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**Economic Relative Deprivation and Collective Action:  
A Meta-Analysis Investigating Differences Between  
Individualistic and Collectivist Cultures**

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# META-ANALYSIS ECONOMIC RELATIVE DEPRIVATION AND COLLECTIVE ACTION

## Abstract

Economic protests around the world today suggest that, despite unprecedented progress in the fight against poverty and inequality worldwide, many people still experience economic dissatisfaction. Previous research has shown that collective action can be partially explained by relative deprivation (RD). Relative deprivation is defined as a subjective dissatisfaction, which typically arises from upward social comparison. This paper focuses on economic relative deprivation; the comparison of one's own economic status with the economic status of others. When individuals compare themselves to others and conclude that they are unjustifiably worse off, they may feel anger and resentment and consequently participate in collective action. This study examined the relationship between individuals' economic relative deprivation and their participation – or intention to participate in – collective action, and tested for the moderation effect of cultural orientation (individualism vs. collectivism). Through a literature search, we combined 11 studies ( $k = 11$ ) from 7 different countries/states (total  $N = 17,068$ ). Meta-analytic results supported the relationship between economic RD and collective action ( $r = .126$ ), which was stronger in individualistic ( $r = .213$ ) than in collectivist countries ( $r = -.047$ ). These results suggest that the relationship between economic relative deprivation and collective action may vary given people's cultural background.

*Keywords:* economic relative deprivation, collective action, cultural orientation, individualism vs. collectivism, cross-country meta-analysis

## Introduction

“A house may be large or small;  
as long as the neighbouring houses are likewise small,  
it satisfies all social requirements for a residence.  
But let there arise next to the little house a palace,  
and the little house shrinks to a hut.  
The little house now makes it clear that its inmate  
has no social position at all to maintain.”

Marx, Wage Labour and Capital (1847)

Why do people worldwide participate in economic protests? Despite global economic growth and widespread improvements in living standards, economic protests have flared up (World Social Report, 2020). One possible explanation is that of social comparison. It is often argued that life satisfaction (albeit economic, social, or other) does not rely exclusively on objective status, but rather on status relative to others (Cheung & Lucas, 2016). When the subjective status is threatened, generally through social comparison, this is called relative deprivation (RD) (Tan, Kraus, Carpenter & Adler, 2020). If one feels deprived in their subjective economic status, this is called *economic relative deprivation* (Xu et al., 2017). Economic RD is relevant today, as economic inequality is one of the main grievances leading to collective action (e.g.: protests) worldwide (Ortiz et al., 2013). Economic protests seem to be more prevalent in the global West, than they are in the East (Ortiz et al., 2013; Power, 2020). It remains unclear which factors are responsible for this geographical difference. Some social scientists have theorised that cultural differences may moderate the relationship between relative deprivation and collective action (Smith et al., 2018; Van Zomeren, 2019).

In the following paragraphs, the concept of relative deprivation and its relationship to economic inequality will be explained. Then, it will be described how these concepts are related to collective action, and how they may be influenced by cultural differences. This study was carried out by analysing data sets from multiple country samples. There are a number of meta-analyses on the relationship between RD and CA. However, what makes this study unique, is the focus on economic relative deprivation instead of all forms of deprivation. In sum, this paper investigated the link between economic relative deprivation and collective action, and tested whether this relationship is moderated by cultural differences.

## **Relative Deprivation**

The concept of relative deprivation was developed by American sociologist Robert K. Merton during World War II, when he discovered that military police force soldiers were far less satisfied than regular soldiers when it came to their opportunities for promotion (Merton & Rossi, 1968). Relative deprivation is a feeling that arises when individuals compare themselves to others, and perceive that they are unjustifiably worse off (Smith, Pettigrew, Pippin & Bialosiewicz, 2012). RD may occur when persons feel deprived of some desirable thing, e.g., in terms of income, rights, political influence and/or status. This is always relative to another person, persons, group, an ideal, or other social category (Walker & Pettigrew, 1984). Classical RD theory distinguishes between personal deprivation and group deprivation. Egoistic relative deprivation refers to individuals, whereas relative group deprivation describes how one group may feel disadvantaged in relation to another group. Factors contributing to RD are inconsistency in status and rising expectations (Geschwender, 1964). Especially when expectations are high, RD tends to increase due to a perceived discrepancy between expectations and reality (Gurney & Tierney, 1982). As a result, when people negatively compare themselves to other people, or to other groups, they may feel resentful and dissatisfied (Crosby, 1976; Kim et al., 2017).

Relative deprivation is widely used to predict several outcome variables, such as collective action, intergroup attitudes, and physical and mental health (Smith & Ortiz, 2002). For example, RD would lead to more collective action (Kawakami & Dion, 1995), and it would predict a decline in physical and mental health (Cheung & Lucas, 2016; Mishra & Carleton, 2015). However, the concept of relative deprivation is complex and includes many subtypes (Smith & Ortiz, 2002), several examples are depicted in Appendix B: *RD measures*. To further explore and summarise all aspects of relative deprivation, more research needs to be conducted. Future research should focus on methodological improvements in RD measures as well as the inclusion of theoretically relevant situational assessments, for example, circumstances that prompt social comparisons (Smith & Ortiz, 2002). Such improvements could add value to RD as a useful socio-psychological predictor of a wide range of important significant and social processes (Smith & Ortiz, 2002).

## **Economic Relative Deprivation**

Relative deprivation in the broad sense is a sociological theory of the feelings evoked by social inequalities, and income inequality is one of the pillars of economics. It could be interesting to combine these two approaches (Yitzhaki, 1982). The current study therefore

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aimed to map an economic measure of RD, which focuses on perceived discrepancies in economic equality. Scholars such as Karl Marx have debated the notion that people are concerned not just with their own wealth but also with their wealth relative to others. “As long as the neighbouring houses are likewise small, it satisfies all social requirements for a residence” (Marx, 1847). People often measure themselves against a subjective standard and perceive that the other party is better-off. Studies have shown that having wealthy neighbours is associated with decreased subjective well-being, an effect likely attributable to upward social comparison (Cheung & Lucas, 2016; Tan, Kraus, Carpenter & Adler, 2020). Discovering that neighbours have a larger and more expensive house may elicit feelings of unfairness and dissatisfaction, even though one might not be 'objectively' deprived in terms of income and housing (Crosby, 1976). Although much research has been conducted on relative deprivation in the broad sense (Crosby, 1978; Passas, 1997; Walker & Pettigrew, 1984; Smith et al., 2012), literature on economic RD remains dissatisfactory.

In 1996, Podder aimed to develop an economic measure of RD. Economic RD is usually defined as the comparison of an individual's economic status with the economic status of others (Xu et al., 2017), and offers an economic perspective of relative deprivation. Economic satisfaction depends largely on relative pay comparisons (Card et al., 2012). Therefore, perceived economic relative deprivation is usually measured by income satisfaction (Card et al., 2012). One's subjective ranking of income compared to others influences subjective well-being (Mayraz, Wagner, & Schupp, 2009), and perceived wealth among reference groups tends to increase a sense of entitlement to a comparable standard of living (Bernburg et al., 2009). Generally, the more people consider their wages to be unfair, the greater the perceived economic relative deprivation and the more likely they are to experience feelings of injustice and frustration (Hu, 2013; Bernburg et al., 2009). Perceived injustice and inequality will increase the likelihood of civil unrest, regardless of the actual levels of high or low economic inequality (Power, 2020).

### **RD and Collective Action**

Throughout history, RD has often contributed to the rise of social change movements, or collective action (Kawakami & Dion, 1995). Collective action (CA) can be defined as “Any action that individuals engage in to achieve group goals” (Van Zomeren, 2019, p. 1), e.g.: demonstrations, protests, signing petitions, and other forms of expressing dissatisfaction (Van Zomeren, 2019). Various triggers can lead people to participate in collective action, such as the price of gasoline, the price of public transport, demands for political freedoms,

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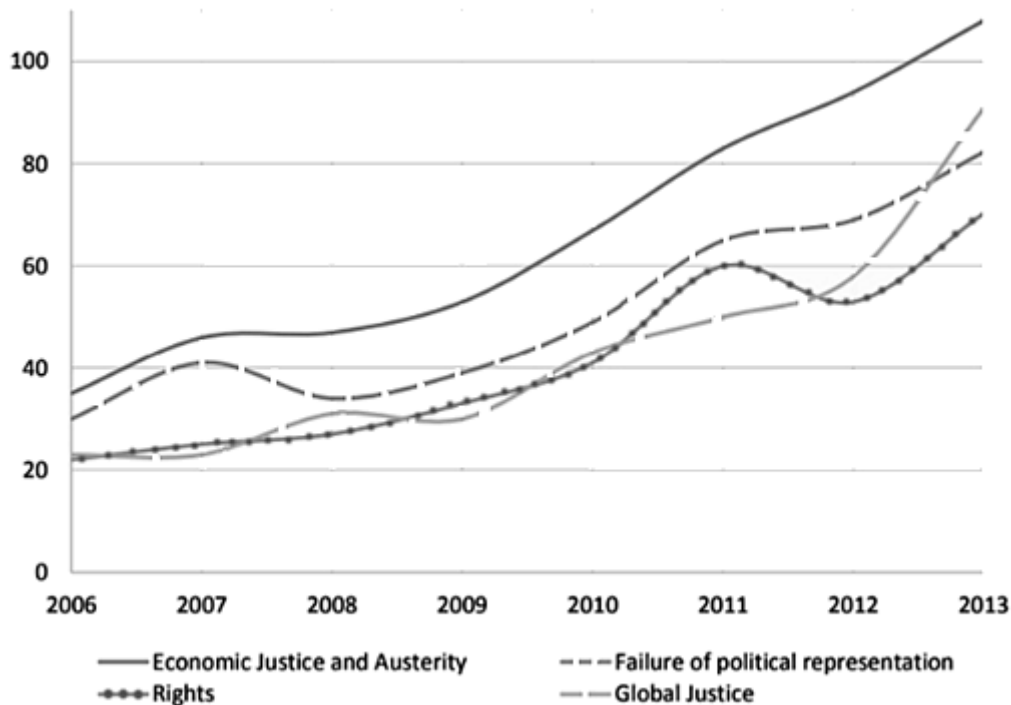
and the pursuit of fairness and justice. Economic deprivation is a relevant predictor of CA because large-scale events, such as a drastic inflation or the decline of a group's status relative to its reference group, are likely to arouse feelings of RD in entire groups or categories of people (Gurr, 1970). A recent example of economic protest is the Yellow Vests Movement in France, where people demanded the revocation of the green tax on diesel and a raise of the minimum wage. Similarly, many people joined the Occupy Wall Street protests in the United States; a movement in which people rallied against economic inequality, greed, corruption, and the influence of corporations on the government. Protests and social movements often function to alleviate feelings of unfairness and deprivation (Power, 2020). Reflecting on the past two decades, economic discontent stands out as one of the main causes for collective action worldwide (Figure 1) (Ortiz et al., 2013).

Counterintuitively, there seem to be more economic protests in the wealthy West than in other parts of the world (Table 1). This indicates that economic collective action cannot be explained solely by objective poverty and inequality, and that there are other factors at play. One explanation is the role of relative deprivation, which explains economic dissatisfaction by looking at upward social comparison with regard to status relative to others (Podder, 1996). This would mean that large numbers of people no longer protest out of objective poverty, but because they feel relatively deprived (Power, 2018). This could explain why economic collective action is not limited to countries that are relatively impoverished but can happen anywhere where people compare the quality of their own life to that of people they perceive as 'better-off' (Yang et al., 2008).

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**Figure 1**

*Number of World Protests by Main Grievance/Demand, 2006-2013*



*Source.* Ortiz et al., 2013: Authors' analysis of world protests in media sources 2006-2013, data for 2013 are projected based upon ½ year.

## Cultural Differences

Although previous studies underline the predictive value of relative (economic) deprivation on collective action tendencies (Smith et al., 2012; Tropp & Brown, 2004), it remains unclear whether these patterns are consistent across varying cultures. In cultural psychology, one way to distinguish between cultures is to separate individualism and collectivism (Parsons & Shils, 1951). These two orientations are believed to hold different beliefs, values, and norms (Wagner & Moch, 1986). Individualism is characterized by egocentric orientation and the need for autonomy (or self-orientation). These cultures are strongly focused on achieving personal goals, and people usually act out of self-interest (Hui & Triandis, 1986). Alternatively, collectivism is characterized by being society-oriented (collectivity orientation). In these cultures, one's gain is perceived as everyone's gain, and non-aggression is the norm due to social obligation and selflessness. Unlike individualists, they seem to have a preference for harmony and conformity (Hui & Triandis, 1986). Countries or societies are rarely purely individualistic or collectivistic: cultural orientation is often measured on a continuous scale with individualism on one end, and collectivism on the

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other (Wagner & Moch, 1986). The countries that scored lowest on individualistic traits (Hofstede, 2011), and are thus the most collectivist countries in the world are Venezuela, Pakistan. Alternatively, The United States, United Kingdom and Australia scored highest on the Hofstede I-C scale, meaning they are the most individualistic (Hofstede, 2011).

Individualistic and collectivistic countries differ in their preferences for equality and equity. Children from more individualistic cultures valued equitable distributions to a greater extent than children from more collectivist cultures (Huppert et al., 2019). American children tended to exhibit more self-maximizing behaviour compared to children from collectivist countries in a resource allocation task (Huppert et al., 2019). One explanation is that in individualistic countries, competition and assertiveness are often at the forefront (Rochat et al., 2009). Because individualistic culture values autonomy, achievement, and individual rewards for hard work, children may internalize justice norms earlier in development (Berry, 1971). A supporting explanation is the greater emphasis on individual possession in individualistic cultures, compared to emphasis on communal and public properties in collectivist cultures (Robbins & Rochat, 2011). Alternatively, in collectivistic cultures, people are less focused on individual resources and tend to work for intrinsic rewards (Hagger, Rentzelas, & Chatzisarantis, 2014). Maintaining harmony among group members takes precedence over other values, which is why emotions that could threaten harmony might be suppressed (Huppert et al., 2019).

As a result, the effect of relative deprivation on attitudes and behaviour might be weakened in cultures where individual achievement and autonomy are considered less important and where non-aggression is the norm (e.g., in collectivist cultures) (Hofstede, 2011). Smith et al. (2018) provided empirical evidence that the impact of relative deprivation is moderated by cultural values. Akay & Martinsson (2008) found that the impact of relative income on subjective well-being in rural Ethiopia, one of the world's poorest regions and a highly collectivist country, was small and insignificant. Alternatively, in countries where equal opportunity and individual achievement are valued, RD is more salient because such characteristics encourage people to compare themselves to wealthy others, regardless of their own economic status (Bernburg et al., 2017; Passas, 1997). In other words, in individualistic countries, income relative to others seems to be more vital for subjective well-being than in collectivist countries. This means that in collectivistic countries people may experience feelings of relative deprivation, but it does not affect them in the same way.

Western countries are often associated with individualism, and non-Western countries with collectivism (Power, Schoenherr & Samson, 2010). This could explain why there are



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relatively more economic protests in the richer Western world, than there are in the non-Western world (Noordin et al., 2002). Take, for example, the Occupy Wall Street protests, which were dedicated against rising social and economic injustice in the United States (US). In a highly individualistic country like the US (IDV = 91), where autonomy, achievement and equitable distributions are valued, this perceived increase of inequality can lead to anger and resentment, and consequently to economic protests. The surge of economic protests in Western countries indicates that absolute objective poverty by itself no longer suffices to explain such protests. These protests may be fuelled by Western values of equality, fairness, and personal achievement, rather than experiencing absolute poverty (Kołczyńska, 2020). This suggests the emergence of a 'new face of inequality', it appears that just as the gap in basic living standards for millions of people is narrowing, the need to thrive has evolved (UNDP, 2019).

**Table 1**

*Protests for Economic Justice/Against Austerity by Country Income Group, 2006-2013.*

Economic Justice and Austerity	High- Income	Upper- Middle- Income	Lower- Middle Income	Low- Income	Global
Reform of Public Services	82	28	11	7	15
Jobs, Wages, Labour Conditions	51	27	29	15	11
Tax/Fiscal Justice	66	33	6	8	20
Inequality	52	35	13	2	11
Agrarian/Land Reform	2	26	16	1	4
Fuel and Energy Prices	2	8	15	7	0
Pension Reform	16	7	2	1	6
Food Prices	0	7	9	9	4
Housing	17	11	0	0	0

*Source.* Ortiz et al., 2013 (p. 13): Authors' analysis of world protests in media sources 2006-2013, \*As of July 2013

## Current study

This meta-analysis sets out to investigate the relationship between economic relative deprivation and collective action, with cultural orientation as a potential moderator. (General) relative deprivation can predict collective action fairly well (Kawakami & Dion, 1995), and the relationship between RD and CA is likely moderated by cultural values (Smith et al., 2018). Regarding economic RD specifically, Xu et al. (2017) found data supporting the link between economic relative deprivation and collective action. However, available data on economic RD remains unsatisfactory, and to the best of our knowledge, no meta-analysis has been conducted on this topic yet. This study aims to close this gap in the literature by conducting a meta-analysis that specifically focuses on economic RD, whilst considering the influence of cultural orientation (individualism vs. collectivism). The hypotheses are stated below and a model of the hypotheses is portrayed in Figure 2.

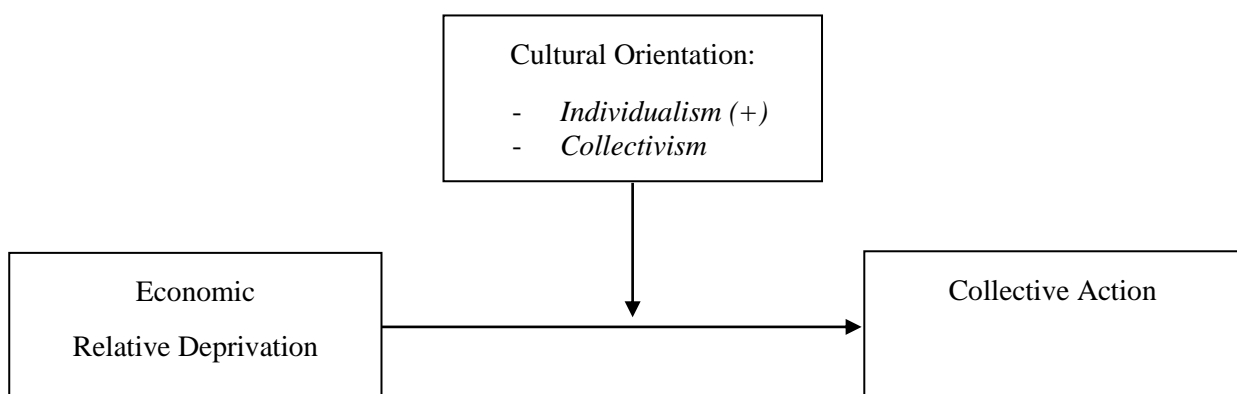
**Null hypothesis.** There is no relationship between economic relative deprivation and collective action.

**Hypothesis I.** There is a significant relationship between economic relative deprivation and collective action.

**Hypothesis II.** There is a significant relationship between economic relative deprivation and collective action, which is moderated by cultural orientation. In individualistic countries there is expected to be a stronger link between economic relative deprivation and collective action than in collectivist countries.

**Figure 2**

*Model of study main effect and moderator effects*



## Method

This study tested the relationship between economic relative deprivation and collective action. Cultural orientation was identified as a possible moderator (individualism versus collectivism). The study was carried out in the form of a univariate cross-country meta-analysis.

### Operational Definitions and Coding

**Definition and coding for economic relative deprivation.** *Economic Relative Deprivation* was defined as the comparison of an individual's economic status with the economic status of others. The greater the perceived difference, the greater is the perceived economic relative deprivation (Xu et al., 2017). There are different terms to describe economic relative deprivation. Examples are 'economic status', 'perceived economic injustice', and 'acceptance of economic injustice'. By the current definition, all of the above can be classified as economic relative deprivation. We included studies that used the term RD instead of economic RD, as long as the questionnaire focused exclusively on economic aspects of RD. Examples of questionnaire items are: "participants reported the extent to which they accepted factual statistics illustrating existing wealth inequality" (Chen, Chang & Yeung, 2019, p. 9), and "participants reported the degree to which they felt that the organization rewarded him or her fairly" (Park, Hong, Kennedy & Clouse, 2021, p. 8).

**Definition and coding for collective action.** *Collective Action* (CA) was defined as any form of action that is undertaken by individuals as members of a social group, with the improvement of their group's conditions as an overarching goal (Wright et al., 1990). Collective action is not limited to action performed by a group – individual action can be categorized as collective action when individuals act to improve their group's conditions (Van Zomeren, 2013). CA consisted of collective action and collective action intentions. The former measures action, and the latter attitudes toward action. Within these domains, there are multiple outcome measures that are all grouped under the umbrella term collective action e.g. attitude to collective action, willingness to protest, previous involvement in protests, etc.). Examples are "I would participate in raising our collective voice to end wealth inequality" (Chen, Chang & Yeung, 2019, p. 9), and "Participants ticked which of a list of 25 actions they had participated in in the past six months" (Foster & Matheson, 1995, p. 17).

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**Definition and moderator coding for cultural orientation.** We coded cross-cultural differences by matching country samples to *Cultural Orientation* scores – this is a way to distinguish individualistic from collectivistic countries (Hofstede, 2011). The scale runs from 0 – 100: A higher individualism index score (IDV) indicates a more individualistic society, whereas a lower score indicates a more collectivist society (Hofstede, 2011). The general principle is that if a culture scores over 50, it is considered 'individualistic'. The low side of the scale (under 50) is considered 'collectivist' (Hofstede, 2011). For example, the IDV for Australia was 90, whereas the IDV for South Korea was 18.

**Variables coded from each study.** The following general study variables were coded: (a) Sample country/state, (b) whether participants were from a Western or a non-Western country. We distinguished non-Western and Western by using the cultural definition, rather than the simplistic East-West distinction (McNeill, 1997). By the cultural definition, the Western world refers to all countries in Western Europe, as well as the countries defined by Western European culture (e.g.: through past colonization). In practical terms, the West typically includes most European Union (EU) countries, as well as the UK, Norway, Iceland, Switzerland, the United States, Canada, Australia, and New Zealand (World Population Review, 2021).

### Literature Search

**Data collection.** A literature search was conducted through the Groningen University library. Databases used: *PsycInfo*, *PsycArticles*, *EconLit*, *Psychology and Behavioral Sciences Collection* & *SocINDEX* using the following keywords: (Relative deprivation OR perceived injustice OR upward comparison OR income inequality OR income equality OR wealth inequality OR economic inequality\* OR economic equality OR economic disparities OR pay cuts OR richer) AND (Collective action OR protest OR strike OR striking OR civic discontent OR collective violence OR rally OR rallies OR economic activism OR labo\*r activism OR organi\*ed labo\*r strike\*). The following search terms were excluded: (NOT racial NOT ethnic NOT terrorism NOT interreligious). These terms were excluded because we were mainly interested in the economic predictors of protest.

The snowball method was used to supplement the digital databases, meaning that references of used articles and reviews were searched for relevant studies for the current meta-analysis.

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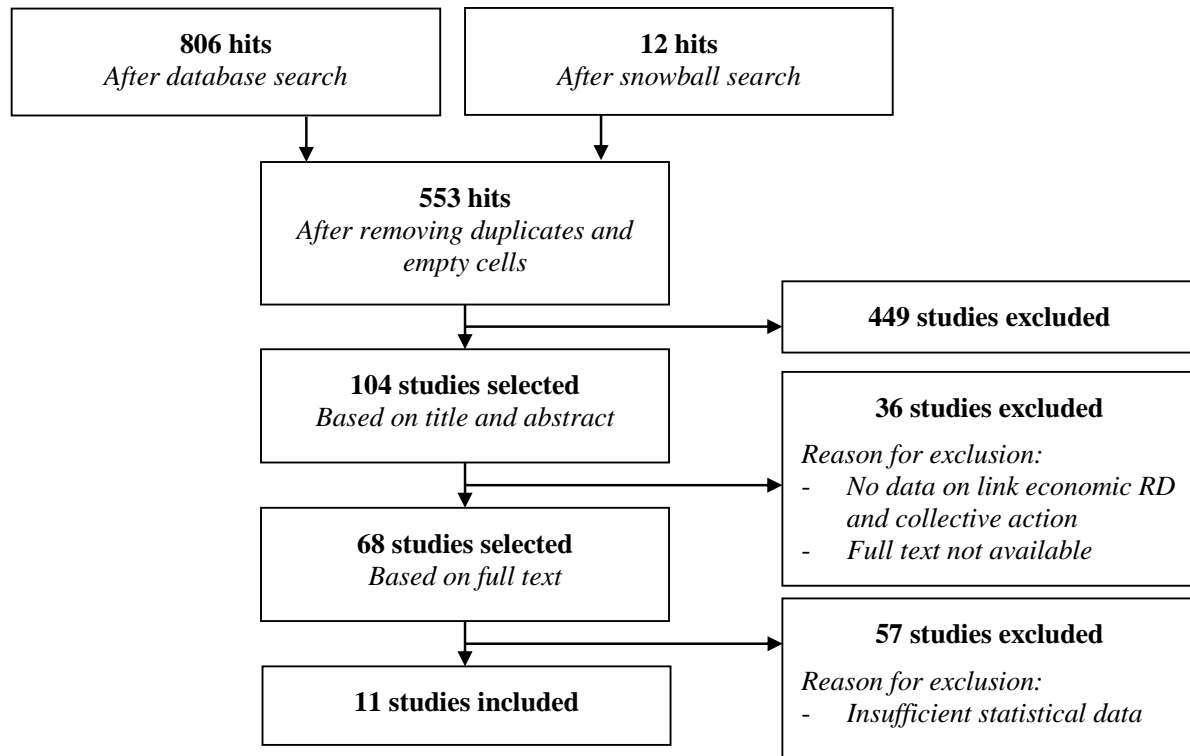
**Locating relevant studies.** The literature search yielded 818 results. These articles were then screened for inclusion in the current meta-analysis, based on the following criteria:

1. Focus on economic relative deprivation (or synonyms)
2. Specified where participants were from (country or state)
3. Focus on individuals and (civil) groups, not on governmental action
4. Only quantitative data where the effect size is available or where it can be calculated. (Effect sizes other than correlations should be transformed into correlations).

An overview of the inclusion process is depicted in a PRISMA flow diagram (Figure 3). The total amount of 818 search results were uploaded into an Excel sheet, and subsequently assessed based on the inclusion criteria. First, duplicates and empty cells were removed, leaving only unique studies. Then, abstracts and titles were screened for relevance. Studies that did not focus on economic dimensions of RD, did not specify where participants were from (country/state), or focused on governmental action instead of civil action were excluded. Then, articles were excluded when there was no data available on the link between economic RD and collective action, or when it concerned a dissertation for which the full text was not available. Finally, a number of studies was excluded because no effect size was available for the relationship between RD and CA (nor could it be calculated), leaving a final amount of 11 studies from 7 different countries/states. Following the inclusion process, studies were coded based on multiple characteristics. A comprehensive report of all decisions made concerning the coding of this study can be found in the codebook (Appendix B).

**Figure 3**

*PRISMA Flow Diagram*



After the remaining 11 articles ( $k = 11$ ) were coded, they were used to conduct a meta-analysis. Within these studies, there was a total of 20 samples. Most of the included studies were large national samples, where participants were described as 'citizens'. We included studies from 7 different countries/states: Australia, Canada, China, Hong Kong, South Korea, The United States, and the United Kingdom. Table 2 (Appendix A) depicts the characteristics of the studies (e.g.: author and year of publication). The descriptive statistics are shown in Table 3, showing per country the number of participants, effect size and cultural orientation. When country data consisted of multiple samples, the mean effect size was calculated manually. For the country samples that were included, the labels Western and non-Western overlapped with the coding individualism versus collectivism (World Population Review, 2021; McNeill, 1997; Hofstede, 2011), meaning that Western culture can be linked to individualism and non-Western culture to collectivism, because generally Western cultures are individualistic and Eastern cultures are collectivistic (Cohen, Wu & Miller, 2016).

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**Table 3**

*Descriptive Statistics for Meta-Analysis.*

Country/state	k	N	r	Individualism/ Collectivism	Western/ Non-western
Australia	2	1,175	.16	90	Western
Canada	1	164	.53	80	Western
China	1	11,122	.04	20	Non-Western
Hong Kong	2	937	-.246	25	Non-Western
South Korea	1	2,040	-.022	18	Non-Western
The United States	3	1,300	.229	91	Western
United Kingdom	1	330	.115	89	Western

*Notes.* k = number of country samples; N = total number of participants when samples of country are combined. Individualism-collectivism scores ranged from 1 (high collectivism) to 100 (high individualism).

## Results

### Descriptive Statistics

The eleven studies included in this study ( $k = 11$ ) tested the effect of economic relative deprivation on collective action, covering seven different countries from both Western and non-Western origin. Within these studies, a total of 20 different effect sizes were reported. There were a total of  $N = 17,068$  participants. All included studies were country samples that used questionnaires to test this relationship.

### Mean Effect Size and Heterogeneity

Table 4 shows a positive small-sized effect for economic relative deprivation as a predictor for collective action (Cohen, 1988). This means, however, that for all studies combined, there was a relationship between economic relative deprivation and collective action. The confidence interval (CI) represents a lower and upper bound that does not contain a value of 0, which also indicates that the null hypothesis can most likely be rejected.

The overall test for heterogeneity was significant ( $QE = 189.3343$ ,  $df = 11$ ,  $p < .0001$ ). A low p-value indicates that the condition of heterogeneity of intervention effects has been

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met, meaning there is variation in effect estimates beyond chance (Lijmer, Bossuyt, & Heisterkamp, 2002). It also suggests that a random effects type of meta-analysis can be applied. This method allows for the testing of an overall effect, as well as for tests of moderator effects (Huizenga, Visser & Dolan, 2011).

**Table 4**

*Main Effect*

	Std. Error	P	rEstimate	95% CI	
				Lower bound	Upper bound
Intercept	.058	.028	.126	.014	.235

### File-Drawer Analysis

Studies reporting positive or significant results are more likely to be published than studies reporting negative or non-significant results (Song et al., 2010). This is called 'publication bias' or the 'file-drawer problem'. In order to investigate publication bias, a contour-enhanced *funnel plot* is constructed (Sterne & Harbord, 2004).

In figure 3, the funnel plot for this study is portrayed. If there is no publication bias, the studies will be distributed symmetrically to the right and left of the vertical line, because one would expect to sample randomly from both groups (resulting in two normally distributed distributions). The vertical line represents the meta-analysis summary estimate, and the dots represent single studies. For example: the dot on the far right belongs to the Canadian sample ( $r = .53$ ), this study has a relatively large effect size and has therefore shifted to the right side of the plot. The triangles represent different p-values. An asymmetric distribution indicates the possibility of publication bias or 'small study effects': a systematic difference between higher and lower precision studies (Harbord et al 2006), and provides insight into the extent to which the results can be interpreted with certainty.

However, in the case of a small number of studies ( $N = 11$ ), a funnel plot will seldom take on the typical funnel shape, which is used to determine whether there is a publication bias or not. This seems to be the case for the current study. For an equal distribution, a meta-analysis largely depends on the availability of studies. As mentioned before, studies on the economic measure of RD remain fairly limited. The majority of data came from samples of Western, Educated, Industrialized, Rich and Democratic (WEIRD) societies (Henrich et al.,

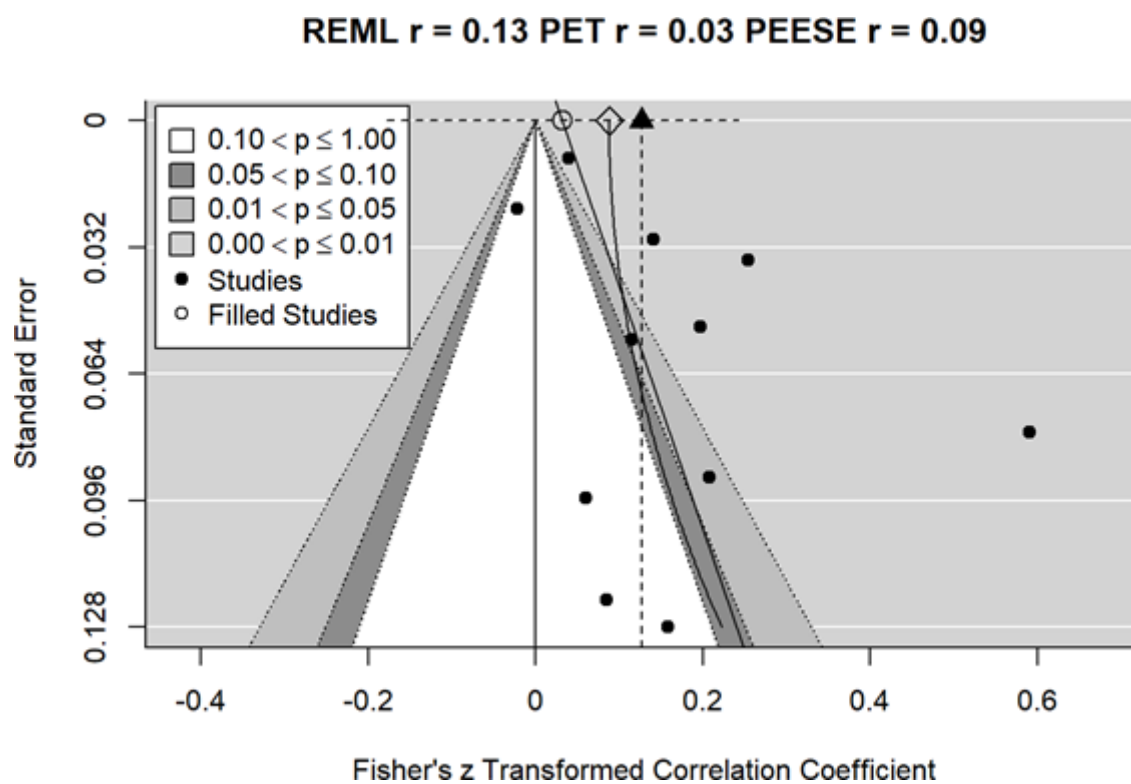


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2010). For collectivist countries, data was harder to come by or simply unavailable. These factors may explain why the funnel plot was asymmetrical for this study. Consequently, a publication bias cannot be ruled out. If our hypothesis is correct, finding and adding more literature (especially on collectivist countries), could even out the distribution of the funnel plot.

**Figure 3**

*Average Meta-Analytic Effects, Bias Corrected Estimates, Contour-Enhanced Funnel Plots, and the Trim and Fill Method*



### Moderation Analyses

Cultural orientation moderated the relationship between economic relative deprivation and collective action ( $QM = 8.1191, p < .0044$ ), supporting hypothesis II. Because the aim was to investigate the two cultural orientations separately, a categorical scale was used. The categories identified were individualism and collectivism. Effect size, standard error and confidence intervals for the categorical scale are presented in table 5. If one were to use a continuous instead of a categorical scale (table 6, Appendix A), the moderation effect would

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still be significant ( $QM = 6.2665, p < .0123$ ). The strength of the link would then increase by  $b = .004$  [.001, .007]. This value is relatively small because the individualism-collectivism scale ranges from 1 to 100. It does, however, suggest that the link between economic RD and CA strengthens when individualism increases.

As expected, economic RD had a stronger effect on collective action in individualistic than in collectivistic cultures. For individualism, the relationship between economic RD and collective action was small, but significant. For collectivism, this relationship was not significant. This indicates that no sufficient evidence was found for collectivism, to reject the null hypothesis that there is no relationship between economic RD and CA. For individualism, however, the small positive effect suggests that individualism is a significant moderator for the relationship between economic RD and CA. These findings are in line with expectations.

**Table 5**

*Moderation by Culture (categorical).*

	Std. Error	P	rEstimate	95% CI	
				Lower bound	Upper bound
Collectivism	.074	.525	-.047	-.191	.098
Individualism	.055	.00	.213	.108	.313

## Discussion

This quantitative research model adds to the literature and breaks new theoretical ground by conducting a meta-analysis testing an economic standard for relative deprivation. This study aimed to further the development of an economic measure of RD and to analyse it across different cultures. Existing literature states that economic relative deprivation positively relates to collective action (Xu et al., 2017) and that this relationship is likely moderated by cultural values (Smith et al., 2018). Relative deprivation by itself is a broad subject, which is a reliable predictor for collective action (Crosby, 1978; Passas, 1997; Walker & Pettigrew, 1984; Smith et al., 2012), but needs to be extended by adding relevant situational assessments that add to our current knowledge (Smith & Ortiz, 2002). To the best of our knowledge, no meta-analysis had been conducted on this relationship prior to this study.

The meta-analytic results showed a small, positive effect for economic RD on CA, confirming Hypothesis I. It means that for all studies combined, a relationship existed. These

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findings indicate that economic relative deprivation is a valid sub-category of relative deprivation, which can be used to predict collective action. By adding an economic perspective to the current literature, one might be able to predict economic collective action more accurately. This matters because the number of economic protests around the world has not decreased, even though economic equality between countries has increased. Hypothesis II was also confirmed: cultural orientation moderated the relationship between economic RD and collective action.

The moderator analysis showed a clear effect of economic RD on collective action in individualistic cultures. This effect was not present in collectivist countries. This indicates that certain individualistic values, such as the need for autonomy, personal achievement, and self-maximisation, strengthened the relationship between economic relative deprivation and collective action. This may explain the surge of economic protests in Western countries (which are generally individualistic), by supposing that this relationship is amplified by values that are inherent to individualism. Due to these cultural values, economic relative deprivation predicts collective action well in individualistic countries, whereas in collectivist countries, this link may be less pronounced.

### **Limitations**

This meta-analysis has two main limitations: the lack of data samples, and limited information on other markers that may be contributing to collective action tendencies.

The first and most salient limitation was the lack of data samples, from collectivist countries in particular. The availability of data on non-Western countries was very limited. The majority of psychological knowledge is deducted from a culturally limited database; most studies rely on samples from Western, Educated, Industrialized, Rich and Democratic (WEIRD) societies (Henrich et al., 2010). In addition, researchers tend to focus on their own countries more than on others (Henrich et al., 2010). The lack of data from non-Western societies shows a consistent pattern, especially for low- and medium income countries. In these countries, there may be less benefit from this type of research. Also, in low-income countries, fewer resources are available to conduct extensive research. For this meta-analysis, data was limited to North America, Western Europe, and Asia. With 7 individualistic samples in contrast to 4 collectivist samples, individualistic countries are somewhat overrepresented. In order to make accurate predictions on collective action motivations, it is important to further investigate whether these patterns consistently occur on a global level.

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Second, each country experiencing protests will most likely have unique causes and circumstances, both political and economic. This analysis examined one national value (cultural orientation) and did not test the full range of alternative markers (Smith et al., 2018). For example, the Hong Kong study focused on economic reasons to leave the state, but there might be other factors contributing, e.g. the current political situation (Ng & Wong., 2017). Furthermore, the data collected provided limited information about the characteristics of the individual participant, for which the assumption is that they vary within populations (e.g. whether they lived in an urban or rural area, educational background, religion, etc.). Factors such as personal values, personality traits, and educational level are anticipated to vary across individuals and can influence outcomes (Henrich et al., 2010). Subtle personal variations necessarily had to be ignored in this meta-analysis, nor were we able to test the full range of cultural and political differences between all countries. The reasoning behind this is that other constructs (developing a specific measure of economic RD) were deemed more important for this study. To be able to include more personal and situational factors, more data is needed. Therefore, these patterns should be treated with caution and further testing is required.

### **Implications and Future Research**

Mapping phenomena that lead to particular feelings and behaviour can greatly improve our understanding of the underlying mechanisms and implications of these topics. This study focused on the underlying motivations for economic protests. It examined the relationship between economic RD and collective action and aimed to clarify the interaction between socioeconomic satisfaction and tendencies for collective action (Camfield & Esposito, 2014). It would be interesting to further develop an economic measure of relative deprivation and examine its relationship to protests – as it is often the non-economic consequences of inequality, such as envy or perceived unfairness, that lead to collective action (Podder, 1996).

However, simplistic models linking RD to CA do not cover the full complexity of this phenomenon, even when the economic aspect is considered. There are likely to be other factors that influence this relationship, such as cultural differences. Cultural orientation, (individualism vs. collectivism), seems to partly explain variations in RD-CA relationships. In Western countries, income relative to others is more vital for subjective well-being (Tan et al., 2020). In individualistic cultures there is a stronger emphasis on individual achievement and equality, which may explain why there is more inclination to challenge the status quo in such countries. Alternatively, the effect of relative deprivation on attitudes and behaviour might be

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weakened in cultures where individual achievement and autonomy are considered less important, and where non-aggression is the norm. Increasing knowledge on these topics would be a valuable asset to better understand the causes of such protests, and contribute to more efficient policy making and the forecasting of future protests.

In short, economic dissatisfaction cannot be explained solely by objective poverty. It often arises when people measure themselves against certain reference groups and feel that they are unjustifiably worse off. As Marx stated, a small house is only inferior if there is a larger house nearby. In other words, relativity and social comparison are key factors. In a world where economic equality is increasing, subjective assessments of wealth have proven to be a relevant predictor of the rise of economic protests. This is especially the case in individualistic countries. Individualism is strongly associated with Western culture, so these findings can potentially help to explain the rise of economic protests in Western countries. Further research could investigate the link between economic relative deprivation and collective action, and whether it is stronger in individualistic countries. If these findings are confirmed, globalization and Westernization of the world could potentially fuel the spread of individualistic values and therefore economic protests around the world. Ignoring these findings would amount to ignoring an important social force behind events with far-reaching consequences.

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**APPENDIX A:**

**Table 2**

*Characteristics of Included Studies (N = 17,068)*

No.	Country/state	Author(s)	Year	IV	DV
1	Australia	Buttigieg, D. M., Deery, S. J., & Iverson, R. D.	2008	Distributive injustice (perceived)	Industrial action
2	Australia	Walker, L., & Mann, L.	1987	Egoistic RD 1 Egoistic RD 2 Fraternal RD 1 Fraternal RD 2	Protest orientation
3	Canada	Foster, M. D., & Matheson, K.	1995	Egoistic RD Collective RD Double RD	Collective action Scale
4	China	Xu, G., Shen, H., & Bock, C.	2017	Relative economic deprivation	CA participation
5	Hong Kong	Abrams, D., Hinkle, S., & Tomlins, M.	1999	Affective RD Cognitive RD	Intention to leave HK
6	Hong Kong	Cheng, G. H. L., Chan, D. K. S., & Yeung, D. Y.	2019	Acceptance of wealth inequality	CA intention CA past behavior
7	South Korea	Park, S. M., Hong, Y. O., Kennedy, L. P., & Clouse, S. L.	2021	Individual perceived disadvantage	Individual violence
8	United States	Osborne, D., Huo, Y. J., & Smith, H. J.	2015	Group-based RD	Protest intention
9	United States	Smith, H. J., Cronin, T., & Kessler, T.	2008	Collective disadvantage Individual disadvantage	Willingness to protest
10	United States	Tropp, L. R., &	2004	Group deprivation	CA interest

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		Brown, A. C.			CA participation
11	United Kingdom	Kelly, C., & Kelly, J.	1998	Egoistic RD Collective RD	Total participation

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*Notes.* 'Year' refers to year of publication. IV stands for independent variable, DV stands for dependent variable.

**Table 6**

*Moderation by Culture (continuous).*

	Std. Error	p	b	95% CI	
				Lower bound	Upper bound
Intercept	.106	.283	-.113	-.310	.094
Cultural orientation	.001	.012	.004	.001	.007

**APPENDIX B:**  
**[CODEBOOK]<sup>i</sup>**

<b>Coder name (initials):</b> <i>For example: MA = Maximilian Agostini; SB = Sophie Bezemer</i>	[coder]
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Source and method of retrieval

<b>1. Method retrieval:</b>	1 = Literature search 2 = Snowball 3 = E-mail
<b>2. Database:</b>	[Which database was it from?]
<b>3. Received per literature review or e-mail:</b>	0 = Study received through literature search 1 = Study received per e-mail
<b>4. Study:</b> <i>(If through e-mail, add name and made-up identifier)</i>	Copy-paste reference to link to mendeley, complete citation in APA style

General information article

<b>4. Article ID:</b>	[articleID]
<b>5. Sample ID:</b>	[sampleID]
<b>5. Year of article publication (numeric):</b>	[year]
<b>6. Independent variable (IV):</b> <i>Code the predictor variable (e.g.: group relative deprivation)</i>	[IV]
<b>7. Dependent variable (DV):</b> <i>Code the outcome variable (e.g.: collective action intentions)</i>	[DV]
<b>8. Operationalization for IV:</b> <i>Copy-paste operationalization for IV</i>	[SampleItemIV]
<b>9. Operationalization for DV:</b> <i>Copy-paste operationalization for DV</i>	[SampleItemDV]
<b>10. Main correlation (written):</b>	[MainCor]

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*thrMech* = Threat to Mechanism; *thrComp* = Threat to Compensation;  
*mechComp* = Mechanism to Compensation

## Sample characteristics

<b>11. Number of participants:</b> <i>Total number of participant (N) sample</i>	[N]
<b>12. Reverse coded effect?</b> <i>Write correct direction in codebook!</i>	0 = No 1 = Yes
<b>13. Statistics:</b> r, t2rMeans, t2rTTest	[Stat]
<b>14. Effect size Cohen's <i>d</i> (numeric):</b> <i>Code the effect size; email = missing effect; calc = calculated later in R</i>	[EffectSize]
<b>15. Country (written):</b> <i>Country of sample (e.g. Germany, The Netherlands, ...)</i>	[CountrySample]
<b>16. Cultural orientation (written)</b> <i>Individualism or collectivism</i>	[CultOrientation]
<b>17. Sample code:</b> <i>Describe sample (e.g. Scottish adolescents, ...), more than one sample code per sample is possible.</i>	1 = college students 2 = online sample 3 = representative 4 = face-to-face 5 = children 6 = citizens 7 = adolescents
<b>18. Mean age participants (numeric) :</b> <i>Rounded to two decimal places, (when estimated, mark yellow).</i>	[RealAge]
<b>19. Gender composition (numeric):</b> <i>Share of female participants expressed in percentages (e.g.: 51)</i>	1 = female 2 = mix 3 = male
<b>20. Percentage of female participants:</b>	[GenderComposition.perc]
<b>21. Type of study:</b> <i>Method used for conducting the study</i>	1 = Experiment 1.5 = natural/quasi-



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	experiment 2 = Field Study 3 = Scenario 4 = Survey 5 = National Survey
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## Study characteristics

<b>22. Independent variable (IV) category:</b> <i>Is the independent variable a threat, mechanism, or compensation?</i>	1 = threat 2 = mechanism 3 = compensation
<b>23. Type of relative deprivation (IV):</b> <i>Find the need/compensation coding that fits: use scale number*</i>	[IVScale]
<b>24. Independent variable (IV) subject:</b> <i>Is it an I/personal (code 1) or we/group/others (code 2) subject?</i>	1 = I/personal 2 = we/group/others
<b>25. Independent variable (IV) object:</b> <i>Is it an I/personal/other (code 1) or we/group/others (code 2) object? (3 = no object)</i>	1 = I/personal 2 = we/group/others 3 = no object
<b>26. Independent variable (IV) theory author:</b> <i>How do the authors call their construct (write the term)</i>	[IVTheoryAuth]
<b>27. Dependent variable (DV) category:</b> <i>Is the dependent variable a threat, mechanism, or compensation?</i>	1 = threat 2 = mechanism 3 = compensation
<b>28. Type of collective action (DV):</b> <i>Find the need/compensation coding that fits: use scale number*</i>	[DVScale]
<b>29. Dependent variable (DV) subject:</b> <i>Is it an I/personal (code 1) or we/group/others (code 2) subject?</i>	1 = I/personal 2 = we/group/others
<b>30. Dependent variable (DV) object:</b> <i>Is it an I/personal/other (code 1) or we/group/others (code 2) object? (3 = no object)</i>	1 = I/personal 2 = we/group/others 3 = no object
<b>31. Dependent variable (DV) theory author:</b> <i>How do the authors call their construct (write the term)</i>	[DVTheoryAuth]
<b>32. Form of reporting (DV):</b>	1 = self-report

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<i>Is the compensation self-report (code 1), actual behavior (code 2); or reported by adult (parent, teacher, etc.; code 3)?</i>	2 = actual behaviour 3 = other report
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## RD measures

Types of relative deprivation (IV):			[IVScale]
Term	Scale number	Explanation	Example
Relative Deprivation	relDep01		“I feel privileged compared to other people like me”  “I feel resentful when I see how prosperous other people like me seem to be”
	relDep02	cognitive (compare to outgroup)	People in Scotland generally earn (more, the same, less) than people in England
	relDep03	affective (compare to outgroup)	I feel frustrated and dissatisfied about the amount people earn in Scotland compared to people in England
	relDep03.2		Our relationship to X outgroup is unfair
	relDep04	egoistic (compare to my ingroup)	Comparing myself with people in Scotland I am (dis)satisfied with the way my life is just now
	relDep05	relative deprivation	We are doing fine, in general” [reverse- scored]; “The situation needs to be changed drastically”; "We are treated un- fairly”; and “Overall, there is not much to complain about” [reverse-scored]
	relDep06	Leach, Iyer, and Pedersen (2007) (rel. depri.)	Blacks are economically disadvantaged compared to Whites’ and ‘Blacks are socially disadvantaged compared to Whites’
	relDep06.2	Kelly and Breinlinger (1996); group	Women compared the socio-economic status of women relative to men (e.g. in terms of power and status in society, women do not get treated as well as most men)
	relDep06.3	Kelly and	Female participants compared their own socio-

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		Breinlinger (1996); personal	economic relative to men (e.g. in terms of power and status in society, I do not get treated as well as most men)
	relDep06.4	legitimacy of status difference	Non-Roma are unjustified to be better off in terms of status/ power than Roma; To what extent would you consider the inequality between the groups as just
	relDep07	Tougas et al. (2005) personal	Cognitive component: e.g., “In comparison with my heterosexual friends, I face disapproval while talking about my relationship in public more often); affective component: e.g. to what extent are you satisfied with this situation
	relDep08	Sablonniere & Tougas (2008) group	Cognitive component: e.g. In comparison with heterosexuals, LGBTQ individuals have to be more cautious in informing about their private lives.; affective component: to what extent are you satisfied with this situation
	relDep09	Double relative deprivation	Interaction between egoistic and collective deprivation

## Outcome measures

Types of collective action (DV):			[DVScale]
Term	Scale number	explanation	Example
Collective Action	CA01	determination country	I am determined to get active for my country to overcome the economic crisis
	CA01.1	determination protest	“How determined were you to participate in this protest event?”
	CA02	normal and violent	I would consider: signing a petition demonstrate

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			<p>sending a letter-a-day to politicians</p> <p>organize meetings with the objective to stop the implementation of tuition fees</p> <p>sabotage the work of the politicians</p> <p>occupy a university building</p> <p>vandalize governmental buildings/become engaged in university politics</p>
	CA02.1	petition intention	intention to sign a petition
	CA02.11	sympathy/ support for violence	<p>How sympathetic or unsympathetic would you say you are towards the violent campaign? “In general, I have sympathy for some Muslim groups’ reasons to resort to violent means in general, even though I do not condone the violence itself”; and “In general, I support some Muslim groups’ decisions to use violence, even though I do not condone the violence itself”</p>
	CA02.12	nonviolent nonnormative action	disturb events where advocates of tuition fees appear, block university buildings, block the highway
	CA02.13	violent normative action	throw stones or bottles, arson attacks on university buildings, arson attacks on private property of responsible persons, attacks on police, attacks on responsible persons
	CA02.2	petition behavior	actually signing a petition
	CA02.21	petition but with personal disadvantage	<p>Sign the petition as measure of collective action. However, by doing so they would be withdrawn from the low-ability group lottery.</p>
	CA02.3	classic CA measure intention	intention to participate in a demonstration, attending a discussion meeting, attending a rally, distributing flyers, and signing a petition → improve the condition of my group with non-violent means
	CA02.32	classic CA measure behavior	actually participating in a demonstration, attending a discussion meeting, attending a rally, distributing

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			flyers, and signing a petition → improve the condition of my group with non-violent means
	CA02.33	classic CA online	‘I protested on social media such as Facebook and Twitter’; and ‘‘I added my name to email-signature campaigns’’
	CA02.34	classic CA online + offline	‘‘I would donate money to the movement to reach its goals,’’ ‘‘If there was a rally in our neighborhood to support the movement, I would participate in it,’’ ‘‘In order to support the movement, I would post some updates on social media such as Facebook, Instagram, and Viber,’’ and ‘‘In my daily interactions with my family and friends I would spread and pass on the movements’ message’’
	CA02.4	policy support for the ingroup	Special university scholarships should be provided for Black students who attain good grades’ and ‘Some people think that Blacks have been discriminated against for so long that the government has a special obligation to help improve their standard of living’.
	CA02.5	support for social change	As a LGBTQ person I should be more involved in the struggle for equality’’ and ‘‘Generally, I support the actions of LGBTQ organizations.’’
	CA02.6	wish for social change	I wish we would work together to stop discrimination against us
	CA03		Our measure of intentions to self- sacrifice for the YV was created by taking and adapting the two-item measure from Swann et al. (2010)
	CA04	protest behavior	Asked participants if they attended a protest
	CA04.2		Wearing a protest badge
	CA04.3	protest intention	Are you willing to join this protest
	CA05	Feminist Activities Scale (IFAS)	I participate in feminist demonstrations, boycotts, marches, and/or rallies. Participants rate their involvement on a 7-point scale: 1 (very untrue of me) to 7 (very true of me).

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	CA06	vote	Voting in an election
	CA06.1	intention to vote	Intention to vote in an election
	CA07	union action	‘I would be willing to take industrial action over issues that are important to me’, ‘I would not take industrial action over any issue’ (R) and ‘I would be prepared to support [the union] and confront management over important issues’
	CA08	individual and group behavior	Individual level (“I would take some form of personal action to stop this event from happening again”, and “I would demand an explanation from the kickboxing instructor”), group level (“I would join with other members of my gender group to stop this event from happening again” and “I would join with other members of my gender group to demand an explanation from the kickboxing instructor”)
	CA09	move towards independence	Some sort of measure that aims at the ingroup becoming independent from some other group
	CA10	improve through legislation/ support for social change	“I do not see a need to support a change that will improve the position of Arabs within Israel” (reverse-scored); “I support legislation through which Arabs will be guaranteed equal work opportunities as Jews”; and “I wish that Israeli-Jews and Israeli-Arabs would be more equal in terms of resources”
	CA11	raise awareness	Take steps to tighten ethical standards and related policies aimed at participant welfare protection; Increasing initiatives to make participants more aware of what is acceptable experimental content

Variables used for the current meta-analysis: 6 (IV – however, datasets were selected on and had met the categorization requirements of economic RD prior to analyses), 7 (DV – however, all forms of collective action were valuable and distinguishing between them was not the aim), 11 (number of participants), 14 (effect size), and 15 (country), and 16 (cultural orientation). Auxiliary variables that were coded but not analysed: 16 (sample code, e.g. Scottish adolescents - we were interested in whole countries, and not in particular sub-groups), 17 (mean age – same reason), 18 (gender composition - same reason), 19 (percentage of females - same reason), 20 (type of study - we used survey data). Finally, we did not distinguish between I/personal vs. we/group/others, because the focus was on economic RD, not other distinctions.