Norwegian School of Economics
Bergen, Fall 2019

Inequality Acceptance Among Children

An Empirical Analysis of the Development of Social Preferences Through Childhood and Adolescence in China and Norway

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Master thesis, Economics and Business Administration

Majors:

Business Analysis & Performance Management

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Acknowledgements

First and foremost, we would like to express our sincere gratitude to our supervisor Ranveig Falch for her valuable guidance. We are very thankful for all constructive feedback, insights and positive encouragement throughout the writing process.

We would also like to thank FAIR/The Choice Lab at the Norwegian School of Economics for introducing us to an interesting research project and providing us with data for the thesis. It has been very rewarding to gain insight into a previously fairly unfamiliar culture and field of study for us.

At last, we would like to thank our friends and family for encouraging words and intentions and specifically to Sondre Johannessen for his valuable comments when we needed it the most.

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Abstract

Inequality is a pressing social issue and inequality considerations figure prominently in almost all spheres of society. The general perception of whether an inequality is fair or not, is often related to the source of the inequality. Inequality in cases of differences in productivity may be easier to justify for some, than inequality that is due to luck. Furthermore, people often seek to maximize surplus and as a consequence some may not believe a redistribution can be justified if it is costly (Konow, 2003). This thesis investigates how children manage distributive conflicts between children their own age. Using a real effort dictator game with a spectator design with nearly 1700 children as participants, we compare how children's inequality acceptance vary with age in two societies characterized by very different levels of income inequality, China (Shanghai) and Norway.

The data used in this thesis have been collected as the second part of a project organized by FAIR/The Choice Lab at the Norwegian School of Economics. Based on the data from the experiment there was no evidence to say that there is a systematical difference in inequality acceptance between children in the two countries. Furthermore, we found that merit considerations are equally important in both of the societies, while we found mixed evidence of the importance of efficiency considerations for children in the two societies. Our results indicates that 17-year-old children in both societies accept substantially more inequality compared to 9-year-old children. In both Norway and China, merit and efficiency considerations become more important with age. Additionally, our results show that children in China and Norway have a similar development in their social preferences. Most of the 9-year-old children are categorized as egalitarians, while most of the 17-year-old children have a meritocratic fairness view.

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1 Introduction

Inequality is a pressing social issue and inequality considerations figure prominently in almost all spheres of society. Rising income inequality is a widespread concern across the world (Dabla-Norris et al., 2015). The gap between the rich and poor has increased within most advanced and emerging markets. Widening inequality can entail large social costs. It can be a signal of lack of income mobility and opportunity and can have a detrimental influence on macroeconomic and political stability. However, there is no consensus about what is considered fair inequality, and people differ in respect to the importance they assign to fairness considerations (Cappelen et al., 2007). From the political scene, it is indisputable that most individuals view some inequalities as fair. The general perception of whether an inequality is fair or not, is often related to the source of the inequality. Inequality in cases of differences in productivity may be easier to justify for some, than inequality that is due to luck. Furthermore, people often seek to maximize surplus and as a consequence some may not believe a redistribution can be justified if it is costly (Konow, 2003). Individuals' motivations behind social interactions are multifaceted and go beyond the simple pursuit of personal gain (Van Lange, 1999). Many are willing to sacrifice selfish gains in order to avoid large deviations from what they consider to be a fair distribution (Cappelen et al., 2007).

Early childhood is a period of rapid social preference development and appears to be formative for an individual's social preferences in adulthood (Almås et al., 2010; Fehr and Rockenbach, 2008; Cappelen et al., 2016). Family life, social norms and policies towards children vary immensely across societies and can be a source of variation in fairness preferences (Sutter et al., 2018). Through this thesis, we want to study how children in two distinct countries differs in their acceptance of inequality among their peers. We compare a sample of children from Norway and The People's Republic of China. The thesis sheds light on the country-specific difference in inequality acceptance between children in the two countries, as well as the development of fairness preferences with age.

China and Norway are extreme opposites in regard to within-country income inequality and the two countries differ in terms of poverty levels, welfare systems and their expectations in children. With a population of 1.393 billion (The World Bank, 2019a), China is the

most populous country in the world. More than two decades of rapid growth for China has resulted in millions being lifted out of poverty, however, the growth has not benefited all segments of the population equally (Dabla-Norris et al., 2015). As a result, China has become one of the countries with the highest income inequality in the world. Norway contrasts China in a lot of ways. Norway has a population of 5.314 million (The World Bank, 2019b) and is among the countries with the least income inequality in the world (OECD, 2019a). While Norwegians have universal rights to a safety net provided by the welfare state (Norwegian Ministry of Labour and Social Affairs, 2019), this is not the case for the Chinese. Each individual's efforts in life are of much greater importance in China as only children are often left to provide for their parents and two sets of grandparents (Sauarlia and Jufen, 2008). This is reflected in differing expectations in children's performance in both education and sports. It is thus interesting to explore if these differences have an effect on children's fairness preferences in the two societies.

The data used in this thesis have been collected as the second part of a project organized by FAIR/The Choice Lab at the Norwegian School of Economics. The first part of the project studied how a heterogeneous group of adults in Shanghai made distributive choices for children, and how their choices varied with the age of the children. In the second part of the project children in the same age groups were recruited to make the same set of distributive decisions for children their own age. This thesis examines the development of inequality acceptance between 9- and 17-year-olds specifically, and whether this development differs in Norway and China. A version of a real effort dictator game with a spectator design was implemented. In total 1,657 children were recruited to act as child spectators, of which 1,031 were from Shanghai and 626 were from Bergen. The distributive situations varied in regard to the source of the inequality (luck or merit), and one which introduced efficiency considerations. This gave the opportunity to study how the inequality acceptance causally depended on contextual factors.

This thesis proceeds with a review of selected literature on fairness theory and empirical findings in Chapter 2. Chapter 3 presents the two countries and their differences. Chapter 4 presents the design of the experiment, followed by an introduction of the theoretical framework in Chapter 5. Chapter 6 outlines the empirical strategy, and Chapter 7 presents the results and a discussion of them. At last, Chapter 8 concludes the thesis.

2 Literature Review

The following chapter starts with a review on literature on individuals' perception of inequality. The chapter proceeds with a presentation of the fairness ideals relevant to this thesis, followed by a section about empirical findings on the development of fairness preferences. At last, the experimental method is discussed.

2.1 Fair and Unfair Inequality

Individuals' motivations behind social interactions are multifaceted and go beyond the simple pursuit of personal gain (Van Lange, 1999). Fairness considerations fundamentally affect human behavior, and it is one of the most important foundations of morality (Li et al., 2016). Humans have a substantial desire for fairness and have a strong resistance towards inequality (Fehr and Schmidt, 1999). Many are willing to sacrifice selfish gains in order to avoid large deviations from what they consider to be a fair distribution (Cappelen et al., 2007). Issues of fairness surface frequently in the economic, political, familial and social realms of everyday life (Konow, 2001). A remarkable feature of the notion of fairness, is that there is no consensus about what it is. The traditional approach to measure income inequality does not distinguish between fair and unfair inequality, and any movement towards a more equal distribution is considered to be an improvement in terms of fairness (Almås et al., 2011). However, from the political scene, as well as from economic experiments (Cappelen et al., 2007; Konow, 2000), it is indisputable that many individuals view some income inequalities as fair.

It is disputed whether growing income inequality is in fact a problem, and what the government's role in reducing the disparities should be (Almås et al., 2015). A distinction can be made between inequality in outcomes and inequality in opportunities (Dabla-Norris et al., 2015). While inequality in outcomes (such as income, wealth or expenditure) arise from a combination of differences in opportunities and the individual's effort and talent, inequality in opportunities is attributed to differences in circumstances beyond the individual's control (such as gender, ethnicity and family background). Dabla-Norris et al. (2015) suggest that widening income inequality may have major implications and can entail large social costs. It can reflect persistent disadvantages for particular segments

of society, signaling a lack of income mobility and opportunity. Income inequality also has implications for growth as it can concentrate power in the hands of a few, and thus lead to a sub-optimal use of human resources, political and economic instability and raise crisis risk. On the other hand, some degree of inequality may be beneficial as it provides incentives for people to excel, compete, save and invest to move ahead in life.

People may differ both in the importance they assign to fairness considerations and with respect to what they consider to be fair (Cappelen et al., 2007). Whether someone views inequalities as fair or not, is often related to the source of the inequality. For many, more information than the final outcomes is therefore needed in order to render social judgment about the degree of the inequality (Roemer and Trannoy, 2016). For instance, in the case of differences in productivity (Cappelen et al., 2007; Konow, 2000), and efficiency considerations that maximizes total benefits (Van Lange, 1999), most adults agree that an unequal distribution of income may be justified (Almås et al., 2010). Contrary, it is disagreed upon whether inequalities in instances of luck are considered fair. Efficiency considerations captures a concern about a trade-off between maximizing the size of joint benefits and fairness (Konow, 2000). If a redistribution is costly, some may not believe it can be justified, depending on how much they value fairness (Acemoglu et al., 2012; Konow, 2000). Various studies have demonstrated that people often seek to maximize surplus, sometimes at a personal cost, and that this goal is considered "fair" (Konow, 2003). These findings suggest that efficiency in this sense is not necessarily at odds with justice but instead is a type of justice in itself.

Almås et al. (2015) found that there is a low tolerance for inequalities based on luck among Norwegians, while inequalities originating in talent or hard work are accepted to a much larger extent. According to Kerr (2014), countries with greater inequality typically exhibit less support for redistribution and greater acceptance of inequality.

2.2 Fairness Ideals

Theories of equality and of need are usually characterized by a concern for the welfare of those in society who are the least advantaged (Konow, 2003). Interpreted as a preference on the part of real people for equally satisfying basic human needs, they form a principle of justice. The various fairness ideals differ in views on what factors people should

be held responsible for. Egalitarianism and libertarianism are two opposing views (Cappelen et al., 2010). An egalitarian fairness view associates equity with equality and argues that all inequalities should be equalized (Cappelen et al., 2007). In a case of production, egalitarianism finds that total income should be distributed equally between two individuals, regardless of any factors affecting the production (Cappelen et al., 2010). Individuals with this fairness view consider all inequalities as unfair, regardless of their origin and wishes to reduce all inequalities in society. This view is closely related to the motivation captured in the inequality-aversion models, which assume that people dislike unequal outcomes, independently of the source of inequality (Fehr and Schmidt, 1999). Libertarianism is at the extreme opposite of egalitarianism, as it holds people responsible for all factors affecting their income, and considers inequalities based on both luck, work effort and talent as fair (Almås et al., 2019).

There has been an increasing focus on equal opportunity theories of distributive justice that combine an egalitarian commitment with a concern for individual responsibility (Cappelen et al., 2010). Critics of egalitarianism protest that it is highly questionable whether measuring equality based solely on outcomes is ethically appropriate, as this view fails to hold people responsible for their choices (Roemer and Trannoy, 2016). Meritocratism is an intermediate view that holds people responsible for some, but not all factors, namely their choices as well as all factors that can be considered personal traits (Cappelen et al., 2010). Thus, both talent and work effort are considered to be justified reasons for inequality (Piketty, 2014). This fairness view considers inequalities due to differences in individual productivity as fair and inequalities due to differences in luck as unfair (Almås et al., 2019).

2.3 Development of Fairness Preferences

Social preferences are important in many areas of decision making (Sutter et al., 2018). Through childhood an individual is exposed to various signals in the environment that may shape the individual's preferences. Family life, social norms and policies towards children vary immensely across societies and can thus be a source of variation in fairness preferences. Early childhood is a period of rapid social preference development and appears to be formative for an individual's social preferences in adulthood (Almås et al., 2010; Fehr and

Rockenbach, 2008; Cappelen et al., 2016). Early childhood education has a strong causal impact on social preferences and attending preschool makes children more egalitarian in their fairness view (Cappelen et al., 2016). In an economic experiment using a version of the dictator game, Fehr and Rockenbach (2008) found that inequality aversion develops strongly between the ages of 3 and 8. At age 3-4, the overwhelming majority of children behaved selfishly, while the vast majority at age 7-8 preferred to eliminate inequality, regardless of whether the inequality was to their advantage or disadvantage. In line with these findings, Li et al. (2016) found that children's resistance to inequitable outcomes develop in young children and increases with age in later childhood and adolescence. While Fehr and Rockenbach (2008) found that egalitarian choices exhibited a large increase between ages 3-8, Fehr et al. (2013) found that egalitarianism becomes less frequent with age during the ages 8-17 in a follow up experiment. This indicates that the tolerance to inequality increases with age. Almås et al. (2010) similarly found striking differences in the prevalence of fairness views between different grade levels. Most 5th graders were egalitarian, and almost none were meritocrats. Meanwhile, meritocratism was the dominant fairness ideal in late adolescence. The share of libertarians was stable across all grade levels. Thus, as children enter adolescence, they increasingly view inequalities originating in differences in individual achievements as fair, while they do not consider unequal distributions as a result of luck as fair. Furthermore, efficiency considerations mainly play a role in late adolescence (Almås et al., 2010; Sutter et al., 2018; Fehr et al., 2013).

Different social preferences between the genders may help explain gender differences in economic behavior (Kamas and Preston, 2015). Social preferences may contribute to differential economic and social outcomes between the genders (Falk and Hermle, 2018). Fehr et al. (2013) found a marked gender difference in fairness preferences, with a larger fraction of egalitarian types in girls than in boys for each age group. Additionally, efficiency concerns are significantly more important for boys than for girls from the age of ten years onward (Sutter et al., 2018).

People's views on responsibility may be formed by the institutions they have been exposed to, which may partly explain the huge differences in fairness perceptions both within and between countries (Alesina and Angeletos, 2005; Alesina et al., 2001). According to Almås

et al. (2017), there are systematic differences in fairness views based on family background. They suggest that people from opposing socioeconomic backgrounds have opposing views on what is fair. Individuals from families of lower socioeconomic status are more likely to have an egalitarian fairness view, as they are more likely to consider an equal distribution fair in a situation with unequal earnings. Individuals from a family of high socioeconomic background preferred less redistribution than their counterparts and were characterized with a meritocratic fairness view.

2.4 Experimental Method

The experimental method has become an important approach in the field of economics and has been crucial for the development of behavioral economics (Cappelen and Tungodden, 2012). The two main reasons for this are that experiments allow for control and randomization. A major challenge when interpreting traditional behavioral data is that there may be many possible explanations for what is observed. Experiments give the researcher control of the environment and can thus reduce possible motives in an economic situation. Additionally, it can be a challenge to distinguish between causal relationships and correlations. Randomization provides a mechanism for unbiased allocation of treatments and can thus make it possible to eliminate such challenges (Smythe and Kramer, 2017). By equally distributing people with particular characteristics among all the treatments, the differences among groups can be minimized. An important feature of experimental economic research is to never lie to the participants and to not give them the impression of being part of something other than what they are actually involved in (Cappelen and Tungodden, 2012). Furthermore, an underlying assumption of standard economic theory is that humans are primarily motivated by economic self-interest. Thus, it is common in most economic experiments to use real monetary rewards in order to motivate the participant to make carefully considered choices and simulate a real situation. However, as the situation in an experiment may not capture all mechanisms that influence real-life decision-making, experiments are commonly criticized for having low external validity. This challenges the generalization to real-life situations or people in general. Another concern, known as the “Hawthorne Effect", can cause a participant’s behavior during the course of an experiment to be altered by the participant’s awareness of participating in the experiment (Jones, 1992). These are aspects to consider during the design and

implementation of the experiment.

One classic experimental design is the dictator game. In the standard version of the dictator game, one participant, the dictator, is asked to allocate a fixed sum of money between themselves and another participant, the recipient (Konow, 2000). The total income of the two participants is unaffected by how the money is distributed. The counterpart receives the money and is not able to respond. Initially, there may be many reasons why people would choose to share money, for example a fear of reprisals or a desire to establish a good reputation (Cappelen and Tungodden, 2012). The experimental method enables one to study a situation where these motives are eliminated, and where one can observe whether people's behavior is also driven by a basic moral motive to share. In the dictator game, this is done by introducing complete anonymity, i.e. the participants do not know who the other is, and the situation only occurs once. This eliminates both the opportunity to build a reputation and the fear of reprisals. An advantage of experiments is that they provide behavioral measures of preferences and demonstrate the willingness to act on them when stakes are involved (Konow, 2003). In this version of the game the dictator has a self-interest in the outcome, and thus narrow self-interest may dominate or bias the concern for equity and can have an impact on the dictator's behavior (Konow, 2000). This motive can be eliminated by modifying the design to include an impartial spectator with no personal stake in the game to act as the dictator. Thus, one's true and objective expression of preferences can be separated from any rewards or sanctions (Konow, 2008). Furthermore, in this situation, there is no apparent fairness argument justifying an unequal split since the money is not earned nor expected, and there is no efficiency consideration (Almås et al., 2010). To study fairness preferences it can be useful to introduce a production phase, where the money to be distributed is earned and depend on either merit or luck. By varying the source of inequality, it is possible to study the spectator's fairness preferences.

3 Country Presentation

There are striking differences in the measured inequality within countries and the attitudes societies have to inequality. China[1] and Norway are extreme opposites in regard to within-country income inequality and the two countries differ in terms of poverty levels, welfare systems and expectations in children. The following section details these differences in order to give a better understanding of the two societies.

3.1 Different Income Inequality

One way to measure income inequality is by the Gini-coefficient. The Gini-coefficient ranges from 0 to 1, with 0 representing perfect equality and 1 representing perfect inequality (OECD, 2019a). Norway is among the countries with the least income inequality in the world with a Gini of 0.262. China, on the other hand, is on the opposite side of the spectrum with a substantially higher Gini of 0.470 (OECD, 2019c).[2] China is the most populous country in the world, and accounts for one-fifth of the world's population. More than two decades of rapid economic growth for China has resulted in millions being lifted out of poverty and as a result of this, some measures of global inequality exhibit a declining trend (Dabla-Norris et al., 2015). However, this economic growth has not benefited all segments of the population equally or at the same pace, which has resulted in China moving from being a moderately unequal country in 1990 to being among the countries with the highest within-country income inequality in the world, measured by the Gini coefficient. One of the key sources of the major inequality in China is thus not deteriorating living standards among poorer groups, but rather a more rapid growth in income among the richer groups (Sicular, 2013). During the period from 2002 to 2007 the growth in per capita household income in China was substantial, with a growth of nearly 50 percent for the poorest decile and nearly 60 percent for the second-poorest decile. However, the income of the richest two deciles nearly doubled during the same period. As a consequence, the gap widened, and the national inequality increased. Another key

[1]The data used in this thesis is collected from a sample in Shanghai, which is China's largest and richest city (Northrup, 2015), and thus part of the urban area of China. However, we find it interesting to portray the stark contrasts within the country, and will thus base this chapter on China as a whole.

[2]There is some uncertainty behind China's Gini, with various organizations reporting differing numbers. However, there is a general concurrence that the income inequality in China is high. By whichever measure the two countries are extreme opposites when it comes to income inequality.

source of the substantial inequality in China is the urban-rural income gap, contributing with over 50 percent of the overall inequality in 2007. In 2014 the urban-rural income ratio was just under 3.0 (measured by per capita household income in urban areas divided on per capita household income in rural areas) (Terry et al., 2018). In Norway, the income share of the poorest decile has had a slight decrease since 1986, while the richest decile has increased its income share in the same period resulting in a slight increase in income inequality (Statistics Norway, 2019c). However, the share of income going to the poorest still surpasses the OECD average (OECD, 2019b).

3.2 Socioeconomic Status and Social Welfare

While Norway has had a stable economy for a long time, the country experienced remarkable economic growth around the turn of the century, which resulted in increased living standards for most Norwegians (Fløtten et al., 2009). China has experienced an even more remarkable and rapid economic growth over the past decades and the gross national income per capita has increased by almost 900 percent between 1990 and 2017, along with an increase in all other dimensions of human development (United Nations Development Programme, 2018a). Despite the significant progress, there is still considerable inequality in opportunities such as access to (and quality of) education, financial services, social benefits and health care (Sicular, 2013).

In Norway, the social welfare policies are major contributing factors to the high standards of living, equalization of wealth, low poverty rates and a stable society. The state of these dimensions compared to other countries has resulted in Norway being ranked first in the 2018 UN Human Development Index (United Nations Development Programme, 2018b). The Nordic welfare system is built on the egalitarian distribution of wealth through the lever of a sophisticated tax system (Fang, 2008). Norway has a strong social democratic tradition that emphasizes social welfare and economic human development. This feature is engraved in the culture such that even with right-winged parties in power, reforms and policy changes are made within the framework of maintaining a good collective quality of life and social stability. A particular characteristic of the Norwegian welfare system is the universality of social rights to relatively generous benefits. The aim of the welfare policies are to ensure freedom from hunger, illness, financial dependence on others, as

well as freedom to live out one's own opportunities (Fløtten et al., 2009). At the time of the Second World War ending in 1945, there were no benefits that targeted the entire population. Over the course of the following 20 years more risks were gradually recognized as public areas of responsibility (Kildal, 2013). In 1967, the National Insurance Act was introduced. As a general rule, all persons who are either a resident or working as employees in Norway are compulsorily insured under the National Insurance Scheme (Norwegian Ministry of Labour and Social Affairs, 2019). The scheme includes a long list of benefits such as old age pension, survivors' benefits, disability benefits, cash benefits in case of sickness and maternity, unemployment benefits and health care benefits. An important basis for the Norwegian welfare system is education for all in order to ensure competence and high employment, which in turn finances the welfare state that provides a social safety net that embraces everyone. Labor force participation is the key contributing factor for high living standards. To develop one's own self is highly valued and choice of occupation is not necessarily determined by economic terms, but rather by individual interests, vision and passion (Fang, 2008).

While China has been a frontrunner in the reduction of absolute poverty during the past decades, this has been a result of economic growth and much less through welfare transfers (Gao et al., 2013). The Chinese welfare state is at a crossroad, transforming from highly fragmented social programs to a more comprehensive welfare state (Dalen and Flatø, 2016). The government has aimed at building and restructuring welfare programs and during the period from 2003 to 2013, China implemented a wide range of policy measures designed to reduce disparities and to protect the economically vulnerable (Terry et al., 2018). Despite of these policies the income inequality in China has remained high.

In Norwegian mentality every person is equally valued and consequently equality is a majorly important value in the welfare system. Contrary, hierarchy is an important character of Chinese culture and it is basic to the Chinese belief that people are different (Fang, 2008). While Norway's welfare model is characterized by universality, the same is not to be said about the Chinese model. A major issue with the social welfare system is a deep inequality of treatment between the population groups, with a bias in favor of the urban population (Ringen and Ngok, 2013). In 2011, over half the population of China lived in urban areas (Gao et al., 2013). In 2010 the rural-to-urban migrants made

up 20 percent of all urban residents. The term "migrant" refers to those with an official rural household registration status, whom is actually residing in an urban area. In China, there is not one welfare state, but rather many and radically different ones. The urban social benefit system is more comprehensive and generous, similar to those in the western industrialized countries while the rural system is minimal and residual, and similar to those in the least developed countries (Gao et al., 2013). In 2007, urban social benefits made up 20 percent of household income, while that share for rural households was a mere 2 percent. Migrants have seriously lacking conditions of social benefits, particularly health benefits are minimal because they do not qualify for urban health insurance due to their lack of urban household registration. Furthermore, there is a striking discrepancy in the education levels and access to educational resources between urban and rural areas in China (Tingting, 2006). Preliminary results from a large-scale representative survey of the Chinese population showed that Chinese people are concerned with matters of fair distribution and the role of the Chinese authorities in ensuring a reasonable standard of living for all (Forskningsrådet, 2018). The remarkable inequalities between the poor and the rich and between urban and rural areas are seen as profoundly unfair and problematic.

Another particular difference between Norway and China is the policies towards having children. In Norway, the government facilitates and encourages having children to a large extent. Statutory rights entitles Norwegian citizens to various benefits in connection with pregnancy, birth, adoption and childcare (Altinn, 2019). The rights are very generous on an international scale, with Norway ranking among the highest for family-friendly policies in OECD and EU countries according to a UNICEF (2019) report. 80 percent of children in Norway live with siblings (Statistics Norway, 2016). In contrast Chinese citizens have been subject to the One-Child Policy since 1979 (Cameron et al., 2013). The policy is a radical approach to limit population growth that restricts the number of children that urban couples can have to one, with exceptions for those from ethnic minorities or with a severely disabled child. With the focus moving from having many children to being restricted to having only one child, a large discrepancy has been created between the current and future labor force and the growing elderly generation (Sauarlia and Jufen, 2008). In turn, this leads to a serious gap between the tax money raised and the pensions needed to support the older generation. Hence, in the future the state will not have enough funds to uphold a welfare system able to take care of the elderly, which

moves the responsibility of taking care of parents and grandparents over to an only child. The restrictions were loosened in 2015, when all married couples were allowed, and urged, to have two children (Mjøset and Skarstein, 2016). Despite this, many Chinese families stuck with having only one child (Denyer, 2015). This is often related to practical and economic decisions, such as high living costs in urban areas, but also because decades of government propaganda may have convinced them that one child really is the best.

3.3 Policies towards Children

Child-rearing and day care

In China, "child training" is oftentimes used synonymous with "child rearing" and firm control and governance of children is perceived as an indication of care, concern, involvement and even love (Chao, 1994). There is an immense pressure for children to behave according to a set standard of conduct and fulfill the societal and familial expectations for success. The parental intervention can oftentimes be measured by the child's ability to perform in school. In the child's early years, the mother provides an extremely nurturing environment for the child by being physically available and by promptly attending to the child's every need. China's One-Child-Policy has led to the "little emperor syndrome" where children gain excessive amounts of attention from their parents and grandparents, as well as increasing the weight of expectation on the child (Cameron et al., 2013).

There are considerable differences between Chinese and Norwegian day care facilities and the perception of their role. Chinese day care facilities have a strong focus on creating a "perfect" child within set boundaries and developing good and considerate habits and a strong community responsibility (Ødegaard, 2012). In China education starts at a very young age, and it is common for parents to send their children to various educational and training classes before they attend primary school. The classes are designed to give the little ones a head start, secure a spot in one of the top primary schools and prepare them for a successful academic future (Zhao, 2016). In Norway, day care facilities are more focused on wellbeing, friendships and play (Kunnskapsdepartementet, 2017). Additionally, it is of importance to create an environment that supports the development of individuality

and self-reflexivity, as developing one's own self is encouraged. The Kindergarten Act states the importance of promoting democracy and equality and counteract all forms of discrimination (Barnehageloven, 2005). Hence, the strong sense of equality that permeates Norwegian society is introduced from early childhood, and each child is given equal opportunity to be seen, heard and encouraged regardless of sex, disability, ethnicity, culture, social status, language or religion (Kunnskapsdepartementet, 2017). 91.8 percent of Norwegian children between the ages of 1-5 attend a day care facility (Statistics Norway, 2019a), thus a large majority of Norwegian citizens are exposed to these values from the start of life.

Education

The Chinese culture takes education very seriously. Education in China has been characterized as a twofold process of achieving social mobility and becoming persons through continuous effort (Zhang, 2019). The Chinese educational system is highly competitive from the start of primary school with great emphasis on academic performance and intolerance of failure (Hesketh et al., 2010). A key schools system separates *ordinary* schools from *key* schools, by giving priority to the key schools in the assignment of teachers, equipment and funds (You, 2007). The key schools are distinguished from ordinary schools by their academic reputation and thus attract the best students, who are admitted largely based on entrance scores. This confronts children with a huge pressure to perform in order to be admitted to higher-level schools, and it is widely believed that attendance in key schools from the start of your academic life is of great importance to be able to attend the top higher education institutions. Resources are focused on further developing the elite students, while those with low scores receive inferior education, thus intensifying the gap. Zhao (2016) details how teachers publish and compare students' scores and ranking positions in front of the class, which are grounds for reward or punishment from parents, teachers and peers. In the classrooms, teachers often motivate students to take learning seriously by strategically assigning the students to hierarchical seating locations based on exam scores and attitude (Zhang, 2019).

The Chinese education system has an exam-oriented style, characterized by rote learning and repeated drilling under the teacher's constant watch (Zhang, 2019). Critics are worried that students are weighed down by excessive homework and examination pressure

(Dello-Iacovo, 2009). In a study of 2,191 Chinese children between the ages of 9 and 12, Hesketh et al. (2010) found that 81 percent of the children worried "a lot" about exams. In particular the college entrance examination, the gaokao, generates a great deal of psychological strain. The test is normally taken in the last year of secondary education (around age 16/17) and it is considered the single most important test any Chinese citizen can take, as it determines if and where a student will attend university (Wong, 2012). Defenders of the gaokao say the test is a crucial component in a meritocracy, as it allows students from poorer backgrounds or rural areas to compete for spots in top universities.

In contrast, Norwegian school children are to a much greater extent sheltered from academic competition during their early years. Grades in school are not introduced until the start of lower secondary school, in eight grade at age 12/13 (Opplæringslova, 2009). Most children attend the primary and lower secondary school in closest proximity to their home. It is possible to apply to go to a different school, however academic results are not used as a criteria to process the applications. Less than 4 percent of the pupils in primary and lower secondary school attend private schools (Statistics Norway, 2018c). In Norway, the Core Curriculum for primary and secondary school accentuate the importance of adapting the education to the needs of the individual (The Royal Ministry of Education, Research and Church Affairs, 2011). An equality of results is a target, meaning extra resources are often directed to the worst performing students rather than the best performing ones. The reasoning behind this is a notion that equal ability to participate enriches the society. Norwegian adolescents have the opportunity to move on to free higher education (college or university), and while admission is based on grades there are many opportunities for lower scoring students to attain a higher education as well. While the pressure on young children is relatively low in Norway, it can seem as though the extensive focus on individuality, self-fulfillment and the vast array of opportunities have brought about a great deal of pressure for Norwegian adolescents (Bakken et al., 2018). The privilege creates a notion that anyone can do anything they want, creating a clear expectation of performance in order to fulfill ones potential. Thus, the pressure for Norwegian adolescents may be of a different character than that of Chinese adolescents whom are pushed to perform in order to provide for themselves and their family.

The Young Pioneers of China

A significant part of the Chinese childhood is the membership of the organization Young Pioneers of China (Woronov, 2007). This serves as the first Communist Party affiliation for Chinese children. Virtually all children are automatically inducted into the Young Pioneers upon finishing first grade. The children are part of the organization from ages seven to thirteen. The organizations have strong links to the Communist Party and during the initiation ceremony the children chant a pledge swearing to dedicate all their efforts to the cause of communism. Along with their normal studies the children learn about the Communist Party's glorious creation of a strong China, the importance of respecting authority and the merits of doing good deeds (Eckholm, 1999). Each school assigns at least one teacher to supervise Pioneer activities specified by the Communist Party authorities (Woronov, 2007). Students organize themselves into teams, elect honorable classmates as leaders, raise the national flag and inspect each others' dress and discipline. The goal of the Pioneers is to indoctrinate in children organizational and leadership skills, discipline, obedience to Party directives, patriotism and collectivism. Central to the belief is the prioritization of a group over each individual and the notion that the goal of social development should be the establishment of a classless or egalitarian community.

Sports

Sports are also taken tremendously seriously in China. The Chinese President Xi Jinping has stated that sport is of great significance for the country and that building China into a sports power is an integral part of realizing the Chinese dream of rejuvenating the nation (Chi, 2017). The Chinese sports system has systematically produced thousands of child sports stars, with more than 400,000 children in 3,000 sports schools throughout China (Hong, 2004). Children as young as five or six years old are selected to go to specialized sports schools with emphasis on sports training and less on the academic education. The children train for 6-10 grueling hours a day with sole focus on being sculpted into Olympic champions. Chinese culture highly values single-mindedness and it is a common belief that to succeed in any endeavor one must focus all energy and concentration on the task at hand. In Norway, children's sports are for the most part recreational rather than elite. Each child has the freedom to chose how many sports they would like to participate in

and how much they would like to practice (Norges Idrettsforbund, 2015). Friendship and well-being are important cornerstones in children's sports. Additionally, there are strict guidelines related to competitions. Children under the age of 12 are not allowed to compete on a national level. In local tournaments and competitions results are not to be published until the children are above eleven years of age, and everyone must receive a prize if they are to be handed out (Norges Idrettsforbund, 2007). Furthermore, coaches are encouraged to facilitate even matches, give all children playing time, attention and equal treatment (Norges Fotballforbund, 2019).

4 Design

In this experiment, a version of a real effort dictator game with a spectator design was implemented.[3] The purpose was to try to get insight into how children in two very different societies, China and Norway, made real distributive choices in situations involving children their own age. Through this experimental design we can study whether there are systematic differences in what children consider as fair inequality in two different societies and how this view develops with age. The following chapter presents the experiment's context, design and implementation in more detail.

4.1 The Recruitment Process

Two separate recruitment processes were performed to conduct this experiment. One recruitment process was carried out in Shanghai, while the other recruitment process was carried out in Bergen. The experiments were carried out at the actual schools of the children. Children from 8 different schools in both Shanghai and Bergen participated in the experiment in the fall of 2018. In Shanghai 1,031 children acted as child spectators. 462 of the children were 9 years old and 569 of the children were 17 years old. In Norway 626 children acted as child spectators. 278 of them were 9 years old and 348 were 17 years old.

[3]The study was organized by FAIR/The Choice Lab at the Norwegian School of Economics. The study was implemented in collaboration with researchers from the Department of Education at East China Normal University in Shanghai. The study was funded by the Institute for Applied International Studies (Fafo) in Oslo, FAIR/The Choice Lab through grants from the Research Council of Norway.

4.2 Treatments

In order to study causal effect, the child spectators in each age group were randomly distributed into three different treatments. The child spectators made distributive choices for children their own age. The treatments were different in terms of the distributive situations. Varying two key factors of the distributive situations gave the opportunity to study how the inequality acceptance causally depended on contextual factors. The two key factors of the distributive situation are the source of inequality and the cost of redistribution. Table 4.1 gives an overview of how many children in the sample acted as spectators in each of the treatments.

Table 4.1: Number of Child Spectators in the Luck, Merit and Efficiency Treatments

	Luck	**Merit**	**Efficiency**
9-year	165 / 91	195 / 95	102 / 92
17-year	203 / 115	187 / 116	179 / 117

Note: The table shows how many child spectators participated in each treatment in China (to the left) and in Norway (to the right).

Within each age-group, each child spectator was randomly assigned to make one of three potential types of spectator decisions, respectively *luck*, *merit* or *efficiency* (Almås et al., 2019).

Luck Treatment: The first distributive situation was the Luck treatment. In this treatment a random draw decided how the initial earnings were allocated and there was no cost of redistribution. The lucky child were allotted all of the coins, while the unlucky child was left with nothing.

Merit Treatment: Merit was the second distributive situation in this experiment. In this treatment the initial earnings were allocated based on productivity and there was no cost of redistribution. In this case, the most productive child were allotted all of the earnings, while the least productive child got nothing.

Efficiency Treatment: The last distributive situation was the Efficiency treatment. Just as in the luck situation, the initial earnings were determined by a lottery. However, in this situation redistribution was costly. The cost of redistribution indicates that there is an efficiency loss of one third of the initial allocation if the child spectator chose to share the allocation equally between the pair of children.

The types of spectator decisions give the opportunity to study whether there are systematic contrasts in what children in China and Norway consider as fair inequality, by comparing the distributive choices in the Luck treatment and the Merit treatment. The Luck treatment was implemented to explore the children's willingness to accept inequality when the initial earnings were determined by luck, while the Merit treatment was created to investigate the children's willingness to accept inequality when the initial earnings were determined by individual productivity. Further, the design gives the opportunity to study the weight attached to fairness relative to efficiency, by comparing the distributive choices in the Luck treatment and the Efficiency treatment. Efficiency was designed to study the children's willingness to accept inequality when there was a significant cost of redistribution.

4.3 The Stages of the Experiment

The experiment consisted of four different stages: a work stage, an earnings stage, a redistribution stage and a payment stage. In the following, the stages of the experiment are explained in detail.

Work Stage

The first step of the experiment was the work stage. One child completed an assignment, where each assignment was adapted to the age of the child. On average, each child completed three tasks. For the children who both completed tasks and made a spectator decision, the assignments were distributed, explained and completed after the spectator decision. This was done in order to avoid that the children could understand from these tasks, which types of tasks the children they distributed money between, had completed.

Earnings Stage

The second step of the experiment was the earnings stage. In this stage, one child was matched with another child their same age, who had completed the same assignment. Initial earnings were assigned according to treatment. The pair of children were told that their earnings were determined based on a lottery (Luck and Efficiency treatments) or individual productivity (Merit treatment). If the child won the lottery or was the most

productive, the initial earnings were 48 NOK (6 USD) or 24 CYN (3.5 USD).[4] The lucky child earned all the coins and the unlucky child earned no coins. For the Merit treatment the child who was the most productive earned all the coins, while the less productive child earned nothing. After this the pair of children learned that a third person (the child spectator) had the opportunity to redistribute the earnings between them.

Redistribution Stage

In the redistribution stage, each child spectator decided the payment for a pair of children their same age. A between-subject design was used, such that each spectator made only one distributive choice for only one pair of children. The child spectators were randomly assigned to make one of three possible types of spectator decisions. The child spectator was informed that both children were their same age and that they went to school in respectively Shanghai or Bergen, depending on the nationality of the child spectator. Furthermore, they were informed that the choice they made had real consequences for other children. The child spectators were informed that the two children had each done an assignment, where the initial earnings from the assignment were determined by either a lottery (Luck and Efficiency treatments) or productivity (Merit treatments). Each child was represented as the child with the green plate or the child with the yellow plate. Illustrations of yellow and green plates with coins were used to visualize the decision. For the same reason, the moderator determined what each child earned by flipping a green and yellow token in front of the child spectators in the Luck and Efficiency treatment. Both the 9-year-olds and the 17-year-olds were informed that each coin was worth 8 NOK/4 CNY. Upon being given this information the child spectators were asked to decide if the two children should be paid what they earned for the assignment or whether the child spectator wanted to divide the earnings between the pair of children. Table 4.2 illustrates the distributive choices the child spectators were given for the Luck and Merit treatments. The complete illustrations, with pictures of the green and yellow plates with different coin allocations, are found in Appendix A9.

The first option in Table 4.2 indicates a scenario with no redistribution and persisting inequality. The six other options reflect various ways the child spectator can redistribute the earnings between the pair of children.

[4]The earnings in the two societies were approximately the same in terms of purchasing parity.

Table 4.2: Redistribution in Luck/Merit Treatment

Green child is paid 6 coins	Yellow child is paid 0 coins
Green child is paid 5 coins	Yellow child is paid 1 coins
Green child is paid 4 coins	Yellow child is paid 2 coins
Green child is paid 3 coins	Yellow child is paid 3 coins
Green child is paid 2 coins	Yellow child is paid 4 coins
Green child is paid 1 coins	Yellow child is paid 5 coins
Green child is paid 0 coins	Yellow child is paid 6 coins

The Efficiency treatment differs from the other treatments by making redistribution costly. In order to make it simple and clear for the child spectators to understand they were only given two options in this treatment: either let the inequality persist or equalize the payment, in which case each child was paid 2 coins each. Hence, there was an efficiency loss of 2 coins. Table 4.3 shows the distributive choices the child spectators were given in the Efficiency treatment. Detailed instructions given to the children in the Efficiency treatment are to be found in Appendix A9.

Table 4.3: Redistribution in Efficiency Treatment

Green child is paid 6 coins	Yellow child is paid 0 coins
Green child is paid 2 coins	Yellow child is paid 2 coins

Payment Stage

In the last stage of the experiment, the children in each pair were paid according to the decision of the child spectator whom they were matched with. The child spectator was informed that the pair of children would receive the payment he or she had chosen within a short period. While the 17-year-olds received money, the 9-year-olds received small gifts of equivalent value to the allocated payments, in order to make it age-appropriate.

Additional Tasks and Questions

When the children had made their distributive choices, they were asked two additional questions. The children were asked about their gender and how many siblings they had. The additional questions are provided in Appendix A9.

In order for the children to participate in the experiment, their parents were asked for consent. If a parent agreed that his/her child participated in the experiment, the parent

was asked to respond to some questions regarding household income, education, age and number of children. The questionnaires for the parents in both countries are provided in Appendix A10.

4.4 Description of the Spectator Sample

As mentioned in section 4.1, the sample of children in China and Norway was recruited at the children's schools. The purpose of this was to make the sample of children representative of the young resident population in Shanghai and Norway on a set of observable characteristics (gender, household income, the education level of the parents and number of siblings). This section provides descriptive statistics for the samples of the 9- and 17-year-olds, where Table 4.4 shows an overview of the descriptive statistics.

Table 4.4: Descriptive Statistics for the Spectator Samples

	Sample 9y		Sample 17y		Population	
	Shanghai	Norway	Shanghai	Norway	Shanghai	Norway
Gender:						
Female	0.452	0.511	0.589	0.537	0.504	0.496
Male	0.548	0.489	0.411	0.463	0.496	0.504
Household Income (USD):						
Median	3,182	9,590	1,980	10,504	1,849	5,826
25th percentile	1,980	6,850	1,273	7,765		
75th percentile	3,889	12,331	3,182	13,246		
Education father :						
High school or less	0.05	0.296	0.352	0.296	0.656	0.662
College/University	0.95	0.608	0.648	0.582	0.348	0.301
Education mother :						
High school or less	0.077	0.196	0.378	0.260	0.667	0.597
College/University	0.924	0.754	0.622	0.674	0.333	0.382
Siblings:						
Share with no siblings	0.775	0.068	0.896	0.029	0.656	0.152
Share with siblings	0.226	0.932	0.104	0.971	0.344	0.848
Total No. of Participants:	462	278	569	348		

Note: The table shows the descriptive statistics for the background variables of the child spectators in China and Norway. Income is based on the child spectators' parents reported household income and is given in standard categories where the mid-point in the category was used (see Appendix A10 for an overview of the different income categories in the two societies). The table displays household income in USD, where the exchange rates used are 0.1414 USD/CNY and 0.1096 USD/NOK (October, 2019). The Norwegian parents had the opportunity to state not "knowing/not wanting to state" their income, thus the information presented in the table is based on the participants who chose to report information about this. Additionally, the Norwegian parents could state "other" regarding their education as their highest completed education, thus high school or less and college/university do not equal 100 percent.

As shown in the Table 4.4, the samples differ some from the population statistics. For instance, only approximately 60 percent of the parents responded on the background questions, and it may very well have been only parents with high socioeconomic status who answered these questions. One challenge could be that parents with low socioeconomic status to a smaller extent are willing to state information about their background. This serves as one explanation for why the sample may be less representative than desirable.

The Chinese Samples

In the targeted population in Shanghai, the gender balance is approximately 50.4 percent females and 49.6 percent males (National Bureau of Statistics of China, 2018a). The intention with the recruitment process was to get gender balanced samples. However, we ended up with 45.2 percent females in the sample of 9-year-olds and 58.9 percent females in the the sample of 17-year-olds.

The median household income in the sample of 9-year-olds equals 3,182 USD, while in the sample of 17-year-olds the median household income equals 1,980 USD. The rapid economic growth in China over the past decades may be part of the explanation for this. As the parents of 17-year-olds are naturally oftentimes older than those of 9-year-olds, the difference in years may have had an impact as the economy has leaped ahead. Further, a higher share of the parents of the Chinese 9-year-olds have a higher education level compared to the parents of the Chinese 17-year-olds. It may be fair to assume that higher education is normally equivalent to higher salary. Income data in Shanghai is not available per household, but per capita. Household disposable income equates to per capita disposable income multiplied by the number of household members. The average household income among Shanghai residents is estimated by multiplying the per capita income with the average household size in the same population. The average disposable income per capita is 695.08 USD (National Bureau of Statistics of China, 2018b), and the average household size is approximately 2.66 persons (National Bureau of Statistics of China, 2018a). Based on this, the average monthly income in Shanghai is 1,849 USD, which is close to the household income of the 17-year-olds.

95.0 percent of the fathers and 92.4 percent of the mothers in the sample of 9-year-olds have completed higher education. 64.8 percent of the fathers and 62.2 percent of the

mothers have completed higher education in the sample of 17-year-olds. Both in the samples of 9-year-olds and the 17-year-olds the education level of the parents is higher than in the Shanghai population. Education statistics for the population in Shanghai is only reported separately for employed and unemployed adults (National Bureau of Statistics of China, 2018b). Furthermore, the education statistics are not specific to Shanghai natives. This implies that the education statistics also include migrants with relatively low education level and with temporary employment. This provides a partial explanation for why a larger proportion of the sample has higher education than the population, where 34.8 percent of the male population and 33.3 percent of the female population have completed higher education.

77.5 percent of the sample of 9-year-olds has no siblings, while 89.6 percent of the sample of 17-year-olds has no siblings. Statistics shows that 65.6 percent of the Chinese population has no siblings (NWCCW, NBS, UNICEF, 2018).

The Chinese samples of 9- and 17-year-olds differ from each other in terms of the background characteristics. Therefore, we want to control these differences in further analysis. We therefore show results both with and without controls for gender, household income, education level of the parents and number of siblings.

The Norwegian Samples

In the Norwegian population the female share is approximately 49.6 percent (Kommuneprofilen, 2019). This corresponds well to the samples of Norwegian children, where 51.1 percent of 9-year-olds and 53.7 percent of 17-year-olds are females.

Among Norwegian households the median monthly income after taxes is 4,661 USD (Statistics Norway, 2018b). Assuming a tax rate at 25 percent, the median household income before taxes is 5,826 USD (Statistics Norway, 2008). The household income in the sample of 9-year-olds is slightly higher, where the median household income is 9,590 USD. The median monthly household income in the sample of the 17-year-olds is slightly higher, at 10,504 USD. A big part of the explanation of this increase in income could simply be that the parents of the 17-year-olds are generally older than the parents of the 9-year-olds, leading to more seniority and thus higher pay. Clearly, there is a big difference between the sample and the population in terms of income, which may be due to the median

income in the population applying to all households in Norway (Statistics Norway, 2018b). It may be fair to assume that the households with children in our sample oftentimes have two incomes, from both the mother and the father. However, statistics from (Statistics Norway, 2019d) show that approximately 38 percent of the households in Norway are inhabited by only one person, which will naturally affect the population median household income negatively. Additionally, the samples have a bigger share of parents who have completed higher education compared to the population, both for the 9-year-olds and the 17-year-olds. Assuming, as before, that higher education level leads to higher income, this offset in education level in the samples also contributes to the difference in income level.

Educational statistics for the Norwegian population is only reported for 16+ years, where 30.1 percent of the male population and 38.2 percent of the female population have completed higher education (Statistics Norway, 2019b). The sample of the parents of the 9-year-olds shows education for 18+, where 60.8 percent of the male population and 75.4 percent of the female population have completed higher education. This indicates that more adults in the sample has a higher level of education than the general population. The share of mothers with higher education in the sample of 17-year-olds is 67.35 percent, while 58.16 percent of the fathers has completed higher education. Both are higher than the actual percentage of highly educated people in the population of Norwegian residents.

93.2 percent of the sample of 9-year-olds have stated that they have siblings and 91.1 percent of the sample of 17-year-olds has siblings. As for the Norwegian population, 84.8 percent of the children have siblings (Statistics Norway, 2018a).

Similar to the Chinese sample there are some differences in terms of the background characteristics in the sample of Norwegian 9- and 17-year-olds. Results are therefore presented both with and without controls for the background characteristics for the Norwegian children in the further analysis.

5 Social Preferences Theoretical Framework

The following section introduces a model of social preferences described in Almås et al. (2019). By using this model, the child spectators' favored fairness ideals can be categorized. The child spectators' preferred efficiency considerations can also be estimated using the

following model. As mentioned in section 2.2, we discussed three different ideals of fairness, namely an egalitarian fairness view, a meritocratic fairness view and a libertarian fairness view. This model helps identify these ideals among the children who acted as participants in this experiment.

One child spectator is informed of the initial earnings of one pair of children, and further this child spectator has the opportunity to redistribute the original allocation between the pair of children whom it is matched (Almås et al., 2019). $1 - y$ corresponds to the income of the child who first received the initial earnings in one of the treatments j, whereas y is the share of total income to the child with no initial earnings. j is equivalent to one of the three distributive situations, where L = luck, M = merit and E = efficiency. The following utility function captures that a child spectator is concerned with both fairness and efficiency:

$$V(y;\cdot) = -\frac{\beta}{2}(y - m(j))^2 - c(j)y, \tag{5.1}$$

where $\beta \geq 0$ is the weight attached to fairness relative to efficiency, $m(j)$ is what the child who acts as a spectator acknowledges to be the fair share for the child with no initial earnings in one of the treatments j, and $c(j) \geq 0$ is the cost of redistribution in treatment j (Almås et al., 2019).

The model takes into account that the social preferences of a child spectator can vary in two different ways: The first is what a child spectator thinks a fair distribution of income $m(\cdot)$ is; the second is the importance a child spectator allocates to fairness relative to efficiency, β (Almås et al., 2019). The optimal interior solution is given as follows:

$$y(j) = m(j) - \frac{c(j)}{\beta}. \tag{5.2}$$

Based on this, it follows that if there is no cost of redistribution, the child spectator implements the fair solution, i.e. $y(j) = m(j)$. On the other hand, if there is a cost of redistribution, the child spectator has to make a compromise, by weighing efficiency considerations against fairness considerations. When $\beta \leq \frac{c}{m}$, the child spectator favors to give nothing to the child with no initial earnings. Contrarily, if the child spectator

primarily is concerned about fairness, they assign a share he or she thinks is a fair distribution to the child with no initial earnings, i.e. $\beta \to \infty$ indicates that $y \to m$.

A comparison of the different treatments in the experiment can further be used to investigate the two aspects of social preferences, respectively the child spectator's preferred fairness view and the weight he or she attaches to fairness. The social preference model implies that if there is a difference between the Luck treatment and the Merit treatment in the share given to the child without no initial earnings, then this shows that the source of inequality matters for the child spectator's fairness view:

$$\textbf{Merit versus Luck:} \quad y(L) - y(M) = m(L) - m(M). \tag{5.3}$$

To say something about the cost of redistribution, another assumption is introduced: The cost of redistribution does not affect what the the child spectator considers to be fair to allocate to the child with no initial earnings in the pair of children, i.e., $m(L) - m(E)$ (Almås et al., 2019). This assumption is important because it captures that fairness relates to the source of inequality in both treatments. Furthermore, the assumption provides the opportunity to separate between fairness and efficiency considerations. It now follows from the model that any dissimilarities between the treatments (Luck and Efficiency) are due to the cost of redistribution and the weight attached to fairness:

$$\textbf{Efficiency versus Luck:} \quad y(L) - y(E) = \frac{c(E)}{\beta} \tag{5.4}$$

In the following, the share of different fairness ideals among the child spectators is examined more closely. The focus lies on the three fairness ideal previously mentioned, respectively the egalitarian, the meritocratic and the libertarian fairness view:

- **Egalitarian fairness view:** the child spectators find it fair that the pair of children who act as workers receive the same income regardless of whether the initial earnings are caused by a lottery or individual performance; i.e., $m(L) = m(M) = m(C) = 0.5$.
- **Libertarian fairness view:** the child spectators find it fair that the income of the pair of workers is equal to the initial earnings, regardless of what causes the

difference in earnings; i.e., $m(L) = m(M) = m(C) = 0$.

- **Meritocratic fairness view:** the child spectators find it fair that the more productive child in the pair of children gets a higher share than the less productive child, and inequalities due to luck are not seen as fair, i.e., $m(M) < 1/2$ and $m(L) = m(C) = 0.5$.

Assuming that child spectators differ in behavior in each of the treatments, this may be due to their fairness view (Almås et al., 2019). For instance, child spectators with a meritocratic fairness ideal, differ in behavior in the Luck treatment and the Merit treatment. Further, child spectators who act differently in the Luck treatment and the Efficiency treatment are directed by either a meritocratic or a egalitarian fairness view. As mentioned earlier in this section, child spectators with a libertarian fairness view accept whatever distribution regardless of what the initial earnings have arisen from. Because of this, child spectators with this fairness view do not not face a trade-off between fairness considerations and efficiency considerations in the Efficiency treatment. By mapping how many of the child spectators who are non-libertarian and the relative importance these child spectators assign to efficiency, the effect of introducing cost of redistribution can be measured.

The theoretical framework model that has been presented in this chapter may also contribute to survey Chinese and Norwegian children's social preferences. From equation (5.3) it follows that a country difference in the Merit treatment indicates that Chinese children and Norwegian children hold opposing fairness views. Thus, if the following analysis suggests that there are more meritocrats in China than in Norway, then the model predicts a larger Merit treatment effect for spectators in China than for the Norwegian spectators. Further, from equation (5.4) it follows that a country difference in the Efficiency treatment indicates a variation in the weight that the spectators in China and Norway attach to fairness versus efficiency. Particularly, if the following analysis suggests that the Chinese spectators assign less weight to fairness relative to efficiency than the Norwegian spectators, then the model predicts a larger Efficiency treatment effect among the Chinese residents. This may also vary between the age groups. It is important to point out that the share of children who actually make the trade-off between fairness and efficiency may differ between the countries. To specify, if there exists more libertarians in China than in

Norway, the model predicts a smaller Efficiency treatment effect in China than in Norway.

6 Empirical Strategy

The following section outlines the main empirical strategy. This strategy was pre-registered at the AER RCT Registry prior to receiving the data.

6.1 Main Variable of Interest

The main variable of interest is the inequality implemented by child spectator i for the pair of children, and inequality is measured as follows:

$$e_i = \frac{|Income\ Child\ A_i - Income\ Child\ B_i|}{Total\ Income} \in [0, 1], \tag{6.1}$$

where *Income Child* A_i is the income allotted to the child with the initial earnings, and *Income Child* B_i is the income allotted to the child with no initial earnings. e_i equals 1 if the child spectator does not choose to transfer any of the initial earnings from *Child* A_i to *Child* B_i, which corresponds to full income inequality. e_i equals 0 if the initial earnings were equalized between the pair of children. This inequality measure is equivalent to the Gini-coefficient in the two-person situation considered by child i (Almås et al., 2019).

6.2 Hypotheses

In the following, several hypotheses concerning inequality acceptance among children in China and Norway are presented. These hypotheses are based on several aspects, including the level of income inequality in China and Norway, on earlier experimental studies of social preferences (Almås et al., 2017; Almås et al., 2010), and on the data for the adult samples in the two societies (which is part of a larger data collection of the present project).

We begin by examining whether there is systematically more inequality acceptance among children in China compared to children in Norway. We do this separately for the samples of 9-year-olds and 17-year-olds. If the level of implemented inequality is larger in all

treatments in China than in Norway, then this is seen as a systematic difference in inequality acceptance (Hypothesis 1). Further, by introducing merit or efficiency considerations we can see what effect these variations have on inequality. If the effect on inequality acceptance is different in China than in Norway, then merit and efficiency considerations are considered to work differently in the two societies (Hypotheses 2-3). Additionally, the development of inequality acceptance from a young age (9-year-olds) to adolescence (17-year-olds) in Norway and China is explored (Hypotheses 4-6).

Hypothesis 1: *There is systematically more inequality acceptance among children in China than in Norway.*

Hypothesis 2: *Merit considerations matter the same for inequality acceptance among children in China and Norway.*

Hypothesis 3: *Efficiency considerations matter the same for inequality acceptance among children in China and Norway.*

Hypothesis 4: *The development in inequality acceptance with age, is the same in China and Norway.*

Hypothesis 5: *The development in merit considerations with age, is the same in China and Norway.*

Hypothesis 6: *The development in efficiency considerations with age, is the same in China and Norway.*

6.3 Ordinary Least Squares Regressions

The following regression analysis is based on Ordinary Least Squares regressions (OLS). OLS is a statistical method for estimating the parameters of a multiple linear regression model, that minimizes the sum of squared residuals (James et al., 2013). An OLS regression gives the opportunity to estimate the relations between the main variable of interest, e_i, and a set of explanatory variables. To be able to perform the regressions we need to test for missing values in the sample of child spectators. For instance, we lack information about the median household income for some of the child spectators in the Norwegian sample since the Norwegian parents had the option to not state their income. In this case, we perform the regression based on child spectators with information about this

variable. In the interpretation of the regressions we use confidence intervals. When we do a statistical test, we get an estimate that convey the strength of the effect we observe, as well as a p-value that depicts the probability of observing what we observe. R-square statistics is used to quantify the extent to which the linear model fits the data. R^2 range from 0 to 1. If R^2 is equal to 1, this indicates a perfectly linear relationship, whereas if R^2 is equal to 0, this indicates no linear relationship between the independent and dependent variables. Finding a model with the greatest possible value for R^2 is not a target in itself (Tjønndal, 2018). Particularly, social phenomena such as inequality is complicated and often difficult to explain. For this reason, we do not expect high values of R^2 in the regressions performed.

Hypotheses 1-3

Hypotheses 1-3 will be tested by estimating the following regression equation for the 9-year-olds and the 17-year-olds independently:

$$e_i = \alpha + \alpha_M M_i + \alpha_E E_i + \delta_M M_i N_i + \delta_E E_i N_i + \delta N_i + \epsilon_i, \tag{6.2}$$

where e_i is the inequality implemented by child i, M_i is an indicator taking the value 1 if child i had the Merit treatment, E_i is an indicator taking the value 1 if child i had the Efficiency treatment, and N_i is an indicator taking the value 1 if child i is from Norway. The regressions are run on the sample of children in all three distributive situations (Luck, Merit and Efficiency), but for one age group at a time.

Hypotheses 4-6

Hypotheses 4-6 will be tested by estimating the following regression equation on the full sample of 9-year-olds and 17-year-olds from the two societies:

$$\begin{aligned} e_i = \delta_o + \delta_1 17y_i + \delta_2 N_i + \delta_3 N_i 17y_i + \\ \delta_4 M_i + \delta_5 M_i 17y_i + \\ \delta_6 N_i M_i + \delta_7 N_i 17y_i M_i + \\ \delta_8 E_i + \delta_9 E_i 17y_i + \\ \delta_{10} N_i E_i + \delta_{11} N_i 17y_i E_i + \epsilon_i, \end{aligned} \tag{6.3}$$

where e_i is the inequality implemented by child i, N_i is an indicator taking the value 1 if child i is from Norway, M_i is an indicator taking the value 1 if child i had the Merit treatment, E_i is an indicator taking the value 1 if child i had the Efficiency treatment, $17y_i$ is an indicator taking the value 1 if child i has made a distributive decision for two 17-year-olds, and ϵ_i is an error term. By estimating regression equation 6.3, we identify the difference in implemented inequality across age groups and variations in the distributive situations (Luck, Merit and Efficiency treatment) in Norway and China. The formal statements of the hypotheses are provided in Appendix A6.

6.4 Definition of Background Variables

As mentioned in section 4.3, both the parents and the children were asked some additional background questions. We use this information as control variables, and use the following pre-specified coding of the variables:

- **Gender:** Coded as a dummy for the child spectator being female.
- **Income:** Coded as a dummy for having below the median income in the sample within each society (using the midpoints of the specified intervals).
- **Education father:** Coded as a dummy for father having below the median education in the sample within each society.
- **Education mother:** Coded as a dummy for the mother having below the median education in the sample within each society.
- **The child has siblings:** Coded as a dummy for having at least one sibling.

6.5 Fairness Ideals

We further provide estimates of the prevalence of the different fairness views in China and Norway. This part of the analysis was not specified in the pre-analysis plan, but builds on earlier studies on fairness preferences (Cappelen et al., 2007, 2010, 2019). A key element of interest in further analysis is whether there exists a development of social preferences between the 9 year olds and the 17 year olds, in China and in Norway separately.

To be able to categorize the different fairness ideals, the principles in Chapter 5 will be followed, where the children's attitudes in the Luck and Merit treatments are emphasized. According to Almås et al. (2019) the prevalence of each of the three fairness views can be estimated in the following way:

Egalitarians: The share of egalitarians is given by the share of child spectators who divide equally in the Merit treatment. A child spectator with an egalitarian fairness view shares equally independently of the source of inequality.

Meritocrats: The share of meritocrats is given by the difference between the share of child spectators allocating more to the most productive child in the Merit treatment and the share of child spectators allocating more to the child who won the lottery in the Luck treatment.

Libertarians: The share of libertarians is given by the share of child spectators allocating everything to the lucky child in the Luck treatment. A child spectator with a libertarian fairness view does not care about of the source of the inequality among the pair of children.

Others: The share of child spectators who does not fall into one of the fairness ideals mentioned above. For instance, child spectators who chose to allocate more to the least productive child in the Merit treatment or to allocate more to the unlucky child in the Luck treatment falls into this category.

6.6 Balance Checks

Two different types of balance checks are pre-specified and implemented. First, a joint F-test tests whether the samples of 9- and 17-year-olds are balanced on the following background characteristics: gender of the child spectator, household income, father's

education, mother's education and siblings. The reference category is the 9-year-old children. Separate regressions are run for the samples of Chinese and Norwegian child spectators. Second, for each background characteristic mentioned above, the p-value of a joint F-test is estimated. These tests check whether the randomization of the different treatments (Luck, Merit and Efficiency) within each age group and society was successful. The reference category across all regressions is the Luck treatment.

7 Results

In the following section the main results and empirical analysis are presented. We first provide the results from the pre-registered analysis of Hypotheses 1-6. We then turn to the exploratory analysis of the children's fairness ideals, before providing pre-registered balance tests and last, a discussion of the validity of the experiment.

7.1 Inequality Acceptance Across Societies

We first present a regression analysis where we test Hypotheses 1-3, which focuses on the differences in implemented inequality in the two societies and the effect of introducing merit and efficiency considerations (Appendix A3 provides histograms of the implemented inequality in all of the treatments for both countries). The results presented in the following sections about Hypotheses 1-3 are retrieved from Table 7.1. The table reports the results for the specification (6.2).

Hypothesis 1

To test Hypothesis 1, we see if the variables, *Norway*, *Merit(Norway)* or *Efficiency(Norway)* are equal to or significantly larger than 0 for at least one age group. These variables show the total implemented inequality in the Luck, Merit and Efficiency treatments in Norway compared to China.

Luck, 9-year-olds

From the variable *Norway* we find that the Norwegian 9-year-olds implement 0.076 ($p = 0.119$) less inequality in the Luck treatment compared to the Chinese children. The result

Table 7.1: Full Regressions Hypotheses 1-3

	Inequality:			
	9 years	9 years	17 years	17 years
	(1)	(2)	(3)	(4)
Norway	−0.076	−0.101	−0.061	−0.027
	(0.049)	(0.062)	(0.047)	(0.085)
Merit	−0.019	−0.015	0.194***	0.197***
	(0.039)	(0.046)	(0.041)	(0.057)
Efficiency	0.121***	0.109**	0.243***	0.189***
	(0.047)	(0.054)	(0.041)	(0.057)
Norway*Merit	0.022	0.041	−0.108	−0.078
	(0.067)	(0.073)	(0.066)	(0.092)
Norway*Efficiency	−0.163**	−0.093	−0.125*	−0.132
	(0.072)	(0.078)	(0.067)	(0.095)
Female		−0.117***		−0.108***
		(0.031)		(0.038)
Below income		−0.039		−0.037
		(0.033)		(0.040)
Below father's educ		−0.010		−0.032
		(0.038)		(0.042)
Below mother's educ		0.022		0.001
		(0.037)		(0.042)
Have siblings		0.023		−0.040
		(0.043)		(0.067)
Constant	0.281***	0.351***	0.394***	0.490***
	(0.029)	(0.050)	(0.028)	(0.078)
Merit(Norway)	−0.054	−0.060	−0.169***	−0.105
	(0.047)	(0.062)	(0.047)	(0.085)
Efficiency(Norway)	−0.239***	−0.194***	−0.186***	−0.159*
	(0.053)	(0.067)	(0.048)	(0.089)
Observations	738	576	916	462
R^2	0.034	0.056	0.071	0.079

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(4). The sample is the 9-year-olds in columns (1)-(2) and 17-year-olds in columns (3)-(4). Columns (2) and (4) include control variables. *Merit* is an indicator variable taking the value 1 if the child spectator is in the Merit treatment. *Efficiency* is an indicator variable taking the value 1 if the spectator is in the Efficiency treatment. *Norway* is an indicator variable taking the value 1 if a child spectator is from Norway. *Norway*Merit* and *Norway*Efficiency* are interactions between the respective treatments and Norway. *Female* is an indicator for the child spectator being female, *Below income* is an indicator for the child spectator's family having an income below the median gross household income per year in the sample, *Below father's education* is an indicator for the father having an education below the median in the sample (high school or less), *Below mother's education* is an indicator for the mother having an education below the median in the sample, and *Have siblings* is an indicator for the child spectator having at least one sibling. Standard errors in parentheses, where * p <0.10, **p < 0.05, *** p < 0.01.

is also robust to inclusion of background variables, whereupon the Norwegian children implement 0.101 (p = 0.105) less inequality compared to the Chinese children. *This*

result is not significantly smaller than 0. Thus, we cannot conclude that there is greater inequality acceptance among the Chinese 9-year-olds compared to the Norwegian children in the Luck treatment.

Merit, 9-year-olds

In the Merit treatment the Norwegian 9-year-olds implement 0.054 ($p = 0.252$) less inequality compared to the Chinese children. This result is robust to inclusion of the background variables, after which the Norwegian 9-year-olds implement 0.06 ($p = 0.332$) less inequality compared to the Chinese children. *This result is not significantly smaller than 0.* Hence, we cannot conclude that there is greater inequality acceptance among the Chinese 9-year-olds compared to the Norwegian children in the Merit treatment.

Efficiency, 9-year-olds

In the Efficiency treatment the Norwegian 9-year-olds implement 0.239 ($p < 0.01$) less inequality compared to the the Chinese children. This result is also robust to inclusion of the background variables. After the inclusion, the Norwegian 9-year-olds implement 0.194 ($p < 0.01$) less inequality compared to the Chinese child spectators. *This result is significantly smaller than 0.* We can therefore conclude that there is a greater inequality acceptance among the Chinese 9-year-olds compared to the Norwegian children in the Efficiency treatment.

Luck, 17-year-olds

The Norwegian 17-year-olds implement 0.061 ($p = 0.193$) less inequality compared to the Chinese adolescents in the Luck treatment. This result is also robust to inclusion of background variables. After the inclusion, the Norwegian 17-year-olds implement 0.027 ($p = 0.752$) less inequality. *This result is not significantly smaller than 0.* We cannot conclude that there is greater inequality acceptance among the Chinese 17-year-olds compared to the Norwegians in the Luck treatment.

Merit, 17-year-olds

In the Merit treatment, the Norwegian adolescents implement 0.169 ($p < 0.01$) less inequality compared to the Chinese. However, this result is not robust to inclusion of

background variables, whereupon the Norwegian adolescents implement 0.105 ($p = 0.161$) less inequality compared to the Chinese 17-year-olds.[5] *This result is significantly smaller than 0.* Thus, there is not enough evidence to conclude that there is a greater inequality acceptance among the Chinese 17-year-olds compared to the Norwegian children in the Merit treatment.

Efficiency, 17-year-olds

In the Efficiency treatment, the Norwegian adolescents implement 0.186 ($p < 0.01$) less inequality compared to the Chinese adolescents. This result is also robust to inclusion of background variables. After the inclusion, the Norwegian 17-year-olds implement 0.159 ($p < 0.1$) less inequality compared to the Chinese adolescents. *This result is significantly smaller than 0.* We can therefore conclude that there is a greater inequality acceptance among the Chinese 17-year-olds compared to the Norwegian adolescents in the Efficiency treatment.

Hypothesis conclusion

The empirical evidence suggests a tendency for greater inequality acceptance among the Chinese children compared to the Norwegian children, as the Chinese children implemented more inequality in all treatments. As discussed in Chapter 3, the two countries exhibit large discrepancies in income inequality, welfare systems and their accountability in children. While Norwegian children are born into a society with low income inequality, where everyone has statutory rights to a security net provided by the welfare state and are entitled to the same opportunities through childhood, Chinese children, in a sense, already draw their lottery tickets to life upon being born. Where you are born and your inherited abilities, along with your efforts, have a major impact on how your life turns out. Furthermore, Chinese society highlights inequalities among peers from a very young age through ranking in both academic and athletic performance (Zhang, 2019; Zhao, 2016; Hong, 2004). This is a stark contrast to Norwegian childhood, where the children for the most part are sheltered from competition and are kept unaware of differences among peers

[5]One reason why the variable *Merit(Norway)* is no longer significantly smaller than 0 after the inclusion, is partly due to the standard deviation almost doubling, increasing from 0.047 to 0.085. After including the background variables there are fewer observations in the analysis, since background information is not available in all observations, possibly explaining the increased standard deviation.

until they enter adolescence (Opplæringslova, 2009; The Royal Ministry of Education, Research and Church Affairs, 2011; Norges Idrettsforbund, 2007; Norges Fotballforbund, 2019). It can thus be argued that the institutions and social norms that are inflicted upon children from a young age may partly explain the differences in attitudes towards inequality, which is in line with previous research (Alesina and Angeletos, 2005; Alesina et al., 2001). Furthermore, this difference in inequality acceptance between Norwegian and Chinese children is also supported by the findings by Kerr (2014), which suggested that countries with greater inequality typically exhibit less support for redistribution and greater acceptance of inequality. Almås et al. (2017) implied that socioeconomic background is influential for fairness views. The study suggests that individuals from a family of high socioeconomic background preferred less redistribution than those from a family of low socioeconomic background. If these results were to be generalized to societies of lower or higher socioeconomic status, they would contradict our findings, as Norwegian children, from a higher socioeconomic background, preferred more redistribution than their Chinese counterparts from a lower socioeconomic background. Of course, there are varying degrees of socioeconomic status within the countries, so it might be a bit of a stretch to compare these studies.

Even though there is a tendency for greater inequality acceptance among the Chinese children, it is important to emphasize that there is not a significant difference in inequality acceptance between the societies for all age groups in all treatments. To conclude whether there is a systematic difference in inequality acceptance among the countries, all of the variables *Norway*, *Merit(Norway)* and *Efficiency(Norway)* need to be significantly smaller than 0. We do not find support for H_0, and thus we conclude the following:

Result 1: From these data, there is not evidence to say that there is systematically greater inequality acceptance in China than in Norway. The level of implemented inequality is not significantly larger in all of the treatments in China.

Hypothesis 2

Hypothesis 2 tests whether the variable *Norway*Merit* is significantly different from 0 for at least one age group. The variable shows the effect of introducing merit considerations in

Norway compared to in China. Overall, merit considerations seem to be equally important for the children in both countries.

9-year-olds

In the sample of 9-year-olds the variable *Norway*Merit* is not significantly different from 0. Before the inclusion, the coefficient equals 0.022 (p = 0.744). This implies that the effect of introducing merit considerations is slightly larger for Norwegian children than for Chinese children. This result is also robust to inclusion of background variables, whereupon the coefficient equals 0.041 (p = 0.576).

17-year-olds

We also find support that merit considerations are equally important in both countries in the sample of 17-year-olds, where the coefficient equals -0.108 (p = 0.106). This implies that the effect of introducing merit considerations is smaller for Norwegian 17-year-olds than for Chinese 17-year-olds. This result is also robust to inclusion of the background variables, after which the coefficient equals -0.078 (p = 0.400). However, this result is not significantly different from 0.

Hypothesis Conclusion

The effect of introducing merit considerations is slightly larger for Norwegian 9-year-olds than for the Chinese 9-year-olds. However, it is still important to emphasize that Chinese children accept more inequality overall compared to Norwegian children in the Merit treatment. Among the 17-year-olds, the effect of introducing merit considerations is larger among the Chinese 17-year-olds compared to the Norwegians. This may be a reflection of the way merit considerations are emphasized as a way of ranking and separating peers in China (You, 2007; Zhao, 2016; Zhang, 2019). Thus, this may be the reason why we see a stronger effect of introducing merit considerations in China. However, since we find support for H_0 among both the 9- and 17-year-olds, we can conclude as follows:

Result 2: Merit considerations are equally important for inequality acceptance among children in China and Norway.

Hypothesis 3

To test Hypothesis 3, we see if the variable *Norway*Efficiency* is significantly different from 0 for at least one age group. The variable shows the effect of introducing a cost of redistribution in Norway compared to China.

9-year-olds

For the 9-year-olds, the variable *Norway*Efficiency* is significantly different from 0, with the coefficient equal to -0.163 ($p < 0.05$). However, after including the background variables the coefficient equals -0.093 ($p = 0.237$) and is not significantly different from 0. Thus, the data is giving mixed results; we cannot conclude from these data.

17-year-olds

The same results are seen from testing with and without background variables in the sample of 17-year-olds. Without the background variables, the coefficient is significantly different from 0, at -0.125 ($p < 0.1$), indicating that efficiency considerations are not equally important in China and Norway. However, when background variables are included, the coefficient equals -0.132 ($p = 0.166$), indicating the opposite: That efficiency considerations are equally important.

Hypothesis conclusion

Based on the data presented above, there is mixed evidence of whether efficiency considerations are equally important for children in China and Norway. There may be several reasons for this outcome. In the sample of 9-year-olds, the variable *Female* has a strong effect on the total implemented inequality, where the coefficient equals -0.117 ($p < 0.01$). This finding is consistent with Kamas and Preston (2015) research, where they suggested that women prefer less inequality in income distribution. In our samples, this may indicate that the gender effect has a stronger influence than the introduction of efficiency considerations on the total implemented inequality.

The variable *Female* also has a strong effect on the implemented inequality in the sample of 17-year-olds, where the coefficient equals -0.108 ($p < 0.01$). However, the mixed evidence may also be due to the fact that the standard deviation increases from 0.067 to 0.095.

After including the background variables there are fewer observations in the analysis, since background information is not available for all observations. This explains a portion of the increased standard deviation.

Result 3: There is mixed evidence of the importance of efficiency considerations for children in China and Norway. Without the background variables we find that efficiency considerations are not equally important for children in China and Norway. However, after including the background variables we find that efficiency considerations are equally important among the children.

7.2 Inequality Acceptance Across Age Groups

Table 7.2 reports the results for the regression specified in (6.3). Regressions have been run with and without background variables, and the use of background variables are indicated in the "Controls" variable. The full regressions displayed with background variables are presented in Appendix A2. The regressions provide the opportunity to study the implemented inequality across age groups and variations in the distributive situations.

Hypothesis 4

To answer Hypothesis 4, we check whether neither of the variables *Seventeen*Norway*, *Seventeen*Norway*Merit* or *Seventeen*Norway*Efficiency* are significantly different from 0. These variables show the development of implemented inequality with age in the different distributive situations (Luck, Merit and Efficiency) in Norway compared to China. Overall, these variables indicate that the development in implemented inequality with age, is the same in China and Norway.

Luck

The first variable, *Seventeen*Norway* is not significantly different from 0, where the interaction term shows that the coefficient equals 0.015 ($p = 0.826$). This result is also robust to inclusion of background variables, where the coefficient equals 0.020 ($p = 0.809$). This implies that the development with age in the Luck treatment is slightly larger in Norway compared to China.

Table 7.2: Regressions Hypotheses 4-6

	Inequality	
	Sample	Sample
	(1)	(2)
Norway	−0.076	−0.081
	(0.051)	(0.061)
Merit	−0.019	−0.018
	(0.041)	(0.047)
Efficiency	0.121**	0.108*
	(0.049)	(0.056)
Seventeen	0.113***	0.177***
	(0.041)	(0.053)
Norway*Merit	0.022	0.045
	(0.070)	(0.076)
Norway*Efficiency	−0.163**	−0.092
	(0.075)	(0.081)
Seventeen*Norway	0.015	0.020
	(0.068)	(0.084)
Seventeen*Merit	0.213***	0.217***
	(0.057)	(0.072)
Seventeen*Efficiency	0.122*	0.083
	(0.063)	(0.078)
Seventeen*Norway*Merit	−0.130	−0.124
	(0.095)	(0.116)
Seventeen*Norway*Efficiency	0.039	−0.040
	(0.099)	(0.122)
Constant	0.281***	0.337***
	(0.030)	(0.039)
Controls	No	Yes
Observations	1,654	1,038
R^2	0.125	0.156

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(2). The sample is the Chinese and the Norwegian child spectators. In column (2), it is also tested for the control variables. *Merit* is an indicator variable taking the value 1 if the child spectator is in the Merit treatment. *Efficiency* is an indicator variable taking the value 1 if the spectator is in the Efficiency treatment. *Norway* is an indicator variable taking the value 1 if a child spectator is from Norway. *Norway*Merit* and *Norway*Efficiency* are interactions between the respective treatments and Norway. *Seventeen*Norway* is a interaction term between 17-year-olds and Norway, *Seventeen*Merit*Norway* and *Seventeen*Norway*Efficiency* are interactions between 17-year-olds, the respective treatments and Norway. These control variables are defined in Table 7.1. Standard errors in parentheses, where * p <0.10, **p <0.05, *** p < 0.01.

Merit

The second variable, *Seventeen*Norway*Merit*, is not significantly different from 0, where the coefficient equals -0.130 (p = 0.174). This result is also robust to inclusion of

background variables, where the coefficient equals -0.124 (p = 0.285). This indicates that the development in implemented inequality with age in the Merit treatment is smaller in Norway compared to China.

Efficiency

The last variable, *Seventeen*Norway*Efficiency*, is also not significantly different from 0, where the coefficient equals 0.039 (p = 0.696). This result is also robust to inclusion of the background variables, where the coefficient equals -0.040 (p = 0.741). The coefficient changes from positive to negative when the regression is run with the background variables. From Table A2.1 in Appendix A2, we see that the gender variable has a strong impact on the total implemented inequality, where females accept 0.113 ($p < 0.01$) less inequality than males. This can be associated with research by Sutter et al. (2018), where they suggested that efficiency concerns are significantly more important for boys than for girls from the age of ten years onward.

Hypothesis Conclusion

Hence, the findings imply that inequality acceptance increases with age in both societies. The country difference is still present, but the implemented inequality increases at the same pace from childhood to adolescence in Norway and China. This is in line with previous research, which suggests that inequality acceptance increases with age from late childhood and into adolescence (Fehr et al., 2013; Almås et al., 2010). As the variables are not significantly different from 0 we find support for H_0 and can conclude as follows:

Result 4: Inequality acceptance develops at the same pace in China and Norway. The inequality acceptance increases substantially with age, i.e adolescents accept more inequality compared to younger children.

Hypothesis 5

As mentioned in the previous section, the variable *Seventeen*Norway*Merit* is not significantly different from 0. This indicates that merit considerations become more important with age in both countries. In both China and Norway many (59 percent in Norway and 50 percent in China) of the 9-year-olds chose to share the allocation equally

between the pair of children in the Merit treatment and the vast majority allocate at least some of the earnings to the unproductive child (see the child spectators' allocations in the distributive situations in Appendix A4 and A5). This indicates that most children believe inequalities should be eliminated, even when the source of the inequality is due to differences in productivity, which is also supported in previous research (Fehr and Rockenbach, 2008). The data shows that the children's social preferences may change with age, as only 14 percent of the Norwegian 17-year olds and 5 percent of the Chinese 17-year-olds chose to allocate equally when faced with merit considerations. Hence, the data indicates that the older children are more inclined to view inequalities due to individual achievements as fair compared to when the inequalities are based on luck, which is in line with the research by Almås et al. (2010). Based on this, we conclude as follows:

Result 5: The development in merit considerations with age is the same in China and Norway. In both societies adolescents accept more inequality than young children when introducing merit as the source of inequality.

Hypothesis 6

The variable *Seventeen*Norway*Efficiency* is not significantly different from 0. This implies that efficiency considerations become more important with age in both China and Norway. In both societies, we see an increase in children who do not allocate equally when a cost of redistribution is introduced. Among the Norwegian 9-year-olds, 84 percent chose to share the allocation equally between the pair of children in the Efficiency treatment. Among the Chinese 9-year-olds, 60 percent of the children allocate equally in the Efficiency treatment. The share who distribute the allocation equally in the Efficiency treatment decreases among the 17-year-olds. Among the Norwegian 17-year-olds, 55 percent of the children allocated equally, while 36 percent of Chinese 17-year-olds chose to share equally. This corresponds to research by (Fehr et al., 2013), where they found that efficiency considerations seem to mainly play a role in late adolescence. As discussed in section 2.1, people often try to maximize total surplus, and considers this goal a type of justice in itself (Konow, 2003). Thus, if a redistribution is costly, some may not believe it can be justified. This may contribute to explain the Efficiency treatment's effect on inequality acceptance.

Result 6: The development in efficiency consideration with age, is the same in China and Norway. In both societies adolescents accept more inequality than the younger children when introducing a cost of redistribution.

Heterogeneity Analysis

We have also tested for heterogeneity in the samples of 9- and 17-year-olds separately for both countries. The results are largely robust across the subgroups *gender*, *income*, *father's education*, *mother's education* and *have siblings*. A full heterogeneity analysis of the background characteristics is presented in Appendix A7.

7.3 Fairness Ideals

The following section investigates if there are any differences in the development of social preferences in the two societies. As mentioned in section 6.5, the child spectators' fairness ideals are divided into four categories; egalitarians, libertarians, meritocrats and others. The estimates of the children's preferred fairness views are provided in Table A1.1 and Table A1.2 in Appendix A1. Figure 7.1 illustrates the share of the estimated fairness views for the 9- and 17-year-olds, and this figure displays a similar development in the children's fairness preferences in the two societies.

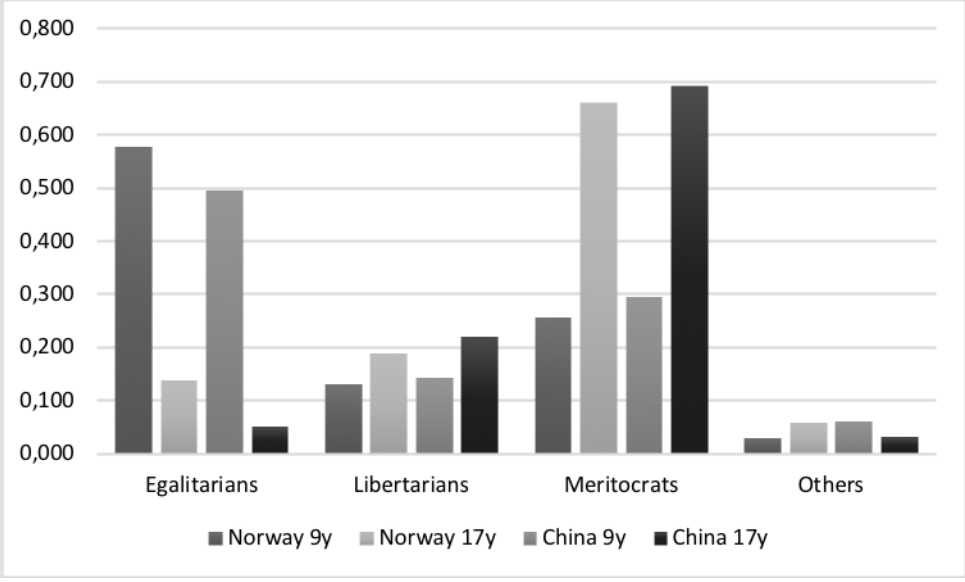

Figure 7.1: Share of Fairness Ideals in China and Norway

Fairness Ideals in China

Egalitarianism is the most common fairness view among the Chinese 9-year-olds, as 49.7 percent of the children belongs to this category. The share of egalitarians drops drastically from the sample of 9-year-olds to the sample of 17-year-olds. Only 5.3 percent of the 17-year-olds can be categorized as egalitarians. Among the sample of Chinese 9-year-olds, 14.5 percent can be categorized as libertarians. This figure is somewhat higher among the 17-year-olds, where 22.2 percent allocated everything to the child who won the lottery in the Luck treatment. While the source of inequality is irrelevant among the egalitarians and the libertarians, this is crucial for the meritocrats. Among the Chinese 9-years-olds, 29.6 percent can be categorized as meritocrats. Meanwhile, 69.3 percent of the Chinese 17-year-olds falls into this category. Hence, it seems as though the source of the inequality becomes more important with age. At last, the share of *others* is 6.2 percent among the 9-year-olds and 3.2 percent among the 17-year-olds.

Fairness Ideals in Norway

The majority of the Norwegian children (57.9 percent) can be categorized as egalitarians. Among the Norwegian 17-year-olds, the share of egalitarians decreases to 13.8 percent. 25.8 percent of the Norwegian 9-year-olds can be characterized as meritocrats, while this percentage increases to 66.1 percent among the 17-year-olds. In the sample of Norwegian 9-year-olds, the percentage of libertarians is 13.2 percent, while the share among the sample of 17-year-olds equals 19.1 percent. In Norway the share of *others* is respectively 3.2 percent in the sample of 9-year-olds and 6.0 percent among the 17-year-olds.

Comparison of the Fairness Ideals in China and Norway

It seems as though there is a country difference, and as expected, there are more egalitarians among the Norwegian children compared to the Chinese children. This may be because the ideal of equality permeates Norwegian society. However, the development of the children's fairness views in both societies seem to follow the exact same trend. The share of egalitarians drops drastically as the children grow older, while the share of meritocrats increases remarkably with age in both countries. The data shows that the most common fairness view among 9-year-olds in both countries is egalitarianism. This suggests that

both Norwegian and Chinese 9-year-olds have an aversion to inequality and are willing to accept little inequality among peers regardless of the source of the inequality. In line with previous research (Almås et al., 2010), the source of the inequality becomes more important with age, and most 17-year-olds can be categorized as meritocrats. The fact that the accountability expected from children is high already from a young age in China, is reflected in the larger percentage of meritocrats in China relative to Norway. While the expectation of performance commences from a young age and the differences between peers are highlighted, virtually every Chinese child is also exposed to communist values through the participation in the Young Pioneers of China (Woronov, 2007). Exposure to the notion of collectivism and the ideal of a classless society can be related to the relatively high percentage of egalitarians among the 9-year-olds, whom have recently commenced their participation in this group. However, it is interesting that this indoctrination seems to be outweighed by the extreme performance culture, that can be argued to peak during late adolescence when the gaokao (college entrence examination) is completed to determine their future Wong (2012). While it seems natural that the share of egalitarians is larger in Norway, a country characterized by low income inequality, strong democracy and low hierarchy, the development of fairness views is very similar to that in China. It is possible to relate the drastic decrease in egalitarianism to the fact that while Norwegians are sheltered from competition and differences between peers during childhood, this changes when moving into adolescence. Furthermore, vast majority of Norwegian children attend kindergartens, that have a strong focus on democracy and equality, and thus introduces the children early on to the concept that everyone deserves the same opportunities regardless of their origin. This early childhood education may have a strong causal impact on social preferences (Cappelen et al., 2016). As grades are introduced and athletic competition escalates, it seems plausible that efforts and choices have a greater emphasis as the children age. Furthermore, the extensive focus on individuality, self-fulfillment and the vast array of opportunities contribute to a much stronger performance culture during late adolescence (Bakken et al., 2018). Thus, this may partly explain why the source of the inequality may become increasingly important and most adolescents can be categorized as meritocrats. It is interesting to see that while the starting point is different, and the source of the pressure in regard to accountability of children is different, the effect on inequality acceptance can appear to be the same in children in Norway and China. The share of libertarians is stable

in both countries, which is supported by previous research by Almås et al. (2010), that indicated that the share with a libertarian fairness view was stable across all grade levels.

Result 7: Norwegian and Chinese children have a fairly similar development in their fairness preferences. Among the 9-year-olds there are more individuals with an egalitarian fairness view, while most 17-year-olds have a meritocratic fairness view.

7.4 Balance Checks

Two different balance tests were conducted to see if there was any bias in the selection of children. For instance, one of the samples may have a higher average household income than the other samples of children. A biased sample may affect the results of the experiment. The results of the joint F-tests are displayed in Appendix A8. As described in section 4.4 there are some differences between the samples of child spectators, thus these differences are reflected in these balance tests.

Balance Across Age

The first balance test checks the balance across age, in China and Norway separately. Table A8.1 and Table A8.2 present the results from these balance tests. We have reported the p-value of the joint F-test that tests whether the background characteristics are relatively different for the samples of Chinese 9-year-olds and 17-year-olds. The same is done for the samples of Norwegian children.

Table A8.1 displays the balance tests across age for the Chinese children. For the background characteristics *Gender*, *Income*, *Father's education*, *Mother's education* and *Siblings* $p < 0.01$ and Prob $>$ F is approximately 0.000 for all the background variables. Because of this there could be a selection bias that is different between the two age groups in China. Corresponding balance tests have been run for the background characteristics in the Norwegian samples. Table A8.2 displays the balance tests across age for the Norwegian children. There is some more balance among the age groups of Norwegian children, where the joint F-test for the variable *Siblings* indicates that Prob $>$ F equals 0.0002 and $p < 0.01$. It also appears that there is some imbalance for the variable *Income* across age in the Norwegian samples, where the result of the joint F-test shows that Prob $>$ F equals

0.0889 and p $<$ 0.1.

In order to draw valid conclusions, one of the goals was that the samples of child spectators were equally representative of their age group. Therefore, we have reported all regressions with and without control variables. This is done to exclude or confirm that the imbalances we identified earlier have an impact on the results of the main analysis. From Table 7.2 it is worth noting that R^2 increases substantially when running the regressions with the background variables. The background variables therefore help explain some of the variance in the regression model.

Balance across treatments

Table A8.3, Table A8.4, Table A8.5 and Table A8.6 display the results from the balance tests across treatments for the samples of Chinese and Norwegian 9- and 17-year-olds. For both the Chinese and Norwegian 9- and 17-year-olds the samples are balanced across the Luck, Merit and Efficiency treatments with respect to *Gender*, *Income*, *Father's education*, *Mother's education* and *Siblings.*

7.5 Validity and Reliability

There are some methodological challenges related to an experimental research method. Examples of these challenges may be associated with validity and reliability. Validity can be explained as to which extent valid conclusions can be drawn from the results of the experiment, and the literature often distinguishes between internal and external validity (Dahlum, 2018; Weathington et al., 2012).

Internal validity refers to the possibility that the findings can be explained through the assumed hypotheses (Dahlum, 2018; Saunders et al., 2012). Therefore, it was important that the experiment was structured so that the design fit the research questions. Economic experiments have some limitations that is important to take into account when using the findings of the experiment. For instance, the "Hawthorne Effect" may have caused the children to act differently due to being aware of being a participant of a project. However, this is only a potential problem if it affects the samples of children differently. Therefore, when conducting the experiment it was important to guarantee the children complete confidentiality. They were assured that it would not be possible for their teachers,

parents or anyone else apart from the researchers to ever find out about the choice they made, in order to prevent the children from being afraid of giving answers they may feel to be unacceptable. Moreover, the moderators were not to hover around the children while they were making their decision. The activity was explained thoroughly, and in an age-appropriate manner. Further, the children were given the opportunity to ask questions in private. To avoid the children feeling pressured to contribute, it was emphasized that participation was voluntary and not organized by the school. Additionally, each child needed parental consent to participate. In the form sent to the parents, they were informed about the confidentiality and anonymity of their children. Ethics after the experiment is of equal importance. The data collected was treated confidentially and is stored on a secure server at the Norwegian School of Economics. It was declared to the parents that the data would only be reported in an aggregate format.

External validity refers to whether the results can be generalized (Dahlum, 2018; Saunders et al., 2012). First and foremost, it is important to emphasize that we have not measured external validity. One way to look at external validity, is whether the findings from the experiment are relevant to other situations where children make decisions based on how much inequality they accept. For instance, if we had measured the external validity, we could have examined whether there is a correlation between the children's behavior in the experiment and their preferences towards redistributive policies. Furthermore, it is important to ask questions about whether our results would have been the same if we had conducted the experiment among children throughout China, and not just among Shanghai residents. As mentioned in Chapter 3, there are huge differences between people living in urban and rural areas. Shanghai is considered as an urban area, which mean that we could get a different result including both urban and rural residents in the experiment.

At last, reliability refers to the consistency or stability of the measurements in the experiment (Svartdal, 2018; Weathington et al., 2012). A high degree of reliability means that two individual experiments would give approximately the same results. As mentioned in the previous section, the balance tests show that there is some imbalance between the age groups. This could imply that if we had a different selection of children, we might have had a different result. A solution to an unbalanced selection is a larger selection of participants. With a higher number of participants, it is reasonable to assume that these

differences would be insignificant, since randomization at the individual level could ensure the same number of people of different character in the different groups. However, if there are any underlying differences between the parents of the 9- and 17-year-olds, a higher number of participants would not solve this problem. If the samples are fundamentally different, this indicates that the measurements could have a high degree of reliability.

8 Conclusion

This thesis reports empirical evidence from an economic experiment using a between-subject design on how social preferences develop through childhood and adolescence. A heterogeneous group of children from China and Norway was recruited to participate in a version of a real effort dictator game with a spectator design.

Based on the data from the experiment, we cannot conclude whether there is a systematically greater inequality acceptance among children in China than in Norway. The level of implemented inequality is not significantly larger in all treatments in China compared to Norway. We found this somewhat surprising, since the two countries are characterized with very different levels of income inequality. Furthermore, we found that merit considerations are equally important in China and Norway. We found mixed evidence of the importance of efficiency considerations for children in the two societies. Without the background variables we find that efficiency considerations are *not* equally important for children in China and Norway. However, after including the background variables we find that efficiency considerations are equally important among the children. This may be a result of having fewer observations that include background information about the children (hence a larger standard deviation) and a strong influence from the gender variable. Our results indicate that inequality acceptance develops at the same pace in China and Norway, where 17-year-olds accept more inequality compared to 9-year-olds. We find that 17-year-olds and 9-year-olds differ substantially in their distributive behavior, even when they make decisions in identical situations (Luck, Merit or Efficiency treatments). Additionally, we find that merit and efficiency considerations have a greater impact among the 17-year-olds compared to the 9-year-olds. Our findings indicate that children's fairness preferences develop through childhood. Among the 9-year-olds we found that most of the children had an egalitarian fairness view, while most of the 17-year-olds

had a meritocratic fairness view. This corresponds to theory that productivity as the source of inequality becomes more important as children grow older and enter adolescence.

An interesting topic for future research would be to study whether the children's social preferences stabilize at the end of childhood and adolescence, or if there is a further development of children's social preferences later in adulthood. Furthermore, another interesting topic to study is how the distributive decisions adults make for children at different ages correspond to the distributive choices made by children in the same age groups. The same corresponding experiment have been carried out with adults in China and Norway, where the adults had to make distributive decisions among children. By examining the results from these two experiments, it is possible to see if adults' behavior affect the development of children's social preferences. At last, it could be interesting to expand the experiment to other countries. This provides the opportunity to explore how inequality acceptance varies across different societies and whether the development of social preferences depends on socioeconomic conditions.

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Appendix

A1 Estimated Fairness Ideals in China and Norway

Table A1.1 and Table A1.2 show the estimates of the fairness ideals in China and Norway.

Table A1.1: Fairness Ideals 9y

	Equation	China	Norway
Egalitarians (E)	*In Merit:* Child(A) = 0.5	0.497	0.579
Libertarians (L)	*In Luck:* Child(A) = 1.0	0.145	0.132
Meritocrats (M)	$\left(\textit{In Merit: } \text{Child (A)} > 0.5\right)$ - $\left(\textit{In Luck: } \text{Child(A)} = 1.0\right)$	0.296	0.258
Others	1.0 - (E) - (L) - (M)	0.062	0.031
Total Share		1.0	1.0

Note: The table shows the calculated fairness ideals among the 9-year-olds in China and Norway. The calculations of the fairness ideals are explained in section 6.5.

Table A1.2: Fairness Ideals 17y

	Equation	China	Norway
Egalitarians (E)	*In Merit:* Child(A) = 0.5	0.053	0.138
Libertarians (L)	*In Luck:* Child(A) = 1.0	0.222	0.191
Meritocrats (M)	$\left(\textit{In Merit: } \text{Child (A)} > 0.5\right)$ - $\left(\textit{In Luck: } \text{Child(A)} = 1.0\right)$	0.693	0.661
Others	1.0 - (E) - (L) - (M)	0.032	0.060
Total Share		1.0	1.0

Note: The table shows the calculated fairness ideals among the 17-year-olds in China and Norway. The calculations of the fairness ideals are explained in section 6.5.

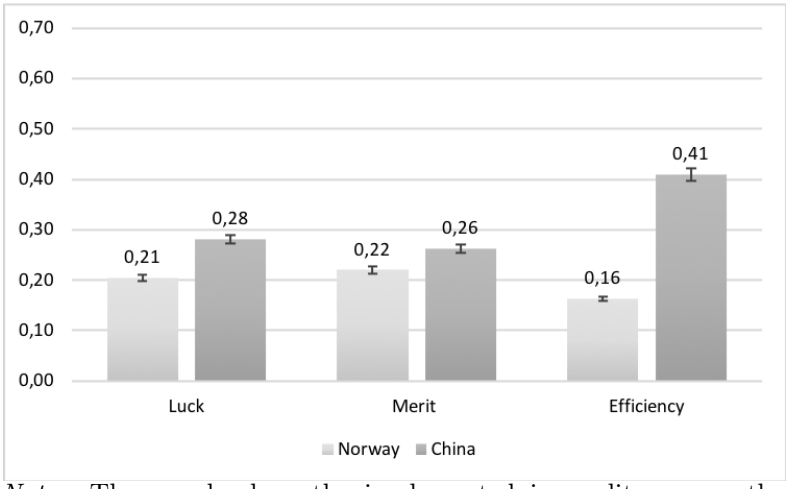
A2 Full Regression Hypotheses 4-6

Table A2.1: Regressions Hypotheses 4-6

	Sample (1)	Sample (2)
Norway	−0.076	−0.081
	(0.051)	(0.061)
Merit	−0.019	−0.018
	(0.041)	(0.047)
Efficiency	0.121**	0.108*
	(0.049)	(0.056)
Seventeen	0.113***	0.177***
	(0.041)	(0.053)
Norway*Merit	0.022	0.045
	(0.070)	(0.076)
Norway*Efficiency	−0.163**	−0.092
	(0.075)	(0.081)
Seventeen*Norway	0.015	0.020
	(0.068)	(0.084)
Seventeen*Merit	0.213***	0.217***
	(0.057)	(0.072)
Seventeen*Efficiency	0.122*	0.083
	(0.063)	(0.078)
Seventeen*Norway*Merit	−0.130	−0.124
	(0.095)	(0.116)
Seventeen*Norway*Efficiency	0.039	−0.040
	(0.099)	(0.122)
Female		−0.113***
		(0.024)
Below income		−0.038
		(0.026)
Below father's educ		−0.021
		(0.028)
Below mother's educ		0.013
		(0.027)
Have siblings		0.001
		(0.037)
Constant	0.281***	0.337***
	(0.030)	(0.039)
Observations	1,654	1,038
R^2	0.125	0.156

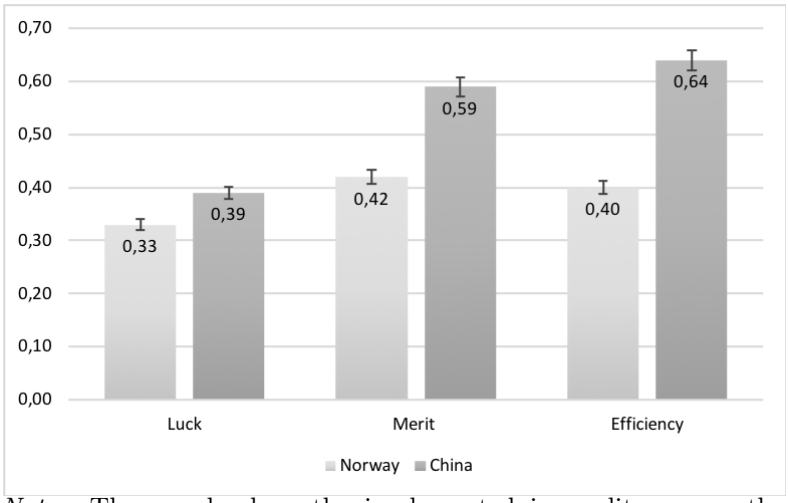
Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(2). The sample is the Chinese and the Norwegian child spectators. The variables are defined in Table 7.2. In column (2), a regression is run with control variables. These control variables are defined in Table 7.1. Standard errors in parentheses, where * p <0.10, **p <0.05, *** p < 0.01.

A3 Inequality Acceptance by Treatments



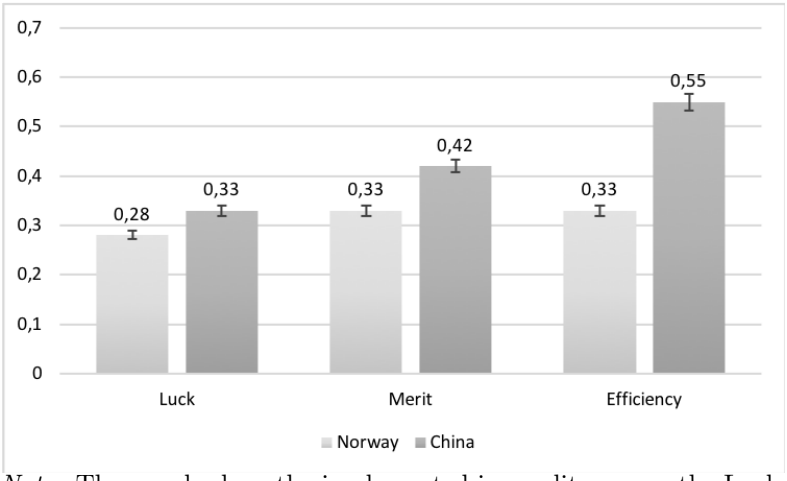
Note: The panels show the implemented inequality across the Luck, Merit and Efficiency treatments among the 9-year-olds child spectators in China and Norway. Standard errors are indicated by bars.

Figure A3.1: Implemented Inequality 9y



Note: The panels show the implemented inequality across the Luck, Merit and Efficiency treatments among the 17-year-old child spectators in China and Norway. Standard errors are indicated by bars.

Figure A3.2: Implemented Inequality 17y



Note: The panels show the implemented inequality across the Luck, Merit and Efficiency treatments among the sample of child spectators in China and Norway. Standard errors are indicated by bars.

Figure A3.3: Implemented Inequality in China and Norway

A4 Distributive Choices by Treatments China

The following figures show the final distribution made by the Chinese child spectators for the pair of children.

China 9 Years

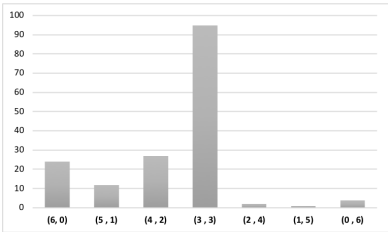


Figure A4.1: Luck 9y

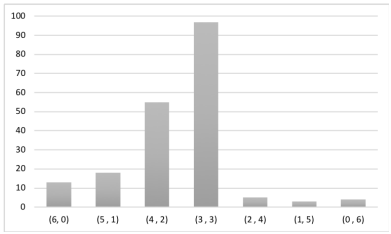


Figure A4.2: Merit 9y

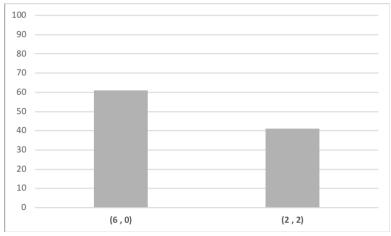


Figure A4.3: Efficiency 9y

China 17 Years

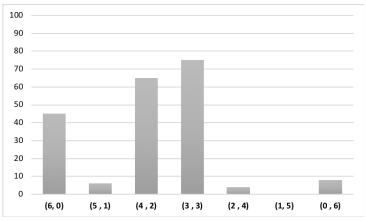


Figure A4.4: Luck 17y

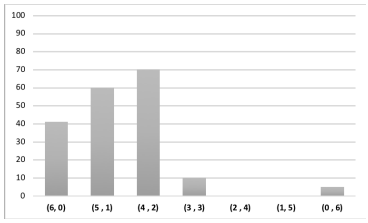


Figure A4.5: Merit 17y

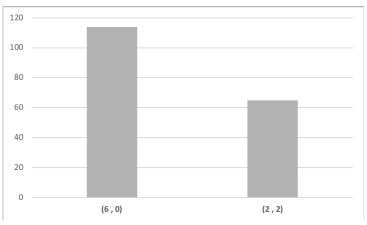


Figure A4.6: Efficiency 17y

A5 Distributive Choices by Treatments Norway

The following figures show the final distribution made by the Norwegian child spectators for the pair of children.

Norway 9 Years

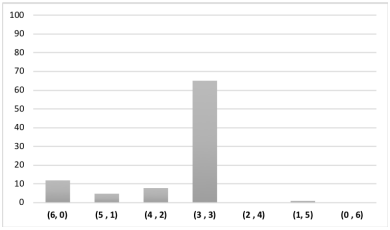


Figure A5.1: Luck 9y

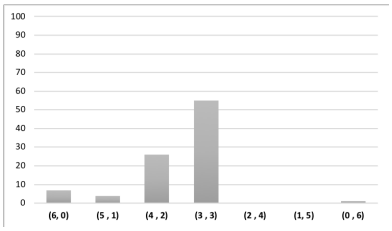


Figure A5.2: Merit 9y

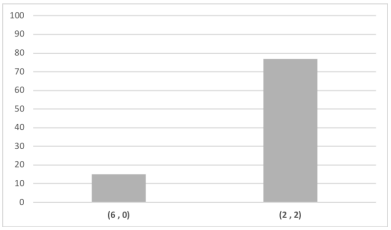


Figure A5.3: Efficiency 9y

Norway 17 Years

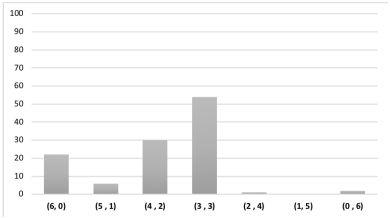


Figure A5.4: Luck 17y

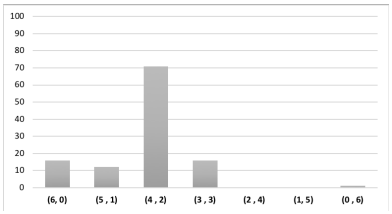


Figure A5.5: Merit 17y

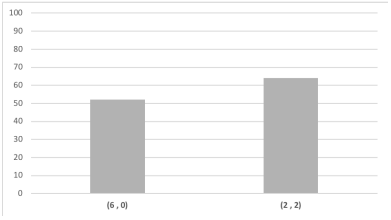


Figure A5.6: Efficiency 17y

A6 Hypothesis Testing

Hypothesis 1

$$\begin{aligned} H_0 &: \delta < 0 \text{ and } \delta + \delta_M < 0 \text{ and } \delta + \delta_E < 0 \text{ for all age groups} \\ H_A &: \delta \geq 0 \text{ or } \delta + \delta_M \geq 0 \text{ or } \delta + \delta_E \geq 0 \text{ for at least one age group} \end{aligned} \tag{.1}$$

Hypothesis 2

$$\begin{aligned} H_0 &: \delta_M = 0 \text{ for all age groups} \\ H_A &: \delta_M \neq 0 \text{ or at least one age group} \end{aligned} \tag{.2}$$

Hypothesis 3

$$\begin{aligned} H_0 &: \delta_E = 0 \text{ for all age groups} \\ H_A &: \delta_E \neq 0 \text{ or at least one age group} \end{aligned} \tag{.3}$$

Hypothesis 4

$$\begin{aligned} H_0 &: \delta_3 = \delta_7 = \delta_{11} = 0 \\ H_A &: \delta_3 \text{ or } \delta_7 \text{ or } \delta_{11} \neq 0 \end{aligned} \tag{.4}$$

Hypothesis 5

$$\begin{aligned} H_0 &: \delta_7 = 0 \\ H_A &: \delta_7 \neq 0 \end{aligned} \tag{.5}$$

Hypothesis 6

$$\begin{aligned} H_0 &: \delta_{11} = 0 \\ H_A &: \delta_{11} \neq 0 \end{aligned} \tag{.6}$$

A7 Heterogeneity: Background Characteristics

We use a heterogeneity analysis to study heterogeneity in inequality acceptance within the two societies, where the focus lies on the gender of the spectator, whether the household income is above or below the median in the sample, whether their parents' education levels are above or below the median education level in the sample, and whether the child has any siblings or not. The heterogeneity analysis focuses on each age group separately, and test whether treatment effects are particularly strong in some subgroups.

The heterogeneity analysis is conducted by estimating the following regression for each of the background variables in the Luck and Merit treatments:

$$e_i = \delta_0 + \delta_1 B_i + \delta_2 M_i + \delta_3 B_i M_i + \gamma X_i + \epsilon_i, \tag{.7}$$

where M_i is an indicator taking the value 1 if the child spectator i had the Merit treatment, ϵ_i is an error term, and B_i is an indicator variable for spectator i either being female, the child has siblings, having below the median income, or father/mother having below the median education in society. In this regression, X_i includes all background variables except the variable captured by B_i. This means that we include all the background variables, but incorporate one by one interaction variable (i.e., Female*Merit). The regressions for the 9-year-olds and the 17-year-olds are done separately, and we regress only the sample of child spectators in the Luck and Merit treatments.

Corresponding analyses for the Luck treatment and the Efficiency treatment are conducted, where we regress only the sample of child spectators in the Luck and Efficiency treatments:

$$e_i = \delta_0 + \delta_1 B_i + \delta_2 E_i + \delta_3 B_i E_i + \gamma X_i + \epsilon_i, \tag{.8}$$

where E_i is an indicator taking the value 1 if spectator i had the Efficiency treatment. The tables A7.1, A7.2, A7.3 and A7.4 show the heterogeneity analysis for the samples of 9- and 17-year-olds in China and Norway in the Merit treatment, while the tables A7.5, A7.6, A7.7 and A7.8 show the heterogeneity analysis in the Efficiency treatment.

Table A7.1: Heterogeneity Analysis: Merit Treatment 9y China

	Inequality					
	Gender	Income	Father's education	Mother's education	Have siblings	All
	(1)	(2)	(3)	(4)	(5)	(6)
Merit	−0.072	−0.070	−0.052	−0.072	−0.074	−0.101
	(0.060)	(0.053)	(0.049)	(0.051)	(0.048)	(0.076)
Merit*Female	0.026					0.025
	(0.086)					(0.087)
Merit*		0.029				0.037
Below income		(0.090)				(0.095)
Merit*			−0.035			−0.082
Below father's educ			(0.103)			(0.123)
Merit*				0.045		0.081
Below mother's educ				(0.097)		(0.114)
Merit*					0.067	0.065
Have siblings					(0.107)	(0.109)
Constant	0.375***	0.373***	0.366***	0.375***	0.376***	0.386***
	(0.044)	(0.042)	(0.042)	(0.043)	(0.042)	(0.049)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
(Merit + Interaction)	−0.046	−0.041	−0.087	−0.027	−0.003	
	(0.062)	(0.072)	(0.090)	(0.082)	(0.093)	
Observations	330	330	330	330	330	330
R^2	0.034	0.034	0.034	0.034	0.035	0.037

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(6). *Female* is an indicator for the child spectator being female, *Below income* is an indicator the child spectator's family having an income below the median gross household income per month in the sample (2,687 USD in China), *Below father's educ* and *Below mother's educ* is indicators for the child spectators' parents having an education below the median sample (high school or less in China) and *Have siblings* is an indicator for the child spectator having at least one sibling. The variables *Merit*Female, Merit*Below income, Merit*Below father's educ, Merit*Below mother's educ and Merit*Have siblings* are indicators interacting *Merit* and the respective subgroup. Controls are the variables *Female, Below income, Below father's educ, Below mother's educ* and *Have siblings*. Standard errors in parentheses, where * p <0.10, ** p < 0.05, *** p < 0.01.

Table A7.2: Heterogeneity Analysis: Merit Treatment 9y Norway

	Inequality					
	Gender	Income	Father's education	Mother's education	Have siblings	All
	(1)	(2)	(3)	(4)	(5)	(6)
Merit	−0.001	0.050	0.115	0.075	−0.222	−0.125
	(0.065)	(0.072)	(0.075)	(0.068)	(0.174)	(0.215)
Merit*Female	0.045					0.048
	(0.091)					(0.091)
Merit*		−0.048				0.028
Below income		(0.093)				(0.101)
Merit			−0.150			−0.123
Below father's educ			(0.094)			(0.105)
Merit*				−0.101		−0.047
Below mother's educ				(0.093)		(0.102)
Merit*					0.261	0.223
Have siblings					(0.179)	(0.185)
Constant	0.212**	0.196**	0.186*	0.202**	0.284**	0.272**
	(0.100)	(0.099)	(0.098)	(0.098)	(0.112)	(0.118)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
(Merit + Interaction)	0.044	0.002	−0.035	−0.026	0.039	
	(0.064)	(0.06)	(0.058)	(0.063)	(0.048)	
Observations	246	246	246	246	246	246
R^2	0.041	0.041	0.051	0.045	0.049	0.059

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(6). *Female* is an indicator for the child spectator being female, *Below income* is an indicator the child spectator's family having an income below the median gross household income per year in the sample (9,590 USD), *Below father's educ* and *Below mother's educ* is indicators for the child spectators' parents having an education below the median sample (high school or less in China) and *Have siblings* is an indicator for the child spectator having at least one sibling. These variables are included as control variables. The variables *Merit*Female, Merit*Below income, Merit*Below father's educ, Merit*Below mother's educ and Merit*Have siblings* are indicators interacting *Merit* and the respective subgroup. Controls are the variables *Female, Below income, Below father's educ, Below mother's educ and Have siblings* Standard errors in parentheses, where * p <0.10, ** p < 0.05, *** p < 0.01.

Table A7.3: Heterogeneity Analysis: Merit Treatment 17y China

	Inequality					
	Gender	Income	Father's education	Mother's education	Have siblings	All
	(1)	(2)	(3)	(4)	(5)	(6)
Merit	0.035	0.130	0.196**	0.181**	0.072	0.083
	(0.086)	(0.088)	(0.080)	(0.080)	(0.053)	(0.139)
Merit*Female	0.109					0.099
	(0.107)					(0.110)
Merit*		−0.038				0.033
Below income		(0.109)				(0.116)
Merit*			−0.150			−0.112
Below father's educ			(0.104)			(0.112)
Merit*				−0.128		−0.050
Below mother's educ				(0.104)		(0.120)
Merit*					0.350**	0.350**
Have siblings					(0.173)	(0.177)
Constant	0.635***	0.610***	0.593***	0.598***	0.617***	0.618***
	(0.066)	(0.065)	(0.065)	(0.064)	(0.063)	(0.070)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
(Merit + Interaction)	0.144**	0.092	0.046	0.053	0.422	
	(0.063)	(0.062)	(0.065)	(0.065)	(0.157)	
Observations	291	291	291	291	291	291
R^2	0.037	0.034	0.041	0.039	0.048	0.058

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(6). *Female, Below income, Below father's education, Below mother's education* and *have siblings* are defined in Table A7.1. The interaction variables *Merit*Female, Merit*Below income, Merit*Below father's educ, Merit*Below mother's educ and Merit*Have siblings* are also defined in A7.1. Standard errors in parentheses, where * p <0.10, ** p < 0.05, *** p < 0.01.

Table A7.4: Heterogeneity Analysis: Merit Treatment 17y Norway

	Inequality					
	Gender	Income	Father's education	Mother's education	Have siblings	All
	(1)	(2)	(3)	(4)	(5)	(6)
Merit	0.016	0.077	−0.102	0.054	0.106	−0.145
	(0.098)	(0.087)	(0.109)	(0.094)	(0.302)	(0.326)
Merit*Female	0.139					0.131
	(0.130)					(0.136)
Merit*		0.043				−0.012
Below income		(0.130)				(0.143)
Merit*			0.297**			0.331**
Below father's educ			(0.133)			(0.153)
Merit*				0.077		−0.088
Below mother's educ				(0.130)		(0.152)
Merit*					−0.011	−0.001
Have siblings					(0.309)	(0.308)
Constant	0.630***	0.609***	0.650***	0.609***	0.596**	0.671***
	(0.165)	(0.164)	(0.162)	(0.164)	(0.236)	(0.238)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
(Merit + Interaction)	0.155*	0.12	0.195**	0.131	0.095	
	(0.084)	(0.095)	(0.077)	(0.087)	(0.065)	
Observations	171	171	171	171	171	171
R^2	0.062	0.056	0.083	0.057	0.055	0.090

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(6). *Female, Below income, Below father's education, Below mother's education* and *have siblings* are defined in Table A7.2. The interaction variables *Merit*Female, Merit*Below income, Merit*Below father's educ, Merit*Below mother's educ and Merit*Have siblings* are also defined in A7.2. Standard errors in parentheses, where * p <0.10, ** p < 0.05, *** p < 0.01.

Table A7.5: Heterogeneity Analysis: Efficiency Treatment 9y China

	Inequality					
	Gender	Income	Father's education	Mother's education	Have siblings	All
	(1)	(2)	(3)	(4)	(5)	(6)
Efficiency	0.150**	0.161***	0.113**	0.174***	0.164***	0.270***
	(0.072)	(0.060)	(0.057)	(0.058)	(0.058)	(0.091)
Efficiency*Female	−0.063					−0.076
	(0.100)					(0.100)
Efficiency*		−0.142				−0.098
Below income		(0.110)				(0.113)
Efficiency*			0.020			0.179
Below father's educ			(0.120)			(0.145)
Efficiency*				−0.215*		−0.308**
Below mother's educ				(0.114)		(0.136)
Efficiency*					−0.179	−0.172
Have Siblings					(0.117)	(0.121)
Constant	0.315***	0.309***	0.322***	0.309***	0.311***	0.286***
	(0.039)	(0.039)	(0.038)	(0.038)	(0.039)	(0.041)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
(Efficiency+ Interaction)	0.087	0.019	0.133	−0.041	−0.015	
	(0.070)	(0.091)	(0.105)	(0.098)	(0.100)	
Observations	330	330	330	330	330	330
R^2	0.045	0.049	0.044	0.055	0.051	0.071

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(6). *Female, Below income, Below father's education, Below mother's education* and *have siblings* are defined in Table A7.1. The interaction variables *Efficiency*Female, Efficiency*Below income, Efficiency*Below father's educ, Efficiency*Below mother's educ and Efficiency*Have siblings* are indicators interacting *Efficiency* and the respective subgroup. Standard errors in parentheses, where * p <0.10, ** p < 0.05, *** p < 0.01.

Table A7.6: Heterogeneity Analysis: Efficiency Treatment 9y Norway

	Inequality					
	Gender	Income	Father's education	Mother's education	Have siblings	All
	(1)	(2)	(3)	(4)	(5)	(6)
Efficiency	0.004	−0.017	−0.063	−0.002	0.491**	0.444**
	(0.068)	(0.068)	(0.073)	(0.062)	(0.195)	(0.214)
Efficiency*Female	−0.005					0.004
	(0.093)					(0.092)
Efficiency*		0.033				−0.023
Below income		(0.093)				(0.100)
Efficiency			0.107			0.135
Below father's educ			(0.094)			(0.105)
Efficiency*				0.007		−0.016
Below mother's educ				(0.094)		(0.103)
Efficiency*					−0.518**	−0.535***
Have siblings					(0.201)	(0.204)
Constant	0.207**	0.218**	0.245**	0.210**	0.070	0.100
	(0.100)	(0.103)	(0.103)	(0.102)	(0.110)	(0.120)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
(Efficiency + Interaction)	−0.001	0.016	0.044	0.005	−0.027	
	(0.062)	(0.063)	(0.060)	(0.07)	(0.046)	
Observations	246	246	246	246	246	246
R^2	0.040	0.040	0.045	0.040	0.066	0.073

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(6). *Female, Below income, Below father's education, Below mother's education* and *have siblings* are defined in Table A7.2. The interaction variables *Efficiency*Female, Efficiency*Below income, Efficiency*Below father's educ, Efficiency*Below mother's educ and Efficiency*Have siblings* are defined in A7.2. Standard errors in parentheses, where * p <0.10, ** p < 0.05, *** p < 0.01.

Table A7.7: Heterogeneity Analysis: Efficiency Treatment 17y China

	Inequality					
	Gender	Income	Father's education	Mother's education	Have siblings	All
	(1)	(2)	(3)	(4)	(5)	(6)
Efficiency	0.022	0.045	0.022	0.085	0.128**	0.014
	(0.088)	(0.082)	(0.080)	(0.079)	(0.053)	(0.125)
Efficiency*Female	0.100					0.069
	(0.108)					(0.110)
Efficiency*		0.072				0.032
Below income		(0.105)				(0.117)
Efficiency*			0.112			0.130
Below father's educ			(0.104)			(0.112)
Efficiency*				0.007		−0.051
Below mother's educ				(0.104)		(0.118)
Efficiency*					−0.380**	−0.375**
Have siblings					(0.167)	(0.170)
Constant	0.640***	0.637***	0.644***	0.618***	0.607***	0.652***
	(0.069)	(0.070)	(0.069)	(0.068)	(0.064)	(0.077)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
(Efficiency + Interaction)	0.122*	0.117*	0.134*	0.092	−0.252*	
	(0.062)	(0.065)	(0.066)	(0.07)	(0.157)	
Observations	291	291	291	291	291	291
R^2	0.033	0.031	0.034	0.030	0.047	0.054

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(6). *Female, Below income, Below father's education, Below mother's education* and *have siblings* are defined in Table A7.1. The interaction variables *Efficiency*Female, Efficiency*Below income, Efficiency*Below father's educ, Efficiency*Below mother's educ and Efficiency*Have siblings* are defined in A7.5. Standard errors in parentheses, where * p <0.10, ** p < 0.05, *** p < 0.01.

Table A7.8: Heterogeneity Analysis: Efficiency Treatment 17y Norway

	Inequality					
	Gender	Income	Father's education	Mother's education	Have siblings	All
	(1)	(2)	(3)	(4)	(5)	(6)
Efficiency	0.234**	0.074	0.175*	0.095	−0.048	0.277
	(0.107)	(0.085)	(0.104)	(0.096)	(0.335)	(0.344)
Efficiency*Female	−0.380***					−0.338**
	(0.136)					(0.139)
Efficiency*		−0.198				−0.050
Below income		(0.139)				(0.148)
Efficiency*			−0.293**			−0.208
Below father's educ			(0.133)			(0.163)
Efficiency*				−0.188		−0.039
Below mother's educ				(0.133)		(0.156)
Efficiency					0.049	0.100
*Have siblings					(0.342)	(0.339)
Constant	0.565***	0.618***	0.574***	0.596***	0.667***	0.526***
	(0.162)	(0.164)	(0.164)	(0.167)	(0.190)	(0.191)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
(Efficiency + Interaction)	−0.146*	−0.124	−0.118	−0.093	0.001	
	0.083	(0.108)	(0.084)	(0.093)	(0.068)	
Observations	171	171	171	171	171	171
R^2	0.086	0.054	0.070	0.054	0.042	0.106

Note: The table reports OLS regressions with the implemented inequality as the dependent variable in columns (1)-(6). *Female, Below income, Below father's education, Below mother's education* and *have siblings* are defined in Table A7.2. The interaction variables *Efficiency*Female, Efficiency*Below income, Efficiency*Below father's educ, Efficiency*Below mother's educ and Efficiency*Have siblings* are defined in A7.5. Standard errors in parentheses, where * p <0.10, ** p < 0.05, *** p < 0.01.

A8 Balance Checks

Following, the results of the the joint F-tests are displayed. Table A8.1 and Table A8.2 show the results from the balance tests across age groups in China and Norway. Tables A8.3, A8.4, A8.5 and A8.6 show the results from the balance tests across treatments in the two societies.

Table A8.1: Balance Across Age Groups China

	Dependent variable:				
	Gender	Income	Father's educ	Mother's educ	Siblings
	(1)	(2)	(3)	(4)	(5)
Seventeen	0.138***	−1,099***	−0.904***	−0.868***	−0.121***
	(0.031)	(154)	(0.082)	(0.083)	(0.025)
Observations	1,016	643	658	655	981
R^2	0.019	0.073	0.158	0.144	0.023
Prob > F	0.000	0.000	0.000	0.000	0.000

Note: The table reports OLS regressions with the different background characteristics of the Chinese sample as dependent variables. For each background characteristic, we have reported the p-value of the joint F-test testing whether the background characteristics are relatively different for the samples of Chinese 9-year-olds and 17-year-olds. The reference category across all regressions is the 9-year-old child spectators. The dependent variable in column (1) is an indicator for being a male. The dependent variable in column (2) is the total reported monthly household income in USD (gross income before taxes). The 15 different income categories are specified in A10.1. The dependent variables in columns (3) and (4) are the father's and mother's education level. The different education levels are reported in A10.1. The dependent variable in column (5) is the child spectator having at least one sibling. Standard errors in parentheses, where * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A8.2: Balance Across Age Groups Norway

	Dependent variable:				
	Gender	Income	Father's educ	Mother's educ	Siblings
	(1)	(2)	(3)	(4)	(5)
Seventeen	0.027	567*	0.093	−0.079	0.240***
	(0.040)	(332)	(0.140)	(0.125)	(0.065)
Observations	626	418	456	456	626
R^2	0.001	0.007	0.001	0.001	0.021
Prob > F	0.5092	0.0889	0.5082	0.5252	0.0002

Note: The table reports OLS regressions with the different background characteristics of the Norwegian sample as dependent variables. For each background characteristic, we have reported the p-value of the joint F-test testing whether the background characteristics are relatively different for the samples of Norwegian 9-year-olds and 17-year-olds. The reference category across all regressions is the 9-year-old child spectators. The dependent variable in column (1) is an indicator for being a male. The dependent variable in column (2) are the total reported monthly household income in USD (gross income before taxes). The 15 different income categories are specified in A10.2 (the child spectators' parents who chose not to respond or did not know their income are not included here). The dependent variables in columns (3) and (4) are the father's and mother's education level. The different education levels are reported in A10.2. The dependent variable in column (5) is the child spectator having at least one sibling. Standard errors in parentheses, where * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A8.3: Balance Tests by Treatments China 9y

	Dependent variable:				
	Gender	Income	Father's educ	Mother's educ	Siblings
	(1)	(2)	(3)	(4)	(5)
Merit	0.097*	−180	0.132	0.083	−0.015
	(0.053)	(249)	(0.107)	(0.112)	(0.049)
Efficiency	0.050	−102	0.041	0.091	0.067
	(0.063)	(293)	(0.127)	(0.132)	(0.057)
Observations	456	340	340	340	440
R^2	0.007	0.002	0.005	0.002	0.005
Prob > F	0.1844	0.7703	0.4534	0.7061	0.3214

Note: The table reports OLS regressions with the different background characteristics of the Chinese sample as dependent variables. For each background characteristic, we have reported the p-value of the joint F-test testing whether the three treatments are significantly different from each other with respect to that background characteristic. The reference category across all regressions is the Luck treatment with the Chinese 9-year-old child spectators. The dependent variables are described in Table A8.1. Standard errors in parentheses, where * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A8.4: Balance Tests by Treatments Norway 9y

	Dependent variable:				
	Gender	Income	Father's educ	Mother's educ	Siblings
	(1)	(2)	(3)	(4)	(5)
Merit	0.044	−446	−0.502**	−0.138	-0.064
	(0.073)	(525)	(0.220)	(0.196)	(0.118)
Efficiency	0.136*	371	−0.264	0.250	0.049
	(0.074)	(528)	(0.222)	(0.198)	(0.119)
Observations	278	247	260	260	278
R^2	0.013	0.010	0.020	0.016	0.003
Prob > F	0.1704	0.2903	0.076	0.133	0.6305

Note: The table reports OLS regressions with the different background characteristics of the Norwegian sample as dependent variables. For each background characteristic, we have reported the p-value of the joint F-test testing whether the three treatments are significantly different from each other with respect to that background characteristic. The reference category across all regressions is the Luck treatment with the Norwegian 9-year-old child spectators. The dependent variables are described in Table A8.2. Standard errors in parentheses, where * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A8.5: Balance Tests by Treatments China 17y

	Dependent variable:				
	Gender	Income	Father's educ	Mother's educ	Siblings
	(1)	(2)	(3)	(4)	(5)
Merit	−0.005	−126	−0.075	−0.085	−0.040
	(0.051)	(264)	(0.166)	(0.165)	(0.035)
Efficiency	−0.010	157	−0.008	−0.061	−0.018
	(0.051)	(269)	(0.167)	(0.167)	(0.035)
Observations	560	303	318	315	541
R^2	0.0001	0.004	0.001	0.001	0.003
Prob > F	0.9823	0.5744	0.8848	0.8687	0.5073

Note: The table reports OLS regressions with the different background characteristics of the Chinese sample as dependent variables. For each background characteristic, we have reported the p-value of the joint F-test testing whether the three treatments are significantly different from each other with respect to that background characteristic. The reference category across all regressions is the Luck treatment with the Chinese 17-year-old child spectators. The dependent variables are described in Table A8.1. Standard errors in parentheses, where * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A8.6: Balance Tests by Treatments Norway 17y

	Dependent variable:				
	Gender	Income	Father's educ	Mother's educ	Siblings
	(1)	(2)	(3)	(4)	(5)
Merit	−0.013	125	−0.242	0.076	−0.136
	(0.066)	(605)	(0.262)	(0.234)	(0.107)
Efficiency	0.059	980	0.132	0.330	−0.056
	(0.066)	(630)	(0.264)	(0.235)	(0.107)
Observations	348	171	196	196	348
R^2	0.004	0.017	0.011	0.011	0.005
Prob > F	0.4982	0.2462	0.356	0.3439	0.4409

Note: The table reports OLS regressions with the different background characteristics of the Norwegian sample as dependent variables. For each background characteristic, we have reported the p-value of the joint F-test testing whether the three treatments are significantly different from each other with respect to that background characteristic. The reference category across all regressions is the Luck treatment with the Norwegian 17-year-old child spectators. The dependent variables are described in Table A8.2. Standard errors in parentheses, where * p < 0.10, ** p < 0.05, *** p < 0.01.

A9 Instructions: Distributive Choices

This section provides the exact instructions for the children who participated in the experiment. The instructions for each of the treatments, as well as the answer sheets (both in the case of green and yellow winners), are provided below. Variations in the spectator instructions across treatments and age groups are highlighted in the versions below to simplify comparisons. The instructions contain different color codes, respectively yellow, blue and red. Yellow indicates differences in instructions between the 9-year-olds and the 17-year-olds. Blue text illustrates the additional instructions provided in the Merit treatment compared to the Luck treatment, while red text reveals the extra instructions provided in the Efficiency treatment compared to the Luck treatment.

[MODERATOR: Introduction]

Welcome. Thank you for participating in this activity today.

The results from this activity will be used in a research project. It is therefore very important that you follow certain rules. You are not allowed to talk to any of the other participants during the session. If you have any questions or need any help, please raise your hand and one of us will assist you.

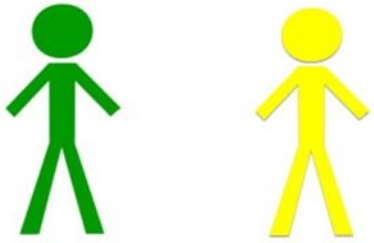
In the first part, we will ask you to make a choice. It will not be possible for the other participants, your teachers or anyone else, except for the researchers, ever to find out about what choice you make. Your participation is voluntary and not organized by the school. If anyone would like not to participate, please let us know.

Are there any questions before we begin?

LUCK 9, 17 years: [DISTRIBUTIVE CHOICE]

In this activity, we will ask you to make a choice that has real consequences for other children. This is not a test and there are no right or wrong answers.

We have recruited two children. They are both your age and go to school in Shanghai. These two can represent the two children *(point to picture of stick figures below).*



The two children are in another room like this in a school in Shanghai. Let us call them the child with the GREEN plate *(hold up green plate)* **and the child with the YELLOW plate** *(hold up yellow plate)***.**

We ask the two children each to do an assignment. After completing the same assignment, the children are told that their earnings from the assignment is determined by a lottery.

We are now going to determine what each of the children earns by flipping a token *(show token)*. **If the token comes up GREEN, it means that the child with the GREEN plate earns six coins for the assignment, and that the child with the YELLOW plate earns nothing for the assignment.** *(Show the token coming up GREEN and point to the relevant plate, coins and stick figures in Figure 1a as you mention them.)*

Figure 1a:

If the token comes up YELLOW, it means that the child with the YELLOW plate earns all the coins for the assignment, and the child with the GREEN plate earns nothing for the assignment. *(Show the token coming up YELLOW and point to the relevant plate, coins and stick figures in Figure 1b as you mention them.)*

Figure 1b:

(Go to blank page on screen).

9 years: Every coin will be replaced with a small gift *(show figure 4a)***.**

17 years: Every coin is worth ￥4 *(show figure 4b)***.**

Figure 4a

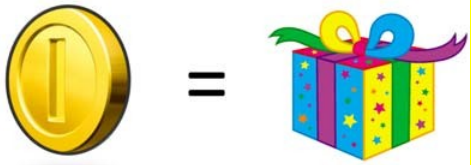


Figure 4b

Any questions so far? If so, please raise your hand and one of us will answer you in private. *(Continue after all questions are answered in private. Do not take questions in public.)*

Now I will flip the token to decide what each of the children earns. *(Flip the token and show result).* **The token came up [YELLOW/GREEN]. That means that the child with the [YELLOW/GREEN] plate is LUCKY and earns all the coins, and the child with the [GREEN/YELLOW] plate is UNLUCKY and earns no coins.** *(Point to either figure 1a or 1b depending on the outcome of the token flip. Let the figure stay on the screen. (Put out answer sheets to each child. Remember to use the answer sheets that match the result of the lottery).*

We will now ask <u>YOU</u> to decide whether the two children should be paid what they earn for the assignment *(point to Figure 1a/1b),* **or whether you want to change the number of coins each child is paid. In front of you, there are pictures of all the different ways you can divide the money between the two children. <u>You can choose to divide the coins between the two children any way you want.</u> You are each making a decision for a different pair of children. Your payoff is not affected by your choice. Find the one picture that shows how many coins <u>you want</u> each of the children to be paid.**

- **The child with the [YELLOW/GREEN] plate is LUCKY in the lottery – this child will receive the coins on the [YELLOW/GREEN] plate.** *(Point to lucky child's plate with coins on the screen, Figure 1a/1b).*
- **The child with the [GREEN/YELLOW] plate is UNLUCKY in the lottery – this child will receive the coins on the [GREEN/YELLOW] plate.** *(Pretend to drag one coin over from the lucky child to the unlucky child's plate on the screen on, Figure 1a/1b.)*

Does anyone have a question? If so, please raise your hand and one of us will answer you in private. *(Continue after all questions are answered in private. Do not take questions in public.)*

Your decision about how to distribute coins determines how many coins the two children are paid. That means that your decision is real and important. The two children will receive the payment that you choose for the assignment within a short period, but will not receive any further information. You will not get to know who the children are, and they will not get to know who you are.

Remember, it is up to <u>YOU</u> what you decide.

- **The child with the [YELLOW/GREEN] plate is LUCKY in the lottery – this child will receive the coins on the [YELLOW/GREEN] plate.** *(Point to lucky child's plate with coins on the screen, Figure 1a/1b).*

- **The child with the [GREEN/YELLOW] plate is UNLUCKY in the lottery – this child will receive the coins on the [GREEN/YELLOW] plate.** *(Point to unlucky child's plate on the screen, Figure 1a/1b).*

Now go ahead and make your choice. Find the picture that shows how many coins <u>you want</u> each of the children to be paid. Tick off the box next to this picture. Please do not talk to each other or look at what the others in the room are doing while making your choice.

(When the children are finished): **Okay, thank you for deciding. Now, please turn your answer sheet and write your tag number** *(not their student number)* **on the back of the sheet. Please also answer the questions on the back of the page.**

Note for collectors of choices: When you collect the answer sheets, make sure that the students have ticked off a box, and <u>one box only</u>. If they have not, say "Please go ahead and make your choice. You can only tick off one box. Find the picture that shows how many coins you want each of the children to be paid. Tick off the box next to this picture." Busy yourself while they make their decision (so they are not watched while making their decision).

Make sure that they have written the correct tag number on the back of the answer sheet, their gender and ticked off for how many siblings they have. You may write the correct tag number on their answer sheet if they have not done so themselves.
(After collection and checking is completed): **Thank you. Now let us go to the next part.**

PRODUCTION PHASE

In this last part of the session, you will be asked to do two small tasks. You will earn gifts based on these tasks. You will be given detailed instructions for each of the small tasks as we go along.

You will not be informed about how much you have earned until after the session.

It is very important that you remember your tag number and report it in each activity, so that we can pay you correctly.

Task 1 – No need to measure performance

…INSTRUCTIONS RELATED TO THE TASKS…
No need to measure performance, but need to identify which students have completed each task.

Task 2 – No need to measure performance

…INSTRUCTIONS RELATED TO THE TASKS…
No need to measure performance, but need to identify which students have completed each task.

For collectors – remember to check that we have the correct tag numbers (not student numbers).

DETERMINATION OF PAYMENTS

You have now completed your work on both tasks. We will now explain how you will be paid for this work. We will for each task match you with another participant who has completed the same task. The payments to you and the other participant is determined by a two-stage process. Below we explain this process in more detail.

First stage:

In the first stage, your earnings are determined by a lottery where each of you with equal probability earns 24 yuan or 0 yuan.

Second stage:

In the second stage, for each task, a third person is given the opportunity to redistribute the earnings between you and the other participant. This person does not know the identity of you or the other participant, but is informed that you did a task and your earnings for the tasks.

For each task, either you or the other participant earns 24 yuan and the other participant earns 0 yuan. If the third person chooses not to redistribute, each of you will be paid your earnings from the task. However, the third person can also choose to redistribute the earnings for the task, transferring earnings to the participant who received nothing for the task.

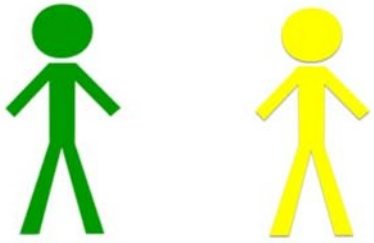
You will receive your payments in class before the end of today.

Thank you so much for your participation today. It is very valuable to our research.

MERIT 9, 17 years: [DISTRIBUTIVE CHOICE]

In this activity, we will ask you to make a choice that has real consequences for other children. This is not a test and there are no right or wrong answers.

We have recruited two children. They are both your age and go to school in Shanghai. These two can represent the two children *(point to picture of stick figures below).*



The two children are in another room like this in a school in Shanghai. Let us call them the child with the GREEN plate *(hold up green plate)* **and the child with the YELLOW plate** *(hold up yellow plate)***.**

We ask the two children each to do an assignment. After completing the same assignment, the children are told that their earnings from the assignment is determined by their productivity. I am now going to show you who is most productive of the two children and how much they earn each.

- **The child with the [GREEN/YELLOW] plate is MORE productive than the child with the [YELLOW/GREEN] plate. This means that the child with the [GREEN/YELLOW] plate earns six coins for the assignment.** *(Point to the stick figure and the plate of the most productive child and the coins on it on figure 2a/2b).*
- **The child with the [YELLOW/GREEN] plate is LESS productive than the child with the [GREEN/YELLOW] plate. This means that the child with the [YELLOW/GREEN] plate earns nothing for the assignment.** *(Point to the stick figure and the plate of the least productive child on figure 2a/2b).*

Figure 2a:

or

Figure 2b:

9 years: Every coin is worth ¥4 and will be replaced with a small gift *(show figure 4a)***.**

17 years: Every coin is worth ¥4 *(show figure 4b)***.**

Figure 4a

Figure 4b

Any questions so far? If so, please raise your hand and one of us will answer you in private. *(Continue after all questions are answered in private. Do not take questions in public.)*

We will now ask <u>YOU</u> to decide whether the two children should be paid what they earn for the assignment *(point to Figure 2a/2b)*, **or whether you want to change the number of coins each child is paid. In front of you, there are pictures of all the different ways you can divide the money between the two children. <u>You can choose to divide the coins between the two children any way you want.</u> You are each making a decision for a different pair of children. Your payoff is not affected by your choice. Find the one picture that shows how many coins <u>you want</u> each of the children to be paid.**

- **The child with the [YELLOW/GREEN] plate is MOST PRODUCTIVE – this child will receive the coins on the [YELLOW/GREEN] plate.** *(Point to most productive child's plate with coins on the screen, Figure 2a/2b).*
- **The child with the [GREEN/YELLOW] plate is LEAST PRODUCTIVE – this child will receive the coins on the [GREEN/YELLOW] plate.** *(Pretend to drag one coin over from the most productive child to the least productive child's plate on the screen on, Figure 2a/2b.)*

Does anyone have a question? If so, please raise your hand and one of us will answer you in private. *(Continue after all questions are answered in private. Do not take questions in public.)*

Your decision about how to distribute coins determines how many coins the two children are paid. That means that your decision is real and important. The two children will receive the payment that you choose for the assignment within a short period, but will not receive any further information. You will not get to know who the children are, and they will not get to know who you are.

Remember, it is up to <u>YOU</u> what you decide.

- **The child with the [YELLOW/GREEN] plate is MOST PRODUCTIVE – this child will receive the coins on the [YELLOW/GREEN] plate.** *(Point to most productive child's plate with coins on the screen, Figure 2a/2b).*
- **The child with the [GREEN/YELLOW] plate is LEAST PRODUCTIVE – this child will receive the coins on the [GREEN/YELLOW] plate.** *(Point to least productive child's plate on the screen, Figure 2a/2b).*

Now go ahead and make your choice. Find the picture that shows how many coins <u>you want</u> each of the children to be paid. Tick off the box next to this picture. Please do not talk to each other or look at what the others in the room are doing while making your choice.

(When the children are finished): **Okay, thank you for deciding. Now, please turn your answer sheet and write your tag number** *(not their student number)* **on the back of the sheet. Please also answer the questions on the back of the page.**

Note for collectors of choices: When you collect the answer sheets, make sure that the students have ticked off a box, and one box only. If they have not, say "Please go ahead and make your choice. You can only tick off one box. Find the picture that shows how many coins you want each of the children to be paid. Tick off the box next to this picture." Busy yourself while they make their decision (so they are not watched while making their decision).

Make sure that they have written the correct tag number on the back of the answer sheet, their gender and ticked off for how many siblings they have. You may write the correct tag number on their answer sheet if they have not done so themselves.
(After collection and checking is completed): **Thank you. Now let us go to the next part.**

PRODUCTION PHASE

In this last part of the session, you will be asked to do two small tasks. You will earn money based on these tasks. You will be given detailed instructions for each of the small tasks as we go along.

You will not be informed about how much money you have earned until after the session.

It is very important that you remember your tag number and report it in each activity, so that we can pay you correctly.

Task 1 – Need to measure performance

…INSTRUCTIONS RELATED TO THE TASKS…
NEED to measure performance, and need to identify which students have completed each task and if they were worse of better. A suggestion is to divide the students into groups and have them compete. If we know the tag number of the students in each group it should be really quick to know who performed better (won the competition) and who worse (lost the competition). The number of groups necessary will depend on the number of students in the session. Can do the same for task 2.

Task 2 – Need to measure performance

…INSTRUCTIONS RELATED TO THE TASKS…
NEED to measure performance, and need to identify which students have completed each task and if they were worse of better.

For collectors – remember to check that we have the correct tag numbers (not student numbers).

DETERMINATION OF PAYMENTS

You have now completed your work on both tasks. We will now explain how you will be paid for this work. We will for each task match you with another participant who has completed the same task. The payments to you and the other participant is determined by a two-stage process. Below we explain this process in more detail.

First stage:

In the first stage, your earnings are determined by how well you performed in the task.

Second stage:

In the second stage, for each task, a third person is given the opportunity to redistribute the earnings between you and the other participant. This person does not know the identity of you or the other participant, but is informed that you did a task and your earnings for the tasks.

For each task, either you or the other participant earns 24 yuan and the other participant earns 0 yuan. If the third person chooses not to redistribute, each of you will be paid your earnings from the task. However, the third person can also choose to redistribute the earnings for the task, transferring earnings to the participant who received nothing for the task.

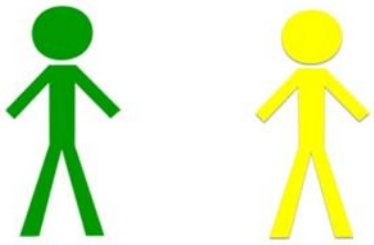
You will receive your payments in class before the end of today.

Thank you so much for your participation today. It is very valuable to our research.

EFFICIENCY, 9, 17 years: [DISTRIBUTIVE CHOICE]

In this activity, we will ask you to make a choice that has real consequences for other children. This is not a test and there are no right or wrong answers.

We have recruited two children. They are both your age and go to school in Shanghai. These two can represent the two children *(point to picture of stick figures below).*



The two children are in another room like this in a school in Shanghai. Let us call them the child with the GREEN plate *(hold up green plate)* **and the child with the YELLOW plate** *(hold up yellow plate)***.**

We ask the two children each to do an assignment. After completing the same assignment, the children are told that their earnings from the assignment is determined by a lottery.

We are now going to determine what each of the children earns by flipping a token *(show token)*. **If the token comes up GREEN, it means that the child with the GREEN plate earns six coins for the assignment, and that the child with the YELLOW plate earns nothing for the assignment.** *(Show the token coming up GREEN and point to the relevant plate, coins and stick figures in Figure 1a as you mention them.)*

Figure 1a:

If the token comes up YELLOW, it means that the child with the YELLOW plate earns all the coins for the assignment, and the child with the GREEN plate earns nothing for the assignment. *(Show the token coming up YELLOW and point to the relevant plate, coins and stick figures in Figure 1b as you mention them.)*

Figure 1b:

(Go to blank page on screen).

9 years: Every coin is worth ￥4 and will be replaced with a small gift *(show figure 4a)***.**

17 years: Every coin is worth ￥4 *(show figure 4b)***.**

Figure 4a

Figure 4b

Any questions so far? If so, please raise your hand and one of us will answer you in private. *(Continue after all questions are answered in private. Do not take questions in public.)*

Now I will flip the token to decide what each of the children earns. *(Flip the token and show result).* **The token came up [YELLOW/GREEN]. That means that the child with the [YELLOW/GREEN] plate is LUCKY and earns all the coins, and the child with the [GREEN/YELLOW] plate is UNLUCKY and earns no coins.** *(Point to either figure 1a or 1b depending on the outcome of the token flip. Let the figure stay on the screen. (Put out answer sheets to each child. Remember to use the answer sheets that match the result of the lottery).*

We will now ask <u>YOU</u> to decide whether the two children should be paid what they earn for the assignment *(point to Figure 1a/1b),* **or whether you want to change the number of coins each child is paid. In front of you, there are two pictures that show the two alternatives you can choose between. You can choose to redistribute or not. You can choose the alternative you want. You are each making a decision for a different pair of children. Your payoff is not affected by your choice. Find the one picture that shows how many coins <u>you want</u> each of the children to be paid.**

- **The child with the [YELLOW/GREEN] plate is LUCKY in the lottery – this child will receive the coins on the [YELLOW/GREEN] plate.** *(Point to lucky child's plate with coins on the screen, Figure 1a/1b).*
- **The child with the [GREEN/YELLOW] plate is UNLUCKY in the lottery – this child will receive the coins on the [GREEN/YELLOW] plate. The two children receive 4 coins, 2 each, if you choose to equalize (point to this option in figure) and 6 coins, 6 to the lucky child and 0 to the other, if you do not redistribute (point to this option in figure).**

Does anyone have a question? If so, please raise your hand and one of us will answer you in private. *(Continue after all questions are answered in private. Do not take questions in public.)*

Your decision about how to distribute coins determines how many coins the two children are paid. That means that your decision is real and important. The two children will receive the payment that you choose for the assignment within a short period, but will not receive any further information. You will not get to know who the children are, and they will not get to know who you are.

Remember, it is up to <u>YOU</u> what you decide.

- **The child with the [YELLOW/GREEN] plate is LUCKY in the lottery – this child will receive the coins on the [YELLOW/GREEN] plate.** *(Point to lucky child's plate with coins on the screen, Figure 1a/1b).*
- **The child with the [GREEN/YELLOW] plate is UNLUCKY in the lottery – this child will receive the coins on the [GREEN/YELLOW] plate.** *(Point to unlucky child's plate on the screen, Figure 1a/1b).*

Now go ahead and make your choice. Find the picture that shows how many coins <u>you want</u> each of the children to be paid. Tick off the box next to this picture. Please do not talk to each other or look at what the others in the room are doing while making your choice.

*(When the children are finished):***Okay, thank you for deciding. Now, please turn your answer sheet and write your tag number** *(not their student number)* **on the back of the sheet. Please also answer the questions on the back of the page.**

Note for collectors of choices: When you collect the answer sheets, make sure that the students have ticked off a box, and <u>one box only</u>. If they have not, say "Please go ahead and make your choice. You can only tick off one box. Find the picture that shows how many coins you want each of the children to be paid. Tick off the box next to this picture." Busy yourself while they make their decision (so they are not watched while making their decision).

Make sure that they have written the correct tag number on the back of the answer sheet, their gender and ticked off for how many siblings they have. You may write the correct tag number on their answer sheet if they have not done so themselves.
(After collection and checking is completed): **Thank you. Now let us go to the next part.**

PRODUCTION PHASE

In this last part of the session, you will be asked to do two small tasks. You will earn money based on these tasks. You will be given detailed instructions for each of the small tasks as we go along.

You will not be informed about how much money you have earned until after the session.

It is very important that you remember your tag number and report it in each activity, so that we can pay you correctly.

Task 1 – No need to measure performance

…INSTRUCTIONS RELATED TO THE TASKS…
No need to measure performance, but need to identify which students have completed each task.

Task 2 – No need to measure performance

…INSTRUCTIONS RELATED TO THE TASKS…
No need to measure performance, but need to identify which students have completed each task.

For collectors – remember to check that we have the correct tag numbers (not student numbers).

DETERMINATION OF PAYMENTS

You have now completed your work on both tasks. We will now explain how you will be paid for this work. We will for each task match you with another participant who has completed the same task. The payments to you and the other participant is determined by a two-stage process. Below we explain this process in more detail.

First stage:

In the first stage, your earnings are determined by a lottery where each of you with equal probability earns 24 yuan or 0 yuan.

Second stage:

In the second stage, for each task, a third person is given the opportunity to redistribute the earnings between you and the other participant. This person does not know the identity of you or the other participant, but is informed that you did a task and your earnings for the tasks.

For each task, either you or the other participant earns 24 yuan and the other participant earns 0 yuan. If the third person chooses not to redistribute, each of you will be paid your earnings from the task. However, the third person can also choose to redistribute the earnings for the task, transferring earnings to the participant who received nothing for the task.

You will receive your payments in class before the end of today.

Thank you so much for your participation today. It is very valuable to our research.

The child with the green plate is lucky in the lottery and earns all the coins for the assignment. The child with the yellow plate is unlucky and earns nothing for the assignment. Each coin equals ¥4.

Now go ahead and make your choice. Find the picture that shows how many coins you want each of the two children to be paid. Tick off the box next to this picture. You can only choose one alternative.

I do not redistribute:

☐ 

I do redistribute:

☐ 

☐ 

☐ 

☐ 

☐ 

☐ 

The child with the yellow plate is lucky in the lottery and earns all the coins for the assignment. The child with the green plate is unlucky and earns nothing for the assignment. Each coin equals ¥4.

Now go ahead and make your choice. Find the picture that shows how many coins you want each of the two children to be paid. Tick off the box next to this picture. You can only choose one alternative.

I do not redistribute:

I do redistribute:

The child with the green plate is most productive and earns all the coins for the assignment. The child with the yellow plate is least productive and earns nothing for the assignment. Each coin equals ¥4.

Now go ahead and make your choice. Find the picture that shows how many coins you want each of the two children to be paid. Tick off the box next to this picture. You can only choose one alternative.

I do not redistribute:

☐ 

I do redistribute:

☐ 

☐ 

☐ 

☐ 

☐ 

☐ 

The child with the yellow plate is most productive and earns all the coins for the assignment. The child with the green plate is least productive and earns nothing for the assignment. Each coin equals ¥4.

Now go ahead and make your choice. Find the picture that shows how many coins you want each of the two children to be paid. Tick off the box next to this picture. You can only choose one alternative.

I do not redistribute:

☐ 

I do redistribute:

☐ 

☐ 

☐ 

☐ 

☐ 

☐ 

The child with the green plate is lucky in the lottery and earns all the coins for the assignment. The child with the yellow plate is unlucky and earns nothing for the assignment. Each coin equals ¥4.

Now go ahead and make your choice of whether to redistribute or not. The pictures below show the two alternatives you can choose between. There is a cost of redistribution. The two children receive 4 coins, 2 each, if you choose to equalize and 6 coins, 6 to the lucky child and 0 to the other, if you do not redistribute. Find the picture that shows how many coins you want each of the two children to be paid. Tick off the box next to this picture. You can only choose one alternative.

I do not redistribute:

☐ 

I do redistribute:

☐ 

The child with the yellow plate is lucky in the lottery and earns all the coins for the assignment. The child with the green plate is unlucky and earns nothing for the assignment. Each coin equals ¥4.

Now go ahead and make your choice of whether to redistribute or not. The pictures below show the two alternatives you can choose between. There is a cost of redistribution. The two children receive 4 coins, 2 each, if you choose to equalize and 6 coins, 6 to the lucky child and 0 to the other, if you do not redistribute. Find the picture that shows how many coins you want each of the two children to be paid. Tick off the box next to this picture. You can only choose one alternative.

I do not redistribute:

I do redistribute:

1) Please write your tag number (the number on your sticker):

2) Please tick off for your gender:

☐ Male

☐ Female

3) How many children do your parents have?

☐ 0

☐ 1

☐ 2

☐ 3

☐ More than 3

A10 Consent and Background Questions

A10.1 Parents China

The background questions below are from the parent survey and are translated from Mandarin to English.

- Your child's name:
- Name of the school your child attends:
- The class your child is in:
- Your relation to the child:
  - Mother
  - Father
  - Other (Please specify)
- Your name:
- I have received information about the project and am willing to let my child participate.
  - Yes
  - No

Background Questions

We would now like to ask a set of background questions regarding your household. This should only take 2 minutes. While we highly appreciate your participation, please note that participation is strictly voluntary.

Confidentiality

All data obtained from you will be treated confidentially and the data will only be reported in an aggregate format (by reporting only combined results and never reporting individual ones). The project is scheduled for completion by April 2019. All submissions will be concealed, and no one other than the primary investigator will have access to

them. The data is collected via Qualtrics and will be stored on a secure server at NHH.

- Age of Father:
- Age of Mother:
- What is the highest level of education the mother of the child has completed?
  - Primary school or below
  - Junior high school
  - Senior high school
  - College Degree
  - Bachelor degree
  - Graduate degree or above
- What is the highest level of education the father of the child has completed?
  - Primary school or below
  - Junior high school
  - Senior high school
  - College Degree
  - Bachelor degree
  - Graduate degree or above
- How many children do you have?
  - One
  - Two
  - Three
  - Four or above
- Which of the following income levels best describe your monthly household income? Please include all sources of income, e.g. bonus, bank deposit interest, 2nd-job

payment, rental allowance etc.

  - Lower than 4000 CNY
  - 4000-5999 CNY
  - 6000-7999CNY
  - 8000-9999 CNY
  - 10000-12999 CNY
  - 13000-14999 CNY
  - 15000-17999 CNY
  - 18000-19999 CNY
  - 20000-24999 CNY
  - 25000-29999 CNY
  - 30000-34999 CNY
  - 35000-39999 CNY
  - 40000-44999 CNY
  - 45000-49999 CNY
  - 50000 CNY or above

- What is the ethnicity of the child?
  - Han
  - Ethnic minority
- What is the birthplace of the child?
  - City or town
  - Countryside
- Is the child a class leader this semester?
  - Yes

  - No

A10.2 Parents Norway

The background questions below are from the parent survey and are translated from Norwegian to English.

- Your child's name:
- The name of the kindergarten your child attends:
- Your relation to the child:
  - Mother
  - Father
  - Other
- Your name:
- I have received information on the project and wants my child to participate.
  - Yes
  - No
- Mother's age:
- Father's age:
- What is mother's highest completed education?
  - Compulsory education (primary and junior middle school)
  - High school
  - University/college up until 3 years (Bachelor or equivalent)
  - University/college more than 4 years (Master degree or equivalent and higher degree)
  - Other
- What is father's highest completed education?

  - Compulsory education (primary and junior middle school)
  - High school
  - University/college up until 3 years (Bachelor or equivalent)
  - University/college more than 4 years (Master degree or equivalent and higher degree)
  - Other

- What is the household's gross income (before taxes)?
  - 0-100,000 NOK
  - 100,001-200,000 NOK
  - 200,001-300,000 NOK
  - 400,001-500,000 NOK
  - 500,001-600,000 NOK
  - 600,001-700,000 NOK
  - 700,001-800,000 NOK
  - 800,001-900,000 NOK
  - 900,001-1,000,000 NOK
  - 1,000,001-1,100,000 NOK
  - 1,100,001-1,200,000 NOK
  - 1,200,001-1,300,000 NOK
  - 1,300,001-1,400,000 NOK
  - 1,400,001-1,500,000 NOK
  - 1,500,001 NOK or more.
  - Do not want to respond.
  - Do not know

- How many children do you have?
  - 0 children / 1 child /2 children / 3 children / 4 children or more
- How many persons in the household are under 18 years old?
  - 0 children / 1 child /2 children / 3 children / 4 children or more