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Perceived Inequality, Competition, and Contrasting Self-views: Testing a Dual Pathways Model of Approach and Avoidance Motivation

Megan Rachel Outlaw

Master's in Psychology of Intercultural Relations

Supervisor:

Doctor Christin-Melanie Vauclair, Assistant Professor,
ISCTE - Instituto Universitário de Lisboa

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CIÊNCIAS SOCIAIS
E HUMANAS

Department of Social and Organizational Psychology

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Resumo

À medida que a desigualdade económica se agrava em todo o mundo, torna-se cada vez mais importante compreender os seus efeitos no bem-estar das pessoas. Apesar dos modelos teóricos promissores, ainda são escassas as evidências sobre como as percepções da desigualdade de rendimentos se relacionam com o bem-estar dos indivíduos e, em particular, com a autoestima. Esta investigação procura analisar um modelo de mediação múltipla e paralela (serial-paralel) que se propõe explicar duas respostas contrastantes quando há níveis elevados de “desigualdade económica percebida.” Quando os indivíduos percecionam maior desigualdade de rendimentos, tendem também a percecionar níveis mais elevados de competição no seu contexto. Esta percepção pode conduzir a dois percursos distintos: o aumento da motivação de aproximação ou o aumento da motivação de evitamento. Estas motivações moldam a autoimagem. A motivação de aproximação associa-se ao narcisismo e a uma autoestima elevada, enquanto a motivação de evitamento se associa ao síndrome do impostor e a uma baixa autoestima. No total, 422 participantes de 36 países responderam a um questionário *online* elaborado para testar essas medidas, e uma análise de mediação serial-paralela foi realizada para cada variável de resultado hipotética. Verificou-se que a desigualdade percebida tem efeitos indiretos positivos sobre o narcisismo e a autoestima geral por meio da competição percebida e da motivação de aproximação, e sobre a síndrome do impostor por meio da competição percebida e da motivação de evitação. Além disso, foram encontrados efeitos indiretos negativos sobre a síndrome do impostor por meio da competição percebida e da motivação de aproximação, e sobre a autoestima geral por meio da competição percebida e da motivação de evitação. Os resultados deste estudo fornecem *insights* importantes sobre as percepções de desigualdade e competição. Estas podem ser preditivas de autoestima aumentada para alguns e autodepreciação para outros, dependendo do tipo de motivação que se tem de base.

Palavras-chave: [desigualdade de rendimento percebida, competição percebida, orientações motivacionais, autoestima]

Abstract

As economic inequality worsens around the globe, it becomes ever more relevant to understand how its effects relate to people's wellbeing. Despite promising theoretical models, the evidence on how perceptions of income inequality relate to individuals' wellbeing, and self-esteem in particular, is still scarce. This research investigates a serial-parallel mediation model that explains contrasting responses to high levels of perceived economic inequality. It was expected that when individuals perceive greater income inequality, they should also tend to perceive higher levels of competition in their environment, which can lead to two different pathways: increased approach motivation or increased avoidance motivation. These motivations shape self-view, with approach motivation being associated with narcissism and high self-esteem and avoidance motivation being related to impostor syndrome and low self-esteem. A total of 422 participants across 36 countries answered an online questionnaire designed to test these measures, and a serial-parallel mediation analysis was performed for each hypothesized outcome variable. Perceived income inequality was found to have positive indirect effects on narcissism and general self-esteem through perceived competition and approach motivation, and on impostor syndrome through perceived competition and avoidance motivation. Additionally, negative indirect effects were found on impostor syndrome through perceived competition and approach motivation, and on general self-esteem through perceived competition and avoidance motivation. The results of this study provide key insights as to why perceptions of inequality and competition may be predictive of inflated self-esteem for some and self-deprecation for others, depending on the type of motivation one has.

Keywords: [perceived income inequality, perceived competition, motivational orientations, self-esteem,]

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1 Introduction

Income and wealth inequality is consistently becoming more of a problematic reality around the world, with consequences that go well beyond the resulting disparities in resources. Since 2015, the richest 1% has owned more wealth than the rest of the planet, currently owning more than twice as much wealth as 6.9 billion people (Oxfam International, 2025). In 2018, the 26 richest people in the world held as much wealth as half of the global population (the 3.8 billion poorest people) (United Nations, n.d.). This is especially troubling considering how the global poverty rate has increased for the first time in 25 years following the COVID-19 pandemic (Sánchez-Páramo et. al., 2021), while the world's ten richest men more than doubled their fortunes from \$700 billion to \$1.5 trillion - at a rate of \$1.3 billion a day (Oxfam, 2022). In today's world, there are multi-million dollar vacation homes that spend most of the year empty while homelessness is on the rise, and excess food is continuously wasted while 828 million people go hungry every day (World Health Organization, 2022).

An important question this brings up is how this level of growing inequality will affect the psychological health of individuals and social relations across broader society. Social epidemiologists Richard Wilkinson and Kate Pickett (2017) have already shown that rising inequality tends to worsen population health and social problems, and that areas with higher income inequality are correlated with lower life expectancy, infant mortality, obesity, lack of trust, imprisonment, homicide, drug abuse, worse mental health, lower social mobility, poorer childhood education, and more teenage pregnancies. To summarize the many problems that Wilkinson and Pickett found accompany inequality, it can be said that economic disparity correlates with worse population health and educational outcomes, disproportionately affecting those with lower incomes, and higher crime rates and polarization across entire populations, coming from a general lack of social cohesion.

The psychological effects that living in increasingly unequal societies has on separate individuals are important to understand as well, and the evidence for these effects is growing yet still incomplete, or often conflicting. For example, Ngamaba and colleagues (2018) conducted a meta-analysis showing that the effects of income inequality on well-being in the current literature include positive, negative and null results. While its effects on individual well-being in general are still not clearly established, some studies show inequality seems to have an influence on power dynamics and how people value themselves and respond to their

social surroundings (Peters & Jetten, 2023; Wilkinson & Pickett, 2017; Sommet et. al., 2019; Sommet & Elliot, 2023a; Sommet & Elliot, 2023b), leading to further societal and political effects that in turn continue to shape the psychology of those living in this environment and often exacerbate the existing problems (Polacko, 2021). Wilkinson and Pickett (2017) have proposed a theory of contrasting social strategies, harmony and cooperation versus competition and hierarchy, and have put forth evidence that rising inequality tends to favor the latter strategy of competition among humans. Expanding upon this and attempting to clarify the growing literature on the varying effects of income inequality and competition, the current study tested how very different self-views, i.e. inflated self-esteem and self-deprecation, may also be simultaneously predicted by perceived income inequality and a competitive mindset.

2 Theoretical Background

2.1 Objective and Subjective Income Inequality

Objective income inequality is the unequal distribution of resources across a population and is defined by the size of the gap between the proportion of resources controlled by individuals on the top versus those on the bottom (Mdingi & Ho, 2021). This difference in resources is typically measured using the Gini coefficient, which ranges between theoretical 0, meaning that every individual in the population has access to the same number of resources, and 1, meaning that one person has all the resources and nobody else has any (Kopitzke, 2020). The income inequality gap has been growing rapidly over recent decades, both globally and across many local economies, and the implications of this are a very hot topic today among political, philanthropic, and academic circles alike (Wilkinson & Pickett, 2017; Mdingi & Ho, 2021; Polacko, 2021; Senik, 2005; Jetten & Peters, 2019). The wide-ranging causes and outcomes of income inequality are becoming an ever more popular focus of studies, among which a small but growing body of research on the social psychological effects has emerged.

In social psychological research, perceived income inequality has gained increasing interest as a tool to investigate the effects of objective income inequality. Perceived income inequality refers to the subjective opinion of a given individual about the economic disparities around them. Theoretically, it is possible for someone in a highly unequal society to perceive low income inequality, or for someone in a highly equal society to perceive high income inequality. Yet, previous research has shown that actual income inequality predicts higher perceived income inequality (Sommet & Elliot, 2023a). Nevertheless, some argue that perceptions of income inequality often deviate from reality and depend on the cultural and political context (Jetten & Peters, 2019). Regardless, when looking at income inequality through the lens of social psychology, subjective measures have been increasingly used and seem to be more adequate (John et. al., 2025). If the outcomes being studied are psychological, it follows that the level of inequality that participants are conscious of, rather than what exists around them independent of their awareness of it, would be more relevant in affecting them. Objective income inequality, while related to its subjective counterpart, does not capture the subjective side and therefore, perceived income inequality was chosen as the measure to be used in this study.

2.2 Income Inequality and Well-Being

When looking at social psychological effects of phenomena such as income inequality or perceived income inequality, well-being is a very important concept to consider. General well-being encompasses how positively a given person feels across psychological, physical, and social aspects of their life (Newson et. al., 2024). As demonstrated in previous research (Wilkinson & Pickett, 2017; John et. al., 2025; Senik, 2005; Cooper et. al., 2013), income inequality appears to have some effect in all these domains. Wilkinson and Pickett (2017) have provided seemingly the most comprehensive and clear evidence for the correlation between greater income inequality and a wide range of worsening social and health problems across different societies. For an example of individual-level effects, John and colleagues (2025) found across three studies that well-being and happiness were negatively related to higher perceived inequality, and that they were completely independent of both objective inequality and, importantly, beliefs about the unfairness of inequality. This means that the perception of inequality negatively affects well-being, even for those who can justify it and do not find it to be unfair. The general takeaway from the current literature seems to be that objective income inequality has significant, negative effects on physical and social well-being across societies, while perceived income inequality impairs psychological well-being. Psychological well-being, however, is still a very broad term to define, consisting of self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth (Ryff, 1989). Self-esteem, which is highly related to self-acceptance, is also known for relating very closely with well-being (Pierce et. al., 2016). Most research on income inequality and well-being has considered happiness (John et. al., 2025), life satisfaction (Cheung, 2018; Quispe-Torreblanca et. al., 2021; Alabdulaziz, 2025; Cooper et. al., 2013), and positive relations with others (Wilkinson & Pickett, 2017). Only a few studies focused on self-esteem in particular (Park & Lee, 2025; Bleidorn et. al, 2023), and they are not directly linked to income inequality.

Nevertheless, self-esteem, or how one values themselves as a person, is a significant aspect of well-being. Self-esteem's direct effects on well-being and its mediating effects on other predictors of well-being are so strong and have so much evidence (Alabdulaziz, 2025; Duy & Yıldız, 2019; Bajaj et. al., 2016; Mann et. al., 2004), that self-esteem could almost be considered a subtype of, or inseparable from, well-being (Muris & Otgaar, 2023). Given that the self is the most persistent presence throughout an individual's life, it follows that a negative perception of oneself is likely to have detrimental effects on psychological well-being. According to a study from Kuster and Orth (2013), relative self-esteem is a stable construct

across long periods of a person's life and does not significantly fluctuate with day-to-day changes. Therefore, it is expected that self-esteem should be related to stable environmental variables, such as income inequality, rather than how good or bad a day someone is having. Following an extensive review of the literature, it seems that research related to how income inequality affects self-esteem is scarce, and is limited to reports of perceived social exclusion, which is related to perceived income inequality, lowering levels of self-esteem (Park & Lee, 2025) or lower income or socioeconomic status driving decreases in self-esteem (Bleidorn et. al., 2023; Renger et. al., 2024). The direct effects that perceived or objective disparities in income may have on self-esteem remain understudied.

Beyond general self-esteem, many other specific mental health outcomes are closely tied to self-view. For instance, narcissistic personality disorder (NPD) is commonly characterized by excessively high self-esteem. However, this is an oversimplification of the disorder as research indicates that NPD can manifest in individuals with either high or low underlying self-esteem, depending on the subtype—such as grandiose, vulnerable, overt, or covert narcissism (Rhodewalt, 2012; Vater et. al., 2013; Foster & Trimm, 2008). In all subtypes, self-esteem tends to be fragile, despite an outward appearance of explicitly high self-esteem. (Vater et. al., 2013; Hyatt et. al., 2018). According to Hyatt and colleagues (2018, p. 1), “Both constructs [self-esteem and narcissism] are positively related to agentic traits and assertive interpersonal approaches, but differ in relation to agreeableness/communion.” Rather than viewing narcissism as the highest form of self-esteem, it is more accurate to think of it as a maladaptive cousin of high self-esteem. In the context of income inequality, research from Zhu and colleagues (2024) showed that increased disparities lead to higher narcissistic traits among the population, and that narcissism can be more adaptive in societies with higher inequality.

On the other end of self-view outcomes, low self-esteem has various specific variants as well. For instance, impostor syndrome is characterized as “a psychological phenomenon where people doubt their achievements and have a persistent internalized fear of being exposed as a fraud” and “typically occurs among high performers who are unable to internalize and accept their success” (Joseph et. al., 2023, p. 1). Numerous studies have linked impostor syndrome to low self-esteem (Schubert & Bowker, 2019; Newar et. al., 2025; El-Setouhy et. al., 2024; Simanjuntak et. al., 2025). It stands to reason that a high-performance individual continuing to discredit their own capabilities, despite external evidence to the contrary, likely has a persistent negative perception of themselves, at least relative to their actual level of success.

The literature directly connecting income inequality, whether subjective or perceived, with impostor syndrome currently appears to be non-existent, aside from theoretical inferences that could be drawn from available data. For instance, impostor syndrome is more prevalent among individuals from lower socioeconomic backgrounds, particularly those with a greater number of friends from higher socioeconomic groups (Macinnis et. al., 2019), a pattern that is likely to be more common in economically unequal contexts.

2.3 Explanatory Pathway from Income Inequality to Well-Being

When considering possible mechanisms by which perceived income inequality may lead to diverging self-view outcomes, the theoretical framework proposed by Sommet and Elliot (2023b) relating perceived income inequality to contrasting well-being outcomes through perceived competitiveness and diverging motivational orientations is of particular interest. First, they propose a relationship from income inequality to an “ethos of competitiveness,” in which perceived competition causes individuals to act more competitively, thereby increasing the perceived competition of others, and then vice versa in a continuous loop of increasingly competitive attitudes. This loop is proposed to be influenced by inequality through economic categorization and increased subjective importance of economic status. Economic categorization is thought to increase in the presence of income inequality due to the salience of visible economic differences, which then causes economic factors to weigh more on perceptions of social status. As status is a relative measure, this then should lead to greater status/economic based competition.

Following this connection, two types of status-focused behaviors are identified: those meant to change or maintain one’s own status, and those meant to change or maintain that of others. Citing multiple sources and specific examples, Sommet and Elliot (2023b) defend the claim that income inequality elicits various behaviors related to raising one's own status or lowering/preventing the increase of the differences between them and those with higher status. This means that income inequality can harm social relations when they are not conducive to economic goals. On the other hand, they also mention how instrumental prosocial behavior can be increased in unequal contexts when it contributes to raising social or economic status.

To support the idea of the importance of status in highly unequal societies, Sommet and Elliot refer to Wilkinson and Pickett’s (2017) seminal theoretical paper regarding their status anxiety hypothesis - that higher income inequality leads individuals across all socioeconomic levels to experience an increase in anxiety over their social status. However, Sommet and Elliot

(2023b) also point out that previous research tends to ignore any possible positive effects of inequality, and they focus on how it can elicit either positive or negative results. The increase in status-based behavior and competition may be detrimental for those who do not feel they have sufficient resources to rise up the social ladder, while simultaneously providing positive incentives and motivation for those who perceive a greater possibility of rising up the social ladder, or at least maintaining an already high position.

To integrate the different theoretical perspectives, Sommet and Elliot (2023b) propose a model in which income inequality predicts diverse well-being outcomes through perceived competition and either approach or avoidance motivation. In an attempt to better understand the processes underlying the inequality-wellbeing link, motivational factors are introduced to explain this, highlighting the likely possibility that those who perceive themselves as more resourceful will be motivated to get ahead (approach motivation) and those who perceive themselves as less resourceful will be motivated by the fear of falling behind (avoidance motivation) and will face the detrimental effects this seems to have on mental health. However, it is important to note that this divide is not based on objective resources or income, but rather perceived resourcefulness, which can be influenced by a wide range of factors.

2.4 Inequality and Status-Focused Competition

Revisiting the link explained by Sommet and Elliot (2023b) between perceived income inequality and perceived competition through increased subjective importance of economic status in unequal contexts, research shows that conspicuous consumption, which can imply status signaling, can also subsequently increase pre-existing inequalities. Sheheryar Banuri and Ha Nguyen (2023) have demonstrated a causal relationship between conspicuous consumption, access to credit, and inequality. Specifically, when people want to signal more status or wealth, they are more likely to borrow to make the purchases, which then exacerbates the already existing inequality. This was shown experimentally by simulating different levels of economic inequality and visibility of purchases. A total of 650 students at the University of East Anglia were put in groups of four and given credit they could use to purchase virtual images of luxury items. Between groups and rounds there were changes in the level of inequality, the visibility of purchases, and the ability to take out loans to make purchases. They found that consumption increases when it is more visible to others and when it signals status or ability, that borrowing increases when the consumption is conspicuous, that this increase in borrowing is driven by those at the bottom, and finally, that availability of loans leads to further inequality.

Considering status and wealth differences become more visible in more unequal societies, this means that inequality can create a positive feedback loop - status becomes more important, borrowing happens more in order to signal status, and inequality increases, once again raising the importance of status. Many other studies have also shown how inequality can influence competitive and status-focused behaviors. For example, Velandia-Morales and colleagues (2022) found evidence that higher inequality increases preferences for status consumption, confirming this idea. Similarly, Sánchez-Rodríguez and colleagues (2019) conducted three experiments and demonstrated that individuals in more unequal societies perceive a more competitive and individualistic climate as well.

2.5 Competition and Approach-Avoidance Motivation

Following the established relationship between income inequality, the resulting importance of status, and the competitive environment this creates, the next focus turns to the relationship between competition and motivational orientations. Murayama and Elliot (2012) used meta-analytic structural equation modeling (MASEM) with a total of 139,464 participants across 474 studies to investigate the connection between competition and performance, and they found no significant direct relationship between the two variables. This led them to explore the possibility of opposing processes connecting the two, namely indirect relationships through performance-approach and performance-avoidance achievement goals. In three subsequent studies, they found that approach motivation mediated the relationship between competition and high performance, while avoidance motivation mediated the path from competition to low performance. The opposing effects of contrasting motivational orientations on performance caused the direct relationship to be null across the studies included in the meta-analysis, but with a closer look it became clear that approach and avoidance were the key to understanding the relationship between competition and performance. This discovery suggests that perceived competition should be positively related to both approach and avoidance motivation simultaneously, and the differential effects this has on performance provide a further basis for the expectation that competition and motivational orientation will be related to self-view as well. If motivational orientation affects actual outward performance, it is conceivable that those same accomplishments, or lack thereof, may contribute to the subjective opinion of one's self.

2.6 Motivational Orientations and Self-Esteem

Approach and avoidance motivation have been related to many traits in the current literature, but evidence of their direct relationship with self-esteem is limited to only a few

studies. For example, Heimpel and colleagues (2006) found across three studies that self-esteem is negatively related to high avoidance (relative to approach) personal goals, that it mediates the relationship between neuroticism and avoidance goals, and that it mediates the relationship between behavioral activation system (BAS) and behavioral inhibition system (BIS) and avoidance goals. The BAS has previously been closely linked to approach temperament and extraversion, while the BIS is related to avoidance temperament and neuroticism (Elliot & Thrash, 2002). Self-esteem is also strongly correlated positively with extraversion and negatively with neuroticism (Watson et. al., 2002). Synthesizing these findings, it can be concluded that BIS, neuroticism, and avoidance motivation should correlate with low self-esteem, while BAS, extraversion, and approach motivation should correlate with high self-esteem.

2.7 Approach-Avoidance Motivation and Narcissism

Research has also shown that motivational orientation relates closely to narcissism. Foster and Trimm (2008) demonstrated with a total of 1,319 participants across three studies that narcissism very strongly predicted high approach and low avoidance motivation. This means that narcissists tend to be highly motivated by the possibility of achieving positive outcomes and show little fear of negative consequences. In their first study, a regression analysis was done using the responses of 917 undergraduates at the University of South Alabama to measures of narcissism and approach-avoidance motivation. A strong relationship was found between narcissism and high approach motivation combined with low avoidance motivation. In the second study with 193 participants, a different measure for approach and avoidance was used to ensure the validity of the first scale. In addition to the confirmatory second measure of approach and avoidance, they also tested functional and dysfunctional impulsivity to demonstrate the role of high-approach low-avoidance motivation in narcissistic behaviors. They tested for social desirability to ensure that it was not affecting the approach and avoidance scores of narcissists, and it was found to have no effect. In the third study, with 209 participants, the high-approach low-avoidance hypothesis was yet again strongly confirmed, and they demonstrated further how approach and avoidance motivation can be useful in understanding the behavior and attitudes of narcissists. This time, they looked at the difference between overt and covert narcissists in relation to self-esteem and how approach and avoidance motivation play a role in these differences. Overt narcissists are the most commonly studied type that have been described as grandiose, highly outgoing and confident. Covert narcissists are also often selfish and unaware of the needs of others, but in their case, it is driven

more by low self-esteem (Rose, 2002). It was found that the high self-esteem of overt narcissists can be entirely explained by their high approach and low avoidance tendencies, and that the low self-esteem of covert narcissists can be explained by having higher avoidance motivation, unlike overt narcissists. This study not only supports the hypothesis that high approach motivation would be related to overt narcissism, as measured in the present research, it also confirms that high levels of self-esteem should have a positive relationship with approach motivation and a negative relationship with avoidance motivation.

2.8 Avoidance Motivation and Impostor Syndrome

On the other end of motivational orientations and self-esteem outcomes, many factors of impostor syndrome explained in the literature have a clear connection to avoidance motivation. Noskeau and colleagues (2021) looked into how mindset relates to impostor syndrome, specifically through fear of failure and goal orientation. They found that people with a fixed mindset are more likely to experience impostor syndrome, primarily driven by fear of failure. Additionally, avoid goal orientation (avoid GO) strengthened this relationship as a mediator. Avoid GO is defined as “the desire to avoid the disproving of one’s competence and avoid negative judgments about it” (VandeWalle, 1997, p. 1000). They also looked at performance prove goal orientation (prove GO), i.e. motivation based on proving competence and seeking favorable judgements about it, and learning goal orientation (learning GO), i.e. motivation based on improving competence. Fixed mindset was found to have a positive effect on fear of failure, which positively influenced avoid GO, which subsequently had a positive effect on impostor syndrome. Fear of failure negatively predicted prove GO and learning GO was negatively predicted by both fixed mindset and fear of failure. The variables used in this study seem to relate closely to the measures of approach and avoidance motivational orientations previously mentioned. Avoid GO and prove GO could be considered almost the same constructs, but with a stronger focus on how one is perceived rather than whether their goals are achieved. The relationship between fear of failure, avoid GO, and impostor syndrome supports the hypothesis that avoidance motivation will predict impostor syndrome. Moreover, the finding that prove GO had no positive effect on impostor syndrome shows that it is reasonable to expect that approach motivation will not either.

2.9 Income Inequality, Perceptions of Competition, and Motivational Orientation

To synthesize these relationships and understand their effect on well-being, it is worth revisiting the conceptual framework of Sommet and Elliot and understanding the design behind

their studies. Sommet and colleagues (2019) and Sommet and Elliot (2023a) demonstrated a significant indirect relationship from perceived income inequality to both approach and avoidance motivation and subsequent well-being outcomes, mediated by perceived competition, findings that this study attempts to replicate and expand upon. Sommet and Elliot (2023a) tested this with a two-year longitudinal study followed by three experimental studies.

The longitudinal study (study 1) was observational, measuring county-level income inequality (using GINI scores), perceived income inequality, perceived competitiveness, approach/avoidance motivation, and psychological health (using a measure of hopelessness) all together. They collected responses in fall of the first year (wave 1), and then again in fall of the second year (wave 2), using data from a total of 1,701 participants across 531 counties of the United States. Only participants who did not move counties and had complete responses in both waves were considered.

In their preliminary findings of study 1, actual income inequality in wave 1 predicted perceived income inequality in wave 2, but perceived income inequality in wave 1 did not predict real income inequality in wave 2. A post-estimation test confirmed that the effect of actual income inequality on perceived income inequality was statistically stronger than the reciprocal effect. These findings suggest that actual economic disparities drive public perceptions of income inequality as measured in their study, which is the same measure used in the present research. In addition to this, the longitudinal study found that income inequality in wave 1 predicted perceived competitiveness in wave 2, but not the other way around. A post-estimation test was performed with this relationship as well and the directionality of the relationship from income inequality to perceived competition was confirmed. It was also found that income inequality had no direct relationship with psychological health, but with perceived competition and approach/avoidance as mediators, significant indirect relationships were found. The indirect relationships through avoidance and approach were opposing, with avoidance creating a negative indirect effect and approach a positive one, which explains why there is no direct effect when motivational differences are not accounted for.

The three experimental studies that followed looked at each relationship in the model separately, measuring how induced income inequality relates to perceived competition (study 2a), how induced perceived competition leads to higher approach and avoidance motivation (study 2b), and finally how induced motivation influences affect balance and life satisfaction (study 2c). In each of the three experiments, participants were told that they were now citizens

of a fictional society. Each experiment had two conditions where the induced variable was manipulated to be either higher or lower. In experiment 2a participants were given information on the income distribution in their society, in experiment 2b they were told of the attitudes toward competition that the citizens of their society held, and in experiment 2c they were told of the mindset they were entering the society with, reflecting either approach or avoidance motivation.

In all three studies, preliminary testing showed that the manipulations were effective. Perceived income inequality was higher in the high inequality group, perceived competition was higher in the high competition group, and approach and avoidance were higher in their respective groups as well. The overall findings from all three experiments also aligned with their hypotheses: perceived competition was higher in the high inequality group, approach and avoidance were both higher in the high competition group, and both affect balance and life satisfaction were higher in the approach group than in the avoidance group. The results of Sommet and Elliot's study provide a strong basis for the present research.

2.10 Current Study and Hypotheses

This study seeks to test the relationship between perceived income inequality and various self-view outcomes, namely narcissism, impostor syndrome, and self-esteem, mediated by perceived competition and motivational orientation. Synthesizing the current literature relating to income inequality and well-being, it can be concluded that both objective and perceived income disparities have substantial impacts on various facets of well-being, and potentially self-view outcomes. Income inequality may inflate self-esteem and narcissism in some individuals while also contributing to lower self-esteem and impostor syndrome in others, yet these specific outcomes and the precise mechanisms underlying these divergent effects remain underexplored. Considering the aforementioned theoretical evidence and current gaps in the literature, it is hypothesized that:

H1: Perceiving greater income inequality is linked to inflated self-esteem and narcissism as well as lower self-esteem and impostor syndrome.

Theoretical and experimental bases for the expected connection between perceived income inequality, higher importance on status and conspicuous consumption, and the increased attitudes and perceptions of competition that result have been established. Competition has also been linked to both positive and negative outcomes regarding well-being

and performance, which have a self-evident connection to self-esteem. The present study seeks to strengthen the evidence for these relationships and investigate the role they play in self-esteem. Therefore, it is hypothesized that:

H2: Perceived competition mediates the relationships between perceived income inequality and self-esteem outcomes.

When considering the literature regarding the distinct self-view outcomes relevant to this study, it is clear that approach motivation plays an important role in narcissistic behavior and avoidance motivation is highly tied to impostor syndrome. While narcissism does not necessarily imply high self-esteem, the two share the aspect of higher self-importance, and both can reasonably be related to approach motivation. Including narcissism as a possible outcome of perceived income inequality and perceived competition may expose a more nuanced view of the seemingly positive effects for those with approach motivation. Impostor syndrome, on the other hand, is clearly related to low self-esteem and influenced by avoidance motivation and may also illuminate a more specific outcome of the model tested in this study. Considering the interconnectedness of these variables supported by the literature, it is hypothesized that:

H3: Approach and avoidance motivations simultaneously mediate the relationship between perceived competition and self-esteem outcomes: approach motivation is positively associated with inflated self-esteem and narcissism, whereas avoidance motivation is positively associated with lower self-esteem outcomes (e.g., impostor feelings, low general self-esteem).

Synthesizing the evidence for each of these relationships, a parallel-path serial mediation model was constructed as the focus of this study. Sommet and Elliot (2023a) have already provided ample evidence for the validity of this model in relation to general wellbeing outcomes, and multiple other studies have confirmed the individual relationships of the model separately. The connection these variables have to self-esteem is underexplored, and therefore it is hypothesized that:

H4: Perceived income inequality predicts competition perceptions, which in turn predict both approach and avoidance motivations. These motivations operate in parallel to mediate the relationship between perceived income inequality and self-esteem outcomes.

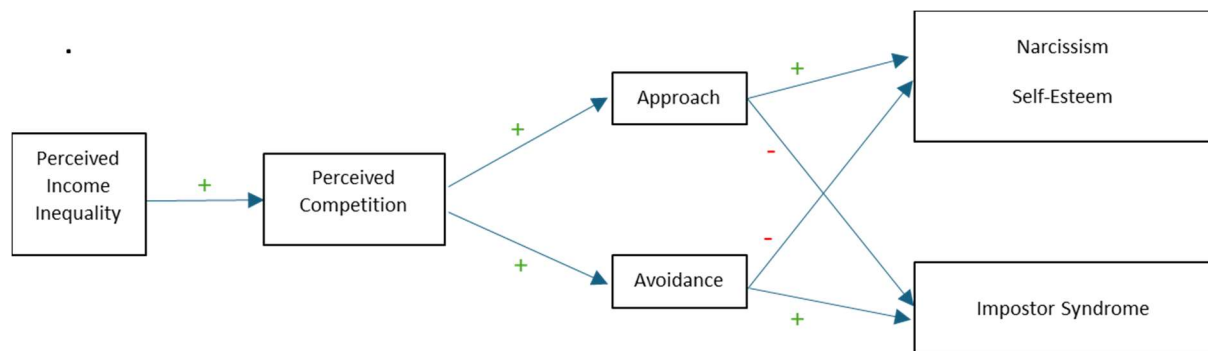


Figure 2.1 Hypothesized pathways from perceived income inequality to self-view outcomes

3 Methods

3.1 Participants

Inclusion criteria required participants to be 18 years or older and to provide informed consent. A total of 522 participants were recruited, of which 350 participated via social media platforms (Facebook and Instagram), 66 via research exchange platforms Survey Swap (11 participants) and Survey Circle (55 participants), and 106 via the ISCTE student participation pool (SPI). A total of 100 respondents were not included in the analysis because they did not meet the completion standard. Those who were not considered completed less than 60% of the survey, leaving a significant portion of questions which were key to the tested model unanswered, while the remaining sample all finished 100% of the survey. Hence, the final sample size for the analysis was 422. Included participants ranged in age from 18-84 ($M=39.21$, $SD=17.58$) and were 76.3% women and 23.7% men. The sample consisted of participants from a total of 36 countries, with the highest number of participants being from the USA (48.3%), Portugal (29.4%), and Argentina (5.9%). A total of 74.9% of participants reported living in the same country their whole life.

Other questions were included in the questionnaire to allow for control of factors that may have influenced the results of the study, but no relevant interactions or covariates were found. For example, participants were asked to report how comfortably they live on their current income and where they would place themselves relative to others in their towns/cities in terms of social status. The majority of participants seemed to perceive their own socioeconomic status as slightly higher than the average. When asked about their current income level, 43.8% reported that they live comfortably on their present income, which was the third highest of seven options. When asked to compare their own socioeconomic status to that of their peers on a scale of one to ten, with ten being the highest and one being the lowest, 51% reported either a 6 or 7. Participants were also asked how far left (1) versus right (7) and liberal (1) versus conservative (7) they would rank both their economic ($M=3.79$, $SD=1.95$) and social ($M=2.78$, $SD=1.85$) political beliefs, and how much they identify with their current country of residence (1 being the least and 7 being the most) ($M=5.08$, $SD=1.70$).

3.2 Measures

The measures that were assessed in this study, in the order that they were shown to participants, are perceived economic inequality, perceived direct competition, perceived indirect competition, motivational orientations, narcissism, impostor syndrome, self-esteem,

status attributions, and self-construal. Status attributions and self-construal were considered as possible moderating variables, but the relationships did not prove to be significant, possibly because the sample size did not allow for such a complex model, and therefore they were not included in the final analysis. Indirect competition was also included to examine potential cross-cultural differences. However, as self-construal and status attributions were dropped as a variable in the study, indirect competition was no longer considered either. The sample was also not sufficiently diversified across countries for a true cross-cultural comparison to be made. For instance, while participants from the United States made up close to half of the sample, no other country was well-enough represented to have enough statistical power in the analysis as a separate group. Perceived direct competition had been previously examined in the context of perceived income inequality (Sommet et. al., 2019; Sommet & Elliot, 2023a) and, therefore, it was included in the current analysis.

Prior to conducting statistical analyses, the reliability of the measures was assessed using Cronbach's alpha. This step ensured that the scales used to assess key constructs demonstrated sufficient reliability for use in the mediation models. Cronbach's alpha values above 0.70 were considered acceptable (see table 4.1) and composite scores for each variable were computed for subsequent analyses.

3.2.1 Perceived Income Inequality

To attempt to replicate the results of Sommet and Elliot (2023a) regarding the effect of perceived income inequality on perceived competition, the same 3-item scale of perceived income inequality ($\alpha=.827$) was used. This scale had previously been created in a study by Sommet and colleagues (2019) investigating a similar model. The validated scale assesses individuals' perceptions of economic disparities within their towns/cities. The scale was developed and refined in previous research to capture how individuals subjectively experience and interpret economic inequality around them. The scale consists of 3 items designed to reflect the perceived gap between the rich and poor and the difference between the top 1% and the rest. For example, participants were asked how much they agreed with the following statement: "[In your town/city], there is a huge gap between the rich and the poor." Participants responded to each item using a 7-point Likert scale, where 1 indicates "Strongly Disagree" and 7 indicates "Strongly Agree." Scores for perceived income inequality are calculated by averaging the responses across all items. Higher scores indicate greater perceived economic inequality, reflecting participants' beliefs that significant disparities exist in their society.

3.2.2 Perceived Competition

Perceived direct competition was also measured using the same scale used by Sommet and colleagues (2019), designed to evaluate individuals' perceptions of competitive dynamics in their towns/cities. This scale was adapted from a survey created for the second study done in the research by Murayama and Elliot (2012) and was meant to test the subjective competitiveness of university students in their classes. Rather than phrasing the questions to reflect competition in class, this scale was adapted by Sommet and Elliot (2019) to test for perceived competition in participants' towns or cities, and it is their adapted version that was used in the present study. The perceived competition scale ($\alpha=.837$) consists of 5 items, each targeting competitive perceptions related to others' competitiveness in their communities and how it relates to the individual. For example, participants were asked how much they agreed that "[In your town/city], it seems that people are competing with each other." Participants responded to each item on a 7-point Likert scale, where 1 signifies "Strongly Disagree" and 7 signifies "Strongly Agree." The perceived competition score is calculated by averaging responses across all items, with higher scores indicating a stronger perception of competition, suggesting that participants view the environment as competitive and challenging.

3.2.3 Motivational Orientations

Approach and avoidance motivations were also assessed using a scale adapted from the one used by Sommet and Elliot (2023a), originally called the promotion/prevention scale and created for research by Lockwood and colleagues (2002) investigating the role of positive and negative role models. It is meant to capture the dual tendencies of individuals to either engage in or withdraw from goal-directed behavior in response to perceived competition. The statements either reflect whether participants are motivated by a drive to succeed (approach motivation) or by fear of negative consequences (avoidance motivation). For example, participants were asked how much they agreed with the statement "In general, I am focused on preventing negative events in my life," reflecting avoidance motivation, and the statement "In general, I am focused on achieving positive outcomes in my life," reflecting approach motivation. The combined approach and avoidance motivation scale consists of 18 items, with 9 items focusing on approach motivation ($\alpha=.896$) and 9 items focusing on avoidance motivation ($\alpha=.867$). Participants responded to each item on a 7-point Likert scale, where 1 indicates "Strongly Disagree" and 7 indicates "Strongly Agree." The Approach Motivation Score is calculated by averaging responses to the 9 approach motivation items. Higher scores

indicate a stronger motivation through desire for success. The Avoidance Motivation Score is calculated by averaging responses to the 9 avoidance motivation items. Higher scores suggest greater motivation due to fear of negative outcomes.

3.2.4 Narcissism

Narcissism was assessed using a shortened and adapted version of the Narcissistic Personality Inventory-13 (NPI-13) (Gentile et. al., 2013). The NPI-13 is a widely used self-report instrument designed to evaluate traits associated with narcissism, which reflect a self-enhancing personality orientation. The adapted scale ($\alpha=.808$) consists of 8 items that capture various aspects of narcissism, specifically those related to leadership, authority, entitlement, and exploitativeness, which are the subtypes that seem to be most cohesive with income inequality. The items from the NPI-13 related to grandiose exhibitionism were removed because this aspect of narcissism was of less interest to this study, and to shorten the length of the survey to maintain the participants' focus throughout. The traits assessed are meant to reflect the degree of inflated self-view and attitudes that could be considered an adaptive response to inequality and competition. The adapted NPI-13 has participants choose where they stand on a scale from -3 to 3 between two statements for each item, one reflecting a narcissistic trait (3) and the other reflecting a non-narcissistic trait (-3). For example, participants were asked which of the following two statements they agreed with more: "I don't mind following orders." (-3) or "I like having authority over people." (3). Participants' scores were calculated by averaging responses to the 8 items, with higher scores reflecting more narcissism.

3.2.5 Impostor Syndrome

Impostor syndrome, related to a deflated form of self-esteem, was measured using a validated shortened version of the Clance Impostor Phenomenon Scale (CIPS) (Wang et. al., 2024). The CIPS evaluates feelings of inadequacy, self-doubt, and the persistent fear of being exposed as a fraud, despite evident success and competence (Clance, 1985). The shortened CIPS ($\alpha=.884$) consists of 6 items that explore the cognitive and emotional aspects of impostor syndrome, including fear of failure, discounting praise, and the feeling of not being as capable as they appear. For example, one of the items asks the participants to what extent they agree that "I'm afraid people important to me may find out that I'm not as capable as they think I am." Participants respond to items on a 7-point Likert scale, where 1 signifies "Strongly disagree" and 7 signifies "Strongly agree." Scores were taken from the average across items, with higher scores indicating greater levels of impostor syndrome.

3.2.6 Rosenberg Self-Esteem Scale

To have a more general measure of self-esteem, as a measure of overall self-worth and self-regard, the Brief Rosenberg Self-Esteem Scale (B-RSES) (Monteiro et. al., 2022), a shortened version of the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965), was used. This scale is designed to capture self-esteem by examining both positive and negative perceptions of oneself. The B-RSES ($\alpha=.843$) consists of 5 items that evaluate core aspects of self-esteem, such as self-respect, self-acceptance, and personal worth. Three of the items addressed positive perceptions, such as the statement “On the whole, I am satisfied with myself,” and two of the items assessed negative perceptions, such as the statement “All in all, I am inclined to think that I am a failure.” The answers to the items reflecting negative perceptions were reversed before being included in the composite scores. Participants responded to items on a 7-point Likert scale, where 1 signifies "Strongly disagree" and 7 signifies "Strongly agree." Scores were calculated as the average across the three positive items and the reverse scores of the two negative items, with higher scores indicating higher levels of self-esteem.

3.3 Procedure

The survey was developed in English and translated into Portuguese and Spanish to accommodate the cultural and linguistic needs of the participants. Translations were reviewed by native speakers to ensure accuracy and cultural relevance. A pilot test was conducted with a subset of participants to ensure the clarity of survey items and the functionality of the online platform, Qualtrics. Approval was requested and received from the ISCTE ethics committee (Parecer 57/2024) before data collection began.

To increase participation and ensure a diverse sample reaching beyond those in the researcher's immediate social circle, participants were offered the chance to enter a raffle to win a \$200 prize, which was awarded to a randomly selected participant using a random number generator app when the sample was complete. Upon completing the survey, participants were instructed to take a screenshot of the final page, which confirmed their survey submission, and email it to the researcher. Those who entered were assigned numbers in order of submission. The raffle was open to all participants recruited via social media and recruitment platforms, regardless of geographical location, which contributed to a diverse international sample. Students recruited via the student participation pool (SPI) were awarded .5 credits upon completion.

Participants were informed of the study's general purpose and their rights and were required to give informed consent before data collection (See Annex A). Upon completion of the survey, participants were provided with a debriefing statement that explained the study's specific aims and were given the researcher's contact information for any questions or concerns (See Annex C). Participants were also informed about the availability of study results after completion of the research, upon request to the same email provided for questions or concerns.

3.4 Statistical Analysis

The data were analyzed using PROCESS Model 81 (Hayes, 2013) to examine a parallel-path serial mediation model with the variables perceived income inequality, perceived competition, approach/avoidance motivation, and diverse self-view outcomes. The analysis was performed separately for each outcome variable of the study, with competition, approach, and avoidance as mediators for each of the three outcomes (i.e. narcissism, impostor syndrome, and self-esteem). In each analysis, perceived income inequality served as the independent variable, perceived competition as the first mediator, and approach and avoidance motivation as the second parallel mediators. The three outcome variables were narcissism, impostor syndrome, and self-esteem. Each mediation model was evaluated for indirect effects using bootstrapped standard errors and 95% confidence intervals (CIs). Indirect effects were considered statistically significant if zero was not included in the CI. The direct effects of perceived income inequality on each outcome variable were also examined.

4 Results

4.1 Descriptive Statistics and Data Handling

Descriptive statistics were calculated for all key variables to summarize the sample characteristics. These included means, standard deviations, and ranges for continuous variables such as perceived income inequality ($M= 5.90$, $SD= 1.13$), perceived competition ($M= 4.90$, $SD= 1.01$), approach motivation ($M= 5.26$, $SD= 1.06$), avoidance motivation ($M= 4.52$, $SD= 1.24$), narcissism ($M= 3.21$, $SD= 1.12$), impostor syndrome ($M= 4.16$, $SD= 1.52$), and self-esteem ($M= 5.10$, $SD= 1.28$).

4.2 Preliminary Results

The correlations found between variables (see Table 4.1) were generally what was expected. Perceived income inequality was only positively correlated with perceived competition, but no correlation was found between perceived income inequality and any other variable. Perceived competition had a strong positive correlation with every other variable except for self-esteem, with which it had a negative correlation. Notably, perceived competition had highly significant correlations with all other variables, yet it was the only variable with which perceived income inequality had a significant correlation. As will be further demonstrated when looking at the total, direct, and indirect effects, perceived competition is the principal linking element between inequality and the subsequent relationships that were tested.

Unexpectedly, approach and avoidance motivation were positively correlated with each other, showing they are not mutually exclusive. It is noteworthy that each of the motivational orientations were positively correlated with both narcissism and impostor syndrome. Yet, avoidance motivation had a much stronger correlation with impostor syndrome than with narcissism and was also negatively correlated to self-esteem, while no correlation was found between approach motivation and self-esteem. Impostor syndrome was also strongly and negatively correlated with self-esteem, while narcissism had no significant correlation with either impostor syndrome or self-esteem.

Due to the strength of the relationship between avoidance motivation and both impostor syndrome and self-esteem, a collinearity test was conducted using regression analysis in SPSS. The criteria used was the condition index, which was below 15 for both, suggesting there was no collinearity between the variables (Shrestha, 2020).

Table 4.1*Descriptives and Bivariate Correlations of the Main Study Variables*

	Variables	M	SD	Range	α	1	2	3	4	5	6	7
1	Perceived Income Inequality	5.900	1.133	1.00-7.00	.827	1	.218***	-.017	.088	-.075	.021	-.032
2	Perceived Competition	4.766	1.161	1.00-7.00	.837		1	.322***	.419***	.204***	.336***	-.254***
3	Approach Motivation	5.258	1.062	1.00-7.00	.896			1	.428***	.294***	.205***	-.026
4	Avoidance Motivation	4.516	1.241	1.00-7.00	.867				1	.138**	.685***	-.623***
5	Narcissism	3.208	1.119	1.13-6.88	.808					1	.012	-.011
6	Impostor Syndrome	4.158	1.524	1.00-7.00	.884						1	-.635***
7	Self-Esteem	5.096	1.285	1.20-7.00	.843							1

Note: $N = 422$, M = Mean, SD = Standard Deviation, α = Cronbach's alpha. * $p < .05$, ** $p < .01$, *** $p < .001$

4.3 Main Findings

The results of the analysis were generally in line with what was predicted. As expected, perceived income inequality positively predicted perceived competition, and perceived competition positively predicted both approach and avoidance motivations.

When predicting narcissism, both perceived competition (see table 4.2) and approach motivation had positive direct effects. Avoidance motivation did not have a significant direct effect on narcissism. The total effect of perceived income inequality on narcissism, as expected due to the contrasting pathways, was non-significant. Table 4.2 shows that positive indirect effects were also found on narcissism through perceived competition and perceived competition and approach, confirming the significant takeaway that perceived competition is a fundamental variable in this model, considering the indirect effect on narcissism through approach alone was not significant.

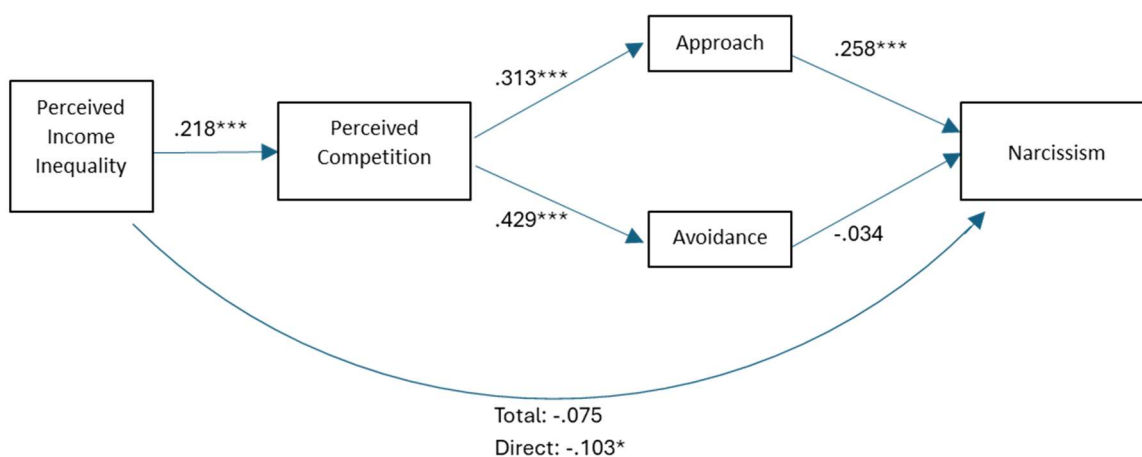


Figure 4.1 - Parallel-serial Mediation Model Predicting Narcissism

Note: Standardized coefficients, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4.2

Total, Direct and Indirect Effects of Perceived Income Inequality on Narcissism through Perceived Competition and Approach/Avoidance Motivation.

Variables	Perceived Competition (M1)			Approach (M2a)			Avoidance (M2b)			Narcissism (Y1)		
	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>
Constant	3.451***	.293	[2.874, 4.027]	4.387***	.302	[3.793, 4.980]	2.397***	.335	[1.739, 3.056]	1.758***	.389	[.994, 2.522]
Perceived Income Inequality (X)	.223***	.049	[.127, .319]	-.084	.045	[-.172, .004]	-.011	.050	[-.108, .087]	-.101*	.047	[-.194, -.009]
Perceived Competition				.286***	.044	[.201, .372]	.458***	.048	[.363, .553]	.159**	.051	[.059, .259]
Approach										.272***	.055	[.165, .379]
Avoidance										-.031	.049	[-.127, .066]
F	20.858 (1, 420)			21.716 (2, 419)			46.600 (2, 419)			13.208 (4, 417)		
R ²	.047			.094			.182			.112		

Total, direct and indirect effects of X on Y

	Narcissism (Y1)		
	<i>Boot effect</i>	<i>Boot SE</i>	<i>CI</i>
Total effect of X on Y	-.074	.048	[-.169, .020]
Direct effect of X on Y	-.101	.047	[-.194, -.009]
Indirect effect of X on Y through perceived competition	.035	.014	[.011, .065]
Indirect effect of X on Y through approach	-.023	.016	[-.057, .005]
Indirect effect of X on Y through avoidance	<.001	.003	[-.005, .007]
Indirect effect of X on Y through perceived competition and approach	.017	.007	[.006, .032]
Indirect effect of X on Y through perceived competition and avoidance	-.003	.005	[-.013, .006]

Note. Coefficients are unstandardized regression weights; * $p < .05$, ** $p < .01$, *** $p < .001$; CIs for significant total, direct, and indirect effects are reported in bold.

When impostor syndrome was the variable being predicted, avoidance motivation had a substantial positive effect and approach motivation had a negative effect. Perceived competition had a slight positive direct effect (see Table 4.3), and perceived income inequality did not have a significant direct effect. As with narcissism, the total effect on impostor syndrome was non-significant, which also aligns with expectations considering each parallel pathway has significant and opposing effects. As shown in Table 4.3, positive indirect effects were also found through perceived competition, and through perceived competition and avoidance motivation, while a negative indirect effect was found through perceived competition and approach motivation. The lack of significant indirect relationships through approach or avoidance motivation alone also aligns with the recurring notion that perceived competition is very important for the model.

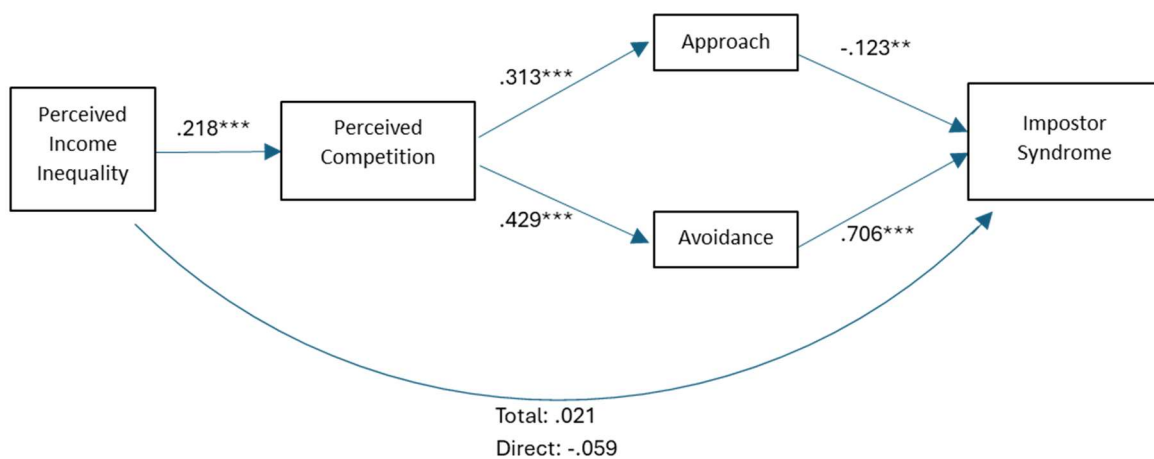


Figure 4.2 - Parallel-serial Mediation Model Predicting Impostor Syndrome

Note: Standardized coefficients, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4.3

Total, Direct and Indirect Effects of Perceived Income Inequality on Impostor Syndrome through Perceived Competition and Approach/Avoidance Motivation

Variables	Perceived Competition (M1)			Approach (M2a)			Avoidance (M2b)			Impostor Syndrome (Y2)		
	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>
Constant	3.451***	.293	[2.874, 4.027]	4.387***	.302	[3.793, 4.980]	2.397***	.335	[1.739, 3.056]	1.113**	.403	[.321, 1.905]
Perceived Income Inequality (X)	.223***	.049	[.127, .319]	-.084	.045	[-.172, .004]	-.011	.050	[-.108, .087]	-.079	.049	[-.175, .016]
Perceived Competition				.286***	.044	[.201, .372]	.458***	.048	[.363, .553]	.110*	.053	[.007, .214]
Approach										-.177**	.057	[-.288, -.066]
Avoidance										.868***	.051	[.768, .968]
F	20.858 (1, 420)			21.716 (2, 419)			46.600 (2, 419)			98.315 (4, 417)		
R ²	.047			.094			.182			.485		

Total, direct and indirect effects of X on Y

	Impostor Syndrome (Y2)		
	<i>Boot effect</i>	<i>Boot SE</i>	<i>CI</i>
Total effect of X on Y	.028	.066	[-.101, .157]
Direct effect of X on Y	-.079	.049	[-.175, .016]
Indirect effect of X on Y through perceived competition	.025	.014	[-.001, .056]
Indirect effect of X on Y through approach	.015	.011	[-.003, .040]
Indirect effect of X on Y through avoidance	-.009	.044	[-.096, .079]
Indirect effect of X on Y through perceived competition and approach	-.011	.005	[-.024, -.003]
Indirect effect of X on Y through perceived competition and avoidance	.089	.026	[-.042, .143]

Note. Coefficients are unstandardized regression weights; * $p < .05$, ** $p < .01$, *** $p < .001$; CIs for significant total, direct, and indirect effects are reported in bold.

Finally, self-esteem was predicted by approach and avoidance in a similar but opposite manner to impostor syndrome. Avoidance motivation had a pronounced effect on self-esteem, as it did with impostor syndrome, though the effect was negative suggesting that avoidance motivation very strongly predicts low self-esteem. Approach motivation had a stronger positive effect on self-esteem than it had a negative effect on impostor syndrome. As with impostor syndrome, perceived income inequality had no significant total or direct effect on self-esteem. As can be seen in Table 4.4, perceived competition also did not have a direct effect on self-esteem, and indirect effects were not found through perceived competition, approach motivation, or avoidance motivation alone. A positive indirect effect was found through perceived competition and approach motivation, and a negative one through perceived competition and avoidance motivation. These results highlight the significance of this model, considering that perceived income inequality does not significantly relate to self-esteem by any tested route other than the exact two hypothesized pathways which include the serial-parallel mediation. In addition, the direct effects between each variable follow the expected pattern.

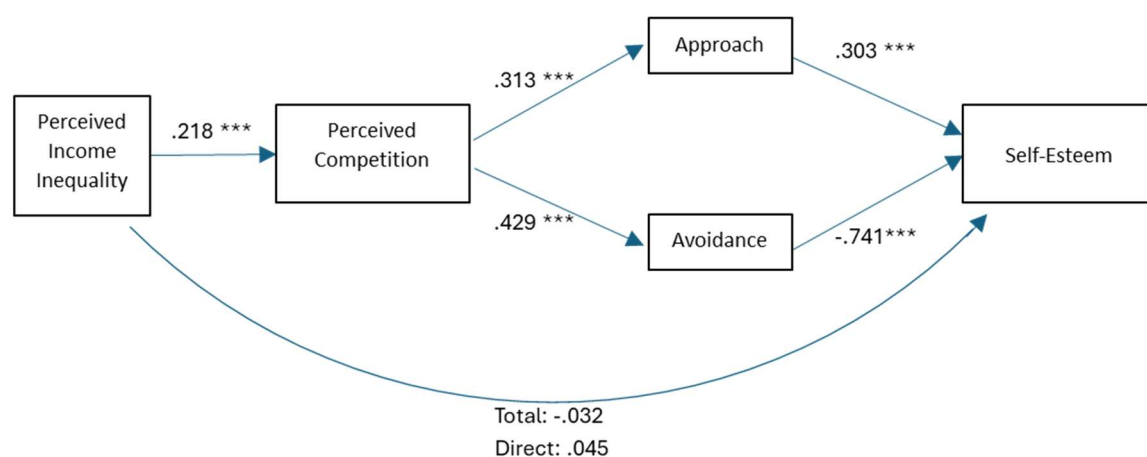


Figure 4.3 - Parallel-serial Mediation Model Predicting Self-Esteem

Note: Standardized coefficients, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4.4

Total, Direct and Indirect Effects of Perceived Income Inequality on Self-Esteem through Perceived Competition and Approach/Avoidance Motivation

Variables	Perceived Competition (M1)			Approach (M2a)			Avoidance (M2b)			Self-Esteem (Y3)		
	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>	<i>Coefficient</i>	<i>SE</i>	<i>Boot CI</i>
Constant	3.451***	.293	[2.874, 4.027]	4.387***	.302	[3.793, 4.980]	2.397***	.335	[1.739, 3.056]	6.527***	.347	[5.844, 7.210]
Perceived Income Inequality (X)	.223***	.049	[.127, .319]	-.084	.045	[-.172, .004]	-.011	.050	[-.108, .087]	.051	.042	[-.032, .133]
Perceived Competition				.286***	.044	[.201, .372]	.458***	.048	[.363, .553]	-.041	.045	[-.130, .049]
Approach										.367***	.049	[.271, .462]
Avoidance										-.767***	.044	[-.853, -.681]
F	20.858 (1, 420)			21.716 (2, 419)			46.600 (2, 419)			89.411 (4, 417)		
R ²	.047			.094			.182			.462		

Total, direct and indirect effects of X on Y

	Self-Esteem (Y3)		
	<i>Boot effect</i>	<i>Boot SE</i>	<i>CI</i>
Total effect of X on Y	-.036	.055	[-.144, .073]
Direct effect of X on Y	.051	.042	[-.032, .133]
Indirect effect of X on Y through perceived competition	-.009	.011	[-.034, .011]
Indirect effect of X on Y through approach	-.031	.019	[-.069, .008]
Indirect effect of X on Y through avoidance	.008	.039	[-.071, .086]
Indirect effect of X on Y through perceived competition and approach	.023	.009	 [.009, .046]
Indirect effect of X on Y through perceived competition and avoidance	-.078	.022	 [-.124, -.037]

Note. Coefficients are unstandardized regression weights; * $p < .05$, ** $p < .01$, *** $p < .001$; CIs for significant total, direct, and indirect effects are reported in bold.

5 Discussion

5.1 General Discussion

The present study sought to expand upon the existing literature regarding the ways in which income inequality shapes individual psychology and behavior, specifically investigating the mediating roles of perceived competition and motivational orientations on self-esteem outcomes. Using a cross-sectional design and data collected with online questionnaires from a diverse sample of participants across 36 countries (N=422), a serial-parallel mediation model was tested. Consistent with prior research and theoretical predictions, the findings revealed that perceived income inequality fosters a sense of competition, which in turn increases both approach and avoidance motivations. Furthermore, these motivational pathways have diverging effects on self-views, with approach motivation being associated with increased narcissism and self-esteem, and avoidance motivation being linked to higher levels of impostor syndrome and lower self-esteem. These indirect effects expose the underlying mechanisms behind the relationships between societal perceptions, motivational tendencies, and self-evaluative processes in the context of income inequality. By demonstrating that perceived income inequality can influence individuals' self-views through motivational pathways, this research contributes to a better understanding of the psychological consequences of income inequality.

5.2 Implications

This study contributed to the existing literature in many ways. First, the findings of Sommet and colleagues (2019) and Sommet and Elliot (2023a) regarding the relationships between perceived income inequality, perceived competition, and approach and avoidance motivation were replicated, strengthening the evidence for this dual pathway model. This study shows that the lack of a direct relationship from perceived income inequality and competition to self-view outcomes is not due to disconnection, but rather because there are two contrasting indirect relationships through approach and avoidance motivation counteracting each other. Similarly, Sommet and Elliot (2023a) had already demonstrated this same relationship from perceived income inequality to general well-being outcomes. Understanding the motivational differences that create two opposing effects of inequality clarifies and strengthens the idea that perceived income inequality does influence the well-being and self-esteem of individuals in different ways, and studies on inequality that include this consideration are sparse. Not only were these findings confirmed, but they were extended beyond the United States with more

than half the participants coming from other countries, increasing the generalizability of the previous findings.

The present study also narrowed down the effects found on well-being to more specific self-view outcomes, i.e. narcissism, impostor syndrome, and self-esteem, which provide a connection between the findings of Sommet and Elliot (2023a) concerning income inequality's link to well-being and those of Wilkinson and Pickett (2017) regarding income inequality's relation to mental illness and social cohesion. While approach motivation may facilitate inequality's relationship with high self-esteem, a key aspect of increased well-being, this study, similarly to that of Wilkinson and Pickett, also demonstrates the association of inequality and approach motivation with narcissism. This suggests that even seemingly "positive" responses to inequality may have detrimental consequences for social cohesion and well-being, reflecting the eroding effects on society and social relations as suggested by Wilkinson and Pickett.

In addition to these contributions to the literature, the findings of this study have practical implications as well as they point to concrete targets for intervention. At the policy level, measures that reduce objective and subjective inequality (e.g. progressive taxation, expanded social safety nets, and pay transparency) may have downstream psychological benefits. Additionally, reducing perceived competition through cooperative messaging, organizational policies that reward teamwork, and transparency in pay practices could shift motivational balances away from harmful social dynamics. Interventions that strengthen adaptive approach motivation and that directly address avoidance-related vulnerabilities (e.g. skill-building, realistic goal setting, and mentoring programs) may protect self-esteem without inadvertently fostering narcissism. Policymakers and practitioners have many possible ways to intervene with the self-view effects of inequality, as informed by this study. However, it would still be important to have improvement, validation, and further exploration in future research in addition to the present study.

5.3 Limitations

One limitation of this study was that Gini coefficients were unable to be calculated for all areas. While the subjective measure of inequality was the focus, it would have been worth knowing how well objective income inequality correlated with perceptions of income inequality within the sample if it were possible. However, some residential areas the participants came from had no Gini coefficient data, and of those that did, many came from a

variety of sources that seemingly used different methods. Even with census data it was not possible to find reliable Gini coefficients for all areas.

Along with the lack of resources to find sufficient Gini coefficients, it was also not possible to reach a minimum sample size from specific countries to enable a cross-cultural comparison. To this end, the overall sample was also not as representative as would be ideal. Participants were drawn from social contacts of the researcher, groups of other researchers around the globe, and the student participation pool at ISCTE. One particular group from which this likely does not include many people are those with low socioeconomic backgrounds. Even the average perceived socioeconomic status of participants was quite high, and research shows that it is common to underestimate one's own socioeconomic status due to upward comparisons (Condon & Wichowsky, 2020). It would be important to capture results from those who have suffered the consequences of inequality most, and any other group that may not have been represented, to understand the full effects across the population.

Another limitation in this study was the potential conceptual overlap of avoidance motivation, impostor syndrome, and low self-esteem. While a collinearity test was performed and found no statistical evidence of overlap, exceedingly high correlations were found between the three variables and upon reevaluation of the survey questions, it seems they could have been framed in a way that conceptually separated them more. For example, some questions meant to test for avoidance motivation may actually be influenced directly by low self-esteem in a way that eclipses the motivational focus, like the statements "I often worry that I will fail to accomplish my goals" and "I am anxious that I will fall short of my responsibilities and obligations," which may be answered with a stronger focus on personal competencies rather than on motivational factors. However, other questions seem to be more focused on the desired variable, such as "I am more oriented toward preventing losses than I am toward achieving gains." The same can be said of impostor syndrome and its relation to self-esteem. Impostor syndrome is more specific than self-esteem, but some of the questions for impostor syndrome may be construed with a stronger focus on overall lack of subjective competencies, rather than the difference between subjective competencies and outward appearance, which should be the focus. Both avoidance motivation and impostor syndrome were expected to correlate with low self-esteem based on the extensive literature connecting the constructs, but in future studies it would be worth taking a very close look at the questions for each to ensure maximum conceptual clarity between the three.

5.4 Directions for Future Research

While the present study has made some important clarifications relating to the effects of perceived income inequality on well-being, and more specifically, self-view outcomes, it also leads to further questions about the complex issue of income inequality and how it affects societies and individuals. Between the research from Wilkinson and Pickett (2017) exposing the detrimental effects of income inequality on social relations, the studies from Sommet and Elliot (2023a) explaining the contrasting pathways leading to differential well-being outcomes, and the present study looking at the more specific self-view outcomes corresponding with the contrasting effects on well-being, we now have a clearer view of how this all may tie together. Rather than the differential pathways creating two outcome groups, those with high versus low well-being, we tend to see social relations across all echelons of society deteriorate in the presence of heightened income inequality. The influence income inequality has on narcissism may partially explain this, and it begs the question, can the self-view outcomes influenced by income inequality in turn exacerbate the original problem? For instance, we may have powerful narcissists in the government writing laws that benefit themselves and in business controlling the ratio between salary and the cost of living to maximize their own profit, while the low self-esteem of others simultaneously creates an additional barrier to breaking the cycle of poverty. Investigating the mechanisms of this potential feedback loop and exploring possible interventions could be an important next step in the research on income inequality. Specifically, future research should prioritize longitudinal and experimental designs to establish causal relationships and inform the effectiveness of possible interventions. These types of studies could test the proposed societal feedback loops to determine whether behavioral and self-view changes such as rising narcissism among elites or reduced political engagement among those with low self-esteem contribute to the persistence or growth of inequality.

This research also brings up the question of what differences influence individuals to be more prone to the approach motivation path or the avoidance motivation path. Investigating moderators that predict pathway selection, such as cultural self-construal, actual socioeconomic status, perceived social mobility, political ideology, and personality traits, could clarify for whom and under what conditions approach versus avoidance predominates. In the present study, self-construal was measured but was not found to be a significant moderator and was therefore not included. However, the reason it was included was precisely to attempt to answer this question - what is the predictor for people to be motivated through approach versus avoidance? The thought process behind this considered that someone with a

highly independent self-construal, meaning someone who sees the self in terms of consistent attributes and independent of relationships to others, would be more likely to focus on the possibility of individual success as opposed to someone with a highly interdependent self-construal, meaning they see the self as highly context dependent and interlinked with others, who would be more likely to avoid conflict due to fear of the potentially damaging effects on their social relationships (Downie et. al., 2006; Cross, et. al., 2000; Sánchez-Rodríguez, et. al., 2023). This becomes even more conceivable when we consider the outcomes of narcissism and impostor syndrome. Narcissism, as previously mentioned, is heavily linked to motivational orientations with a combination of high approach and low avoidance, as well as to independent self-construal (Foster & Trimm, 2008; Zhu, et. al., 2024). Impostor syndrome, on the other hand, has been linked to fear of failure or negative evaluation, and guilt over success (Fimiani et. al., 2024). Feeling guilty over success could reasonably suggest a greater regard for protecting social relationships than for getting ahead as an individual. Much of the literature attributes impostor syndrome to low self-esteem, but could it also reflect a self-view that is more relational and interdependent rather than purely negative? Self-construal is also highly influenced by culture, which should be considered when attempting to include it in research (Christopher, et. al., 2010). The attempt to include self-construal in this study was brief and incomplete, as it was not feasible to make a proper cross-cultural comparison or further complicate the model anyhow. Testing different measures of self-construal, as well as other potential moderators, and including cross-cultural considerations would be important for any future studies that investigate this potential relationship.

5.5 Conclusions

The present study expanded the current understanding of the effects of inequality, confirmed external validity outside the United States, and suggests a potential mechanism by which inequality may maintain and exacerbate itself. Inequality is one of the most important issues of our time both globally and in many local economies across the world. This study aims to underscore the importance of this issue for all of society and to encourage further research to explore potential interventions.

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Annex A – Informed consent

This study is part of a master thesis research project taking place at **Iscte – Instituto Universitário de Lisboa**, within the **Master's in Psychology of Intercultural Relations**. The study aims to investigate perceptions about society. Your participation in the study involves completing an online questionnaire. This task, expected to take approximately **10-15 minutes**, includes providing responses related to perceptions about society, relations with others, and beliefs about yourself. Your insights will significantly contribute to a deeper understanding of the social aspects of society. The study is supervised by Dr. Christin-Melanie Vaclair and conducted by Megan Outlaw (mowne@iscte-iul.pt), who you may contact to clear up any doubts or share comments. Your participation in this study is completely **anonymous**. No personal data will be collected. In addition to being anonymous, participation in the study is strictly **voluntary**: you may choose freely whether to participate or not. If you have decided to participate, you may stop your participation and withdraw your consent at any time, without having to provide any justification or face any penalty. There are no expected significant risks associated with participation in the study. **I declare** that I am at least 18 years of age, that I have understood what my participation involves, and that I am aware that I may withdraw from the study at any time. **I accept** participating in the study.

☐ I accept

☐ I do not accept

Annex B – Materials

This section concerns the perceptions you have about the level of **inequality** in **your town/city**. Please indicate to what extent you agree with each statement.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
1. There is a huge gap between the rich and the poor.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. There is a big difference between those in the top 1% of income earners and the others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The wealth disparity between upper and lower wage earners is large.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This section concerns the perceptions you have about the level of **competition** in **your town/city**. Please indicate to what extent you agree with each statement.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
1. It seems that people are competing with each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. It seems that I am competing with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. People seem to share the feeling that competing with each other is important.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I feel that I am being compared with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. People seem to value competition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. People often make subtle attempts to outperform each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. There is an underlying sense of competition, but an outward appearance of cooperation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. There is pressure to conform to common standards of success.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I feel a strong sense of competition among peers, many of whom are striving for similar goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Indirect methods are often used by others to gain advantages over each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I notice efforts by others to conceal their	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

competitive
tendencies to
maintain group
harmony.

12. I feel an atmosphere of implicit competition.

13. People often use strategic positioning to achieve their goals without direct confrontation.

This section concerns the perceptions you have about **yourself**. Please indicate to what extent you agree with each statement.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
1. In general, I am focused on preventing negative events in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I am anxious that I will fall short of my responsibilities and obligations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I frequently imagine how I will achieve my hopes and aspirations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I often think about the person I am afraid I might become in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. I often think about the person I would ideally like to be in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I typically focus on the success I hope to achieve in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I often worry that I will fail to accomplish my goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I often think about how I will achieve success.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I often imagine myself experiencing bad things that I fear might happen to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I frequently think about how I can prevent failures in my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I am more oriented toward preventing losses than I am toward achieving gains.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. My main goal is to achieve my ambitions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. My main goal is to avoid becoming a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I see myself as someone who is primarily striving to reach my “ideal self”—to fulfill	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

my hopes, wishes,
and aspirations.

15. I see myself as
someone who is
primarily striving
to become the self
I “ought” to be—
to fulfill my
duties,
responsibilities,
and obligations.

☐☐☐☐☐☐☐☐

16. In general, I
am focused on
achieving positive
outcomes in my
life.

☐☐☐☐☐☐☐☐

17. I often
imagine myself
experiencing good
things that I hope
will happen to me.

☐☐☐☐☐☐☐☐

18. Overall, I am
more oriented
toward achieving
success than
preventing failure.

☐☐☐☐☐☐☐☐

This section concerns the perceptions you have about **yourself**. In each of the following pairs of attributes, choose the one that you **most** agree with, and to what extent. The closer your answer is to **-3**, the more you agree with **statement A**. The closer your answer is to **+3**, the more you agree with **statement B**.

-3 -2 -1 0 1 2 3

A. I don't mind
following
orders.

☐☐☐☐☐☐☐☐

B. I like
having
authority over
people.

A. Power for
its own sake
doesn't interest
me.

☐☐☐☐☐☐☐☐

B. I have a
strong will to
power.

A. Being in
authority

☐☐☐☐☐☐☐☐

B. People
always seem

doesn't mean much to me.
A. Leadership is a quality that takes a long time to develop.

☐ ☐ ☐ ☐ ☐ ☐ ☐

to recognize my authority.
B. I am a born leader.

A. I don't like it when I find myself manipulating people.

☐ ☐ ☐ ☐ ☐ ☐ ☐

B. I find it easy to manipulate people.

A. I usually get the respect I deserve.

☐ ☐ ☐ ☐ ☐ ☐ ☐

B. I insist upon getting the respect that is due me.

A. I like to do things for other people.

☐ ☐ ☐ ☐ ☐ ☐ ☐

B. I expect a great deal from other people.

A. I will take my satisfactions as they come.

☐ ☐ ☐ ☐ ☐ ☐ ☐

B. I will never be satisfied until I get all that I deserve.

This section concerns the perceptions you have about **yourself**. For each question, please choose the option that best indicates to what degree you agree with the statement. It is best to give the first response that enters your mind rather than dwelling on each statement and thinking about it over and over.

Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
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1. I'm afraid people important to me may find out that I'm not as capable as they think I am.

☐ ☐ ☐ ☐ ☐ ☐ ☐

2. When I've succeeded at something and

☐ ☐ ☐ ☐ ☐ ☐ ☐

received
recognition for my
accomplishments,
I have doubts that
I can keep
repeating that
success.

3. I'm afraid that I
may fail at a new
assignment or
undertaking even
though I generally
do well at what I
attempt.

☐☐☐☐☐☐☐☐

4. I compare my
ability to those
around me and
think they may be
more intelligent
than I am.

☐☐☐☐☐☐☐☐

5. I feel my
success was due
to some kind of
luck rather than
competence.

☐☐☐☐☐☐☐☐

6. If I receive a
great deal of
praise and
recognition for
something I've
accomplished, I
tend to discount
the importance of
what I have done.

☐☐☐☐☐☐☐☐

Below is a list of statements dealing with your general feelings about **yourself**. Please indicate how strongly you agree or disagree with each statement.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
1. At times I think I am no good at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. All in all, I am inclined to think that I am a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I feel I do have much to be proud of.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. On the whole, I am satisfied with myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I take a positive attitude toward myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This section concerns what you believe the **causes** of **status** to be. Please indicate which answer best completes the statement in your opinion, and to what extent. The closer your answer is to **-3**, the more you believe the **first** answer contributes more to status. The closer your answer is to **+3**, the more you believe the **second** answer contributes more to status.

Social and economic status depends more on:

	-3	-2	-1	0	1	2	3	
Individual Factors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Societal Factors
Factors that are constant throughout your life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Factors that change throughout your life
Having ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Putting in effort
Being born into it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Lucky opportunities

Having ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Being born into it
Putting in effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Lucky opportunities
Having ability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Lucky opportunities
Putting in effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Being born into it

This section concerns the perceptions you have about **yourself**. Please indicate to what extent you agree with each statement.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
1. I consider my happiness separate from the happiness of my friends and family.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. It is important for me to be an accepted member of my family as well as my group of friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I usually feel a strong sense of pride when someone in my family has an important accomplishment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. When I think of myself, I often think of my close friends and family also.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. If a person hurts someone close to me, I feel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

personally hurt as well.

6. My close relationships are unimportant to how I feel about myself.

☐☐☐☐☐☐☐☐

7. My personal accomplishments are more important than maintaining my social relationships.

☐☐☐☐☐☐☐☐

8. I see my close relationships as separate from who I am as an individual.

☐☐☐☐☐☐☐☐

9. I usually feel a strong sense of pride when someone close to me has an important accomplishment.

☐☐☐☐☐☐☐☐

10. If a person insults a member of my family or my friends, I feel personally insulted myself.

☐☐☐☐☐☐☐☐

11. I always support a group decision even when I know it is wrong.

☐☐☐☐☐☐☐☐

12. My role within my family gives me a sense of who I am.

☐☐☐☐☐☐☐☐

13. I prefer to do what I want

☐☐☐☐☐☐☐☐

without letting my family or friends influence me.

14. My happiness depends very much on the happiness of those around me.

☐☐☐☐☐☐☐

This section contains aspects of your **socioeconomic status** and **political beliefs**.

1. How do you feel about your current household income?

- ☐ Unable to live on present income (1)
- ☐ Very difficult to live on present income (2)
- ☐ Difficult to live on present income (3)
- ☐ Coping on present income (4)
- ☐ Living comfortably on present income (5)
- ☐ Living very comfortably on present income (6)
- ☐ I have far more than I need to live comfortably on present income (7)

2. Think of this ladder as representing where people stand **in their towns/cities**. At the **top of the ladder** are the people who are **the best off** – those who have the most money, the most education, and the most respected jobs. At the **bottom** are the people who are **the worst off** – those who have the least money, least education, the least respected jobs, or no job. **Where would you place yourself on this ladder? Click on the number below the ladder for where you see yourself at this moment in your life in relation to other people in your town/city.**



Please indicate your **political beliefs** from left to right on issues of the **economy** (e.g., social welfare, government spending, tax cuts), and from liberal to conservative on **social issues** (e.g., immigration, homosexual marriage, abortion).. The closer you answer to **-3**, the more **left** or **liberal** your political beliefs are. The closer you answer to **+3**, the more **right** or **conservative** your political beliefs are.

	-3	-2	-1	0	1	2	3	
	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Economy - Left	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Economy - Right
Social Issues - Liberal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Social Issues - Conservative

Age:

Gender:

Nationality:

Country of residence:

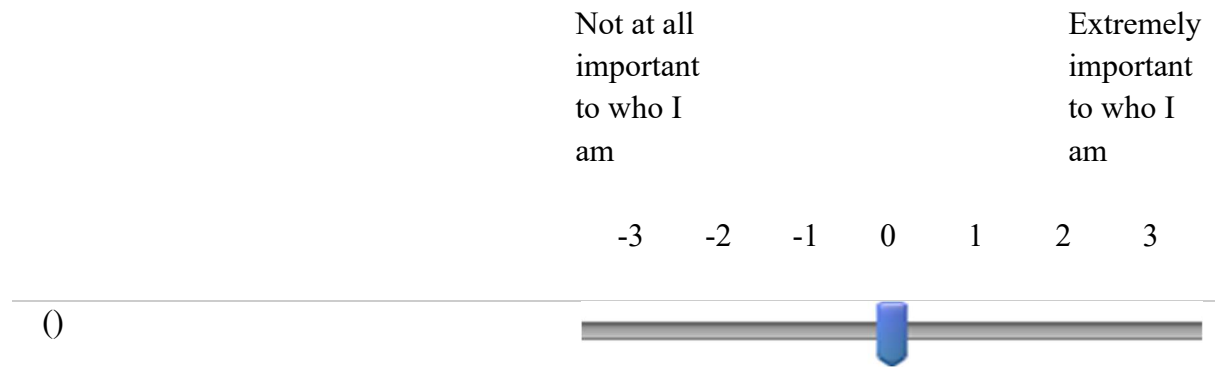
State of residence, or equivalent for your country (eg. province, district, etc.):

What is the zip code of the city where you currently reside?

How long have you lived in the nation in which you currently reside?

- ☐ Less than a year (1)
- ☐ 1-2 years (2)
- ☐ 2-4 years (3)
- ☐ 4-6 years (4)
- ☐ 6-10 years (5)
- ☐ More than 10 years (6)
- ☐ My whole life (7)

To what extent do you feel that the **nation in which you live** is an important part of **who you are**? The closer you move the slider to **-3**, the **less important** it is to who you are. The closer you move the slider to **+3**, the **more important** it is to who you are.



Annex C – Debriefing

Thank you for having participated in this study. As indicated at the onset of your participation, the study is about perceptions of society and aims to better understand how individuals' perceptions of society, relations with others, and attitudes about oneself are related to each other. More specifically, this research aims to investigate the connection between perceived income inequality, perceived competition, and diverse outcomes of self-presentation between cultures.

We remind you that the following contact details can be used for any questions that you may have, comments that you wish to share, or to indicate your interest in receiving information about the main outcomes and conclusions of the study: Megan Outlaw (mowne@iscte-iul.pt). If you wish to access further information about the study topic, the following sources can also be consulted:

- Wilkinson, R. G. & Pickett, K. E. (2017). The enemy between us: the psychological and social costs of inequality: costs of Inequality. *Eur. J. Soc. Psychol.* 47, 11–24. https://www.law.nyu.edu/sites/default/files/upload_documents/EJSP%20WilkPick%20final.pdf
- Sommet, N., & Elliot, A. J. (2023). A Competitiveness-Based Theoretical Framework on the Psychology of Income Inequality. *Current directions in psychological science*, 32(4), 318–327. <https://doi.org/10.1177/09637214231159563>
- Foster, J. D., & Trimm, R. F. (2008). On Being Eager and Uninhibited: Narcissism and Approach–Avoidance Motivation. *Personality and Social Psychology Bulletin*, 34(7), 1004-1017. <https://doi.org/10.1177/0146167208316688>
- Noskeau, R., Santos, A., & Wang, W. (2021). Connecting the Dots Between Mindset and Impostor Phenomenon, via Fear of Failure and Goal Orientation, in Working Adults. *Frontiers in psychology*, 12, 588438. <https://doi.org/10.3389/fpsyg.2021.588438>

Once again, thank you for your participation.