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Tackling Inequality:

Which Factors Shape Attitudes Towards Progressive Taxation?

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Summary

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General Introduction: Consequences and Potential Remedies for Economic Inequality

"A nation will not survive morally or economically when

so few have so much and so many have so little."

(Bernie Sanders)

Economic Inequality Is Increasing

Economic inequality, referred to the growing disparity in income (i.e., the value a person receives in exchange for work or products over a given period of time) or wealth (i.e., the valuable material resources a person possesses) between individuals or groups, has been on the rise in numerous countries over the past few decades. While the rich get richer, the poor get poorer (Peters & Jetten, 2023; Chancel et al., 2022). According to the most recent World Inequality Report (Chancel et al., 2022) and to the Organization for Economic Co-operation and Development (OECD, 2011), income inequality is at its highest level since 1950 in the OECD countries, with the richest 10% of the global population currently taking 52% of global income, whereas the poorest half of the population earning 8.5% of it. Global wealth inequalities are even more pronounced than income inequalities. The poorest half of the global population barely owns any wealth at all, possessing just 2% of the total. In contrast, the richest 10% of the global population owns 76% of all wealth.

Some inequalities are more pronounced than others, with the level of economic inequality being extreme in the Middle East and North Africa (i.e., MENA), while comparatively milder in Europe. In Europe, the top 10% income share is around 36%, whereas in MENA it reaches 58%. In between these two levels, we see a diversity of patterns. In East Asia, the top 10% makes 43% of total income, and in Latin America, 55% (Chancel et al., 2022).

Although not extreme, the level of economic inequality in Europe is not negligible and has significant differences between countries. Considering Italy, which is our case study, the

bottom 50% of individuals have the 20.7% of the total population income, the middle 40% of the population, referred to as the "middle class," holds the 47% of the total population income and the top 10% of the population accounts for 32.2% of the total population income. Furthermore, the top 1% of the wealthiest individuals in Italy have the 8.7% of the total income of Italians. This means that the top 10% of the wealthiest individuals earn, on average, eight times more than the bottom 50% of the Italian population. The situation is even worse when considering wealth (as the sum of all assets owned by an individual, including financial assets - such as cash, deposits, stocks, and bonds - real estate, land, and other tangible assets) rather than income. In fact, the top 10% of the wealthiest individuals in Italy possess nearly half of the total wealth of the population (47.7%).

Economic Inequality Is Harmful

This macroeconomic trend has garnered increasing levels of attention from the media, the general public, and political circles. Former U.S. President Obama referred to economic inequality as "the defining issue of our time" (Obama, 2013; from Peters & Jetten, 2023). This growing interest is evident in the proliferation of articles in international news publications, as well as the emergence of acclaimed movies and television series on popular global streaming platforms (e.g., "The White Lotus" series, and the recently released films "The Triangle of Sadness" and "The Menu", which have gained worldwide renown). Moreover, the interest concerning this topic is clear also considering Google search: The period spanning from 1991 to 2019 witnessed an exponential surge in Google searches for keywords such as "economic inequality," "income inequality," and "wealth inequality." (Peters & Jetten, 2023).

Alongside the amplified public interest, there has been a notable increase in scholarly publications concerning economic inequality, with psychology being a prominent domain within this body of research. Wilkinson and Pickett with their epidemiological analysis of the effects of

economic inequality, summarized in the book *The Spirit Level* (2009) can be considered the pioneers of research in this area. Since then, different research, in different fields, has provided more and more empirical evidence in support of the hypothesis that economic inequality is harmful.

On the one hand, economic inequality is dangerous to individual health: people living in more unequal contexts are more likely to consume more high-calorie food (Bratanova et al., 2016), be obese (De Vogli et al., 2014; Claassen et al., 2019, and more likely to experience, of consequence, cardiovascular disease), to suffer from mental illness (e.g., depression, Messias et al., 2011; schizophrenia, Burns et al., 2014 and psychotic symptoms, Johnson et al., 2015) and to have lower life expectancy (Babones, 2008).

On the other hand, economic inequality exerts detrimental effects on societal functioning, and social psychology has made a notable contribution in this domain (Peters & Jetten, 2023). Specifically, research has demonstrated that individuals exposed to conditions of economic inequality exhibit a heightened inclination to categorize individuals into social classes (Kraus et al., 2017; Tanjitpiyanond et al., 2022) and perceive a prevailing individualistic and competitive normative climate (Sánchez-Rodríguez et al., 2019; Sommet & Elliot, 2023). Consequently, individuals become increasingly concerned with their social status (*status anxiety*; Melita et al., 2021) and tend to engage in behaviors aimed at attaining higher social standing, such as work longer hours (Bowles & Park, 2005; Filippi et al., 2023) or conspicuous consumption of luxury goods (Velandia-Morales et al., 2022). Simultaneously, this economic context is associated with diminished levels of solidarity (Paskov & Dewilde, 2012) and cooperation among people (Nishi & Cristakis, 2015), and increased institutional (Lee et al., 2020) and interpersonal distrust (Yang et & Xin, 2020). In line with this, people in more unequal societies perceived increased anomie (namely the disruption of the social fabric, Jetten et al., 2022) and are more likely to believe in conspiracy (Salvador Casara et al., 2022).

Considering the detrimental effects of economic inequality, the question is whether this inequality is - or is not - evitable.

Economic Inequality Is Evitable

Inequality is a political choice, and it is, therefore, evitable (Chancel, 2022). According to the influential philosopher John Rawls (1971), a just society is characterized by a just distribution of wealth, ensuring equal opportunities for all citizens to achieve future success through equitable access to public goods, including quality education and healthcare. Rawls posits that progressive taxation, whereby the wealthy are subject to higher tax rates compared to the poor, is a fairer policy than flat taxation, which applies a uniform tax rate across different income categories. Not only Rawls, but also numerous economists (Pressman, 2014; Piketty, 2015; Stiglitz, 2017) and international organizations (Goodbye, 2017; Oxfam Italia, 2022) regarded progressive taxation as a pivotal measure for wealth redistribution, promoting equity, fairness, and the provision of adequate services to citizens (Oishi et al., 2018). A progressive tax system is a type of system in which tax rates increase as the income or wealth of individuals or entities increases. In other words, "Everyone is required to contribute to public expenses in relation to their ability to pay" (Art. 51 of the Italian Constitution).

The significance of progressive taxation extends beyond diminishing post-tax inequality, as it also curtails pre-tax inequality by reducing incentives for high-income earners to engage in aggressive bargaining for salary increases and wealth accumulation. Recent psychological research further supports the positive effects of progressive taxation, revealing that individuals, particularly those in the bottom 40% income bracket, experience greater life satisfaction in countries with more progressive tax systems (Oishi et al., 2012, 2018), without adversely affecting the wealthiest segments of the population.

People Are Inequality Averse but Fail to Support Concrete Redistribution Strategies

Although people perceive that economic inequality is rising across countries (Pew Research Center, 2014; Scatolon et al., 2022), literature consistently demonstrates the tendency to underestimate the degree to which the actual distribution of wealth is unequal (Norton & Ariely, 2011; Norton et al., 2014). Interestingly, citizens' wealth redistribution preferences are more strongly influenced by their perception of inequality than by the real inequality of a given context (Niehues, 2014; Willis e al., 2022). Norton and colleagues (2014; concerning the North American context) and Galdi, Maass, and Manetti (2016; concerning Italian context) showed that people prefer more equal societies, but the trend of inequality is not always accompanied by growing popular concern and support for concrete redistribution strategies (Kenworthy & McCall, 2007; for a review, see Janmaat, 2013), making it difficult for politicians and legislators to propose or implement serious redistributive action plans (Chancel et al., 2022; Fastenrath et al., 2022). Yet, the general trend in developed economies is declining progressive taxation (Lierse, 2022; Piketty, 2020; Saez & Zucman, 2019).

The reluctance observed in taxing the wealthy presents a significant puzzle within the field of political science, as highlighted by studies conducted by Emmenegger and Marx (2019) and Scheve and Stasavage (2016). This intriguing phenomenon calls for a comprehensive and nuanced explanation that incorporates various psychological factors. Expanding on the Tripartite Model of Attitudes (Rosenberg & Hovland, 1960), which explains that attitudes are based on affective, cognitive, and behavioral components, we here explore not only factors related to cognition and emotion, but also integrate with an analysis of other potential factors, such as demographic characteristics, ideology, and the influence of contextual factors (Albarracin & Shavitt, 2018). By examining these multifaceted elements, we can gain a deeper understanding of why taxing the affluent segment of society encounters such formidable challenges and devise strategies to address the issue of economic inequality effectively.

In the present work, I will briefly present a comprehensive examination of the existing literature on the foundations of progressive taxation support, employing the PRISMA method for systematic reviews (Chapter 1). Subsequent chapters (Chapters 2, 3, 4, 5) will delve into a series of empirical work that aims to replicate, broaden, and offer fresh perspectives on past research, using a multi-method approach encompassing both cross-sectional and experimental methodologies. In the last chapter (Chapter 6), I will discuss potential communication strategies that governments and institutions can actively implement to effectively bolster public endorsement of progressive taxation.

Chapter 1. Which Factors Shape Attitudes Toward Progressive Taxation? A Systematic Review

Literature has so far shown that support for wealth redistribution could depend on several factors, either related to self-interest (e.g., current or expected socioeconomic status; Brown-Iannuzzi et al., 2021; Dawtry et al, 2015; Kim & Lee, 2018) or to justifying beliefs (fairness considerations and the role of effort in economic success, Hennighausen & Heinemann, 2015; political ideology and authoritarian predispositions, Jedinger & Burger, 2019; Arikan & Sekercioglu, 2019) or to contextual factors (e.g., perceived economic inequality; Salvador Casara et al., 2023; Brown-Iannuzzi et al., 2021; García-Castro et al., 2021).

Among the small niche of scientific papers published on this topic, the majority focuses on economic support for low-income people or unemployment support (Steele et al., 2022; Steele, 2020), or attitudes towards general definitions of redistribution, rather than on specific policies targeting the wealthy, such as progressive taxation (for some exceptions see Salvador Casara et al., 2023; De Cristofaro, 2019; Sainz et al., 2019). For example, Jedinger and Burger (2018) used a single item to assess attitudes toward redistribution of wealth, namely "Politics should balance the differences between large and small incomes". A single-item measure was also used by Cojocaru, 2014 ("The gap between the rich and the poor in our country should be reduced"). In Alesina and La Ferrara (2005) and in Gaviria (2007) respondents were asked whether the government should reduce income differences between the rich and the poor. Panno et al. (2019) used a broad concept of redistribution using a scale that included policies related to many facets of government spending and regulation.

Although these are just a few examples from the literature on wealth redistribution support, they provide us with an initial glimpse into how support is typically measured: a very broad concept. Furthermore, it is crucial to draw a clear distinction between tax compliance and support for progressive taxation. Indeed, literature within the realm of psychology mainly

examined factors that impede tax compliance (for a comprehensive review, see Hoffman et al., 2008), but only a limited number of studies focused on support for progressive taxation specifically. Our primary interest lies not in elucidating the reasons behind people's aversion to taxes per se, but rather in understanding why they harbor resistance towards taxing the more affluent segment of society. Hence, it is plausible that the predictors of tax compliance may not necessarily align with those of support for progressive taxation. This observation underscores the need for further investigation within this specific domain (an exploration of these two different concepts is present in Chapter 4).

The overarching aim of this research work is to identify the main underpinnings of support for progressive taxation specifically. Indeed, literature shows that people tend to be inequality-averse and desire more equal societies (Norton & Ariely, 2011; Kelley et al., 2004), with this aversion sometimes leading to increased support for the generic concept of redistribution (Roberts et al., 1994), but when a concrete solution, such as progressive taxation, is envisaged, people tend to have more negative attitudes (Lupu & Pontusson, 2011; Jost, 2017). In fact, taxes are typically considered a fee or a penalty, and people tend to overlook their positive consequences (McCaffery & Baron, 2004; Edlund, 2003). These negative attitudes toward taxes are often so pervasive that just the word "tax" can diminish people's support for certain policies (see Kallbekken et al., 2011 for support for environmental protection taxes). Following this reasoning, when redistributive policies are associated with taxation, people might automatically perceive them as a penalty. In this thesis, I will focus on support for progressive taxation, in order to offer functional insights into the applicability of the results obtained since support for concrete redistribution strategies (such as progressive taxation) is crucial for governments to be able to implement them.

The scientific literature in recent decades has begun to provide some answers to the question concerning the psychological underpinnings of support for progressive taxation, mainly

focusing on individual-level factors (e.g., socioeconomic status and income), but also starting to approach ideological (e.g., fairness beliefs and meritocracy) and contextual factors (e.g., economic inequality and economic crisis). Despite this, there is still no systematic review in the literature that brings together the results obtained by scholars from different disciplines, which represent a fundamental starting point to study the complexity of support for progressive taxation.

Aim of the Present Review

The aim of the present review is to provide systematic and overarching summary of extant evidence of the factors underpinning progressive taxation support. In order to provide an analysis of what the literature has found so far in relation to attitudes toward progressive taxation, we conducted a systematic review of the literature on date 01/06/2023. A similar analysis was conducted in October 2020, at the beginning of my doctoral journey, but we decided to update the analysis since the literature on progressive taxation has increased considerably in recent years (15 articles more were published since then). To do so, we used Web of Science, a platform that provides access to multiple databases. We undertook this systematic review following guidelines suggested by the PRISMA method (Moher et al., 2009).

With this scoping review, we aimed to draw on existing literature to address the research question: *What factors shape attitudes towards progressive taxation?*

Methods

We found a total of 48 papers published between 1982 and 2023. Date limits were not set because of the relatively new nature of this topic. Papers were restricted to those published in English, that had been peer-reviewed and that had available full-text. In line with our aims, no population restrictions were employed. The search terms used in this scoping review were:

"attitudes" AND "progressive tax" to appear in title and/or abstract. Papers were screened first by title, then through abstracts, and then full texts.

Results

Study Characteristics

Our search strategy yielded 48 relevant publications for this scoping review. Of these, 14 did not assess attitudes or predictors of progressive taxation and 2 did not provide full-text and were therefore excluded. After exclusion, a total of 32 publications were analyzed (see Figure 1 for the PRISMA flow diagram). The authors of these papers used several different research methodologies, with the most common being cross-sectional ($N = 19$), followed by multi-methods (correlational + experimental, $N = 4$), longitudinal ($N = 4$, with at least two time periods), experimental ($N = 3$), qualitative (interviews; analysis of historical documents; wealth tax policy analysis, $N = 2$) research. The majority of articles were published in the field of political sciences ($N = 10$) and economics ($N = 6$), with some belonging to psychology ($N = 5$), social and multidisciplinary sciences ($N = 4$), sociology ($N = 3$), and environmental sciences ($N = 2$). The characteristics, research aims, and main findings of the studies included in this scoping review are provided in Table 1 in the supplementary materials.

Building on literature on attitudes and attitudinal change that conceives attitudes in a more holistic way (Albarracinand & Shavitt, 2018), and going beyond the classical models (e.g., the Tripartite model, Rosenberg & Hovland, 1960) here consider attitudes as part of a broader causal network of psychological variables (see the CAN Model, Dalege et al., 2016). According to Albarracinand and Shavitt (2018) it is essential to situate attitudes with their personal, social, and historical contexts. Using a holistic approach to attitudes, we identified five main groups of predictors of support for progressive taxation: 1. demographic characteristics (gender, age, educational level, working status, socioeconomic class, income) 2. cognitive factors (positive-sum beliefs, knowledge of the political system; dehumanization of the rich,

meditation/mindfulness); 3. contextual factors (economic inequality, economic crisis, characteristics of the tax system), 4. ideological factors (political orientation, system justification, fairness beliefs, meritocracy, trust in institutions, conspiracy beliefs); 5. Communication strategies (general vs. specific descriptions, percentage vs. amount) which are elaborated more in-depth in the next sections.

Figure 1

PRISMA Flow Diagram
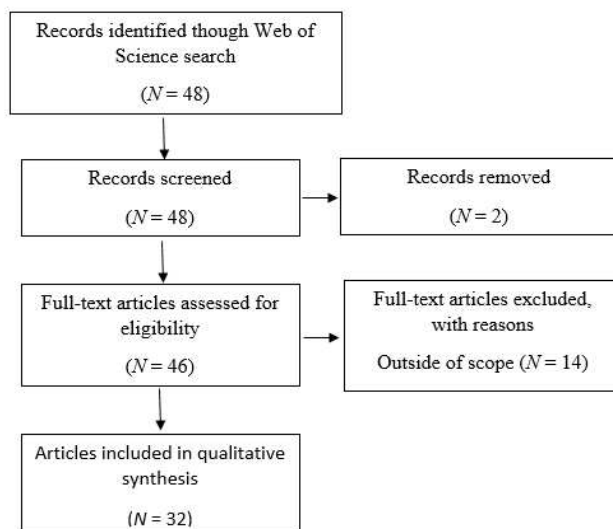
Demographic characteristics. Several studies ($N = 17$) looked at the influence of demographic characteristics in affecting attitudes toward progressive taxation. Specifically, the majority of studies explored the effect of self-interest motives (subjective and/or objective socioeconomic standing and/or educational level) in predicting support for redistribution. Some others focused on different demographic characteristics, such as gender, or age. We discuss each of these factors below.

Political economic theories pertaining to tax attitudes posit that individuals tend to endorse specific distributions of tax burdens as long as they perceive themselves as net beneficiaries of redistribution policies (Heinemann & Hennighausen, 2010). This viewpoint

aligns with the arguments put forth by Meltzer and Richard (1981), who contend that individuals with incomes below the median tend to support higher tax rates and greater levels of redistribution than those with incomes above the median income.

Many studies included in our review provided valuable insights into the relationship between socioeconomic status and support for progressive taxation. We conceptualize socioeconomic status as having both objective (income or educational level) and subjective (subjective socioeconomic class) components, yet the majority of the studies presented here focuses on income (N = 5), with a minority measuring either educational level or subjective socioeconomic standing (*N* = 4).

Concerning income, Edlund (1999) conducted a longitudinal study including a Swedish representative sample involving three surveys conducted as telephone interviews, which revealed that high-income individuals and individuals affiliated with Bourgeoisie parties exhibited less support for progressive taxation compared to workers and low-income earners. Similarly, An and Ye (2017) in their study on a representative sample in China, found that Chinese political elites displayed a preference for less progressive taxation and redistributive expenditure, contrasting with the views of the general public. Similar results were found in the US drawing upon opinion polls covering eight separate state ballot measures or legislative enactments, with low-income people being more likely to support progressive tax policies (Newman & Teten, 2021). Also, in the cross-country analysis of 17 countries conducted by Barnes (2015) the association between income and lower support for progressive taxation was confirmed. Cabelkova and Smutka (2021) explored the perception of tax adequacy in a representative sample in Czech Republic and found that income was associated with higher perceptions of inadequately high taxes for the wealthy. The qualitative work by Atria (2023) focused on upper class individuals, analyzing the perceptions of the economic elite (belonging to the top 5 per cent of the income distribution and holding a prestigious work position) on

redistribution and progressive taxation in Chile through interviews. Results confirmed what already found with quantitative methods: income is associated with increased skepticism towards progressive taxation. Specifically, Chilean economic elite often confused progressive taxation with proportionality and interpreted progressive taxation as a punishment for those who have climbed the economic ladder.

Concerning subjective socioeconomic class and educational level, Roosma et al. (2016) analyzed data from 26 countries and discovered a consistent pattern: support for progressive taxation was associated with lower subjective socioeconomic status and higher educational attainment. Some of these findings were further corroborated by Knutsen and Wegman (2016), who investigated the relationship between progressive taxation and people's construal of democracy in 45 (35 classified as democratic, 10 as autocratic) countries using the World Value Survey (WVS, 2005-2007). Their study indicated that individuals belonging to lower social classes were more likely to consider redistribution as a crucial characteristic of democracy. Different from what Roosma et al. (2016) found, here people with lower educational levels were those who strongly support progressive taxation policies.

Examining the impact of subjective socioeconomic status in the Spanish context, Fernández-Albertos and Kuo (2018), despite confirming that low socioeconomic status was related with increased support for progressive taxation, found that individuals often misperceived their own social position on the social ladder and tend to perceive themselves as more middle-income than they really are. These misconceptions affected people's preferences for progressive taxation, such that participants learning that they are poor being more likely to support progressive taxation. Interestingly, the authors did not find that such information effects exist for the rich or for those who learn they are richer. This asymmetry and the lack of systematic effects for those who learn they are richer is explained by the presence of concerns for others, like inequality aversion or altruism. No effect of participants' subjective

socioeconomic class or income was found in Salvador Casara et al. (2023) in the context of Italy. Together, the above studies suggest that both objective (income) and subjective socioeconomic status is in general associated with greater support for progressive taxation, in line with a self-interest interpretation of tax attitudes. However, findings are less coherent for the other index of social class, namely educational level.

Regarding gender and age, Botrić et al. (2021) found that older cohorts of participants were more likely to support progressive taxation, with no effect concerning gender. Gheorghiță (2023) found no evidence of the impact of gender and age on attitudes toward progressive taxation and null results concerning these two potential predictors were also found by Cabelkova and Smutka (2021).

Although there is a consistent body of literature that has consistently examined the relationship between demographic characteristics and support for progressive taxation, recent studies have highlighted the potentiality of other factors as well, such as cognitive or ideological factors, or the context within which taxpayers are contextually situated (Hennighausen & Heinemann, 2015; Sumino, 2016). We discuss them below.

Cognitive factors. The interpretation and evaluation of information regarding progressive taxation are also shaped by various cognitive factors, namely beliefs, knowledge structures, perceptual responses and thoughts (Breckler, 1984). While there is limited evidence in this domain, some authors highlight the role of political knowledge in shaping attitudes towards progressive taxation, albeit with mixed results. Specifically, Gheorghiță (2023) did not find any modification of support for progressive taxation based on political knowledge. In contrast, Macdonald (2020), using survey data from the 2012 American National Election Study, found contrasting results, demonstrating that political knowledge is relevant as it interacts with class attitudes in predicting support for progressive taxation. Specifically, knowledge of politics

polarizes beliefs such that lower classes are more and higher classes less supportive of progressive taxation the more knowledge they have.

One article demonstrates that the beliefs individuals hold about how the economy works are relevant for their attitudes. Barnes (2022), using representative samples from different countries (Denmark, France, Germany, the UK, and the US) and drawing on the distinction between positive-sum and zero-sum beliefs about the economy, showed that positive-sum thinking is associated with less progressive preferences. In other words, individuals who are more inclined to believe that economic growth and prosperity can benefit all individuals (for instance, "trickle-down economics") without significant redistribution measures or interventions are less likely to support progressive taxation.

Another cognitive aspect investigated is the (de)humanization of wealthy classes. The results of two experimental studies by Sainz et al. (2019) in a Spanish sample of students showed that humanizing (vs. mechanizing) high socioeconomic status groups led to lower support for income redistribution and taxation of wealthy groups. This was attributed to the perception that the group's wealth comes from internal sources (e.g., ambition) rather than external ones (e.g., corruption), aligning with literature linking the justification of economic inequality with enhanced endorsement of meritocracy (Trump, 2020).

A last contribution concerning cognitive factors, and specifically the cognition behind changing mental states, was provided by De Cristofaro et al. (2021; 2022) in the Italian context, who shed initial light on mindfulness as a factor increasing support for progressive taxation. Indeed, comparing group of mindfulness practitioners with general population authors found that practitioners were more likely to support progressive taxation. In De Cristofaro et al. (Study 2; 2022), in line with literature indicating that justifying the system leads to greater acceptance of existing economic inequalities and a diminished perception of such inequalities (Du & King, 2022; Jost, Banaji, & Nosek, 2004), the relationship between being a meditation practitioner and

support for progressive taxation was primarily explained by associations with lower system justification. In De Cristofaro et al. (2021) other factors related with higher support for progressive taxation among meditation practitioners were decreased competitive jungle worldview (namely the belief that the social world is a competitive jungle in which the advantaged win and the disadvantaged loose) and social dominance orientation (SDO, which signifies a inclination toward conflict and the dominance of individuals in positions of power over those who are less influential in society). Here the authors found that individuals with lower competitive jungle beliefs where also more likely to have decreased levels of SDO and this led to higher propension to support progressive taxation. In conclusion, attitudes towards progressive taxation are significantly influenced by an array of cognitive factors. Despite this, the empirical evidence remains limited and sometimes mixed (such as the effect of political knowledge), calling for future research in this field. In the next section we discuss the role of contextual factors.

Contextual factors. The broader social, cultural and historical context in which individuals reside have a profound impact on their behaviors and attitudes (Albarracin & Shavitt, 2018). Within the realm of progressive taxation, the articles included in this review center their investigation on the influence of economic inequality, and economic crisis, or adopt an approach that explores variations in support for progressive taxation across diverse socioeconomic contexts.

Concerning economic inequality, the existing literature reveals congruent findings, indicating that higher levels of perceived inequality within countries engender a more favorable disposition towards progressive taxation. Specifically, Kuhn (2019), analyzing longitudinal data from 27 countries and four time periods (ISSP 1987, 1992, 1999, and 2009), found a positive association between individuals perceiving high levels of economic inequality and their support for redistributive policies, such as progressive taxation. This finding aligns with the results

obtained by García-Sánchez et al. (2020), who provided additional evidence regarding the relationship between the perception of economic inequality and support for progressive taxation in a cross-country analysis involving 41 countries. Experimental evidence investigating this connection was also presented by Salvador Casara et al., 2023 (the complete study will be detailed in Chapter 3 of this thesis), where manipulated economic inequality led participants to have a more favorable attitude toward progressive taxation. In contrast, Domonkos (2016) analyzing data from the ESS in Central and Eastern European countries ($N = 13$), found limited evidence for the role of country-level variables, such as actual income inequality or the institutional features of income tax systems, in determining support for progressive taxation. However, he found a moderate and robust association between overall economic development and the average level of support for progressive taxation. In less developed post-socialist countries, the public tends to favor non-redistributive forms of taxation, such as the flat tax and lump-sum taxation. This inclination may be attributed to their increased willingness to embrace neoliberal reforms in response to mounting pressures to enhance the international competitiveness of their domestic economies.

Also, in contexts characterized by economic crisis, as well as by high economic inequality, there is often a desire for wealth redistribution (see Scheve & Stasavage, 2016 for an historical analysis). Studies conducted after the Great Recession have highlighted how the crisis context increased the demand for redistribution (Kroeger, 2014) and emphasized the crucial role of wealth redistribution in addressing economic crises (De Vogli, 2014). Specifically, regarding progressive taxation, Garcia-Muniesa (2019) analyzed data from a 2015 survey of citizens in nine European countries and found that individuals affected by the economic crisis were generally more likely to support progressive taxation than those not affected.

In addition to the role of economic inequality and economic crises, some authors have investigated other contextual factors that influence preferences toward progressive taxation. For

instance, Kuhn (2013) examined redistributive preferences by comparing East and West Germany in a representative survey including three time periods (ISSP, 1987, 1992 and 1999), revealing that individuals from East Germany tend to be more supportive of redistribution by the state and progressive taxation, partially contradicting results found by Domonkos (2016). Another contextual difference was identified by Berens and Gelepithis (2019), who discovered that individual attitudes toward tax progressive taxation are influenced by their institutional context. Expanding on existing theories of redistribution, Berens and Gelepithis (2019) conducted a cross-sectional analysis of affluent democracies, proposing that the structure of the welfare state shapes public attitudes towards progressive taxation. They found that households with average income were less supportive of greater progressive taxation in countries with pro-poor benefit systems than in countries where programs that insure against middle-class risks make up a relatively larger part of social expenditure. Moreover, results suggested that high-income households were less sympathetic towards progressive taxation where benefit spending were more pro-poor.

In their comparison between New and Old EU Member States, Botrić et al. (2021) found that although there were no direct differences in preferences for progressive taxation between the two groups of countries analyzed, political orientation and union membership played a more significant role in Old Europe than in New Europe in predicting support for progressive taxation. Indeed, the preference in Old Europe are in line with the expectations, with left-oriented voters being more in favor of progressive taxation, while right-oriented voters oppose such intentions. However, the situation is not that simple in New Europe, with null effects concerning right wingers. This is potentially explained by the fact that political parties in Eastern Europe aren't yet strongly associated with specific economic policies, instead, the primary focus of political discourse remains on the legacy of communism.

Another interesting result provided by Botrić et al. (2021) concerns the relationship between support for progressive taxation and the level of tax burdens: across the country groups and analyzed periods, those perceiving the tax burden in their country to be very high, were less in favor of more progressive taxation. Expanding this, Sumino (2016) demonstrated that the level of direct taxes in a certain context also play a role in shaping attitudes towards progressive taxation: in countries with comparatively high levels of direct taxes, high-income taxpayers react more negatively to more progressive taxation than do low-income counterparts. In contrast, in low-tax societies, attitudinal cleavages among income classes become less intense. In Barnes (2015) respondents prefer higher progressive taxation but lower tax levels. This difference varies across countries: preferences over tax levels have a greater effect on progressive taxation preferences in less progressive tax systems. Roosma et al. (2016) found that increased tax visibility (transparency) reduces support for progressive redistribution.

In summary, the contextual factors surrounding progressive taxation play a pivotal role in shaping individuals' attitudes and behaviors. First of all, contexts marked by economic inequality or economic crises triggers positive responses towards progressive taxation, potentially driven by the perception that the wealthy possess more resources and a heightened sense of responsibility for addressing these matters. Moreover, other contextual factors such as institutional context, historical legacies, and even tax burden perceptions interact to influence preferences toward progressive taxation.

The ideological aspect of attitudes towards progressive taxation is described in the next section.

Ideological factors. The way individuals perceive the distribution of tax burdens among different income groups can also be influenced by their ideological and political convictions (namely a set of ideas, beliefs, values, and opinions, exhibiting a recurring pattern, that competes over providing plans of action for public policy making in an attempt to justify, explain, contest,

or change the social and political arrangements and processes of a community, Freeden, 2001).

Taxes, as noted by Confalonieri and Newton (1995), carry significant political symbolism.

Political parties often propose modifications to the tax system to articulate their political

philosophies, ranging from libertarianism (i.e., advocating for minimal government intervention

and taxation) to egalitarianism (i.e., promoting income and wealth redistribution through

progressive taxation). As a result, tax attitudes are intricately tied to ideology. Left-wing parties

tend to emphasize the "ability-to-pay" principle, advocating for higher taxes for those who can

afford them. In contrast, right-wing parties, reject high taxes across all income groups, with

particular resistance towards increased taxation for the middle and upper classes. In line with

this, Edlund in a longitudianl analysis in Sweden (1999) found that participants affiliated with

the Bourgeoisie party were more likely to be averse to progressive taxation. Similar results were

found by Kuhn (2013) and Roosma et al. (2016) who demonstrated that left-wingers were more

likely to support progressive taxation. Botrić et al. (2021) supported this reasoning by comparing

support for progressive taxation in old-Europe countries (Germany, Denmark, France, Spain,

Finland, and Sweden) versus new-Europe countries (Czech Republic, Slovenia, Latvia, Hungary,

and Croatia). The authors found that the relationship between left-wing political orientation and

support for progressive taxation was more pronounced in Old-Europe countries. However, it is

worth noting that Gheorghiţă (2023) did not find a significant effect of political ideology on

support for progressive taxation in Romania. Heide-Jørgensen (2022) moved a step forward in

the analysis of the effect of political orientation on attitudes towards progressive taxation,

providing evidence that right-wingers are much less opposed to progressive taxation when

attitudes are measured indirectly relative to asking directly about their opinions. Specifically,

people were randomized into one of two conditions. Participants in the control condition were

asked to provide their opinion on a list of 4 general items, while participants in the experimental

condition evaluated those 4 general items plus one specifically related to progressive taxation.

Specifically, they were asked to state if they "oppose" or "not oppose" each of the items. The difference in the average number of opposed items between the groups gives an estimate of the true (unobtrusive) preferences over progressive taxation. Differently, participants in the control group were directly questioned "Do you oppose that high incomes are taxed more heavily than low incomes?" ("Yes," "No").

Apart from right-wing political ideology, another potentially important factor in reducing support for progressive taxation is the belief in meritocracy (especially when descriptive - how the world is - vs. prescriptive - how the world should be; Madeira et al., 2019), namely the belief that the wealth possessed by affluent individuals is somehow deserved through individual characteristics, such as effort and talent. According to the System Justification Theory (Jost, Pelham, Sheldon & Sullivan, 2003), belief in meritocracy leads people to perceive current social arrangements as fair and necessary. Fairness and justice are fundamental human needs, and individuals tend to view the world as a just place, where people receive what they deserve based on their efforts and talents (The Belief in a Just World, Lerner, 1980).

The belief in meritocracy as a foundation for support for progressive taxation is examined in four articles considered in this systematic review. The first evidence in this regard comes from Hennighausen and Heinemann (2015, Germany) who found that support for progressive taxation was lower for those believing in the role of effort for economic success. Similar findings were reported in Domonkos (2016) where support for progressive taxation decreased with the acceptance of income differences as a reward for talent and effort. In line with this, in a cross-cultural sample, García-Sánchez et al. (2020) presented evidence that the association between perceived economic inequality and support for redistribution varies depending on beliefs that justify inequality, such as meritocracy. Indeed, individuals who believe in (descriptive) meritocracy showed weaker support for progressive taxation. Bower-Bir (2022) provided additional evidence by demonstrating that people are more tolerant of significant

inequalities if they believe those inequalities are deserved. Altering these outcomes through redistribution is perceived as an unjust act when they are seen as deserved. Sachweh and Eicher (2023) investigated the role of meritocracy in Germany using an experimental design and found similar results. Valuations of deservingness significantly impacted support for taxation. Factors indicating meritocratic wealth accumulation decrease support for progressive taxation, particularly among respondents with low social status. Conversely, non-meritocratic factors increase support for taxation, but these effects are largely concentrated in privileged groups.

As other ideological factors, Salvador Casara et al. (2023) found a link between conspiracy beliefs and support for progressive taxation, with people believing in conspiracy being more likely to support progressive taxation. This result is partially in line with findings on the role of trust in hindering support for progressive taxation. Barnes (2015) found that people with lower trust in government were more likely to support progressive taxation. In line with this, Botrić et al. (2021) provided evidence that perceived corruption in the government increase people's willingness to tax the rich. Reliance on the state predicts improved attitudes towards progressive taxation in Cabelkova and Smutka (2021). As a last contribution concerning ideology investigated in this systematic review we report the results found by Cabelkova and Smutka (2021) and Gheorghiță (2023) who both found that higher social solidarity was associated with the desire to increase taxation of high-incomes and decrease taxation of poor income groups. Overall, these publications shed light on the role of ideology in predicting support for progressive taxation. Below we discuss the last predictor considered in this review, namely communication.

Communication. The way we communicate information change how we elaborate it shape our attitudes towards it. In the present review, three studies examined the aspect related to the communication of tax progressive taxation. The first evidence in this regard is provided by Roberts (1994) in the US, who reveals that people have positive attitudes towards progressive

taxation when described in general terms but fail to support it when specific information and numerical data are provided. Similar results are found by Edlund (2003) in Sweden who provides important insights regarding the aspect linked with education. While individuals in the United States differentiated between specific and general descriptions of taxes in Roberts et al. (1994), this differentiation did not occur for participants in Sweden. This contrasting result can potentially be explained by a stronger educational influence on the meaning of redistributive concepts provided in the Swedish context. In the context of communication, the experimental study by Reimers (2009) provided evidence that UK participants favored progressive taxation more when tax was described as a percentage rather than amount. However, there was also an interaction effect: for amounts, participants favored progressiveness significantly more when considering post-tax money retained rather than tax paid; for percentages, no such effect was found.

This limited evidence (only three studies) underscore the significance of the communicative aspect in shaping attitudes towards progressive taxation. Moroever, in the case of the impact of a generic (vs. specific) description of progressive taxation, they reveal that this effect is not universally true but rather contingent upon the specific context in which respondents are embedded in, calling for future studies in this regard.

Discussion, Limitations, and Future Directions

Through a systematic review of the literature, we provided a summary of research studying the underpinnings of support for progressive taxation, a topic that is attracting increasing interest from scholars in different fields, including psychology.

In line with an holistic approach to attitudes (Albarracin & Shavit, 2018), we identified several predictors of attitudes towards progressive taxation, which we grouped in five categories: 1. demographics; 2. cognitive factors; 3. contextual factors, 4. ideological factors, and 5.

communication. Regarding the first category, most of the literature has investigated the negative effect of self-interest motives, mostly measured through income levels, but also some papers including subjective socioeconomic status and educational level. The results were consistent concerning income and subjective socioeconomic status, with people with lower income and describing themselves as lower class being more likely to support progressive taxation. The results were mixed concerning the effect of educational level (Roosma et al., 2016; Knutsen et al., 2016). Despite our division between objective (income or educational level) and subjective (subjective socioeconomic class) components, the majority of the studies presented here focuses on income, with only a few measuring educational level or subjective socioeconomic standing, potentially failing to highlight differences in the effect on support for progressive taxation among the different indicators used. Moreover, the experimental study by Salvador Casara et al. (2023) found null results concerning both subjective and objective socioeconomic status of the participants, while medium to strong effects were found concerning conspiracy beliefs (ideology) and economic inequality (context). This inconsistency can be due to way the study was built. Indeed, while the questions related with conspiracy and support for progressive taxation were related to participants' experience in the fictitious scenario presented (high vs. low economic inequality), the questions related with socioeconomic status referred to participants' status in real life. Another plausible explanation resides in the magnitude of effect sizes, as both ideological factors (conspiracy beliefs) and contextual variables (economic inequality) demonstrated larger effects compared to demographic characteristics. In line with this, in Cabelkova and Smutka (2021) the effect of social solidarity and reliance on the state (as two ideological factors) in explaining the variation in tax preferences are at least equivalent and, in some cases, twice as large as the explanatory power of the age, gender, education, and income altogether. Mixed results were also found with respect to the role of age. Gender produced null results, while the effect of working status remained unexplored. Since there is evidence

suggesting that self-employed individuals tend to engage in tax evasion to a greater extent than employees (Engström & Holmlund, 2010; Kukk et al., 2020), it is crucial to consider the impact of employment status on support for progressive taxation in future studies. Moreover, the mixed literature considering demographic characteristic described above provides initial evidence of the potential of psychological factors - when compared to self-interest motives and demographics - in shaping attitudes towards progressive taxation.

Regarding the second group of underpinnings, cognitive factors, one article studied that positive-sum beliefs are associated with lower support toward progressive taxation. Two articles instead investigated the role of political knowledge, finding mixed results (Gheorghiță, 2023; Macdonald, 2020). An additional cognitive aspect investigated is that of the dehumanization of more affluent socioeconomic classes. In the context of changes in mental states, the studies by De Cristofaro et al. (2021; 2022) demonstrate the potential significance of meditation in enhancing support for progressive taxation by reducing system justification, social dominance orientation and competitive jungle beliefs. While literature concerning the impact of cognitive factors is still at its infancy, it provides interesting insights for future research. First of all, future studies are necessarily to provide additional evidence of the effects found, controlling for potential ideological factors that can moderate - or explain - them. For example, concerning the effect of positive-sum thinking, right-wing political ideologies often emphasize limited government intervention, individualism, and free-market principles. Consequently, individuals aligned with right-wing beliefs may be more inclined to adopt positive sum beliefs because they see self-reliance and economic freedom as pathways to economic growth. As an avenue for future research other cognitive factors hindering support for redistribution could be analyzed. For example, the way people interpret information about progressive taxation could be influenced by a lack of understanding. While political knowledge has yielded mixed results, focusing on factors more proximal to progressive taxation itself, such as the comprehension of

the system, may be more informative. In fact, as highlighted by Atria (2023), it's not unusual for people to mistake the concept of progressive taxation for proportionality, which could result in a more negative view of progressive taxes. Additionally, it is important to investigate other potential factors potentially linked with low comprehension, such as negative emotions related to progressive taxation (in line with the Tripartite Model of Attitudes; Rosenberg & Hovland, 1960), or low educational level.

Considering contextual factors, literature focused on the role of economic inequality (Kuhn, 2019; García-Sánchez et al., 2020; Salvador Casara et al., 2023) and economic crisis (Garcia-Muniesa, 2019) providing evidence that people exposed to contexts of high inequality or crisis are more likely to support progressive taxation. Domonkos (2016) found limited evidence considering the effect of economic inequality, while strong effects were found concerning economic development. In addition to the role of economic inequality and economic crises, some authors have investigated other contextual factors that influence preferences toward progressive taxation, such as socio-political context (Kuhn, 2013; Botrić et al., 2021; Knutsen & Wegmann, 2016; Berens & Gelepithis, 2019; Roosma et al., 2016). Although the role of economic inequality is pretty stable across studies, it remains unclear the exact pathway linking inequality with enhanced support for redistribution through progressive taxation. Is this effect driven by an attempt to simply flatten inequalities perceived as unfair, or is it fueled by negative emotions towards economic elites, seen as responsible for the inequality? To disentangle this, future studies may compare the effect of economic inequality on redistribution policies aimed at taxing the rich (progressive taxation) with the effect of economic inequality on redistribution policies aimed at helping the poor (e.g., unemployment benefits or basic income), measuring, at the same time attitudes towards different socioeconomic groups. This reasoning could also be applied to economic crisis, with future studies potentially exploring if people exposed to

contexts marked by economic crises are more likely to support redistribution because of responsibility attributed to individuals belonging to upper socioeconomic classes.

Among ideological factors, we considered political orientation, meritocracy endorsement, trust towards the government, conspiracy beliefs and solidarity. The effect of political orientation was mixed, with Botrić et al. (2021) finding that progressive taxation was strongly supported by left-wing political-oriented people and Gheorghiță (2023) reporting null results. Although this difference might stem from contextual factors within the socio-political system participants were immersed in, future research could measure political orientation more indirectly. As noted by Heide-Jørgensen (2022), the way we measure attitudes has an impact on the outcome. Similarly, a more nuanced measure of political orientation, which asks participants to express the extent of agreement or disagreement with certain right-wing and left-wing values (rather than just positioning themselves into "left" or "right" categories), could yield more accurate results. The role of meritocracy endorsement was consistent across different studies and contexts (Hennighausen & Heinemann, 2015 and Sachweh & Eicher, 2023, in Germany; Domonkos, 2016 in Central and Eastern European countries; Bower-Bir, 2022 in the USA; García-Sánchez et al., 2020 in a cross-country analysis). Moreover, the study by Salvador Casara et al. (2023) provided evidence of the role of conspiracy beliefs in increasing support for progressive taxation. This is partially in line with Botrić et al. (2021) and Cabelkova and Smutka (2021), who reported that low trust in government is linked with increased support for progressive taxation. Future studies could delve deeper into the link between trust in government and increased support for progressive taxation, employing, for instance, experimental methodologies, as the underlying factors of this connection have not been fully explored and require more empirical support. One potential explanation might lie in participants perceiving government constituents as economic elites, thus, as previously mentioned, attributing them responsibility for economic inequality.

Regarding the role of meritocracy endorsement, in addition to replicating the reported results using experimental methodologies that allows for causal inference, future research could delve into the definition of meritocracy (as encompassing both talent and effort-related characteristic, see for example Castillo, 2021) and attempt to disentangle the effect that an understanding of meritocracy primarily as effort (versus talent) might have on an individual's perception of control over their life. This exploration could shed light on whether this perception is linked to lesser support for wealth redistribution.

Finally, three articles considered role of communication: Roberts et al. (1994) and Edlund (2003) showed that people make positive judgments about redistribution in general, but fail to support information about progressive taxation expressed in concrete terms. Also in the area of communication, Reimers (2009) find out that people prefer taxes when they are described as a percentage rather than amount. Concerning the role of generic (vs. specific communication) of progressive taxation, future studies are needed to clarify the different effects found in North American (Roberts et al., 1994) and Swedish (Edlund, 2003) context. Moreover, future research may also explore the reason behind the preference for abstract communication concerning taxes. Why is this preference occurring? Is it a simple effect stemming from a preference for general statements, or is there a more complex rationale behind it?

As a general comment concerning limitations, there is a need for longitudinal and experimental studies to establish causal relationships between the identified factors and support for progressive taxation. The majority of the studies reviewed relied on cross-sectional data or correlational designs, which make it difficult to draw definitive conclusions about causality. Longitudinal studies would enable the examination of temporal dynamics and changes in support for progressive taxation over time, while experimental designs could provide more robust evidence of causal relationships.

Additionally, although this systematic review has explored various predictors, it is important to note that the research in this field is still relatively young and requires further investigation that would enhance our understanding of the complexities surrounding support for progressive taxation.

Overview of the Present Empirical Studies

To overcome the limitations found in the systematic review, we aimed at contributing to the literature on attitudes towards progressive taxation through empirical work ($N = 11$ studies) that replicates, using different methodologies, past literature and that expands it (See Figure 2). Results of these studies are presented in the different chapters of this thesis, organized by considering the different factors individuated in the literature review.

In Chapter 2, I will analyze both the contribution of individual level characteristics such as gender, age, educational level and working status, and self-interest motives. Since I collected these variables in all the studies included in the present dissertation, a large amount of data is available for this analysis ($N_{total} = 5259$). Investigating the role of demographic factors is fundamental, since results from past literature provided small and mixed effects, as described in Chapter 1. Moreover, the potential contribution of working status represents a novelty in the analysis of demographics in the context of support for progressive taxation.

In Chapter 3, I will explore the role of participants' understanding of progressive taxation and of their negative emotions related to taxes in predicting support for progressive taxation. In fact, cognition and emotion, despite being integral components of the tripartite model of attitudes, represent two factors that have received relatively limited attention from the literature up to this point. In Study 1a ($N = 120$), we analyzed the relationship between cognition (tax comprehension), emotions (negative emotions related to taxes in general), and support for progressive taxation using a correlational survey. In Study 1b ($N = 399$), we aimed at replicating the results found in Study 1a using a larger sample size and pre-registering hypotheses in line with Open Science Framework. In the pre-registered Study 1c ($N = 533$), focusing on the role of communication, we experimentally manipulated the complexity of a message describing progressive taxation. We predicted that the lack of comprehension of the tax system, enhanced

by complex communication, could increase negative attitudes toward taxes. we also explored the role of negative emotions related to taxes in affecting this relationship.

In Chapter 4 (Study 2, $N = 2119$), I analyzed the role of manipulated economic inequality, as a contextual factor, in predicting support for progressive taxation, given the lack of experimental work on the subject. Here I took into account both support for progressive taxation and tax compliance, two areas generally investigated separately. I also examined whether conspiratorial thinking, as an ideological variable, predicts support for progressive taxation.

In Chapter 5, I focused the contribution of ideological motives, namely political orientation and meritocracy endorsement in predicting support for progressive taxation. I here aimed at provide further evidence of the effect of political orientation in shaping attitudes, since results in the literature are sometimes mixed. Specifically, I measured political orientation in all the studies under investigation, a part of one ($N_{total} = 4923$). The role of both descriptive and prescriptive meritocracy was evaluated through an initial correlational study (3a, $N = 301$). Here I also explored the role of different components of meritocracy (effort and talent) in predicting support for progressive taxation. In Study 3b ($N = 336$), I manipulated the economic inequality (high vs. low) and the reason for such inequality (external causes - family background, contacts, circumstances - and internal causes - meritocracy, defined as effort and talent). In Study 3c ($N = 203$), I analyzed the contributions of effort and talent separately, manipulating them experimentally. The aim of this set of studies was to expand literature on the role of meritocracy in shaping attitudes towards progressive taxation using experimental methods that allow for causal inference.

In Chapter 6, I focused on tax communication. How can social psychology help to better communicate progressive tax proposals so that citizens understand their importance? Drawing on Construal Level Theory, I tested in four experiments whether attitudes towards progressive

taxation are modified by high (vs. low) construal frames focusing on generic (vs. specific) taxes that are temporally distant (vs. close). In Studies 4a and 4b (N_{total} = 522), I orthogonally manipulated the specificity and temporal distance of a tax proposal to disentangle the two sources of construal. In Study 4c (N = 373), I investigated whether the effect of generic tax proposals was mediated by their perceived importance. In Study 4d (N = 353) I explored why a general description of taxes enhanced support for wealth redistribution.

Together, the above lines of research create an overarching model that deepens our understanding of the multifaceted determinants of attitudes toward progressive taxation.

Design, Analysis, and Open Science

All surveys reported in this empirical work were developed on the online platform Qualtrics (https://www.qualtrics.com). Statistical analyses were performed using JASP 0.17.3, unless otherwise specified. All materials and data from the conducted studies are accessible on the Open Science Framework (OSF, link: https://osf.io/f8qsr/?view_only=149d65d6481b4f65bddec598b9bca6a1). Pre-registration links are provided in the subsequent chapters.

Ethical approval for this set of studies was provided by the Ethics Committee of the School of Psychology at the University of Padova. Data files and materials associated with the manuscript are posted openly online on OSF (details can be found for each study).

Figure 2

Overview of the Present Empirical Studies
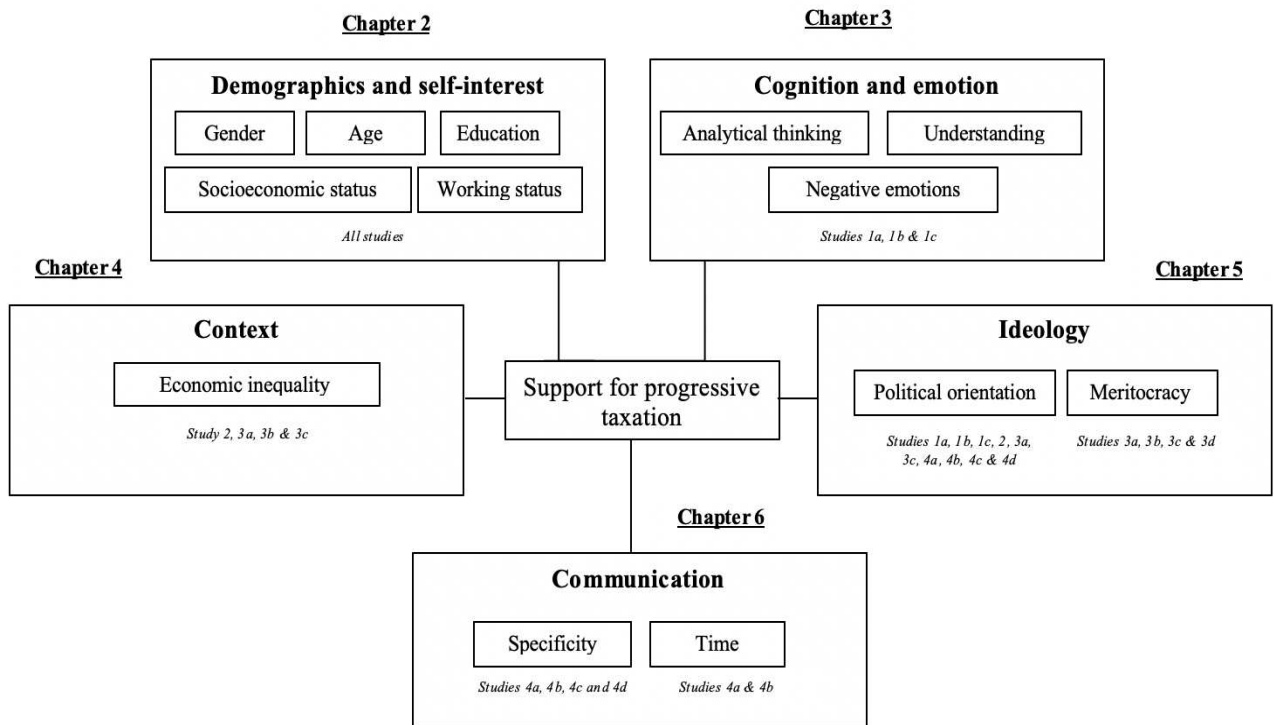
Chapter 2. Analysis of Demographics and Self-Interest Motives Across the Present Studies

In all the studies presented, we analyzed the role of demographics (gender, age, educational level and working status) and self-interest (income, subjective socioeconomic status and educational level; Hettich & Winer, 1997). According to the self-interest explanation of attitudes toward redistribution, the aversion towards redistribution is linked to economic standing, and demand for redistribution should rise among those with lower income (Meltzer-Richard, 1981). The support related to the actual economic standing should therefore be captured by actual (Ohtake & Tomioka, 2004) or perceived (Kim & Lee, 2018; Brown-Iannuzzi et al., 2015) economic standing.

Concerning **socioeconomic standing**, as in the systematic review of the literature presented in Chapter 1, we considered both objective (income and educational level) and subjective (subjective socioeconomic status, SSES) socioeconomic standing. In line with the empirical evidence the empirical evidence, both objective and subjective socioeconomic standing predicts aversion to redistribution (Brown-Iannuzzi et al., 2015; Doerrenberg & Peichel, 2013; Torgler, 2007), although the association between subjective status and opposition to redistribution is small and sometimes inconsistent (Finseraas, 2009; Kluegel & Smith, 2017). Indeed, some studies pointed out that people are generally reluctant to taxing the wealthy, regardless of their socioeconomic status (Gangl & Torgler, 2020). Not only actual and perceived socio-economic status may be potential key factors in predicting support for redistribution, but also the perceived expectation of future economic status. Studies have so far focused on positive expectations, i.e. perceived upward social mobility, showing that perceived upward societal social mobility breeds both tolerance for inequality (Shariff et al., 2016; Fehr et al., 2020) and reduces support for redistribution (Matamaros-Lima, in press; Jaime-Castillo et al., 2008). Whereas there is a limited number of studies on the effects of the expectation of upward social mobility on redistribution support, those concerning the expectation of downward social

mobility are even more scarce (for an exception see Matamaros-Lima, in press). The relationship between perceived upward and downward mobility and support for progressive taxation is investigated in Study 3a, 3b and 3c, while perceived and actual socioeconomic status is explored in all the studies presented in this work. Although socioeconomic status is perhaps the individual characteristic most directly related to support toward progressive taxation, other individual characteristics may also be relevant. In all the studies presented here, we therefore also analyzed individual differences related to gender, age, and employment status.

Educational level is trickier. From a cognitive point of view, a higher level of education may lead people to understand the taxation system more accurately and perceive it as less complex. This could lead to more favorable attitudes towards progressive taxation. From a self-interest point of view, more educated people, who are usually also the most affluent, might be more averse to progressive taxation as their socio-economic group mostly carries the burden of progressive taxation. From an ideological perspective, more educated people may be more averse to redistribution as meritocratic thinking is deeply transmitted in school contexts (Darnon et al., 2018), potentially increasing endorsement of meritocratic ideology and justification of wealth reached through hard work and talent. In accordance with this, Gelepithis and Giani (2020) found that individuals with higher education tend to show less support for redistribution: While universities promote progressive ideas regarding cultural inclusion, they also foster conservative redistribution preferences that, to some extent, are reinforced by the economic security they provide. On the contrary, in many contexts the more affluent individuals tend to hold left-wing political orientation, which may be linked with increased support for wealth redistribution.

Concerning **gender**, literature suggests that women should be more inclined to support wealth redistribution (Edlund & Pande, 2002). One reason for this is that women, more than men, favor left-wing parties and are, in general, more prone to propose political actions to reduce

inequality through wealth redistribution (Edlund & Pande, 2002). Moreover, another approach argues that gender differences in social policy preferences are influenced by family upbringing and childhood socialization (Healy & Malhotra 2013; Orum et al., 1974). Boys and girls are taught different social roles, and this shapes their political preferences as they become adults. These different socialization practices may lead women to be more inclined towards income redistribution compared to men. Focusing on socioeconomic status, and in line with a self-interest explanation of support for progressive taxation, it is also well known that men and women, on average, have systematically different socioeconomic positions (education), with women more likely to have lower socioeconomic status than men, thus potentially impacting their willingness to support wealth redistribution. Moreover, some psychological traits (e.g., risk aversion and time preference), and attitudes (e.g., prosocial believes), may help to explain gender differences in redistribution support. For example, Eckel and Grossman (1998) presented evidence that women tend to be more altruistic than men, and to prefer a more egalitarian distribution of resources. Despite this apparently coherent evidence, Edlund (2003) highlighted that women tend to express stronger support for progressive taxation, but only when very abstract concepts related to wealth redistribution are presented. When presented with concrete applications, this link disappeared. In line with this, as presented in Chapter 1, no gender differences in preferences towards progressive taxation were found by Gheorghiță, (2023) and Cabelkova and Smutka (2021).

Concerning **age**, literature indicates that support for progressive taxation is positively related with age, with older generations being more likely to redistribute wealth (see for example, Edlund, 2003; Ohtake & Tomioka, 2004), although the effects are often rather small. This result can be explained by the upward social expectation that younger generations have, i.e. the expectation of upward social mobility (Ohtake & Tomioka, 2004). Additionally, this

relationship might be influenced by generational dynamics, given that older cohorts formed their political viewpoints prior to the advent of neoliberalism's global impact.

The relationship between **working status** and tax compliance, in general, is a fairly well-studied topic in the literature, with evidence showing that self-employment is generally related to reduced tax compliance (Engström & Holmlund, 2010; Kukk et al., 2020) due to higher possibility of underreporting. The literature in the area of progressive taxation is smaller, but some studies suggest that those working in the private sector are generally more averse to progressive taxation, compared to those working in the public sector (Edlund, 2003). In addition, people who are self-employed are generally more affluent than employees (Chancel, 2022), potentially implying that they would be more averse to increasing taxes on the wealthy segments of the population, in line with a self-interest explanation.

Methods

Participants. In order to explore the nexus between sociodemographic characteristics and support towards progressive taxation, we conducted an analysis encompassing the entirety of participants included in the studies under consideration within this work, amounting to a total of 5259 Italian participants (Table 2 in the supplementary materials provides an overview of the participants' demographics). Analyses were conducted considering each sample separately.

Measures

Support for progressive taxation. In Studies 1a, 1b and 1c we assessed progressive taxation through two items (How fair do you think a progressive taxation system is?" and "How much do you support the implementation of a progressive tax system?") after providing information about the tax rate for each income bracket in Italy (see Chapter 3 for details). In Studies 2, 3a, 3b, and 3c we measured it through the 4-items scale by Salvador Casara et al. (2023; "Italian government should tax everybody with the same percentage', 'In Italy, taxes should be the same

amount for everybody', 'In Italy, rich people should pay more taxes compared to the rest of the population', 'In Italy, the wealthy should be taxed more heavily'; see details in Chapters 4 and 5). In Studies 2, 3a and 3b these items were adapted to the experimental manipulation. In Studies 4a, 4b, 4c and 4d we measured attitudes towards progressive taxation using a measure that includes an average of general and specific statements about progressive taxation (see details in Chapter 6). For all studies, responses were scored so that higher values indicate greater support for redistribution or progressive taxation.

Gender. In all studies gender was assessed through a single item that aimed at being as much inclusive as possible, including as possible answers "male"; "female" and "non-binary" (with the possibility to specify). Despite this, we only considered participants identifying as males or females, due to very small sample of non-binary participants.

Subjective socio-economic status. In Study 1a, 1b and 1c we assessed subjective socioeconomic status through a single item ("to which social class do you think you belong to?" with "lower class," "lower-middle class," "middle class," "upper middle class," and "upper class" being potential answers. The data were analyzed considering this variable as continuous, ranging from 1 = lower class to 5 = upper class). In Studies 3c, 4a, 4b, 4c and 4d we measured subjective socioeconomic status though a single item assessing one's family SSES compared to the average Italian family (slider going from 0 = Worse off to 100 = Better off). In Studies 2, 3a and 3b we assessed socioeconomic status using both measures.

Income. In all the studies, income was measured through a single item, assessing annual net family income, with < 12.000 €; from 12.000€ to 20.000€; from 20.000€ to 30.000€; from 30.000€ to 40.000€; from 40.000€ to 50.000€; from 50.000€ to 60.000€; > 60.000€ as possible answers in Studies 2 and 3c. In Studies 1a, 1b, 1c, 3a and 3b we added an additional level (from 60.000€ to 70.000€ and > 70.000€). In Studies 4a, 4b, 4c and 4d we used just five levels, based on Italian income brackets division (< 15.000; from 15.000 to 28.000; from 28.000 to 55.000;

from 55.000 to 75.000; > 75.000). Again, data were analyzed considering income as a continuous variable.

Age. Age was assessed through an open-ended question with a numerical option as possible answer.

Educational level. In all the studies we measured educational level through a single item with responses including "primary school"; "middle school"; "mandatory school"; "high school"; "Bachelor's Degree"; "Master's Degree"; "PhD" as possible answers. Data were analyzed considering this variable as continuous, ranging from 1 = lowest educational level to 6 = highest educational level.

Working status. Working status was also assessed through a single item, including as options "student"; "working student"; "employee"; "self-employed"; "unemployed"; "retired"; "other".

Results

Contrary to our expectations, we found null effects considering all the demographic variables considered, as summarized in Table 1. While certain relationships appear to yield statistical significance within specific studies (e.g., gender, age, subjective socioeconomic status, and education in Study 1b; gender in Study 2; income and education in Study 3c; age and income in Study 4c), the findings primarily providing small, null or mixed effects.

To check the potential relationship between working status and support for progressive taxation we ran a set of ANOVAs with working status as predictor and support for progressive taxation as dependent variable. Results revealed that working status had no effect in the majority of the studies. Some statistically significant differences emerged in Study 2, Study 3b and Study 4c, but without a consistent pattern of results across studies. In Study 2 post-hoc test with Tukey correction revealed differences in means concerning self-employed vs. who responded with the option "other" (t = -3.25, *Mdiff* = -.39, p = .01) and retired vs. other (t = -3.11, *Mdiff* = -.47, p = .02) suggesting greater support for progressive taxation is higher among those answering "other"

to this question than both unemployed and self-employed. Study 3b we found a difference in means concerning employee vs. retired ($t = -3.02$, $Mdiff = -.64$, $p = .04$), with retired people being more likely to support progressive taxation than employees. In Study 4c, the difference concerned self-employed vs. other; ($t = 3.37$, $Mdiff = 27.48$, $p = .01$) and self-employed vs. unemployed ($t = 2.87$, $Mdiff = -37.94$, $p = .05$). Thus, self-employed were less likely to support progressive tax proposals.

With exploratory purposes, we also tested the potential effect of demographic characteristics and self-interest in shaping negative emotions related to taxes. In Study 1a, probably due to the small sample size, we did not find any statistically significant relations, a part the negative link between subjective socioeconomic class and anxiety related with ($r = -.20$, $p = .03$). In Study 2b the effects emerged more clearly: female ($r = .16$, $p < .01$), younger participants ($r = -.12$, $p = .20$), and both low subjective ($r = -.10$, $p < .01$) and objective socioeconomic status ($r = .15$, $p < .01$), were linked with increased anxiety. No effects concerning anger were found in Studies 1a and 1b. In Study 1c we found effects related to both anger and anxiety. Participants were more likely to perceive anger related with progressive taxation if female ($r = .12$, $p < .01$), with low income ($r = -.11$, $p = .03$) and identifying with lower socioeconomic class ($r = -.09$, $p = .01$). Moreover, increased anxiety was related with being young ($r = -.15$, $p < .001$), having low income ($r = -.11$, $p < .01$) and identifying with lower socioeconomic class ($r = -091$, $p = .04$). Working status had no effect on anger or anxiety in all the studies (1a, 1b and 1c), except for a small difference between working student and who responded "other" ($t = 2.93$, $Mdiff = 1.41$, $p = .04$) in Study 1c concerning anxiety F (5, 526) = 2.27; $p = .04$; $\eta_p^2 = .02$.

Table 1

Partial correlations table between support for progressive taxation, gender, age, subjective SES, income and educational level. ANOVAs are used to assess the effect of working status on support for progressive taxation.

	Gender (female as reference)	Age	Subjective Socioeconomic status	Income	Educational level	Working status
Study 1a $N = 120$	$r = -.08$	$r = .03$	$r = -.11$	$r = -.08$	$r = -.04$	$F = 1.26$; $p = .29$; $\eta_p^2 = .05$
Study 1b $N = 399$	$r = -.09$	$r = .07$	$r = .02$	$r = .01$	$r = -.03$	$F = .27$; $p = .92$; $\eta_p^2 = .003$
Study 1c $N = 533$	**$r = -.11*$**	**$r = -.09*$**	**$r = -.10*$**	**$r = .12**$**	**$r = -.16*$**	$F = 2.05$; $p = .07.$; $\eta_p^2 = .02$
Study 2 $N = 2119$	**$r = .04*$**	**$r = .06**$**	Class $r = -.04$ Family SES $r = -.04$	$r = -.02$	$r = .03$	**$F = 4.10$; $p = .003$; $\eta_p^2 = .008*$**
Study 3a $N = 301$	$r = .09$	$r = -.10$	Class $r = -.03$ Family SES $r = -.02$	$r = -.003$	**$r = .19**$**	$F = 1.93$; $p = .09$; $\eta_p^2 = .03$
Study 3b $N = 336$	$r = .02$	$r = .09$	Class $r = .02$ Family SES $r = -.003$	$r = .04$	$r = .05$	**$F = 2.26$; $p = .04$; $\eta_p^2 = .04*$**
Study 3c $N = 203$	$r = -.06$	$r = .06$	$r = .06$	**$r = .16*$**	**$r = .15*$**	$F = .96$; $p = .45$; $\eta_p^2 = .03$
Study 4a $N = 172$	$r = -.10$	$r = .06$	$r = -.01$	$r = -.07$	$r = .03$	$F = 1.46$; $p = .21$; $\eta_p^2 = .04$
Study 4b $N = 350$	$r = -.07$	$r = .06$	$r = -.06$	$r = -.12$	$r = .06$	$F = .65$; $p = .58.$; $\eta_p^2 = .006$
Study 4c $N = 373$	$r < .001$	**$r = .15**$**	$r = -.05$	**$r = -.16**$**	$r = -.07$	**$F = 3.37$; $p = .01$; $\eta_p^2 = .04*$**

| Study 4d $N = 353$ | $r = -.05$ | $r = -.08$ | $r = .02$ | | $r = -.08$ | $r = .07$ | $F = .65; p = .58; \eta_p^2 = .006$ |

Subjective socioeconomic status was assessed through two distinct measures within the studies. Class was measured through a single-item: "To which social class do you perceive yourself to belong? (1 = lower class; 2 = lower-middle class; 3 = middle class; 4 = upper-middle class; 5 = upper class)". Conversely, Family subjective SES was assessed through the single item "Relative to the average Italian family, how does the economic status of your family compare? (1 = much worse to 100 = much better)".

Discussion, Limitations and Future Directions

The present Chapter delved into a first investigation of the interplay between demographic characteristics and self-interest motives in shaping attitudes towards progressive taxation. Drawing upon a rich body of data, we scrutinized the influences of gender, age, educational level, working status, subjective socioeconomic status, and income on support for progressive taxation in Italy.

Despite the premise of the self-interest explanation of attitudes towards redistribution, positing that economic standing significantly impacts support towards wealth redistribution, we found mixed and inconsistent results across studies concerning both income and subjective socioeconomic status. Some relationships concerning the role of other demographic characteristics, such as gender, age, educational level and working status emerged as statistically significant within isolated studies; however, also here, our overarching findings reveal a landscape marked by inconsistency and often characterized by small or null effects.

While results concerning the link between support for progressive taxation and demographic characteristics provided mixed results, when analyzing the impact of demographics on negative emotions related to taxes (anger and anxiety), results are more coherent across studies (1a, 1b, and 1c), with female, younger participants and both participants with lower income and identifying with lower class feeling more anxiety. Only in Study 1c emerged

significant results concerning anger, with participants more likely to perceive anger related to progressive taxation if women, with low income, and identifying with lower socioeconomic class.

This result suggests that sociodemographic characteristics are more strongly associated with an emotional aspect related to progressive taxation, rather than with the attitude itself and calls for future studies that disentangle the effect of different underpinnings on the cognitive, emotional, and behavioral aspects of attitudes towards progressive taxation.

Despite the insights garnered from this chapter, several limitations warrant acknowledgment. One inherent limitation pertains to the reliance on self-report measures, which, though a standard practice, may introduce response bias or measurement error, especially concerning questions related with subjective socioeconomic status. Indeed, people are in general reluctant to define themselves as belonging to the lower or upper classes, preferring to categorize themselves as middle class (Study 1a, 53.8%; Study 1b, 53.6%; Study 1c, 54.8%; Study 2, 59.3%; Study 3a, 59.5%, Study 3b, 55.1%; Study 3c, $M = 54.31$, $SD = 15.99$; Study 4a, $M = 56.70$, $SD = 18.31$; Study 4b, $M = 54.95$, $SD = 15.31$; Study 4c, $M = 56.70$, $SD = 18.31$; Study 4d, $M = 53.90$, $SD = 15.58$) . Although this limitation could potentially have been overcome by the inclusion of an income-related question, in reality, the predictive effect of objective and subjective socioeconomic status on support for redistribution can differ (Fernández-Albertos & Kuo, 2018). For this reason, future studies could make participants aware of their own socioeconomic status after receiving information about their income.

Moving forward, the pursuit of cross-cultural investigations could shed light on the mixed effects observed, which are often inconsistent with previous literature, or unveil novel nuances unique to specific cultural contexts. Moreover, methodological refinements, such as employing longitudinal designs, may enhance the precision of our understanding.

As future directions, this chapter underscores that demographic factors hold limited relevance in predicting support for progressive taxation. This calls for research investigating other potential psychological underpinnings, such as cognitive, contextual, ideological, and communicative factors. Some of them will be explored in the next chapters.

Chapter 3. Cognitive Appraisal and Negative Emotions Related to Progressive Taxation[1]

How we perceive information from the social contexts and process it changes our attitude toward it. How do we perceive information concerning progressive taxation? The notion that taxes are a thorny and complex subject is now widely accepted. Some research shows how tax knowledge and perceived complexity related to the taxation system contribute to non-compliance among taxpayers (Saad, 2014; Brackin, 2007). This lack of understanding of how the system works, could apply all the more to aversion to progressive taxation, given that progressive taxation is objectively complex as it includes different tax percentages for different brackets. Indeed, a lack of understanding of how progressive taxation works could result in the idea that a progressive taxation system is unfair. Moreover, negative emotions related with the object could also affect an individual's attitude, with negativity related to progressive taxation potentially affecting support for this taxation policy. In Studies 1a, 1b, and 1c we analyzed the contribution of understanding progressive taxation and negative emotions related to progressive taxation on attitudes. Do people understand how a progressive tax system works? Is comprehension of progressive taxation linked with its support? What is the role of negative emotions?

How is Information About Progressive Taxation Processed?

Two psychological processes are mainly related to message comprehension, often labeled analytical vs. intuitive thinking. According to the Elaboration Likelihood Model (Petty & Cacioppo, 1986), information can be processed through two different paths. Through the *peripheral route,* information is processed superficially and does not need a consistent cognitive effort by the target. The *central route* involves the active elaboration of complex information, which is achieved by a greater amount of thought concerning the arguments (Petty & Cacioppo,

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[1] I want to thank Bruno Gabriel Salvador Casara for his precious collaboration in this line of Studies.

1986). The likelihood of elaborating on a certain argument will be determined by an individual's motivation and ability to evaluate the argument being presented. Along the same line, Daniel Kahneman (2012) offers a great improvement of decision-making models, describing two different systems of information processing: System 1 and 2. While System 1 is fast and automatic (intuitive thinking), System 2 requires effort and mental processing (analytical thinking). Indeed, intuitive thinking represents a fundamental cognitive tool for quickly assessing the social world and provides a cognitive short-cut in order to make quick decisions. Despite this, human intuition is sometimes faulty, resulting in heuristics, biases, and choices that frequently differ from the expectations of normative statistical and economic models (Kahneman & Twersky, 1972; Ruggeri et al., 2022; Shiloh et al., 2022). From this premise, several studies have found that intuitive thinking leads to worse decisions and a reduced ability to recognize fake news (Pennycook & Rand, 2019), and to avoid epistemically suspect beliefs (Šrol, 2021). In congruence with The ELM, the Heuristic- Systematic Model (HSM), developed by Chaiken (1980), also predicts the existence of two different mechanisms in the processing of persuasive messages. The first one is called heuristic and involves low cognitive engagement, making use of heuristics which are defined as shortcuts in thinking that lead to hasty and instinctive decisions. The second one is called systematic and involves high use of cognitive resources, on par with the central pathway in the processing likelihood model. However, the difference from ELM lies in the fact that the possibility is provided that the two modes of processing, heuristic-systematic, are not mutually exclusive and indeed, can interact.

By applying this reasoning to progressive taxation, the few articles published on this topic suggest that people tend to have, in general, little knowledge of tax matters and only basic statistical literacy (Sedlmeier & Gigerenzer, 2001), both of which are relevant when dealing with the concept of progressive taxation. Since progressive taxation involves a tax rate that increases as taxable income (typically divided into brackets) increases, it imposes a lower tax rate on low-

income earners and a higher tax rate on those with a higher income. Despite this, the concept of progressive taxation is not trivial: with a progressive tax, people only pay the highest percentage for the portion of their income that exceeds all prior thresholds, whereas lay people often assume that it is applied to the entire income. If the information concerning the tax rate by tax bracket is not deeply elaborated through a central route or analytical process, the consequent lack of understanding may affect attitudes toward progressive taxation, possibly perceiving taxation as unfair (see for example Atria, 2023 where participants mistake the concept of progressive taxation with proportionality). Indeed, studies in the field of economics demonstrated the benefits of acquiring basic knowledge of taxation and public expenditures in order to improve attitudes (Cvrlje, 2015).

The Role of Negative Emotions in Affecting Attitudes

How a piece of information is processed, and understood, therefore, has an effect on the attitudes toward it. Drawing on Kahneman (2012), if information with respect to how tax progressive taxation works are not processed analytically, it is much more likely to be affected by the person's bias and preconceptions, such as negative emotions related to progressive taxation (in the case of progressive taxation) or ideological factors (e.g., political orientation; Kahan, 2013). For example, cognitive reflection increases the propensity to engage in ideologically motivated reasoning (Kahan, 2013). Moreover, according to loss aversion (Kahnman & Tversky, 1982), there is a mental asymmetry that leads people to perceive the pain of a loss (paying taxes, in this case) outweighing the joy of an equivalent gain (the social benefits that taxes provide). This asymmetry could potentially be enhanced by a poor understanding of the tax system. In fact, taxes are typically associated with a fee or a penalty, and people tend to overlook their positive consequences (McCaffery & Baron, 2004), holding, on the contrary, negative emotions towards them. These negative attitudes toward taxes are often

so pervasive that just the word "tax" can diminish people's support for certain policies (see Kallbekken et al., 2011 for support for environmental protection taxes). Following this reasoning, when redistributive policies are associated with taxation, people might automatically perceive them as a penalty, especially in the absence of a good understanding of how progressive taxation works. For example, a vast literature has shown that negative emotions reduce the quality of performances that require cognitive resources (Pessoa, 2009), and that the manipulation of the emotional value of specific contents can have a negative impact on task performances (Trémolière et al., 2016; Blanchette, 2006). Following this reasoning, the negative emotions people hold concerning progressive taxation may lead to more superficial information processing and a misunderstanding of progressive taxation, with decreased support as an outcome.

Since information about progressive taxation can be easily misinterpreted if analyzed quickly and superficially, this chapter attempts to fill an important lacuna of prior literature by exploring how statistical information with respect to progressive taxation can be misunderstood and lead to poor support from the population.

Aim of Studies 1a, 1b and 1c

The aim of the present set of studies is to analyze the role of understanding progressive taxation and negative emotions related to progressive taxes in predicting support for progressive taxation. Study 1a and 1b ($N_{total} = 519$) are designed to understand the link between progressive taxation, understanding of the tax system, and analytical (vs. intuitive) thinking, assessed using the cognitive reflection test (CRT, Frederik, 2005). Moreover, we also wanted to determine the effect of negative emotions related to progressive taxation in affecting attitudes. With exploratory aims, we also investigated whether support for progressive taxation is affected by one's ideology (measured through political orientation) or whether these factors interact with the

process of understanding in shaping attitudes. In the experimental Study 1c ($N = 533$), we aim to replicate results found in Study 1a and 1b while also manipulating the way a progressive tax system was described, either through a table summarizing tax rates for each income bracket (control) or through a video with simplified information.

Studies 1a and 1b

The aim of these studies was to explore the role of cognition (understanding of progressive taxation and analytical thinking), and emotion (negative emotions related to progressive taxation) in predicting support for progressive taxation. In Study 1b, with the aim of replicating the results of Study 1a with a larger sample and pre-registered hypotheses, we pre-registered the following three hypotheses on the platform OSF (anonymous link: https://osf.io/hsjyq/?view_only=2640396d7a414e958b65c62534a89e76). Therefore, the two studies will be reported together.

1. A lack of understanding of how a progressive tax system works is negatively associated with support for progressive taxation.

2. There is a positive association between scores on the cognitive reflection test and support for progressive taxation.

3. Negative emotions related to progressive taxation are negatively associated with support for progressive taxation.

As Study 1b represents a replication of Study 1a, we used the same measures and statistical strategies to test the hypotheses.

Method

Participants. In Study 1a, a sample of 193 workers recruited through social media (e.g., Facebook, Instagram, Linkedin) participated in the questionnaire individually and voluntarily.

Participants who did not complete the survey or who failed the attention check questions were excluded from the experiment. The final sample consisted of 120 (63 males, 55 females, 2 non-binary) participants (age $M = 39.73$, $SD = 13.82$).

In Study 1b, data were collected online via Prolific Academics. The sample size was determined by financial considerations: our budget allowed for 400 participants. The result of a post-hoc sensitivity power analysis with $N = 400$ and $1-\beta = 0.90$ showed that the minimum effect detectable was $r = 0.16$ for correlations. Participants who failed the attention checks were excluded from the analyses. We analyzed the data of 399 participants (197 females, 199 males, and 3 non-binary, age $M = 30.71$, $SD = 8.72$). Comprehensive descriptives of the samples are presented in Table 2 (supplementary materials).

Measures

Support for Progressive Taxation. We provided participants with a brief table that summarized the 2021 marginal tax rates for single taxpayers in Italy (income up to 15.000 euros = 23% rate; income from 15.001 to 28.000 euros = 27% rate; income from 28.001 to 55.000 euros = 38% rate; income from 55.001 to 75.000 euros = 41% rate; income from 75.000 = 43% rate). After this, we asked participants two questions assessing support for progressive taxation ("How fair do you think a progressive taxation system is?" and "How much do you support the implementation of a progressive tax system?" from 1 = not at all to 100 = a lot; $r = .93$, M = 72.23, SD = 25.07).

Negative Emotions Related to Taxes. Negative emotions related to taxes in general were measured through two items, assessing anger and anxiety ("Thinking about the taxation system described above, how do you feel about having to pay these taxes?" anxious/angry on a Likert scale from 1 = not at all to 7 = a lot; $r = .61$, $M = 2.89$, $SD = 1.73$). These two emotions had been determined through an exploratory network analysis (see materials provided in OSF:

in which we aimed to determine what emotions were triggered by thinking about taxation. The two main emotions elicited by thinking about taxation were anxiety and anger.

Understanding of the Tax System

a) ***Actual understanding.*** Participants were provided with a single item assessing their understanding of progressive taxation ("*In country X, a person earning €100 has to pay €10 in taxes. In your opinion, which of these amounts owed in taxes by a person earning 1000 Euros is consistent with a progressive taxation system?*" options were: a) 80 Euros; b) 100 Euros; c) 150 Euros; percentage of correct answers: Study 1a = 58.1%; Study 1b = 40.6%; Study 1c = 38.8%).

b) ***Perceived understanding.*** We also assessed perceived (vs. actual) understanding of the tax system ("The tax system described above is...clear; understandable; confusing; difficult"). The items were analyzed as an average (Study 1a, Cronbach's α = .85; Study 1b, Cronbach's α = .92).

Analytical thinking. We assessed analytical thinking using the Cognitive Reflection Task (CRT) composed by three items translated into Italian from Frederick (2005). The CRT is created to disentangle intuitive (vs. analytical) thinking through questions that may at first seem deceptively simple (intuitive thinking), but they require careful consideration to answer correctly (analytical thinking). Here are the three questions: "A bat and a ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost?"; "If it takes 5 machines 5 min to make 5 widgets, how long would it take 100 machines to make 100 widgets?"; "In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?"- open-ended questions). Taking as an example the first question, many people would instinctively answer $0.10, but the correct answer is $0.05. If the ball costs $0.05, and the bat costs $1 more,

then the bat costs $1.05, and together they add up to $1.10. We considered the sum of the three

items for the analysis (no correct answers = 0; one correct = 1; two correct = 2; all the answers

correct = 3).

Demographics. We assessed participants' gender, age, employment status, personal economic

standing (SES), and political orientation (see Chapter 2 for the analysis related to these

variables).

 Moreover, for explorative reasons, we measured trust in Government and the perceived need for

public vs. private investments. Given that these variables are not fully relevant to the rationale of

the present chapter, results are reported in supplementary materials, and data related to these

measures are not reported here.

Results

In order to test the associations between participants' understanding of progressive

taxation, support for progressive taxation, negative emotions related to taxes, and tendency to

think in an analytical (vs. intuitive) way, we compute a correlation matrix. Moreover, in order to

check the robustness of the associations found, age, political orientation, subjective social class,

and educational level were used as control variables. Results did not change after controlling for

these variables.

Understanding How Progressive Taxation Works Increases Support for Progressive Taxation

People who understood progressive taxation better, tend to support progressive taxation

more, both when considering actual (Study 1a, $rSpearman = .34$, $p = <.001$; Study 1b,

$rSpearman = .23$, $p < .001$) and self-reported measures of understanding (Study 1a, $r = .13$, $p =$

.17; Study 1b, $r = .36$, $p < .001$). Concerning analytical thinking, we also found coherent results

between Study 1a and Study 1b (Study 1a, $r = .24$, $p = .01$; Study 1b, $r = .10$, $p < .001$), although

less pronounced in Study 1b than in Study 1a. See Tables 2 and 3 for a summary of the results of

Studies 1a and 1b (Table 2).

Concerning the link between understanding and negative emotions related to progressive taxation, we found that perceived understanding was negatively related to anger (Study 1a, $r = -.15$, $p = .09$; Study 1b, $r = -.32$, $p < .01$) and anxiety (Study 1a, $r = -.30$, $p = .001$; Study 1b, $r = -.31$, $p < .001$). The same was true concerning actual understanding, for both anger (Study 1a, $rSpearman = -.10$, $p = .01$; Study 1b, $rSpearman = -.16$, $p < .001$) and anxiety (Study 1a, $rSpearman = -.20$, $p = .02$; Study 1b, $rSpearman = -.16$, $p < .001$). Following the same trend, analytical thinking was negatively associated with both anger (Study 1a, $r = -.16$, $p = .09$; Study 1b, $r = -.17$, $p < .001$) and anxiety (Study 1a, $r = -.18$, $p = .05$; Study 1b, $r = -.15$, $p < .01$).

Table 2

Pearson's correlations (Studies 1a and 1b). Spearman r has been employed to calculate correlations related to actual understanding, as dicothomous.

Variable		1		2		3		4		5		6
1. Progressive taxation		—										
2. Anger	Study 1a	-0.31	***	—								
	Study 1b	-0.50	***	—								
3. Anxiety	Study 1a	-0.12		0.61	***	—						
	Study 1b	-0.37	***	0.70	***	—						
4. Perceived understanding	Study 1a	0.13		-0.15		-0.30	**	—				
	Study 1b	0.36	***	-0.32	***	-0.31	***	—				
5. Actual understanding	Study 1a	0.25	**	-0.08		-0.17		0.29	**	—		
	Study 1b	0.22	***	-0.15	**	-0.16	***	0.08		—		
6. Analytical thinking	Study 1a	0.26	**	-0.13		-0.17		0.06		0.32	***	—

| | Study 1b | 0.10 | * | -0.16 | *** | -0.15 | ** | 0.05 | | 0.29 | *** | — |

* p < .05, ** p < .01, *** p < .001

Actual Understanding and Anger Mediate the Relationship Between Analytical Thinking and Support for Progressive Taxation

As an exploratory hypothesis and a deviation from the pre-registration, we tested the indirect effect of analytical thinking on support for progressive taxation through both perceived and actual understanding and negative emotions related to progressive taxation. To do so, we ran a mediation analysis using the software JASP (JASP Team, 2020) with bootstrapping for 5,000 resamples and 95% confidence intervals (Preacher & Hayes, 2008).

In this model, analytical thinking was the predictor variable, support for progressive taxation was the outcome variable, and actual/perceived understanding and anger/anxiety were the mediator variables. As shown in Figure 3, we found two significant indirect effects of analytical thinking on support for progressive taxation via actual understanding ($b = .04$, $CI = [.02, .07]$, $p = .002$) and anger ($b = .06$, $CI [.03, .12]$, $p = .002$). No indirect effect of perceived understanding ($b = .015$, $CI = [-.003, .04]$, $p = .13$) and anxiety ($b = -.005$, $CI [-.03, .01]$, $p = .48$) was found. The direct effect was not significant ($b = -.03$, $p = .48$; total effect: $b = .09$, $p = .05$). Standardized coefficients are reported. That is, analytic thinking increases actual understanding while decreases perceived anger associated with progressive taxation. This, in turn, enhances positive attitudes towards progressive taxation.

Figure 3

Path model with standardized coefficients. Asterisks indicate p <.01. Numbers in brackets indicates direct effects.
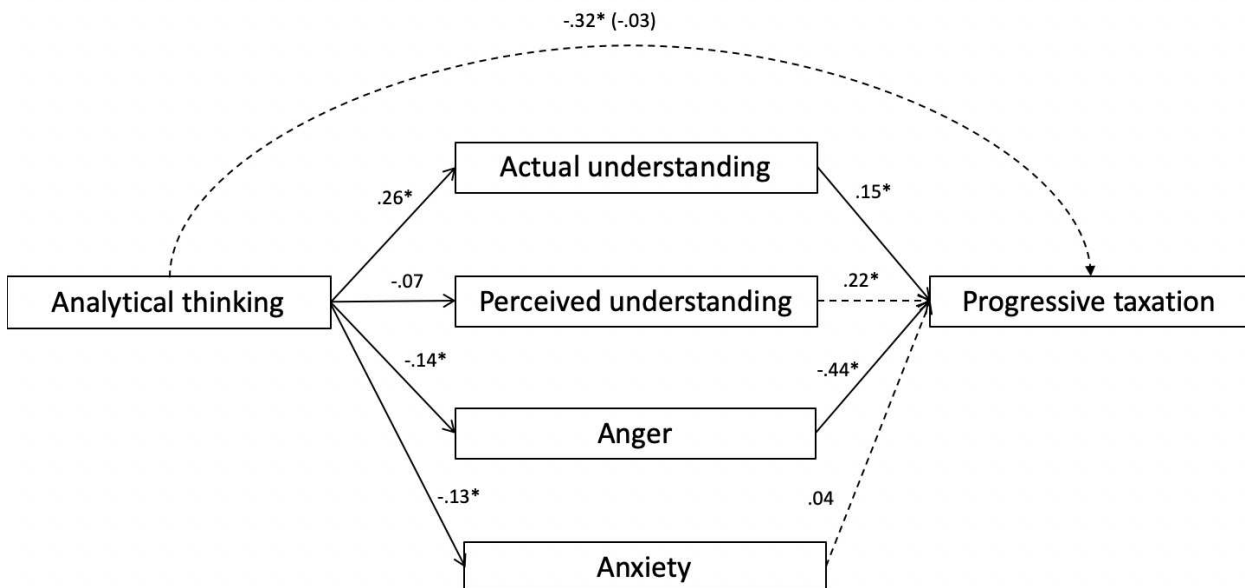
Discussion

The correlational results of Studies 1a and 1b provided initial evidence concerning the relationship between understanding of progressive taxation and attitudes towards progressive taxation. Indeed, both perceived and actual understanding of the tax system were related to positive attitudes toward progressive taxation. Moreover, people who tend to think analytically instead of intuitively, and in turn better understand progressive taxation, were also more likely to support progressive taxation.

We also found that attitudes towards progressive taxation were affected by negative emotions related to progressive taxation, supporting previous studies showing that just the word "tax" can trigger a negative response to policies (Kallbekken et al., 2011). Moreover, we also found that decreased understanding (actual and perceived) was associated with increased negative emotions associated with progressive taxation. The same trend was found concerning

analytical thinking. As an exploratory deviation from the pre-registration, we also found that the effect of analytical thinking on support for progressive taxation was mediated by both actual understanding and anger related to progressive taxation. No indirect effect was found concerning perceived understanding and anxiety.

While these data are relevant to give us a first picture of the hypothesized effects, we cannot infer causality. Study 1c was designed to understand how the way progressive taxes are communicated may affect a) understanding of the progressive tax system; and b) support toward progressive taxation. Moreover, we also analyzed the role of negative emotions related to taxes as a potential moderator.

Study 1c[2]

The aim of Study 1c was to experimentally test the preliminary evidence provided by Studies 1a and 1b with respect to the role of both cognitive (understanding and analytical thinking) and emotional reasons (negative emotions related to taxes) in shaping attitudes towards progressive taxation. Specifically, in Study 1c we aim to manipulate the way progressive taxation is explained, both through a table, thus resuming the standard way of presenting income tax brackets, or through a video, which simplifies the explanation provided in the table. Research design, data analysis plan, and hypotheses were pre-registered in the platform AsPredicted (link: https://aspredicted.org/449_V7L).

In line with Studies 1a and 1b, we hypothesized that:

1. A lack of understanding of how a progressive tax system works is negatively associated with support for progressive taxation.

2. There is a positive association between scores in the cognitive reflection test and support for progressive taxation.

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[2] Part of the analyses reported here are also presented in the Master's thesis of Christian Tomè.

3. Negative emotions related to progressive taxation are negatively associated with support for progressive taxation.

4. Participants assigned to the video condition (vs. table) would have more positive attitudes toward progressive taxation.

As a deviation from the pre-registration, we also aimed to test the potential role of analytical thinking and negative emotions in shaping attitudes towards progressive taxation.

Methods

Participants. Following the pre-registration protocol, we aimed to collect a sample of 400 participants using a snowball procedure. Moreover, we set a limit of one month in order to collect the data. Unfortunately, after one month of data collection, we were able to collect only 281 participants. Moreover, participants in the video condition were fewer ($N = 121$) than participants in the table condition ($N = 160$). Thus, we decided to deviate from the pre-register procedure and recruited an additional 252 participants from Prolific to achieve a sufficiently large sample that was balanced across conditions (video: 245; table: 288). The final sample consisted of 533 participants (301 females, 227 males, age $M = 36.22$, $SD = 12.38$) and was larger than the expected and pre-registered sample size for these reasons: first, a larger sample size implies higher power. Second, the larger sample allowed us to collect more data from participants assigned to the video condition. Finally, we had the financial opportunity to collect more than 400 participants using prolific.

Experimental manipulation. In order to test the effect of understanding on support for progressive taxation we manipulated the complexity of the message describing progressive taxation by randomly assigning participants to one of two experimental conditions. In the first condition, we retained the mode of communication that the Italian Internal Revenue Service uses to report information concerning income tax, that is, a table summarizing the percentage of tax for each income bracket (control condition). As in Studies 1a and 1b, in the control condition,

we used a brief table that summarized 2022 marginal tax rates for single taxpayers in Italy (income up to 15.000 euros = 23% rate; income from 15.001 to 28.000 euros = 25% rate; income from 28.001 to 50.000 euros = 35% rate; income from 50.001 = 43% rate). As an alternative means of communication, we developed a video for the experimental condition (available at the link: https://osf.io/dtj9n/?view_only=d21fe2e54d26492c9ede41cfffc64fa0) that conveys income tax information in a more intuitive and easy-to-understand way. The video was generated based on pre-existing content sourced from a publicly available YouTube video explaining the concept of progressive taxation using the North American tax brackets. Subsequently, we changed the narrator's voice to Italian and included a final segment to the video wherein the notion of progressive taxation was contextualized to the Italian tax system.

Measures. To measure understanding (perceived and actual) of progressive taxation, analytical thinking, negative emotions related to taxes, support for progressive taxation, and demographics we used the same measures as in Studies 1a and 1b. All these variables were presented after the experimental manipulation.

Results

Correlational analysis

As reported in Table 3, and in line with Studies 1a and 1b, people who understood progressive taxation better, tended to support progressive taxation more, both when considering actual ($rSpearman = .14$, $p < .01$) and self-reported ($r = .20$, $p < .001$) measures of understanding, thus supporting H1. Concerning analytical thinking, we also found coherent results with Studies 1a and 1b ($r = .09$, $p = .03$), thus supporting H2, although the effects were very small. Moreover, support for progressive taxation was negatively related to negative emotions related to taxes, especially anger ($r = -.44$, $p < .001$; anxiety $r = -.13$, $p < .01$), thus supporting H3.

Concerning the link between understanding and negative emotions related to progressive taxation, we found that perceived understanding was negatively related to anger ($r = -.17$, $p < .001$) and anxiety ($r = -.11$, $p < .01$). The same was true concerning the relationship between actual understanding and anger (*rSpearman* $= -.16$, $p < .001$) but non-significant concerning anxiety (*rSpearman* $= -.05$, $p = .24$). Following the same trend, analytical thinking was negatively associated with both anger ($r = -.10$, $p = .02$) but not with anxiety ($r = -.05$, $p = .22$).

Table 3

Pearson's correlations (Study 1c). Spearman r has been employed to calculate correlations related to actual understanding, as dichotomous.

Variable	1		2		3		4		5		6
1. Progressive taxation	—										
2. Anger	-0.44	***	—								
3. Anxiety	-0.13	**	0.29	***	—						
4. Perceived understanding	0.20	***	-0.17	***	-0.11	**	—				
5. Actual understanding	0.11	**	-0.15	***	-0.04		0.08	*	—		
6. CRT	0.10	*	-0.10	*	-0.05		0.12	**	0.31	***	—

* p < .05, ** p < .01, *** p < .001

Experimental Condition Directly Affects Perceived Understanding of Progressive Taxation but not Actual Understanding or Attitudes towards Progressive Taxation

To test whether the experimental condition (video vs. table) affected understanding of progressive taxation, we ran a series of t-tests with the manipulation as predictor and

understanding (perceived and actual) as outcomes. Considering perceived understanding, no significant difference emerged between conditions ($t = -.97$, *Cohen's d* $= .08$, $p = .33$). Despite this, analyzing the single items (as a deviation from the pre-registration) we found that people assigned to the video condition perceived the tax system as clearer ($M = 5.72$, $SD = 1.44$), and more understandable ($M = 5.74$, $SD = 1.43$) than participants assigned to the table condition (clear $M = 5.39$, $SD = 1.41$, $t = 2.63$, Cohen's $d = .23$, $p = .009$; understandable $M = 5.40$, $SD = 1.37$, $t = 2.79$, Cohen's $d = .24$, $p = .005$). Moreover, participants assigned to the video condition perceived the system to be less difficult ($M = 5.37$, $SD = 1.69$) than participants assigned to the table condition ($M = 5.69$, $SD = 1.46$, $t = 2.35$, Cohen's $d = .20$, $p = .019$), while no statistical difference was found concerning the perception of the tax system as confusing ($t = .63$, Cohen's $d = .05$, $p > .50$, $M_{table} = 2.21$; $SD_{table} = 1.46$; $M_{video} = 2.13$; $SD_{video} = 1.45$).

No statistical difference between conditions was also found concerning actual understanding ($t = .20$, Cohen's $d = .02$, $p > .80$, $M_{table} = .39$; $SD_{table} = 1.49$; $M_{video} = .38$; $SD_{video} = .49$), suggesting that the experimental manipulation was not effective in manipulating understanding. It is therefore not surprising that, in contrast with H4, we did not find statistically significant difference between conditions concerning attitude towards progressive taxation (Cohen's $d = .09$, $p > .20$). Also, the experimental condition had no effect on either anxiety ($d = .04$, $p = .64$) or anger ($d = .007$, $p = .93$).

Exploratory analyses

Anger and Analytical Thinking Moderate the Relationship Between Condition and Attitudes Towards Progressive Taxation. As pre-registered exploratory hypothesis, we tested the potential moderating role of anger related to taxation in the relationship between condition and attitudes towards progressive taxation. We ran an ANCOVA with the experimental condition as between-subjects factor, support for progressive taxation as dependent variable, and anger and anxiety as potential moderators. While anxiety had an effect on attitudes toward progressive taxation ($\eta_p^2 =$

.022, p < .001) there was no evidence for moderation in interaction with the manipulation ($\eta_p^2 <$ .001, $p = .62$). In contrast, we found that anger has both a direct ($\eta_p^2 = .155$, $p < .001$, 95% CI [-8.19; -4.50]) and a moderating effect ($\eta_p^2 = .02$, $p = .003$, 95% CI [-2.59; -0.54]) on support for progressive taxation (See Figure 4), that is that as anger increased, support for progressive taxation generally decreased and this relationship was reduced when progressive taxation was explained (video). No interaction was found between condition and CRT ($\eta_p^2 = .002$, $p = .29$, 95% CI [-2.55; 0.77]). Moreover, we ran a three-way interaction model, with both anger and analytic thinking as possible moderators. Here we found significant, although very small, results ($\eta_p^2 = .01$, $p = .049$, 95% CI [-1.75; -0.005]), suggesting that when exposed to the video condition, participants reported high support when they employ a more analytical reasoning. Despite this, effect size is too small to provide solid conclusions concerning this interaction. Regarding demographic variables, we only found direct positive effects of left-wing political orientation ($\eta_p^2 = .022$, $p < .001$) and perceived socioeconomic class ($\eta_p^2 = .032$, $p < .001$).

Figure 4

Moderating effect of anger in the relationship between condition and attitudes towards progressive taxation.
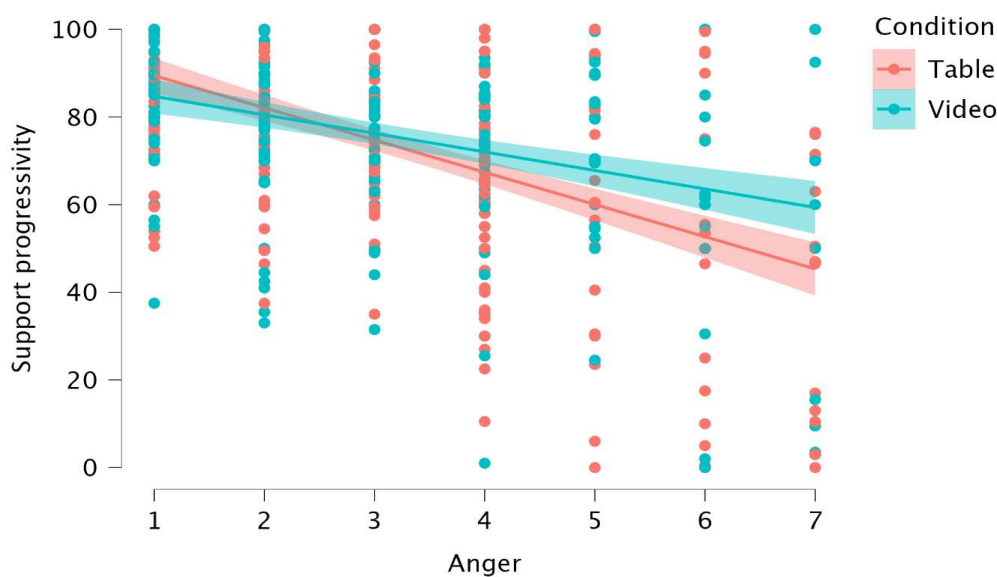
Discussion and Practical Implications

Building upon the nascent literature investigating the effects of cognition on support for progressive taxation, the present set of studies examined the influence of understanding of progressive taxation on support for progressive taxation using a multi-method approach and pre-registered hypotheses. Studies 1a and 1b (cross-sectional) provided initial evidence of a relationship between understanding and attitude, with perceived and actual understanding being linked to support for progressive taxation. Moreover, we found a significant association between analytical thinking and support for progressive taxation, indicating that individuals employing more analytical reasoning (as opposed to intuitive reasoning) exhibit more positive attitudes towards progressive taxation.

Concerning the role of negative emotions, our findings indicated that participants who experienced stronger negative emotions towards progressive taxes, imagining themselves in the role of tax payers, were less supportive of progressive taxation, especially concerning those who report high anger. Moreover, decreased understanding (both actual and perceived) was linked with negative emotions related to progressive taxation, both anger and anxiety. Analytical thinking followed the same trend. Moreover, as an exploratory analysis, we found that the effect of analytical thinking on support for progressive taxation was mediated by both actual understanding and anger towards progressive taxation.

In Study 1c (experimental, pre-registered), we manipulated the presentation of a progressive tax system using either a table (control condition) or an explanatory video. The results aligned with those of Studies 1a and 1b, showing that understanding was associated with a more positive attitude towards progressive taxation. The link between analytical thinking and negative emotions towards taxes remained consistent with Studies 1a and 1b. Concerning the effect of experimental manipulation, participants assigned to the video condition reported higher

perceived understanding. However, there were no significant direct effects on actual understanding and attitude toward progressive taxation. Thus, with the exception of some items of perceived comprehension, the manipulation was not effective.

As an exploratory pre-registered hypothesis, we conducted moderation analyses, revealing that the effect of the manipulation on attitudes was moderated by participants' experienced anger towards taxes. Specifically, individuals reporting negative emotions towards taxes had a less positive attitude towards progressive taxation in the table condition, while this effect was reduced in the video condition. Thus, the condition seems to be particularly effective for those people feeling anger towards progressive taxation. Moreover, we also found a three-way interaction with both anger and analytical thinking as moderators of the effect of the condition, although effect size was too small to draw accurate conclusions.

Despite this interactive, the manipulation proved to be not effective, as actual understanding scores did not change between conditions, calling for future research on this topic to provide more robust conclusions. Future research may create an effective communicative tool, overcoming the limitations of the video we built.

Limitations and Future Directions

While our research provides a significant contribution to the literature, it is not without important limitations. One limitation concerns the manipulation, which proved to be ineffective. We have identified several limitations within the experimental manipulation, which could have potentially contributed to the lack of difference in actual understanding scores between conditions. Firstly, the video was constructed based on an existing online video explicating progressive taxation using American tax brackets. The auditory track of the video was adapted by translating the content into Italian, introducing an additional segment subsequent to the presentation of the American tax brackets, wherein the Italian tax figures were expounded upon.

Initially, this was not deemed problematic, as our intended manipulation pertained to the concept of progressive taxation itself, rather than the specificities of the Italian tax system. Nonetheless, this remains a primary difference that was not presented in the table condition.

Furthermore, an assessment of whether participants in the video condition watched the video in its entirety or not was not conducted, potentially confounding the results. Despite this, we checked completion time and all the participants assigned to the video condition completed the survey in more than 4 minutes. Since the video lasted 3 minutes, we can imagine that all the participants watched the video in its entirely. In future studies, these limitations could be overcome by a) creating an informative video featuring only the Italian taxation system using a catchier and briefer format, such as an infographic that summarize the way a progressive tax system works, b) conduct the experiment in a controlled environment, to ensure that participants pay close attention to the video until the end. As an alternative to delineating tax brackets, a percentage-based approach could be adopted, which communicates the final percentages of an average income bracket rather than tax brackets themselves, as it was explained both in the table and in the video conditions of Study 1c. This strategy would result in a lower and more pragmatic tax rate.

Theoretically, this line of research sheds light on a cognitive construct that has not been explored in the previous literature, namely understanding the progressive tax system and its impact on individuals' attitudes towards progressive taxation. Moreover, it applies Kahneman's theory (Kahneman, 2012) to concrete contexts, such as progressive taxation, demonstrating that an analytical thinking style is beneficial for processing information related to progressive taxation. From a practical perspective, this research offers valuable insights into structuring policies that influence individuals' attitudes through increased understanding. Specifically, the

findings emphasize the importance of communicating tax proposals clearly and comprehensibly, employing impactful communication strategies such as explanatory videos.

Another limitation is the reliance on self-reported measures, which may be subject to response biases and may not fully capture participants' true attitudes and behaviors. Future research could incorporate behavioral experiments to enhance the validity of the findings. Another limitation is the use of correlational designs in some of the studies, which restricts our ability to establish causality. Future studies should consider longitudinal designs to examine the temporal relationships between understanding, emotions, and support for progressive taxation. Moreover, our research primarily focused on individual-level factors and cognitive aspects, leaving room for exploration of other potential determinants, such as social and contextual factors. Investigating the influence of cultural, socioeconomic, and political contexts on support for progressive taxation could provide a more comprehensive understanding of this complex phenomenon. Furthermore, the present research was conducted within specific cultural and demographic contexts, limiting the generalizability of the findings to broader populations. Replication studies in diverse cultural settings would strengthen the external validity of the results. As an example, it would be intriguing to consider countries that don't use a progressive tax system, unlike Italy. How would someone react if they're not used to the idea of progressive taxes, and they're suddenly introduced to this concept? It would also be interesting to see if understanding the progressive system might be easier in these contexts, where people don't have many biases or preconditions associated with progressive taxation.

In conclusion, while our study advances knowledge regarding the impact of understanding the progressive tax system and emotions on support for progressive taxation, future research should address the identified limitations to deepen our understanding. Utilizing more behavioral measures, longitudinal designs, and examining additional factors would provide

a more nuanced understanding of the dynamics of support for progressive taxation. Additionally, conducting cross-cultural research and examining contextual influences will enhance the applicability of our findings to different societies and policy contexts.

Chapter 4. Contextual Factors: The Role of Perceived Economic Inequality[3]

After providing empirical evidence on the role of individual-level factors and cognitive appraisal in predicting support for progressive taxation, we investigated another set of motivations, which could be seen as more contextual in nature. Specifically, the role of context of wealth distribution was investigated as the perception of the extent of economic inequality, replicating and expanding previous literature linking economic inequality with higher support for progressive taxation (Domonkos, 2016; Kuhn, 2019; Sachweh & Eicher, 2023).

Egalitarian ideologies assume that fairness entails treating everyone equally, and are generally supportive of redistribution. So, perception of high economic inequality is reasonably thought to be associated with higher support for redistribution (Engelhardt et al., 2014). Nevertheless, some evidence provided opposite result. (García-Sánchez et al., 2018). What is known so far is that perceived inequality, as opposed to actual inequality, is strongly linked with redistributive preference (Choi, 2019). On the one hand, perceptions of inequality could be connected to greater demand for redistribution in general (Schmidt-Catran, 2016), and progressive taxation specifically (Domonkos, 2016; Kuhn, 2019; Sachweh & Eicher, 2023). On the other hand, some literature pointed out that perceived greater economic inequality may lead to increased acceptance of such inequality, through inequality legitimation processes (Castillo, 2021; García-Sánchez et al., 2018) and redistribution aversion (Gimpelson & Treisman, 2017).

Study 2

The primary objective of this study is to explore the association between economic inequality and support for progressive taxation. In contrast to previous research, we go beyond

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[3] This study is published in: Salvador Casara, B. G., Filippi, S., Suitner, C., Dollani, E., & Maass, A. (2023). Tax the élites! The role of economic inequality and conspiracy beliefs on attitudes towards taxes and redistribution intentions. *British Journal of Social Psychology*, 62(1), 104-118. Moreover, part of the analyses reported here are presented in the Bachelor's thesis of Ervin Dollani and in the PhD thesis of Bruno Gabriel Salvador Casara.

the traditional approach of examining attitudes toward progressive taxation and tax compliance separately. Instead, we aim to comprehensively investigate both topics together, recognizing the intricacies and interplay of attitudes towards taxation as a whole. Additionally, explored a potential explanatory factor of this relationship: belief in conspiracy. Recent findings have indicated that conspiratorial thinking is more prevalent in contexts characterized by high levels of economic inequality (Salvador Casara et al., 2022), making it a pertinent factor to consider. Drawing on earlier literature highlighting a negative link between socioeconomic status and support for progressive taxation, we further introduce a manipulation of socioeconomic status in conjunction with economic inequality (see Chapter 1). By integrating these elements, we seek to gain a deeper understanding of the multifaceted nature of attitudes towards taxation and their underlying determinants.

Some aspects of the study (including the experimental procedure, the measures, the minimum sample size and inclusion criteria, part of the hypotheses, and part of the analytical strategy) were pre-registered on the platform OSF (link: https://osf.io/2pxzy/?view_only=a6b389fd7a904fe39ea7265742ffdef1).

We pre-registered the hypotheses concerning the pattern of relations that replicate Salvador Casara et al.'s (2022) and Mao et al. (2020) findings concerning the effect of economic inequality on conspiracy beliefs. In particular, we expected economic inequality (pre-registered H1) and low-class assignment (pre-registered H2) to increase conspiracy beliefs. Moreover, we also elaborated the following additional relations that were defined as exploratory in the pre-registration. Specifically, we declared to test the effect of economic inequality and socio-economic class on tax compliance and support for progressive taxation and the potential mediator role of conspiracy beliefs. The exploration of these variables led us to question whether conspiracy beliefs may drive different attitudes concerning taxation as a means to challenge economic inequality, which tackles apparently opposite hypotheses about the relation between

economic inequality and redistribution attitudes. Indeed, here we tested whether manipulated high economic inequality reduces positive attitudes towards taxation (H3) while enhancing support for progressive taxation, as a means to wealth redistribution (H4). We here focus on conspiracy endorsement as an overarching attitudinal system that entails a multifaceted set of beliefs, all relevant to redistribution, and test it as a potential explanatory factor of this apparent contradiction. In particular, a conspiratorial worldview includes, among others, both distrust in institutions (Kim & Cao, 2016) and aversion towards economic elites (Castanho Silva et al., 2017). Therefore, conspiracy beliefs should explain the negative relationship between economic inequality and tax attitudes (H5) since the derogated institutions are responsible for managing tax money. Conversely, we hypothesized conspiracy beliefs to have a positive association with support for progressive taxation (H6), as this policy directly targets the despised economic élites. Finally, we expect that lower socio-economic class, both assigned and perceived, will be associated with more negative tax attitudes (H7) and stronger support for progressive taxation (H8).

Method

Participants. We recruited a sample of 2637 participants (2071 females, 545 males, and 21 non-binary) through social media (e.g. Facebook, Instagram, LinkedIn) that completed the questionnaire voluntarily. One hundred and fifty-three participants did not provide the second informed consent and were, therefore, excluded from the experiment. Moreover, 365 participants were excluded because they failed the manipulation check (for example they failed to recognize the assigned social class, see Supporting Information in Salvador Casara et al., 2023, for further details). The final sample consisted in 2119 (1649 females, 457 males, 13 non-binary) participants (age $M = 40$, $SD = 12.73$). The result of a post-hoc sensitivity power analysis (G*Power, Faul et al., 2007) with $N = 2119$ (split in two conditions: $N = 985$; $N = 1134$; two-tails) and $1 - \beta = .90$ showed that the minimum effect detectable was Cohen's $d = .14$ for t-tests, r

=.07 for correlations. For the interaction effect in ANOVA there is a f =.07, which translates into d =.14, using https://www.psychometrica.de/effect_size.html.

Procedure. In this study, we used an adapted version of the Bimboola Paradigm (Jetten et al., 2015; Sánchez-Rodríguez et al., 2019; for a comprehensive overview of the materials please refer to Survey Study 2 available on OSF:

https://osf.io/f8qsr/?view_only=149d65d6481b4f65bddec598b9bca6a1.) in order to manipulate the perception of economic inequality and socio-economic class affiliation, resulting in six experimental conditions. Participants were asked to engage in a hypothetical scenario where they were asked to start a new life in a fictitious society called Bimboola. During this scenario, they were required to make crucial decisions concerning housing, transportation, and holiday preferences. Following the approach used by Jetten et al. (2015), participants were randomly assigned to one of two fictional societies characterized by either high or low levels of economic inequality. Additionally, we introduced a cross-manipulation of social class, dividing participants into three income groups: low, middle, and high, since the effect of socioeconomic class has been proven to be fundamental when dealing with attitudes towards redistribution (see Chapter 1). Consequently, participants' choices were constrained by their respective income groups, meaning those in the low-income class could only select from items allocated to their income level. This experimental design resulted in a 2 (high vs. low inequality) x 3 (low vs. middle vs. high-income class) between-participants manipulation.

Measures

Manipulation Checks and Participant's Exclusion. Two manipulation check items assessing the perceived economic inequality in Bimboola were included ('There are strong wealth differences in Bimboola'; 'The wealth differences among Bimboola's citizens are small'; $r = -.91$). Moreover, we checked whether participants recognized the assigned income level ('What wealth level were you assigned to?'). Finally, we included two items assessing the perceived

wealth of the group participants were assigned to ('How wealthy is your group'; 'How poor is your group'; $r = -.96$).

Conspiracy Beliefs. The four-item scale used by Salvador Casara et al.'s (2022) assessed on a 1–7 Likert scale beliefs about conspiracies in Bimboola (e.g. 'Politicians of Bimboola aim to maintain their power and pursue their interests even when this deliberately harms the rest of the population'; $\alpha = .89$; inter-item correlation = .67; $M = 4.16$, $SD = 1.57$).

Attitudes Towards Taxation. Seven items, adapted from Kirchler and Wahl (2010), on a Likert scale ranging from 1 to 7 assessed tax compliance (e.g. 'I feel a moral obligation to pay my tax', $\alpha = .90$; inter-item correlation = .61; $M = 5.27$, $SD = 1.45$).

One item, developed ad hoc for this study, assessed general attitudes towards taxes, namely the perception of tax as a contribution (0 = maximum contribution) or a penalty (100 = penalty, 'Some people believe that taxes are a contribution that serves a greater good. Even if they are not happy to pay taxes, they see them as a contribution that they give to society in order to help its functioning. Differently, other people think that taxes are a penalty. Even if taxes could help society, they see the taxes paid as an imposed penalty. To what degree do you think that taxes are a contribution to Bimboola society or a penalty that the society is imposing?'). In this sample, participants tend to see taxes more as a contribution ($M = 33.61$, $SD = 27.31$, one sample t = -27.63, df = 2118, $p < .001$, test value = 50).

Support for Progressive Taxation. Four items, developed ad hoc for this study, on a Likert scale ranging from 1 to 7, assessed the support for progressive taxation (i.e. 'Bimboola's government should tax everybody with the same percentage', 'In Bimboola, taxes should be the same amount for everybody', 'In Bimboola, rich people should pay more taxes compared to the rest of the population', 'In Bimboola, the wealthy should be taxed more heavily'; the scores of the first two items were reversed, $\alpha = .80$; inter-item correlation = .51; $M = 5.78$, $SD = 1.43$).

Demographics. Finally, we measured political orientation (on a scale ranging from 1 to 10), gender, age, education, subjective socio-economic status of self and one's family, and personal annual income.

Results

Manipulation Check

A t-test confirmed that participants in the high inequality condition perceived a higher wage gap ($M = 9.15$, $SD = 1.08$), than those in the low inequality condition ($M = 5.27$, $SD = 2.53$), t (1577.92) = 46.93, $p < .001$, $d = 1.99$, 95% CI = [1.88, 2.10]. Moreover, an ANOVA using as predictor social class (3 levels) and outcome variable the wealth attributed to the assigned class showed a main effect of class, F (2, 2116) = 5537.48, $p < .001$, $\eta_p^2 = .75$. Specifically, participants assigned to low socio-economic class perceived their group as less wealthy ($M = 2.64$, $SD = 1.66$) compared to participants assigned to the middle class ($M = 5.53$, $SD = 0.96$, d = 2.13, *pTukey corr.* $< .001$) and to participants assigned to the high class ($M = 8.28$, $SD = 1.20$, $d = 3.87$, *pTukey corr.* $< .001$).

Correlational Analysis

Correlation analysis revealed that the perception of taxes as a contribution was positively strongly related to tax compliance ($r = .66$; $p < .001$, CI = [0.63, 0.68]). On the contrary, the association between tax compliance and support for progressive taxation was weak, although significant, probably due to the large sample size ($r = .11$; $p < .001$, CI = [0.07, 0.15], for a complete description of the correlations between variables see Table 4).

Table 4

Pearson's correlations (Study 2).

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Progressive tax	—										
2. Tax compliance	0.11***	—									
3. Tax as panalization	-0.06**	-0.66***	—								
4. Age	0.06**	0.19***	-0.15***	—							
5. SES family	-0.03	0.08***	-0.09***	<.01	—						
6. Class	-0.04	0.12***	-0.13***	0.01	0.62***	—					
7. Income	-0.03	0.14***	-0.18***	0.12***	0.54***	0.60***	—				
8. Education	0.03	0.09***	-0.16***	-0.08***	0.15***	0.22***	0.22***	—			
9. Gender	0.03	-0.05*	0.09***	-0.02	-0.12***	-0.08***	-0.12***	0.03	—		
10. Political orientation	-0.19***	-0.23***	0.20***	0.02	0.09***	<.01	-0.02	-0.16***	<.01	—	
11. Conspiracy	0.09***	-0.25***	0.31***	0.03	-0.13***	-0.13***	-0.18***	-0.14***	0.09***	0.01**	—

* p < .05, ** p < .01, *** p < .001

Economic Inequality Enhances Conspiracy Beliefs

We tested the effect of manipulated economic inequality and socioeconomic status on conspiracy beliefs with a 2 (economic inequality level: high vs. low) × 3 (assigned socio-economic class: low vs. middle vs. high) ANOVA. In line with Pre-registered H1, we found a main effect of the economic inequality on conspiracy beliefs, $F (1, 2113) = 144.89; p < .001, \eta_p^2 = .06$. with participants in the high economic inequality condition reporting higher levels of conspiracy beliefs ($M_{DIFF} = 0.80, SE = 0.07, p < .001, d = .53$). Moreover, we found a main effect of the assigned socio-economic class, $F (1, 203) = 3.34, p = .04, \eta_p^2 = .003$. Despite this, the post-hoc comparison with Tukey correction revealed no statistically significant difference

among classes (all $M_{DIFF} < 0.19$, all ps $> .05$). This result does not clearly support Pre-registered H2. No interaction effect was found, F (3, 203) = 0.55; p = .577.

To further test the hypothesized effect of social class on conspiracy beliefs (Pre-registered H2), we ran an ANCOVA with economic inequality level and subjective economic status as predictors. Again, we found a main effect of the economic inequality manipulation on conspiracy beliefs, F (1, 2113) = 9.26; $p < .001$, $\eta_p^2 = .004$, with participants in the high economic inequality condition reporting higher levels of conspiracy beliefs (M_{DIFF} = 0.82, SE = 0.07, $p < .001$, d = .54). Moreover, we found a main effect of the subjective socio-economic status, F (1, 2113) = 45.43; $p < .001$, $\eta_p^2 = .021$, with participant with higher subjective socio-economic status having less conspiracy beliefs ($\beta = -.14$, $p < .001$).

Economic Inequality Enhances Support for Progressive Taxation but Decreases Positive Attitudes Towards Taxes and Tax Compliance Intentions

In order to examine the influence of the experimental condition on support for progressive taxation, tax compliance intentions, and perception of taxes as a penalty, we conducted a series of 2 (economic inequality level: high vs. low) × 3 (assigned socio-economic class: low vs. middle vs. high) ANOVAs. All direct effects were statistically significant, though no interaction between economic inequality and socioeconomic status was observed.

Concerning support for progressive taxation (Figure 5), which is the main dependent variable of this thesis, we found a main effect of the economic inequality on support for progressive taxation, F (1, 2113) = 105.87; $p < .001$, $\eta^2 = .05$, with participants in the high economic inequality condition reporting more support for progressive taxation (M_{DIFF} = 0.63, SE = 0.06, $p Tukey < .001$, d = .45). Moreover, we found a main effect of the assigned socio-economic class, F (2, 203) = 6.66, $p Tukey = .001$, $\eta^2 = .01$, with participants assigned to the high-class (vs. low-class) condition being more supportive of progressive taxation compared to participants assigned to the middle-class condition (M_{DIFF} = 0.27, SE = 0.08, $p Tukey < .001$, d =

.19). We do not find statistical support for differences between participants assigned to the low-class condition in comparison with participants assigned to the high-class condition (M_{DIFF} = −0.13, SE = 0.08, pTukey = .22, d = −.09), to the middle-class condition (M_{DIFF} = 0.15, SE = 0.07, pTukey = .11, d = .10). No interaction effect was found, F (2, 2113) = 0.36; p = .70.
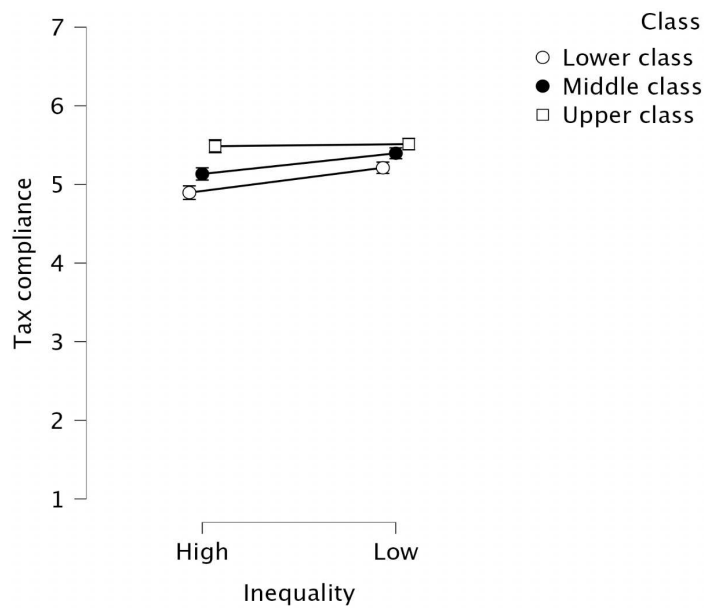
Figure 5

Effect of inequality and socioeconomic class on attitudes towards progressive taxation.
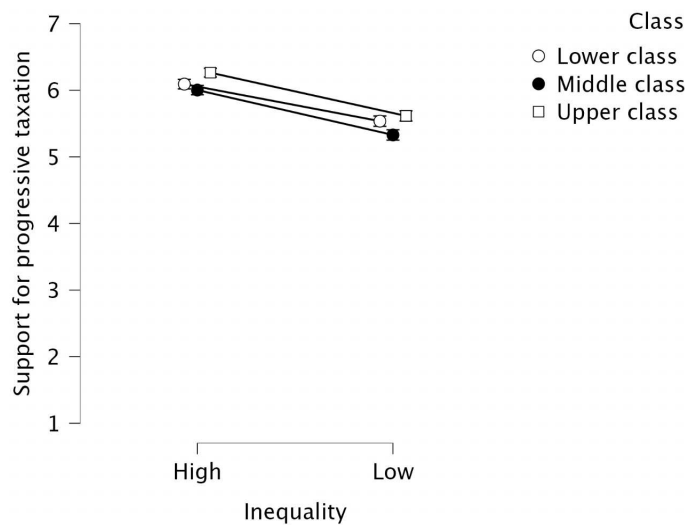
Concerning tax compliance intentions (Figure 6), we found a main effect of the economic inequality on tax compliance intentions, F (1, 2113) = 10.48; p < .001, η_p^2 = .01, with participants in the high (vs. low) economic inequality condition reporting decreased tax compliance intentions (M_{DIFF} = 0.20, SE = 0.06, pTukey < .001, d = .14). Moreover, we found a main effect of the assigned socio-economic class, F (2, 203) = 16.75, pTukey < .001, η_p^2 = .02, with participants assigned to the low-class condition class having less tax compliance intentions compared to participants assigned to both the middle (M_{DIFF} = 0.21, SE = 0.08, pTukey < .001, d = .15) and the high-class condition (M_{DIFF} = 0.47, SE = 0.08, pTukey < .001, d = .31). Finally, participants assigned to the middle class reported less tax compliance intentions compared to participants assigned to the high-class condition (MDIFF = 0.24, SE = 0.08, pTukey < .001, d = .17). No interaction effect was found, F (2, 2113) = 1.97; p = .14.

Figure 6

Effect of inequality and socioeconomic class on tax compliance intentions.

Regarding the perception of taxes as a penalty (Figure 7), we found a main effect of economic inequality on the perception of taxes as a penalty, $F(1, 2116) = 34.93$; $p < .001$, $\eta_p^2 = .02$, with participants in the high (vs. low) economic inequality condition perceiving taxes more as a penalty ($M_{DIFF}= 6.97$, SE $= 1.18$, $p < .001$, $d = .26$). Moreover, we found a main effect of the assigned socio-economic class, $F(2, 203) = 9.73$, $p < .001$, $\eta_p^2 = .01$, with participants assigned to the low-class condition class perceiving taxes more as a penalty compared to participants assigned to the middle ($M_{DIFF} = 3.54$, SE $= 1.42$, $p = .034$, $d = .13$) and to the high-class condition ($M_{DIFF} = 6.38$, SE $= 1.45$, $p < .001$, $d = .23$). Finally, no statistically significant difference was found between the middle and high-class condition ($M_{DIFF} = 2.84$, $SE = 1.46$, $p = .12$, $d = .12$). No interaction effect was found, $F(2, 2113) = 0.48$; $p = .62$.

Figure 7

Effect of inequality and socioeconomic class on perception of taxes as a penalty.
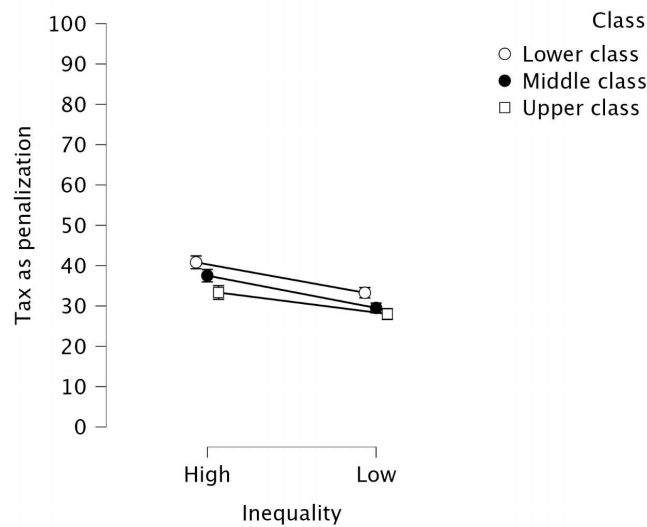
The Relationship Between Perceived Economic Inequality and Both Tax Compliance

Intentions and Perception of Taxes as a Penalty was Mediated by Conspiracy Beliefs

To test the statistical effects of the manipulated economic inequality and social class on tax attitudes and the mediating role of conspiracy beliefs, we ran two mediation models (one involving tax compliance intentions and the other involving the perception of taxes as a penalty) using the software JASP (Love et al., 2019) with bootstrapping for 5000 resamples and 95% confidence intervals (Preacher & Hayes, 2008).

Regarding tax compliance intentions, an indirect effect of economic inequality on tax compliance via conspiracy beliefs was found, with people assigned to the high inequality condition reported increased conspiracy beliefs. This, in turn, decreases their tax compliance: indirect effect: $b = -0.12$ ($SE = 0.02$, 95% CI = [-0.15, -0.09]. The total effect was fully mediated: direct effect: $b = -0.06$ ($SE = 0.04$), 95% CI = [-0.14, 0.04], total effect; $b = -0.17$ (SE = 0.06), 95% CI = [-0.25, -0.08]. Moreover, an indirect effect of social class on tax compliance via conspiracy beliefs was found, as people assigned to the lower-class reported increased conspiracy beliefs and decreased tax compliance: indirect effect: $b = 0.05$ (SE = 0.01,

95% CI = [0.03, 0.08]. The total effect was partially mediated: direct effect: $b = 0.15$ ($SE = 0.03$), 95% CI = [0.07, 0.21], total effect; $b = 0.19$ ($SE = 0.03$), 95% CI = [0.13, 0.26] (see Figure 8).

Figure 8

Path model for tax compliance intentions with standardized coefficients. Asterisks indicate p <.001. Numbers in brackets indicates direct effects.
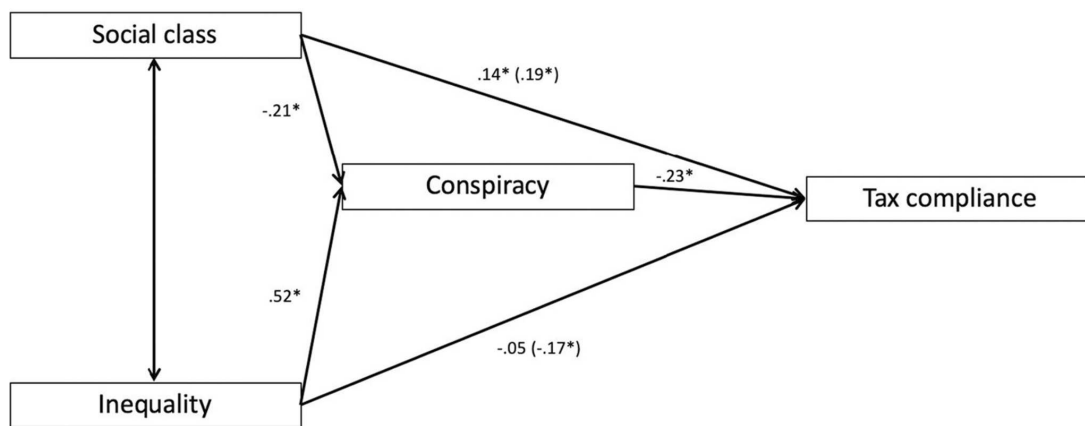
Regarding taxes as a penalty, an indirect effect of economic inequality on perceiving taxes as a penalty via conspiracy beliefs was found, following the same trend found concerning tax compliance: indirect effect: $b = 0.15$ ($SE = 0.02$, 95% CI = [0.12, 0.18]. The total effect was partially mediated: direct effect: $b = 0.13$ ($SE = 0.04$), 95% CI = [0.05, 0.21], total effect; $b = 0.28$ ($SE = 0.04$), 95% CI = [0.19, 0.36]. Moreover, an indirect effect of subjective social on tax compliance via conspiracy beliefs was found: indirect effect: $b = -0.06$ ($SE = 0.01$, 95% CI = [−0.08, −0.04]. The total effect was partially mediated: direct effect: $b = -0.15$ ($SE = 0.03$), 95% CI = [−0.22, −0.09], total effect; $b = -0.21$ ($SE = 0.04$), 95% CI = [−0.28, 0.14] (see Figure 9).

Figure 9

Path model for tax as penalty with standardized coefficient. Asterisks indicate p <.001. Numbers in brackets indicates direct effects.
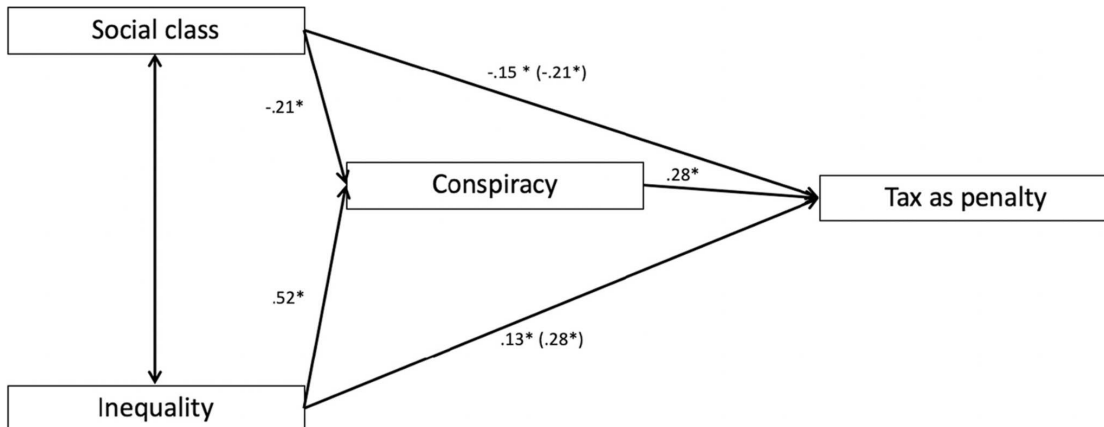
Conspiracy Beliefs did not Mediate the Relationship Between Economic Inequality and Support for Progressive Taxation

No indirect effect was found from economic inequality to support for progressive taxation via conspiracy beliefs: indirect effect: $b = 0.017$ ($SE = 0.012$), 95% CI = [−0.006, 0.04], $p = .16$. The direct effect was significant: direct effect: $b = 0.42$ ($SE = 0.044$), 95% CI = [0.34, 0.51], p < .001, total effect; $b = 0.44$ ($SE = 0.04$), 95% CI = [0.35, 0.52], $p < .001$. Moreover, no indirect effect of subjective social class on tax compliance via conspiracy beliefs was found: indirect effect: $b = −0.01$ ($SE = 0.01$, 95% CI = [−0.02, 0.01]. The direct effect was significant: $b = −0.06$ ($SE = 0.03$), 95% CI = [−0.13, −0.003], total effect; $b = −0.07$ (SE = 0.03), 95% CI = [−0.14, −0.01] (see Figure 10).

Figure 10

Path model for support for progressive taxation with standardized coefficients. Asterisks

indicate p <.001. Numbers in brackets indicates direct effects.
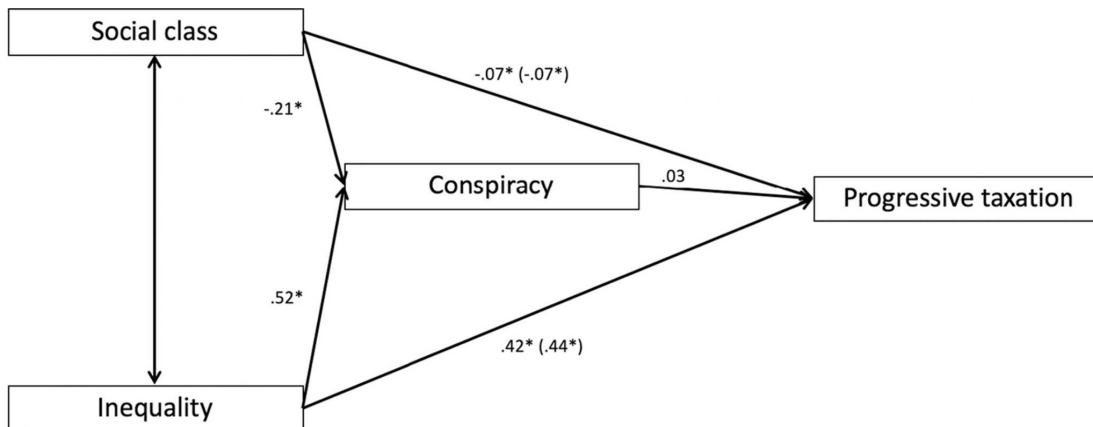
Although conspiracy beliefs did not mediate the effect of economic inequality

manipulation and subjective social class on the support for progressive taxation, correlation

analysis revealed that there is a positive though small association between conspiracy beliefs and

progressive taxation, $r = .09$, 95% CI = [0.05, 0.13] $p < .001$. This relation, albeit small, is

relevant provided the opposite sign compared to the relationship between conspiracy beliefs and

tax compliance ($r = -.25$, p $< .001$, 95% CI = [-0.29, -0.21]).

Discussion

In this high-powered study, we examined the influence of economic inequality as a

contextual variable potentially influencing attitudes towards progressive taxation, tax

compliance intentions, and the perception of taxes as a penalty. Moreover, we also assessed the

influence of conspiracy beliefs in this relation. Our research adds to existing evidence that

economic inequality is linked to increased conspiracy beliefs (Salvador Casara et al., 2022).

Moreover, the key novelty lies in investigating the impact of economic inequality and socio-

economic class on both tax compliance and support for progressive taxation, which have been previously studied only separately.

Taxation, particularly when designed with a progressive structure, represents a fundamental approach to addressing inequality (Chancel et al., 2022). However, our findings indicate that individuals in more unequal environments tend to exhibit a general aversion to taxes, which contributes to a self-reinforcing cycle of inequality. Nonetheless, our results also suggest that this aversion primarily pertains to attitudes toward taxation when presented in broad terms, whereas participants in highly unequal conditions were more inclined to specifically endorse progressive taxation. This implies that the perceived value of taxation in general and support for progressive taxation are distinct constructs, a differentiation that is further supported by their weak correlation. Regarding the interaction between economic inequality conditions and socio-economic class, our results did not provide evidence for significant effects. One possible explanation is that conspiracy beliefs often involve theories about a small elite, which may not be equated with the high-class group, which is possibly a wider class. Additionally, system-justifying mechanisms could be at play across all respondents, leading to a lack of interaction between inequality and social class. Indeed, in line with the System Justification Theory (Jost, 2020), people preserve the belief that existing social arrangements are fair, legitimate, justifiable, and necessary, included when they belong to the disadvantaged group (Jost et al., 2003; Jost, 2017).

Limitations and Future Directions

While our study offers valuable insights, it is not without limitations. Future research could explore other potential moderators and mediators to further understand the intricate relationship between economic inequality, conspiracy beliefs, and support for progressive taxation. It is crucial to acknowledge that the Bimboola Paradigm has its limitations, as the fictitious society cannot fully replicate the complexities of real-world societies. Therefore, we

recommend future research to employ other research methods (e.g., big data or qualitative methods) to better comprehend these dynamics in real-life contexts. Additionally, examining the impact of economic inequality on conspiracy beliefs and tax preferences in countries with varying levels of actual economic inequality could capture subtle nuances of this phenomenon. Another limitation lies in the paradigm we implemented and specifically to the fact that the economic inequality condition and the assigned socio-economic class condition may not be fully orthogonal. Indeed, participants in the low- and high-class conditions had different choices among the high- and low economic inequality condition, whereas the middle-class condition was the only one identical for both high- and low economic inequality conditions. Nonetheless, the absence of an interaction between the assigned socio-economic class condition and the economic inequality condition implies that the impact of the assigned socio-economic class remains consistent across both high and low inequality conditions. This paradigm also offers significant strengths. Specifically, it enables the isolation of the impact of economic inequality on conspiracy beliefs and tax attitudes while controlling for potentially confounding variables that naturally co-vary with social status. Thus, this paradigm facilitates the inference of a causal relationship between the variables under investigation. The use of a fictional scenario also circumvents ethical concerns associated with providing false feedback about the actual level of economic inequalities. Furthermore, it allows the examination of effects related to potential a priori perceptions regarding the inequality of a real country. Notably, the findings obtained in Bimboola consistently align with results from correlational or field studies, as exemplified by previous research by, for example, Salvador Casara et al. (2022) and Sprong et al. (2019).

Finally, caution is necessary for the interpretation of the mediation models. Although the rationale for using them was justified in the introduction, statistical models per se cannot provide evidence for causality (see, Fiedler et al., 2018).

Implications and Conclusions

These findings offer important insights into addressing the challenges of economic inequality. Specifically, our study highlights two potential approaches to effectively tackle economic inequality. First, raising awareness about the existence and magnitude of inequality, particularly in societies that are closer to the high inequality condition, may serve as an educational strategy to garner support for progressive taxation. This approach could be beneficial even among individuals who generally exhibit high aversion, such as those who endorse conspiracy beliefs. However, it is essential to exercise caution when implementing this strategy, as heightened awareness of high inequality can also lead to the propagation of conspiracy views, which, in turn, may negatively impact attitudes towards taxation in general. The second strategy involves addressing conspiracy beliefs through direct or indirect interventions. To enhance tax compliance in societies characterized by high levels of economic inequality, governments and institutions should design policies and communication strategies aimed at indirectly reducing conspiracy beliefs by fostering trust (van Mulukom et al., 2020). For instance, enhancing transparency can help diminish the power asymmetry between institutions and citizens, thereby increasing the accountability of governments and bolstering the perceived legitimacy of their authority (Brusca et al., 2018). Another approach involves directly tackling conspiracy theories through various means, including inoculating skepticism against conspiratorial narratives and debunking false conspiratorial information (Brashier et al., 2021; Jolley & Douglas, 2017; Salvador Casara et al., 2019). By implementing these interventions, efforts can be made to mitigate the impact of conspiracy beliefs and promote tax compliance in high unequal contexts.

Finally, it is important to consider that these strategies are likely to be safely used by a wide portion of the population, as the observed pattern was not moderated by both assigned and self-attributed socio-economic class.

Our results contribute to the understanding of the social basis that hinders inequality reduction, providing evidence that attitudes towards taxation are not monolithic, but change considering the aims and targets of specific taxes. Governments and policy-makers may take advantage of this research in order to implement context-specific tax policies that help tackle tax evasion and economic inequality.

In conclusion, it is noteworthy that the strategies proposed in this study are likely to be applicable to a broad segment of the population, as the observed pattern was not influenced by either assigned or self-attributed socio-economic class. These findings enhance our comprehension of the social factors that impede inequality reduction, demonstrating that attitudes towards taxation are multifaceted and vary based on the objectives and recipients of specific taxes. Governments and policymakers can leverage these research insights to design context-specific tax policies that effectively address tax evasion and economic inequality. By implementing targeted interventions that consider the diverse nature of tax attitudes, it becomes possible to foster greater support for progressive taxation and enhance societal efforts toward reducing economic inequality.

Chapter 5. Ideology

In Chapters 2, 3, and 4 we provided evidence of individual, cognitive, emotional, and contextual factors affecting attitudes towards progressive taxation. In the present Chapter, we provide further contributions to the psychological underpinnings of progressive taxation support considering a fourth set of factors, namely ideological. Specifically, we investigated the contribution of political orientation on the one hand (all the studies presented, a part of one) and focused on meritocracy endorsement on the other hand (Studies 3a, 3b, and 3c).

An Analysis of Political Orientation Across the Present Studies

Political orientation is defined as a coherent set of values, general convictions, and attitudes (Armingeon & Weisstanner, 2022). The underlying ideological foundations of left and right-wing political orientation play a pivotal role in shaping individuals' attitudes on taxation policies in general and progressive taxation specifically. First of all, throughout history (from the French Revolution, Larochelle, 1982), being right-wing has often been linked to dominance and the influential norms of the majority. Being left-wing has been associated with the vulnerability of being in the minority (Jost, 2021). Moreover, according to a large amount of evidence, the political right generally advocates for limited government intervention, emphasizing individual responsibility and economic freedom (see, for example, Kitschelt, 1997; Mair, 2007), therefore being averse to public redistribution from higher to lower income groups. In contrast, the political left supports a more active government role in addressing social inequalities and promoting wealth redistribution (Alesina & Giuliano 2009; Jæger, 2008; Jedinger & Burger, 2019).

Concerning values, right-wing political-oriented people tend to prioritize values such as tradition, authority, and economic self-reliance, which can prompt negative attitudes towards progressive taxation. In line with this evidence, it is also proven that right-wingers are more

likely to justify the status quo in our society, through system-justifying ideologies such as meritocracy, belief in a just world, and right-wing authoritarianism (Jost & Hunyady, 2005). Left-wingers prioritize values like equality, fairness, and social justice, which align with the goals of progressive taxation. In line with this, a study by Sterling et al., (2019) analyzed 3.8 million messages on Twitter about what constitutes a good (vs. bad) society. Results showed that liberals were more likely to raise themes of social justice, economic, gender, and racial inequality, social change, personal growth, and environmental sustainability, whereas conservatives were more likely to mention religion, social order, business, capitalism, national symbols, immigration, and terrorism, as well as individual authorities and news organizations. While the concept of political orientation may seem solid, defining it unequivocally becomes difficult, particularly when considering cultural variations. For instance, in the context of China, the "liberal Right" often displays characteristics typically associated with the psychological Left in the Western world, such as a lower tolerance for ambiguity. Conversely, the "conservative Left" in China tends to exhibit traits more commonly associated with the psychological right in Western societies, such as a higher inclination towards system justification (Beattie et al., 2022). This body of research emphasizes the importance of context-specific studies to yield more nuanced findings. In this paper, I will focus on the Italian scenario, characterized by a political divide akin to the one mentioned earlier, which divides into a conservative right and a liberal left. While there is currently a lack of studies directly examining the connection between political orientation and support for progressive taxation in Italy, existing literature from contexts where the left and right distinction is relevant suggests that right-wing conservatism is negatively associated with support for progressive taxation (see for example, Kuhn, 2013; Roosma et al., 2016; Botrić et al., 2021), as outlined in Chapter 1. We, therefore, hypothesized that support for progressive taxation would be negatively related to right-wing (vs. left-wing) political orientation.

The role of political orientation in predicting support for progressive taxation was investigated in Studies 1a, 1b, 1c, 2, 3a, 3c, 4a, 4b, and 4c.

Methods
Measures

Political orientation. Political orientation was assessed through a single item translated and adapted to Italian from Jost (2006; "How do you perceive your political orientation?" (from 1 = extreme left to 100 = extreme right) in all the studies.

Support for progressive taxation. The measure of progressive taxation support varied between studies. Specifically, in Studies 1a, 1b, and 1c we assessed progressive taxation through two items (How fair do you think a progressive taxation system is?" and "How much do you support the implementation of a progressive tax system?") after providing information about the tax rate for each income bracket in Italy (see Method section of Study 1a for details). In Studies 2, 3a, 3b, and 3c through the 4-items scale by Salvador Casara et al. (2022; "Italian government should tax everybody with the same percentage' (R), 'In Italy, taxes should be the same amount for everybody' (R), 'In Italy, rich people should pay more taxes compared to the rest of the population', 'In Italy, the wealthy should be taxed more heavily'). In Studies 2, 3a, and 3b the items were adapted to the experimental manipulation. In Studies 4a, 4b, 4c, and 4d we measured attitudes towards progressive taxation using a measure that includes general and specific statements about progressive taxation (see details in Chapter 6).

Results

Through a correlational analysis involving the aforementioned 9 studies, we obtained consistent and robust results regarding the effect of political orientation on attitudes toward progressive taxation. Specifically, as hypothesized, progressive taxation exhibited a negative correlation with right-wing political orientation (Study 1a, $r = -.29$, $p = .001$; Study 1b, $r = -.23$,

p <.001; Study 1c, *r* = -.27, *p* <.001; Study 2, *r* = -.19, *p* <.001; Study 3a, *r* = -.52, *p* <.001; Study 3c, *r* = -.28, *p* <.001; Study 4a, *r* = -.16, *p* = .03; Study 4b, *r* = -.29, *p* <.001; Study 4c, *r* = -.18, *p* <.001; Study 4d, *r* = -.30, *p* <.001).

Discussion

As evidenced by the consistent results across a range of studies, individuals' political inclinations play a significant role in shaping their perspectives on tax policies related to redistribution. The empirical evidence, in consonance with existing literature (Kuhn, 2013; Roosma et al., 2016; Botrić et al., 2021), highlights that individuals identifying with the political right tend to favor limited government involvement and emphasize individual economic autonomy, thus not supporting progressive taxation. Conversely, those leaning toward the political left advocate a more interventionist role for the government in addressing social inequalities, consequently exhibiting a greater inclination to support progressive taxation. The present study contributes to the growing body of research linking political orientation with economic attitudes, while also highlighting the fundamental role of ideology in shaping support for progressive taxation. As a limitation, we highlight the use of a single-item measurement, employed to maintain the length of the surveys short. Although the single item is widely used in the field of political psychology studies and provides strong evidence of validity (e.g., Jost, 2006), it would not be sensitive to cultural differences, since the interpretations of the left–right spectrum varies across countries (Beattie et al., 2022). Moreover, some scholars have proposed that political orientation can be further subdivided into its social and economic dimensions (e.g., Everett, 2013; Feldman & Johnston, 2014), as economic conservatism doesn't always align with social conservatism (Saribay & Yilmaz, 2017). Consequently, it may be beneficial to separately assess the economic and social aspects of political orientations and treat them as distinct indicators of political alignment if they do not exhibit a strong correlation. Future research might

use a more comprehensive measure of political orientation that is less susceptible to self-referencing and differing standards.

Future research should use these data as a starting point to explore the role of other ideological factors, since the focus on political orientation, though crucial, is just one facet of the complex interplay of ideological factors that shape economic preferences. One factor deserving scrutiny is the endorsement of meritocracy – the belief that societal rewards are distributed in accordance with individual talent and effort. Meritocracy constitutes a distinct ideological tenet, which, although often intertwined with political orientation, offers a complementary perspective that could contribute to a more comprehensive analysis of attitudes toward taxation.

Meritocracy[4]

As we reported in Chapter 1, some research demonstrated that belief in meritocracy has a negative impact on support for redistribution in general (Jaime-Castillo, 2008) and progressive taxation specifically (e.g., García-Sánchez et al., 2020). But how is this construct interpreted in our society? And why is it linked with lower support for progressive taxation?

The term meritocracy was first coined by the sociologist Michael Young (1958) in his book "The rise of meritocracy" and it is defined as "a system of distribution of resources and rewards based on individual merit, which in its original conception is a combination of talent and effort" (Castillo, 2021, p. 1). Young envisioned a dystopian future where intelligence and merit replaced traditional aristocracy as the guiding principles of society. This ostensibly just transformation, however, concealed a society stratified between an elite holding power based on perceived merit and a less privileged subclass deemed undeserving.

Why Do People Believe in Meritocracy?

Psychological interest concerning meritocratic endorsement has rapidly increased in the past 30 years (Trevisan et al., 2022), and several laboratories are investing their efforts to understand its consequences for intergroup relations (for a review, see Madeira et al., 2019).

Of significant importance within the realm of meritocracy is the distinction between its descriptive and prescriptive facets. Descriptive meritocracy pertains to how individuals perceive the current social system, while prescriptive meritocracy establishes a normative framework for what should ideally exist (Son Hing et al., 2011). As suggested by the systematic review of Madeira et al. (2019), the descriptive and prescriptive components of meritocracy have different consequences for intergroup relations. For example, while descriptive meritocracy is related to legitimizing ideologies, such as political conservatism, racism, social dominance orientation, and right-wing authoritarianism, prescriptive meritocracy is argued to be unrelated to explicit and implicit negative attitudes toward low-status groups (Son Hing et al., 2011).

One of the founding principles of meritocratic ideology is that every individual has the opportunity to advance along the social ladder regardless of their initial social status (BIM-Belief in Individual Mobility; Major, Gramzow, et al., 2002). Through an experimental design, Day and Fiske (2017) found that participants exposed to a scenario of moderate mobility (vs. low vs. baseline) showed higher meritocratic belief scores. These results suggest that increased meritocracy provides an illusion of an increased sense of control over one's life: the illusion that with talent and effort, everything is achievable. In line with this, McCoy et al., (2013) found that meritocracy acts as a palliative also for people belonging to low-status groups, as it enhances their perceived well-being through the mediating effect of sense of control. The gap between meritocratic ideology and the actual meritocracy that characterizes a social system (see the difference between descriptive meritocracy - what the world *is* - and prescriptive meritocracy - what the world *should* be - pointed out by Madeira et al., 2019), leads to the fallacy of meritocracy. Contrary to what it professes, allegedly meritocratic societies rarely lead to an

increase in upward social mobility for citizens. Many authors analyzed this phenomenon in the North American context, a social system where prescriptive meritocracy is highly embraced, highlighting that since 1980 levels of upward social mobility have progressively declined (Beller & Hout, 2006; Aaronson & Mazumder, 2008). The situation in Italy is also emblematic, since individual mobility is one of the lowest of OECD countries (World Economic Forum, Social Mobility Report 2020, retrieved from: http://reports.weforum.org/social-mobility-report-2020/social-mobility-rankings/), with a strong variation between northern and southern regions (Acciari, Polo & Violante, 2019). Thus, the reality is very different from the one idealized by the meritocratic value.

Perceived Meritocracy to Justify Economic Inequality

From a theoretical point of view, meritocracy perception leads people to consider current social arrangements as fair and necessary, according to the System Justification Theory (Jost et al., 2003). Indeed, fairness and justice are fundamental human needs, and individuals tend to perceive the world as a just place, where people deserve what they get and get what they deserve (The Belief in a Just World, Lerner, 1980).

From a practical point of view, believing that the system is meritocratic can facilitate the endorsement of positive stereotypes about high-status groups, considered more intelligent and hardworking, and therefore, more deserving (Jost, 2011). For example, Phillips and Lowery (2015) showed that those who believe that the society is meritocratic are also less likely to recognize White privilege. Moreover, this ideological worldview makes it easier to deny societal inequalities (Kraus et al., 2019). In fact, if one's position in society is determined by their individual merit and hard work, people would be more likely to consider disadvantaged groups as particularly blameworthy. In a merit-based social structure, the "winners" are admired for their privileges, whereas the "losers" are often stigmatized and demoralized by the perception that their low status is somehow deserved (Sandel, 2020). This tendency to blame the poor and

consider the rich deserving for their condition has been found consistently across countries (Bucca, 2016).

While one's position on the social ladder has different underpinnings, most of which are contextual (one's family background, the number of contacts people have with influential individuals, etc..), meritocracy makes people focus on internal (vs. external) causes of success, such as talent, effort, and hard work (Castillo et al., 2021; Darnon et al., 2023).

Perceived Meritocracy to Maintain Economic Inequality

By emphasizing the role of individual factors while downplaying the significance of structural factors in determining personal achievements, belief that society is meritocratic can paradoxically lead to a greater legitimization of existing inequalities (Scully, 1993; Trevisan et al., 2022; Garcia et al., 2011; see Darnon et al., 2018 for evidence in the school context; see Aiello et al., 2019; Pérez & Sabelis, 2020 for evidence in the organizational context).

The logical consequence of the meritocratic worldview is, therefore, reduced support for redistribution. McCoy and Major (2007) found that priming meritocracy could lead to greater support for economic inequality, even for disadvantaged groups. Indeed, if the system is considered just and top earners deserving of owning their disproportionate amount of wealth, it is reasonable to assume that belief in meritocracy results in decreasing support for wealth redistribution (García-Sánchez, et al., 2020; Alesina & La Ferrara, 2005). As a consequence, belief in meritocracy can undermine the willingness to redistribute wealth (McCall, 2013; García-Sánchez et al., 2020), including decreasing support for progressive taxation (García-Sánchez et al., 2020).

Meritocracy as Talent and Effort

The conceptualization of meritocracy has displayed variations in the literature. While the majority of work has predominantly associated meritocracy with hard work and dedication (Madeira et al., 2019), only a limited portion of studies have integrated the talent component

initially introduced by Young. This discrepancy is evident in Mijs' (2021) assertion that "Hard work is arguably the most meritocratic part of Young's equation: 'Merit = Intelligence + Effort,' given that intelligence itself is influenced by a non-meritocratic factor: one's parental background" (Mijs, 2021, p. 5). According to this viewpoint, effort stands out as the sole genuinely meritocratic aspect of success, as talent, being an innate ability, is not achieved through hard work and lies beyond individual control, similar to other external factors like inheritance, personal contacts, and luck (Castillo et al., 2021). This underlying assumption, both conceptually and in measurement, is evident in other studies that also consider effort as the primary and exclusive facet of meritocracy (Bubak, 2019; Girerd & Bonnot, 2020). In the context of education, Spruyt (2015) found that effort and dedication were regarded as more central means of achieving academic success in comparison to talent. Nevertheless, acknowledging talent as a component of meritocracy opens intriguing avenues for research. Some studies suggest that, for the elite, meritocracy is more closely associated with talent, while effort remains a characteristic more typical of the middle and lower classes' meritocracy (Atria, 2023). This perspective is further supported by literature in the management field that emphasizes the significance of talented employees in enhancing productivity (evident in the concept of 'the global war for talent'; Brown & Tannock, 2009). Such considerations underscore the complexity of meritocracy and warrant further investigation into its nuanced implications.

Aim of the Present Studies

The primary aim of this research line is twofold. First, we seek to provide a comprehensive analysis of the impact of meritocracy on decreasing support for progressive taxation through a multi-method approach that integrates experimental and correlational evidence, since past literature only used correlational design (see, for example, García-Sánchez et al., 2020). Second, we aim to disentangle the role of the effort-versus-talent component of meritocracy in hindering support for progressive taxation, aligning with recent works that

distinguish these two components (Castillo, 2021). Additionally, we aim to offer further evidence of the relationship between meritocracy and aversion to progressive taxation by exploring potential mediating variables: sense of control (McCoy et al., 2013), belief in social mobility (Day & Fiske, 2017), and trust towards the economic élites. Specifically, in Study 3a, we investigated the relationship between these variables using a cross-sectional design. In Study 3b, we manipulated economic inequality (high vs. low, following Jetten et al., 2015) and the reason behind this inequality, contrasting a condition of low meritocracy (wealth attributed to external causes, e.g., inheritance and connections) with one of high meritocracy (wealth attributed to internal causes, e.g., talent and effort). In Study 3c, we manipulated economic inequality and the reason for the inequality, including three conditions: talent, effort, and external causes, to closely examine the distinction between talent and effort and its effect on support for progressive taxation. In Study 3a we also considered the impact of meritocracy on the perception and acceptability of economic inequality. Studies 3b (https://aspredicted.org/RYZ_Z7X) and 3c (https://aspredicted.org/3S1_F64) were pre-registered on the AsPredicted platform.

<h2 style="text-align:center">Study 3a[5]</h2>

The purpose of Study 3a was to provide initial evidence on the relationship between belief in meritocracy and support for progressive taxation. Specifically, in line with previous literature (Castillo, 2021; Davidai, 2022), we juxtaposed the attribution of internal causes (meritocratic) of success (e.g., hard work, effort, dedication, intelligence, talent) against external reasons (gender, ethnicity, family background, good contacts). Subsequently, we investigated

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[5] Part of the analyses reported here are also presented in the Master's thesis of Francesca Tarò.

whether the attribution of these causes was associated with perception of inequality, acceptability of inequality, and support for progressive taxation.

A secondary objective was to explore whether attributions of internal causes differed between the two components of the concept of meritocracy, namely talent, and effort (see Castillo et al., 2021), and whether this differentiation was related to perceived inequality, acceptability of inequality and support for progressive taxation.

Finally, we investigated if attributions of internal (vs. external) causes were perceived as being more (vs. less) under one's individual control and if they were linked to a greater (vs. lesser) perception of upward social mobility.

Based on the above objectives, the following hypotheses were formulated:

Primary hypotheses

1) Attributions of internal causes (vs. external causes) of success are negatively (vs. positively) associated with 1a) perceived inequality, 1b) inacceptability of inequality and 1c) support for progressive taxation.

2) Compared to meritocracy as talent, the conceptualization of meritocracy as effort has a stronger negative relation with 2a) perceived inequality, 2b) inacceptability of inequality, and 2c) support for progressive taxation.

Secondary hypotheses

3) Attributions of internal causes (vs. external causes) are perceived as being more (less) under one's control.

4) Attributions of internal causes (vs. external causes) are associated with a greater perception of upward social mobility.

Methods

Participants. The survey was distributed through social media platforms (Facebook, Instagram) by students of a course on Persuasion and Social Influence at the University of Padova.

Participants filled out the survey anonymously and voluntarily. The total sample collected

comprised 621 participants, out of which 307 were excluded from data analysis for not

completing the questionnaire. Among the remaining 314 participants, 13 individuals declined

consent for data processing, resulting in an effective sample size of 301 participants (male = 119;

female = 177; non-binary = 5, M_{age} = 36.47, SD_{age} = 15.21).

Measures. For all questionnaire measures we used a 7-point Likert response scale.

Descriptive and Prescriptive Meritocracy: Internal vs. External Attribution of Success

   a) ***Descriptive Meritocracy.*** To measure the attribution of internal (vs. external) causes

   of success, we utilized a compound version of two previously established scales from

   the literature (Mijs, 2021 and Van Berkel, 2021); to encompass as many relevant

   factors as possible in our analysis. Specifically, participants were asked to rate the

   importance of each of the factors listed below for achieving success in life, using a

   scale ranging from 1 (irrelevant) to 7 (essential). The factors were categorized by the

   authors into internal attributions (e.g., hard work, ambition, motivation, brilliance,

   talent, intelligence, interpersonal skills, commitment, diligence, lack of laziness,

   perseverance) and external attributions (e.g., gender, ethnicity, luck, having a good

   education, coming from a wealthy family, having the right connections). To assess

   the factorial structure of these attributes, an exploratory factor analysis was

   conducted, employing parallel analysis in conjunction with the promax rotation

   method, for both descriptive and prescriptive items. Items that exhibited factor

   loadings below the threshold of 0.50 and those that failed to saturate into a specific

   factor were subsequently excluded from the analysis.

   With respect to descriptive meritocracy, a tripartite factor structure was discerned.

   This structure was delineated as follows: 'effort' (comprising motivation,

   perseverance, effort, the absence of laziness, hard work, and diligence), 'talent'

(encompassing talent, intelligence, and brilliance), and 'external factors' (encompassing ethnicity, gender, and familial background). Conversely, factors such as social skills, educational attainment, social contacts, and luck failed to attain the requisite factor loading of 0.50 and were consequently omitted from the analysis. Furthermore, the attribute of ambition exhibited factor loadings across two distinct factors and was thus excluded from further consideration. A similar factorial structure was observed for prescriptive meritocracy, albeit with slight variations. Here luck and social contacts exhibited factor loadings exceeding the threshold of 0.50. In order to maintain congruence in the factorial structure across both measures, these items were subsequently removed. We then calculated separate mean scores for the internal factors ($\alpha = .89$) and the external factors ($\alpha = .75$). Additionally, we computed the mean scores separately for the internal factors related to effort (hard work, ambition, motivation, commitment, diligence, lack of laziness, perseverance; $\alpha = .87$) and talent (brilliance, talent, intelligence; $\alpha = .7$) to test hypothesis H2.

b) ***Prescriptive Meritocracy.*** To assess prescriptive meritocracy, we used the same measure as for descriptive meritocracy, but asking people to think about the degree of importance each of the above-presented factors *should* have for achieving success in life. Again, we created the mean for internal ($\alpha = .84$) and external ($\alpha = .83$) factors and for talent ($\alpha = .76$) vs. effort ($\alpha = .84$) components of the meritocracy construct.

Sense of Control Attributed to Internal and External Factors. To assess perceived sense of control attributed to internal and external factors, we presented participants with the same list of factors, but asked to what degree they believed each of the above-presented factors was under one's individual control (from 1 = nothing; to 7 = totally). Again, we created the mean for internal ($\alpha = .79$) and external ($\alpha = .83$) factors and for talent ($\alpha = .78$) vs. effort ($\alpha = .88$)

components based on the same factorial structure found for descriptive and prescriptive meritocracy.

Perceived Upward and downward social mobility. Perceived upward and downward social mobility was measured through the 8-item scale by Matamoros-Lima (in press). The scale included measures of perception of both upward ("In Italy, it is common for children to reach a higher socio-economic status than that of their family they grew up in"; "The children of people in Italy end up belonging to a higher social class than their origin"; "The majority of the population in Italy improves their socio-economic status over the course of their lives"; "In general, in Italy, children obtain better jobs from one generation to another") and downward ("In Italian society, the incomes of most people decrease from one generation to another"; "The majority of families in Italy hold lower social positions compared to the previous generation"; "In Italy, it is frequent for children to achieve a lower socio-economic status than that of the family they grew up in"; "The children of people in Italy end up belonging to a lower social class than their origin") on a 7-points Likert scale from 1 = strongly disagree to 7 = strongly agree. We considered the two subdimensions separately (α upward mobility = .84; α downward mobility = .85).

Perceived inequality. Two items were adapted from the Scale for Perception of Economic Inequality of the ISSP Survey ("How wide do you think the current economic inequalities in Italy are?"; "The current economic differences in Italy between the richest and the poorest are too wide"; $r = .63$).

Acceptability of economic inequality. To assess acceptability of economic inequality, we structured an ad-hoc measure starting from Dawtry et al. (2015). Of the four total items, we used and adapted to the Italian context only two ("Money and wealth in this country should be more evenly distributed among a larger percentage of people"; "The fact that some people in Italy are rich and others are poor is an acceptable part of our economic system"; $r = .62$)

Support for progressive taxation. Support for progressive taxation was assessed using the same measure presented in Study 2 (α = .83).

In order to offer a more comprehensive perspective on the dynamics under investigation, we extended our measurements beyond the primary constructs. Two of the facets that merit attention are Belief in a Just Word (BJW) and Social Dominance Orientation (SDO).

Belief in a Just Word (BJW). To measure Belief in a Just World (BJW) we used an Italian adaptation of the BJW 12-item scale by Esposito et al. (2022; e.g., "I believe that if anything, either good or bad, happens to me, it is because I deserved it"; "In my life, cases of injustice are the exception, not the rule"; "I think, in general, people are given what they deserve"; α = .83).

Social Dominance Orientation (SDO). SDO was assessed through an Italian translation of the 8-item scale by Ho et al. (2015; e.g., "An ideal society requires some groups to be on top and others on the bottom"; "No one group should dominate in society"; "Group equality should *not* be a primary goal"; "We should work to give all groups an equal chance to succeed"; α = .81)

Demographics. As demographics we assessed gender, age, subjective socioeconomic status, class, income, educational level, working status, and political orientation.

Results

Both Descriptive and Prescriptive Meritocracy are Associated with Decreased Perception of Inequality, Increased Acceptability of Inequality, and Decreased Support for Progressive Taxation

To gain an initial understanding of how people perceive the causes of success within our society, such as either internal (effort and talent, descriptive meritocracy) or external, and to investigate preferences regarding how success *should* be achieved (effort and talent, prescriptive meritocracy, or through external factors), we conducted a 3x2 repeated measures ANOVA with type of motive (effort, talent and external) and whether it is assessed as descriptive or prescriptive as within-subject variables and how much participants endorse each of the motives

as outcome variable with the software JMP. Results revealed a main effect of type of motive F (2, 600) = 796.85, $p < .001$, descriptive vs. prescriptive meritocracy, F (1, 900) = 396.60, $p < .001$, and their interaction, F (2, 900) = 545.25, $p < .001$. All reported pairwise comparisons are statistically different (p-values adjusted with Tukey-Kramer correction for multiple comparisons). The graphical representation of this analysis is presented in Figure 11. Regarding societal perception, individuals believe that success is primarily achieved through effort ($M = 5.43$, $SD = 1.09$), to a lesser extent through talent ($M = 5.07$, $SD = 1.12$), and through external factors ($M = 4.64$, $SD = 1.32$). In terms of preferences for how success *should* be attained, there is a clear preference for meritocratic factors related to effort ($M = 5.77$, $SD = 0.90$), followed by meritocracy based on talent ($M = 5.30$, $SD = 1.07$). External factors ($M = 1.71$, $SD = 1.99$) are not considered fair factors for determining individuals' success.

Figure 11

Repeated measures ANOVA of scores for each type of motive for success (effort, talent and external).
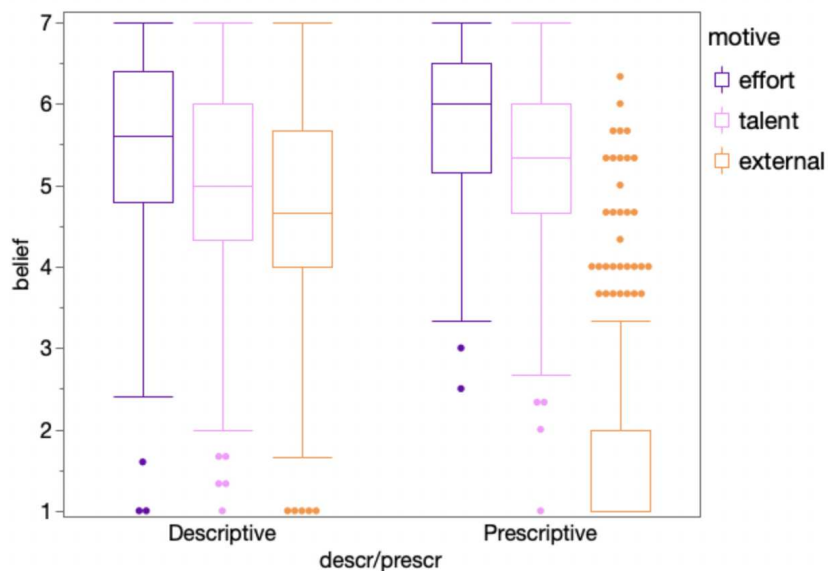
To test H1, H2, and H3 we ran a correlation analysis (see Table 5 for the complete correlation matrix).

Table 5

Pearson's correlations (Study 3a)

Variable		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Progressive taxation	M = 5.84; SD = 1.89	—															
2. Perceived inequality	M = 5.70; SD = 1.04	0.473 ***	—														
3. Acceptability inequality	M = 2.87; SD = 1.56	-0.450 ***	-0.631 ***	—													
4. Descriptive external	M = 4.64; SD = 1.32	0.193 ***	0.284 ***	-0.286 ***	—												
5. Descriptive talent	M = 5.07; SD = 1.12	-0.170 **	-0.152 **	0.223 ***	-0.249 ***	—											
6. Descriptive effort	M = 5.43; SD = 1.09	-0.167 **	-0.165 **	0.288 ***	-0.329 ***	0.601 ***	—										
7. Prescriptive external	M = 1.71; SD = 1.99	-0.292 ***	-0.113	0.168 **	-0.063	0.268 ***	0.201 ***	—									
8. Prescriptive talent	M = 5.30; SD = 1.07	-0.125 *	-0.081	0.218 ***	-0.028	0.489 ***	0.243 ***	0.213 ***	—								
9. Prescriptive effort	M = 5.77; SD = .90	-0.186 **	-0.146 *	0.315 ***	-0.129 *	0.328 ***	0.542 ***	0.150 **	0.418 ***	—							
10. Control external	M = 1.69; SD = 1.24	-0.240 ***	0.009	0.074	-0.194 ***	0.233 ***	0.246 ***	0.497 ***	0.203 ***	0.236 ***	—						
11. Control talent	M = 3.15; SD = 1.46	-0.174 **	0.015	0.119 *	-0.183 **	0.257 ***	0.189 ***	0.349 ***	0.356 ***	0.308 ***	0.588 ***	—					
12. Control effort	M = 5.46; SD = 1.10	-0.078	-0.159 **	0.300 ***	-0.124 *	0.227 ***	0.258 ***	0.029	0.228 ***	0.399 ***	-0.178 **	0.114 *	—				
13. Upward mobility	M = 3.47; SD = 1.17	-0.188 **	-0.213 ***	0.246 ***	-0.150 **	0.268 ***	0.260 ***	0.144 *	0.174 **	0.212 ***	0.150 **	0.217 ***	0.246 ***	—			
14. Downward mobility	M = 3.73; SD = 1.16	0.161 **	0.188 **	-0.219 ***	0.148 *	-0.140 *	-0.162 **	-0.069	-0.050	-0.167 **	-0.037	-0.059	-0.204 ***	-0.349 ***	—		
15. BJW	M = 3.64; SD = .86	-0.209 ***	-0.289 ***	0.423 ***	-0.205 ***	0.192 ***	0.271 ***	0.156 **	0.109	0.243 ***	0.095	0.163 **	0.352 ***	0.411 ***	-0.190 ***	—	
16. SDO	M = 2.81; SD = 1.10	-0.432 ***	-0.503 ***	0.670 ***	-0.324 ***	0.277 ***	0.291 ***	0.233 ***	0.195 ***	0.282 ***	0.195 ***	0.159 **	0.158 **	0.235 ***	-0.230 ***	0.327 ***	—

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

Concerning **descriptive meritocracy**, results revealed that internal attribution of success was negatively associated with perceived economic inequality ($r = -.19$, $p < .001$) and with support for progressive taxation ($r = -.20$, $p < .001$), while positively related to acceptability of inequality ($r = .30$, $p < .001$). On the contrary, external attribution of success was negatively related to the acceptability of inequality ($r = -.29$, $p < .001$) and positively related to perceived inequality ($r = .28$, $p < .001$) and support for progressive taxation ($r = -.17$, $p < .01$).

Concerning **prescriptive meritocracy**, we found that the belief that internal factors should be important for success was positively related to the acceptability of inequality ($r = .34$, $p < .001$) and negatively related to perceived inequality ($r = -.15$, $p < .001$) and to support for progressive taxation ($r = -.20$, $p < .001$). The belief that external factors should be considered as important for success was negatively related to the acceptability of inequality ($r = -.24$, $p < .001$) and positively related to perceived inequality ($r = -.13$, $p < .01$) and support for progressive

taxation ($r = .18$, $p < .001$), thus supporting H1a, H1b, and H1c. For parsimony, we here reported only the principal correlations, but all the information about the other variables investigated is reported in Table 4.

Linear regressions with internal (talent and effort) and external reasons for wealth as predictors and a) perception of inequality, b) acceptability of inequality, and c) support for progressive taxation as dependent variables revealed different effects for each dependent variable.

Concerning the perception of inequality, we found only one main effect, namely descriptive external motives predicting higher perception of inequality ($t = 4.41$, $p < .001$). Indeed, participants that believe that success in our society is based on external factors, are more likely to perceive economic inequalities.

Concerning acceptability of inequality, we found two main effects, one related to descriptive external factors ($t = -4.14$, $p < .001$) and the other related to prescriptive meritocracy as effort ($t = 2.86$, $p = .004$). Indeed, in line with the effect on perceived inequality, the acceptability of inequality is mainly based on the scarce attribution of external causes of success.

Concerning progressive taxation, we found two main effects, related to both descriptive ($t = 2.77$, $p = .006$) and prescriptive ($t = -4.56$, $p < .001$) external factors. Indeed, support for progressive taxation is mainly driven by attribution of external causes of success and the urge for a word where external factors are not that important to achieve success (see Figure 12 for a graphical representation of these results).

Figure 12

The effect of talent, effort, and external motives (descriptive and prescriptive) on perception of inequality, acceptability of inequality, and support for progressive taxation.
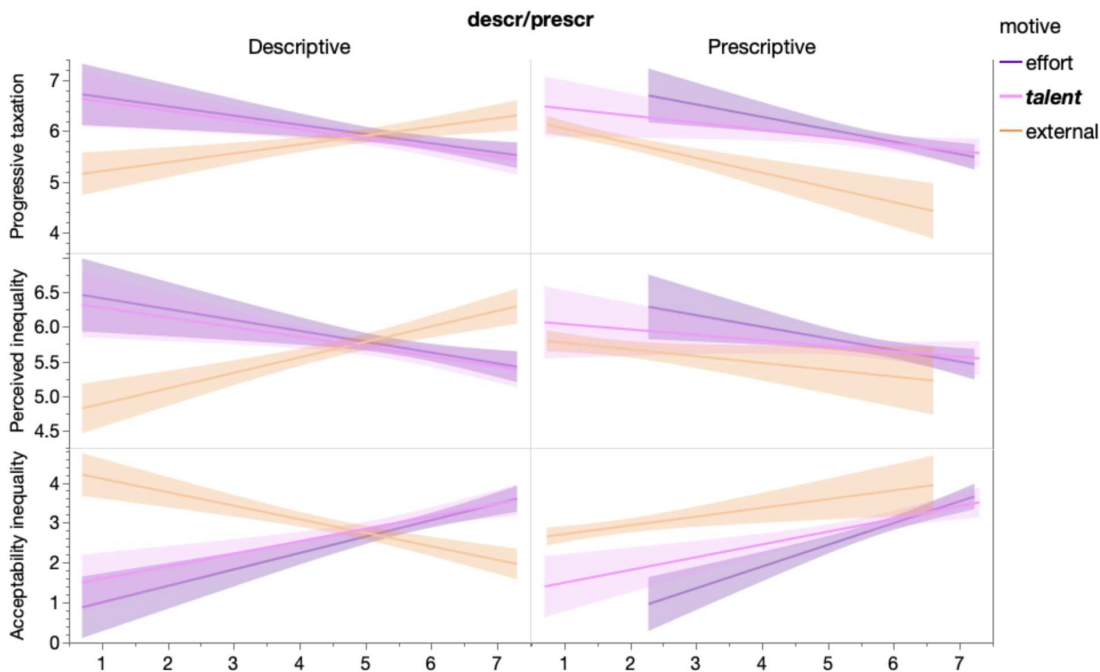
The Effect of Meritocracy as Talent and Effort

To check whether the concept of meritocracy as talent differs from the concept of meritocracy as effort, we ran two paired sample t-tests. Both descriptive ($t = 8.05$, Cohen's $d = .46$, $p < .001$) and prescriptive ($t = 7.75$, Cohen's $d = .45$, $p < .001$) meritocracy as effort differ from meritocracy as talent. People perceive meritocracy as effort more important to achieve success in Italy than meritocracy as talent. Following the same trend, people reported that meritocracy as effort *should* be more important in achieving success than meritocracy as effort.

Sense of Control Attributed to Internal and External Factors, Upward and Downward Mobility, Belief in a Just World and Social Dominance Orientation

To test H3 we ran a paired samples t-test. Results revealed that sense of control attributed to internal causes was stronger than sense of control attributed to external causes $t = 36.73$, Cohen's $d = 2.12$, $p < .001$, thus supporting H3. We also found that the items related to effort

were strongly related to perceived control, than the items related to talent, $t = 23.34$, Cohen's d = 1.34, $p < .001$. Moreover, in an exploratory fashion, we tested whether sense of control was related to perceived inequality, acceptability of inequality, and support for progressive taxation. Results show that sense of control attributed to internal causes of wealth was negatively associated with support for progressive taxation ($r = -.26$, $p < .01$), while positively with acceptability of inequality ($r = .22$, $p < .001$), while no relation was found concerning perceived inequality ($r = -.06$, $p = .31$)

Concerning upward social mobility, we found that perceived upward social mobility was negatively linked with perceived inequality ($r = -.21$, $p < .001$) and support for progressive taxation ($r = -.19$, $p = .001$), while positively with acceptability of inequality ($r = .25$, $p < .001$). We also found some interesting results concerning downward social mobility, with people perceiving a higher possibility of going down the social ladder in the future, being more likely to perceive economic inequality ($r = .19$, $p = .001$) and to support progressive taxation ($r = .16$, $p = .005$), while less likely to accept economic inequality ($r = -.22$, $p < .001$). Moreover, supporting H4, we found that attributions of internal causes (vs. external causes) are associated with a greater perception of upward social mobility ($r = .28$, $p < .001$) and a decreased perception of downward mobility ($r = -.17$, $p = .003$).

These results are also in line with the negative relationship found between BJW and support for progressive taxation ($r = -.21$, $p < .001$). That is, participants who adhere to the belief that individuals experience certain outcomes due to their deservingness (BJW) showed a more negative attitude towards taxing the rich. Additionally, this unfavorable attitude further emerged among those who support hierarchical and unequal social structures (SDO, $r = -.43$, $p < .001$).

Discussion

In Study 3a we provided initial evidence of the relationship between meritocracy endorsement and lower support for progressive taxation. Specifically, people who perceive that

success is (and should be) achieved through internal causes (vs. external motives) are also more likely to perceive less economic inequality and accept it more, while being more averse to taxing the rich. Moreover, linear regressions revealed that denying external factors (more than enhancing internal ones) as the main cause of success leads to a lower perception of inequality, greater acceptability of it, and reduced desire to tax the wealthy segments of the population. Building on Castillo (2021), we also explored the distinction between the effort and talent components of meritocracy, finding that the effort component had a stronger impact on the aforementioned variables. Moving a step forward, we found that internal attribution of success was linked with stronger sense of control and enhanced perception of upward social mobility. Results also showed the role of the attribution of effort (but not talent) in the acceptance of inequality, but not in the perception of inequality nor in support for progressive taxation.

While this initial study confirmed past evidence on the link between meritocracy endorsement and progressive taxation aversion (Hennighausen & Heinemann, 2015; García-Sánchez et al., 2020), it has the main limitation of using a cross-sectional design. This limitation is overcome in Studies 3b and 3c presented below.

Study 3b

The aim of Study 3b was to provide experimental evidence of the link between meritocracy and lower support for progressive taxation. Moreover, we were also interested in checking whether perceived economic inequality interacted with meritocracy endorsement in shaping attitudes toward progressive taxation. Indeed, in line with the cross-sectional evidence provided by García-Sánchez et al. (2020), individuals who rejected notions like meritocracy and equal opportunity, which are used to justify inequality, exhibited a positive correlation between their perception of the income gap and support for progressive taxation. Conversely, those who

held these beliefs didn't show any significant correlation. In line with the results found in Study 3a, we also studied the effect of meritocracy on sense of control and upward social mobility.

Given that we pre-registered the hypotheses on the platform AsPredicted with unclear wording (https://aspredicted.org/RYZ_Z7X), we have now clarified our expectations here

Primary hypotheses

1) In the high (vs. low) inequality condition participants would perceive decreased descriptive meritocracy (a) and increased prescriptive (b) meritocracy.

2) In the high (vs. low) inequality condition participants would support more progressive taxation.

3) In the high (vs. low) meritocracy condition participants would support less progressive taxation.

4) There is an interaction between inequality and meritocracy in predicting support for progressive taxation.

Secondary hypotheses

5a) In the high (vs. low) inequality condition participants would perceive less social mobility.

5b) In the high (vs. low) inequality condition participants would perceive less sense of control.

5c) In the high (vs. low) inequality condition participants would perceive less trust in institutions and economic elites.

6a) In the high (vs. low) meritocracy condition participants would perceive more social mobility.

6b) In the high (vs. low) meritocracy condition participants would perceive more sense of control.

6c) In the high (vs. low) meritocracy condition participants would perceive more trust in institutions and economic elites.

Methods

Participants. Five hundred and seven participants were collected through social media (Facebook, Instagram, LinkedIn) using a snowball sampling procedure by students of a course on Persuasion and Social Influence at the University of Padova. One hundred and seventy-one did not provide the second informed consent and were, therefore, excluded from the experiment. After exclusion, we analyzed data of a total of 336 participants (male = 113, female = 223, non-binary = 0, M_{age} = 39.41, SD_{age} = 17.34).

To establish sample size, we ran an a-priori power analysis using G*Power: to detect a small effect size of f = .20 (power = .90, alpha = .05) we needed a sample of a minimum of 360 participants. Despite this, given the time constraints, we decided to analyze data from 336 participants.

Experimental manipulation. We manipulated economic inequality and the reason for such inequality through an adapted version of the Bimboola paradigm (Jetten et al., 2015, for a comprehensive overview of the materials please refer to Survey Study 3b available on OSF: https://osf.io/f8qsr/?view_only=149d65d6481b4f65bddec598b9bca6a1). Participants were randomly assigned to one of four experimental conditions, whereby we manipulated high (vs. low) inequality and high (vs. low) meritocracy in a 2x2 between-participants design. After providing information about the degree of inequality, the high meritocracy condition described the reason for such (in)equality through internal factors, such as individual talent and effort. Specifically, it read "What is this gap determined by? Why are some people wealthier than others? Bimboola is a very meritocratic society. In Bimboola, most of the people who earn the most have arrived at this position through hard work and dedication and through their talent and intelligence, while the people who earn the least are in this position because they have worked less hard or because they are less talented". Differently, the low meritocracy condition put the focus on external factors (inheritance, connections, etc.) and read "What is this gap determined

by? Why are some people wealthier than others? Most people who now earn more have arrived in this position because of the circumstances in which they live: inheriting the family business or being placed in their role by family connections, while people who earn less have not been able to achieve the same status because they have simply had fewer opportunities".

Measures

After reading the experimental manipulation participants were asked to answer a set of questions related to their perceptions as citizens of Bimboola.

Manipulation checks. As a manipulation check for inequality we used the single item "income differences among Bimboolean citizens are big" (from 1 = strongly disagree to 7 = strongly agree).

To check the meritocracy manipulation, we used the 4-item descriptive meritocracy scale by Castillo et al. (2021) which seeks to gauge individuals' views on how meritocracy operates in relation to effort, talent, social background, and networking in Bimboola. "Those who make more effort get greater rewards than those who work less"; "Those with more talent get greater rewards than those who have less talent"; "Those who have rich parents manage to get ahead"; "Those who have good contacts manage to get ahead".

We also added an attention check related to social class assignment (that did not vary between conditions; "To which income level have you been assigned? 1/2/3"). None of the participants failed the attention check.

Prescriptive meritocracy. Prescriptive meritocracy was assessed through the 4-item scale by Castillo et al. (2021) which measured the extent to which participants believe economic success in society *should* be achieved through hard work and talent, rather than family backgrounds and contacts. Specifically, the items used were the same as the ones used for the manipulation check, but changed to their prescriptive form, as in the original scale ("Those who make more effort *should* get greater rewards than those who work less"; "Those with more talent *should* get

greater rewards than those who have less talent"; "It is fine it those with rich parents get ahead"; "It is fine if those with good contacts get ahead").

Sense of control. Sense of control was assessed through a shorter version of the scale (4 items of the original 12-item scale) by Lachman & Weaver (1998), which includes two sub-components: personal mastery and perceived constraints. To shorten the scale, we kept the two sub-components and we adapted them to the Bimboola paradigm. Personal mastery refers to one's sense of efficacy or effectiveness in carrying out goals and was described by the items "In Bimboola, I can do just about anything I really set my mind to," and "What happens to me in the future mostly depends on me". Perceived constraints indicate to what extent one believes there are obstacles or factors beyond one's control that interfere with reaching goals and was described by items "I often feel helpless in dealing with the problems of life here in Bimboola" and "What happens in my life is often beyond my control". Respondents indicated the extent to which extent each of those statements described them as citizen in Bimboola using a 7-point scale (1 = strongly agree, 1 = strongly disagree). Items 3 and 4 were reverse scored, and the mean of the items was computed. Higher scores reflect a greater perceived sense of control. Estimates of internal consistency of the two scales combined were not high (but coherent with the one present in the original study, $\alpha = .61$).

Social mobility. Perceived upward and downward social mobility was measured through the 8-item scale by Matamoros-Lima (in press). The scale included measures of perception of both upward ("In Bimboola, it is common for children to reach a higher socio-economic status than that of their family they grew up in"; "The children of people in Bimboola end up belonging to a higher social class than their origin"; "The majority of the population in Bimboola improves their socio-economic status over the course of their lives"; "In general, in Bimboola, children obtain better jobs from one generation to another") and downward ("In Bimboola's society, the incomes of most people decrease from one generation to another"; "The majority of families in

Bimboola hold lower social positions compared to the previous generation"; "In Bimboola, it is frequent for children to achieve a lower socio-economic status than that of the family they grew up in"; "The children of people in Bimboola end up belonging to a lower social class than their origin") mobility in Bimboola on a 7-points Likert scale from 1 = strongly disagree to 7 = strongly agree. We considered the two subdimensions separately (α upward mobility = .94; α downward mobility = .92).

Trust towards institutions people and economic élites. We assessed trust though some items specifically designed for this paradigm. We assessed trust in people in general ("In general, would you say that in Bimboola, one can trust people, or is it better to be cautious when dealing with them?"), the government ("In general, do you believe that the government in Bimboola can be trusted?"), the economic elites ("In general, do you believe that the economic elite (very wealthy individuals) in Bimboola can be trusted?") and the less well-off ("In general, do you believe that very poor people in Bimboola can be trusted?"). We also created an item concerning perceived conspiracy between economic elites and politicians ("The economic elite secretly collaborates with the political class to advance their interests, even when these are knowingly and intentionally detrimental to the rest of the population.") on a 7-points Likert scale (da 1-"Not at all" a 7- "A lot"). We used single items for the analyses.

Support for progressive taxation. Support for progressive taxation was assessed through the same items used in Study 3a (α = .80).

Demographics. As demographic characteristics we assessed gender, age, educational level, subjective socioeconomic status (perceived socioeconomic class and perception of the family's socioeconomic background), income and working status (results concerning demographics are reported in Chapter 2).

Results

First of all, we ran a correlational analysis to check the association between the variables investigated. Correlational matrix is presented in Table 6.

Table 6

Pearson's correlations (Study 3b).

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Progressive taxation	—													
2. Perceived inequality	0.22 ***	—												
3. Descriptive effort	-0.13 *	-0.023	—											
4. Descriptive talent	-0.07	-0.01	0.80 ***	—										
5. Descriptive external (family)	0.20 ***	0.22 **	-0.49 ***	-0.40 ***	—									
6. Descriptive external (contacts)	0.18 ***	0.20 ***	-0.42 ***	-0.34 ***	0.85 ***	—								
7. Sense of control	-0.24 ***	-0.12 *	0.53 ***	0.44 ***	-0.45 ***	-0.41 ***	—							
8. Upward social mobility	-0.21 ***	-0.15 **	0.62 ***	0.53 ***	-0.42 ***	-0.36 ***	0.58 ***							
9. Downward social mobility	< .01	0.16 **	-0.08	-0.01	0.21 ***	0.27 ***	-0.25 ***	-0.13 *	—					
10. Trust government	-0.28 ***	-0.25 ***	0.41 ***	0.38 ***	-0.34 ***	-0.35 ***	0.47 ***	0.51 ***	-0.19 ***	—				
11. Trust people	-0.10	-0.12 *	0.10	0.15 **	-0.20 ***	-0.17 **	0.18 **	0.12 *	-0.20 *	0.23 ***	—			
12. Trust poor	0.04	-0.14 **	-0.01	-0.01	< .01	0.03	0.03	0.04	-0.02	0.17 **	0.04	—		
13. Trust élite	-0.34 ***	-0.22 ***	0.36 ***	0.34 ***	-0.31 ***	-0.29 ***	0.42 ***	0.41 ***	-0.20 ***	0.65 ***	0.22 ***	0.19 ***	—	
14. Conspiracy	0.13 *	0.17 **	-0.19 ***	-0.11 *	0.17 **	0.20 ***	-0.25 ***	-0.32 ***	0.20 ***	-0.36 ***	-0.214 ***	0.014	-0.364 ***	—

* p < .05, ** p < .01, *** p < .001

The Effect of Economic Inequality and Meritocracy on Perceived Wealth Differences, Descriptive and Prescriptive Meritocracy

As preliminary analyses, to check whether the manipulation was successful in manipulating inequality and meritocracy, we ran two 2x2 ANOVA with inequality and meritocracy manipulations as predictors and perceived inequality and meritocracy (effort, talent, family background, and contacts) as outcomes.

We found significant differences between conditions concerning perceived inequality, $F(1,337) = 121.41$, $p < .001$, $\eta^2_p = .26$, 95% with people assigned to the high inequality condition reporting perceiving increased wealth differences ($M = 5.60$; $SD = 1.82$), compared to those assigned to the low inequality condition ($M = 5.57$; $SD = 1.60$). Perceived inequality remained stable in the high (vs. low) meritocracy conditions ($F < .05$, $p > .84$). No interaction between inequality and meritocracy was found ($F < .01$, $p > .90$).

Concerning descriptive meritocracy, participants assigned to the high meritocracy condition perceived economic success in Bimboola was more likely to be achieved through individual effort ($M = 5.33$; $SD = 1.65$) than those assigned to the low meritocracy condition ($M = 2.89$; $SD = 1.76$), $F(1, 337) = 174.29$, $p < .001$, $\eta^2_p = .34$. Perceived effort remained stable in the high (vs. low) inequality conditions ($F < .005$, $p > .95$). No interaction between inequality and meritocracy was found ($F < .72$, $p > .39$).

The same was true concerning talent, with people assigned to the high meritocracy condition perceiving that economic success in Bimboola was more likely to be achieved through individual talent ($M = 4.87$; $SD = 1.80$) than those assigned to the low meritocracy condition ($M = 2.93$; $SD = 1.65$), $F(1, 337) = 109.44$, $p < .001$, $\eta^2_p = .24$. Perceived talent remained stable in the high (vs. low) inequality conditions ($F = 1.20$, $p = .27$). No interaction between inequality and meritocracy was found ($F < 1$).

At the same time, those assigned to the low meritocracy condition, were more likely to perceive that economic success in Bimboola was achieved through external factors such as family background ($M = 5.49$; $SD = 1.71$) and good contacts ($M = 5.41$; $SD = 1.72$) than those assigned to the high meritocracy condition (family background, $M = 3.51$; $SD = 2.12$, $F(1, 337) = 88.55$, $p < .001$, $\eta^2_p = .21$; good contacts, $M = 3.72$; $SD = 2.17$, $F(1, 337) = 65.08$, $p < .001$, $\eta^2_p = .16$).

Interestingly, also inequality had an effect on descriptive meritocracy, with people assigned to the high inequality condition perceiving success in Bimboola more likely to be achieved through family background ($M = 4.90$; $SD = 2.13$; $F(1, 337) = 14,47$, $p < .001$, $\eta^2_p = .04$) and good contacts ($M = 5.02$; $SD = 2.03$; $F(1, 337) = 20.08$, $p < .001$, $\eta^2_p = .06$), than participants assigned to the low inequality condition ($M_{family\ background} = 4.12$; $SD_{family\ background} = 2.14$; $M_{contacts} = 4.12$; $SD_{contacts} = 2.12$). No significant difference between conditions emerged (all Fs $< .20$, all ps. $> .60$).

Concerning each of the four questions tapping into prescriptive meritocracy, no effect of the inequality (all $ps > .19$) and meritocracy (all $ps > .17$) manipulations or interaction effect was found (all $ps > .21$), thus partially supporting H1.

The Effect of Economic Inequality and Meritocracy on Perceived Sense of Control, Social Mobility, and Attitudes Towards Progressive Taxation

To test the effect of economic inequality and meritocracy on our dependent variables we ran a set of 2X2 ANOVAs. Results revealed that economic inequality and meritocracy has only main effect, but no interaction effects.

Concerning sense of control, participants assigned to the high inequality condition perceived less sense of control ($M = 3.90$, $SD = 1.16$) than participants assigned to the low inequality condition ($M = 4.32$, $SD = .97$, $F(1,332) = 14.23$, $\eta^2_p = .04$, $p < .001$, 95% CI [-0.11; -0.32]). Moreover, participants assigned to the high meritocracy condition perceived more sense of control ($M = 4.51$, $SD = 1.08$) than participants assigned to the low meritocracy condition ($M = 3.72$, $SD = .96$, $F(1,332) = 51.79$, $\eta^2_p = .13$, $p < .001$; 95% CI [.49; .28]). No interaction between inequality and meritocracy was found ($F < .90$, $p > .70$, See Figure 13).

Figure 13

*The effect of inequality and meritocracy on perceived sense of control*
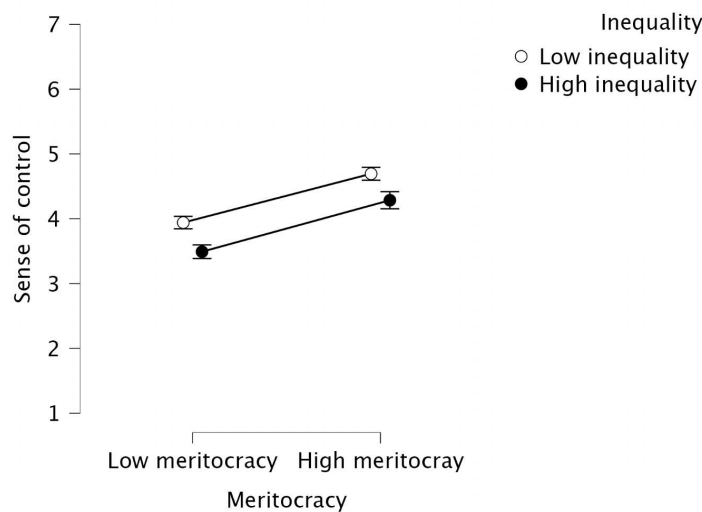
Concerning upward social mobility, we also found two main effects: one related to inequality and the other to meritocracy. Participants assigned to the high inequality condition perceived less upward social mobility ($M = 3.42$, $SD = 1.59$) than participants assigned to the low inequality condition ($M = 4.16$, $SD = 1.49$, $F(1,332) = 21.96$, $\eta^2_p = .06$, $p < .001$, 95% CI [-.22; -.52]). Moreover, participants assigned to the high meritocracy condition perceived more upward social mobility ($M = 4.44$, $SD = 1.45$) than participants assigned to the low meritocracy condition ($M = 3.16$, $SD = 1.44$, $F(1,332) = 69.38$, $\eta^2_p = .17$, $p < .001$, 95% CI [.78; .48]). No interaction between inequality and meritocracy was found ($F < 1.20$, $p > .27$, see Figure 14).

Figure 14

The effect of inequality and meritocracy on perceived upward social mobility
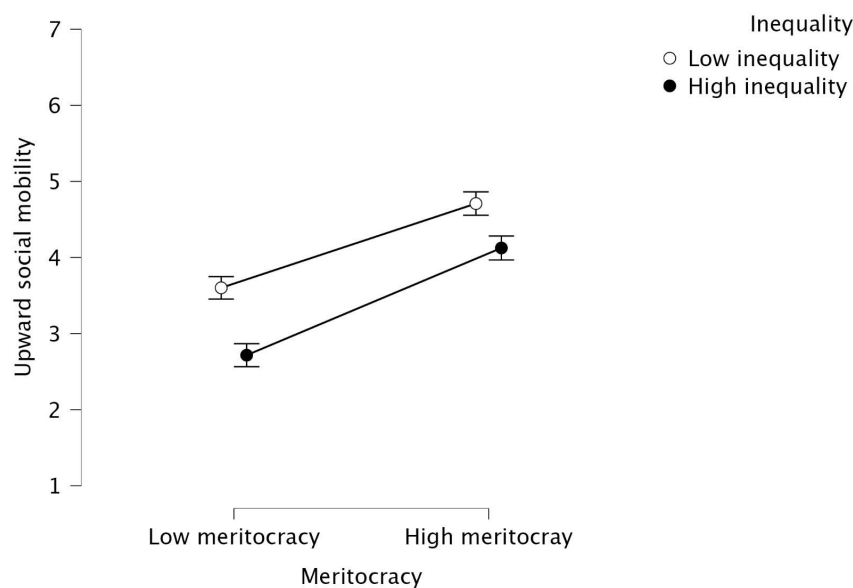
Concerning downward social mobility, we found a main effect of inequality, with people assigned to the high inequality condition perceived increased possibility of societal downward mobility ($M = 3.61$, $SD = 1.34$) than participants assigned to the low inequality condition ($M = 3.28$, $SD = 1.22$, $F(1,332) = 5.36$, $\eta^2_p = .016$, $p = .02$). No effects of meritocracy ($F < .30$, $p > .60$), neither interaction between inequality and meritocracy were found ($F < .02$, $p > .90$).

Concerning attitudes towards progressive taxation, again, we found only main effects and no interaction. Participants assigned to the high inequality condition were more likely to support

progressive taxation ($M = 6.05$, $SD = 1.12$) than participants assigned to the low inequality condition ($M = 5.43$, $SD = 1.42$, $F (1,332) = 32.31$, $\eta^2_p = .06$, $p < .001$, 95% CI [.44; .17]), supporting results found in the previous chapter. Moreover, participants assigned to the high meritocracy condition were less likely to support progressive taxation ($M = 5.59$, $SD = 1.34$) than participants assigned to the low meritocracy condition ($M = 5.88$, $SD = 1.28$, $F (1,332) = 4.28$, $\eta^2_p = .013$, $p = .04$; 95% CI [<.01; -0.27]), although with small effect. No interaction between inequality and meritocracy was found ($F < .16$, $p > .68$, see Figure 15).

Figure 15

The effect of inequality and meritocracy on support for progressive taxation
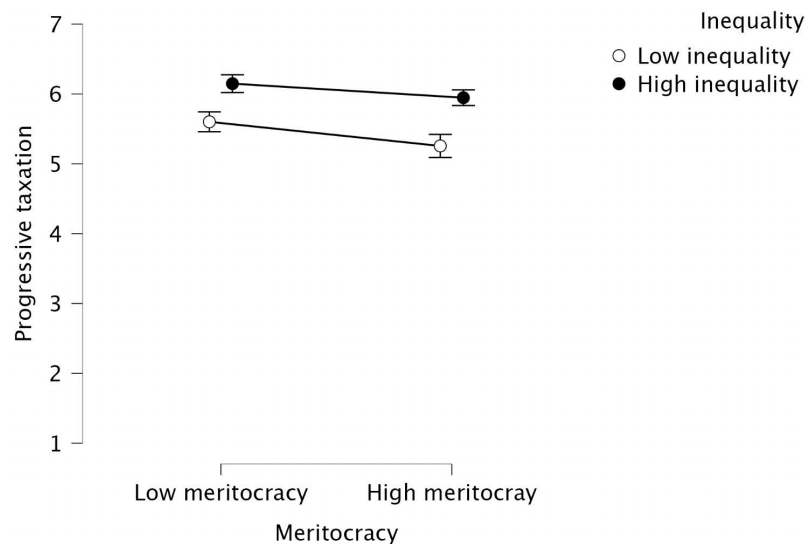
The Effect of Meritocracy on Support for Progressive Taxation was Mediated by Upward Social Mobility and Sense of Control

As exploratory hypothesis, we tested the statistical effects of the manipulated meritocracy on progressive taxation support and the potential mediating role of sense of control and upward social mobility (Figure 16), running a mediation model with sense of control and upward social mobility as parallel mediators using the software JASP (Love et al., 2019) with bootstrapping for 5000 resamples and 95% confidence intervals (Preacher & Hayes, 2008).

An indirect effect of meritocracy on support for progressive taxation via sense of control was found: indirect effect: $b = - 0.12$ ($SE = 0.05$, 95% CI = [- 0.23, - 0.03]. The total effect was fully mediated: direct effect: $b = - 0.02$ ($SE = 0.12$), 95% CI = [- 0.23, 0.21], total effect; $b = - 0.22$ ($SE = 0.11$), 95% CI = [- 0.43, - 0.01], See Figure 14. No indirect effects of upward social mobility were observed. Thus, the effect of manipulated meritocracy on reduced support for progressive taxation was explained by increased sense of control over one's life, rather than by perceived upward social mobility at the societal level.

Figure 16

Path model with standardized coefficients. Solid arrows indicate paths <.001. Numbers in brackets indicates direct effects.
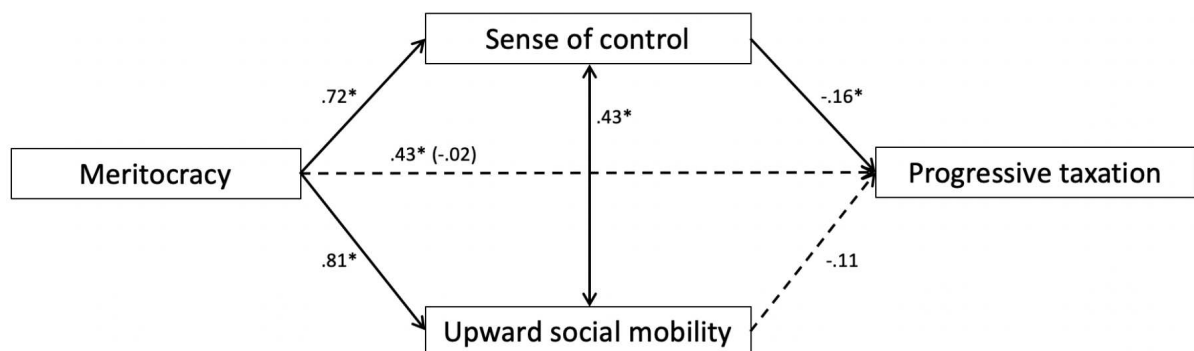
To go more in-depth into the path linking meritocracy to decreased support for progressive taxation and to disentangle the effect of upward social mobility and sense of control, we ran a sequential mediation model using R (R Core Team, 2021) with manipulated meritocracy as a predictor, upward social mobility as mediator 1 (M1), sense of control as mediator 2 (M2) and support for progressive taxation as outcome. Standardized estimates are reported. Looking at indirect effects we also found support for a sequential path where meritocracy was associated with support for progressive taxation via sense of control, which in turn was associated with upward social mobility, indirect effect: $b = - 0.04$ ($SE = 0.06$, 95% CI =

[- 0.32, - 0.07]. The total effect was fully mediated: direct effect: $b = - 0.01$ ($SE = 0.06$), 95% CI = [- 0.11, 0.11], total effect; $b = - 0.35$ ($SE = 0.01$, 95% CI = [- 0.06, - 0.007], See Figure 17.

Figure 17

Path model with standardized coefficients. Solid arrows indicate paths <.001. Numbers in brackets indicates direct effects.
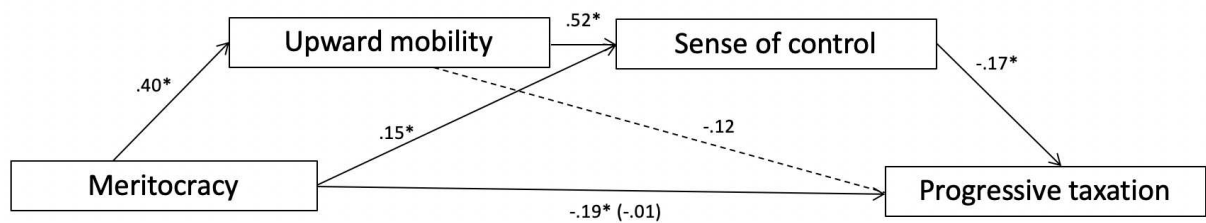

The Effect of Economic Inequality and Meritocracy on Trust and Conspiracy Beliefs

To test the effect of economic inequality and meritocracy on our dependent variables related to trust we ran a set of 2X2 ANOVAs. Again, results revealed that economic inequality and meritocracy have only main effects, but no interaction effects.

Concerning trust toward people in general, participants assigned to the high inequality condition perceived less trust toward people ($M = 3.34$, $SD = 1.21$) than participants assigned to the low inequality condition ($M = 3.88$, $SD = 1.32$, $F (1,337) = 16.08$, $\eta^2_p = .05$, $p < .001$, 95% CI [-0.14; -0.40]). Moreover, participants assigned to the high meritocracy condition perceived more trust towards people ($M = 3.92$, $SD = 1.25$) than participants assigned to the low meritocracy condition ($M = 3.30$, $SD = 1.27$, $F (1,337) = 21.48$, $\eta^2_p = .06$, $p < .001$, 95% CI [0.44; 0.18]). No interaction between inequality and meritocracy was found ($F = .13$, $p = .71$, See Figure 18).

Figure 18

The effect of inequality and meritocracy on trust toward people.
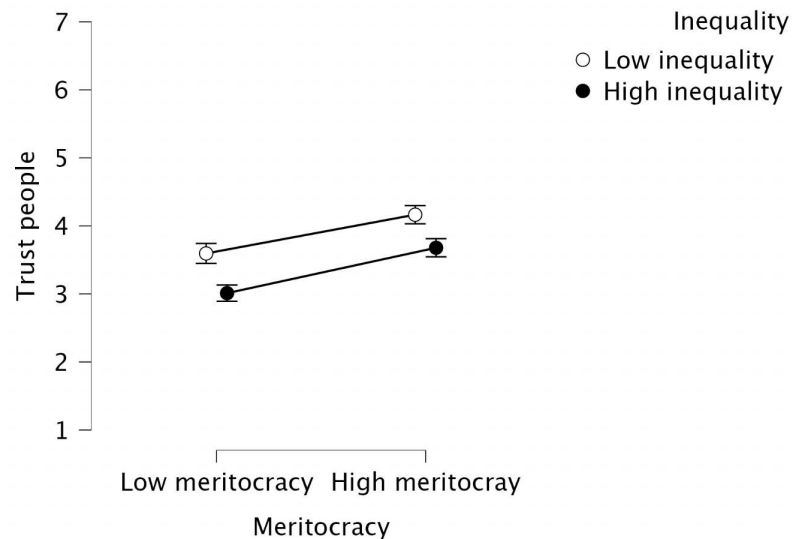
Concerning trust toward the wealthy, participants assigned to the high inequality condition perceived less trust toward the wealthy ($M = 2.53$, $SD = 3.92$) than participants assigned to the low inequality condition ($M = 3.25$, $SD = 1.55$, $F(1,337) = 19.14$, $\eta^2_p = .05$, $p < .001$, 95% CI [-0.19; -0.51]). Moreover, participants assigned to the high meritocracy condition perceived more trust towards the wealthy ($M = 3.28$, $SD = 1.67$) than participants assigned to the low meritocracy condition ($M = 2.50$, $SD = 1.38$, $F(1,337) = 23.22$, $\eta^2_p = .06$, $p < .001$, 95% CI [0.55; 0.23]). No interaction between inequality and meritocracy was found ($F = 2.20$, $p = .14$, See Figure 19).

Figure 19

The effect of inequality and meritocracy on trust toward the wealthy.
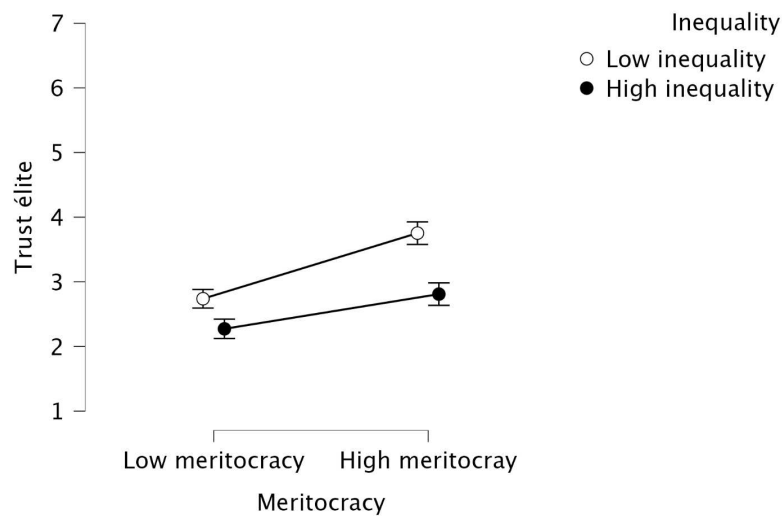
Concerning trust toward the poor, participants assigned to the high inequality condition perceived less trust toward the poor ($M = 3.60$, $SD = 1.41$) than participants assigned to the low inequality condition ($M = 3.92$, $SD = 1.36$, $F(1,337) = 19.14$, $\eta^2_p = .013$, $p = .03$, 95% CI [-0.72; 0.11]). No effect of meritocracy or interaction between inequality and meritocracy was found (all $F < .03$, all ps > .86, Figure 20).

Figure 20

The effect of inequality and meritocracy on trust toward the poor.
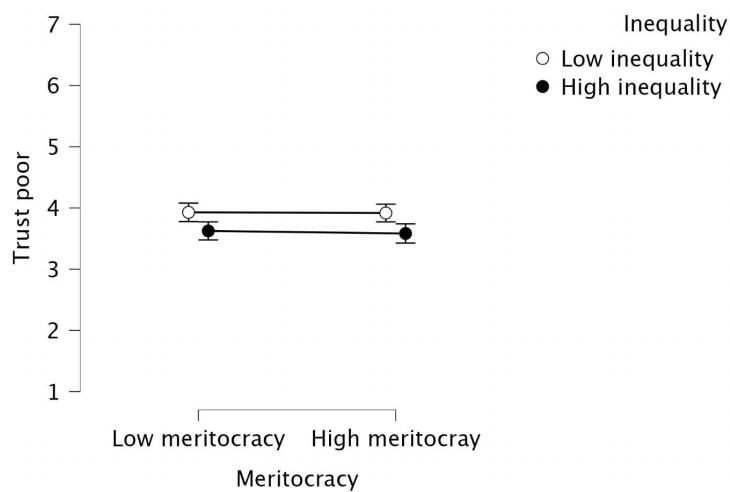
Concerning conspiracy beliefs, participants assigned to the high inequality condition believed more in conspiracy ($M = 4.17$, $SD = 2.04$) than participants assigned to the low inequality condition ($M = 3.40$, $SD = 1.78$, $F(1,337) = 50.27$, $\eta^2_p = .04$, $p < .001$, 95% CI [0.59; 0.19]), in line with results found in the previous chapter and in past literature (see for example Salvador Casara et al., 2022). Moreover, participants assigned to the high meritocracy condition perceived less conspiracy ($M = 3.58$, $SD = 1.97$) than participants assigned to the low meritocracy condition ($M = 4.00$, $SD = 1.91$, $F(1,337) = 3.95$, $\eta^2_p = .012$, $p = .048$, 95% CI [-0.002; -0.41]). No interaction between inequality and meritocracy was found ($F = 1.27$, $p = .26$, See Figure 21).

Figure 21

The effect of inequality and meritocracy on conspiracy beliefs.
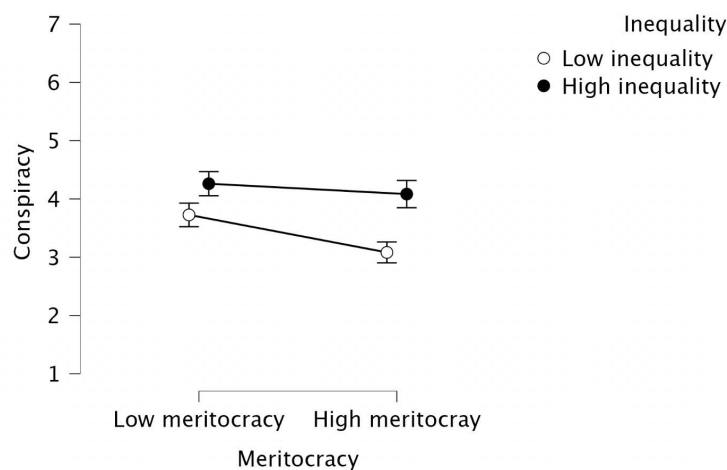
The Effect of Meritocracy and Inequality on Support for Progressive Taxation was Mediated by Trust Toward the Economic Elites but not by Conspiracy Beliefs.

Since both inequality and meritocracy had a strong effect on trust towards the élites, we tested the statistical effects of the manipulated meritocracy and inequality on progressive taxation support and the potential mediating role of trust towards the elites using the software JASP (Love et al., 2019) with bootstrapping for 5000 resamples and 95% confidence intervals (Preacher & Hayes, 2008).

An indirect effect of meritocracy on support for progressive taxation via trust toward the elites was found: indirect effect: $b = -0.14$ ($SE = 0.04$, 95% CI = [- 0.25, - 0.07]. The total effect was fully mediated: direct effect: $b = -.06$ ($SE = 0.10$), 95% CI = [- 0.26, 0.14], total effect; $b = -0.21$ ($SE = 0.10$), 95% CI = [- 0.41, - 0.004]. We also found an indirect effect of inequality on support for progressive taxation via trust toward the elites: indirect effect: $b = 0.13$ ($SE = 0.04$, 95% CI = [0.06, 0.23]. The total effect was partially mediated: direct effect: $b = 0.34$ ($SE = 0.10$), 95% CI = [0.14, 0.55], total effect; $b = 0.47$ ($SE = 0.10$), 95% CI = [0.26, 0.67], see Figure 22 (standardized coefficients are reported).

Figure 22

Path model with standardized coefficients. Solid arrows indicate paths <.001. Numbers in brackets indicates direct effects.
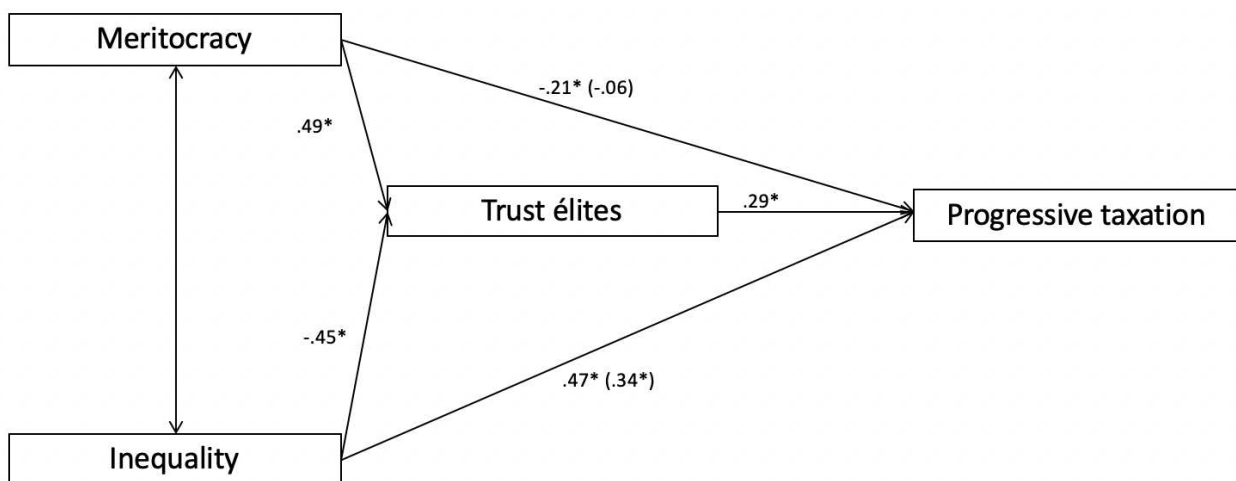
To disentangle the potential difference in effect between trust toward the economic élites and conspiracy beliefs related to economic élites and politicians, we ran another mediation model, in which we tested the indirect effect of inequality and meritocracy on support for progressive taxation via conspiracy beliefs. Results revealed that there was not statistically significant indirect effect of inequality or meritocracy on progressive taxation via conspiracy beliefs, in line with Study 2. Indirect effect of meritocracy: $b = -0.02$ ($SE = 0.01$), 95% CI = [-

0.06, .002]. Direct effect: $b = - .19$ ($SE = 0.10$), 95% CI = [- 0.39, 0.13], total effect; $b = - 0.21$ (SE = 0.10), 95% CI = [- 0.42, - 0.003]. Indirect effect of inequality: $b = 0.03$ ($SE = 0.02$), 95% CI = [- 0.005, .09]. Direct effect: $b = .44$ ($SE = 0.11$), 95% CI = [0.23, 0.65], total effect; $b = -0.47$ (SE = 0.10), 95% CI = [-0.42, - 0.003].

Discussion

In Study 3b, we examined the relationship between meritocracy and support for progressive taxation in an experimental fashion. Specifically, we manipulated economic inequality (high vs. low) and the reason for such inequality (meritocratic vs. non-meritocratic motives). We found two main effects: one related to inequality and the other to meritocracy, while no interaction effect emerged.

Concerning the effect of manipulated inequality, consistent with the results found in the previous chapter, participants exposed to the high inequality condition exhibited greater support for progressive taxation compared to those in the low inequality condition. An interesting finding was the effect of inequality on the perception of descriptive meritocracy, i.e., the perception of meritocracy at a societal level within the fictional society to which participants were assigned. Higher inequality was associated with a greater perception that success within the society was more likely to be achieved through family background and good connections, namely through external factors, which are not directly controllable by the individual. Indeed, people exposed to high inequality perceived the society to be less meritocratic and to favor only the economic elite. According to literature, anti-elite populist sentiments thrive in contexts of high economic inequality, as individuals perceive income distributions to be unfairly unequal (Steiner, 2022). This result is coherent with the effect found concerning trust towards the economic élites, with trust being lower in a context of high inequality. This result is also partially in line with the findings concerning perceived control: participants exposed to the high inequality condition perceived less sense of control, than those assigned to the low inequality

condition. This result is consistent with recent literature suggesting that under conditions of high inequality, individuals report a lower sense of control (see for example To et al., 2023).

Concerning the effect of manipulated meritocracy, in line with Study 3a, participants exposed to the high meritocracy conditions reported lower support for progressive taxation compared to those in the low meritocracy condition, consistent with previous literature linking belief in meritocracy to reduced support for progressive taxation (see for example García-Sánchez et al., 2020). To further explore the effect of meritocracy on progressive taxation support, we investigated two potential models potentially explaining the effect found. The first one concerns the role of sense of control and upward social mobility (in line with McCoy et al., 2013 and Day & Fiske, 2017). Here we found that participants exposed to the high meritocracy condition perceived a greater sense of control and a higher likelihood of upward social mobility at the societal level. To better understand what precise path linked meritocracy with decreased support for progressive taxation and to disentangle the effect of upward social mobility and sense of control we ran a path model with upward mobility and sense of control as sequential mediators, finding empirical support. Indeed, when exposed to meritocratic contexts people perceive that at the societal level, it is easier to climb the social pyramid upward and this provides an increased sense of control over their lives. This sense of control, in turn, has a negative effect on their willingness to tax the wealthy, potentially because, by associating social mobility with merit, participants tend to enact system legitimation strategies more easily.

The second model concerns trust towards the élites, since we found that people exposed to both high unequal (vs. less unequal) and low meritocratic (vs. high meritocratic) contexts were less likely to trust the economic élites. In line with this, and partially in line with the previous chapter, both the effect of inequality and the effect of meritocracy on progressive taxation support were mediated by trust in the economic elites. That is, participants asked to start a new life in a very unequal (vs. less unequal) society were less likely to trust the economic

élites, and this, in turn, led to an increased willingness to tax them. The same was true concerning meritocracy, with participants asked to start a new life in a low meritocratic society being less likely to trust the élites and, in turn, more prone to tax them. In line with Study 2, no indirect effect of inequality and meritocracy on support for progressive taxation via conspiracy beliefs was found.

While the results of this study provided additional evidence of the relationship between meritocracy and support for progressive taxation, they also raised further questions regarding the distinction between talent and effort as key components of the meritocratic concept, particularly in light of the mediation of sense of control and the cross-sectional results found in Study 3a. While a stronger sense of control is likely to be expected in a condition where success is achieved through effort and commitment, the same may not hold true in a condition where success is attributed to talent, which resonates as a more innate aspect of meritocracy (Castillo et al., 2021).

Does the effect of the effort component outweigh that of talent in predicting support for progressive taxation? This research question was addressed in Study 3c.

Study 3c

In Studies 3a and 3b we provided cross-sectional and experimental evidence of the relationship between meritocracy and lower support for progressive taxation. Moreover, we identified an indirect effect of meritocracy on support for progressive taxation via sense of control. In light of the research conducted by Castillo (2021), the present Study 3c sought to investigate the distinct roles of two fundamental components within the concept of meritocracy: talent and effort. The primary objective was to explore whether the differentiation between these two components holds significance in shaping attitudes or if both components are equally relevant in predicting support for progressive taxation.

While both talent and effort are individual attributes associated with meritocracy, a crucial distinction lies in the perception of these attributes. Effort is often viewed as more within an individual's control, as it represents the result of conscious dedication and hard work. In contrast, talent is generally perceived as more stable and innate, with individuals attributing it to inherent capabilities rather than being directly subject to personal effort.

We formulated the following hypotheses, which were pre-registered on the platform AsPredicted (link: https://aspredicted.org/3S1_F64):

1) In the high inequality + merit as effort condition participants would support less progressive taxation than in the high inequality merit + talent condition.

2) In the high inequality merit + effort condition participants would perceive more social mobility than in the high inequality + merit as talent condition.

3) In the high inequality merit + effort condition participants would perceive a greater sense of control than in the high inequality + talent as effort condition.

Exploratory hypothesis

As an exploratory hypothesis, we will test the role of perceived social mobility and sense of control as potential mediators in the relationship between perceived meritocracy as effort and support for progressive taxation.

Methods

Participants. The study involved a total of 510 participants who voluntarily and anonymously participated by accessing the questionnaire through different social platforms (Facebook, Telegram, Instagram, Whatsapp). After screening the responses, a subset of participants was excluded from the analysis. Specifically, 300 participants did not complete the questionnaire, 23 participants failed the manipulation check related to the talent condition ("Those with more talent get greater rewards than those who have less talent"), as their score here was 3 or lower than 3. Moreover, 23 participants failed the manipulation check related to the effort condition

("Those who make more effort get greater rewards than those who work less"), as their score was 3 or lower than 3. As a result, the final sample comprised 203 participants.

Manipulation. As in Study 3b, we manipulated high economic inequality (here, differently from Study 3b, no low inequality condition was included) and the reason for such inequality through an adapted version of the Bimboola paradigm. Another difference from the manipulation presented in Study 3b lies in the manipulation of meritocracy: whereas in Study 3b we contrasted internal motives (effort and talent) with external motives, here we did not consider external motives, but only the distinction between effort and talent as two distinct components of meritocracy, by randomizing participants in one of two experimental conditions (high inequality effort vs. high inequality talent), resulting in 2 conditions between participants design. Specifically, the effort condition read: "What is this gap determined by? Why are some people wealthier than others? In Bimboola, most people who earn more have arrived at this position by working hard and with commitment while most people who earn less are in this position because they have worked less hard. All people in Bimboola earn, therefore, according to whether they have worked hard or not so hard in their lives. Only if you work hard and with commitment you can succeed.". The talent condition read: "What is this gap determined by? Why are some people wealthier than others? Most people who earn more have arrived at this position because of their innate talent and intelligence, while people who earn less are in this position because they are less talented. All citizens of Bimboola therefore earn according to their talent and intelligence. Only if you are born very talented and intelligent you can succeed." (for a comprehensive overview of the materials please refer to Survey Study 3c available on OSF: https://osf.io/f8qsr/?view_only=149d65d6481b4f65bddec598b9bca6a1.

Measures

After reading the experimental manipulation participants were asked to answer a set of questions related to their perceptions as citizens of Bimboola.

Manipulation checks. To check the meritocracy manipulation, we used the 4-items descriptive meritocracy scale by Castillo et al. (2021) which seeks to gauge individuals' views on how meritocracy operates in relation to effort, talent, social background, and networking in Bimboola, as in Study 3b. As the exclusion criteria, we used the scores provided in the items related to talent and effort, depending on the condition, as reported in the Participants section ("Those who make more effort get greater rewards than those who work less"; "Those with more talent get greater rewards than those who have less talent"). Participants assigned to the meritocracy as effort condition perceived success in Bimboola as more likely to be achieved through effort ($M = 5.74$; $SD =1.35$) than participants assigned to the talent condition ($M = 3.25$; $SD =2.08$; $t = 10.18$, $p <.001$, Cohen's $d = 1.43$).

We also added an attention check related to social class assignment (that did not vary between conditions; "To which income level have you been assigned? 1/2/3"). None of the participants failed the attention check.

Sense of control. Sense of control was assessed through the same scale used in Study 3b ($\alpha = .53$; also, the two sub-scales taken separately led to suboptimal α values). Given the suboptimal reliability values, we used single items for the analyses.

Social mobility. Perceived upward and downward social mobility was measured through the same scale used in Study 3b (α upward mobility $= .89$; α downward mobility $= .85$).

Support for progressive taxation. Support for progressive taxation was assessed through the same items used in Study 3b ($\alpha = .80$).

Trust and conspiracy. As in Study 3b, we also assessed some variables related with trust, such as trust attributed to people in general, economic elites, the poor and the government using the same measures.

Demographics. As demographic characteristics we assessed gender, age, educational level, subjective socioeconomic status (perceived socioeconomic class and perception of the family's

socioeconomic background), income, political orientation, and working status. As a control variable, we also assessed participants' preference for merit (vs. need) - based distribution of wealth from Suitner (in prep.*; e.g., "Decisions to promote someone should take into account the effort workers put into their work."; "Basic necessities should be guaranteed to all people in need.";* α = .86).

Results

Correlational analysis

First of all, we ran a correlational analysis to check the association between the variables investigated. Correlational matrix is presented in Table 7.

Table 7

Pearson's correlations (Study 3c).

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Progressive taxation	—													
2. Perceived inequality	0.20 **	—												
3. Descriptive effort	-0.16 *	-0.04	—											
4. Descriptive talent	-0.03	0.11	-0.40 ***	—										
5. Descriptive external (family)	0.13	0.01	0.12	-0.14	—									
6. Descriptive external (contacts)	0.15 *	0.01	0.16 *	-0.11	0.73 ***	—								
7. Sense of control	-0.28 ***	-0.15 *	0.43 ***	-0.08	-0.17 *	-0.09	—							
8. Upward mobility	-0.28 ***	-0.16 *	0.39 ***	0.04	-0.21 **	-0.04	0.46 ***	—						
9. Downward mobility	-0.08	0.01	-0.10	0.06	0.20 **	0.18 *	-0.29 ***	-0.12	—					
10. Trust people	-0.10	0.05	<.01	0.15 *	-0.13	-0.12	0.13	0.16 *	-0.07	—				
11. Trust government	-0.33 ***	-0.13	0.25 ***	0.12	-0.10	-0.09	0.39 ***	0.37 ***	-0.02	0.33 ***	—			
12. Trust élite	-0.34 ***	-0.04	0.05	0.27 ***	-0.14	-0.17 *	0.31 ***	0.29 ***	-0.11	0.39 ***	0.63 ***	—		
13. Trust poor	-0.07	0.05	0.03	0.03	0.13	0.14 *	<.01	0.04	0.15 *	0.19 **	0.05	0.071	—	
14. Conspiracy	0.17 *	0.05	-0.11	0.10	0.14 *	0.16 *	-0.13	-0.16 *	0.21 **	-0.08	-0.08	-0.19 **	0.11	—

* p < .05, ** p < .01, *** p < .001

The Effect of Economic Inequality and Meritocracy on Perceived Sense of Control, Social Mobility and Attitudes Towards Progressive Taxation

To test the effect of economic inequality and meritocracy on our dependent variables we ran a set of t-tests.

Concerning sense of control, participants assigned to the effort condition perceived in general more sense of control than participants assigned to the talent condition. Specifically, we found statistically significant effects concerning the item "What happens to me in the future

mostly depends on me" (future depends on me, *Cohen's d* = .39, *p* = .006, 95% CI [0.21; 1.19])

and the item "What happens in my life is often beyond my control" (beyond my control,

Cohen's d = -.32, *p* = .026, 95% CI [-0.6; -0.32]). No difference between conditions was found

concerning the items "In Bimboola, I can do just about anything I really set my mind to" (I can

do anything) and "I often feel helpless in dealing with the problems of life here in Bimboola",

(feel helpless; all *d*s < .10, all *p*s > .47, see Figure 23).

Figure 23

The effect of meritocracy as talent and effort on perceived sense of control
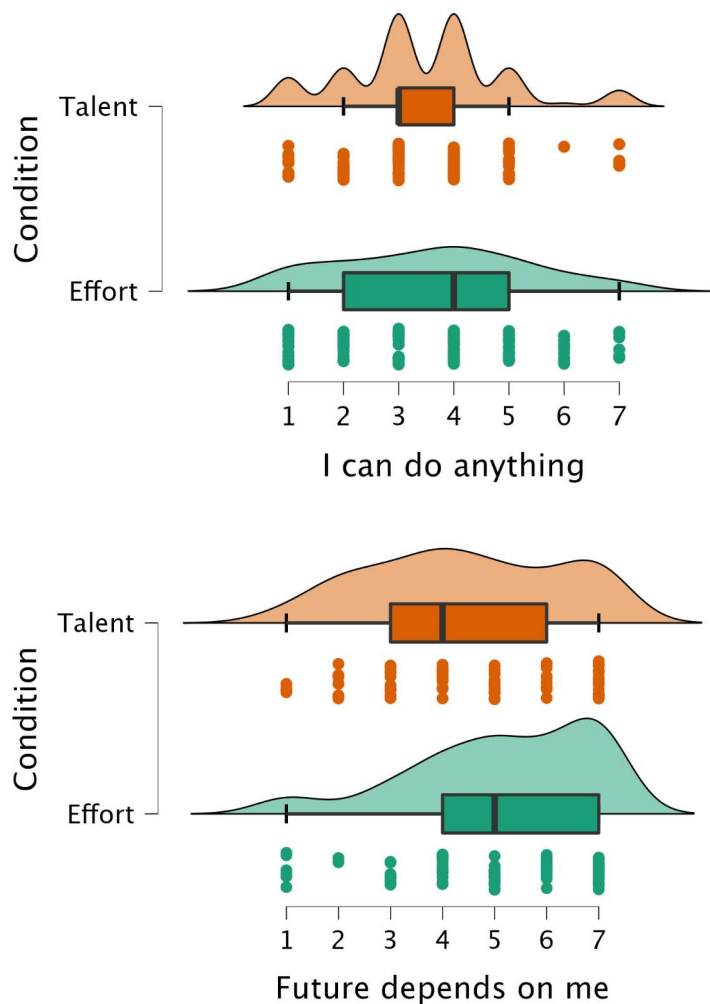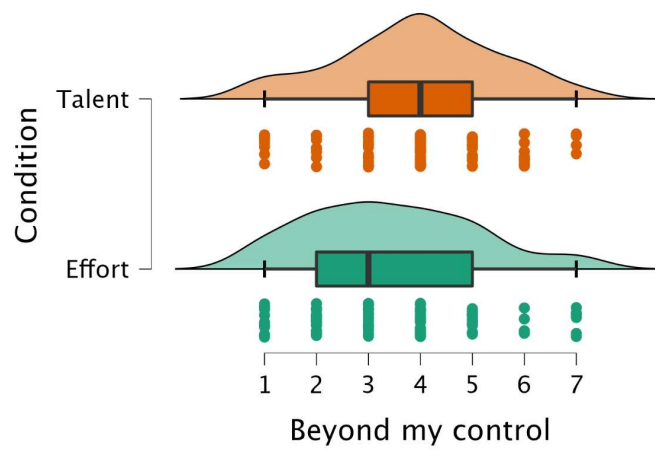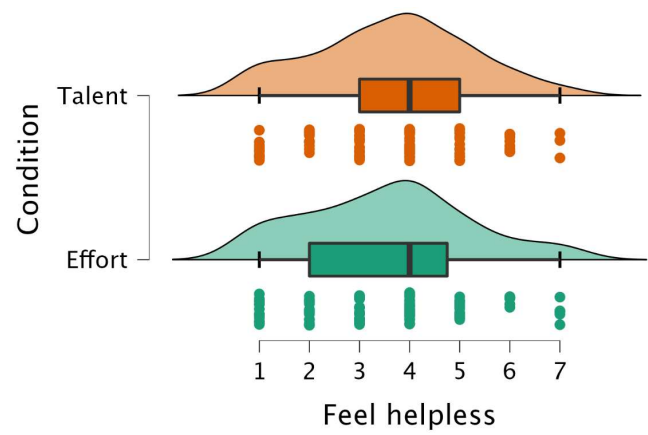
Concerning upward social mobility, participants assigned to the effort condition perceived more upward social mobility ($M = 4.54$, $SD = 1.52$) than participants assigned to the talent condition ($M = 4.02$, $SD = 1.28$, $t = 2.61$, Cohen's $d = .37$, $p = .01$, 95% CI [0.13; 0.91], see Figure 24).

Figure 24

The effect of meritocracy as talent and effort on perceived upward social mobility
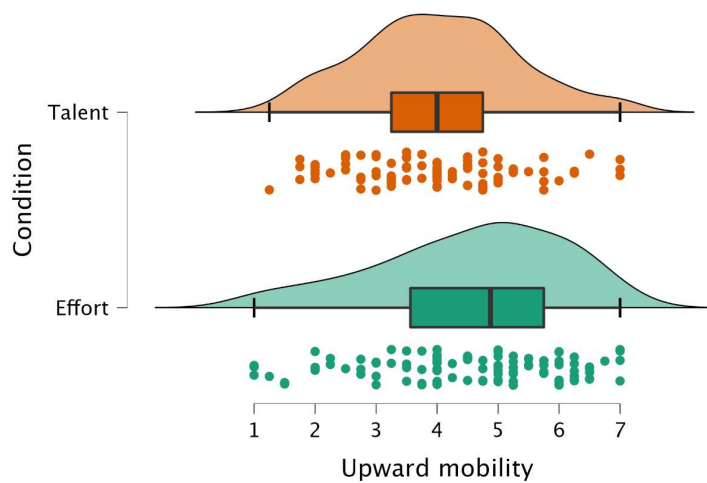
Concerning downward social mobility, people in the talent condition perceived increased downward mobility. Despite this, no statistically significant differences between conditions were found ($t = .08$, $p > .90$).

Concerning attitudes towards progressive taxation, we did not find any significant difference between conditions ($t = .17$, $p > .80$, Cohen's $d = .26$), but a slightly higher preference for progressive taxation in the talent condition ($M = 5.76$, $SD = 1.21$) compared to the effort condition ($M = 5.73$, $SD = 1.38$, see Figure 24). No differences between conditions emerged considering all the items assessing trust and conspiracy (all ts < 1.64, all ds < .23, all ps > .10, Figure 25).

Figure 25

The effect of meritocracy as talent and effort on attitudes towards progressive taxation
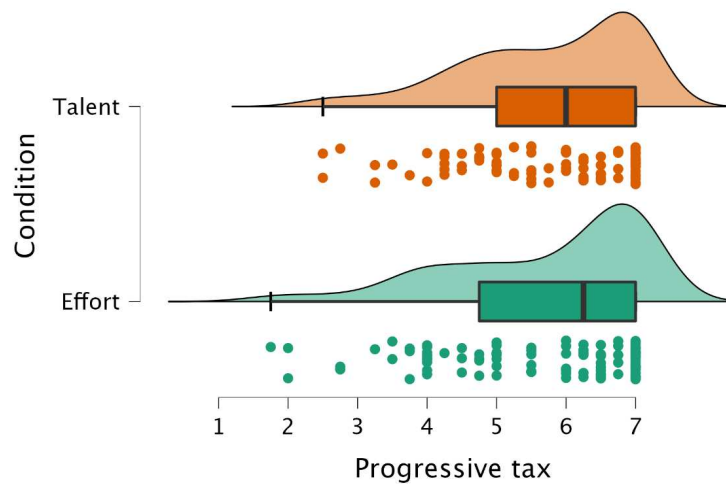
The effect of Meritocracy as Effort on Increased Perception that Future Depends on Us is

Mediated by Upward Social Mobility

Although we did not find any statistically significant difference between meritocracy by effort or by talent in predicting support toward progressive taxation, as an exploratory hypothesis, deviating from pre-registration, we tested the effect of meritocracy by effort in predicting perceived control via upward social mobility. For sense of control, we used the two separate items that varied between conditions in the t-test, given the low reliability. In line with Study 3b, we found that the effect of meritocracy by talent on the sense of control is mediated by the perception of upward social mobility. Specifically, we found statistically significant effects concerning the item "What happens to me in the future mostly depends on me" (future depends on me) but not concerning the item "What happens in my life is often beyond my control" (beyond control, Figure 26).

Future depends on me, indirect effect: $b = .19$ ($SE = 0.07$), 95% CI = [0.05, .35]. Direct effect: $b = .20$ ($SE = 0.13$), 95% CI = [- 0.04, 00.44], total effect; $b = 0.39$ ($SE = 0.14$), 95% CI = [0.12, 0.66]. Beyond my control, indirect effect: $b = -.05$ ($SE = 0.03$), 95% CI = [-0.15, .006].

Direct effect: $b = -.26$ ($SE = 0.14$), 95% CI = [- 0.54, 0.02], total effect; $b = -0.31$ ($SE = 0.14$), 95% CI = [-0.58, 0.04].

Figure 26

Path model with standardized coefficients. Solid arrows indicate paths <.05. Numbers in brackets indicates direct effects.
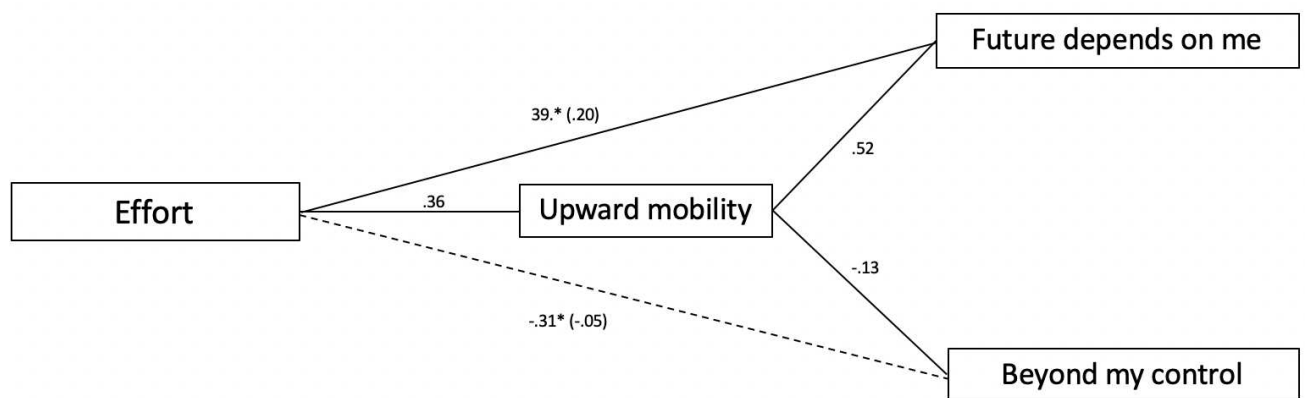
Discussion, Limitations and Practical Implications

Study 3c contributed to a deeper understanding of the multifaceted nature of meritocracy and its relevance in shaping attitudes towards progressive taxation. In this context, we split the concept of meritocracy into its constituent elements of talent and effort, manipulating a hypothetical society characterized by pronounced economic inequality, wherein success was attained through effort (as opposed to talent). Results revealed that participants assigned to the effort condition perceived greater upward social mobility (with no discernible effect on downward social mobility) and a heightened sense of control, than participants assigned to the talent condition. Nonetheless, no significant differences between conditions emerged concerning support for progressive taxation. This result is in line with Study 3a, where descriptive meritocracy as talent or effort did not affect support for progressive taxation. This lack of

difference might potentially be attributed to the specificity of the chosen measure of redistribution, consequently being entwined with numerous unmeasured confounding factors. Subsequent research could delve into the effect of these two meritocratic components on broader constructs, such as wealth redistribution in more generalized terms or the acceptance of economic inequality.

Despite the null results concerning the effect of effort (vs. talent) on support for progressive taxation, the perception of effort as more controllable than talent may have implications for the perceived fairness and equity of the meritocratic system. Moreover, and in line with Study 3b, we also found that the effect of meritocracy as effort on increased perception that what happens in one's life is beyond one's control was mediated by increased perception of upward social mobility.

Taken together, Studies 3a, 3b, and 3c shed light on the role of meritocracy endorsement in hindering wealth redistribution support. The effect of meritocracy is consistent across diverse samples and methodological approaches (both cross-sectional and experimental). Meritocracy endorsement is linked to an increased perception of upward social mobility and an enhanced sense of personal control over life, aligning with prior research (e.g., McCoy et al., 2013; Day & Fiske, 2017), particularly when framed in terms of personal effort as opposed to innate talent. This perceived sense of control subsequently translates into reduced support for wealth redistribution policies, assessed in our case through progressive taxation. Nonetheless, we did not find differences between conditions regarding the distinction between talent and effort components, potentially indicating that a) the concept of meritocracy, irrespective of its specific talent and effort components, predicts diminished support for progressive taxation; b) progressive taxation represents a very specific redistribution strategy, and as observed in earlier chapters, its support is influenced by numerous factors, which could have overshadowed the (minor) effect of the talent-effort distinction. Future studies could employ more generic

measures of wealth redistribution support or measure potential confounding variables to garther more precise results.

These results are in line with a System Justification (Jost et al., 2011) approach as meritocracy have a strong content of legitimization. Indeed, the perception that the system is meritocratic, and therefore, fair, undermines the perception of economic inequality, enhancing its acceptability and hindering support for wealth redistribution, as no top-down "adjustment" is needed in a fair society.

Despite the insights gained, these studies are not without limitations. Firstly, Studies 3b and 3c were conducted within a fictional societal context, thereby potentially constraining their ecological validity. Nonetheless, the congruence of results across Study 3a lends credence to their reliability. Moreover, in Study 3c, participants were randomized only between effort and talent conditions, omitting a potential third condition—namely, a non-meritocratic society (in line with Study 3b). Future research could replicate the findings by incorporating this additional experimental condition. Furthermore, the 4 items employed to assess sense of control exhibited scarce reliability. Consequently, future studies may replicate our findings using a more reliable measure (or the full scale developed by Lachman & Weaver, 1998) to assess this construct.

Regarding the practical applications of this line of research, the obtained results could inform the development of communication strategies that portray economic inequality as a consequence of external factors, such as family socioeconomic background, upbringing environment, and luck. These strategies could counteract the meritocratic aspiration for social advancement, which, as demonstrated, not only holds limited likelihood to happen, but also serves as a legitimizing mechanism for accepting and perpetuating inequalities.

Chapter 6. The role of Communication[6]

Research highlights that, although taxes generate public value and promote overall social welfare by ensuring service provision (Castiglioni et al., 2019), tax payment is a social dilemma that entails a tension between what seems best for the individual and what is best for the community (Dawes, 1980). This dilemma is typically solved in favor of the individual, with attitudes toward taxation being generally skewed toward the aversion pole (Soman & Gourville, 2001; Gangl et al., 2016; Saad, 2014; McKerchar, 2010). Such tax aversion includes not only the (un-)willingness to pay taxes personally but also the reluctance to increase taxes for others (e.g., the rich in the case of progressive taxation). Besides self-interest (e.g., current or expected socioeconomic status; Brown-Iannuzzi et al., 2021; Dawtry et al, 2015; Kim & Lee, 2018), literature also focused on other processes that can hinder support for wealth redistribution, such as system-justifying myths (Hennighausen & Heinemann, 2015) and contextual factors (e.g., perceived economic inequality; Salvador Casara et al., 2022; Brown-Iannuzzi et al., 2021). Surprisingly little attention has been dedicated to framing, that is to the way in which such policies are presented to citizens.

As Lewis (1982) suggested, theories and methods of social psychology can be functional to taxation research, an area he called "fiscal psychology". Here we bring the contribution of social psychology by analyzing how the way progressive taxes are communicated influences attitudes. Indeed, language shapes people's attitudes and behaviors related to a variety of outcomes (Maass et al., 2014; Winter et al., 2021; DeFranza et al., 2020), including the way people perceive economic inequality and react to wealth redistribution (Dietze & Craig, 2020). For this reason, we posit that language can help understand the apparent contradiction between people's desire for a more equal society (Norton & Ariely, 2011; Kelley & Zagorski, 2004) and

their scarce support for concrete wealth redistribution strategies (Lupu & Pontusson, 2011; Jost, 2017). This psychological approach complements the economic and political science approaches that have long dominated public policy research by investigating whether the way taxes are communicated to the general public may inadvertently contribute to general tax aversion (Lewis, 1982). In line with the framing theory, the way we communicate prompts a particular interpretation of the world, ultimately affecting people's perceptions of issues and events (Tversky & Kahneman, 1981).

Preliminary evidence for the effects of message framing in the realm of taxation comes from McCaffery and Baron (2006). The authors demonstrated that during the evaluation of tax systems, participants were vulnerable to a wide range of heuristics and biases that sometimes led them to make incoherent and arbitrary assessments and judgments. Specifically, people were found to be susceptible to linguistic frames, preferring hidden taxes to transparent ones without considering who would ultimately pay for them. Also, social frames and normative messages about compliance are effective in boosting positive attitudes toward taxes (Cullis et al. 2012; Fonseca & Grimshaw, 2017). Particularly relevant for the present work are Hallsworth and colleagues' (2017) natural field experiments that highlight that people are more willing to pay taxes on time when they are exposed to messages that stress the importance of taxes in funding public services that benefit everyone. Compliance may therefore be motivated by the perception of tax importance, expressed in terms of its aims (e.g., provision of public services; reducing the gap between rich and poor, Alm et al., 1992). Here we argue that the importance assigned to progressive taxation comes from how this system is perceived. What kind of communication is suitable to make people realize the value of progressive taxation?

We think that explicit reminders of tax importance run the risk of arousing reactance, whereas more subtle forms of communication may be better suited to shift people's attention towards the beneficial aims of taxation. We, therefore, focus on a specific type of frame that

pertains to the aims of taxation and is related to construal level (CL), namely the psychological distance at which taxes are perceived. Moreover, we address attitudes towards tax-based redistribution (rather than tax compliance), given their central role in wealth redistribution.

Framing Taxation: The Role of Construal Level

Construal Level Theory (CLT; Liberman & Trope, 2003) describes how information is processed. CL is described as low when people mentally envisage an object in a specific way and form a more detailed and analytical representation of it, and as high, when people construe it in generic terms and form an abstract and schematic representation of it, hence focusing on the big picture (Smith & Trope, 2006; Dhar & Kim, 2007; Förster et al., 2004). Any issue can be framed at a low and concrete vs. high and abstract CL, roughly corresponding to the metaphor of "seeing the trees vs. the forest" (Dhar & Kim, 2007). Additionally, the level of abstraction used to mentally construe the issue is associated with a congruent psychological distance, with psychologically closer objects (a friend, an ingroup member, an event close in space or time) being envisaged in a more concrete way than psychologically far objects (a stranger, a hypothetical situation, an event far in space or time). Congruently, the CL influences subsequent judgments and attitudes towards an object (Ledgerwood, 2010; Liberman et al., 2007; Trope & Liberman, 2000; Trope, 2004).

At first sight, the literature addressing the mental construal of taxation has produced mixed results. In Roberts et al.'s (1994) research, American participants were more supportive of progressive (vs. flat) taxation when it was presented in abstract (vs. concrete) terms. Baron and McCaffery (2005) found that focusing on generic (vs. specific) categories of spending increased tax aversion. However, Edlund (2003), did not find any difference in terms of abstraction framing in Sweden, and Baron and McCaffery (2005, Experiment 1) did not find any difference in terms of time framing in the US.

Such inconsistencies in the literature may be reconciled by carefully inspecting which frames were used and considering that various frames may interact. In particular, we here propose a distinction between frames inducing temporal distance and frames stressing the generic (vs. specific) aspects of taxation.

In line with Bolognesi and colleagues (2020), we define taxes as abstract mental objects that vary in degrees of *specificity*. We can, for example, talk about "taxes" in general, or about specific types of taxes such as "VAT", "income tax", or "inheritance tax". This is relevant because generic (vs. specific) descriptions of an object, which, presumably, elicit higher levels of construal, are likely to shift people's attention toward the superordinate purpose of an action or event (Trope & Liberman, 2010), possibly resulting in more positive attitudes. This is in line with research showing that, under high levels of construal, attention shifts towards the positive aspects of an event or behavior (Williams et al., 2014), generating more favorable attitudes towards the object. Applied to taxation, the general aims of progressive taxes (such as providing high-quality public services and redistributing wealth) may become more salient when talking about taxes in general terms rather than about specific types of taxes (e.g, VAT, income or inheritance tax). As a consequence, people should consider taxes in the general sense as more useful and important than specific instances of taxes. In line with this argument, individuals commonly favor principles that are expressed in generic terms, such as "equality" or "sustainability", rather than their specific operationalization. In fact, abstract values are often considered key features of one's personal identity (Burger & Bless, 2016). Despite this, the support for these abstract principles rarely translates into support for specific policies. As a case in point, wealth redistribution may receive widespread support in theory, but its popularity decreases when specific taxes are imposed (Kallbekken et al., 2011; Roberts et al.,1994).

A similar argument can be made for the other frame considered here, namely *temporal distance* (for example taxes framed as temporally close vs. far in time, e.g., Baron & McCaffery,

2005), although evidence is less coherent in this case. Some studies show that people are more likely to generate positive arguments and less likely to generate negative arguments when an event or action is distant (rather than close) in time (e.g., Eyal et al., 2004; Herzog et al., 2007), resulting in more positive attitudes towards the distant object. However, other studies find that temporal distance reduces the intensity of positive or negative affect (rather than affecting the valence), resulting in a polarization effect (e.g., Williams et al. 2014). Thus, it is less clear whether taxes described as far (rather than close) in time will indeed gain more support.

A further perspective considers the potential interaction between sources of CLs. In line with this reasoning, previous evidence on charity promotion showed a fit effect between the framing of the persuasive message and the recipient of the charity (Fujita et al., 2008). Participants donated more when the message and charity target were both framed at a high or at a low CL. Considering taxation, people may find it easier to envisage specific taxes (e.g., VAT) close in time (e.g., now or in the near future) and generic taxation in the remote future, than vice versa.

The literature, therefore, suggests three different pathways linking abstraction to positive attitudes toward taxes. First of all, messages referring to taxes generically (rather than to specific types of taxes) may reduce tax aversion by emphasizing the general utility and importance of taxation (Liberman & Trope, 1998; Dhar & Kim, 2007) and, hence, possibly shifting the self vs. collectivity tension toward the collectivity pole (Path 1).

A second path that may associate abstraction with lower tax aversion implies that messages construed with high temporal distance reduce tax aversion because they enhance the psychological distance from the generally disliked object (taxes), making the personal costs associated with taxation more acceptable, as the threat of paying is delayed (Fishbach & Dhar, 2005; Todorov et al., 2007) (Path 2).

A third possibility is represented by the fit effect (Path 3), with abstract and distal frames expected to be as effective as concrete and close frames (and both more effective than the other two combinations) because of the reduced elaboration costs in processing congruent messages (Fujita et al., 2008).

In order to test the outlined pathways, construals in terms of generality and temporal distance need to be disentangled.

Aim of Studies 4a, 4b and 4c

Across four experimental studies, we investigated the relationship between the CLs at which progressive tax proposals are framed and people's support for progressive taxation. Specifically, we tested the aforementioned three alternative paths to explain the influence of CL on support for progressive taxation.

In Studies 4a and 4b, we analyzed the effect of tax proposals described as generic (vs. specific) and far (vs. close) in time through an experimental paradigm.

In Study 4c, we further analyzed the functioning of a generic (vs. specific) frame by disentangling it from the explicit mention of aims. To this end, we asked participants to evaluate a set of progressive tax proposals described as generic (vs. specific) and by mentioning (vs. not) their overarching aim of decreasing economic inequality. Further, we tested the effect of the perception of importance of the tax proposals as a possible mediator.

In Experiment 4d, we addressed the still incomplete puzzle of the effect of generic communication on the increased importance attributed to progressive taxation by investigating the underlying process: are taxes communicated in a generic way preferred because of a general aversion to taxes, or because people envisage a systematic change involving the whole taxation system?

Studies 4a and 4b

In Studies 4a and 4b, we investigated the effect of CL on people's attitudes towards progressive taxation using a 2x2 paradigm: taxes proposed in the context of a fictitious society were framed at different points in time (close or far) and described in a specific or generic way. Study 4b followed the same methodology as Study 4a, but the tax proposals were placed in the actual socio-economic context of the respondents (Italy, at the beginning of 2022), to increase the ecological validity of the study. For this reason, we present them together. Study 4b had been pre-registered on the platform AsPredicted.com (link: https://aspredicted.org/RGN_ZMX).

We hypothesized that:

1) Tax proposals presented in generic terms (Path 1) would gain more support than other proposals.

2) Tax proposals presented far in time (Path 2) would gain more support than other proposals.

3) Tax proposals that included a fit between the time frame and the genericity of tax proposals (Path 3) would gain more support than other proposals.

Method

Participants

Study 4a. The questionnaire was completed by 172 Italian participants (106 female; 65 male; 1 non-binary). Age ranged from 18 to 63 years ($M = 32.494$, $SD = 11.83$). For a complete description of the sample see Table 2 in the supplementary materials. A sensitivity analysis conducted with G*Power showed that a sample size of 172 participants (with alpha .05 and power .90) would detect an effect size of $f = .29$ in an ANOVA comparing four groups.

Study 4b. Participants were Italian adults recruited through the platform Prolific.co paid £8/hour. After excluding participants who had no current or prior experience with paying taxes,

our final sample included 350 participants (169 women, 177 men, 4 non-binary) with ages ranging from 19 to 65 ($M = 32.63$; $SD = 10.12$). The minimal sample size had been determined through *a-priori* power analysis using G*power. To detect an effect size of $f = .25$, alfa err prob = .05, and power = .90 we needed a minimum of 355 participants.

Procedure. Participants were provided with a brief explanation of progressive taxation. Subsequently, they were randomized into 1 of 4 experimental conditions, in which we manipulated temporal distance (near vs. far) and generality (specific vs. generic) of four progressive tax proposals using a 2x2 between-participants experimental design. Participants were then asked to provide their degree of agreement with each of the presented tax proposals and to answer questions related to demographic characteristics.

Experimental Conditions. Participants were asked to start a new life in a fictitious society, called Perino, described as having typically Western characteristics. They were then told that Perino's taxes guaranteed the maintenance of various public services, as in our society. To improve the realism of the procedure, after asking participants to imagine starting a new life in Perino, we invited them to make basic choices for their new life, such as buying a house, a means of transportation, and a possible holiday (for a similar procedure see Jetten & Postmes, 2015).

Subsequently, each participant was randomized to one of four experimental conditions (generic-close, specific-close, generic-far, or specific-far). Each condition contained four progressive tax proposals of the same type (for instance, all specific-close) that participants were asked to rate. Thus, the design was a 2 (generic vs. specific) x 2 (close vs. far) between participants.

The experimental material consisted of four generic and four specific tax proposals, to be implemented either close (2021) or far (2046) in time, as shown in the following example: "By 2021 [2046], the Government of Perino will apply tax rates and brackets in proportion to per

capita income" (close [far] and generic), "By 2021 [2046], the Government of Perino will make the VAT of electronic payments deductible on a progressive basis, according to the per capita income of each citizen" (close [far] and specific). As specific taxes, we selected VAT, TARI (Italian tax on waste), prescription charge, and vehicle tax. In Study 4b, we grounded the proposed taxes in participants' actual society, to further test the effect of psychological distance in a more realistic paradigm.

Measures

Agreement with Tax Proposals. As dependent variable, we assessed participants' agreement with each of the tax proposals presented ("For each proposal that follows, please move the slider based on how much you agree with the proposal" - from 0 = strongly disagree to 100 = strongly agree; α = .76.). The mean of the four tax proposals was used as a single variable to conduct data analysis.

Demographics. We assessed participants' gender (male, female, non-binary), age, educational level, working status, political orientation, family income, subjective social class (see Chapter 2 for the analysis related to these variables), and meritocracy endorsement ("Resources should be allocated primarily on the basis of…" on a slider from 0 = need to 100 = merit).

Results

The Effect of Condition on Support for Progressive Taxation

To compare the effect of the experimental manipulation on agreement with progressive tax proposals, we ran a 2 (specific vs. generic) x 2 (close vs. far in time) between-participants ANOVA with agreement with tax proposals averaged across the four proposals as dependent variable. In Study 4a participants agreed more with the generic (M = 80.69; SD = 16.33) than with the specific tax proposals (M = 55.89; SD = 24.94), F (1, 168) = 19.729, p = <.001, η^2_p = 26 (Figure 27). Study 4b replicated this result F (1, 346) = 25.27, p < .001, η^2_p = .07) (see Figure 28), with participants preferring taxes when described in a generic (M = 73.16, SD = 24.00)

rather than specific *M* = 58.06, *SD* = 31.65) way, thus supporting Path 1 (see post-hoc tests in the supplementary materials, Table 3). No other effects were significant (both *F*'s < .90, both *p*'s > .34). The effect remains the same after controlling for demographic variables, political orientation, and meritocracy endorsement. No other main or interaction effect was found.

Figure 27

The effect of condition on attitudes towards progressive tax proposals. Score range from 0 = negative attitude to 100 = positive attitude
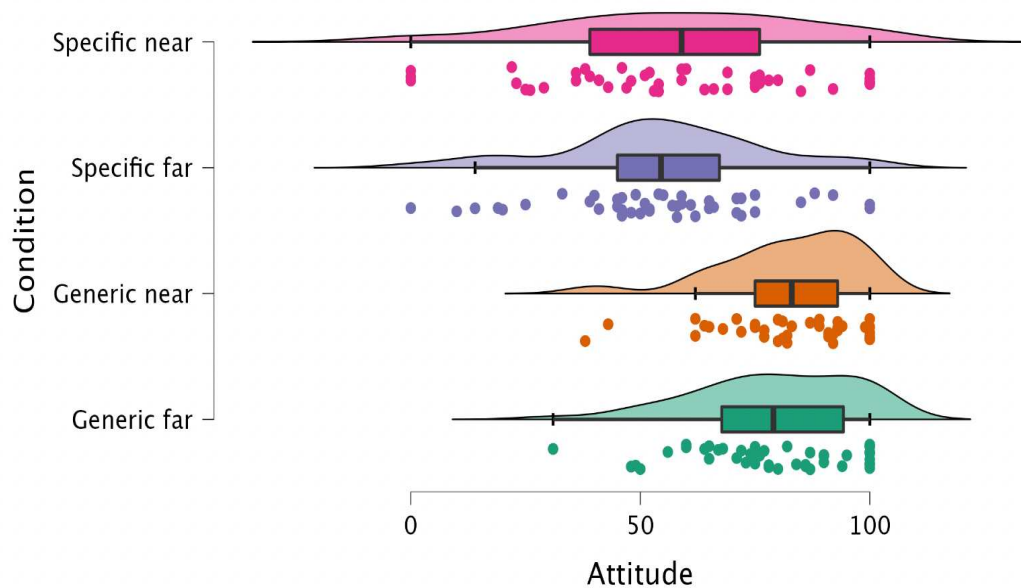
Figure 28

The effect of condition on tax attitudes. Score range from 0 = negative attitude to 100 = positive attitude.
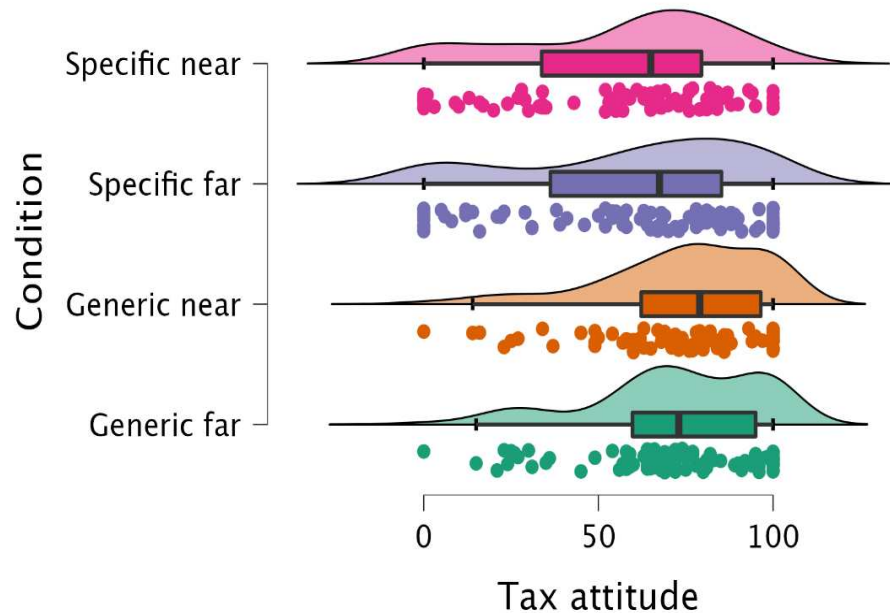
We then ran a set of linear mixed models to test the possible moderating effects of political orientation and meritocracy endorsement. No interaction effects emerged, (all $F < .48$; $p > .33$), but only main effects of political orientation $F(1, 343) = 41.35$, $p < .001$, $\eta^2_p = .11$ and meritocracy endorsement $F(1, 343) = 22.79$, $p < .001$, $\eta^2_p = .06$ on tax attitudes. Those holding more rightwing political attitudes and those believing in meritocracy more strongly were less likely to support the tax proposals, according to results described in Chapter 3 concerning the effect.

Discussion

Congruent with the hypothesized Path 1, Study 4a provided evidence that people preferred a generic description of taxes. No effects were found concerning the temporal distance at which the tax proposal would be implemented (Path 2). Path 3 foresaw a fit effect between the two construal sources, which was not supported by the data. In Study 4b, we corroborated the evidence found in Study 4a with a larger sample and with progressive tax proposals referring to

the Italian tax laws, thereby enhancing the ecological validity of our findings. Study 4b confirmed that people endorse tax proposals more when described in generic, instead of specific terms. Despite this, the psychological process behind this effect remains unclear. This limitation is addressed in Studies 4c and 4d.

Study 4c

In both Study 4a and 4b, a general frame was effective in mitigating resistance to progressive taxation, providing support for Path 1. Pragmatically speaking, the discussion about progressive taxation should also entail specific taxes, as only through actual and concrete implementations can policy-making exercise its redistribution effects. Consequently, the evaluation of whether specific frames can be adapted to render them more acceptable to individuals becomes a pivotal endeavor. According to our argument, the positive effect of generic frames may be driven by the fact that they stimulate a greater focus on the "why" question — in our case, the broader aims of taxation (see CLT, Trope & Liberman, 2010) —. If this were the case, the negative effect of specific taxation should be reduced through an explicit acknowledgment of taxation's scope.

In Study 4c, we designed an independent manipulation of whether proposed taxes are defined in generic vs. specific terms, and whether the aim of progressive taxes is explicitly mentioned or not. If generic tax framing automatically activates the aims, the latter manipulation should be relatively irrelevant for participants exposed to generic framing. However, those exposed to specific taxes should endorse them mainly when the aim is made explicit.

Moreover, we tested whether perceived importance may explain why generic tax proposals were endorsed more than specific ones. If generic tax proposals activate the superordinate goals of progressive taxation (for instance, redistribution and provision of quality

services to everybody), then they should be perceived as more important and, as a consequence, endorsed more.

In line with results found in Studies 4a and 4b, we hypothesized that tax proposals presented in generic terms would gain more support than other proposals (H1). In addition, we tested whether a focus on tax aims would mitigate the negative effect of the specific description of tax proposals. We hypothesized that tax proposals described in specific terms, but with a focus on their aims will receive more support than the ones without any focus on aims, whereas we expected no difference between aim vs. no aim for generic taxes that are expected to activate broader aims in people's minds even when not stated explicitly (H2).

Method

Participants. Participants were Italian adults recruited from the general population, who voluntarily completed an online questionnaire on the platform Qualtrics. The survey was distributed using the same strategy as in Study 4a. After excluding participants who did not complete the survey and those who were not employed, our final sample included 373 participants (221 women, 151 men, 1 non-binary), with ages ranging from 19 to 83 ($M = 43.94$; $SD = 12.04$; for a complete description of the sample see Table 2). The minimum sample size (355) was determined through a power analysis using G*Power, based on results found in Experiments 1 and 2: effect size $f = .20$, alfa err prob = .05, Power = .90.

Procedure. The procedure was similar to that of Studies 4a and 4b, but with some important differences. Here, we manipulated the psychological distance of a tax in terms of specificity (generic vs. specific) and aims (focus on aims vs. no focus on aims). As dependent variables, we assessed participants' agreement with the tax proposals presented. As a potential mediator, we measured participants' perceived importance of the tax to be introduced. We then measured the same demographic variables assessed in Study 4a and 4b and as control variables perceived complexity and concreteness ("To what extent do you believe the policies presented above are

complex/concrete?", from 0 = *not complex/concrete at all to 100 = very complex/concrete*).

These questions were inserted to exclude potential effects of perceived complexity or concreteness.

Experimental Conditions. Each of the tax proposals presented in random order was created by combining one of two levels of each of two predictors, with a total of 4 conditions (between-participants design): 1. generic + aims (*"The Italian government will apply tax rates and brackets in proportion to per capita income, in order to guarantee equal economic conditions to the whole population"*); 2. generic+no aims (*"The Italian government will apply taxes rates and brackets in proportion to per capita income"*); 3. specific + aims (e.g., *"The Italian government will make the VAT (additional percentage on the price of a purchased good) of electronic payments deductible on a progressive basis, according to the per capita income of each citizen, in order to guarantee equal economic conditions to the whole population"*); 4. specific + no aims (*"The Italian government will make the VAT (additional percentage on the price of a purchased good) of electronic payments deductible on a progressive basis, according to the per capita income of each citizen"*). Participants were presented with one of four conditions in which they had to rate their personal opinion on three tax proposals. In the specific tax condition participants were provided with three different types of specific taxes, namely VAT, TARI (rubbish collection and street cleaning), and prescription charge. In the generic tax condition, they rated three similar statements, all referring to progressive taxes generically.

Measures

Tax Attitudes (α = .80) and demographics were assessed as in Studies 4a and 4b.

Perceived importance. Perceived importance was measured with two items ("To what extent do you believe the policies presented above are useful?"; "To what extent do you believe the policies presented above are important?", from 0 = *not useful/important at all to 100 = very*

useful/important). Given the high correlation between the two items ($r = .79$), we used the mean for data analysis.

Results

The Effect of Tax Description on Tax Attitudes

A 2 (specific vs. generic) x 2 (aim: explicit vs. not) ANOVA, with agreement with tax proposals as dependent variable, revealed a main effect of the generic vs. specific proposal on attitudes, $F(1, 371) = 67.15$, $p < .001$, $\eta^2_p = .15$, (see Figure 29). Participants agreed more with the tax proposal when described in a generic ($M = 77.39$; $SD = 25.23$) rather than specific way ($M = 52.84$; $SD = 31.45$), thus supporting the hypothesized Path 1 and the results found in Studies 4a and 4b. Specifically, post-hoc analysis with Tukey revealed that a generic description of the taxes is preferred to a specific one regardless of whether or not it includes a focus on the purpose of the tax proposal (see Table 4 in the supplementary materials). Results remained robust also after controlling for demographic characteristics. Contrary to predictions, no interaction effects were found. We also did not find significant differences between conditions concerning perceived concreteness nor complexity (both Fs < 1, both $p > .35$).

Figure 29

The effect of condition on opinion toward tax proposals.
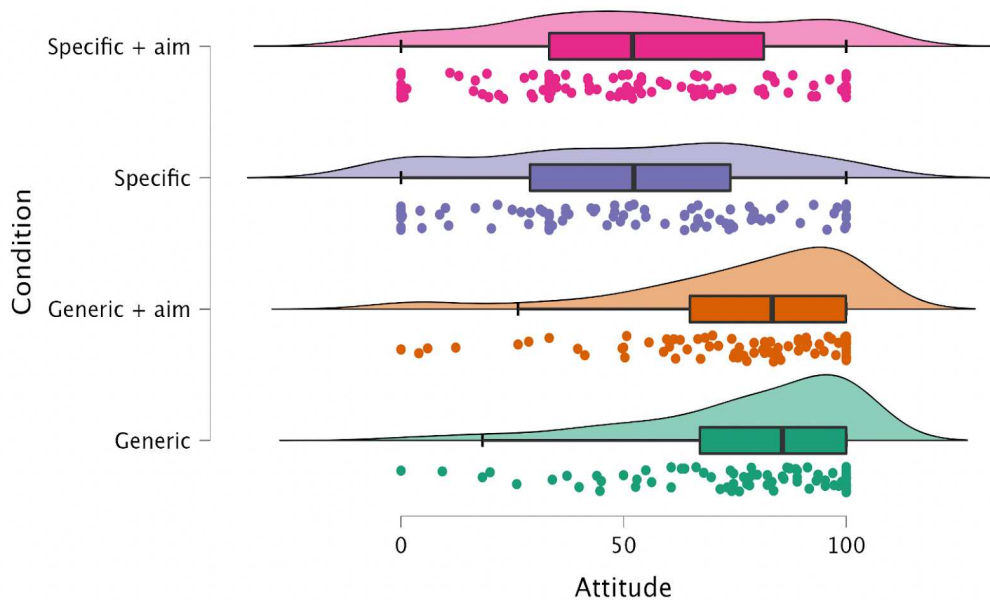
Mediation Analysis

In order to test whether perceived importance explained the effect of generic description on attitudes, we ran a mediation analysis using the software JASP (JASP Team, 2020) with bootstrapping for 5,000 resamples and 95% confidence intervals (Preacher & Hayes, 2008). As shown in Figure 5, we found a significant indirect effect of generic description of taxes on attitudes towards progressive taxation via perceived importance of tax proposals, $b = .32$ ($SE = .06$), 95% CI [0.21; 0.45], $p < .001$. The direct effects remained significant, $b = .46$ ($SE = .08$), 95% CI [0.30; 0.62], $p < .001$, suggesting a partial mediation. Total effects $b = .78$ ($SE = .06$), 95% CI [-0.61; 0.97], $p < .001$, see Figure 30. That is, generic description of progressive taxes enhances their perceived importance, which, in turn, increases positive attitudes towards them.

Figure 30

Path model representing the relationship between a generic description of progressive taxes and attitudes towards them mediated by perceived importance. Standardized coefficients are presented. Solid arrows and asterisks indicate significant paths. Asterisks indicate p < .001. Numbers in brackets indicates direct effects.
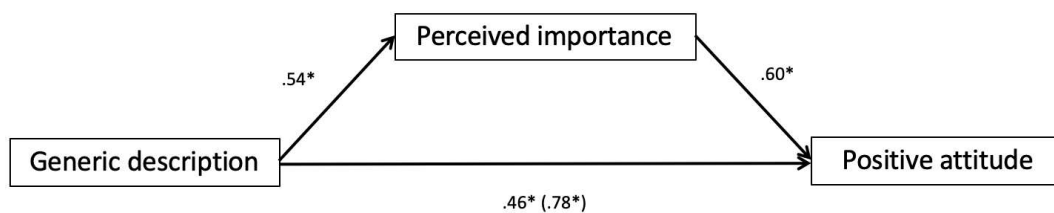
Discussion

Study 4c confirmed that a generic description of progressive taxes engenders more positive attitudes than a specific one, supporting prior research by Roberts et al. (1994). Importantly, in line with predictions, this was mediated by the perceived importance of the proposed tax. Thus, the generic (vs. specific) description of taxes enhanced the perception of taxation as useful and important, which in turn produced more positive attitudes towards the proposed progressive tax. With reference to CLT, one interpretation is that generic framing activates the superordinate aims of an action or event (Trope & Liberman, 2010). Especially in the case of taxation, the understanding of the purpose (create equal economic conditions to the whole population) is likely to improve attitudes towards taxation as attention shifts from (individual) loss to (collective) gain. However, this interpretation is not supported by Study 4c, given that explicating the aims of taxation proved to be an irrelevant component of the message. An alternative and possibly more pragmatic explanation is that changing a single constituent of the tax system (e.g., VAT only) will have a very limited impact on society. Whereas changing the tax system proposes a broader policy, likely involving multifaceted elements such as income,

corporate, payroll taxes, capital gains taxes, sales, value-added, estate, and inheritance taxes. Thus, in Study 4d we aimed at identifying the exact process that leads people to consider "taxes" in a generic sense as more useful and important than their specific constituents.

Study 4d

Aim and Hypotheses

In line with the results found in Studies 4a, 4b, and 4c, here we aimed at identifying the process underlying people's preference for a generic description of progressive taxes. Specifically, we hypothesized two alternative explanations. The first one concerns the general reluctance around taxation that would be avoided by using a generic description of taxes instead of naming specific taxes, possibly evoking negative attitudes (H1). The second concerns the fact that the generic description of taxes could activate in people's minds a more radical change, therefore involving the whole tax system (H2).

Method

Participants. Participants were Italian adults recruited from Prolific.co, who completed an online questionnaire on the platform Qualtrics. After excluding participants who did not complete the questionnaire and those who were not employed our final sample included 353 participants (171 women, 175 men, 7 non-binary), with ages ranging from 20 to 60 ($M = 33.14$; $SD = 9.22$; for a complete description of the sample see Table 2 in the supplementary materials). The minimum sample size (355) was determined through a power analysis using G*Power, based on results found in Studies 4a, 4c, and 4c: effect size $f = .20$, alfa err prob = .05, Power = .90.

Procedure. The procedure was similar to that of the previous experiments but with some changes. First of all, participants were presented with a short task in which they were asked to indicate whether they associated each statement with an unpleasant or pleasant feeling, on a scale from 1 to 100. The word list included specific and generic tax-related words (e.g.,

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progressive tax, taxation, IVA, IRPEF, TARI). After this, we manipulated the psychological distance of a tax in terms of specificity (generic vs. specific) and the quantity of taxes involved in the system (single tax vs. multiple taxes, only for the specific tax). As dependent variables, we assessed participants' agreement with the tax proposals presented, and their likelihood to vote for this proposal. Perceived importance was again measured as a possible mediator. We also measured perceived efficacy to reduce inequality of the proposal and the degree to which participants perceived the proposal to have a systematic impact. We then measured the same demographic variables assessed in Studies 4a, 4b, and 4c.

Experimental Conditions. We created three experimental conditions between participants in which the participant read only one of three tax proposals. The first two tax proposals were identical to those in Study 4c (generic and specific conditions without aim). However, we added a third condition, representing a specific progressive proposal, but containing many taxes (Tari, VAT, car tax, health ticket).

Measures

Tax Attitudes (α = .80) and demographics were assessed as in Studies 4a, 4b, and 4c.

Perceived Importance. Perceived importance was measured with one single item ("To what extent do you believe the policies presented above are important and useful?" from 0 = *not useful/important at all to 100 = very useful/important*).

Perceived Efficacy to Reduce Inequality. Perceived efficacy to reduce inequality was measured with one single item ("In general, how effective do you think this tax reform can be in reducing the gap between rich and poor people?" from 0 = *not effective at all to 100 = very effective*).

Perceived systematic change on society. Perceived systematic change on society was measured with one single item ("In general, how much do you think this proposal has a general and systematic impact on society?" from 0 = *not at all* to 100 = *a lot*).

Likelihood of voting for a party that promotes that tax proposal. Likelihood of voting for a political party that promotes that tax proposal was measured with a single item ("How likely is it that you would vote for this proposal?" from 1 = *not at all likely* to 100 = *very likely*).

Results

People Prefer General Description of Taxes Only if it Involves Progressive Taxation

As preliminary analysis, we explored results concerning the thermometer measure that we presented to participants before the manipulation. Results of two paired-samples t-tests revealed that participants prefer more specific description of taxes such as "IVA"; "IRPEF" (*M* = 33.99, *SD* = 15.09) compared to general statements, such as "taxes"; "taxation", *M* = 29.99, *SD* = 16.95, *t* = -6.09, *Cohen's d* = .32, *p* <.001. This effect was opposite when included general statements on progressive taxation, such as "progressive taxation"; "progressivity", *M* = 37.29, *SD* = 16.31, *t* = 4.70, *Cohen's d* = .25, *p* <.001, highlighting a general preference for progressive taxation, rather than taxes in general.

The Effect of Condition on Perceived Efficacy to Reduce Inequality, Perceived Systematic Change, and Perceived Importance of the Tax Proposals

To test our two contrasting hypotheses, we ran a set of repeated measures ANOVAs, with condition as predictor and each of the variables related with attitudes (attitude, likelihood to vote, importance, efficacy and systematic change) as dependent variables. As represented in Figure 31, results revealed that people perceived general description of taxes (*M* = 59.44, *SD* = 22.38) and specific description of taxes including multiple taxes (*M* = 59.90, *SD* = 25.73) as more effective to reduce economic inequality, compared to specific description of a single tax (*M* = 50.27, *SD* = 26.18), $F(2, 704) = 35.40$, $\eta_p^2 = .09$, $p < .001$. Post-hoc tests with Holm correction (wich is more appropriate for repeated measures post-hoc tests; Maxwell, 1980; Field, 2012) showed no difference between general description and description of multiple taxes ($p_{holm} > .70$).

Figure 31

Means of perceived efficacy to reduce inequality of progressive tax proposals between conditions.
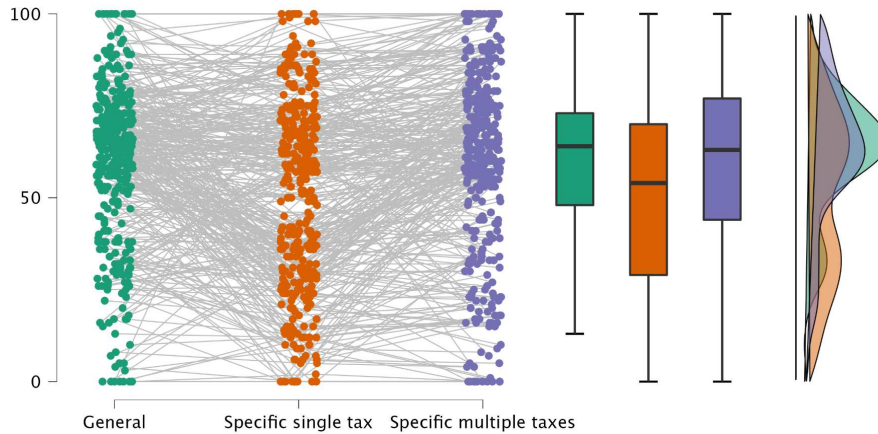
In line with this, people perceived general description of taxes ($M = 64.21$, $SD = 21.98$) and specific description of taxes including multiple taxes ($M = 59.16$, $SD = 26.03$) as more important, compared to specific single tax proposals ($M = 53.42$, $SD = 25.30$), $F(2, 704) = 40.81$, $\eta_p^2 = .10$, $p < .001$ (see Figure 31), and more able to induce a systematic change ($M_{general} = 61.29$, $SD_{general} = 20.51$; $M_{multiple\ taxes} = 64.11$, $SD_{multiple\ taxes} = 24.42$; $M_{specific} = 55.90$, $SD_{specific} = 25.50$), $F(2, 704) = 21.80$, $\eta_p^2 = .06$, $p < .001$ (see Figure 32). Concerning perceived importance, post-hoc tests showed that all the tax proposals (general, specific with multiple taxes, and specific with a single tax) differ between each other, with generic tax proposals being perceived as the most important, compared to both specific tax proposals with single ($t = 9.03$, $SE = 1.19$, $p_{holm} < .001$) and multiple ($t = 4.22$, $SE = 1.19$, $p_{holm} < .001$) taxes. Concerning perceived systematic impact (Figure 33), post-hoc tests showed that all the tax proposals differ between each other, with specific tax proposals with multiple taxes being perceived as the ones having the bigger systematic impact, compared to both specific tax proposals with single taxes ($t = 6.50$, $SE = 1.26$, $p_{holm} < .001$) and generic tax proposals ($t = 2.23$, $SE = 1.26$, $p_{holm} = .03$).

Figure 32

Paired-samples t-test comparing conditions on perceived importance of progressive tax proposals.
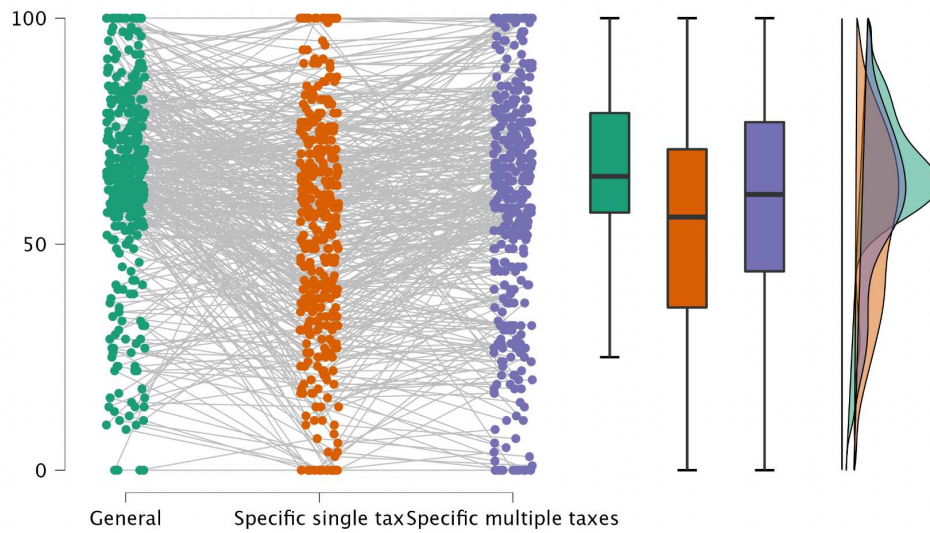
Figure 33

Paired-samples t-test comparing conditions on perceived systematic impact of progressive tax proposals.
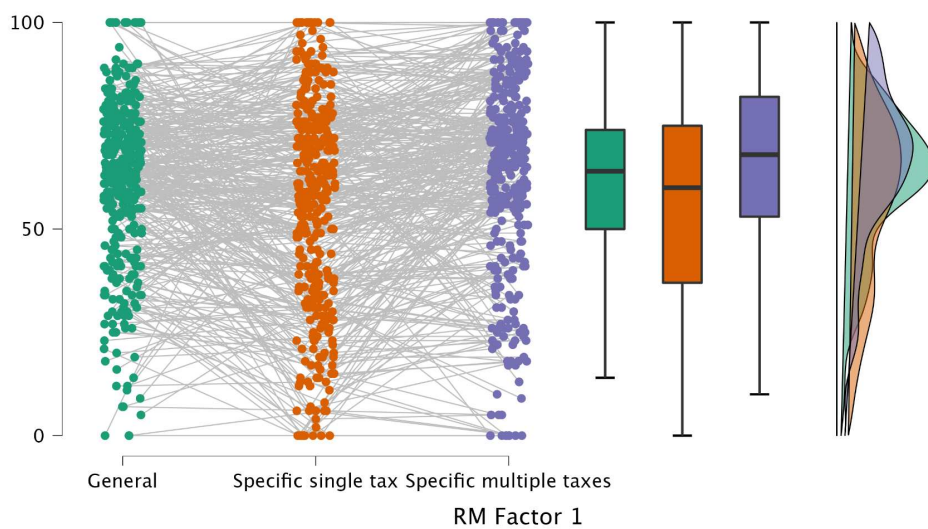
The Effect of Condition on Attitudes and Likelihood to Vote

As represented in Figure 34, results revealed that people have better attitudes towards progressive taxation when described in general terms ($M = 67.18$, $SD = 24.12$) than when described in specific terms using multiple taxes ($M = 58.22$, $SD = 28.90$) and single taxes ($M = 53.85$, $SD = 28.91$), $F(2, 704) = 50.94$, $\eta_p^2 = .13$, $p < .001$. Post-hoc tests showed that all the tax proposals differ between each other, with general tax proposals eliciting a more positive attitude towards progressive taxation compared to both specific tax proposals with single ($t = 9.90$, $SE = 1.35$, $p_{holm} < .001$) and multiple ($t = 6.66$, $SE = 1.35$, $p_{holm} < .001$) taxes.

Figure 34

Paired-samples t-test comparing conditions on attitudes towards progressive tax proposals.
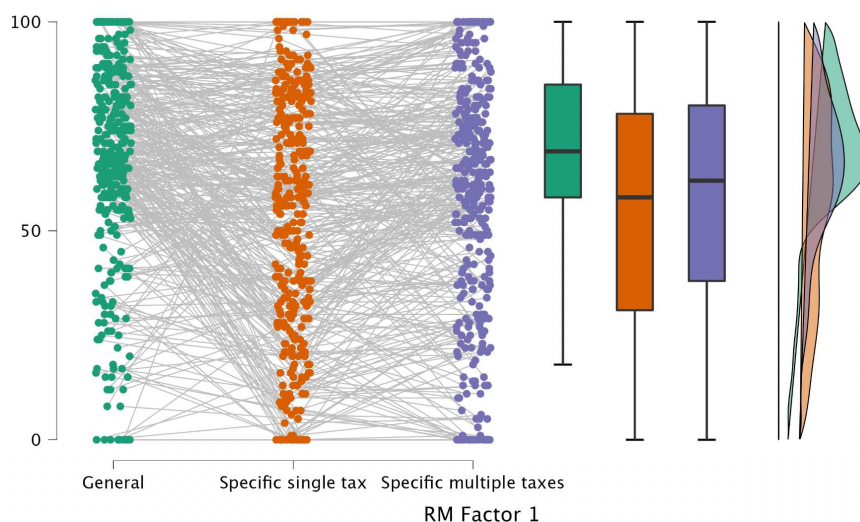
Concerning likelihood to vote for a party proposing these taxes (see Figure 35), we found similar results, with people being more likely to vote for a party describing progressive taxes in general terms ($M = 66.69$, $SD = 26.14$) than when described in specific terms using multiple taxes ($M = 57.02$, $SD = 30.98$) and single taxes ($M = 53.55$, $SD = 30.91$), $F(2, 704) = 43.70$, $\eta_p^2 = .11$, $p < .001$. Post-hoc tests showed that all the tax proposals differ between each other, with people being more inclined to vote for a party describing progressive taxes in general terms, compared to both specific tax proposals with single ($t = 9.02$, $SE = 1.46$, $p_{holm} < .001$) and multiple ($t = 6.64$, $SE = 1.46$, $p_{holm} < .001$) taxes.

Figure 35

Paired-samples t-test comparing conditions on likelihood to vote.
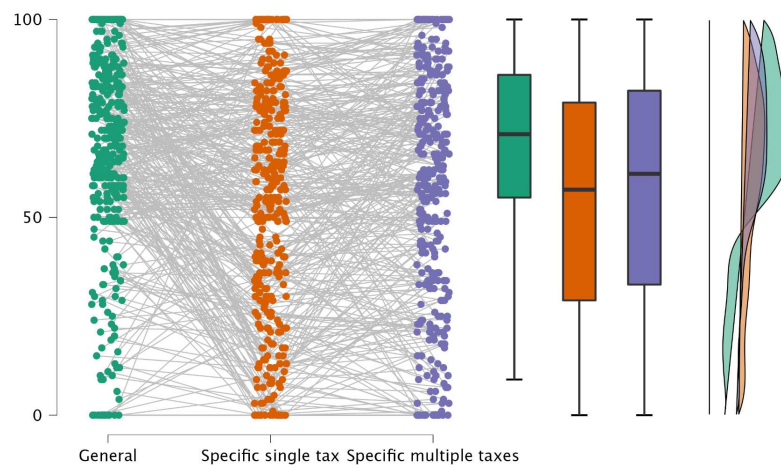
Discussion

The findings of Study 4d shed light on the intricate dynamics underlying individuals' preferences for generic descriptions of taxes in the context of progressive taxation. First, we replicated the effect of a generic description of progressive taxation in improving people's attitudes towards progressive taxation, in line with Studies 4a, 4b, and 4c as well as with past literature (Roberts et al., 1994). In addition, we also found that describing progressive tax proposals that include changes in multiple specific taxes (rather than a single tax) enhances participants' positive attitudes towards these proposals, in line with the hypothesis that any changes in the overall tax system, will, by definition, be more impactful than changes in a single constituent of the tax system (e.g., VAT only). In summary, we can say that: 1. The effect of a general description of tax proposals is comparable to that of a specific description involving multiple taxes, especially concerning the perception of the utility of progressive proposals in addressing economic inequality. 2. Despite this, the impact of a general description on perceived importance and support for progressive taxation cannot solely be attributed to the fact that people presented with general statements envisage proposals containing multiple taxes. Instead, it encompasses a specific effect attributed to the use of generic language, as revealed by the

difference in the post-hoc tests. 3. Specific proposals involving multiple taxes are potentially beneficial in engendering a more profound systemic change, though it may not necessarily be the preferred option. In addition, the preference for tax proposals involving a systematic change might also emerge in relation to a sociocultural context in which spot actions are typically proposed to buffer problems instead of having a systematic approach. This research sheds light on people's desire to change the system at its roots and calls for future research investigating effective strategies to put these changes into practice.

General Discussion and Practical Implications

From a theoretical perspective, our investigation offers a clear explanation of the postulated causal paths from construal level to tax attitudes, specifically encompassing the dimensions of generality versus specificity (Path 1), temporal distance (Path 2), and their potential interplay (Path 3). Our results robustly validate the first hypothesized path, while they do not yield substantiated evidence for the impact of temporal distance or the interaction between temporal distance and message specificity.

Studies 4a, 4b, 4c, and 4d consistently show that people express more positive attitudes towards progressive taxation when framed as generic (as "progressive taxes") than when referring to any specific type of tax. Intriguingly, this effect remains robust after accounting for potential moderators, including participants' political orientation, socioeconomic status or class, educational level, and beliefs in meritocracy.

Concurrently, the temporal construal does not engender changes in attitudes. Whether a progressive tax policy is planned for immediate implementation (next year) or projected several decades into the future, this temporal aspect does not exert any discernible influence on tax attitudes. These two distinct findings, achieved within a unified experimental design and consistent sample, replicate earlier observations garnered from separate studies conducted across different countries (Roberts et al., 1994; Edlund, 2003; Baron and McCaffery, 2005).

From a CL perspective, it is somewhat surprising that temporal distance would not affect attitudes toward progressive taxation. However, our findings resonate with the rather unstable result pattern of prior studies, which at times found more favorable self-generated thoughts and more positive attitudes towards the distant object (e.g., Eyal et al., 2004; Herzog et al., 2007), at times reduced intensity (rather than a change in direction) of positive or negative reactions towards the distant object (e.g., Williams et al. 2014). Since we had no pre-experimental attitude measures, the latter process is difficult to identify but may offer an interesting direction for future research.

A pivotal revelation from Studies 4c and 4d pertains to the mechanism underlying the impact of specific versus generic construal on tax attitudes. These studies show that this effect partially stems from the elevated importance attributed to generic tax descriptions relative to their specific counterparts. Generic tax proposals resulted in perceptions of heightened utility and significance of progressive taxation, which consequently bolstered favorable attitudes. This pattern resonates with prior theoretical assumptions suggesting that individuals operating at higher construal levels tend to focus on essential attributes and overarching objectives (Liberman & Trope, 1998; Dhar & Kim, 2007). In the context of our investigation, this could entail establishing a more equal society. In Study 4d, we also provided evidence that a general description of taxes underlies the reform of the entire tax system (as for involving multiple specific taxes), which, logically have a much greater impact, and hence be more useful, than if only one of its elements becomes more progressive (e.g. VAT). Drawing from a typical CL metaphor, in the context of taxation, seeing "the forest" may be more relevant than a "single tree", in order to realize the importance of taxes.

Together, these studies enrich our comprehension of why individuals tend to express support for redistribution yet frequently exhibit a reluctance to endorse specific strategies to realize this objective. On a public policy front, our research can provide guidance for tax

authorities, politicians, and the media in crafting tax proposals that optimize the communication process to promote tax-based redistribution. To enhance public comprehension and garner substantial public backing for progressive taxation, information campaigns should adopt a relatively generalized approach that channels attention toward the fundamental principles of taxation rather than focusing on the intricacies of distinct tax types. Alternatively, tax proposals should incorporate substantial changes across multiple taxes, thus fostering the perception of a systemic transformation.

Chapter 7. Main Insights, Limitations and Conclusions

In this dissertation, we explored underlying factors contributing to support for progressive taxation, a concrete strategy to redistribute wealth and reduce the increasing level of economic inequality (Pressman, 2014; Piketty, 2015; Stiglitz, 2017). Our first important result is that, contrary to what we expected, people in general have a positive attitude toward progressive taxation. Although taxes are a tough subject and overall voluntary compliance is often low, people think that taxing the wealthiest segments of the population is fair.

While this result is promising, especially in an unequal environment from an economic perspective, understanding which factors shape support toward progressive taxation is crucial. Building on literature on attitudes and attitudinal change that sees attitudes in a holistic way (Albarracinand & Shavitt, 2018), and going beyond the classical attitude models (e.g., the Tripartite model, Rosenberg & Hovland, 1960), we here consider attitudes as part of a broader causal network of psychological variables (see the CAN Model, Dalege et al., 2016).

We opened our investigation through a systematic literature review (Chapter 1), where we categorized the predictors identified in the published research into four categories:1. demographic characteristics (gender, age, educational level, working status, socioeconomic class, income) 2. cognitive factors (positive-sum beliefs, knowledge of the political system; dehumanization of the rich, meditation/mindfulness; system justification); 3. contextual factors (economic inequality, economic crisis, characteristics of the tax system), 4. ideological factors (political orientation, meritocracy, trust in institutions, conspiracy beliefs); 5. communication strategies (general vs. specific descriptions, percentage vs. amount).

We briefly summarize each of them in the following paragraphs, integrating with empirical data we collected.

Self-interest motives and demographic characteristics. With regard to self-interest motives, the literature review yielded consistent results with respect to the role of income in

predicting lower support toward progressive taxation, but failed to clarify the role of other components of people's socioeconomic status, namely their educational level and their perception of their position within the social pyramid, two additional measures of status frequently used in inequality research (see for example Choi, 2021). Since these elements have been mainly neglected in the current literature (with only a few exceptions, Roosma et al., 2016; Knutsen & Wegman, 2016; Fernández-Albertos and Kuo, 2018; Salvador Casara et al., 2023), possible differences between the effect of objective income and the effect of schooling level or subjective socioeconomic status needed to be further explored. With respect to other sociodemographic characteristics (e.g., gender and age; Botrić et al., 2021; Gheorghiță, 2023; Cabelkova and Smutka, 2021), the results we found are mixed, with some studies showing an effect of gender and age and other reporting null results, highlighting the need for further analysis. We aimed at disentangling the effect of income, educational level, and subjective socioeconomic status by directly comparing the three indicators using new empirical data from 11 studies. Here (Chapter 2), we also explored more in depth the role of other demographic characteristics to replicate (age, gender) and expand (employment status) previous results. We encountered limited evidence supporting the role of demographic characteristics and self-interest motives in shaping support for progressive taxation, only partially supporting previous research (see for example Edlund, 1999; An & Ye, 2017; Newman & Teten concerning income, Botrić et al., 2021; Gheorghiță, 2023; Cabelkova & Smutka, 2021, concerning gender and age) and our expectations. The outcomes exhibited a mixture of results across studies, with a majority failing to reach statistical significance. These results provide initial evidence of the potential prevalence of psychological factors - when compared to self-interest motives and demographics - in shaping attitudes towards progressive taxation in our samples. Despite this, differences with respect to social class and income may not have emerged because most of our sample self-reported as middle class. This effect, referred to in the literature as "middle-class identity bias" (Curtis,

2013), leads most people, regardless of their socioeconomic status, to identify with the middle class. Given this, one possible explanation for the strong support toward progressive taxation that emerged in our data could be attributed to the fact that participants, self-describing as middle class, did not feel personally affected in paying progressive taxes. This could have resulted in *motivated* cognition and positive emotions toward progressive taxation.

Cognitive factors. Political knowledge (Gheorghiță, 2023; Macdonald, 2020), positive sum beliefs (Barnes, 2022), dehumanization of wealthy classes (Sainz et al., 2019), mindfulness, and system justification (De Cristofaro et al., 2021; 2022) have been found to be relevant cognitive underpinnings of support for progressive taxation. To move a step forward, in Chapter 3 (comprising Studies 1a, 1b, and 1c) we explored the predictive role of cognitive – in the form of understanding progressive taxation– and emotional – factors, namely the experience of negative emotions associated with progressive taxation, in line with the Elaboration Likelihood Model (Petty & Cacioppo, 1986) which conceive elaboration of information as analytical or intuitive. Here we found that a lack of tax comprehension and the experience of negative emotions related to progressive taxation emerged as detriments to attitudes. Additionally, a notable association between analytical thinking and support for progressive taxation was unveiled, suggesting that individuals employing more analytical reasoning exhibit more favorable attitudes towards progressive taxation. Moreover, we found an indirect effect of analytical thinking on support for progressive taxation via both actual understanding and anger triggered by the tax system. This is in line with the Heuristic- Systematic Model (HSM; Chaiken, 1980), which supports the possibility for the intuitive and analytical thinking to interact. In Study 1c, we employed an experimental strategy to manipulate the way progressive taxation was presented, in order to test whether different communication strategies make progressive taxation easier to understand. Here we contrasted a control condition in which information about progressive taxation was presented with a table to an experimental condition

using a simplified video to describe progressive taxation. Despite our efforts, the manipulation failed to increased participants' actual understanding, inducing only a small effect of enhanced perceived understanding. Remarkably, the influence of this manipulation on attitudes was moderated by participants' experienced anger and analytical thinking. Although effects sizes were small, and further research is needed, these results give us initial insight into the role of both emotion and cognition in predicting support for progressive taxation. Moreover, since manipulation was not effective in changing people's understanding, other communicative strategies to simplify progressive taxation are needed in order to improve people's understanding and consequently their attitude toward progressive taxation.

Contextual factors. As contextual factors research demonstrated that support for progressive taxation is increased in time of economic crisis or in economically unequal context, potentially as an intuitive response to redistribute wealth from the highest brackets to the rest of the population. Indeed, according to Kraus (2017) and Peters et al. (2022) in highly unequal contexts differences between socioeconomic class become more salient, potentially making the need for redistribution more urgent. The same would be true concerning economic crisis, as progressive taxation can be perceived as a way to stabilize the economy during a crisis. Despite the results were consistent across studies, we highlighted the need for experimental research to corroborate this data. Moreover, a clear path linking inequality with enhanced support for progressive taxation remained unclear. In Chapter 4 (Study 2), we probed the role of manipulated economic inequality in predicting support for progressive taxation, considering both support for progressive taxation and tax compliance as two redistributive policies, while also exploring the predictive role of conspiratorial thinking (given promising past literature, e.g., Salvador Casara et al., 2022). The results revealed that economic inequality enhances support for progressive taxation while, at the same time, diminishing tax compliance. Additionally, we found a mediating effect of conspiracy beliefs on the link between economic inequality and

reduced tax compliance. While indirect effects on support for progressive taxation were not found, a positive relationship between conspiracy beliefs and support for progressive taxation emerged. These results were strengthened by Study 3b, where we found that trust towards the economic élites partially explained the link between economic inequality and support for progressive taxation, with trust being lower in a context of high inequality. This is in line with literature stating that anti-elite populist sentiments thrive in contexts of high economic inequality, as individuals perceive income distributions to be unfairly unequal (Steiner, 2022). Moreover, the role of trust is essential when talking about taxes (Hofmann et al., 2008), as people's negative attitudes and emotions towards taxation might be in part driven by how their tax money is (mis)used, whereby it is not used to improve public services, which would benefit them and their fellow citizens, but (as our data suggests) to satisfy the interests of economic elites. These results have implications for economic inequality reduction, since support for taxes for the wealthy may not be enough to tackle inequality if general tax compliance remains low. Further research is needed to better capture why and under which conditions this discrepancy occur, in order to develop efficient interventions.

Ideological factors. Believing that the system is meritocratic (Domonkos, 2016; García-Sánchez et al. 2020), trusting the government (Barnes, 2015) and not being solidal towards other people (Cabelkova & Smutka, 2021; Gheorghiță, 2023) have been found to be ideological factors hindering support for progressive taxation. Despite this, the majority of the results were cross-sectional, impeding to infer causality and calling for further investigation. In Chapter 5, we compared the effect of two main ideological factors, namely political orientation and meritocracy endorsement. We scrutinized political orientation across almost all the studies, revealing robust results indicating that right-wing political orientations tend to display a greater aversion to taxing the rich, in line with past literature (e.g., Kuhn, 2013; Roosma et al., 2016). The examination of both descriptive and prescriptive meritocracy, and their influence on

hindering support for progressive taxation, was undertaken in an initial correlational Study (3a). Specifically, we explored individuals' perceptions of how success is both perceived and should be attained within our society. Our analysis involved contrasting internal factors contributing to success, such as meritocracy (as effort and talent), with external factors including family background, gender, and ethnicity. Our findings indicate that people tend to view success as more attainable through personal effort and talent (internal factors) rather than being heavily influenced by external factors. Furthermore, we observed that this reasoning extends to people's beliefs about how the world should ideally function (for a distinction between descriptive and prescriptive meritocracy, see Madeira et al., 2019). Moreover, we found that external (vs. internal) attribution of success were strongly related to support for progressive taxation, both analyzing its descriptive and prescriptive components leading to the conclusion that when people evaluate if wealthy should or should not being taxed more, they consider the role of external factors in shaping success. In the experimental Study 3b, the manipulation of economic inequality (high vs. low) and the reasons underpinning such inequality (external causes - family background, contacts, circumstances - and internal causes - meritocracy, defined as effort and talent) unveiled two main effects. One pertained to inequality, replicating the findings of Study 2, while the other concerned meritocracy, showing that individuals exposed to the meritocracy condition express diminished support for progressive taxation. Moreover, we found increased upward social mobility (M1) and sense of control (M2) to statistically mediate the relationship between meritocracy and reduced support for progressive taxation. Indeed, participants exposed to a fictitious meritocratic society were more likely to perceive the possibility to move up in the social ladder and, consequently, increased sense of control over their lives. This, in turn, negatively affected their willingness to redistribute wealth. This result is both in line with past literature linking meritocracy to upward mobility (Day & Fiske, 2017) and sense of control (McCoy et al., 2013) and with the System Justification Theory (Jost et al., 2003), as people use

meritocracy as a legitimization strategy to justify (and maintain) existing inequalities. As an alternative model explaining the increased support for progressive taxation in highly unequal and non-meritocratic societies we found trust towards the economic elites, which are potentially regarded negatively as the cause of inequality. Furthermore, in low-meritocratic contexts, the wealthy are perceived as having not earned their position at the top of the social hierarchy through effort and dedication but rather through circumstantial factors, in line with results found in Study 3a linking external factors to achieve success to increased willingness to tax the rich and complementing insights from Study 2 on the role of conspiracy beliefs in affecting support for redistribution. Study 3c, we disentangled the contributions of effort and talent, as two main components of the concept of meritocracy through an experimental design, in which we asked participant to imagine starting a new life in a fictitious society in which success was achieved through talent (vs. effort). Here we found that the effort component exhibited a heightened capacity in predicting aversion towards progressive taxation, though with no statistically significant differences between the two conditions. This suggests that belief in meritocracy per se, regardless of whether it is broken down into its two components of talent and effort, predicts lower support toward progressive taxation. Despite this, we still found an effect of the manipulation on perceived control and upward social mobility, with people assigned to the meritocracy as effort (vs. talent) condition intensifying the perception of control over one's life and perceiving more upward social mobility. Future research is needed to disentangle the effect of the talent and effort component of meritocracy in affecting general support for redistribution, potentially using different ways to assess the construct, which do not take into account the taxation component.

Communication. The last contribution concerned the role of communication, which was studied by Roberts (1994) and Edlund (2003) in relation to abstract vs. specific description of taxes, finding mixed results across countries. Moreover, Reimers (2009) found that people

favored progressiveness more when tax was described as a percentage rather than amount. This limited evidence (only three studies) underscore the significance of the communicative aspect in shaping attitudes towards progressive taxation. Moreover, in the case of the impact of a generic (vs. specific) description of progressive taxation, they reveal that this effect is not universally true but rather contingent upon the specific context in which respondents are embedded in, calling for context-specific studies. Chapter 6 took an in-depth look into tax communication, seeking to harness the insights of social psychology to more effectively communicate progressive tax proposals for the general population. Drawing on Construal Level Theory and in an attempt to expand previous literature on specific vs. generic tax communication (Edlund, 2003; Roberts et al., 1994), we tested in four experiments whether attitudes towards progressive taxation are modified by high (vs. low) construal frames focusing on generic (vs. specific) taxes that are temporally distant (vs. close) or their interplay. While Studies 4a and 4b provided evidence supporting the influence of a generic description of taxes, no discernible effect concerning temporality was observed. Moreover, in Study 4c we found that the effect of generality on support for progressive taxation was mediated by enhanced perceived importance of the tax proposals. Finally, Study 4d revealed that a general tax description underpins the comprehensive reform of the entire tax system, akin to the effect of changing multiple specific taxes. This implies a greater impact and utility, surpassing the influence of individual elements (e.g., VAT). Drawing from the metaphorical insight of Construal Level Theory, adopting a broader perspective ("the forest") in taxation discourse assumes greater relevance than a fixation on isolated components ("single trees") in comprehending the significance of taxes.

Theoretical and Practical Implications

Overall, the examination of the content provided by the systematic review, coupled with the empirical work conducted, provided insights into the underpinnings of support for progressive taxation—an effective redistributive strategy aimed at mitigating the adverse effects

of economic inequality. Furthermore, this work underscores the distinct contribution of social psychology, which has hitherto received relatively scant attention in past literature.

From a theoretical standpoint, the presented work offers an integrated model for understanding attitudes toward progressive taxation that is structured across various levels: individual, interpersonal, and systemic. At the individual level, we determined that two factors are particularly influential: the emotional aspect and the cognitive aspect linked with understanding, with moderate to high effects. On the interpersonal level, the trust factor (in the government and economic elites) plays a significant role, with moderate effects regarding trust in economic élites and smaller effects regarding trust in the government. On a macro level, we manipulated systems, placing particular emphasis on economically unequal systems and meritocracy-based systems. Results regarding economic inequality are robust, whereas those concerning meritocracy are more subdued. On a communication level, the effects obtained in relation to the general communication of taxes are medium, although, in general, linguistic frames exhibit relatively small (or null) effects (both in the literature, e.g., Hallsworth et al., 2017; Bruckmüller et al., 2017; and in some of our studies on tax communication not reported here).

From a practical standpoint, the empirical insights derived from this work offer nuanced practical implications for stakeholders engaged in shaping public opinion and policy decisions related to progressive taxation. Grounded in social psychology, these implications aim to guide effective communication strategies to address economic inequality.

First of all, the need to tailor messages to the importance of psychological factors, rather than demographic characteristics, emerged clearly from our data, partially supporting previous (mixed) literature. Indeed, policymakers and tax communicators should focus on addressing psychological factors linked to attitudes, such as enhancing public comprehension of progressive taxation through communication strategies that simplify the intricate and bureaucratic language

of taxation. Following this reasoning and expanding results from previous literature (Roberts et al., 1994; Edlund, 2003), information campaigns should adopt a relatively generalized approach that drive attention toward a general taxation schema rather than focusing on the specificities of single taxes. Alternatively, tax proposals should incorporate substantial changes across multiple taxes, thus fostering the perception of a systemic transformation.

Moreover, given that taxation is an issue of both social significance and individual complexity, informational campaigns regarding the functioning of the tax system and the importance of redistribution should be disseminated even in schools. This is aimed at enhancing people's understanding and fostering the development of positive attitudes in adulthood.

Second, since ideological factors such as right-wing political orientation and adherence to meritocratic ideologies negatively impact support for progressive taxation, communication needs to be tailored in order to resonate with diverse political perspectives, emphasizing the societal benefits of progressive taxation and dispelling misconceptions that may be rooted in political ideologies. In addition, and particularly focusing on meritocracy beliefs, highlight the importance of contextual factors in determining success, may shift the narrative away from individual characteristics in predicting one's success. This strategic shift in communication can foster a better understanding of the need for wealth redistribution.

Third, one contextual factor that has emerged as critical in predicting support for progressive taxation in our data, as well as in previous studies (García-Sánchez et al. 2020; Kuhn, 2019), is economic inequality. Since perceiving a large discrepancy in wealth between rich and poor leads to more support for wealth redistribution, communication strategies should make the general population duct about the current level of economic inequality in order to increase their willingness to tax the rich. Importantly, results concerning the contrasting effects of economic inequality on tax compliance and support for progressive taxation (Study 2) could potentially underscore a noteworthy constraint on redistribution efforts. While individuals

appear inclined to endorse the implementation of policies targeting the most affluent segments of society, they exhibit a reluctance towards personal taxation. This finding, in conjunction with the fact that the majority of the population tend to identify with the middle class, raises pertinent questions regarding the intended recipients of progressive taxation policies. How is the archetype of an affluent individual conceived? What imagery is invoked when envisioning the wealthiest? An inherent limitation of this dissertation pertains to the notably low proportion of our sample had income in the last bracket, which reduces the possibility of reaching the target population at which progressive policies are aimed. Future research could aim at reaching a broader spectrum of individuals spanning diverse socioeconomic strata, facilitating a deeper exploration of the motivations driving tax aversion in both high and low economic socioeconomic status.

Finally, politicians and communicators should actively challenge the perception of limited public inclination toward wealth redistribution. For example, using the results presented in this work to show general public support for progressive taxation could be helpful in countering the prevailing misconceptions often perpetuated by journalists and politicians with respect to this topic.

Moreover, institutions involved in tax policy and advocacy should explore the practical applicability of these research findings through targeted interventions. Implement communication strategies that directly address the identified psychological determinants, testing their effectiveness in real-world scenarios.

As the exploration of attitudes towards wealth redistribution remains in its early stages and certain questions remain unaddressed, I hope that this dissertation has added some advancement to this realm.

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Supplementary Materials

Table 1

Overview of the sources included in the systematic review.

Year of publication	Authors	Field	Methodology	Country	Underpinning	Main results
1994	Roberts, Hite & Bradley	*Political Science*	Cross-sectional/experimental	US	Cognition; Communication	*Respondents prefer progressive taxation when framed in abstract (vs. concrete) terms.*
1999	Edlund	*Sociology*	Longitudinal	Sweden	Individual factors; Ideology	*Support for progressive taxation is less prevalent among more affluent social strata and people affiliated with Bourgeoisie parties compared to workers, low- income earners and those with left-wing preferences.*
2003	Edlund	Political Science	Cross-sectional	Sweden	Cognition; Communication	*US Respondents prefer progressive taxation when framed in abstract (vs. concrete) terms; no effect found in Sweden.*
2009	Reimers	Psychology	Experimental	UK	Communication	*Participants favor progressiveness more when tax was described as a percentage rather than amount.*
2013	Kuhn	Economics	Cross-sectional	Germany	Context; Ideology	*Individuals from East (vs. West) Germany and those with a left-wing political orientation tend to be more supportive of progressive taxation.*
2015	Barnes	Economics	cross-sectional	15 countries	Context	*Respondents prefer higher progressive taxation but lower tax levels. This decoupling varies across countries: preferences over tax levels have a greater effect on progressive taxation preferences in less progressive tax systems.*
2015	Hennighausen & Heinemann	Economics	Cross-sectional	Germany	Individual factors; Ideology	*People from higher incomes are less likely to support progressive taxation. Moreover, support was also driven by fairness considerations and beliefs on the role of effort for economic success.*
2016	Domonkos	Political Science	Cross-sectional	13 Central and Eastern European countrie	Context; Ideology	*Socio-economic and demographic variables, such as household income, occupational social class, and age, are important in determining progressive taxation preferences. However, ideological variables are also important: support for progressive taxation decreases with the acceptance of income differences as a reward for talent and effort. Also, distrust of the legal system and a conviction that tax authorities treat certain people more favorably than others increase support for progressive taxation, although this latter effect is constrained to the less affluent.*
2016	Knutsen & Wegmann	Political Science	Cross-sectional	45 countries	Individual factors; Context	*People with lower educational level and socioeconomic class are more likely to hold the notion that progressive redistribution is central to democratic politics. Moreover, having lived under a communist regime and currently*

						living under democracy make individuals less likely to hold this notion.
2016	Sumino	Social Sciences	Cross-sectional	19 countries	Individual factors; Context	*In countries with comparatively high levels of direct taxes, high-income taxpayers react more negatively to more progressive taxation than do low-income counterparts. In contrast, in low-tax societies, attitudinal cleavages among income classes become less intense.*
2016	Roosma, Van Oorschot & Gelissen	Sociology	Cross-sectional	26 countries	Individual factors; Context	*Support for progressive taxation is associated with low socioeconomic status (both objective and subjective), left-wing political orientation, higher educational level and lower tax visibility.*
2017	An & Ye	Economics	Cross-sectional	China	Individual factors; Context	*The Chinese political elites prefer significantly less progressive taxation and less redistributive expenditure than the public. Moreover, the causes of the gap appear to vary by the measures for redistribution.*
2018	Fernández-Albertos & Kuo	Political Science	Cross-sectional/Experimental	Spain	Individual factors; Context	*Individuals have considerable error regarding their self-placement in the income distribution. Revealing to individuals their true placement affects progressive taxation preferences for individuals who learn they are poor, and for individuals whose prior is that they are poor.*
2019	Sainz et al.	Psychology	Cross-sectional/Experimental	Spain	Cognition	*Humanizing (vs. mechanizing) high socioeconomic status groups lead to lower support for progressive taxation, through considering that the group's wealth comes from internal sources (e.g., ambition) rather than external ones (e.g., corruption).*
2019	Berens & Gelepithis	Economics	Cross-sectional	20 countries	Context	*Support for progressive taxation among both average and high-income households is undermined by 'pro-poor' welfare spending.*
2019	Garcia-Muniesa	Sociology	Cross-sectional	9 European countries	Context	*Citizens affected by the crisis are more likely to support progressive taxation. Moreover, citizens on the left of the ideological spectrum who suffered the economic setback do not show higher support for progressive taxation, while those in the center and on the right do. Similarly, citizens who perceive their financial setbacks to be temporary and are optimistic about their economic prospects do not indicate increased support for progressive taxation, as opposed to those less optimistic about their future economic situation.*
2019	Kuhn	Economics	Cross-sectional	27 countries	Context; Ideology	*Higher levels of perceived economic inequality are associated with a weaker belief into meritocratic principles as being important in determining individual wages. Moreover, people perceiving a high level of economic inequality also tend to be more supportive of redistributive policies and progressive taxation.*

2020	García-Sánchez et al.	Psychology	Cross-sectional	41 countries	Context; Ideology	*Perceived economic inequality correlates positively with support for progressive taxation, but this association was weaker among those who endorse meritocratic and equal opportunity beliefs.*
2020	MacDonald	Political Science	Cross-sectional	US	Individual factors; Cognition	*People with low levels of political knowledge weakly connect their class attitudes with support for redistributive spending and progressive taxation.*
2021	Botrić, Broz & Jakšić	Political Science	Cross-sectional	Germany, Denmark, France, Spain, Finlan, Sweden, Czech Republic, Slovenia, Latvia, Hungary and Croatia	Context; Ideology	*Political orientation and union membership are more important in Old than in New Europe in predicting support for progressive taxation. Moreover, there are no significant changes in the patterns resulting from the financial crisis.*
2021	Cabelkova & Smutka	Environmental sciences	Cross-sectional	Czech Republic	Individual factors	*Income is associated with the perception that taxes for the rich are inadequately high but was unrelated to perceptions of tax adequacy for average and poor groups of respondents. Higher solidarity and reliance on the state are associated with the desire to increase taxation of high-incomes and decrease taxation of poor income groups. The reliance on the state is associated with a desire to decrease taxation of average-incomes and total taxation while increasing progressive taxation. Preferences for solidarity are associated with higher preferred overall taxation and more progressive taxation.*
2021	De Cristofaro et al.	Psychology	Cross-sectional	Italy	Individual factors	*Mindfulness is positively related with support for progressive taxation through the mediation of lower competitive-jungle beliefs, and then lower social dominance orientation.*
2021	Newman & Teten	Political Science	Cross-sectional	US	Individual factors	*Lower-income individuals are more likely to support progressive taxation.*
2022	Barnes	Political Science	Cross-sectional	Denmark, France, Germany, the UK, and the US	Cognition	*Positive-sum thinking is associated with less preferences for progressive taxation.*
2022	Bower-Bir	Political Science	Cross-sectional	US	Ideology	*People tolerate grave inequalities if they think those inequalities are deserved. Indeed, if outcomes appear deserved, altering them constitutes an unjust act.*
2022	Heide-Jørgensen	Communication Sciences	Experimental	Denmark	Individual factors; Ideology	*Right-wingers are much less opposed to progressive taxation when attitudes are measured indirectly relative to asking directly about their opinions. Furthermore,*

						opposition to progressive taxation is considerably lower among low-income individuals when social desirability bias is addressed, thereby increasing the attitudinal gap between low- and high-income individuals.
2022	De Cristofaro et al.	Psychology	Cross-sectional	Italy	Individual; Congnition; Ideology	*Relative to nonpractitioners, meditation practitioners are more likely to support a progressive taxation primarily through associations with lower system justification.*
2023*	Salvador Casara et al.	Psychology	Experimental	Italy	Individual; Context	*Manipulated economic inequality lead to lower levels of tax compliance but higher support for progressive taxation. Moreover, economic inequality increases conspiracy beliefs. Furthermore, conspiracy beliefs mediate the effect of economic inequality on tax compliance but not on progressive taxation support. Despite this, conspiracy beliefs are linked with higher support for progressive taxation.*
2023	Atria	Multidisciplinary Sciences	Qualitative interviews and analysis of historical documents	Chile	Individual factors	*In Chile, there is a paradox of negative perceptions about redistribution alongside a keen willingness to support poverty relief through non-state initiatives, while tax design emphasizes growth, neutrality, and entrepreneurship over progressive taxation. Historical analysis reveals that despite a longstanding reliance on indirect taxes and resource levies, neoliberal reforms during the Pinochet era led to a narrowing of tax perspectives among business and political circles, undoing earlier progress in inequality reduction and direct taxation.*
2023	Sachweh & Eicher,	Political Science	Cross-sectional/Experimental	Germany	Individual; Ideology; Context	*Subjective self-interest is more important than objective self-interest in predicting progressive taxation aversion. Moreover, providing information on aggregate wealth inequality can shift the attitudes of those who are otherwise indifferent in favor of wealth taxation. Furthermore, factors indicating meritocratic wealth accumulation reduce support, and this is especially pronounced among low-status respondents. By contrast, while non-meritocratic factors increase support for taxation, these effects are largely off-set in privileged groups.*
2023	Gheorghiță	Environmental sciences	Cross-sectional	Romania	Individual; Cognitive; Context	*High-income earners, women, and those with higher levels of political trust are more likely to support flat tax, while higher levels of social solidarity and more education increase the chances of being reluctant about it. No evidence of the effect of age, ideology, or political knowledge is found.*

Table 2
Descriptive statistics of all the samples.

	Gender	Age	Socioeconomic status	Income	Educational level	Political orientation	Working status
Study 1a *N* =120	M = 63 F = 55 NB = 3	*M* = 39.73 *SD* = 13.82	Lower = 8 Lower-middle= 35 Middle = 66 Upper-middle = 11 Upper = /	< 12.000€ = 9 12.000€ - 20.000€ = 29 21.000€ - 30.000€ = 32 31.000€ - 40.000€ = 19 41.000€ - 50.000€ = 13 51.000€ - 60.000€ = 6 61.000€ - 70.000€ = 5 > 70.000€ = 7	Primary school = / Middle School = 4 Mandatory school = 4 High school = 41 Bachelor = 19 Master = 35 Second level Master/PhD = 17	*M* = 37.93 *SD* = 27.56	Employee = 72 Self-employed = 3 Unemployed = 6 Working students = 14 Student = 4 Other =11
Study 1b *N* =399	M = 199 F = 197 NB = 3	*M* = 30.71 *SD* = 8.72	Lower = 20 Lower-middle = 126 Middle = 214 Upper-middle = 38 Upper = 1	< 12.000€ = 38 12.000€ - 20.000€ = 95 21.000€ - 30.000€ = 109 31.000€ - 40.000€ = 70 41.000€ - 50.000€ = 48 51.000€ - 60.000€ = 17 61.000€ - 70.000€ = 7 > 70.000€ = 15	Primary school = / Middle School = 2 Mandatory school = 4 High school = 130 Bachelor = 121 Master = 97 Second level Master/PhD = 45	*M* = 34.76 *SD* = 21.69	Employee = 218 Self-employed = 48 Unemployed = 3 Working students = 77 Student = 43 Other = 10
Study 1c *N* = 533	M = 227 F = 301 NB = /	*M* = 36.31 *SD* = 12.39	Lower = 20 Lower-middle = 163 Middle = 289 Upper-middle = 56 Upper = /	< 12.000€ = 38 12.000€ - 20.000€ = 109 21.000€ - 30.000€ = 146 31.000€ - 40.000€ = 110 41.000€ - 50.000€ = 65 51.000€ - 60.000€ = 25 61.000€ - 70.000€ = 23 > 70.000€ = 12	Primary school = / Middle School = 15 Mandatory school = 4 High school = 197 Bachelor = 141 Master = 134 Second level Master/PhD = 37	*M* = 38.12 *SD* = 26.14	Employee = 304 Self-employed = 85 Unemployed = 14 Working students = 53 Student = 51 Other = 20 Missing = 1
Study 2 *N* = 2119	M = 457 F = 1649 NB = 13	*M* = 40.16 *SD* = 12.73	Lower = 59 Lower-middle = 591	< 12.000€ = 122 12.000€ - 20.000€ = 477	Primary school = 1 Middle School = 127	*M* = 4.18 *SD* = 2.49	Employee = 1132 Self-employed = 397 Unemployed = 150 Working students = /

			Middle = 1257 Upper-middle = 206 Upper = 5 SES *M* = 5.52 *SD* = 1.62	21.000€ - 30.000€ = 567 31.000€ - 40.000€ = 456 41.000€ - 50.000€ = 251 51.000€ - 60.000€ = 122 > 60.000€ = 124	Mandatory school = 54 High school = 1091 Bachelor = 736 Master = 110		Student = 220 Other =/
Study 3a *N* = 301	M = 119 F = 177 NB = 5	*M* = 36.47 *SD* = 15.21	Lower = 4 Lower-middle = 68 Middle = 179 Upper-middle = 49 Upper = 1	< 12.000€ = 8 12.000€ - 20.000€ = 47 21.000€ - 30.000€ = 70 31.000€ - 40.000€ = 61 41.000€ - 50.000€ = 48 51.000€ - 60.000€ = 25 61.000€ - 70.000€ = 18 > 70.000€ = 24	Primary school = 1 Middle School = 16 Mandatory school = 2 High school = 114 Bachelor = 75 Master = 74 Second level Master/PhD = 19	*M* = 38.38 *SD* = 21.23	Employee = 133 Self-employed = 24 Unemployed = 5 Working students = 24 Student = 87 Other = 28
Study 3b *N* = 336	M = 113 F = 223 NB = 5	*M* = 39.32 *SD* = 17.32	Lower = 14 Lower-middle = 83 Middle = 188 Upper-middle = 52 Upper = 4 SES *M* = 5.42, *SD* = 1.69	< 12.000€ = 22 12.000€ - 20.000€ = 70 21.000€ - 30.000€ = 83 31.000€ - 40.000€ = 55 41.000€ - 50.000€ = 55 51.000€ - 60.000€ = 20 61.000€ - 70.000€ = 13 70.000€ = 23	Primary school = / Middle School = 10 Mandatory school = 3 High school = 119 Bachelor = 82 Master = 99 Second level Master/PhD = 28	*M* = / *SD* = /	Employee = 126 Self-employed = 38 Unemployed = 11 Working students = 35 Student = 72 Retired = 53 Other = 6
Study 3c *N* = 203	M = 57 F = 145 NB = 1	*M* = 35.66 *SD* = 15.63	Lower = Lower-middle = Middle = Upper-middle = Upper = SES *M* = 54.31; *SD* = 15.99	< 12.000€ = 20 12.000€ - 20.000€ = 26 21.000€ - 30.000€ = 56 31.000€ - 40.000€ = 51 41.000€ - 50.000€ = 21 51.000€ - 60.000€ = 15 > 60.000€ = 14	Primary school = / Middle School = 4 Mandatory school = 2 High school = 64 Bachelor = 76 Master = 44 Second level Master/PhD = 13	*M* = 38.70 *SD* = 18.83	Employee = 61 Self-employed = 23 Unemployed = 10 Working students = 26 Student = 63 Retired = 18 Other = 2
	M = 65		SES	< 15.000€ = 25	Primary school = /	*M* = 48.35	Employee = 101

Study / N	Gender	Age	Income (SES)	Income bracket	Education	Income M/SD	Occupation
Study 4a $N = 172$	F = 106 NB = 1	$M = 32.49$ $SD = 11.83$	$M = 54.66$ $SD = 17.88$	15.000€ - 28.000€ = 74 28.000€ - 550.000€ = 46 55.000€ - 75.000€ = 18 > 75.000€ = 9	Middle School = 13 Mandatory school = 3 High school = 80 Bachelor = 37 Master = 29 Second level Master/PhD = 10	$SD = 28.34$	Self-employed = 12 Unemployed = 10 Working students = 16 Student = 27 Other = 6
Study 4b $N = 350$	M = 177 F = 169 NB = 4	$M = 32.63$ $SD = 10.12$	SES $M = 54.95$ $SD = 15.31$	< 15.000€ = 44 15.000€ - 28.000€ = 117 28.000€ - 550.000€ = 147 55.000€ - 75.000€ = 33 > 75.000€ = 9	Primary school = / Middle School = / Mandatory school = 2 High school = 127 Bachelor = 85 Master = 105 Second level Master/PhD = 31	$M = 33.05$ $SD = 21.38$	Employee = 199 Self-employed = 60 Unemployed = 9 Working students = 80 Student = / Other = 1
Study 4c $N = 373$	M = 151 F = 221 NB = /	$M = 43.99$ $SD = 12.01$	SES $M = 56.70$ $SD = 18.31$	< 15.000€ = 43 15.000€ - 28.000€ = 96 28.000€ - 550.000€ = 152 55.000€ - 75.000€ = 50 > 75.000€ = 31	Primary school = / Middle School = 20 Mandatory school = 14 High school = 183 Bachelor = 45 Master = 88 Second level Master/PhD = 22	$M = 46.67$ $SD = 28.75$	Employee = 260 Self-employed = 57 Unemployed = 6 Working students = 14 Student = / Retired = 16 Other = 19
Study 4d $N = 353$	M = 175 F = 171 NB = 7	$M = 33.13$ $SD = 9.22$	SES $M = 53.90$ $SD = 15.58$	< 15.000€ = 44 15.000€ - 28.000€ = 118 28.000€ - 550.000€ = 141 55.000€ - 75.000€ = 35 > 75.000€ = 15	Primary school = / Middle School = 3 Mandatory school = 3 High school = 109 Bachelor = 99 Master = 107 Second level Master/PhD = 32	$M = 31.79$ $SD = 20.47$	Employee = 216 Self-employed = 65 Unemployed = / Working students = 67 Student = / Other = 5

Table 3

Post hoc comparisons Study 4b.

		Mean Difference	SE	t	Cohen's d	pT_{ukey}	
Generic far	Generic near	-2.44	4.33	-0.56	-0.10	0.94	
	Specific far	12.33	4.21	2.93	0.42	0.02	*
	Specific near	15.61	4.26	3.67	0.57	0.002	**
Generic near	Specific far	14.76	4.29	3.44	0.51	0.004	**
	Specific near	18.05	4.33	4.16	0.66	< .001	***
Specific far	Specific near	3.29	4.21	0.78	0.10	0.86	

* p < .05, ** p < .01, *** p < .001

Table 4

Post hoc comparisons Study 4c.

		Mean Difference	SE	t	Cohen's d	pT_{ukey}
Generic	Generic+aim	1.578	4.438	0.356	0.062	0.985
	Specific	27.344	4.355	6.278	0.962	< .001***
	Specific+aim	23.683	4.185	5.658	0.828	< .001***
Generic+aim	Specific	25.766	4.315	5.971	0.885	< .001***
	Specific+aim	22.105	4.143	5.335	0.757	< .001***
Specific	Specific+aim	-3.661	4.055	-0.903	-0.116	0.803

The role of trust in Studies 1a, 1b and 1c

Methods

In Study 1a, 1b, and 1c we assessed trust towards the government through a scale developed ad hoc including 8 items ("The Government is not capable of managing funds obtained from taxes"; "There is too much corruption in the Government to allow funds obtained from taxes to be spent effectively."; "The Government often uses funds obtained from taxes to satisfy personal interests and not those of citizens"; "The Government has the necessary skills to be able to use funds obtained from taxes effectively." (reverse coded); "When the Government makes important decisions about how to spend funds obtained from taxes, it considers the impact of those decisions on citizens" (reverse coded); "The Government intentionally misleads citizens with respect to the use of funds obtained from taxes"; "The Government has the competence to keep promises made to citizens with respect to the use of funds obtained from taxes" (reverse coded); "The Government is competent enough to know how to distribute funds obtained from taxes in the best way" (reverse coded), Study 1a $\alpha = .84$; Study 1b $\alpha = .84$; Study 1c $\alpha = .77$).

Table 5

Correlational matrix including trust in government and preference for public (vs. private)
investment (Study 1a).

Variable	1		2		3		4		5		6		7		8
1. Progressive taxation	—														
2. Distrust government	-0.32	***	—												
3. Public (vs. private) investments	0.13		-0.21	*	—										
4. Anger	-0.39	***	0.29	**	-0.10		—								
5. Anxiety	-0.15		0.27	**	0.01		0.61	***	—						
6. Perceived understanding	0.15		-0.23	*	-0.002		-0.14		-0.28	**	—				
7. Actaual understanding	0.37	***	-0.18	*	-0.02		-0.09		-0.21	*	0.30	***	—		
8. Analytical thinking	0.25	**	-0.16		-0.08		-0.15		-0.18		0.06		0.3	***	—

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

Table 6

Correlational matrix including trust in government and preference for public (vs. private) investment (Study 1b).

Variable	1		2		3		4		5		6		7		8
1. Progressive taxation	—														
2. Distrust government	-0.29	***	—												
3. Public (vs. private) investments	0.15	**	-0.13	**	—										
4. Anger	-0.50	***	0.27	***	-0.20	***	—								
5. Anxiety	-0.36	***	0.17	***	-0.10	*	0.70	***	—						
6. Perceived understanding	0.36	***	-0.09		0.03		-0.32	***	-0.31	***	—				
7. Actual understanding	0.23	***	-0.21	***	0.01		-0.16	**	-0.16	***	0.07		—		
8. Analytic thinking	0.10	*	-0.19	*	-0.03		-0.17	***	-0.15	**	0.08		0.30	***	—

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