measure based on the pictorial IOS scale (Aron et al., 1999), to capture people's perceptions of the overlap between income inequality and disparities in health and education. To our knowledge, this concept of the overlap and consequently this measure is novel to the field of social psychology of economic inequality. In general, the measure showed good indicators and consistently predicted support for actions to reduce inequality.

Regarding experimental manipulations, we developed several materials that effectively manipulated perceptions of economic inequality in health, education, and income. Specifically, in Chapter 4, Study 4, participants were presented with information about (high vs. low) disparities in health/education/income between a rich person and a poor person in a fictitious society. In Studies 2a and 2b of Chapter 5, we provided information about to what extent (high vs. low) income inequality influenced health and education disparities in fictional societies. In Study 3 of the same chapter, we adapted this manipulation to the actual context of Spain. Specifically, participants read a journal article

explaining how income inequality influenced (or not) inequalities in health and education. Therefore, this thesis provided adequate tools for studying perceived economic inequality in different domains in the Spanish context.

### **Diverse Sampling and Contextual Insights**

Another contribution of this thesis lies in the selection and diversity of the samples used. In Chapter 3, we used secondary data from the Latinobarometer 2020, which includes 18 countries in Latin America ( $N = 20,204$ ). The Latin American context is of special interest because it has been one of the most unequal regions in the world (UNU-WIDER, 2022). Moreover, although economic inequality has decreased in Latin America in recent years (Justino & Martorano, 2016), social protests have increased (Ortiz et al., 2022). Some authors have argued that despite this reduction of inequality, people may remain dissatisfied with the quality of public services, such as healthcare or education (Justino & Martorano, 2016). Our findings contribute to understanding this complex phenomenon by showing that people's concerns and protests may be driven by factors other than objective economic indicators like the Gini coefficient.

In Chapters 4, 5, and 6 we recruited Spanish participants ( $N_{Total} = 4,485$ ). The socio-political landscape of Spain may differ from North America and Latin America, where disparities in health and education might be very noticeable. In the case of Spain, inequalities in health and education could be less salient due to the presence of public healthcare and education systems (Bernal-Delgado et al., 2018; Egido & Valle, 2015). However, although these disparities might be smaller than in other countries, our results indicate that people could be especially sensitive to them. We found general agreement and ideological consensus that access to these services should be equal among people. Thus, the more people noticed these disparities, the more they supported actions to reduce economic inequality.

### **Implications for Practice: Need for Actions and Ideological Gap**

Lastly, this thesis has important implications for real-world problems. One of these implications has to do with the general agreement and ideological consensus around economic-based disparities in health and education. This is important because we live in times of increasing polarization, with economic inequality exacerbating this divide (Gu & Wang, 2022; Gunderson, 2022). At the same time, we need majority support for policies aimed at reducing inequality, and this is often a (quasi) impossible mission with this broken social consensus. Reducing economic inequality requires a collective response, but economic inequality divides us. Thus, economic inequality and polarization are part of a self-maintained vicious cycle.

While income disparities are often tolerated and justified with an ideological basis (Kuziemko et al., 2015; Starmans et al., 2017), we found that people accepted less inequality in health and education. Importantly, the ideological divide between right- and left-wing individuals was smaller when we framed economic inequality in terms of disparities in health and education compared to income inequality. Furthermore, we found that when participants were presented with inequalities in healthcare and education, they were more likely to support redistribution and collective actions than when they learned about income inequalities alone.

Importantly, income-based disparities in health and education might be underestimated (Day & Norton, 2023; Shankardass et al., 2012). Thus, we suggest that enhancing awareness about these inequalities could be an alternative strategy to promote public support for policies to reduce economic inequality. One effective approach could involve designing public awareness campaigns that go beyond simply informing the public about income disparities. Instead, campaigns could aim to raise awareness about how economic inequality spills over into meaningful aspects of people's lives, particularly

in areas such as health and education. Our results suggest that people may not always recognize the extent to which economic inequality impacts these critical areas of life, but when they do, their tolerance for inequality decreases, and their support for redistributive measures and collective actions increases.

Moreover, although economic inequality is often equated with income inequality in public discourse, the media also occasionally highlights disparities in healthcare and education. For example, headlines might show that "The richest 10% earns 8 times more than the poorest 50%" (RTVE, 2021), but also that "Life expectancy gap between the rich and the poor is up to 11 years" (Antena 3 Noticias, 2019) or "Poor students repeat a grade 4 times more" (El País, 2019). By carefully crafting these messages and testing their effects, researchers and policymakers could identify the most effective ways to raise awareness and galvanize public support for initiatives that address economic inequality in its many forms.

## **Limitations and Avenues for Future Research**

### **Multidimensional Approach**

This thesis also present some limitations. For instance, a potential area of improvement in future research is that we only focused on three specific dimensions of economic inequality: health, education, and income. While these domains are crucial for understanding the broader landscape of inequality, economic disparities manifest in many other aspects of people's lives, such as political participation, social life, housing, and living conditions (CASE, 2020). Future research could benefit from exploring other domains, providing a more comprehensive understanding of how people perceive and respond to different forms of economic inequality.

Moreover, even within the domains of health, education, and income, there are multiple facets that future studies could examine in greater detail. For instance, in the

domain of health, future research could differentiate between perceptions of inequality in access to healthcare services versus health outcomes. It is plausible that individuals might perceive inequalities in access to healthcare as more unfair or unacceptable than disparities in health outcomes, which could be attributed to personal choices or other factors (Bridger et al., 2024; Lynch & Gollust, 2010). By adopting a more nuanced approach to studying these domains, researchers could gain deeper insights into how specific aspects of inequality are perceived and which are most likely to motivate support for policies aimed at reducing these disparities.

Another limitation relates to our general approach to studying support for actions to reduce economic inequality. While our findings distinguish between different perceptions of inequality, future research could apply this nuanced perspective to the types of actions and policies designed to reduce inequality. Previous literature has shown that when people are asked about concrete redistributive measures, support for government actions increases (Margalit & Raviv, 2022). Understanding how different framings of redistribution impact public opinion could help policymakers design and communicate policies more effectively to build broader consensus and support for addressing economic inequality.

### **Other Explanatory Mechanisms**

It is essential to consider that other explanatory mechanisms may be at play beyond those examined in this thesis. For example, perceptions of disparities in health and education might lead people to think that economic inequality violates equality of opportunities and fundamental human rights. These considerations could in turn motivate support for actions to reduce economic inequality. Likewise, moral judgments could be an alternative mechanism, as these types of disparities could be viewed as less morally acceptable compared to income inequality (Brown et al., 2023).



Another mechanism has to do with distributive justice principles. While income distribution might be guided by principles of equity (rewarding based on contribution), healthcare and education might be seen through the lenses of equality (equal access for all) or need (providing more to those with greater needs; Iglizzi et al., 2024). Moreover, Alcañiz-Colomer et al. (2023) indicated that these principles are linked to different causal attributions, which in turn are associated with support for social protection. While individualistic attributions are commonly used to legitimize income disparities (Bullock et al., 2003), perceived economic-based disparities in health and education may lead to more structural attributions, resulting in more support for actions to reduce economic inequality. Recognizing these alternative mechanisms offers valuable directions for future research.

### **Methodological Limitations**

Regarding methodological limitations, it is important to acknowledge the shortcomings of causal mediation analyses in this context. While these analyses can suggest potential pathways and relationships, they do not provide conclusive evidence for causal mediation and can lead to biased estimates (Fiedler et al., 2011; Maxwell & Cole, 2007). Furthermore, we did not directly manipulate attitudes towards economic inequality (our proposed mediator). This decision stemmed from the challenge of experimentally altering attitudes without simultaneously affecting other related factors, which could complicate the interpretation of the results. Thus, our findings still need to be further replicated using other methods that strengthen causal inference. Future research could implement more rigorous methodologies, such as an experimental causal mediation approach (Pirlott & MacKinnon, 2016), to address these limitations.

Another limitation throughout this thesis is the use of single-item or two-item measures to assess perceived economic inequality in health, education, and income.

Although these items consistently predicted attitudes and support for actions to reduce economic inequality, relying on such brief measures may limit the reliability and validity of the constructs being measured (Allen et al., 2022). Future research could develop a scale to comprehensively measure perceived economic inequality across multiple domains, similar to the Multidimensional Gender Inequality Perception Scale (MuGIPS; Schwartz-Salazar et al., 2024), to provide a more nuanced understanding of how individuals perceive different forms of inequality. This would allow for a more accurate assessment of economic inequality perceptions and their impact on attitudes and behaviors.

Additionally, we recognize the difficulties in experimentally manipulating different domains of economic inequality. For example, in Study 3 of Chapter 4, participants were asked to think and write about disparities in health, education, or income between a rich and a poor person in Spain. However, we did not find significant differences in the manipulation checks between conditions. These null findings might be due to pre-existing ideas and motivations of participants. For instance, when writing about health disparities, some participants indicated that there were no differences in this domain due to Spain's robust public healthcare system. Moreover, it may be challenging to experimentally manipulate perceptions in different domains without inadvertently activating others, as they are often intrinsically interrelated. These challenges highlight both the complexity of disentangling pre-existing beliefs and motivations from experimental manipulations and the difficulty of isolating specific domains of inequality, suggesting that more robust approaches are needed in future research to better capture the nuances of these perceptions.

### **Sampling Limitations and Generalizability**

An additional limitation of this thesis is the predominant use of samples drawn from the university community. Many of the surveys were distributed through the university's email distribution list due to resource constraints. This approach could result in sampling biases, as university-affiliated participants tend to be more educated and may hold ideological views skewed towards the left as shown in our studies. However, this thesis also included more diverse and balanced samples in certain studies. For example, in Chapter 3, we utilized secondary data from the Latinobarometer, which provided a large and more representative sample of the Latin American population. Similarly, in Study 2 of Chapter 4, the sample was composed by more than 1,500 participants using quota sampling methods to ensure a more representative picture of Spanish society. Likewise, in Chapter 6, we recruited participants directly from voting precincts, which allowed us to obtain a more balanced and ideologically diverse sample.

Despite these efforts to diversify the samples, further research is needed to generalize our findings to broader populations and different contexts. For instance, in regions where disparities in health and education are more normative, people may exhibit greater acceptance of these inequalities (Gobel & Carvacho, 2024). Additionally, specific demographic groups may prioritize different domains of inequality. For example, in a sample of elderly people, disparities in healthcare might be perceived as more critical due to their greater reliance on health services, while younger people may prioritize educational inequalities more highly. In sum, future studies could benefit from employing more diverse sampling strategies, including random sampling and oversampling of underrepresented groups, to better understand how perceptions of inequality vary across different contexts and populations.

### **Further Exploring the Ideological Gap**

Lastly, the studies conducted to examine whether the ideological gap in attitudes toward inequality is smaller in the domains of health and education, compared to income disparities, have some limitations that warrant further exploration. Although the field studies conducted at voting precincts provided ecological validity to our findings by capturing responses in a context where ideological differences are particularly pronounced, they lacked the experimental control that could ensure the reliability and clarity of the results. Moreover, these findings are preliminary and derived from only two studies. Therefore, these results should be interpreted with caution, and future research should aim to replicate and extend these findings to confirm their robustness.

It is also important to recognize that political realities are fluid and vary across regions, making it difficult to generalize our results beyond the specific context of Spain. The ideological dynamics we observed may shift as political landscapes evolve, both within Spain and in other countries (Carstensen, 2011). However, this does not diminish the value of our findings. On the contrary, identifying the mechanisms driving convergence in attitudes toward inequalities in health and education could provide insights applicable in other political contexts. One possibility is that beliefs in meritocracy and equality of opportunity might play a significant role. Disparities in healthcare and education may challenge these principles, as they affect individuals' opportunities for success. As these principles also resonate with right-wing ideology (Evans, 1997), in these cases, right-wing voters could be more likely to support measures to reduce inequality.

Furthermore, future research could explore how other ideologies, such as social Darwinism or neoliberalism, might influence attitudes toward disparities in health and education. From social Darwinism—the survival of the fittest—perspective (Rudman &

Saud, 2020), disparities in health, education, or other domains, might be seen as a natural part of societal evolution, where the "fittest" individuals rise to the top, and those who are less "fit" struggle or fail. Regarding neoliberalism, it promotes the idea that private market solutions are more effective than government intervention in providing services such as healthcare and education (Azevedo et al., 2019). Future research could explore how these ideological beliefs serve as barriers to building consensus around efforts to reduce economic inequality across different domains and how policy framing might overcome these ideological divides.

### **Conclusions**

In summary, in this thesis, we have studied how perceptions of inequality in different domains contribute to attitudes towards social change. More specifically, our main aim was to analyze the effect of perceived economic-based disparities in health and education—beyond income differences—on support for redistribution and collective actions to reduce economic inequality. To achieve this goal, we have presented seven chapters in this thesis elaborating on how people perceive and understand inequality in different meaningful domains for their lives (e.g., health, or education), rather than focusing exclusively on income or wealth disparities. The two first chapters provided a conceptual framework and outlined some research questions. In empirical Chapters 3, 4, 5, and 6, we showed evidence from several studies that shed light on these questions. Lastly, in the present chapter, we have discussed these findings and some of their limitations and implications for research and practice.

Some ‘take-home messages’ could be taken from our findings following the answers to the empirical questions we outlined at the beginning. First, attitudes and perceptions about economic-based inequalities in health and education can foster support for actions to reduce economic inequality. Second, the perceived overlap between income

inequality and disparities in health and education could also shape attitudes and enhance support for actions aimed at addressing economic inequality. Third, there might be more general agreement and ideological consensus in the (un)acceptance of economic-based disparities in health and education compared to income inequality. Fourth, we highlight an alternative and probably more effective strategy to galvanize public support for measures to address inequality: Rather than just informing about the extent of income disparities, we propose to broaden the concept of economic inequality and increase the awareness of its spill-over into other domains of people's lives, such as health and education.

Moreover, we would like to make a statement regarding what is *not* the message of this thesis. Although we advocated for an approach to perceived economic inequality *beyond income*, we do not want to shift the focus from income disparities to other issues. Needless to say, income disparities do matter a lot. Instead, we argue that we should pay attention to the dominance of income and wealth disparities over other domains of people's lives, such as access to healthcare or opportunities in education. These disparities significantly prevent people from being and doing what they most want in life. Therefore, when these inequalities are perceived, economic inequality is seen as more unfair, and support for actions to reduce it increases. Moreover, implementing public healthcare and education is not enough to solve these problems, as people often require real opportunities to make use of available resources. For example, even if someone has access to free healthcare services, they may still face difficulties if they lack transportation to reach the medical facility or cannot afford the prescribed medications. To address these barriers, we also need to reduce income and wealth inequalities.

To conclude, the main motivation behind this thesis was to provide some cues to address some real-world problems, such as the failure to respond to rising inequality or

the ideological divide on this question. The results of this thesis could inform the design of public awareness campaigns and media communications in order to address these issues. Specifically, we believe that crafting messages that show the connection between income inequality and disparities in health or education, could garner wider support for policies aimed at reducing economic inequality and strategically minimize the ideological polarization on this issue. Building upon these points of agreement and ideological consensus, policymakers could promote social change to address economic inequality in its many forms.





# **Supplementary Materials**

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**Supplementary Materials pertaining to Chapter 3**

**Inequality Concerns About Health, Education, and Income Jointly Predict  
Collective Actions**

## 1. Measures

The wording of variables is presented in the source questionnaire of the Latinobarometer (2020). In the following sections, we will reproduce the text as reported in the main questionnaire.

### Concerns about inequality in Income, Education, and Health

Q75NPN (SHOW CARD 27) In your opinion which are the worst types of inequality in (country) (TICK ALL THOSE MENTIONED)

- \*Education opportunities ..... 01
- \*Access to health services ..... 02
- Access to basic services water, electricity ... 03
- Transport time to working place ..... 04
- Inequality of Access to justice. .... 05
- Work opportunities ..... 06
- Inequalities between men and women ..... 07
- Inequalities between races ..... 08
- Inequality of treatment among social classes. ... 09
- In citizenship ..... 10
- Access to power ..... 11
- Inequality before the law ..... 12
- Between urban and rural zones. .... 13
- \*Income inequality ..... 14
- Inequality between rich and poor. .... 15

DKN/NA 00 DON'T READ

### Support of collective actions

Q59ST. (SHOW CARD 23) On a scale from 1 to 10 where “1” means “not at all willing” and “10” means “Completely willing”. How willing would you be to demonstrate and protest for...? (WAIT FOR ANSWER AND TICK ONLY ONE)

NONE....97 DNK....98 DNA....00 DON'T READ

\*P59ST.A Higher wages and better Working conditions

\*P59ST.B Better health and education

P59N.C Climate change

P59ST.D Defend democratic rights

P59N. E Fight against corruption and abuse

\*P59N. F A more egalitarian society

**Covariates**

**Political Ideology**

Q18ST. (SHOW CARD 4) In politics, people normally speak of “left” and “right”. On a scale where 0 is left and 10 is right, where would you place yourself? (TICK ONE ANSWER)

None...97 DNK...98 NA...99DON'T READ

**Subjective Social Class**

S1. People sometimes describe themselves as belonging to a social class. Would you describe yourself belonging to... (READ ALTERNATIVES Y TICK ONE)

Upper CLASS. .... 1

Upper MIDDLE CLASS..... 2

MIDDLE CLASS..... 3

LOW MIDDLE CLASS..... 4

LOWER CLASS..... 5

DON'T KNOW..... 8

NO ANSWER..... 0

*Note:* Responses were recoded to indicate a higher social class as scores increased.

**Educational Attainment**

S16. What level of education do you have? What was the last year you completed? (INTERVIEWER, WRITE DOWN ALL THE PERSON SAYS AND PROMPT) What sort of technical school, what sort of institute, etc.? (WRITE DOWN YEAR)

## 2. Descriptive data of the sample per each country

Table S1

*Descriptive Data of the Sample per each Country.*

Country	n	Gender		Age				Subjective Social Class				Political Ideology				Educational Attainment			
		Women	Men	M	SD	Min.	Max.	M	SD	Min.	Max.	M	SD	Min.	Max.	M	SD	Min.	Max.
Argentina	1200	636	564	42.222	15.449	18	96	2.243	0.779	1	5	29.94	40.733	0	97	13.678	3.783	1	17
Bolivia	1200	600	600	38.196	15.56	18	88	2.462	0.857	1	5	11.447	24.348	0	97	10.421	4.715	1	17
Brasil	1204	634	570	42.421	17.006	16	86	2.078	0.905	1	5	10.066	20.95	0	97	10.262	4.545	1	17
Chile	1200	645	555	44.491	17.008	18	89	2.29	0.798	1	4	40.029	45.006	0	97	13.617	2.757	1	17
Colombia	1200	629	571	40.461	16.283	18	88	2.337	0.979	1	5	9.666	20.932	0	97	11.939	4.561	0	17
Costa Rica	1000	520	480	41.125	16.64	18	100	2.484	0.931	1	5	12.804	26.361	0	97	10.171	4.411	1	17
Ecuador	1200	613	587	39.445	15.72	18	86	2.348	0.955	1	5	21.896	36.184	0	97	12.328	4.019	1	17
El Salvador	1000	550	450	41.08	17.23	18	89	2.232	1.086	1	5	20.966	34.052	0	97	9.203	4.837	1	17
Guatemala	1000	533	467	38.447	15.888	18	90	2.298	1.027	1	5	14.818	28.14	0	97	7.549	4.841	1	17
Honduras	1000	531	469	37.51	15.731	18	88	2.362	1.166	1	5	13.343	27.219	0	97	7.449	4.316	1	17
Mexico	1200	590	610	43.008	16.831	18	88	2.227	0.896	1	5	19.987	34.71	0	97	10.863	4.269	1	17
Nicaragua	1000	520	480	35.828	15.448	16	87	2.157	1.166	1	5	25.965	38.635	0	97	7.368	4.854	1	17
Panama	1000	504	496	41.465	16.178	18	94	2.259	1.042	1	5	8.88	20.479	0	97	10.934	4.545	1	17
Paraguay	1200	601	599	38.524	15.513	18	94	2.191	0.89	1	5	20.399	34.17	0	97	10.515	4.005	1	17
Peru	1200	600	600	39.653	15.809	18	88	2.244	1	1	5	9.335	20.09	0	97	10.746	4.665	1	17
Dominican Rep.	1000	501	499	39.92	16.52	18	98	2.31	1.089	1	5	8.275	14.722	0	97	9.954	4.892	1	17
Uruguay	1200	650	550	45.754	17.886	18	96	2.39	0.821	1	5	8.34	17.432	0	97	10.943	3.645	1	17
Venezuela	1200	680	520	46.483	16.541	18	95	1.924	0.924	1	5	15.92	29.478	0	97	11.728	4.085	1	17

**Table S2***Descriptive Data of the Sample per each Country after Listwise Deletion.*

Country	n	Gender		Age				Subjective Social Class				Political Ideology				Educational Attainment			
		Women	Men	M	SD	Min.	Max.	M	SD	Min.	Max.	M	SD	Min.	Max.	M	SD	Min.	Max.
Argentina	930	481	449	43.248	15.365	18	96	2.271	0.78	1	5	27.512	39.332	0	97	13.991	3.606	1	17
Bolivia	1006	488	518	37.09	14.943	18	87	2.504	0.837	1	5	10.625	22.844	0	97	11.031	4.445	1	17
Brasil	1042	531	511	41.044	16.45	16	86	2.113	0.906	1	5	9.607	20.027	0	97	10.785	4.31	1	17
Chile	987	522	465	43.408	16.814	18	89	2.29	0.809	1	4	38.415	44.64	0	97	13.698	2.698	1	17
Colombia	1021	513	508	39.505	15.875	18	88	2.348	0.96	1	5	9.264	20.085	0	97	12.32	4.356	1	17
Costa Rica	820	415	405	40.446	16.071	18	87	2.512	0.926	1	5	12.432	25.786	0	97	10.465	4.436	1	17
Ecuador	1022	516	506	38.706	15.462	18	86	2.385	0.942	1	5	20.734	35.264	0	97	12.652	3.907	1	17
El Salvador	796	410	386	39.035	16.233	18	87	2.264	1.064	1	5	18.407	31.757	0	97	10.028	4.589	1	17
Guatemala	669	315	354	37.253	15.218	18	82	2.374	1.015	1	5	12.988	25.849	0	97	8.42	4.76	1	17
Honduras	741	370	371	36.224	15.125	18	88	2.417	1.14	1	5	11.808	25.068	0	97	7.923	4.327	1	17
Mexico	1018	486	532	42.528	16.582	18	88	2.242	0.904	1	5	19.1	33.866	0	97	11.023	4.195	1	17
Nicaragua	638	316	322	35.249	15.264	16	87	2.127	1.106	1	5	22.086	35.686	0	97	8.125	4.798	1	17
Panama	875	440	435	40.471	15.811	18	94	2.277	1.029	1	5	8.397	19.658	0	97	11.154	4.37	1	17
Paraguay	940	431	509	37.635	15.023	18	82	2.261	0.87	1	5	20.698	34.39	0	97	11.102	3.779	1	17
Peru	1025	493	532	38.837	15.641	18	88	2.269	0.988	1	5	9.177	19.63	0	97	11.381	4.284	1	17
Dominican Rep.	834	404	430	39.131	16.021	18	94	2.347	1.092	1	5	8.084	14.419	0	97	10.179	4.815	1	17
Uruguay	1043	554	489	45.141	17.548	18	90	2.408	0.821	1	5	8.085	16.859	0	97	11.221	3.549	1	17
Venezuela	1056	586	470	46.469	16.392	18	90	1.938	0.922	1	5	15.109	28.367	0	97	11.944	3.949	1	17

### 3. Supplementary Analyses

#### Logistic Regression of Class Membership

In order to get a better understanding of different the classes, we conducted a logistic regression analysis looking for sociodemographic determinants of class membership in people’s inequality concerns: political ideology, educational attainment, subjective social class, age, and gender. Results are shown in Table 2. We observed that people unconcerned for inequality had higher probability of having a political ideology oriented to the left, higher social subjective class, lower level of studies, and being younger and men. In contrast, those concerned for education and health inequalities were more prone to have political ideology oriented to the right, lower social subjective class, higher level of studies, and being older and women. Nevertheless, Odds Ratio were very small (Dominguez-Lara, 2018) and therefore these results should be interpreted cautiously.

**Table S3**

*Logistic Regression of Class Membership.*

<i>Predictors</i>	<i>Odds Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.16	0.13 – 0.19	<b>&lt;0.001</b>
Political ideology (left-right)	1.00	1.00 – 1.01	<b>&lt;0.001</b>
Level of education	1.06	1.06 – 1.07	<b>&lt;0.001</b>
Subjective social class	0.89	0.86 – 0.93	<b>&lt;0.001</b>
Age	1.01	1.01 – 1.01	<b>&lt;0.001</b>
Gender	1.07	1.00 – 1.15	<b>0.043</b>
Observations	16463		
R <sup>2</sup> Tjur	0.022		

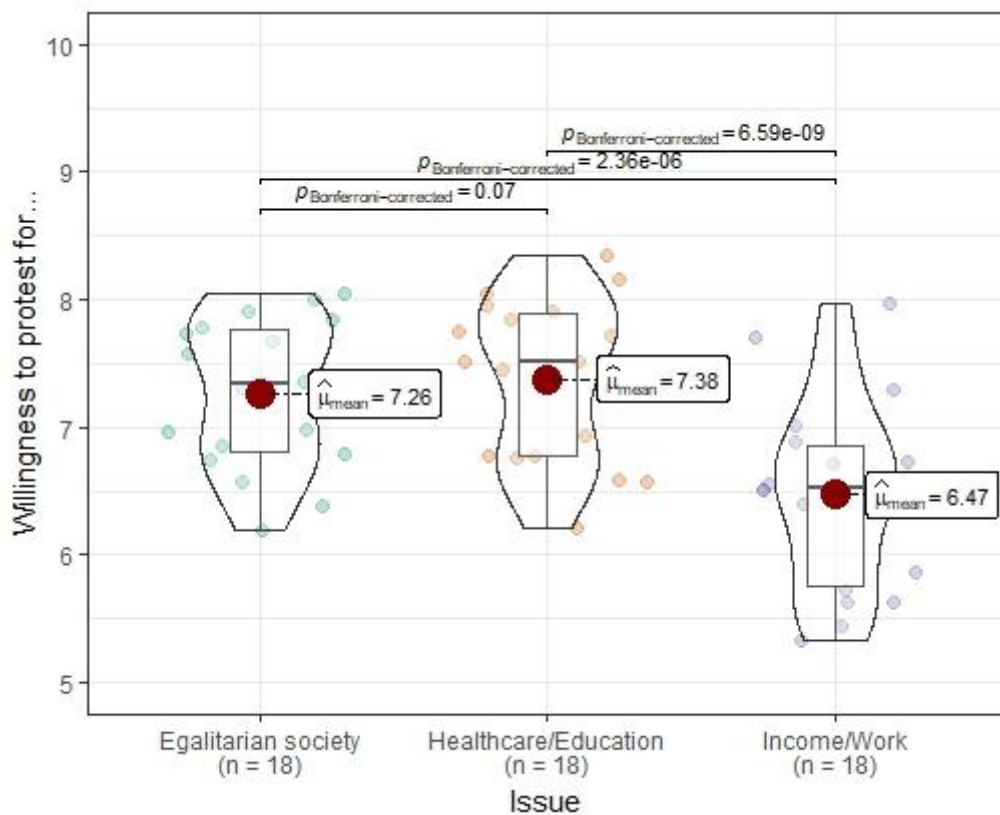


## Analyses of Frequencies of Support of Collective Actions

Exploratory analysis of differences between means of each type of collective action showed that people were more willing to demonstrate and protest for better health and education than for higher wages and better working conditions ( $M_{Health\ and\ Education} = 7.38$ ,  $SD = 3.10$ ,  $M_{Wages} = 6.50$ ,  $SD = 3.37$ ,  $t = 46.404$ ,  $p < .001$ ,  $CI\ 95\% [ .85, .92]$ ,  $d = .27$ ). We observed this pattern also at the country level (Figure 1 and 2). This is consistent with our main results: There might be more concern about economic inequality in the domains of health and education (vs. income), and these concerns may foster collective actions to reduce inequality.

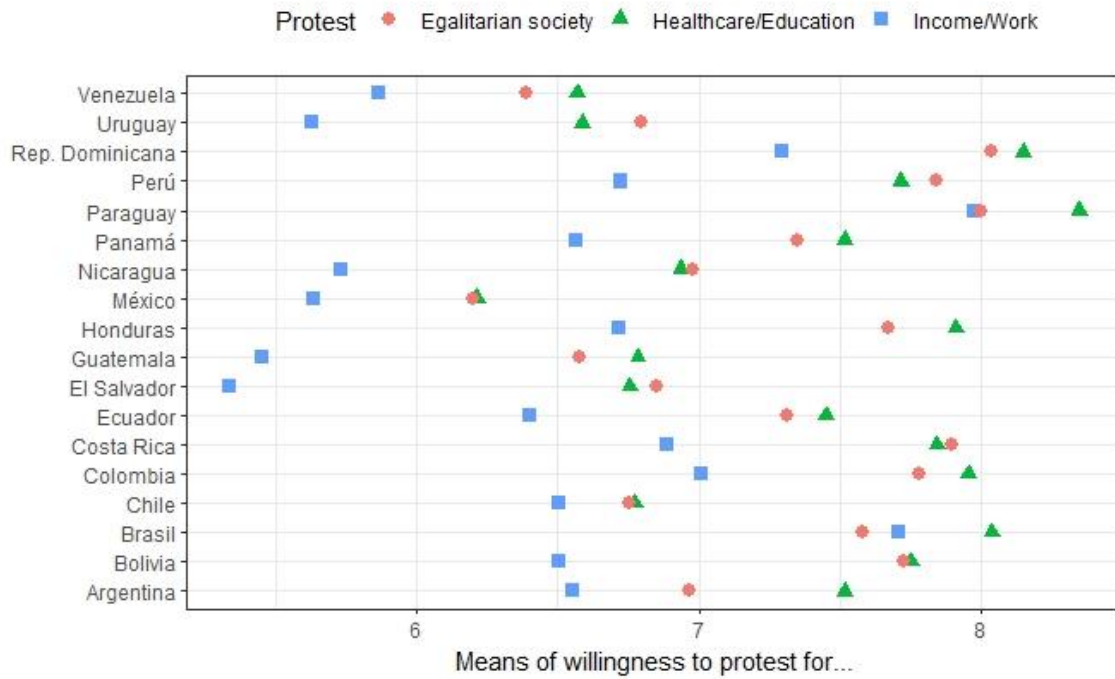
**Figure 1**

*Average Means (between Countries) of Support of Collective Actions for Health and Education, Income, and a more Egalitarian Society.*



**Figure 2**

*Means of Support of Collective Actions for Health and Education, Income, and a more Egalitarian Society in each Country.*





**Supplementary Materials pertaining to Chapter 4**

**Beyond income disparities: Perceived health and education inequities drive actions  
to reduce economic inequality**

## 1. Descriptive statistics of the samples

### 1.1. Study 1

#### Household income

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	Less than 650€/month	17	3.48	3.48
2	651-1.300€/month	108	22.09	25.56
3	1.301-1.950€/month	112	22.90	48.47
4	1.951-2.600€/month	89	18.20	66.67
5	2.601-3.250€/month	68	13.91	80.57
6	3.251-3.900€/month	31	6.34	86.91
7	3.901-4.550€/month	34	6.95	93.87
8	4.551-5.200€/month	16	3.27	97.14
9	5.201-5.800€/month	7	1.43	98.57
10	More than 5.800€/month	7	1.43	100.00

$$N=489 \cdot \bar{x}=3.99 \cdot \sigma=1.96$$

#### Education level of the paternal figure

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	30	6.13	6.13
2	Primary education	112	22.90	29.04
3	Secondary education	97	19.84	48.88
4	Superior education	100	20.45	69.33
5	University education	150	30.67	100.00

$$N=489 \cdot \bar{x}=3.58 \cdot \sigma=1.29$$

**Education level of the mother figure**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	26	5.32	5.32
2	Primary education	99	20.25	25.56
3	Secondary education	99	20.25	45.81
4	Superior education	94	19.22	65.03
5	University education	171	34.97	100.00

$N=489 \cdot \bar{x}=3.58 \cdot \sigma=1.29$

**Political ideology**

<i>label</i>	<i>mean</i>	<i>sd</i>	<i>se</i>	<i>min</i>	<i>max</i>
1 left - 7 right	2.96	1.52	0.07	1	7

**1.2. Study 2**

**Household income**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	Hasta 600 €	107	6.97	6.97
2	601 - 1000 €	154	10.03	16.99
3	1001 - 1500 €	247	16.08	33.07
4	1501 - 2000 €	256	16.67	49.74
5	2001 - 2500 €	193	12.57	62.30
6	2501 - 3000 €	186	12.11	74.41
7	3001 - 3500 €	125	8.14	82.55
8	3501 - 4000 €	102	6.64	89.19
9	4001 - 5000 €	92	5.99	95.18
10	5001 - 8000 €	52	3.39	98.57
11	Más de 8000 €	22	1.43	100.00

$N=1536 \cdot \bar{x}=4.91 \cdot \sigma=2.49$

**Level of education**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies (Primary studies not finished)	21	1.37	1.37
2	First grade (Scholar certificate)	30	1.95	3.32
3	Second grade. (First cicle, 2 <sup>nd</sup> ESO)	154	10.03	13.35
4	Second grade (Second cicle, Bachillerato)	615	40.04	53.39
5	Graduate (University degree)	256	16.67	70.05
6	Third grade. (First cicle. Technician)	257	16.73	86.78
7	Third grade. (Master)	173	11.26	98.05
8	Third grade. (Doctorate)	30	1.95	100.00

$N=1536 \cdot \bar{x}=4.74 \cdot \sigma=1.39$

**Occupation**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	Employed	757	49.28	50.57	50.57
2	Self-employed	78	5.08	5.21	55.78
3	Household work	51	3.32	3.41	59.19
4	Student (solely dedicated to studying)	84	5.47	5.61	64.80
5	Retired	328	21.35	21.91	86.71
6	Other	11	0.72	0.73	87.44
7	Unemployed	188	12.24	12.56	100.00
NA	NA	39	2.54	NA	NA

$total N=1536 \cdot valid N=1497 \cdot \bar{x}=2.96 \cdot \sigma=2.25$

**Political ideology**

<i>label</i>	<i>mean</i>	<i>sd</i>	<i>se</i>	<i>min</i>	<i>max</i>
0 left - 10 right	4.17	2.67	0.07	0	10

### 1.3. Study 3

#### Household income

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	Less than 650€/month	15	3.83	3.83
2	651-1.300€/month	67	17.09	20.92
3	1.301-1.950€/month	77	19.64	40.56
4	1.951-2.600€/month	90	22.96	63.52
5	2.601-3.250€/month	57	14.54	78.06
6	3.251-3.900€/month	40	10.20	88.27
7	3.901-4.550€/month	26	6.63	94.90
8	4.551-5.200€/month	9	2.30	97.19
9	5.201-5.800€/month	3	0.77	97.96
10	More than 5.800€/month	8	2.04	100.00

$N=392 \cdot \bar{x}=4.15 \cdot \sigma=1.91$

#### Education level of the paternal figure

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>cum.prc</i>
1	No studies	14	3.57	3.57
2	Primary education	91	23.21	26.79
3	Secondary education	64	16.33	43.11
4	Superior education	100	25.51	68.62
5	University education	123	31.38	100.00

$N=392 \cdot \bar{x}=3.58 \cdot \sigma=1.25$

#### Education level of the mother figure

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>cum.prc</i>
1	No studies	10	2.55	2.55
2	Primary education	67	17.09	19.64



3	Secondary education	89	22.70	42.35
4	Superior education	69	17.60	59.95
5	University education	157	40.05	100.00

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$N=392 \cdot \bar{x}=3.76 \cdot \sigma=1.22$

### Political ideology

<i>label</i>	<i>mean</i>	<i>sd</i>	<i>se</i>	<i>min</i>	<i>max</i>
1 left - 7 right	3.06	1.49	0.08	1	7

### Study 4

#### Household income

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	Less than 650€/month	14	3.77	3.77
2	651-1.300€/month	54	14.56	18.33
3	1.301-1.950€/month	86	23.18	41.51
4	1.951-2.600€/month	68	18.33	59.84
5	2.601-3.250€/month	52	14.02	73.85
6	3.251-3.900€/month	42	11.32	85.18
7	3.901-4.550€/month	22	5.93	91.11
8	4.551-5.200€/month	10	2.70	93.80
9	5.201-5.800€/month	11	2.96	96.77
10	More than 5.800€/month	12	3.23	100.00

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$N=371 \cdot \bar{x}=4.36 \cdot \sigma=2.12$

**Education level of the paternal figure**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>cum.prc</i>
1	No studies	35	9.43	9.43
2	Primary education	75	20.22	29.65
3	Secondary education	77	20.75	50.40
4	Superior education	67	18.06	68.46
5	University education	117	31.54	100.00

$N=371 \cdot \bar{x}=3.42 \cdot \sigma=1.36$

**Education level of the mother figure**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>cum.prc</i>
1	No studies	30	8.09	8.09
2	Primary education	73	19.68	27.76
3	Secondary education	62	16.71	44.47
4	Superior education	76	20.49	64.96
5	University education	130	35.04	100.00

$total\ N=371 \cdot valid\ N=371 \cdot \bar{x}=3.55 \cdot \sigma=1.35$

**Political ideology**

<i>label</i>	<i>mean</i>	<i>sd</i>	<i>se</i>	<i>min</i>	<i>max</i>
1 left - 7 right	3.20	1.64	0.09	1	7

**2. Measures**

In the interest of promoting transparency and facilitating a comprehensive understanding of our study, we provide the detailed items used to measure the primary variables of interest. This detailed presentation serves to enhance the reproducibility and replicability of our research, enabling fellow researchers to scrutinize and build upon our methodology. The items were originally formulated in Spanish, but we also present here a translated version in English. The full questionnaires are accessible on the Open Science Framework (OSF) platform at the following link:

[https://osf.io/gna2x/?view\\_only=ca6fcb4340bb449a8530eb76c3e36e9f](https://osf.io/gna2x/?view_only=ca6fcb4340bb449a8530eb76c3e36e9f)].

## 2.1. Measures of Study 1

### Perceived Economic Inequality in Health

*Spanish*

¿En tu opinión, cómo de grandes o pequeñas son las diferencias en salud entre la gente más rica y la gente más pobre en España? (1. Muy pequeñas; 7. Muy grandes).

¿En tu opinión, cómo de alta o baja es la desigualdad económica en salud en España? (1. Muy baja; 7. Muy alta).

*Translated to English*

In your judgment, how large or small are the differences in health between the rich and poor in Spain? (1. Very small; 7. Very large)

In your judgment, how high or low is economic inequality in health in Spain? (1. Very low; 7. Very high).

### Perceived Economic Inequality in Education

*Spanish*

¿En tu opinión, cómo de grandes o pequeñas son las diferencias en educación entre la gente más rica y la gente más pobre en España? (1. Muy pequeñas; 7. Muy grandes).

¿En tu opinión, cómo de alta o baja es la desigualdad económica en educación en España? (1. Muy baja; 7. Muy alta).

*Translated to English*

In your judgment, how large or small are the differences in education between the rich and poor in Spain? (1. Very small; 7. Very large)

In your judgment, how high or low is economic inequality in education in Spain? (1. Very low; 7. Very high).

### Perceived Economic Inequality in Income

*Spanish*

¿En tu opinión, cómo de grandes o pequeñas son las diferencias en ingresos entre la gente más rica y la gente más pobre en España? (1. Muy pequeñas; 7. Muy grandes).

¿En tu opinión, cómo de alta o baja es la desigualdad de ingresos en España? (1. Muy baja; 7. Muy alta).

*Translated to English*

In your judgment, how large or small are the differences in income between the rich and poor in Spain? (1. Very small; 7. Very large)

In your judgment, how high or low is income inequality in Spain? (1. Very low; 7. Very high).

## **Intolerance Towards Economic Inequality**

*Spanish* (Montoya-Lozano et al., 2023)

1. Se han exagerado mucho las consecuencias negativas de la desigualdad económica.
  2. La desigualdad económica está causando muchos de los problemas de España
  3. Estoy muy preocupado/a por el grado de desigualdad económica que existe actualmente en España.
  4. La desigualdad económica no es un problema.
  5. Tenemos que hacer todo lo posible para reducir la desigualdad económica que existe en España en la actualidad
- (1. Totalmente en desacuerdo; 7. Totalmente de acuerdo)

*English* (Wiwad et al., 2019)

1. The negative consequences of economic inequality have been largely exaggerated.
  2. Economic inequality is causing many of the world's problems.
  3. I am very disturbed by the amount of economic inequality in the world today.
  4. Economic inequality is not a problem.
  5. We need to do everything possible to reduce economic inequality in the world today.
- (1. Totally disagree; 7. Totally agree)

## **Support for Collective Actions**

*Spanish*

1. Firmaría una petición contra la desigualdad económica.
  2. Participaría en una protesta a favor de la redistribución económica.
  3. Presionaría activamente al gobierno para reducir la desigualdad económica entre ricos y pobres.
  4. Asistiría a manifestaciones en contra de la desigualdad económica.
  5. Me uniría a un grupo de activistas que demanden la redistribución de los recursos económicos.
  6. Creo que la gente tiene que organizarse y trabajar junta para reducir la desigualdad económica.
- (1. Totalmente en desacuerdo; 7. Totalmente de acuerdo)

*Translated to English*

1. I would be willing to sign a petition against economic inequality.
  2. I would be willing to participate in a rally encouraging economic redistribution.
  3. I would be willing to actively lobby the government to reduce the disparity between the rich and the poor.
  4. I would be willing to attend a demonstration against economic inequality
  5. I would be willing to join a group of activists demanding the redistribution of economic resources.
  6. I think people need to organize and work together to reduce economic inequality.
- (1. Totally disagree; 7. Totally agree)

## Support for Redistribution

*Spanish* (García-Sánchez et al., 2022)

1. El Gobierno tiene la responsabilidad de reducir las diferencias de ingresos entre los que tienen más y los que tienen menos.
  2. El Gobierno debería gastar más dinero en subsidios para las personas pobres.
  3. El Gobierno debería imponer mayores impuestos a las personas con más ingresos económicos.
  4. Se deberían reservar cupos en universidades para las personas más desfavorecidas.
  5. Existe una gran necesidad de redistribuir la riqueza entre aquellos que tienen más, hacia aquellos que tienen menos.
  6. No hay ninguna necesidad de cambiar la distribución de ingresos económicos en España.
  7. Las personas con más riqueza deberían ayudar más a las personas más necesitadas.
- (1. Totalmente en desacuerdo; 7. Totalmente de acuerdo)

*Translated to English*

1. The government has a responsibility to reduce the income gap between those who have more and those who have less.
  2. The government should spend more money on subsidies for the poor.
  3. The government should impose higher taxes on people with the highest income.
  4. Places in universities should be reserved for the most disadvantaged people.
  5. There is a great need to redistribute wealth from those who have more to those who have less.
  6. There is no need to change the distribution of economic income in Spain.
  7. The richest people should help the most needy people more.
- (1. Totally disagree; 7. Totally agree)

## 2.2. Measures of Study 2

### Perceived Economic Inequality in Health

*Spanish*

¿En España, en qué medida hay diferencias en el estado de salud entre las personas más ricas y las más pobres? (1. Ninguna diferencia; 7 Muchas diferencias)

*Translated to English*

In Spain, to what extent are there differences in the health status between the rich and the poor? (1. Any difference; 7. Many differences)

### **Perceived Economic Inequality in Education**

*Spanish*

¿En España, en qué medida hay diferencias en el nivel educativo entre las personas más ricas y las más pobres? (1. Ninguna diferencia; 7 Muchas diferencias)

*Translated to English*

In Spain, to what extent are there differences in the educational level between the rich and the poor? (1. Any difference; 7. Many differences)

### **Perceived Economic Inequality in Income**

*Spanish*

¿En España, en qué medida hay diferencias en los ingresos económicos entre las personas más ricas y las más pobres? (1. Ninguna diferencia; 7 Muchas diferencias)

*Translated to English*

In Spain, to what extent are there differences in income between the rich and the poor?(1. Any difference; 7. Many differences)

### **Intolerance towards Inequality in Health**

*Spanish*

¿Cómo de preocupado/a está por las diferencias en el estado de salud entre las personas más ricas y las más pobres? (1. Ninguna diferencia; 7 Muchas diferencias)

*Translated to English*

To what extent are you worried about the differences in the health status between the rich and the poor? (1. Any difference; 7. Many differences)

### **Intolerance towards Inequality in Education**

*Spanish*

¿Cómo de preocupado/a está por las diferencias en el nivel educativo entre las personas más ricas y las más pobres? (1. Ninguna diferencia; 7 Muchas diferencias)

*Translated to English*

To what extent are you worried about the differences in the educational level between the rich and the poor?" (1. Any difference; 7. Many differences)

### **Intolerance towards Inequality in Income**

*Spanish*

¿Cómo de preocupado/a está por las diferencias en los ingresos económicos entre las personas más ricas y las más pobres? (1. Ninguna diferencia; 7 Muchas diferencias)

*Translated to English*

To what extent are you worried about the differences in income between the rich and the poor? (1. Any difference; 7. Many differences)

### **Support for Collective Actions**

*Spanish*

1. Participar en manifestaciones que exijan la reducción de la desigualdad económica.
  2. Posicionarse públicamente en contra de la desigualdad económica (e.g., a través de redes sociales, círculo de amistades, compañeros/as, etc.)
  3. Asociarse en grupos y/o participar en movimientos para presionar de manera activa en favor de la reducción de la desigualdad económica.
  4. Boicotear actos y/o productos que mantengan la desigualdad económica.
- (1. Nada dispuesto/a; 7. Totalmente dispuesto/a)

*Translated to English*

1. Participate in demonstrations demanding the reduction of economic inequality.
  2. Publicly position yourself against economic inequality (e.g., through social networks, circle of friends, peers, etc.)
  3. Associate and/or participate in movements in favour of reducing economic inequality.
  4. I would boycott or avoid buying products that maintain economic inequality.
- (1. Not at all willing; 7. Totally willing)

### **Support for Redistribution**

Same measure as in Study 1.

### **2.3. Measures of Study 3**

#### **Intolerance towards Inequality**

*Spanish*

¿En tu opinión, en qué medida las diferencias que has descrito son injustas/justas? (1. Muy injustas; 7. Muy justas)

¿En tu opinión, en qué medida las diferencias que has descrito son inaceptables/aceptables? (1. Muy inaceptables; 7. Muy aceptables)

*Translated to English*

In your opinion, to what extent the differences you have described are unfair/fair? (1 very unfair - 7 very fair)

In your opinion, to what extent the differences you have described are unacceptable/acceptable? (1 Very unacceptable; 7 Very acceptable)

**Support for Collective Actions**

Same measure as in Study 1.

**Support for Redistribution**

Same measure as in Studies 1 and 2.

**2.4. Measures of Study 4**

**Intolerance towards Inequality**

*Spanish*

Las diferencias entre la gente más rica y la gente más pobre en esta sociedad son injustas.

Las diferencias entre la gente más rica y la gente más pobre en esta sociedad son inaceptables.

(1 Totalmente en desacuerdo; 9 Totalmente de acuerdo)

*Translated to English*

The differences between the richest and poorest people in this society are unfair.

The differences between the richest and poorest people in this society are unacceptable.

(1 *Totally disagree* - 9 *Totally agree*).

**Support for Collective Actions**

*Spanish*

Estaría dispuesto/a a manifestarme para reducir las diferencias entre la gente más rica y la gente más pobre en esta sociedad.

La gente debería organizarse y trabajar junta para reducir las diferencias entre la gente más rica y la gente más pobre en esta sociedad.

(1 Totalmente en desacuerdo; 9 Totalmente de acuerdo)

*Translated to English*

I would be willing to protest to reduce the differences between the richest and poorest people in this society.

People should organize and work together to reduce the differences between the richest and poorest people in this society.



(1 *Totally disagree* - 9 *Totally agree*).

### **Support for Redistribution**

#### *Spanish*

Apoyaría políticas destinadas a reducir las diferencias entre la gente más rica y la gente más pobre en esta sociedad.

El gobierno debería reducir las diferencias entre la gente más pobre y la gente más rica en esta sociedad.

(1 Totalmente en desacuerdo; 9 Totalmente de acuerdo)

#### *Translated to English*

I would support policies aimed at reducing the differences between the richest and poorest people in this society.

The government should reduce the differences between the poorest and richest people in this society.

(1 *Totally disagree* - 9 *Totally agree*).

## **3. Experimental Manipulations**

### **3.1. Experimental Manipulation of Study 3**

#### ***Health Condition***

##### *Spanish*

“Por favor, piensa en una persona rica y otra pobre. Escribe durante dos minutos acerca de las diferencias entre ellas en cuanto a su salud (por ejemplo: la diferencia en la atención sanitaria que adquieren, los centros sanitarios, etc.). Cuando pasen los dos minutos, aparecerá el botón para pasar a la siguiente página.”

##### *Translated to English*

"Please, think about a rich person and another poor person. Write for two minutes about the differences between them in relation to their health (for example, the difference between the sanitary attention that they get, health centres, etc.). When two minutes have passed, the button to continue to the next screen will be available."

#### ***Education Condition***

##### *Spanish*

“Por favor, piensa en una persona rica y otra pobre. Escribe durante dos minutos acerca de las diferencias entre ellas en cuanto a su educación (por ejemplo: la diferencia en la educación académica que adquieren, los centros educativos, etc.). Cuando pasen los dos minutos, aparecerá el botón para pasar a la siguiente página.”

*Translated to English*

“Please, think about a rich person and another poor person. Write for two minutes about the differences between them in relation to their education (for example, the difference between the academic education that they get, education centres, etc.). When two minutes have passed, the button to continue to the next screen will be available.”

***Income Condition***

*Spanish*

“Por favor, piensa en una persona rica y otra pobre. Escribe durante dos minutos acerca de las diferencias entre ellas en cuanto a sus ingresos (por ejemplo: la diferencia en los salarios que adquieren, las casas y propiedades, etc.). Cuando pasen los dos minutos, aparecerá el botón para pasar a la siguiente página.”

*Translated to English*

"Please, think about a rich person and another poor person. Write for two minutes about the differences between them in relation to their incomes (for example, the difference between the salaries that they get, houses and properties, etc.). When two minutes have passed, the button to continue to the next screen will be available."

***Control Condition***

*Spanish*

“Por favor, piensa en una persona alta y otra baja. Escribe durante dos minutos acerca de las diferencias entre ellas en cuanto a su talla de ropa (por ejemplo: la diferencia en las tallas que adquieren, el tamaño de la ropa, etc.). Cuando pasen los dos minutos, aparecerá el botón para pasar a la siguiente página.”

*Translated to English*

"Please, think about a tall person and another small person. Write for two minutes about the differences between them in relation to their clothing size (for example, the difference between the clothing size that they get, the size of the clothes, etc.). When two minutes have passed, the button to continue to the next screen will be available."

3.1.1. Examples of Participants' Responses in the Experimental Task of Study 3

***Health Condition:***

Example 1.

*Spanish*

“Una persona rica tendrá acceso a consultas privadas con la asiduidad que desee, pues no tendrá reparo en gastar dinero en un seguro médico de alta cobertura. La persona rica cuenta con mayor libertad en ese sentido, mientras que la pobre está limitada por su situación económica y dependerá de la sanidad pública, cada día más castigada por la

situación actual. Además, las personas que han tenido que trabajar desde una temprana edad desarrollarán ciertas dolencias de manera prematura y no podrán dedicarle a su cuerpo el tiempo de descanso que merece, mientras que una persona rica puede permitirse no trabajar. De hecho, una consulta al médico puede ser toda una odisea para el pobre, que deberá pedir ciertos favores para poder escaparse a la consulta.”

*Translated to English*

“A wealthy person will have access to private consultations as often as they desire, as they won't hesitate to spend money on comprehensive health insurance. The wealthy individual has greater freedom in this regard, while the poor is limited by their economic situation and relies on public healthcare, increasingly strained by the current situation. Additionally, individuals who have had to work from an early age may develop certain health issues prematurely and may not be able to allocate the deserved rest time to their bodies, whereas a wealthy person can afford not to work. In fact, a doctor's appointment can be a daunting task for the poor, who may need to seek certain favors to make time for the appointment.”

Example 2.

*Spanish*

“La persona pobre tiene acceso a la sanidad pública que suele estar colapsada, con lo que si enfermedad tiende a empeorar nada más que por el factor tiempo. Mientras tanto la persona rica seguramente tenga un seguro privado y acceda antes a la atención sanitaria y le ponga remedio a su enfermedad. Por ende, se mejorará y gozará de mejor salud que la persona pobre. Además si tiene que darse de baja, la persona pobre probablemente no lo haga si su trabajo no se lo permite mientras que la persona rica puede tomarse tiempo para ella misma sin trabajar. Siendo rica una persona tiene mejor acceso a la sanidad.”

*Translated to English*

“The poor person has access to public healthcare, which is often overwhelmed, meaning that if their illness tends to worsen, it is primarily due to the time factor. Meanwhile, the wealthy person likely has private insurance, gaining earlier access to healthcare and addressing their illness sooner. Consequently, they will recover and enjoy better health than the poor person. Additionally, if they need to take time off work, the poor person probably won't do so if their job doesn't allow it, while the wealthy person can take time for themselves without working. Being wealthy provides better access to healthcare.”

Example 3.

*Spanish*

“Persona rica va a centros privados donde la atención es más precisa debido a los recursos de este servicio y que son gestionados prácticamente por el cliente.”

*Translated to English*

“A wealthy person goes to private facilities where the attention is more precise due to the resources of this service, and they are practically managed by the client.”

Example 4.

*Spanish*

“Una persona rica siempre tendrá más salud que una pobre. Porque, en general, un rico tendrá más posibilidades de recurrir a la sanidad privada, que suele ser más competente y de mayor calidad que la pública.”

*Translated to English*

“A wealthy person will always have better health than a poor person. In general, a rich individual will have more opportunities to resort to private healthcare, which is usually more competent and of higher quality than the public system”

***Education Condition***

Example 1.

*Spanish*

“Las personas ricas pueden permitirse estudiar en un centro de mayor nivel con mejores materiales y mayor posibilidad de realizar viaje o excursiones para adquirir un conocimiento más práctico. Las personas pobres solo pueden optar a un centro público y, en muchas ocasiones, deben abandonar sus estudios para trabajar.”

*Translated to English*

“Wealthy individuals can afford to study at a higher-level institution with better resources and greater opportunities for travel or excursions to gain practical knowledge. Poor individuals can only opt for a public institution and, in many cases, may have to abandon their studies to work.”

Example 2.

*Spanish*

“La rica puede elegir su educación (privada, concertada, pública), la pobre no. La rica puede obtener una atención más especializada, estar en una clase con menos personas, etc. la pobre no. En un centro educativo en un barrio pobre hay más posibilidad de conflicto. Una persona pobre quizá no pueda permitirse el acceso a la universidad o tenga que trabajar pronto.”

*Translated to English*

“The wealthy person can choose their education (private, semi-private, public), while the poor person cannot. The wealthy individual can receive more specialized attention, be in a smaller class, etc., whereas the poor person cannot. In an educational institution

in a poor neighborhood, there is a higher likelihood of conflict. A poor person may not be able to afford access to university or may have to start working early.”

Example 3.

*Spanish*

“La persona rica tiene muchas más opciones educativas, ya que puede optar por ser educada en un centro concertado o privado, con programas de educación bilingüe, intercambios, más y mejores salidas culturales y de ocio...”

*Translated to English*

“The wealthy person has many more educational options, as they can choose to be educated in a semi-private or private institution, with bilingual education programs, exchanges, more and better cultural and leisure opportunities...”

Example 4.

*Spanish*

“La educación académica de una persona pobre está más limitada que la de una persona rica, ya que no tienen acceso a tantos recursos para comprar material, libros... Además lo más probable es que una persona rica vaya a un centro educativo privado.”

*Translated to English*

"The academic education of a poor person is more limited than that of a wealthy person, as they do not have access to as many resources to buy materials, books, etc. Additionally, it is more likely that a wealthy person attends a private educational institution."

***Income Condition:***

Example 1.

*Spanish*

“Una persona rica en España es una persona cuya renta supera con creces la cantidad mínima para vivir con cierta estabilidad (poder llegar a fin de mes con facilidad, poder irse de vacaciones, tener un coche y poder pagar gasolina...). Probablemente también sea propietaria de algún inmueble. Una persona pobre, sin embargo, tiene dificultad para llegar a fin de mes, no puede permitirse lujos como vacaciones o viajar en coche de manera individual, y no es propietaria de un inmueble. Probablemente su sueldo sea mileurista o menor.”

*Translated to English*

“A wealthy person in Spain is someone whose income far exceeds the minimum amount needed to live with a certain stability (being able to easily make ends meet, afford

vacations, own a car, and cover expenses like gasoline). They probably also own some real estate. On the other hand, a poor person struggles to make ends meet, can't afford luxuries like vacations or individual car travel, and doesn't own any real estate. Their salary is likely around or below a thousand euros."

Example 2.

*Spanish*

“Una persona rica es aquella cuyos ingresos económicos, están por encima de la media. Las personas ricas suelen llevar una vida más lujosa, mientras que las personas pobres se sitúan por debajo de la media y les cuesta llegar a fin de mes y pagar todos sus gastos con su salario.”

*Translated to English*

"A wealthy person is someone whose economic income is above average. Wealthy individuals typically lead a more luxurious lifestyle, whereas poor individuals fall below the average and struggle to make ends meet covering all their expenses with their salary."

Example 3.

*Spanish*

“La persona pobre se cataloga a sí misma como alguien que vive "al día", mientras que la rica, puede darse los lujos que así desee. El rico puede recibir como salario un valor 10 veces superior al del pobre, lo cual, por obvias razones le permite tener un mayor poder adquisitivo.”

*Translated to English*

"The poor person describes themselves as someone who lives 'paycheck to paycheck,' while the wealthy individual can afford any luxuries they desire. The rich may receive a salary that is 10 times higher than that of the poor, which, for obvious reasons, allows them to have greater purchasing power."

Example 4.

*Spanish*

“Hay una diferencia abismal entre uno que ingresa entre 4000/5000€ mes y otro que gana una pensión de algo más de 500 €. El primero tiene varias casas, fincas, 2 coches de alta gama; el segundo vive en una casa antigua y destartalada, y poco más es lo que posee.”

*Translated to English*

“There is an abysmal difference between someone earning between 4000/5000€ per month and another receiving a pension of just over 500€. The former owns multiple

houses, estates, and two high-end cars; the latter lives in an old and rundown house, and possesses little more.”

***Control Condition:***

Example 1.

*Spanish*

“Aunque una de las personas sea más alta que la otra en cuanto a la talla de ropa que usa es más pequeña que la persona baja. Por ejemplo: la persona alta se compra una S y la persona baja una M. Y suele tener ropa más ajustada. La persona baja prefiere llevar ropa más ancha.”

*Translated to English*

“Although one of the individuals may be taller than the other based on the clothing size they wear, they are actually smaller than the shorter person. For example, the tall person buys a size Small (S), while the short person buys a size Medium (M) and tends to wear looser-fitting clothes. The shorter person prefers to wear more oversized clothing.”

Example 2.

*Spanish*

“La persona alta tendrá más dificultad posiblemente para encontrar ropa debido a que necesita una talla mayor que la otra persona, además encontrar calzado de un número superior al 43 es complicado. La persona baja tendrá más facilidades para encontrar ropa de su talla, pero tendrá que modificar el largo tanto de los pantalones como el de las mangas.”

*Translated to English*

“The tall person will possibly have more difficulty finding clothes because they need a larger size than the other person. Additionally, finding footwear in a size larger than 43 can be challenging. The short person will have an easier time finding clothes in their size but may need to modify the length of both pants and sleeves.”

Example 3.

*Spanish*

“La persona alta adquiere una talla de camiseta de XL, la persona baja adquiere una talla de camiseta de XS. La persona alta lleva ropa generalmente holgada y la persona baja lleva ropa generalmente ajustada al cuerpo.”

*Translated to English*

“The tall person purchases a t-shirt size XL, while the short person buys a t-shirt size XS. The tall person generally wears loose-fitting clothes, whereas the short person typically wears clothing that is more fitted to the body.”

Example 4.

*Spanish*

“Una persona alta adquiere ropa de talla grande porque las estándar les quedan pequeñas. Mientras que una persona baja adquiere ropa pequeña, en ocasiones ropa de adolescente porque es la talla que mejor se ajusta a ellos. La gente alta compra calzado más grande que la gente baja.”

*Translated to English*

“A tall person buys large-sized clothing because standard sizes are too small for them. Meanwhile, a short person purchases small-sized clothing, sometimes even from the teenage section, as it fits them best. Tall individuals also tend to buy larger-sized footwear compared to shorter individuals.”

**3.2. Experimental Manipulation of Study 4**

*Spanish*

“A lo largo de este cuestionario, te vamos a pedir que imagines distintas sociedades ficticias y te daremos información de algunas personas que habitan en ellas. En concreto, te presentaremos algunas diferencias entre una persona más rica y otra más pobre en cada sociedad. Estas personas son representativas del grupo al que pertenecen. Después, te pediremos tu opinión sobre estas diferencias.”

*Translated to English*

“Throughout this questionnaire, we will ask you to imagine different fictional societies and we will provide you with information about some people who live in them. Specifically, we will present some differences between a richer person and a poorer person in each society. These individuals are representative of the groups to which they belong. Then, we will ask for your opinion on these differences.”

**Health condition**

Low inequality

*Spanish*

“Imagina la Sociedad Y, donde viven Juan y Mateo. A pesar de que Juan es más pobre y Mateo más rico, las diferencias en su acceso a la salud son muy pequeñas. A continuación, se describen las diferencias en el acceso a la salud de ambos.

- Juan espera un 5% más para recibir atención sanitaria que Mateo. Esto es, por cada 20 días que espera Mateo, Juan espera 21 días.



- Ambos tienen acceso a algunos tratamientos avanzados y pueden permitirse especialistas privados.
- Como resultado, ambos tienen una esperanza de vida similar.”

*Translated to English*

"Imagine Society Y, where Juan and Mateo live. Despite Juan being poorer and Mateo being richer, the differences in their access to healthcare are very small. The differences in their access to healthcare are described below:

- Juan waits 5% longer to receive healthcare than Mateo. That is, for every 20 days Mateo waits, Juan waits 21 days.
- Both have access to some advanced treatments and can afford private specialists.
- As a result, both have a similar life expectancy."

High inequality

*Spanish*

“Imagina la Sociedad Y, donde viven Juan y Mateo. Debido a que Juan es más pobre y Mateo más rico, las diferencias en su acceso a la salud son muy grandes. A continuación, se describen las diferencias el acceso a la salud de ambos.

- Juan espera 10 veces más para recibir atención sanitaria que Mateo. Esto es, por cada 20 días que espera Mateo, Juan espera 200 días.
- Juan no tiene acceso a tratamientos avanzados ni puede permitirse especialistas privados, mientras que Mateo sí.
- Como resultado, Juan tiene 10 años menos de esperanza de vida que Mateo.”

*Translated to English*

"Imagine Society Y, where Juan and Mateo live. Because Juan is poorer and Mateo is richer, the differences in their access to healthcare are very large. The differences in their access to healthcare are described below:

- Juan waits 10 times longer to receive healthcare than Mateo. That is, for every 20 days Mateo waits, Juan waits 200 days.
- Juan does not have access to advanced treatments nor can he afford private specialists, while Mateo can.
- As a result, Juan has a life expectancy that is 10 years shorter than Mateo's."

**Education condition**

Low inequality

*Spanish*

Imagina la Sociedad W, donde viven Marcos y Ángel. A pesar de que Marcos es más pobre y Ángel más rico, las diferencias en su acceso a la educación son muy pequeñas. A continuación, se describen las diferencias en el acceso a la educación de ambos.

- Marcos recibe un 5% menos de tiempo de atención educativa personalizada (de profesores/as, tutores/as, etc.) que Ángel. Esto es, por cada 20 horas que recibe Marcos, Ángel recibe 21 horas de atención educativa personalizada.
- Ambos tienen acceso a estudios universitarios y pueden permitirse clases privadas.
- Como resultado, ambos tienen un nivel educativo similar.

*Translated to English*

"Imagine Society W, where Marcos and Ángel live. Despite Marcos being poorer and Ángel being richer, the differences in their access to education are very small. The differences in their access to education are described below:

- Marcos receives 5% less personalized educational attention (from teachers, tutors, etc.) than Ángel. That is, for every 20 hours Marcos receives, Ángel receives 21 hours of personalized educational attention.
- Both have access to university studies and can afford private lessons.
- As a result, both have a similar level of education."

High inequality

*Spanish*

“Imagina la Sociedad W, donde viven Marcos y Ángel. Debido a que Marcos es más pobre y Ángel más rico, las diferencias en su acceso a la educación son muy grandes. A continuación, se describen las diferencias en el acceso a la educación de ambos.

- Marcos recibe 10 veces menos tiempo de atención educativa personalizada (de profesores/as, tutores/as, etc.) que Ángel. Esto es, por cada 20 horas que recibe Marcos, Ángel recibe 200 horas de atención educativa personalizada.
- Marcos no tiene acceso a estudios universitarios o en el extranjero ni puede permitirse clases privadas, mientras que Ángel sí.
- Como resultado, Marcos tiene un nivel educativo de 10 años menos de educación formal que Ángel.”

*Translated to English*

"Imagine Society W, where Marcos and Ángel live. Because Marcos is poorer and Ángel is richer, the differences in their access to education are very large. The differences in their access to education are described below:

- Marcos receives 10 times less personalized educational attention (from teachers, tutors, etc.) than Ángel. That is, for every 20 hours Marcos receives, Ángel receives 200 hours of personalized educational attention.
- Marcos does not have access to university studies or studies abroad, nor can he afford private lessons, while Ángel can.
- As a result, Marcos has 10 years less formal education than Ángel."

**Income condition**

Low inequality

*Spanish*

“Imagina la Sociedad X, donde viven Luis y Diego. A pesar de que Luis es más pobre y Diego más rico, las diferencias en sus ingresos son muy pequeñas. A continuación, se describen las diferencias en sus ingresos.

- Luis cobra un 5% menos que Diego. Esto es, por cada 2.000 euros que gana Luis, Diego cobra 2.100.
- Ambos tienen acceso a algunos lujos y pueden permitirse costes extra.
- Como resultado, ambos tienen un nivel similar de ahorros en el banco.”

*Translated to English*

“Imagine Society X, where Luis and Diego live. Despite Luis being poorer and Diego being richer, the differences in their incomes are very small. The differences in their incomes are described below:

- Luis earns 5% less than Diego. That is, for every 2,000 euros Luis earns, Diego earns 2,100 euros.
- Both have access to some luxuries and can afford extra expenses.
- As a result, both have a similar level of savings in the bank.”

High inequality

*Spanish*

“Imagina la Sociedad X, donde viven Luis y Diego. Debido a que Luis es más pobre y Diego más rico, las diferencias en sus ingresos son muy grandes. A continuación, se describen las diferencias en sus ingresos.

- Luis cobra 10 veces menos que Diego. Esto es, por cada 2.000 euros que gana Luis, Diego cobra 20.000 euros.
- Luis no tiene acceso a lujos ni puede permitirse costes extra, mientras que Diego sí.
- Como resultado, Luis tiene 10 veces menos ahorros en el banco que Diego.”

*Translated to English*

"Imagine Society X, where Luis and Diego live. Because Luis is poorer and Diego is richer, the differences in their incomes are very large. The differences in their incomes are described below:

- Luis earns 10 times less than Diego. That is, for every 2,000 euros that Luis earns, Diego earns 20,000 euros.
- Luis does not have access to luxuries nor can he afford extra expenses, while Diego can.
- As a result, Luis has 10 times less savings in the bank than Diego."

Between conditions, participants also read:

*Spanish*

“A continuación, te presentamos otra sociedad diferente. Por favor, pasa a la siguiente página.”

*Translated to English*

“Next, we present another different society. Please turn to the next page.”

#### **4. Deviation from Pre-registration**

In adherence to our commitment to transparency and scientific integrity, we acknowledge and explain the deviations from our pre-registered plan. We have detailed these deviations below:

##### **4.1. Variable Naming**

In the pre-registration documents, certain variable names were recorded differently than those presented in this paper. These modifications were made as follows:

The pre-registered variables “Concerns about inequality” (Study 2) and “Perceived unfairness” (Study 3) were named as “Intolerance towards inequality” to be consistent with Study 1. Moreover “Collective actions intentions” (Study 1), “Collective actions” (Study 2) or “Willingness to participate in collective actions” (Study 3) were referred as “Support for collective actions” for clarity and consistency across the manuscript. Similarly, “Attitudes towards redistribution” (Study 2) was named “Support for redistribution” as in Studies 1 and 3.

These changes were made solely for the purpose of enhancing readability and understanding for our readers. It is crucial to note that these modifications did not alter the fundamental constructs being measured, and the analyses were conducted as per the pre-registered plan.

##### **4.2. Analyses**

In Study 3, we preregistered that we would conduct ANOVA analyses to test our hypotheses, but we also preregistered that we would control for covariates in all analyses. Therefore, we conducted ANCOVA analyses to consider the effects of covariates.

##### **4.3. Additional Hypotheses**

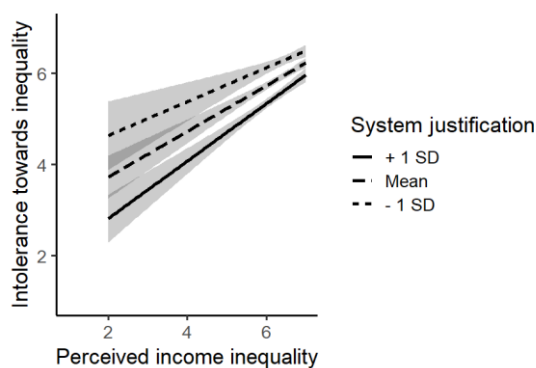
As specified in our pre-registration documents, we initially planned to investigate multiple hypotheses related to the relationship between perceived economic inequality in different domains, intolerance towards economic inequality, and support for actions to reduce it (e.g., collective actions or redistribution). However, for the purpose of this

publication, we did not include in the main manuscript the following pre-registered hypotheses:

In Study 1, we preregistered that ideologies associated with system justification (Economic System Justification, Social Darwinism, and Social Dominance Orientation) and socioeconomic status (objective and subjective socioeconomic status) would moderate the relationship between perceived economic inequality in different domains and intolerance towards inequality. These analyses were omitted from this paper to maintain consistency across the studies and to provide a focused and clear presentation of the core findings. Detailed results of these hypotheses are presented in the following lines, ensuring complete transparency regarding our research scope and outcomes:

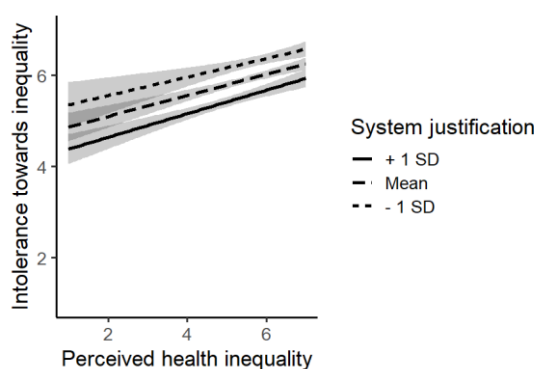
### **Economic System Justification**

#### ***Model 1a: Effect of perceived income inequality on intolerance towards inequality moderated by economic system justification***



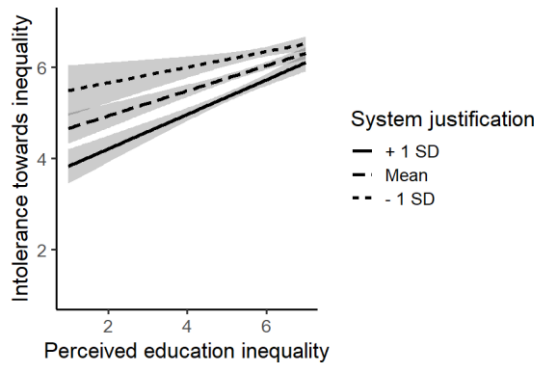
Economic system justification moderated the effect of perceived income inequality on intolerance towards inequality ( $b = .10$ ,  $SE = .04$ ,  $p = .012$ ). When participants justified more the system, the relationship between perceived inequality in income and intolerance to inequality was greater.

#### ***Model 1b: Effect of perceived health inequality on intolerance towards inequality moderated by economic system justification***



Economic system justification did not moderate the effect of perceived health inequality on intolerance towards inequality ( $b = .02$ ,  $SE = .03$ ,  $p = .367$ ).

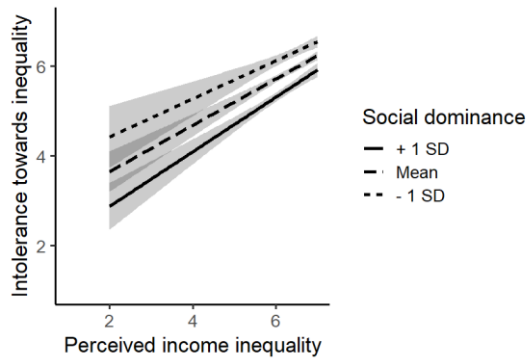
#### ***Model 1c: Effect of perceived education inequality on intolerance towards inequality moderated by economic system justification.***



Economic system justification moderated the effect of perceived education inequality on intolerance towards inequality ( $b = .08, SE = .03, p = .003$ ). When participants justified more the system, the relationship between perceived inequality in education and intolerance to inequality was greater.

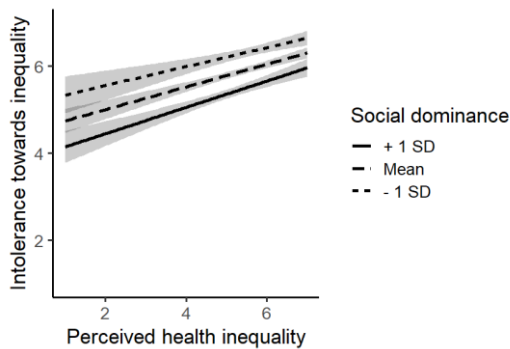
**Social Dominance Orientation**

***Model 2a: Effect of perceived income inequality on intolerance towards inequality moderated by social dominance orientation***



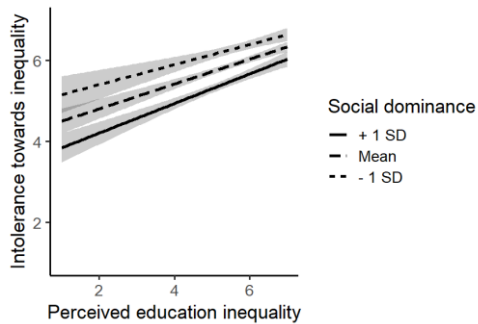
Social dominance orientation did not moderate the effect of perceived income inequality on intolerance towards inequality, but it is close to being significant ( $b = .09, SE = .05, p = .061$ ).

***Model 2b: Effect of perceived health inequality on intolerance towards inequality moderated by social dominance orientation***



Social dominance orientation did not moderate the effect of perceived health inequality on intolerance towards inequality ( $b = .04, SE = .03, p = .196$ ).

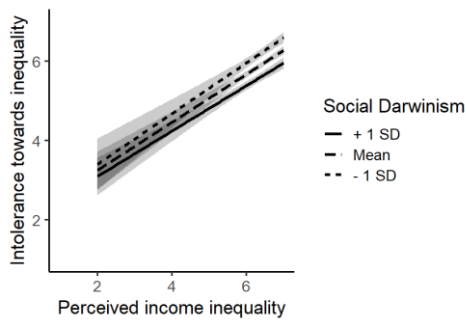
**Model 2c: Effect of perceived education inequality on intolerance towards inequality moderated by social dominance orientation**



Social dominance orientation moderated the effect of perceived education inequality on intolerance towards inequality ( $b = .06$ ,  $SE = .03$ ,  $p = .049$ ). When participants had more social dominance orientation, the relationship between perceived inequality in education and intolerance to inequality was greater.

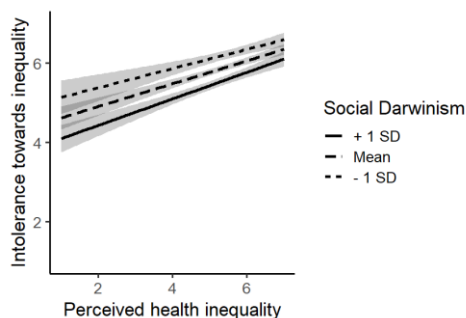
**Social Darwinism**

**Model 3a: Effect of perceived income inequality on intolerance towards economic inequality moderated by Social Darwinism**



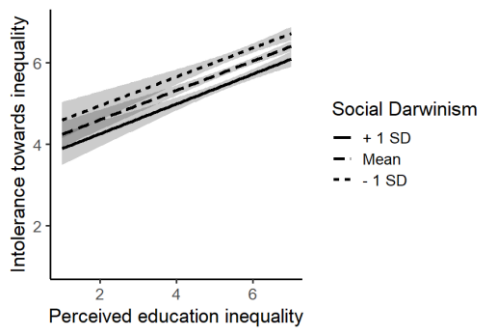
Social Darwinism did not moderate the effect of perceived income inequality on intolerance towards inequality ( $b = -.03$ ,  $SE = .03$ ,  $p = .370$ ).

**Model 3b: Effect of perceived health inequality on intolerance towards economic inequality moderated by Social Darwinism**



Social Darwinism did not moderate the effect of perceived health inequality on intolerance towards inequality ( $b = .04$ ,  $SE = .02$ ,  $p = .110$ ).

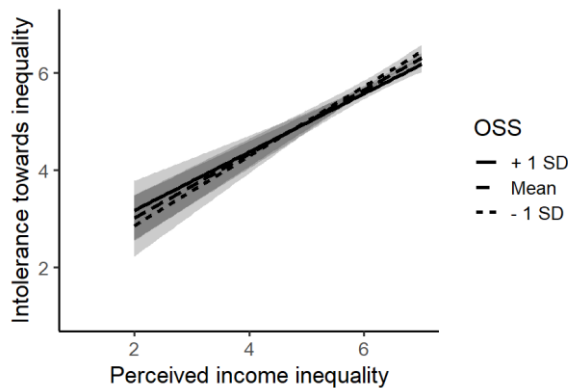
**Model 3c: Effect of perceived education inequality on intolerance towards economic inequality moderated by Social Darwinism**



Social Darwinism did not moderate the effect of perceived education inequality on intolerance towards inequality ( $b = .01$ ,  $SE = .03$ ,  $p = .842$ ).

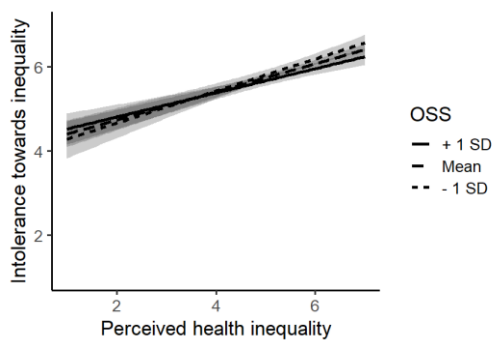
**Objective Socioeconomic Status**

***Model 4a: Effect of perceived income inequality on intolerance towards economic inequality moderated by objective socioeconomic status***



Objective Socioeconomic Status did not moderate the effect of perceived income inequality on intolerance towards inequality ( $b = -.07$ ,  $SE = .06$ ,  $p = .228$ ).

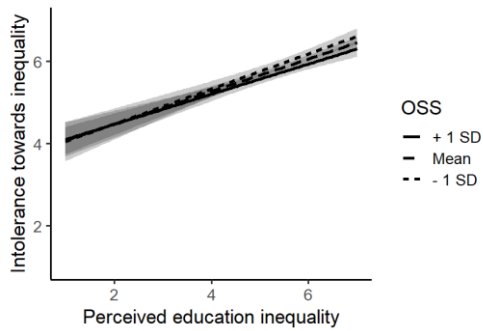
***Model 4b: Effect of perceived health inequality on intolerance towards economic inequality moderated by objective socioeconomic status***



Objective Socioeconomic Status did not moderate the effect of perceived health inequality on intolerance towards inequality ( $b = -.06$ ,  $SE = .04$ ,  $p = .133$ ).

***Model 4c: Effect of perceived education inequality on intolerance towards economic inequality moderated by objective socioeconomic status***

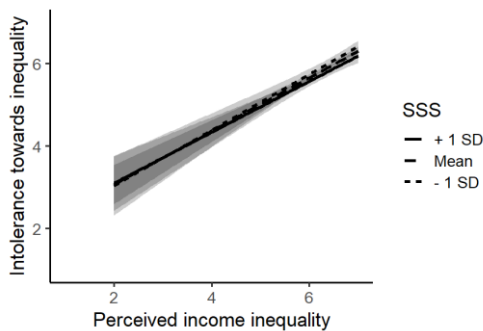




Objective Socioeconomic Status did not moderate the effect of perceived education inequality on intolerance towards inequality ( $b = -.04, SE = .04, p = .376$ ).

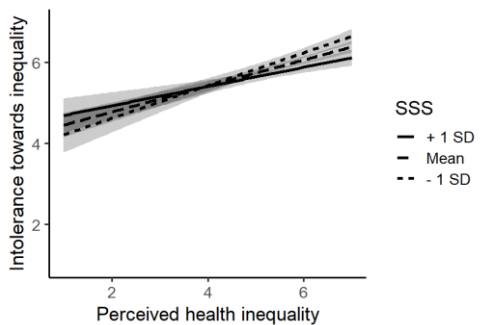
**Subjective Socioeconomic Status**

***Model 5a: Effect of perceived income inequality on intolerance towards economic inequality moderated by subjective socioeconomic status***



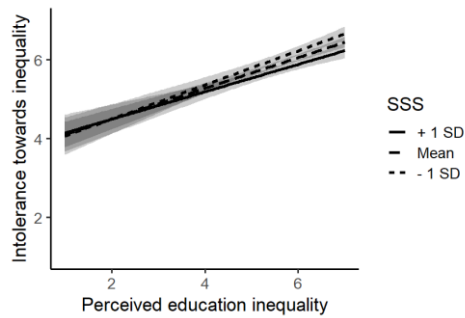
Subjective Socioeconomic Status did not moderate the effect of perceived income inequality on intolerance towards inequality ( $b = -.02, SE = .04, p = .614$ ).

***Model 5b: Effect of perceived health inequality on intolerance towards economic inequality moderated by subjective socioeconomic status***



Subjective Socioeconomic Status moderated the effect of perceived health inequality on intolerance towards inequality ( $b = -.06, SE = .03, p = .014$ ). When participants had more subjective socioeconomic status, the relationship between perceived inequality in health and intolerance to inequality was weaker.

***Model 5c: Effect of perceived education inequality on intolerance towards economic inequality moderated by subjective socioeconomic status***



Subjective Socioeconomic Status did not moderate the effect of perceived income inequality on intolerance towards inequality ( $b = -.03, SE = .03, p = .244$ ).

**Interpretation of the results regarding the moderation effects of ideologies associated with system justification**

Our initial expectations were that ideologies associated with system justification could have worked as a buffer in the relationship between perceived inequalities and intolerance towards inequality, in line with previous research. For instance, García-Sánchez et al. (2020) found that the perceived size of the income gap correlated positively with believing that it is the government’s responsibility to reduce inequality among those who rejected beliefs that justify inequality, whereas there was no association for those who endorsed these beliefs. Similarly, perceived economic inequality correlated positively with support for progressive taxation, but this association was weaker among those who endorsed meritocratic and equal opportunity beliefs. Nevertheless, in our research, we found no significant moderation effects or significant effects but in the opposite direction. This is, in some cases, for participants higher in economic system justification or higher in social dominance orientation, the relationship between perceived inequality and intolerance towards inequality was stronger. One possible explanation for this finding which is also coherent with our framework is that participants low in economic system justification or social dominance orientation had already a high intolerance towards inequality, even when they perceived low inequality. Thus, the role of system justifying beliefs on the relationship between perceived inequalities and intolerance towards inequality might be more complex and need further exploration.

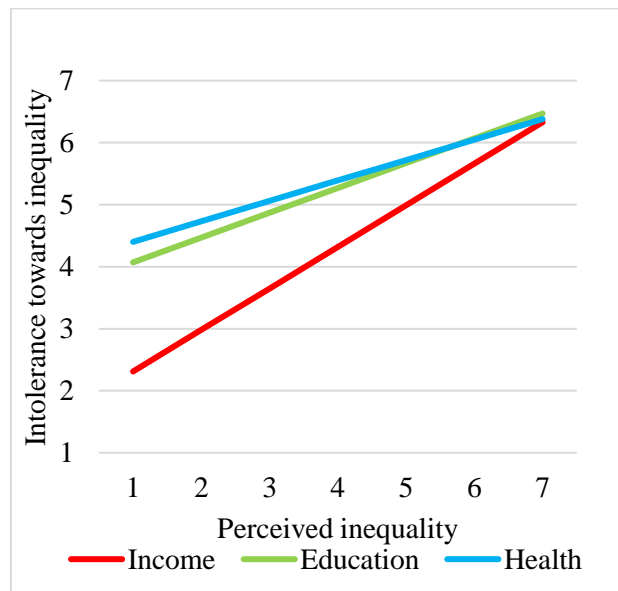
**Interpretation of the results regarding the moderation effects of socioeconomic status**

Similar to what we predicted for ideologies, we expected that socioeconomic status could function as a buffer in the relationship between perceptions of inequality and intolerance towards it. In our study, most of the moderation effects were not significant, although they showed the expected tendency (negative sign of the estimates). Only the relationship of perceived health inequality and intolerance towards inequality was negatively affected by subjective socioeconomic status. We recommend future studies to have greater statistical power (e.g., with a wider sample) to further explore these effects.

## 5. Additional Reports of Results

### 5.1. Study 1

In our analysis, we observed that the regression coefficient for perceived income inequality was higher than those for perceived inequalities in health and education. This finding was contrary to our initial hypothesis that inequalities in health and education would be less easily justified and therefore would have a stronger relationship with intolerance towards inequality. To understand this discrepancy, we examined the intercepts of the regression lines for perceived inequalities. We found that the intercepts for perceived inequalities in health (Intercept = 4.07) and education (Intercept = 3.77) were notably higher than the intercept for perceived income inequality (Intercept = 1.90). A higher intercept in the context of our regression analysis may indicate that even at low levels of perceived inequality in health and education, there is already a high baseline level of intolerance towards these inequalities. This interpretation is in line with our framework. As health and education are often considered fundamental human rights, any perceived disparity in these areas may be met with immediate and strong disapproval. Thus, people may be more predisposed to react negatively to perceived disparities in these domains, regardless of their extent. To visually support this interpretation, we provide a graphic representation of the regression lines for perceived income inequality, health inequality, and education inequality. This graph illustrates how, at the lowest levels of perceived inequality, intolerance is already at a higher baseline for health and education compared to income inequality.



## 5.2. Study 2

Table 1

Mediational model in Study 2

Predictors	I. I. health		I. I. education		I. I. income		Collective actions		Redistribution	
	<i>b</i> (SE)	<i>p</i>	<i>b</i> (SE)	<i>p</i>	<i>b</i> (SE)	<i>p</i>	<i>b</i> (SE)	<i>p</i>	<i>b</i> (SE)	<i>p</i>
(Intercept)	1.11 (.31)	<.001	.79 (.31)	.011	1.45 (.31)	<.001	2.20 (.08)	<.001	1.35 (.26)	<.001
<b>Direct effects</b>										
P. I. health	.45 (.02)	<.001	.19 (.03)	<.001	.20 (.03)	<.001	.06 (.04)	.095	.07 (.03)	.004
P. I. education	.05 (.03)	.113	.30 (.03)	<.001	.02 (.03)	.563	-.06 (.04)	.134	.00 (.03)	.941
P. I. income	.15 (.04)	<.001	.15 (.04)	<.001	.41 (.04)	<.001	.02 (.05)	.681	.18 (.04)	<.001
I. I. health							.14 (.03)	<.001	.02 (.02)	.394
I. I. education							.07 (.03)	.019	.08 (.02)	<.001
I. I. income							.32 (.03)	<.001	.33 (.02)	<.001
<b>Indirect effects</b>										
P. I. hea. → I. I. hea. →							.06 (.01)	<.001	.01 (.01)	.394
P. I. edu. → I. I. edu. →							.02 (.01)	.022	.02 (.01)	.001
P. I. inc. → I. I. inc. →							.13 (.02)	<.001	.14 (.02)	<.001
P. I. hea. → I. I. edu. →							.01 (.01)	.026	.01 (.01)	.001
P. I. hea. → I. I. inc. →							.06 (.01)	<.001	.07 (.01)	<.001
P. I. edu. → I. I. hea. →							.01 (.00)	.129	.00 (.00)	.453
P. I. edu. → I. I. inc. →							.01 (.01)	.534	.01 (.01)	.563
P. I. inc. → I. I. hea. →							.02 (.01)	.005	.00 (.00)	.407
P. I. inc. → I. I. edu. →							.01 (.01)	.048	.01 (.01)	.010
<b>Covariates</b>										
Age	.00 (.00)	.061	.01 (.00)	<.001	.00 (.00)	.120	-.01 (.00)	.016	.00 (.00)	.019
Gender	.26 (.07)	<.001	.34 (.07)	<.001	.21 (.07)	.003	-.12 (.08)	.142	-.04 (.06)	.530
Income Level	-.02 (.01)	.076	-.02 (.01)	.269	-.08 (.01)	<.001	.04 (.02)	.014	-.02 (.01)	.066
Observations	1534		1534		1534		1534		1533	
R <sup>2</sup>	.27		.22		.19		.13		.27	

Note. *b*, *SE*, and *p* represent unstandardized regression coefficients, standard errors, and p-values, respectively. P. I. is an abbreviation of 'Perceived Inequality'. I. I. is an abbreviation of 'Intolerance towards Inequality'.

## 5.3. Study 3

**Table 2***ANCOVA analyses in Study 3*

	Intolerance towards inequality				Support for collective actions				Support for redistribution			
	<i>F</i>	<i>df</i>	<i>p</i>	<i>f</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>f</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>f</i>
Condition	37.63	3	<.001	.54	.29	3	.829	.05	.73	3	.534	.08
Age	.06	1	.813	.01	.99	1	.320	.05	1.64	1	.201	.07
Gender	18.25	1	<.001	.22	10.78	1	.001	.17	15.03	1	<.001	.20
Political Ideology	31.66	1	<.001	.29	140.20	1	<.001	.61	163.27	1	<.001	.65
Parent's education	.82	1	.366	.05	47.00	1	<.001	.35	24.400	1	<.001	.25
Income level	10.61	1	.001	.17	8.09	1	.005	.15	8.01	1	.005	.14

*Note.* *F*, *df*, *p*, and *f* represent F-test, numerator degrees of freedom, p-values, and Cohen's *f* respectively.

**Table 3**

*Mediational model of experimental conditions vs. control in Study 3*

<i>Predictors</i>	<b>Intolerance towards inequality</b>		<b>Support for collective actions</b>		<b>Support for redistribution</b>	
	<i>b (SE)</i>	<i>p</i>	<i>b (SE)</i>	<i>p</i>	<i>b (SE)</i>	<i>p</i>
<i>Intercept</i>	4.22 (.47)	<b>&lt;.001</b>	1.45 (.10)	<b>&lt;.001</b>	6.04	<b>&lt;.001</b>
<b><i>Direct effects</i></b>						
Dummy 1 ( <i>health vs. control</i> )	1.56 (.19)	<b>&lt;.001</b>	-.47 (.19)	<b>.016</b>	-.39 (.14)	<b>.007</b>
Dummy 2 ( <i>education vs. control</i> )	1.67 (.19)	<b>&lt;.001</b>	-.41 (.20)	<b>.036</b>	-.46 (.15)	<b>.002</b>
Dummy 3 ( <i>income vs. control</i> )	1.48 (.18)	<b>&lt;.001</b>	-.47 (.19)	<b>.013</b>	-.39 (.14)	<b>.005</b>
Intolerance I.			.33 (.05)	<b>&lt;.001</b>	.33 (.04)	<b>&lt;.001</b>
<b><i>Indirect effects</i></b>						
Dummy 1 →Intolerance →			.51 (.10)	<b>&lt;.001</b>	.51 (.08)	<b>&lt;.001</b>
Dummy 2 →Intolerance →			.54 (.10)	<b>&lt;.001</b>	.54 (.08)	<b>&lt;.001</b>
Dummy 3 →Intolerance →			.48 (.09)	<b>&lt;.001</b>	.48(.08)	<b>&lt;.001</b>
<b><i>Covariates</i></b>						
Age	.00 (.01)	.600	-.02 (.01)	<b>.033</b>	-.01 (.01)	<b>.030</b>
Gender	.40 (.14)	<b>.005</b>	-.04 (.14)	.754	-.03 (.10)	.759
Political Ideology	-.25 (.04)	<b>&lt;.001</b>	-.46 (.04)	<b>&lt;.001</b>	-.37 (.03)	<b>&lt;.001</b>
Parent's education	.06 (.06)	.323	-.28 (.06)	<b>&lt;.001</b>	-.13 (.05)	<b>.006</b>
Income level	-.10 (.04)	<b>.008</b>	-.02 (.04)	.482	-.01 (.03)	.744
Observations	392		392		392	
R <sup>2</sup>	.31		.42		.47	

*Note.* *b*, *SE*, and *p* represent unstandardized regression coefficients, standard errors, and *p*-values, respectively.

**Table 4***Mediational model of health and education conditions vs. income in Study 3*

<i>Predictors</i>	<b>Intolerance towards inequality</b>		<b>Support for collective actions</b>		<b>Support for redistribution</b>	
	<i>b (SE)</i>	<i>p</i>	<i>b (SE)</i>	<i>p</i>	<i>b (SE)</i>	<i>p</i>
<i>Intercept</i>	5.89 (.48)	<b>&lt;.001</b>	5.60 (.12)	<b>&lt;.001</b>	5.06	<b>&lt;.001</b>
<b><i>Direct effects</i></b>						
Dummy 1 ( <i>health vs. income</i> )	.08 (.16)	.616	-.00 (.17)	.987	-.00 (.13)	.986
Dummy 2 ( <i>education vs. income</i> )	.18 (.16)	.277	.04 (.17)	.794	-.08 (.13)	.510
Intolerance I.			.40 (.06)	<b>&lt;.001</b>	.40 (.05)	<b>&lt;.001</b>
<b><i>Indirect effects</i></b>						
Dummy 1 →Intolerance →			.03 (.06)	.617	.03 (.06)	.617
Dummy 2 →Intolerance →			.07 (.07)	.283	.07 (.07)	.280
<b><i>Covariates</i></b>						
Age	.01 (.01)	.153	-.01 (.01)	.200	-.01 (.01)	.120
Gender	.30 (.15)	<b>.047</b>	-.11 (.16)	.487	-.07 (.12)	.568
Political Ideology	-.33 (.05)	<b>&lt;.001</b>	-.41 (.05)	<b>&lt;.001</b>	-.31 (.04)	<b>&lt;.001</b>
Parent's education	.04 (.07)	.553	-.23 (.07)	<b>.001</b>	-.12 (.05)	<b>.020</b>
Income level	-.07 (.04)	.082	-.05 (.04)	.212	-.01 (.03)	.863
Observations	304		304		304	
R <sup>2</sup>	.20		.43		.46	

*Note.* *b*, *SE*, and *p* represent unstandardized regression coefficients, standard errors, and *p*-values, respectively.

5.4. Study 4

**Table 5**

*ANCOVA analyses for the effect of high vs. low inequality conditions in Study 4*

	Intolerance towards inequality				Support for collective actions				Support for redistribution			
	<i>F</i>	<i>df</i>	<i>p</i>	<i>f</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>f</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>f</i>
<b>Health</b>												
Condition (1 Low – 2 High)	69.33	1	<.001	.44	50.97	1	<.001	.37	31.63	1	<.001	.29
Age	.34	1	.560	.03	1.24	1	.266	.06	.07	1	.796	.01
Gender	10.10	1	.002	.17	7.94	1	.005	.15	9.74	1	.002	.16
Political Ideology	33.89	1	<.001	.31	59.22	1	<.001	.40	63.33	1	<.001	.42
Parent’s education	1.40	1	.236	.06	2.21	1	.138	.08	1.64	1	.202	.07
Income level	.85	1	.357	.05	2.19	1	.139	.08	4.18	1	.042	.11
<b>Education</b>												
Condition (1 Low – 2 High)	81.86	1	<.001	.47	69.24	1	<.001	.44	46.11	1	<.001	.36
Age	.01	1	.936	.00	.05	1	.901	.01	.43	1	.515	.03
Gender	22.85	1	<.001	.25	20.22	1	<.001	.24	16.31	1	<.001	.21
Political Ideology	37.81	1	<.001	.32	65.31	1	<.001	.42	69.95	1	<.001	.44
Parent’s education	.38	1	.536	.03	1.07	1	.301	.05	2.44	1	.119	.08
Income level	.10	1	.752	.02	1.23	1	.267	.06	2.25	1	.134	.08
<b>Income</b>												
Condition (1 Low – 2 High)	73.57	1	<.001	.45	52.08	1	<.001	.38	28.41	1	<.001	.28
Age	.02	1	.897	.01	.01	1	.939	.00	.44	1	.506	.03
Gender	18.45	1	<.001	.23	13.81	1	<.001	.19	7.62	1	.006	.14
Political Ideology	21.38	1	<.001	.24	33.79	1	<.001	.30	46.62	1	<.001	.36
Parent’s education	4.34	1	.038	.11	7.27	1	.007	.14	2.96	1	.086	.09
Income level	2.64	1	.105	.09	3.00	1	.083	.09	2.98	1	.084	.09

*Note.* *F*, *df*, *p*, and *f* represent F-test, numerator degrees of freedom, p-values, and Cohen’s *f* respectively.



**Table 6**

ANCOVA analyses for the effect of high inequality in health and education conditions (vs. high income inequality) in Study 4

	Intolerance towards inequality				Support for collective actions				Support for redistribution			
	<i>F</i>	<i>df</i>	<i>p</i>	<i>f</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>f</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>f</i>
Condition	37.35	2	<.001	.44	37.34	2	<.001	.44	36.59	2	<.001	.43
Age	3.87	1	.051	.14	1.14	1	.287	.08	.28	1	.599	.04
Gender	5.99	1	.015	.18	2.63	1	.106	.12	2.77	1	.077	.12
Political Ideology	57.49	1	<.001	.55	56.18	1	<.001	.55	52.91	1	<.001	.53
Parent's education	2.54	1	.112	.12	4.92	1	.028	.16	4.35	1	.038	.15
Income level	.94	1	.331	.07	1.10	1	.295	.08	1.97	1	.161	.10

Note. *F*, *df*, *p*, and *f* represent F-test, numerator degrees of freedom, p-values, and Cohen's *f* respectively.

**Table 7**  
*Mediational models for the effect of high vs. low inequality conditions in Study 4*

Predictors	Intolerance towards inequality						Support for collective actions						Support for redistribution					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	Health		Education		Income		Health		Education		Income		Health		Education		Income	
	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>
	( <i>SE</i> )		( <i>SE</i> )		( <i>SE</i> )		( <i>SE</i> )		( <i>SE</i> )		( <i>SE</i> )		( <i>SE</i> )		( <i>SE</i> )		( <i>SE</i> )	
<i>Intercept</i>	5.15	<.001	3.78	<.001	3.43	<.001	2.81	<.001	2.55	<.001	2.69	<.001	3.86	<.001	4.22	<.001	4.11	<.001
	(.75)		(.73)		(.80)		(.46)		(.42)		(.49)		(.50)		(.49)		(.55)	
<b>Direct effects</b>																		
Condition (1 Low – 2 High)	1.74	<.001	1.81	<.001	1.85	<.001	.15	.263	.24	.055	.17	.242	-.07	.615	.12	.401	-.10	.526
	(.21)		(.20)		(.22)		(.13)		(.13)		(.15)		(.14)		(.15)		(.16)	
Intolerance I.							.71	<.001	.69	<.001	.68	<.001	.65	<.001	.60	<.001	.64	<.001
							(.03)		(.03)		(.03)		(.03)		(.03)		(.04)	
<b>Indirect effects</b>																		
Condition → Intolerance →							1.24	<.001	1.25	<.001	1.26	<.001	1.13	<.001	1.09	<.001	1.19	<.001
							(.16)		(.15)		(.16)		(.14)		(.14)		(.15)	
<b>Covariates</b>																		
Age	-.01	.122	-.01	.442	-.00	.307	-.01	.070	-.01	.264	-.00	.234	-.00	.600	-.00	.739	.00	.929
	(.00)		(.01)		(.01)		(.00)		(.01)		(.00)		(.00)		(.01)		(.01)	
Gender	.54	.021	.90	<.001	.87	<.001	-.03	.828	.06	.675	.03	.870	-.05	.733	.02	.874	-.16	.319
	(.23)		(.23)		(.25)		(.14)		(.13)		(.15)		(.14)		(.15)		(.17)	
Political Ideology	-.37	<.001	-.39	<.001	-.30	<.001	-.18	<.001	-.18	<.001	-.14	.001	-.21	<.001	-.22	<.001	-.22	<.001
	(.06)		(.06)		(.07)		(.04)		(.04)		(.04)		(.04)		(.04)		(.05)	
Parent's education	-.09	.310	-.05	.575	-.17	.074	-.04	.497	-.03	.526	-.09	.118	-.01	.797	-.07	.217	-.02	.814
	(.09)		(.09)		(.10)		(.05)		(.05)		(.06)		(.06)		(.06)		(.06)	
Income level	-.05	.351	-.02	.749	-.09	.101	-.04	.219	-.04	.164	-.03	.434	-.06	.044	-.06	.077	-.03	.401
	(.05)		(.05)		(.05)		(.03)		(.03)		(.03)		(.03)		(.03)		(.03)	
Observations	371		371		371		371		371		371		371		371		371	
R <sup>2</sup>	.24		.28		.25		.71		.73		.66		.63		.61		.58	

Note. *b*, *SE*, and *p* represent unstandardized regression coefficients, standard errors, and p-values, respectively.

**Table 8**

*Mediational model of high inequality in health and education conditions (vs. high income inequality) in Study 4*

<i>Predictors</i>	<b>Intolerance towards inequality</b>		<b>Support for collective actions</b>		<b>Support for redistribution</b>	
	<i>b (SE)</i>	<i>p</i>	<i>b (SE)</i>	<i>p</i>	<i>b (SE)</i>	<i>p</i>
<i>Intercept</i>	8.19 (.75)	<.001	3.45 (.53)	<.001	4.33 (.58)	<.001
<b>Direct effects</b>						
Dummy 1 ( <i>health vs. income</i> )	1.03 (.13)	<.001	.19 (.09)	.027	.19 (.09)	.030
Dummy 2 ( <i>education vs. income</i> )	.83 (.13)	<.001	.25 (.09)	.003	.31 (.09)	<.001
Intolerance I.			.61 (.03)	<.001	.53 (.03)	<.001
<b>Indirect effects</b>						
Dummy 1 →Intolerance →			.62 (.08)	<.001	.55 (.08)	<.001
Dummy 2 →Intolerance →			.51 (.08)	<.001	.44 (.07)	<.001
<b>Covariates</b>						
Age	-.01 (.00)	.051	.00 (.00)	.827	.00 (.01)	.457
Gender	.60 (.25)	.015	.02 (.16)	.883	.08 (.18)	.667
Political Ideology	-.50 (.07)	<.001	-.18 (.04)	<.001	-.20 (.05)	<.001
Parent's education	-.14 (.09)	.112	-.11 (.06)	.061	-.11 (.06)	.100
Income level	-.05 (.05)	.332	-.02 (.03)	.494	-.04 (.04)	.235
<b>Random Effects</b>						
$\sigma^2$	1.57		0.67		0.66	
$\tau_{00}$	1.66 <sub>ID</sub>		0.65 <sub>ID</sub>		0.88 <sub>ID</sub>	
ICC	0.51		0.49		0.57	
N	196 <sub>ID</sub>		196 <sub>ID</sub>		196 <sub>ID</sub>	
Observations	586		586		586	
Marginal R <sup>2</sup> / Conditional R <sup>2</sup>	0.243 / 0.632		0.605 / 0.799		0.530 / 0.799	

*Note.* *b*, *SE*, and *p* represent unstandardized regression coefficients, standard errors, and *p*-values, respectively.

### **5.5. Interpretation of the effects of covariates**

In Study 1, we did not include covariates in the analyses. In Study 2, we controlled for age, gender, and income level. Age was a significant predictor of intolerance towards education inequality, collective actions, and redistribution. Specifically, older participants showed greater intolerance towards inequality and more support for redistribution, while younger people supported more collective actions. Gender also affected intolerance towards inequality across all domains, with women showing greater intolerance than men in health, education, and income inequality. Additionally, income level positively influenced support for collective actions. In Studies 3 and 4, we added political ideology and parent's level of education as covariates, along with those from Study 2. Political ideology was a strong predictor in all analyses, with participants on the left of the political spectrum exhibiting greater intolerance towards inequality and higher support for redistribution and collective actions. Parent's level of education predicted lower support for redistribution and collective actions in Study 3, but this finding was inconsistent in Study 4. Age emerged as a significant negative predictor of collective actions and support for redistribution only in the mediational model of Study 3 (Table 3), but this effect was not observed in other analyses. Consistently, women showed greater intolerance towards inequality in Studies 3 and 4, and in one instance, they also demonstrated greater support for collective actions and redistribution (Table 5). Income level had a negative effect on intolerance towards inequality and support for redistribution and collective actions in some analyses of Study 3 (Tables 2 and 3), but these results were inconsistent across other analyses.

In summary, political ideology and gender were the most consistent predictors across studies, with political ideology consistently predicting greater intolerance towards inequality and support for redistribution and collective actions, and women consistently showing greater intolerance towards inequality. In contrast, the effects of age, income level, and parent's level of education were less consistent across the different studies and analyses.



**Supplementary Materials pertaining to Chapter 5**

**Overlapping inequalities: Connecting income inequality with health and education  
disparities motivates its reduction**

## 1. Descriptive statistics

### 1.1. Study 1

#### 1.1.1. Sociodemographics

##### Household income

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	Less than 650€/month	2	0.63	0.63
2	651-1.300€/month	49	15.36	15.99
3	1.301-1.950€/month	72	22.57	38.56
4	1.951-2.600€/month	74	23.20	61.76
5	2.601-3.250€/month	56	17.55	79.31
6	3.251-3.900€/month	27	8.46	87.77
7	3.901-4.550€/month	24	7.52	95.30
8	4.551-5.200€/month	9	2.82	98.12
9	5.201-5.800€/month	4	1.25	99.37
10	More than 5.800€/month	2	0.63	100.00

$N=319 \cdot \bar{x}=4.23 \cdot \sigma=1.74$

##### Education level of the paternal figure

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	19	5.94	5.94
2	Primary education	63	19.69	25.62
3	Secondary education	66	20.62	46.25
4	Superior education	64	20.00	66.25
5	University education	108	33.75	100.00

$N=320 \cdot \bar{x}=3.56 \cdot \sigma=1.29$

**Education level of the mother figure**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	11	3.46	3.46
2	Primary education	43	13.52	16.98
3	Secondary education	63	19.81	36.79
4	Superior education	70	22.01	58.81
5	University education	131	41.19	100.00

$N=318 \cdot \bar{x}=3.84 \cdot \sigma=1.20$

**Political ideology**

<i>label</i>	<i>mean</i>	<i>sd</i>	<i>se</i>	<i>min</i>	<i>max</i>
1 left - 7 right	3.00	1.48	0.08	1	7

**1.1.1. Variables of interest**

**Means, standard deviations, and correlations in Study 1**

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Perceived Overlap in Health	4.71	1.50				
2. Perceived Overlap in Education	4.97	1.39	.37***			
3. Acceptance of Economic Inequality	2.28	1.11	-.32***	-.32***		
4. Support for Collective Actions	4.74	1.66	.31***	.33***	-.71***	
5. Support for Redistribution	5.36	1.25	.35***	.34***	-.73***	.76***

*Note.* *M* and *SD* are used to represent mean and standard deviation, respectively. \* indicates  $p < .05$ .; \*\* indicates  $p < .01$ .; \*\*\* indicates  $p < .001$ .;



## 1.2. Studies 2a and 2b

### 1.2.1. Sociodemographics

#### Household income Study 2a

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	Less than 650€/month	5	2.82	2.82
2	651-1.300€/month	20	11.30	14.12
3	1.301-1.950€/month	38	21.47	35.59
4	1.951-2.600€/month	36	20.34	55.93
5	2.601-3.250€/month	29	16.38	72.32
6	3.251-3.900€/month	21	11.86	84.18
7	3.901-4.550€/month	13	7.34	91.53
8	4.551-5.200€/month	6	3.39	94.92
9	5.201-5.800€/month	5	2.82	97.74
10	More than 5.800€/month	4	2.26	100.00

$N=177 \cdot \bar{x}=4.51 \cdot \sigma=2.01$

#### Household income Study 2b

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	Less than 650€/month	7	3.85	3.85
2	651-1.300€/month	30	16.48	20.33
3	1.301-1.950€/month	35	19.23	39.56
4	1.951-2.600€/month	36	19.78	59.34
5	2.601-3.250€/month	31	17.03	76.37
6	3.251-3.900€/month	16	8.79	85.16
7	3.901-4.550€/month	13	7.14	92.31
8	4.551-5.200€/month	5	2.75	95.05
9	5.201-5.800€/month	6	3.30	98.35

10	More than 5.800€/month	3	1.65	100.00
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$$N=182 \cdot \bar{x}=4.30 \cdot \sigma=2.04$$

**Education level of the paternal figure Study 2a**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	9	5.08	5.08
2	Primary education	27	15.25	20.34
3	Secondary education	34	19.21	39.55
4	Superior education	44	24.86	64.41
5	University education	63	35.59	100.00

$$N=177 \cdot \bar{x}=3.71 \cdot \sigma=1.24$$

**Education level of the paternal figure Study 2b**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	5	2.73	2.73
2	Primary education	33	18.03	20.77
3	Secondary education	42	22.95	43.72
4	Superior education	31	16.94	60.66
5	University education	72	39.34	100.00

$$N=184 \cdot \bar{x}=3.72 \cdot \sigma=1.23$$

**Education level of the mother figure Study 2a**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	8	4.49	4.49
2	Primary education	21	11.80	16.29
3	Secondary education	36	20.22	36.52
4	Superior education	35	19.66	56.18
5	University education	78	43.82	100.00

$$N=178 \cdot \bar{x}=3.87 \cdot \sigma=1.23$$

**Education level of the mother figure Study 2b**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	8	4.37	4.37
2	Primary education	27	14.75	19.13
3	Secondary education	32	17.49	36.61
4	Superior education	36	19.67	56.28
5	University education	80	43.72	100.00

$N=184 \cdot \bar{x}=3.84 \cdot \sigma=1.26$

**Political ideology Study 2a**

<i>label</i>	<i>mean</i>	<i>sd</i>	<i>se</i>	<i>min</i>	<i>max</i>
1 left - 7 right	3.04	1.44	0.11	1	7

**Political ideology Study 2b**

<i>label</i>	<i>mean</i>	<i>sd</i>	<i>se</i>	<i>min</i>	<i>max</i>
1 left - 7 right	2.89	1.36	0.10	1	7

**1.2.2. Variables of interest****Basic descriptives by condition Study 2a**

	<i>Low Overlap</i>		<i>High Overlap</i>	
	<i>mean</i>	<i>sd</i>	<i>mean</i>	<i>sd</i>
Manipulation Check	3.33	2.16	5.86	1.42
Acceptance of Economic Inequality	3.48	1.41	2.22	1.21
Support for Redistribution	5.23	1.45	5.58	1.44
Support for Collective Actions	4.39	1.77	4.94	1.70

**Basic descriptives by condition Study 2b**

	<i>Low Overlap</i>		<i>High Overlap</i>	
	<i>mean</i>	<i>sd</i>	<i>mean</i>	<i>sd</i>
Manipulation Check	3.12	1.86	5.86	1.24
Acceptance of Economic Inequality	3.43	1.49	2.15	1.25
Support for Redistribution	5.01	1.57	5.61	1.45
Support for Collective Actions	4.25	1.84	4.99	1.80

**1.3. Study 3**

**1.3.1. Sociodemographics**

**Household income**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	Less than 650€/month	9	2.43	2.43
2	651-1.300€/month	37	10.00	12.43
3	1.301-1.950€/month	89	24.05	36.49
4	1.951-2.600€/month	73	19.73	56.22
5	2.601-3.250€/month	53	14.32	70.54
6	3.251-3.900€/month	49	13.24	83.78
7	3.901-4.550€/month	32	8.65	92.43
8	4.551-5.200€/month	14	3.78	96.22
9	5.201-5.800€/month	5	1.35	97.57
10	More than 5.800€/month	9	2.43	100.00

$N=370 \cdot \bar{x}=4.52 \cdot \sigma=1.97$

**Education level of the paternal figure**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	22	5.93	5.93

2	Primary education	74	19.95	25.88
3	Secondary education	59	15.90	41.78
4	Superior education	85	22.91	64.69
5	University education	131	35.31	100.00

$$N=371 \cdot \bar{x}=3.62 \cdot \sigma=1.30$$

### Education level of the mother figure

<i>val</i>	<i>label</i>	<i>frq</i>	<i>prc</i>	<i>cum.prc</i>
1	No studies	19	5.14	5.14
2	Primary education	61	16.49	21.62
3	Secondary education	60	16.22	37.84
4	Superior education	73	19.73	57.57
5	University education	157	42.43	100.00

$$N=370 \cdot \bar{x}=3.78 \cdot \sigma=1.29$$

### Political ideology

<i>label</i>	<i>mean</i>	<i>sd</i>	<i>se</i>	<i>min</i>	<i>max</i>
1 left - 7 right	3.12	1.44	0.07	1	7

### 1.3.2. Variables of interest

#### Basic descriptives by condition Study 3

	<i>Low Overlap</i>		<i>High Overlap</i>	
	<i>mean</i>	<i>sd</i>	<i>mean</i>	<i>sd</i>
Manipulation Check Health	4.27	1.71	4.87	1.19
Manipulation Check Education	4.47	1.74	5.15	1.37
Acceptance of Economic Inequality	2.99	1.24	2.58	1.12
Support for Redistribution	5.10	1.56	5.54	1.32
Support for Collective Actions	4.15	1.76	4.31	1.68

## 2. Measures

### 2.1. Study 1

#### Perceived income inequality overlap with health

Por favor, señala el dibujo que mejor describa la influencia de la desigualdad en el ingreso sobre la desigualdad en salud en España, sabiendo que cuanto más se solapan los círculos más depende la desigualdad en salud de la desigualdad en el ingreso. // *Please, indicate the drawing that best describes the influence of income inequality on health inequality in Spain, knowing that the more the circles overlap, the more health inequality depends on income inequality.*

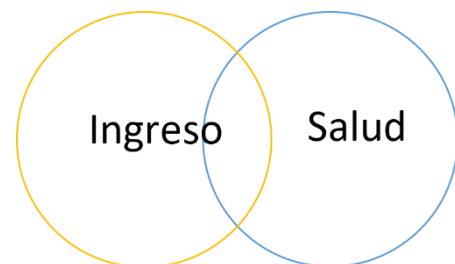
1. La desigualdad en salud no depende nada de la desigualdad en el ingreso. // *Health inequality does not depend at all on income inequality.*



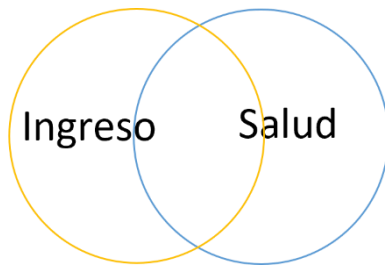
2. La desigualdad en salud depende muy poco de la desigualdad en el ingreso. // *Health inequality depends very little on income inequality.*



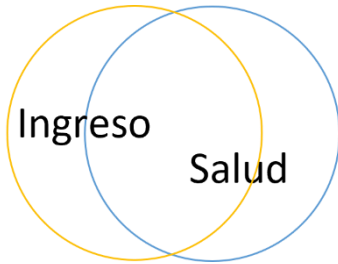
3. La desigualdad en salud depende algo de la desigualdad en el ingreso. // *Health inequality depends somewhat on income inequality.*



4. La desigualdad en salud depende en cierta medida de la desigualdad en el ingreso. // *Health inequality depends to some extent on income inequality.*



5. La desigualdad en salud depende en gran parte de la desigualdad en el ingreso. // *Health inequality largely depends on income inequality.*



6. La desigualdad en salud depende mucho de la desigualdad en el ingreso. // *Health inequality depends to a great extent on income inequality.*



7. La desigualdad en la salud depende casi completamente de la desigualdad en el ingreso. // *Health inequality depends almost entirely on income inequality.*



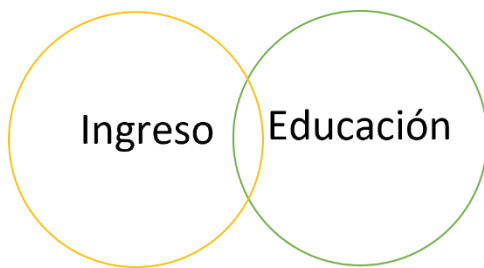
**Perceived income inequality overlap with education**

Por favor, señala el dibujo que mejor describa la influencia de la desigualdad en el ingreso sobre la desigualdad en educación en España, sabiendo que cuanto más se solapan los círculos más depende la desigualdad en educación de la desigualdad en el ingreso. // *Please, indicate the drawing that best describes the influence of income inequality on education inequality in Spain, knowing that the more the circles overlap, the more education inequality depends on income inequality.*

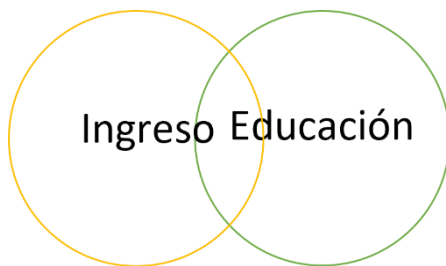
1. La desigualdad en educación no depende nada de la desigualdad en el ingreso. // *Education inequality does not depend at all on income inequality.*



2. La desigualdad en educación depende muy poco de la desigualdad en el ingreso. // *Education inequality depends very little on income inequality.*



3. La desigualdad en educación depende algo de la desigualdad en el ingreso. // *Education inequality depends somewhat on income inequality.*



4. La desigualdad en educación depende en cierta medida de la desigualdad en el ingreso. // *Education inequality depends to some extent on income inequality.*



5. La desigualdad en educación depende en gran parte de la desigualdad en el ingreso. // *Education inequality largely depends on income inequality.*





6. La desigualdad en educación depende mucho de la desigualdad en el ingreso. // *Education inequality depends to a great extent on income inequality.*



7. La desigualdad en la educación depende casi completamente de la desigualdad en el ingreso. // *Education inequality depends almost entirely on income inequality.*



### Acceptance of economic inequality

1. Se han exagerado mucho las consecuencias negativas de la desigualdad económica. // *The negative consequences of economic inequality have been largely exaggerated.*

2. La desigualdad económica está causando muchos de los problemas de España. // *Economic inequality is causing many of Spain's problems.*

3. Estoy muy preocupado/a por el grado de desigualdad económica que existe actualmente en España. // *I am very disturbed by the amount of economic inequality in the world today.*

4. La desigualdad económica no es un problema. // *Economic inequality is not a problem.*

5. Tenemos que hacer todo lo posible para reducir la desigualdad económica que existe en España en la actualidad. // *We need to do everything possible to reduce economic inequality in Spain today.*

(1. Totalmente en desacuerdo; 7. Totalmente de acuerdo) // (1. *Totally disagree*; 7. *Totally agree*).

### **Support for collective actions**

1. Firmaría una petición contra la desigualdad económica // *I would be willing to sign a petition against economic inequality.*
2. Participaría en una protesta a favor de la redistribución económica. // *I would be willing to participate in a rally encouraging economic redistribution.*
3. Presionaría activamente al gobierno para reducir la desigualdad económica entre ricos y pobres. // *I would be willing to actively lobby the government to reduce the disparity between the rich and the poor.*
4. Asistiría a manifestaciones en contra de la desigualdad económica. // *I would be willing to attend a demonstration against economic inequality.*
5. Me uniría a un grupo de activistas que demanden la redistribución de los recursos económicos. // *I would be willing to join a group of activists demanding the redistribution of economic resources.*
6. Creo que la gente tiene que organizarse y trabajar junta para reducir la desigualdad económica. // *I think people need to organize and work together to reduce economic inequality.*

### **Support for redistribution**

1. El Gobierno tiene la responsabilidad de reducir las diferencias de ingresos entre los que tienen más y los que tienen menos. // *The government has the responsibility to reduce income disparities between those who have more and those who have less.*
2. El Gobierno debería gastar más dinero en subsidios para las personas pobres. // *The government should spend more money on subsidies for poor people.*
3. El gobierno debería imponer mayores impuestos a las personas con más ingresos económicos. // *The government should impose higher taxes on individuals with higher incomes.*
4. Se deberían reservar cupos en universidades para las personas más desfavorecidas. // *Slots in universities should be reserved for the most disadvantaged individuals.*
5. Existe una gran necesidad de redistribuir la riqueza entre aquellos que tienen más, hacia aquellos que tienen menos. // *There is a great need to redistribute wealth from those who have more to those who have less.*
6. No hay ninguna necesidad de cambiar la distribución de ingresos económicos en España. // *There is no need to change the distribution of income in Spain.*
7. Las personas con más riqueza deberían ayudar más a las personas más necesitadas. // *People with more wealth should help those in need more.*

## **2.2. Studies 2a and 2b**

## Manipulation checks

Same measures of Study 1 for perceived income inequality overlap with health (Study 2a) and education (Study 2b).

## Acceptance of economic inequality

1. ¿En qué medida crees que la desigualdad económica en la Sociedad X/Y es injusta o justa? Indica tu respuesta desde 1 (Muy injusta) hasta 7 (Muy justa). // *To what extent do you think economic inequality in Society X/Y is unfair or fair? Please indicate your response from 1 (Very unfair) to 7 (Very fair).*
2. ¿En qué medida crees que la desigualdad económica en la Sociedad X/Y es inaceptable o aceptable? Indica tu respuesta desde 1 (Muy inaceptable) hasta 7 (Muy aceptable) // *To what extent do you think economic inequality in Society X/Y is unacceptable or acceptable? Please indicate your response from 1 (Very unacceptable) to 7 (Very acceptable).*

## Support for collective actions

1. Firmaría una petición contra la desigualdad económica. // *I would be willing to sign a petition against economic inequality.*
2. Asistiría a manifestaciones en contra de la desigualdad económica. // *I would be willing to attend a demonstration against economic inequality.*
3. Me uniría a un grupo de activistas que demanden la redistribución de los recursos económicos. // *I would be willing to join a group of activists demanding the redistribution of economic resources.*

## Support for redistribution

1. El Gobierno tiene la responsabilidad de reducir las diferencias de ingresos entre los que tienen más y los que tienen menos. // *The government has the responsibility to reduce income disparities between those who have more and those who have less.*
2. Existe una gran necesidad de redistribuir la riqueza entre aquellos que tienen más, hacia aquellos que tienen menos. // *There is a great need to redistribute wealth from those who have more to those who have less.*
3. No hay ninguna necesidad de cambiar la distribución de ingresos económicos en la Sociedad X/Y. // *There is no need to change the distribution of income in Society X/Y.*

### 2.3. Study 3

## Manipulation checks

Same measures of Study 1 for perceived income inequality overlap with health and education.

## Acceptance of economic inequality

Same measure as in Study 2a and Study 2b.

## Support for collective actions

Same measure as in Study 2a and Study 2b.

## Support for redistribution

Same measure as in Study 2a and Study 2b.

### 3. Experimental manipulations

#### 3.1. Studies 2a and 2b

##### 3.1.1. Study 2a

#### *Low overlap condition*

A continuación, te pedimos que **imagines una sociedad**, la **Sociedad X**, en la que **la desigualdad en el ingreso económico apenas influye en la desigualdad en la salud**. En esta sociedad, **las personas con menores ingresos** tienen un **el mismo acceso a los recursos de salud en comparación con las personas con mayores ingresos**.

Por ejemplo, las personas con menor nivel económico asisten a **centros sanitarios de la misma calidad, tienen el mismo acceso a especialistas, reciben la misma cantidad de atención médica y tardan lo mismo** en recibirla, y **pueden acceder a tratamientos** tan avanzados como las personas con mayor nivel socioeconómico. En general, las personas con menos ingresos tienen **tasas similares de enfermedades crónicas, la misma esperanza de vida y misma probabilidad** tener un **mal estado de salud** que las personas con mayores ingresos.

*// Next, we ask you to imagine a society, Society X, where income inequality barely influences health inequality. In this society, people with lower incomes have the same access to health resources compared to those with higher incomes.*

*For example, individuals with lower economic status attend healthcare facilities of the same quality, have equal access to specialists, receive the same amount of medical attention and receive it in the same timeframe, and can access treatments as advanced*

*as those available to people with higher socioeconomic status. Overall, individuals with lower incomes have similar rates of chronic diseases, the same life expectancy, and the same likelihood of poor health as those with higher incomes.*

### ***High overlap condition***

A continuación, te pedimos que **imagines una sociedad, la Sociedad Y**, en la que **la desigualdad en el ingreso económico influye en gran medida en la desigualdad en la salud**. En esta sociedad, **las personas con menores ingresos** tienen un **menor acceso a los recursos de salud en comparación con las personas con mayores ingresos**.

Por ejemplo, las personas con menor nivel económico asisten a **centros sanitarios de menor calidad, tienen menor acceso a especialistas, reciben en menor medida y tardan mucho más** en recibir **atención médica**, y en ocasiones **no pueden acceder a tratamientos tan avanzados como las personas con mayores ingresos**. En general, las personas con menos ingresos tienen **tasas superiores de enfermedades crónicas, menor esperanza de vida y mayor probabilidad** tener un **mal estado de salud** que las personas con mayores ingresos.

*// Next, we ask you to imagine a society, Society Y, where income inequality greatly influences health inequality. In this society, people with lower incomes have less access to health resources compared to those with higher incomes.*

*For example, individuals with lower economic status attend lower-quality healthcare facilities, have less access to specialists, receive less medical attention and experience longer wait times for healthcare, and sometimes cannot access treatments as advanced as those available to people with higher incomes. Overall, individuals with lower incomes have higher rates of chronic diseases, lower life expectancy, and a greater likelihood of poor health than those with higher incomes*

### **3.1.2. Study 2b**

#### ***Low overlap condition***

A continuación, te pedimos que **imagines una sociedad, la Sociedad X**, en la que **la desigualdad en el ingreso económico no influye apenas en la desigualdad en la educación**. En esta sociedad, **las personas con menores ingresos** tienen **el mismo acceso a los recursos educativos en comparación con las personas con mayores ingresos**.

Por ejemplo, las personas con menor nivel económico asisten a **centros educativos de la misma calidad, tienen acceso a los mismos materiales educativos, clases particulares o actividades extracurriculares, y pueden permitirse la educación superior** tanto como las personas con mayor nivel socioeconómico. En general, las personas con menos ingresos tienen **tasas similares de abandono escolar** y las mismas

probabilidades de **repetir curso** y tener un **bajo nivel educativo** que las personas con mayores ingresos.

*// Next, we ask you to imagine a society, Society X, where income inequality barely influences educational inequality. In this society, people with lower incomes have the same access to educational resources compared to those with higher incomes.*

*For example, individuals with lower economic status attend educational institutions of the same quality, have access to the same educational materials, private tutoring, or extracurricular activities, and can afford higher education as much as those with higher socioeconomic status. Overall, individuals with lower incomes have similar dropout rates and the same likelihood of repeating a grade and having a low level of education as those with higher incomes.*

### ***High overlap condition***

A continuación, te pedimos que **imagines una sociedad**, la **Sociedad Y**, en la que **la desigualdad en el ingreso económico influye en gran medida en la desigualdad en la educación**. En esta sociedad, **las personas con menores ingresos** tienen un **menor acceso a los recursos educativos en comparación con las personas con mayores ingresos**.

Por ejemplo, las personas con menor nivel económico asisten a **centros educativos de menor calidad, no tienen acceso a ciertos materiales educativos**, ni a **clases particulares o actividades extracurriculares**, y en ocasiones **no pueden permitirse la educación superior** como las personas con mayor nivel socioeconómico. En general, las personas con menos ingresos tienen **tasas superiores de abandono escolar** y mayores probabilidades de **repetir curso** y tener un **bajo nivel educativo** que las personas con mayores ingresos.

*// Next, we ask you to imagine a society, Society Y, where income inequality greatly influences educational inequality. In this society, people with lower incomes have less access to educational resources compared to those with higher incomes.*

*For example, individuals with lower economic status attend lower-quality educational institutions, do not have access to certain educational materials, nor to private tutoring or extracurricular activities, and sometimes cannot afford higher education like those with higher socioeconomic status. Overall, individuals with lower incomes have higher dropout rates and greater likelihood of repeating a grade and having a low level of education than those with higher incomes.*

## **3.2. Study 3**

### ***Low overlap condition***



## NACIONAL

europapress/nacional

### El ingreso económico apenas influye en la salud y la educación

Europa Press Nacional

Actualizado: miércoles, 20 diciembre 2023 16:34

#### Un estudio revela que la desigualdad en el ingreso económico no se traslada a la salud y la educación

Un estudio reciente de la Organización para la Cooperación y el Desarrollo Económicos (OCDE) señala que, en España, **gracias a la sanidad y educación públicas**, las personas con menores ingresos tienen **prácticamente el mismo acceso a los recursos de salud y educación** en comparación con las personas con mayores ingresos.

El estudio determina que, en el ámbito de la **salud**, las personas con menor nivel económico generalmente asisten a **centros sanitarios de la misma calidad**, tienen el **mismo acceso a especialistas**, reciben la **misma cantidad de atención médica y tardan tiempos similares en recibirla**, y **pueden acceder a tratamientos** tan avanzados como las personas con mayor nivel socioeconómico. En general, las personas con menos ingresos tienen **tasas similares de enfermedades crónicas**, la **misma esperanza de vida** y **misma probabilidad** tener un mal **estado de salud** que las personas con mayores ingresos.

En el campo de la **educación**, esta investigación muestra que, por lo general, las personas con menor nivel económico asisten a **centros educativos de la misma calidad**, tienen **acceso a los mismos materiales educativos**, y **pueden acceder a la educación superior**, tanto como las personas con mayor nivel socioeconómico. Además, las personas con menos ingresos tienen **tasas similares de abandono escolar** y las **mismas probabilidades de repetir curso** y tener un bajo **nivel educativo** que las personas con mayores ingresos.

El estudio señala que gracias a que la sanidad y educación públicas cumplen un buen papel para reducir estas desigualdades, **el ingreso económico apenas influye en la salud y educación de los españoles.**

*// Income barely influences health and education*

*Europe Press National Updated: Wednesday, December 20, 2023 16:34*

*A study reveals that income inequality does not translate into health and education*

*A recent study by the Organization for Economic Cooperation and Development (OECD) indicates that in Spain, thanks to public healthcare and education, people with lower incomes have virtually the same access to healthcare and education resources compared to those with higher incomes.*

*The study finds that, in the health field, individuals with lower economic status generally attend healthcare facilities of the same quality, have the same access to specialists, receive the same amount of medical attention and experience similar wait times, and can access treatments as advanced as those available to people with higher socioeconomic status. Overall, individuals with lower incomes have similar rates of chronic diseases, the same life expectancy, and the same likelihood of poor health as those with higher incomes.*

*In the field of education, this research shows that individuals with lower economic status generally attend educational institutions of the same quality, have access to the same educational materials, and can access higher education as much as those with higher socioeconomic status. Additionally, individuals with lower incomes have similar dropout rates and the same likelihood of repeating a grade and having a low level of education as those with higher incomes.*

*The study points out that thanks to the good role played by public healthcare and education in reducing these inequalities, income barely influences the health and education of Spaniards.*



*High overlap condition*



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**El ingreso económico influye en gran medida en la salud y la educación**

Europa Press Nacional

Actualizado: miércoles, 20 diciembre 2023 16:34

**Un estudio revela que la desigualdad en el ingreso económico se traslada a la salud y la educación**

Un estudio reciente de la Organización para la Cooperación y el Desarrollo Económicos (OCDE) señala que, en España, **a pesar de la sanidad y educación públicas**, las personas con menores ingresos tienen un **menor acceso a los recursos de salud y educación** en comparación con las personas con mayores ingresos.

El estudio determina que, en el ámbito de la **salud**, las personas con menor nivel económico generalmente asisten a **centros sanitarios de menor calidad**, tienen **menor acceso a especialistas**, reciben **en menor medida y tardan mucho más en recibir atención médica**, y en ocasiones **no pueden acceder a tratamientos** tan avanzados como las personas con mayores ingresos. En general, las personas con menos ingresos tienen **tasas superiores de enfermedades crónicas**, **menor esperanza de vida** y **mayor probabilidad tener un mal estado de salud** que las personas con mayores ingresos.

En el campo de la **educación**, esta investigación muestra que, por lo general, las personas con menor nivel económico asisten a **centros educativos de menor calidad**, **no tienen acceso** a ciertos **materiales educativos**, ni a **clases particulares o actividades extracurriculares**, y en ocasiones **no pueden permitirse la educación superior** como las personas con mayor nivel socioeconómico. Más allá de esto, las personas con menos ingresos tienen **tasas superiores de abandono escolar** y **mayores probabilidades de repetir curso y tener un bajo nivel educativo** que las personas con mayores ingresos.

El estudio señala que a pesar de que la sanidad y educación públicas cumplen un buen papel para reducir estas desigualdades, **el ingreso económico influye en gran medida en la salud y educación de los españoles.**

*//Income greatly influences health and education*

*Europe Press National Updated: Wednesday, December 20, 2023 16:34*

*A study reveals that income inequality translates into health and education*

*A recent study by the Organization for Economic Cooperation and Development (OECD) indicates that in Spain, despite having public healthcare and education, people with lower incomes have less access to healthcare and education resources compared to those with higher incomes.*

*The study finds that, in the health field, individuals with lower economic status generally attend lower-quality healthcare facilities, have less access to specialists, receive less medical attention and experience longer wait times for healthcare, and sometimes cannot access treatments as advanced as those available to people with higher incomes. Overall, individuals with lower incomes have higher rates of chronic diseases, lower life expectancy, and a greater likelihood of poor health than those with higher incomes.*

*In the field of education, this research shows that individuals with lower economic status generally attend lower-quality educational institutions, do not have access to certain educational materials, nor to private tutoring or extracurricular activities, and sometimes cannot afford higher education like those with higher socioeconomic status. Furthermore, individuals with lower incomes have higher dropout rates and greater likelihood of repeating a grade and having a low level of education than those with higher incomes.*

*The study points out that although public healthcare and education play a significant role in reducing these inequalities, income greatly influences the health and education of Spaniards.*

#### **4. Preregistration Considerations**

The pre-registration for our studies included sample size ranges due to constraints related to our recruitment methods. We distributed the survey primarily through the university's mailing list, which limited our ability to predict the exact number of respondents beforehand. Given these constraints, we established a range for the sample size to accommodate variability in response rates and ensure that we could achieve sufficient statistical power while working within the practical limits of our resources. Once we observed that the number of participants was within the pre-registered range and that further significant recruitment was unlikely, we concluded the data collection. Importantly, we did not analyze any data until after the recruitment process was fully completed. At no point did we make decisions to continue or stop data collection based on any preliminary analysis of the data.

For Study 3, the pre-registered sample size range was 400-450 participants. We initially achieved a sample size of 418 participants, which fell within the pre-registered range. However, following the application of our exclusion criteria—which included excluding participants who did not complete the key measures, failed the manipulation check, were younger than 18, or did not identify as Spanish—the final sample size was reduced to 371. Since we did not analyze the data until after data collection was completed, we were unaware of the final sample size at the time of stopping data collection. However, to ensure the robustness of our findings despite the sample size changes, we conducted sensitivity analyses. These analyses determined the minimum effect size that could be detected with 80% power given the final sample size. This provided additional assurance that the conclusions drawn from our data are reliable and valid.

**5. Additional reports**

**5.1. Covariates of Studies 2a and 2b**

**Table 1**

*Mediational model of the effect of condition (high vs. low overlap) on support for redistribution and collective actions via acceptance of inequality in Study 2a*

	<b>Acceptance of Inequality</b>	<b>Collective Actions</b>	<b>Redistribution</b>
<i>Predictors</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>
(Intercept)	3.69*** (.57)	7.11*** (.81)	7.50*** (.69)
<b>Direct effects</b>			
Health overlap (1 Low – 2 High)	-1.30*** (.12)	.03 (.10)	-.11 (.10)
Acceptance of inequality		-.43*** (.05)	-.38*** (.04)
<b>Indirect effects</b>			
Overlap → Acceptance of inequality		.56*** (.08)	.49*** (.08)
<b>Covariates</b>			
Age	-.03* (.01)	.01 (.02)	.02 (.01)
Gender	-.19 (.15)	.07 (.21)	-.10 (.18)
Political Ideology	.29*** (.05)	-.43*** (.07)	-.29*** (.06)
Parents' education	.02 (.07)	-.03 (.09)	-.05 (.08)
Income level	-.04 (.05)	-.14 (.07)	-.04 (.06)
<b>Random Effects</b>			
$\sigma^2$	1.35	.59	.59
$\tau_{00}$	.15 <sub>ID</sub>	1.33 <sub>ID</sub>	.86 <sub>ID</sub>
ICC	.10	.69	.59
N	176 <sub>ID</sub>	176 <sub>ID</sub>	176 <sub>ID</sub>
Observations	351	351	351
Marginal R <sup>2</sup> / Conditional R <sup>2</sup>	.312 / .379	.372 / .807	.313 / .719

**Table 2**

*Mediational model of the effect of condition (high vs. low overlap) on support for redistribution and collective actions via acceptance of inequality in Study 2b*

	<b>Acceptance of Inequality</b>	<b>Collective Actions</b>	<b>Redistribution</b>
<i>Predictors</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>
(Intercept)	4.04*** (.55)	8.82*** (.67)	6.80*** (.57)
<b>Direct effects</b>			
Education overlap (1 Low – 2 High)	-1.27*** (.12)	.03 (.12)	.14 (.19)
Acceptance of inequality		-.55*** (.05)	-.38*** (.04)
<b>Indirect effects</b>			
Overlap → Acceptance of inequality		.70*** (.09)	.44*** (.07)
<b>Covariates</b>			
Age	-.01 (.01)	-.03* (.01)	.00 (.01)
Gender	-.13 (.16)	-.03 (.19)	.34* (.17)
Political Ideology	.34*** (.06)	-.42*** (.07)	-.42*** (.06)
Parents' education	-.05 (.07)	-.20* (.09)	-.09 (.08)
Income level	.12 (.07)	.02 (.08)	.08 (.07)
<b>Random Effects</b>			
$\sigma^2$	1.35	0.92	0.55
$\tau_{00}$	0.35 <sub>ID</sub>	1.01 <sub>ID</sub>	0.84 <sub>ID</sub>
ICC	0.20	0.52	0.61
N	182 <sub>ID</sub>	182 <sub>ID</sub>	182 <sub>ID</sub>
Observations	363	363	363
Marginal R <sup>2</sup> / Conditional R <sup>2</sup>	.273 / .422	.426 / .727	.393 / .761

## 5.2. Covariates of Study 3

Table 3

*Mediational model of the effect of condition (high vs. low overlap) on support for redistribution and collective actions via acceptance of inequality in Study 3*

	Acceptance of Inequality	Collective Actions	Redistribution
<i>Predictors</i>	<i>b (SE)</i>	<i>b (SE)</i>	<i>b (SE)</i>
(Intercept)	2.32*** (.44)	7.52*** (.57)	7.54 (.47)
<i>Direct effects</i>			
Overlap (1 Low – 2 High)	-.26* (.12)	-.28* (.14)	.05 (.11)
Acceptance of inequality		-.46*** (.06)	-.50*** (.05)
<i>Indirect effects</i>			
Overlap → Acceptance of inequality		.12* (.05)	.13* (.05)
<i>Covariates</i>			
Age	-.01 (.01)	.00 (.00)	.01 (.01)
Gender	-.22 (.11)	.13 (.14)	-.04 (.12)
Political Ideology	.31*** (.04)	-.48*** (.05)	-.35*** (.04)
Parents' education	.04 (.05)	0.02 (.06)	.05 (.05)
Income level	.08* (.03)	-.12** (.04)	-.05 (.03)
Observations	371	371	371
R <sup>2</sup>	.226	.418	.436

### **5.3. Interpretation of the effects of covariates across all studies**

In Study 2a (health overlap), older participants were less accepting of inequality, possibly due to increased health concerns with age, while in Study 2b (education overlap), younger individuals supported more collective actions, likely reflecting their closer connection to education; age had no effect in Studies 1 and 3, suggesting it matters most when health or education is the focus. Moreover, gender influenced outcomes in Study 1, with women being less accepting of inequality and more supportive of collective actions and redistribution. In addition, political ideology consistently predicted attitudes, with right-leaning individuals more accepting of inequality and less supportive of collective actions across all studies, underscoring the strong influence of ideological beliefs. Parental education reduced support for collective actions in Studies 1 and 2b (overlap in education), but had no effect in Studies 2a and 3, indicating that maybe its impact could be higher when focusing on education contexts. Income level predicted greater support for collective actions in Study 1 but was linked to less support in Study 3 and more acceptance of inequality. In Studies 2a and 2b, it had no effect on the variables of interest. Thus, the effect of income seems to be ambiguous in our studies.





**Supplementary Materials pertaining to Chapter 6**

**Ideology divides, yet not always: Agreement on the unacceptance of economic inequalities in health and education**

## 1. Descriptive statistics

### 1.1. Study 1

#### Gender

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	Men	108	41.86	41.86	41.86
2	Women	149	57.75	57.75	99.61
3	Other	1	0.39	0.39	100.00
NA	NA	0	0.00	NA	NA

*total N=258 · valid N=258 ·  $\bar{x}$ =1.59 ·  $\sigma$ =0.50*

#### Please tick the political party you voted for in the elections on 23 July 2023:

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	SUMAR	27	10.47	11.25	11.25
2	PSOE	81	31.40	33.75	45.00
3	PP	61	23.64	25.42	70.42
4	VOX	54	20.93	22.50	92.92
5	OTRO	17	6.59	7.08	100.00
NA	NA	18	6.98	NA	NA

*total N=258 · valid N=240 ·  $\bar{x}$ =2.80 ·  $\sigma$ =1.12*

#### Voted political party (left-right)

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	LEFT	108	41.86	48.43	48.43
2	RIGHT	115	44.57	51.57	100.00
NA	NA	35	13.57	NA	NA

*total N=258 · valid N=223 ·  $\bar{x}$ =1.52 ·  $\sigma$ =0.50*

**Household income**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	<650	16	6.20	6.61	6.61
2	651-1300	50	19.38	20.66	27.27
3	1301-1950	49	18.99	20.25	47.52
4	1951-2600	47	18.22	19.42	66.94
5	2601-3250	34	13.18	14.05	80.99
6	3251-3900	15	5.81	6.20	87.19
7	3901-4550	12	4.65	4.96	92.15
8	4551-5200	5	1.94	2.07	94.21
9	5201-5800	4	1.55	1.65	95.87
10	>5800	10	3.88	4.13	100.00
NA	NA	16	6.20	NA	NA

*total N=258 · valid N=242 ·  $\bar{x}$ =4.01 ·  $\sigma$ =2.17*

**1.2. Study 2****Gender**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	Men	137	48.75	48.75	48.75
2	Women	136	48.40	48.40	97.15
3	Other	8	2.85	2.85	100.00
NA	NA	0	0.00	NA	NA

*total N=281 · valid N=281 ·  $\bar{x}$ =1.54 ·  $\sigma$ =0.55*

**Please tick the political party you voted for in the elections on 9 June 2024:**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	PODEMOS	18	6.41	7.56	7.56
2	SUMAR	21	7.47	8.82	16.39
3	PSOE	66	23.49	27.73	44.12
4	PP	99	35.23	41.60	85.71
5	VOX	34	12.10	14.29	100.00
6	Otro	0	0.00	0.00	100.00
NA	NA	43	15.30	NA	NA

*total N=281 · valid N=238 ·  $\bar{x}$ =3.46 ·  $\sigma$ =1.08*

**Voted political party (left-right)**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	left	105	37.37	44.12	44.12
2	right	133	47.33	55.88	100.00
NA	NA	43	15.30	NA	NA

*total N=281 · valid N=238 ·  $\bar{x}$ =1.56 ·  $\sigma$ =0.50*

**Education level**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	No studies	1	0.36	0.36	0.36
2	Primary education	13	4.63	4.63	4.98
3	Secondary education	28	9.96	9.96	14.95
4	Superior education	67	23.84	23.84	38.79
5	University education	172	61.21	61.21	100.00
NA	NA	0	0.00	NA	NA

*total N=281 · valid N=281 ·  $\bar{x}$ =4.41 ·  $\sigma$ =0.87*

**Household income**

<i>val</i>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	Less than 650€/month	7	2.49	2.49	2.49
2	651-1.300€/month	36	12.81	12.81	15.30
3	1.301-1.950€/month	68	24.20	24.20	39.50
4	1.951-2.600€/month	74	26.33	26.33	65.84
5	2.601-3.250€/month	44	15.66	15.66	81.49
6	3.251-3.900€/month	21	7.47	7.47	88.97
7	3.901-4.550€/month	12	4.27	4.27	93.24
8	4.551-5.200€/month	5	1.78	1.78	95.02
9	5.201-5.800€/month	4	1.42	1.42	96.44
10	More than 5.800€/month	10	3.56	3.56	100.00
NA	NA	0	0.00	NA	NA

*total N=281 · valid N=281 ·  $\bar{x}$ =4.22 ·  $\sigma$ =1.93*

**2. Measures****2.1. Study 1****Acceptance of inequality***Original Version in Spanish*

¿Cuánta diferencia consideraría aceptable en [LOS INGRESOS (e.g., salarios)/ LA SALUD (e.g., esperanza de vida, enfermedades) / LA EDUCACIÓN (e.g., años estudiados, abandono escolar)] entre las personas más pobres y las personas más ricas en España? (1 Ninguna diferencia – 7 Mucha diferencia)

*Translated to English*

How much difference would you consider acceptable in [INCOME (e.g., wages)/ HEALTH (e.g., life expectancy, diseases) / EDUCATION (e.g., years of schooling, school dropout)] between the poorest and the richest people in Spain? (1 No difference - 7 A lot of difference)

### **Political party voted**

#### *Original Version in Spanish*

Por favor, marque con una X el partido político al que ha votado en las elecciones del día 23 de julio de 2023: SUMAR, PSOE, PP, VOX, Otro.

#### *Translated to English*

Please mark with an X the political party you voted for in the elections on 23 July 2023: SUMAR, PSOE, PP, VOX, Other.

### **Political orientation**

#### *Original Version in Spanish*

En política, algunas veces las personas hablan de “izquierda” y “derecha”, usando una escala donde 1 significa “izquierda” y 7 “derecha. ¿Dónde se posicionaría en esta escala? (1 Izquierda – 7 Derecha)

#### *Translated to English*

In politics, people sometimes talk about ‘left’ and ‘right’, using a scale where 1 means ‘left’ and 7 means ‘right’. Where would you place yourself on this scale? (1 Left - 7 Right)

## **2.2. Study 2**

In this Study, we gave participants the following instructions:

#### *Original Version in Spanish*

Imagina que en los próximos meses, en el Parlamento Europeo se debaten algunas cuestiones importantes para el futuro. A continuación, se exponen fragmentos que podrían decirse en el Parlamento sobre estas cuestiones.

Imagina que sobre las diferencias en el acceso a la salud entre ricos y pobres se dice lo siguiente: “Es muy injusto que una persona pobre pueda acceder a una sanidad mucho peor que la de una persona rica.”

Imagina que sobre las diferencias en el acceso a la educación entre ricos y pobres se dice lo siguiente: “Es muy injusto que una persona pobre pueda acceder a una educación mucho peor que la de una persona rica.”

Imagina que sobre las diferencias en los ingresos entre ricos y pobres se dice lo siguiente: “Es muy injusto que una persona pobre tenga un salario mucho peor que el de una persona rica.”

*Translated to English*

Imagine that in the coming months, some important issues for the future will be debated in the European Parliament. Here are excerpts of what might be said in the Parliament on these issues.

Imagine that the following is said about the differences in access to health care between rich and poor: ‘It is very unfair that a poor person has access to much worse health care than a rich person’.

Imagine that about the differences in access to education between rich and poor the following is said: ‘It is very unfair that a poor person can access much worse education than a rich person.’

Imagine that about the differences in income between rich and poor the following is said: ‘It is very unfair for a poor person to have a much worse salary than a rich person.’

**Acceptance of inequality**

After each message, participants were asked:

*Original Version in Spanish*

¿En qué medida estás de acuerdo con este mensaje? (1 *Totalmente en desacuerdo* – 7 *Totalmente de acuerdo*)

*Translated to English*

To what extent do you agree with this message? (1 *Strongly disagree* - 7 *Strongly agree*)

**Support for redistributive measures**

*Original Version in Spanish*

¿En qué medida estarías de acuerdo en implementar medidas redistributivas para reducir estas diferencias entre ricos y pobres? (1 *Totalmente en desacuerdo* – 7 *Totalmente de acuerdo*)

*Translated to English*

To what extent would you agree with implementing redistributive measures to reduce these differences between rich and poor? (1 *Strongly Disagree* - 7 *Strongly Agree*)

**Voted political party**

*Original Version in Spanish*

Por favor, marque el partido político al que ha votado en las elecciones del día 9 de junio de 2024: PODEMOS, SUMAR, PSOE, PP, VOX, Otro.

*Translated to English*

Please tick the political party you voted for in the elections of 9 June 2024: PODEMOS, SUMAR, PSOE, PP, VOX, Other.

**Political orientation**

Same measure as in Study 1.





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