Gender Differences in Inequality Aversion and Economic Discrimination Towards Single Parents

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Abstract

This thesis investigates inequality aversion towards single parents, as well as gender differences within social preferences. To date, the topic of single parents’ status in the labour market has been greatly neglected in the economic research. Single parents, which are becoming a steadily growing group due to societal and economic changes, may be exposed to discrimination in consequence of duality of their roles in the ever more competitive labour market. Thus, in this thesis, an experiment based on Dictator and Ultimatum games has been developed, aiming at finding out gender differences in inequality aversion and how the development of economic discrimination differs for men and women, especially in regards to treatment of employment of the single parents.

Despite the lack of monetary incentives and a small sample size due to limited resources, data from the pilot study of the experiment provides a modest insight about the treatment of single mothers and single fathers; however, it has not been tested for statistical significance. Furthermore, it allows for suggestion for improvements to the potential future full-scale experiment.

Some main preliminary findings gathered from the pilot study, are consistent with the theories discussed in the thesis and concern the treatment of single mothers and single fathers in the labour market. It can be observed that the offers made to the single mothers in the Dictator game are greater than those, made to the single fathers. Additionally, women’s generosity in the Dictator game is greater, than the generosity of men. Possibly, due to faulty design of the Ultimatum game in the experiment, which lacks the measurement of the minimal accepted offer and does not allow for much analysis of the gathered data, the questionnaire part of the Ultimatum game along with the same part of the Dictator game is found to be more insightful. Out of 24 student participants, 23 of them stated that they do not think that single mothers and single fathers receive the same treatment in the labour market, unanimously believing that single mothers receive worse treatment due to being women.

When asked if they would rather employ a single mother or a single father, 67% states that they would rather hire a single mother, while 20% states that they would prefer a single father (2 participants stated that they have no preference). The arguments supporting their decisions were consistent with discrimination and gender theories discussed in this thesis.
In order to get closure on gender differences in social preferences, and where the gap between men and women in the labour market may be stemming from, theories on inequality aversion, discrimination and gender roles are conferred, as well as literature review is conducted.

**Keywords:** social preferences, gender differences, inequality aversion, fairness, generosity, altruism, single parents, discrimination, behavioural economics, experimental economics, labour market, gender roles
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Title/ Problem Formulation

Gender differences in inequality aversion and economic discrimination towards single parents

1. Introduction

Since the development of experimental economics by Vernon Smith and behavioural economics by Daniel Kahneman, there have been plenty of debates whether they can truly be identified as parts of economics. Some of the arguments against experimental economics have been that controlling for particular factors in a laboratory setting, which greatly deviates from the real world, is artificial and should not be used to generalize economic models. Behavioural economics were challenged even by Smith (who in 2002 received the Nobel Prize along with Kahneman), who argued that deviations from standard economic models of decision-making, that are discovered through behavioural economics in experiments, have limited application in real markets situations. Even though critiques of behavioural economics remind of themselves occasionally, the field has already proven to bring about abounding new insights about influence of cognitive and social aspects on economic decisions.

Many of the social preferences, such as altruism, discrimination, fairness and inequality aversion have been studied with the use of experimental economics to understand how do they work and differ in the society, and whether such preferences may be affecting men’s and women’s position and treatment in the labour market and in making economic decisions (Croson & Gneezy, 2009; Ergun et al., 2012). As Fortin (2008) reports, it may be because of those non-cognitive factors that the gender wage gap, despite shrinking in the last decades, is still present. After a thorough literature review on issues related to how inequality aversion, fairness, generosity and risk aversion differ between men and women, and on gender based discrimination in the labour market, lack of research about one category became rather clear to me.

Sole-parent households represent a minority of households, however, with the number varying from 5,1% in Denmark to 15,7% in Canada, the average of 9,1% of single-parent families constitutes a vast part of the society (OECD 2013). Although the recent years have been a quantum jump for the gender equality and promoting the idea of feminism around the world, a
significant difference can be seen, when taking a closer look at the composition of those single-parent families. On average, 84,5% of all sole-parent families are those, with the mother as a parent, as opposed to 15,5% of those with a single father. This number, almost six times higher for single mother families, show how differently the mother/father role in the society is still approached. Is it worth noting, that the OECD gathered its data from the developed (and a couple of developing) countries, meaning that those are the countries, where gender equality is the most advanced and implemented, or at least it is in theory. The prevalence of a single mother as a primary caregiver is a traditional parenting trend, which despite the changes in the last 10 years (when the number of fathers as sole caregivers increased by 60% (OECD 2013) is still the most common and accepted one.

A widely investigated area within the last two decades has been differences in decision-making of men and women. Even though, the standard economic model assumes that all humans are rational decision-makers, it has been proven, greatly by behavioural economists that humans do, in fact, differ in their decision-making. Because it can be easily observed on a daily basis that men and women tend to behave differently in certain circumstances, and psychology, sociology, as well as biology, have been investigating those differences extensively, behavioural and experimental economics allowed for investigating those differences in economic terms.

In this thesis, an investigation of inequality aversion towards single parents through Dictator and Ultimatum games has been performed, which are standard economic games used to study human decision-making. In the Dictator game, a proposer “the Dictator” is to divide a given amount of money between himself and an opponent. In fact, Dictator game is not formally an actual game, since the responder is passive- he does not make any decision, he only receives the money offered by the proposer. In the Ultimatum game, the proposer also divides the money between himself and the responder, but here the responder is an active player, and he may accept or decline the offer. Both games will be further explained and developed in the subsequent sections of the thesis.

The findings of people’s preferences towards single parents, in particular single mothers and fathers, may bring about the knowledge about how the policies towards them should be constructed. Despite international acts of non-discrimination (EU Directive on equal treatment in
employment and occupation (2000/78)), the policies towards mothers and father are constructed differently (for example looking at maternity/paternity leave, which differ greatly). Since it has been studied before (and also is studied in this thesis) whether altruistic preferences differ for men and women if such differences in fact exist, the single parenting may be affected, and it could be recommended for the policies to be accordingly constructed in order to support equal opportunities for the single parents in order to minimize any negative effects.

Another valuable possible result of this study may influence the labour market itself by indicating how the gender wage gap may be affected by differences between men and women and indicate a discriminatory behaviour in the practises of the employment of single parents if a discriminatory behaviour towards single mothers or single fathers is found. It is relevant and novel to find out people’s preferences towards single mothers/fathers as this may bring closer the idea of gender differences in inequality aversion and help understand how the labour market is affected by the choices that employers make when employing single parents.

Research questions:
*What are the differences in social preferences between men and women?*
*How does inequality aversion differ between men and women?*
*Is there discrimination from/towards women or men participants?*
*Is there discrimination from/towards single mothers/fathers?*
*Does inequality aversion differ based on whether the proposer/responder is a single mother or a single father?*
*What are the beliefs about treatment of single mothers and single fathers in the labour market and where do those beliefs come from?*

Some of the main findings from the experiment conducted in this thesis indicate that men and women’s social preferences may in fact differ, as well as that inequality towards single mothers and single fathers differ. However, the findings have not been tested for statistical significance. Additionally, 23 out of 24 student participants state that they do not think that single mothers and single fathers receive equal treatment in the labour market, however, when asked whether they would prefer to employ a single mother or a single father, 67% of them choose a single mother. The arguments supporting their decisions are consistent with the theories and previous literature
discussed in this thesis. The experiment, as well as the results are in detail presented in Sections 5 and 6.

Despite the great number of studies in the area of differences between the decision-making of men and women, the results are ambiguous and point in different directions. Many studies show that women tend to be more inequality averse than men (Carlsson et al., 2005; Eckel & Grossman, 1998), while others show the opposite or neutrality in the results between genders (Bolton & Katok 1995). There is also a disagreement on the correlation between risk aversion and inequality aversion. While some articles show that the both affect each other (Carlsson et al., 2005), others indicate that inequality aversion and risk aversion exist independently of each other (Ergun 2012).

Solnick (2001), as well as Eckel & Grossman (2001), investigate differences in the behaviour between men and women in Ultimatum games. Results of both studies suggest that men and women offer the same amount of money, as well as that women are offered less money than men. In the Ultimatum games, women tend to accept lower payoffs more often than men, and offer higher payoffs than men. However, due to the difference in the design of the experiments, the conclusions were not unanimous.

In Dictator games, the results are not clear as well. A study of Bolton & Katok (1995) does not find differences in gender generosity. On the other hand, in a study conducted by Eckel & Grossman (1998), it can be seen that women are significantly more inequality averse, giving almost as twice as men.

Even though previous literature suggests that women are more averse towards inequality, such difference may be the result of the degree of risk aversion, which in some studies (Charness & Gneezy, 2012) is higher for women than men. Research on gender differences in economics has been a viral topic for the last decade or so, yet there are very few contributions that would be indicative of certain differences.

Established models on fairness and inequality aversion propose on how the two concepts can be developed and used in human decision-making. For example, as suggested by Fong (2007), who conducted an experiment with charity, donations to recipients who are considered to be in need (single parents in this study) may be strongly related to empathy and altruism of the participants and the main motivator to share.
It has been also widely discussed, if the model of a human as a rational cognitive machine, still until this day used as a rudimental economic concept, should be, in fact, implemented into a real world. The newly developed area of neuroeconomics has been disproving this standard concept, suggesting that humans are greatly affected by emotional and psychological side during their decision-making (Camerer et al., 2005). As advised by Fehr & Fischbacher (2002), economists need to take social preferences under consideration, in order to understand how competition affects market outcomes, what drives cooperation and collective behaviours, what are the results and reasons for material incentives, what in facts shapes social norms and reasons for markets failing.

The design of this study can be helpful twofold. Firstly, when studying what is peoples’ approach towards single mothers and fathers, it may be discovered if people’s preferences towards them differ in regards to their gender, which may bring about the knowledge about how the altruism differs when controlling for gender. Secondly, as previous studies did not prove conclusive, this study may add to the body of literature on how social preferences, mainly inequality aversion, fairness and generosity differ for men and women.

Finding out whether there is discrimination towards either of the gender of single parents, may bring about the understanding of how and why finding employment for single mothers and single fathers differs. According to Statistics Denmark (1995), employment for single parents is different when looking at single mothers and single fathers. Unemployment is higher both for single male and female parents compared to families of other structures; however, single mothers tend to be either unemployed or white-collar workers, while single fathers are distributed in a more equal way between all categories. According to a study from 2002 (Christensen & Ottosen), single fathers manage better than single mothers in categories like income, safety of their job, education skills, personal well being.

Although it has been already measured in previous studies, how male and female differ in their decision-making, and how their responses differ in regards to who they are making their decision about (whether the responder/partner is a man or a woman), this thesis proposes a new approach towards gender differences, by studying how men and women make their decision based on whether the responder is a single mother or a father. It is also studied, whether people are more willing to accept an offer from a single mother or father, and whether it is men or women who
discriminate more towards either of the genders. This thesis adds to areas of labour segregation, gender pay gap and patterns of implied discrimination.

One constraint to this study may be the degree to commonness of the single mothers/fathers in the society. Single father description is not very common (compared to a single mother description); therefore, the problem may be in that people’s giving/taking may be affected by the commonness of the problem.

It may be further studied, why would inequality from the responder be affected by whether it is a single mother/father that gives money to the responder.

Other dispute in the study may regard whether it measures actions, or norms that the responders represent. In addition, responses assigned to genders may be a result of coming from a particular culture/group in society. Women and men from cultures, where their roles are much more emphasized and differentiated from each other, may turn out to have very different results in their responses.

The concept of gender is important in this study, in two ways. The fist one is responder’s sex (touching on the psychological aspect) and the other one is the opponent’s sex (touching on a framing aspect). Each aspect may be affected by the opposite one in a way that when asked to make an offer, women may react differently from men, based on whether the treatment indicates a single mother/father to be tested.

In the following section, pertinent for this study, theories are discussed. In Section 3, literature review on social preferences and gender differences in decision-making is presented. In Section 4, hypotheses, which resulted from discussed theories and previous literature, are developed. Experimental design of a possible full study as well as of the conducted pilot study is presented in Section 5. Preliminary findings of the pilot study are presented in Section 6. Limitations and improvements that should be included into the full-scale experiment are discussed in Section 7.

The thesis is concluded in Section 8, followed by Section 9 with the list of references, and appendix in Section 10, which comprises instructions for the participants used in the pilot study of the designed experiment.
2. Theory

There are certain economic concepts and theories that are essential in this thesis, as they are either the foundation of methodologies and assumptions used by other relevant theories, or they are being challenged in this thesis by other thereafter developed ideas and concepts.

Some of the most important economic concepts and their deviations are now briefly discussed, to then move to other apposite theories for this thesis.

2.1. Rational Choice and Game Theory

Rational Choice Theory, defined by Investopedia.com as “an economic principle that assumes that individuals always make prudent and logical decisions that provide them with the greatest benefit or satisfaction, and that are in their highest self-interest”, has been a framework for economics behaviour for decades. Therefore, according to the theory of Rational Choice, humans should make decisions that are maximizing their profits and minimizing their costs. Such definition of a human as a rational decision-maker has been named Homo Economicus, which is a concept that first emerged in the work of John Stuart Mill in the 19th century (Persky, 1995). It remains to be a fundamental assumption in economics, although met with much criticism. The “economic man” is well described by Nelson (1993) who incorporates critique in the description. She writes that the Homo Economicus “(…) springs up fully formed, with preferences fully developed, and is fully active and self-contained. He has no childhood or old age, no dependence on anyone, no responsibility for anyone but himself. The environment has no effect on him but rather is merely the passive material, presented as “constraints”, over which his rationality has play. He interacts in society without being influenced by it”. Such description shows that even though it may, in fact, be a fit model for purely rational decision-maker, it is not well representing a real human being.

Nevertheless, Rational Choice Theory, which is assumed and still prevailing in economics, is my reference point in this thesis. Even though hypotheses developed in this dissertation are expected to bring the opposite results than the “economic man” would suggest, the Rational Choice Theory is a benchmark.

When experimental economics area started developing, it also became rather clear, from the empirical evidence, that humans, or at least not all humans, make purely rational decisions. That was when the concept of bounded rationality had emerged. As an extension of the Rational Choice Theory, it asserts that humans only make rational decisions based on the information they
have. Therefore in a situation of not complete information humans will make certain choices based on other factors, such as feelings, preferences, previous experiences, stereotypes, culture, society, moral ideals, etc., which may lead to deviations from the standard behaviour of the “economic man”.

A technique used in empirical experiments, and based on assumptions of the Rational Choice Theory and Homo Economicus, is a study of Game Theory. However, the results obtained from experiments in Game Theory point in a rather different direction than would be expected from the Rational Choice Theory, and provide evidence that human decision-making greatly deviates from its assumptions, which can be observed, among others, in Camerer & Thaler’s study (1995).

When looking at the results of experiments in Game Theory, they should be in accordance with Rational Choice Theory, and any other outcomes are considered a deviation from the economic models (Guala, 2005). For example, in a Dictator game, where the first player is to decide on the amount to keep to himself and on the amount to give to the responder (the responder does not make any decision, merely receives the share), the result consistent with Homo Economicus would be that the first player keeps the whole amount to himself and shares nothing with the second player. In the Ultimatum game, where the first player proposes on how to divide the money, and the second player either agrees (in which case they both receive suggested share) or declines (in which case neither player receive the money), the result conforming to the Rational Choice Theory would be for the first player to suggest the smallest possible amount and keep the rest, and for the second player to accept any offered amount in order to end up having more rather than nothing (if he decided to reject the offer).

However, there exist multiple studies that offer evidence against the Homo Economicus in Game Theory (Eckel & Grossman, 1996; Hoffman et al., 1994; Camerer & Thaler, 1995), with those studies being discussed further in the section on the literature review of this thesis. In addition, because Dictator and Ultimatum games allow for measuring inequality aversion and fairness of the decision-makers, the experiment conducted in this thesis is based on them and further discussed in Section 5.

The concepts of fairness and inequality aversion are essential in my thesis. Because I am trying to find out what are the difference between inequality aversion for men and women, and how single parents may be discriminated based on their gender or on the fact of being a single parent, two
main fairness theories are discussed below, followed by a discussion on discrimination and theories on gender borrowed from sociology and psychology.

2.2. Fairness and Inequality Aversion Models

2.2.1. Fairness and Inequality Aversion according to Fehr & Schmidt
Fehr & Schmidt (1999) developed a theory in which fairness is modelled as a self-centred inequality aversion. In their study, they combine previous results and theories to construct a single model that will capture the inequality aversion.

Although Fehr & Schmidt’s model does not include the aspect of gender, it does show how humans incorporate the aspect of fairness into their decision-making. That is why, even though I do not directly use this model in my study, it allowed me for a better understanding of the problem that I am investigating, helped me in forming hypotheses, and, therefore, I am incorporating it into my thesis.

In their study, Fehr & Schmidt test their model on different games, including an Ultimatum game, market games with proposer and responder competition, cooperation games, Dictator and gift exchange game. However, because, in this thesis, I focus on Ultimatum and Dictator game, I will only introduce those two games in relation to the theory of fairness and inequality aversion as the other games used in Fehr and Schmidt model are beyond the scope of this thesis.

The model presented by Fehr & Schmidt holds, under the assumption that humans are not simply self-interested entities, which exclusively value profit maximization- as is assumed by the Homo Economicus concept, where human beings are considered to be purely rational and self-interested entities, but that there are people, who take fairness under consideration in their decision-making.

From the work of social psychology and sociology, they introduce the term of reference groups, where it is the relative material payoff that affects humans’ behaviour and actions. Based on the above, is it assumed that, in the study, there will be some subjects, who are experiencing inequality if their payoff is higher or lower than that of other subjects, however, with being worse off if their payoff is lower, therefore, suffering more when the inequality is to their disadvantage.

This assumption relates to the Homo Economicus model, by indicating that humans, even when inequality averse, will nevertheless value their outcome more than that of the others.
Based on their model for the Ultimatum game solution, Fehr & Schmidt deduce that there are no offers that would be higher than 50% of the available amount of money, that those of at least 50% are always being accepted, and that offers of below 20% are prone to being rejected. As the offered amount of money increases, the probability of acceptance increases, as well.

The model for the Dictator game, on the other hand, suggests that the outcomes should be either very fair, or very unfair, which does not hold when studied against data. However, this discrepancy is an effect of Fehr & Schmidt’s assumption that subjects’ inequality aversion is linear, meaning that the marginal rate of substitution between the monetary income and inequality is constant. As they further observe, when taking into account that some people do, in fact, vary the inequality aversion when deciding upon the level of advantageous inequality, in other words that the relationship between positive utility from own earnings and disutility from inequality is not necessarily linear, the model holds true for the Dictator game, as well.

Fehr & Schmidt’s model has been endorsed by a wide circle of experimental economists and was presented on multiple occasions. There has been, however, also significant critique from some economists, mostly noticeable from Shaked (2005) and Bergh (2008). In his response paper, Shaked argues that Fehr & Schmidt misquoted their theorems, did not treat data in a sufficiently careful way and exaggerated the results of their study. The doubt raised by Shaked, is furthermore that since Fehr & Schmidt calibrated their model with data from previous studies, then the model does not explain that data but that data explains the model. Bergh, on the other hand, argues that the theory does not provide enough explanation on how and when people demonstrate their fairness preferences and that it lacks insights on how the theory of fairness affects the inequality aversion. As in Shaked’s paper, Bergh’s argument is that Fehr & Schmidt’s model is an inductive measure that came about from other data, as well as that the model has little explanatory significance as it does not explain why people act fair, it only shows that they do. It also challenges the setting of the experimental design, since the money to be shared in the experiments they used was not earned, but given, therefore, possibly creating no or low sense of entitlement.

2.2.2. Bolton & Ockenfels’s ERC: A Theory of Equity, Reciprocity and Competition

Bolton & Ockenfels around the time when Fehr & Schmidt’s model was constructed created their own theory concerning inequity aversion. Their “ERC: A Theory of Equity, Reciprocity and Competition” (2000) chiefly differs from Fehr & Schmidt’s model by how the disutility from
inequality is affected. In Fehr & Schmidt’s model, disutility from being behind rather than ahead is higher, so the participant would prefer if everyone received the same payoff. However, in Bolton & Ockenfels’s model, there is no such assumption; therefore, people are just as dissatisfied by being better off than someone else as they are worse off; consequently, the subject would be satisfied if he received the same payoff as others, but he would also be satisfied if some got higher payoff, some got lower payoff, and he would receive an average payoff.

Both Fehr & Schmidt and Bolton & Ockenfels incorporate social preferences into standard economic model and use the concepts of fairness in the Ultimatum and Dictator games. However, neither of the models mentions nor explains who the counterpart in the game is, consequently they are also silent and cannot explain how gender or discrimination may be influencing participants’ decisions.

Two main discrimination theories are used by the economists, and they are be here further discussed.

2.3. Taste-based and Statistical Discrimination

Discrimination, which is a disadvantageous treatment of individuals or groups based on their belonging to a particular category, is said to be one of the possible factors responsible for the wage gap between genders (Booth, 2009), thus potentially affecting the wage gap between single mothers and single fathers, as well as between single parents and childless/married workers, if considering single parents to be a minority group.

Taste-based discrimination, first developed by Becker in 1957 in “The economics of discrimination” describes a situation or behaviour when “an individual acts as if he were willing to pay something, either directly or in the form of reduced income, to be associated with some persons instead of others” (Becker, 1957, p.6). In other words, the model describes behaviour when a member of the majority group or a certain in-group prefers, over a member of a minority or out-group of the same productivity characteristics, to employ a person from his own in-group, even if that entails an additional cost. In the labour market, this discrimination can be defined as a different wage between two employers with the same productivity characteristics. The model is divided into three categories, concerning discrimination from employers, employees and
customers, which together represent total market discrimination. Such discrimination may be directed towards various minority or out-groups. Some of the most common would be towards black workers in a dominantly white people society, women, Muslim in a dominantly Christian society, etc. As Becker describes, this discriminatory behaviour may come from two sources. One is ignorance about the true efficiency of the out-group members; another is being prejudiced about them. While the ignorance element may be diminished, by increasing knowledge about that out-group, a prejudice will remain as it is free of knowledge and is based on our preferences, which sometimes are not based on facts. Another distinction is then discussed by Becker. He emphasizes the difference between market discrimination and market segregation. While the first one means that members of different groups receive different payments, the latter refers to the distribution in which the employing of members of different groups occurs.

There has been, however, some disapproval over Becker’s model, which coined a development of another model on discrimination (Guryan & Kofi-Charles, 2013). Phelps and Arrow focused on statistical discrimination based on limited information, which became widely endorsed model in economics. This type of discrimination is grounded on a behaviour that assigns individuals to certain stereotypes in case, when not all information is available or obvious (Guryan & Kofi-Charles, 2013). It is kind of a mind short-cut- when experiencing lack on information about a certain person, object or behaviour, our mind brings from our memory a set of previous experiences that allow to put a “label” on that entity, therefore, stereotyping into a particular group. It is worth noting, that in the case of statistical discrimination, two employers or in general member of different groups are also assumed to be of equal productivity.

In one of the available online lectures from MIT (Massachusetts Institute of Technology), an economics professor David Autor gives a talk on the theory of discrimination. He suggests, from an economics point of view that although in most cases illegal, it may be, in fact, economically efficient, in terms of profit maximizing, to appeal to statistical discrimination. As an example, he gives racial profiling. If a police department has limited resources, and they want to maximize the number of stopped cars that are transporting drugs, they want to stop only those cars with the highest probability of being the ones they look for. Since, from their experience (and statistics), they will infer that higher amount of cars, with drugs in it, will be driven by non-white drivers, then the frequency of stopped cars with non-white drivers will be higher. Although Autor suggests that, from the economic point of view, economists should favour statistical discrimination; it is illegal,
and it does impose a cost and unfair treatment towards the minority (in this case non-white) groups, since not all of their members, in fact, the vast majority of their members are innocent.

In the experiment designed in this thesis, it can be studied whether there exists discrimination towards single mothers and single fathers. Both theories could potentially explain behaviour of the participants in my experiment, however, from the Rational Choice Theory point of view, there should be no statistical discrimination.

One possible consequence of learning how discrimination influences economics and markets are the findings from research that the policy makers can use to impact the disparities in the labour market and can help to detect discriminatory behaviour easier.

Apart from racial discrimination, one of the most notorious in labour market discrimination is one based on gender (Guryan & Kofi-Charles, 2013). In the case of single parents, the discrimination and inequality aversion towards them may come not only from belonging to the minority group of “single parents”, but further may be coupled by being a single mother or a single father, which adds a gender based discrimination to it.

### 2.4. Gender Roles according to Eagly

Because the concept of gender is very important throughout my thesis, I will now focus on some of the theories that try to explain or understand important ideals of gender. However, because there are no pertinent gender theories in economics, those used in this thesis are theories stemming from psychology and sociology, rather than from economics.

“Societal ideologies legitimize inequalities between men and women” (Eagly, 2009)

Alice Eagly for decades has been working in the area of gender differences and gender social roles. As a distinguished social psychology professor, she developed a social role theory, which aims at explaining how gender roles are cultivated and grounded in our behaviour. Because people of each sex are expected to have certain characteristics, these characteristics develop along with the expectations and become a part of our personalities, also allowing us for being more fit to the expected roles in the family and labour market (Eagly & Wood, 1999). By falling into those social roles, men and women are also becoming psychologically different, which causes that men and
women are submitted to different standards in the society, and stereotyped based on different characteristics. Single mothers and single fathers, although both having the role of sole parents may be affected by those different gender standards in the society. Therefore a single mother, even though being a single parent just as a single father is, may be expected to perform differently and possess different characteristics than a single father. For example a single mother, due to being a women may be expected to perform the role of the mother, while single father, submitted to different standards, may be expected of still rather providing for his children rather than taking the more nurturing role.

A theory explaining the causes of sex differences, supported and widely discussed by Eagly, is a social structure origin theory. Although the extend of roles and their intensity vary in different cultures, it is those roles that emphasise the causes of different behaviour of men and women. Because different roles are expected of men and women, both sexes try to accumulate as many relevant skills that will allow them to adapt to the expected role. Consequently, since women’s traditional role is more based on personal relationships, nurturing children, caring about home, interpersonal skills, and caring about the surroundings, women’s role is characterized as communal and pro-social. As Eagly (2009) explains, such behaviour does not necessarily need to be altruistic, free of any personal incentive. On the contrary, it may be enacted in order to satisfy the expected roles and gain social approval and admiration. Men, on the other hand, expected to be more independent, dominant, and assertive breadwinners of their family are said to be agentic (Eagly & Wood, 1999). In such way, the role of homemaker becomes assigned to women, and a role of a provider befalls to be men’s role. For example, both men and women state that they would rather obtain emotional help from women (Eagly, 2009). The problem for single parents may arise, when trying to combine both of the roles that they need to perform- one being the role of communal and nurturing “mother” and the other one being the agentic breadwinner. Since the skills accumulated by them may belong to the feminine skills for women, and manly skills for men, when it comes to combining both of them, it may turn out that after being expected of certain characteristics their whole life, it is rather difficult to attain those that are assigned to the other gender role. If attempting to perform both roles, they may be met with discrimination, due to possibly adopting certain characteristics and behaviour, which is not generally assigned to them.

Because men and women are assigned different roles in the society, and those roles become a norm that the society follows, it is often viewed as a distortion from norm when a different combination, than expected, of gender and the role it has becomes visible. Single parents may be
perceived as one of such distortions. It is because single mothers, not only taking care of children, also become the main provider of the family. In the same way, a single father, besides the provider’s role, takes the more nurturing role of a caregiver. **Role congruity theory** attempts to describe such dissonance. Eagly & Karau (2002) coined the role congruity theory by describing an incongruity between the role that is expected of women and women as a leader. Because the role of a leader is usually described by characteristics that are consistent with characteristics used to describe men, not only is it more onerous for women to become a leader (a manager), but once they do achieve it, they are being evaluated based on the male characteristics and even if said to be performing their duties well, they are still assessed to be below their male counterparts.

Even though Eagly & Karau discuss their theory on a women-leader model, I believe that the role incongruity also applies to the position of single parents in the labour market. Women when raising their children alone are fulfilling the role expected of them. However, when in the same time being active in the labour market, often pursuing a full-time job, they may experience being evaluated negatively due to the combination of the two roles. The same role incongruity may apply to single fathers just as well. They, on the other hand, expected to be mainly a breadwinner, may be exposed to negative evaluation in connection with their role as a father. Firstly, there may be a negative evaluation from the employer’s side. Employer may infer that since the parent is taking care of their children as a single parent, they will not be fully able to perform as expected of them at work. In the same time, people associated with the family, may infer that since a single parent is employed, he or she may not be fulfilling their role as a parent as it is expected of them. Thus, conforming to their parental role may result in failure to meet the requirements of their role as an employee.
3. Literature Review

The aim of this literature review is to examine the studies previously conducted in the areas of interest of this thesis, with its focus mainly on experiments conducted with the use of Dictator and Ultimatum games, which are the games used in the experiment designed for this thesis. Articles describing gender differences in economics outcomes and decision-making are also discussed, to summarize social preferences of men and women, which may be affecting the way they make decisions regarding single parents. Further, literature on gender stereotyping, wage negotiations of men and women, as well as gender wage gap is briefly inspected, to see how the differences in social preferences and in gender roles may be affecting the position of men and women in the labour market, thus potentially affecting the behaviour and treatment of single mothers and fathers. The literature discussed in this section, along with the theories from the previous section, allowed me to develop hypotheses, to which the next section is devoted, as well as helped in constructing the experimental design used in this thesis and discussed in Section 5.

Two games are conducted in this thesis- Dictator and Ultimatum game. Because Ultimatum game involves risk, from the proposer’s side, some of the results may be affected by a higher or lower risk aversion of the participants. That is why also a Dictator game was included, not only to investigate participants’ altruism and giving preferences, but also to make sure that the results from the Ultimatum game, therefore, the decisions made by participants towards single parents, are not merely affected by the risk aversion.

Previous studies found that the risk aversion differs between men and women; therefore, using just Ultimatum game would threaten the results to be affected not by differences in giving preferences, but by possible differences in risk aversion. Croson & Gneezy (2009) reviewed the literature that studies gender differences in economic experiments. They found that women are more risk averse. Such difference is explained by the affective reaction to risk, which is higher for women, as well as by different levels of confidence, which is higher for men. This, however, does not hold true for women, who are experienced managers and entrepreneurs. Studies in this profession found no gender differences. It is also observed throughout their review that women’s social preferences, such as altruism, envy, inequality aversion, or reciprocity, are more situational and context specific than men’s, and may differ even if small differences in experimental design
exist. Another important observation is that women are more averse to competition than men are, which may also affect their position in the labour market.

Another review of previous literature in experimental economics on social preferences (including risk aversion) was conducted by Ergun et al. (2012). They examined the gender difference in the dimensions of risk aversion, trust, deception and leadership. The differences in genders can be explained by the theory of evolution and the theory of socialization. In the theory of evolution, it is said that due to reproduction the differences occur, and that women are more risk averse when they are bearing a child, while men are more risk averse when they are trying to attract a mate. The socialization theory, which is based on culture and society, explains that because males and females are inclined to have different social roles, they develop to be psychologically unlike in order to easier adapt to their social roles.

Ergun et al. gather that, in the majority of studies, women appear to be more risk averse than men are. Moreover, men are found to be more overconfident than women are, as well as less fearful and nervous when facing a situation with high risk. Conversely, when it comes to trust and reciprocity, the reviewed studies are more ambiguous, and contradictory, therefore, it is not possible to conclude what are the clear gender differences in those areas. As with trust, when it comes to deception and lying differences, the studies are not conclusive. Only leadership has as clear results as risk aversion seems to have, with most of the reviewed studies finding that men and women have different leadership styles. The explanation behind those differences may once again be stemming from the evolution and socialization theories.

When controlling for risk, one of the studies conducted by Garcia-Gallego et al. (2012), which aimed at finding out, whether gender differences in inequality aversion in Ultimatum games can be explained by different levels of risk aversion, had somewhat different explanation for the risk differences. They run an Ultimatum game along with a task where they measure the risk level. As in other studies concerning risk, Garcia-Gallego et al. also find that female participants exhibit higher risk aversion than male. However, interestingly they also discover that the gender differences in risk aversion do not explain differences in the decision-making of proposers and responders in the Ultimatum game. In other words, even though women were found to have a higher level of risk aversion than men in the risk elicitation task, they were making lower offers in the Ultimatum game, which rather relates to a lower level of risk.
Carlsson et al. (2005) conducted a study, where they investigated whether there is a correlation between risk and inequality aversion. In order to distinguish risk aversion from inequality aversion in their study, in the first experiment on risk aversion they kept the inequality aversion constant, by keeping the inequality steady for all alternatives, while, in the second experiment for inequality aversion, they kept the risk aversion constant. On both the risk aversion dimension as well as the inequality aversion dimension, female participants scored higher than male. They also found that more inequality-averse participants tend to be more risk-averse and that more risk-averse participants are more averse to inequality.

There has been, however, also a critique of the findings on risk aversion differences between men and women. Nelson (2012) considers in her working paper the previous studies on risk aversion and its difference between men and women. Her approach, however, differs from other studies. She takes under scrutiny the rhetoric of presenting experimental results by researchers, claiming that the way the results are formulated are greatly exaggerating the actual findings and generalizing them into a much wider category. Therefore stating the results of a study in general, universal terms, instead of specific to a particular study ones, may distort the overall meaning of that statement. According to the author, even though such differences in fact exists, and are based on empirical evidence from the studies, they should be carefully formulated, in order not to overemphasize their importance and generalizability to the whole groups. Another distortion from the reality is the frequency of reporting the results that indicate the differences in genders, compared to those reporting similarities. Taking those two practises abused by researchers may bring negative effects, since people tend to understand generics as universal truths. Nelson analyses data from 24 published articles and finds that, despite the fact that there are many differences, there are, in fact, more similarities between risk aversion of men and women, and that over half of men and women are similar in their risk behaviours. Her observations bring about a new perspective to the already existing data, and convey that the researchers ought to make their statements carefully, and act cautiously when interpreting the results. It is because what experimental economics is trying to achieve, is to find how humans act and make decisions in a controlled (usually laboratory) setting and be able to generalize those finding to the whole society. If there is a publication bias, then what is endorsed to be a universal truth, should not in fact be generalized.
Different result on the risk aversion dissimilarities between men and women disposed me to including both Ultimatum and Dictator game in my study, along with the notion that even though both games are considered to be bargaining games, conducting them in the same study will allow for discovering more insights and investigating the problem from two perspectives. While Ultimatum game allows for studying inequality aversion and fairness, it also involves risk, which as suggested by the abovementioned studies, may be affecting the outcomes. That is why the Dictator game is also used, which additionally measures altruistic and giving preferences without being affected by risk aversion.

One study, which investigates differences in giving in Ultimatum and Dictator games, although without looking at gender differences, was conducted by Camerer & Thaler (1995). In their study, they analyse the anomalies from standard economic model in Ultimatum and Dictator games. They are trying to understand why in Ultimatum games the offers are smaller than in Dictator games, in other words why people seem to be fairer in one game than in the other one. The explanation of this phenomenon comes with calling the proposers in the Ultimatum game “sophisticated profit maximizers”, because those maximizers realise that if an offer is considered unfair to the responder, it will most probably be rejected. One important observation made by Camerer & Thaler, is that such behaviour is not rejecting inequality, but rather punishing unfairness. It appears from their analysis that the participant’s focus is not on the wellbeing of his opponent but that they aim at achieving equity in that particular exchange. As the authors conclude, outcomes of games based on akin behaviour are more resembling manners than altruism.

The outcomes of games are also investigated by Eckel & Grossman (1996) in their double-blind Dictator games, where they try to find out whether human altruism is affected by the notion that the recipient is deserving or not, which is as well investigated in this thesis and the experiment designed for it. Firstly, single parents may be considered to be more deserving than childless/married people; secondly, it may be found that either single mothers or single fathers are considered to be more deserving that the other gender. In their experiment, Eckel & Grossman use two treatments, one consisting of students and one being a charity. Because, in the Ultimatum game, proposer’s generosity may be affected by risk aversion and strategic factors, they decide on using a Dictator game, to confirm or reject if, in fact, the other-regarding behaviour (which is altruism or fairness) is only a result of strategic considerations. They emphasize in their article,
that, for an act of fairness or altruism to take place, a certain situation needs context. Such assumption comes from their finding, that if fairness is to affect a decision, the donor must receive some value from his behaviour. As a result, they find out that the donations in their Dictator game tripled from the treatment of the students to when a charity was used as a recipient. Unlike Eckel & Grossman, I use both Ultimatum and Dictator games, to be able to additionally see if the acceptance rate in the Ultimatum game differs depending on the perception of deservingness.

Inequality aversion, fairness and generosity of men and women have been under scrutiny in series of the studies. One of the first studies to control for gender differences in economic experiments has been conducted by Bolton & Katok (1995), who conducted a Dictator game to find out whether generosity differs from men and women. At the time of their research, there have already been studies looking into gender, but most of them coming from areas of medicine and psychology. Taking a stand to distinguish gender behaviour in human economics decision-making, they concluded, that there were no significant differences in the way of giving by men or by women. As Bolton & Katok note, the results of the generosity not differing between genders may be caused in their study by the fact that the Dictators did not know the gender of the recipients. Therefore, if there are some differences in giving for men and women, then they are not so obvious if the giver does not know the gender of the opponent.

In addition, Eckel & Grossman (1998) conduct double-blind Dictator games, in order to find out, whether women are more inequality averse and generous than men are. Their hypothesis, drawn from previous studies in social sciences, not from economics, is that women are more socially oriented than men are, and men are more individually oriented. They use this finding from social sciences to see, if it also applies in economics. As they point out, the outcomes in the games and studies may be different, due to a different amount of stakes used in the game, available information, context, and other various features of experimental design. It is, therefore, important to enlarge the current literature and to replicate previous studies so that economics can systemize their stand in the area of gender differences. In this study, once again a problem of risk perception is present. The authors suggest that if women’s higher risk preference were, in fact, what causes their donations to be higher, there would be no difference between giving of men and women in Dictator games. Their findings are differing from what Bolton & Katok found in their Dictator game. Women on average gave twice as much as much, therefore, indicating that women are less selfish.
Later study, looking at inequality aversion between men and women was conducted by Eckel & Grossman (2001) by the use of Ultimatum games. They find the following:

- Women’s proposals are somewhat more generous than those of men
- Women are more generous to other women than to other men or when the sex was not determined
- Men’s offers are more likely to be rejected than women’s offers
- Women are more likely to accept a given offer than men, therefore being more cooperative

However, not only the results they receive are not very strong, and the differences they find are mild and admittedly statistically weak some of their observations may be a consequence of other results. For example, they state that men’s offers are more likely to be rejected, but since they find out that women’s offers are on average higher, therefore, the rejection rate of their offerings may be on average lower. They also admit, that the greater generosity of women may be caused by the higher risk aversion of women. Their study is another non-conclusive addition to the previous literature.

The degree of anonymity and whether knowledge about the opponent’s sex is influencing the results is analysed by Solnick (2001) in Ultimatum games, under two treatments. In the first one, players of the game are anonymous to each other, while, in the second the sex of the opposite player is revealed. The results of her study are consistent with previous findings and with women earning less than men are in a labour market. Solnick finds that offers made to women are lower both from male and female participants and that both male and female players’ acceptance threshold is higher, when the proposer is a female.

As seen in Solnick (2001), the design of the groups and anonymity may be affecting the results of experiments and causing a lack of consistency in the studies about gender differences. Cadsby et al. (2010) run an experiment using Dictator games, where they explore, if the degree of anonymity and the gender composition of the group influence a relation between gender and generosity. They study groups, which are a combination of either single or mixed sex and single or double blind. They find no gender differences in any of their treatments, except for one. In a group that consisted only of women, the females donated on average more often half of their money than did men in an only-male group. They conclude that, as a result, they are incapable of explicating
the constantly inconclusive results of the gender difference studies in economics, since some of their results support Bolton & Katok’s (1995) results, while other support conclusions of Eckel & Grossman (1998).

Since experimental design may greatly influence the results, Boschini et al. (2012) use gender priming in the study of a Dictator game in order to find out gender differences and how do they differ under priming. Gender priming stems from social identity theory, and evokes gender stereotypes in the minds of participants, by asking the participants about their gender at the beginning of the study. They find out that gender priming, in fact, works regarding generosity and that it prescribes women altruistic behaviour while men egoistic behaviour. Another observation is that gender priming is more visible in the room with both genders and that men are more sensitive to priming than women are. It does, however, contradict the conclusions that Croson & Gneezy (2009) reached, where they conclude that the female participants are more context specific and influenced by cues, since Boschini et al. found that it is men who are more sensitive and respondent to priming. An important inference from this study is that there is an association between the design of the experiment and social norms.

Andreoni & Vesterlund (2001) use another variation in experimental design by varying the level of budget available for the proposer in the Dictator game to see, if the willingness to give and gender differences in altruism change with the price. Yet another attempt of experimental economists at trying to find an answer to the question about which gender is more altruistic and which one is fairer. They find that depending on the setting, both sexes can be more altruistic. Men are found to be on the either extreme side of the altruism scale- they are either completely selfish, or selfless. Women, on the other hand, are found to be more an equalitarian- they would rather share evenly.

Behavioural differences and stereotyping have also been investigated in economic experiments to see how the affective influences may differ for men and women.

Taking a different approach from aforementioned studies, Aguiar et al. (2009), with the use of a Dictator game, primarily aim at measuring if men and women are expected to behave in a different way, and if they are expected to have different levels of altruism and generosity, not if those differences per se exist. The outcomes are that women do reveal gender bias, by believing
that women are more generous than men are. Men, on the other hand, consider that both men and women are equally generous, therefore, not being biased towards either of the genders. Such conclusions, according to Aguiar et al. may have an effect in a labour market by creating more obstacles for women to find job opportunities in competitive settings, and by a greater number of women taking parental leaves.

Predictions about others’ attitudes affected by gender-based stereotypes have been studies by Grossman & Lugovskyy (2011). By asking the subjects to predict a gamble choice of other subjects after either seeing who the participant is, being given certain explicit information about the participant or both seeing and receiving some information, they find out that stereotyping towards genders exists, even when more explicit and relevant information about the other person is provided. In general, subjects in their study were employing the stereotype that women are more risk averse than men are, even when that, in fact, was not the case.

Because the wage gap is said to be affected by discrimination (developed in the theory section) (Bertrand, 2010), single parents as a minority group, may be exposed to discrimination and affected by the wage gap since the single parent’s salary is often the only source of income. Bertrand also speculates that attributes and preferences of men and women may be the source of the wage gap since it makes some professions more appealing to men and others to women. Booth (2009) reviews recent studies on the gender wage gap in European Union countries. Although Denmark’s gender wage gap between men and women of the same characteristics is one of the lowest in European Union, it still is as high as 12%. Because employers very often base their decisions and behaviour on averages, such as that the average women will want to form a family at some point and have a child, Booth suggests statistical discrimination (discussed in Section 2.3 of this thesis) to be one of the explanations for the wage gaps. On the other hand, if women are said to have a worse wage bargaining power than men, but same qualifications and characteristics as men, why companies would not want to hire them in order to gain competitive advantage and maximize their profits? Here, Booth brings taste-based discrimination as an explanation (also discussed in Section 2.3). There are, however, other possible reasons explaining the wage gap in the studies reviewed by Booth, of which some psychological variables were aforementioned while discussing other research: higher risk aversion for women, which may constrain them from seeking employment in jobs involving higher risk, such as investing, or from...
seeking jobs that do not guarantee long-term employment and health benefits; lower self-esteem, which stands on the way to wage negotiations, initiating promotions, and a notion of deserving less; lower competitiveness, which gives an advantage to men who are found to be more competitive. Booth mentions one of the studies conducted by Manning & Swaffield in 2008 called “The gender pay in early- career wage growth”, where the researchers discovered in their study consisting of British participants that at the beginning of their experience in the labour market, there are no wage differences among men and women of the same characteristics, skills and commitment level. What is surprising, is that by the age of 30, between those same men and women, still just as committed, with no children and not planning on having children, grows a wage gap with men earning more than women. However, once again it remains to be found by other researchers why such discrepancies exist and are still present in our developed societies.

Bertrand (2010) suggests, that the differences in behaviour and preferences of men and women, if its economics significance can be established, will have a huge impact on the labour market and policymakers should in particular be interested in those differences. One of the factors that may be influencing the gender wage gap (apart from the discrimination and stereotyping) may be the difference in the style of men and women’s negotiations, which according to Bertrand (2010) can be viewed as a “competition over resource distribution”. Precisely, Dittrich et al. (2014) study if male and female differ in their wage negotiations and how this can affect the wage gap. By conducting wage bargaining in the lab setting, they find meaningful results ascribing behavioural difference between the genders to be an important factor in wage negotiations and that, in fact, men were able to negotiate higher wages than women, and that men are offered higher pay coming from women than women’s wages coming from men. Another valuable observation is that women do not have worse bargaining skills than men- the differences in the results come from the way men and women approach the negotiation, which differs in the amount of the first offer, which is higher for men than women.

Bowles et al. (2007) came to similar conclusions in the area of negotiations. They discovered that women’s reluctance towards negotiations is caused rather by the way they are treated once they do so than their negotiation abilities. Such findings can be related to the Role Congruity Theory, discussed in the theory section of this thesis. Because women and men are expected to exhibit different behaviour, when women attempt at negotiations, they are described to embrace more male characteristics, therefore, falling out of their female role. In their experiments, Bowles et al.
noticed that women are being penalized more than men are, for initiating negotiations, but only when the evaluator was a man. If women, in fact, fail to achieve the same salaries as men due to how they are being treated once negotiating, it may be one of the explanations for the wage gap between male and female workers.

From the experiments discussed above, it can firstly be seen that human decision-making is not as rational and predictable as the Rational Choice Theory would like to see it. Further, although results are not pointing in the same direction, social preferences are observed to differ between men and women, which may be influencing the wage gap, among other possible factors such as discrimination and behavioural differences. If gender differences are indeed found to be significant, the labour market outcomes may be affected, for example, as Fortin (2008) suggests because individuals that display more greed and less altruism earn more. This in turn may significantly affect the position of single parents, since the role that is expected of them is to be less greedy and more altruistic.

4. Hypotheses

Theoretical models discussed in Section 2, as well as previous studies analysed in Section 3, are fundamental for developing hypotheses to be investigated in the study designed for this thesis. According to the Rational Choice Theory, which is one of the rudiments of economics, in the Dictator game, the proposers should keep the whole amount to themselves. In the Ultimatum game, proposers should offer the smallest possible amount to the responders, who should accept any sum suggested by the proposer. However, after observing the studies inter alia of Camerer & Thaler (1995) where the participants give both in the Dictator and Ultimatum games more than the smallest possible amount, seen as well in Eckel & Grossman (1996, 1998), Solnick (2001), it can be clearly detected that such results are almost non-existent.

Based on Fehr & Schmidt’s model:
Hypothesis 1: No offers will be higher than 50% of the available amount both in the Dictator and in the Ultimatum game.

Hypothesis 2: In the Ultimatum game, offers of at least 50% will always be accepted.

Hypothesis 3: In the Ultimatum game, offers below 20% will be rejected.

Eckel & Grossman (1996) observed that, for an act of fairness or altruism to take place, a situation needs context. As observed by Croson & Gneezy (2009), women tend to be more context specific. Along with the social structure origin theory, which states that due to different expectations in the society, women are more nurturing, social-oriented and sensitive, the following hypothesis follows:

Hypothesis 4: Women’s offers to single parents in the Dictator game will be higher than the offers of men.

With Eckel & Grossman (2001) finding that women are more cooperative, as well as Dittrich et al.’s (2014) evidence that women are less likely to engage in negotiations, which is parallel to the social identity theory prescribing women more submissive characteristics, hypothesis 5 develops:

Hypothesis 5: Women’s acceptance threshold in the Ultimatum game will be lower than the acceptance level of men.

As Bolton & Katok (1995) suggested, in their experiment there was no gender differences between the men and women, possibly because the gender of the recipients was not known. Including two treatments, one being a single mother, one being a single mother, as well as one control group where the gender is not revealed, will allow for determining whether their suggestion was correct.

Hypothesis 6: The generosity will be higher, when the participants know the gender of the recipient.
In this thesis’s experiment, the amount of bonus each month is different. Andreoni & Vesterlund (2001) discovered that men are either completely selfish or selfless, while women share more evenly. Consequently:

**Hypothesis 7:** Men’s giving behaviour will be dependent on the level of the bonus each month.

**Hypothesis 8:** Women’s giving behaviour will be independent of the level of the bonus each month.

I believe that single mothers and fathers are no different in behaviour from other men and women so consistently with previous studies, single mother being more risk averse will offer more in Ultimatum game:

**Hypothesis 9:** Single mothers’ offers in the Ultimatum game will be higher than the offers of single fathers.

In the instructions of the experiment designed for this study, it is stated that the level of effort of the participant and the co-worker is the same. Therefore, according to the Rational Choice Theory, there should be no discrimination towards neither single mother nor a single father in the offering of the Dictator game, and in the acceptance level in the Ultimatum game. However, in previous studies (Camerer & Thaler, 1995; Eckel & Grossman, 1996; etc.) evidence against the Rational Choice Theory is found. From the study of Eckel & Grossman (1996) it is seen that the offers are higher for those, whom the participants find more deserving. With the wage gap being unfavourable for women, as Booth (2009) reports, I hypothesise that single mothers will be considered more deserving than single fathers:

**Hypothesis 10:** In the Dictator game, single mothers will receive higher offers than single fathers will.

**Hypothesis 11:** In the Ultimatum game, the acceptance threshold of offers made by single mother will be higher than that of a single father.
Based on the discrimination theories, women, often considered a minority group in the labour market, and often discriminated merely because they are women, form an out-group towards which a discriminatory behaviour is even targeted in the labour market.

*Hypothesis 12: Single mothers are perceived to be more discriminated in the labour market than single fathers are.*

Following from role congruity theory, I hypothesise that women are more socially accepted to perform two or more roles in the same time, than men, therefore, women will be more accepted as performing the role of a single mother and an employee than a single father performing a role of a single parent and an employee.

*Hypothesis 13: Women will be better evaluated when performing the role of a single parent and an employee at the same time than men will.*

5. **Experimental Design**

The experiment in this study has been designed, for as to be able to add to the previous literature in the area of gender differences in inequality aversion and the perception of fairness, as well as to study whether there exists economic discrimination towards single mothers or single fathers, and if that can be correlated with the gender differences of the participants.

During the writing of this thesis, only a pilot experiment has been run. It is caused by the time and budget constraints and aims at preliminary testing of the instructions and the experimental design overall. The below described design is created to comply with requirements for conducting a full experiment. Where it is different from what had been done in the pilot study, the necessary clarifications are added.

Below, the basic concepts of economic experiments are discussed, followed by description of the experiment designed for this study, and by a section on the differences between the designed experiment and the conducted pilot study.
5.1. Economic Experiments

Economic experiments aim at simplifying the real world and simulating it in the laboratory, while controlling for necessary variables and allowing researchers to focus on the essential for the study factors.

Two important concepts, stemming from research in medicine and now widely used as a standard design in economic experiments are randomization and treatments. Randomization allows for creating uniformity between the groups of different treatments that are being compared, making them more reliable. By the use of randomization, participants are randomly assigned to either of the treatments or to the control group. If there are some factors in the study that are not controlled for, the process of randomization helps to cope with this imperfect control, because it distributes the unknown and troubling elements evenly among all the groups (List et al., 2011).

Treatment, which is the intervention of the researcher who tries to simulate certain condition or lack of thereof, will be discussed further below.

Blumberg et al. (2008) evaluate that one of the most important advantages to conducting an experiment as a research method, is that the researcher can fully control and manipulate the independent variable, while controlling for extraneous variables. Moreover, control group acts as a benchmark to the experimental groups and allows for making sure that the impact of the results found in the experiment groups is strong enough.

Conducting an experiment, where the participants do not know that they are under a certain treatment, is called a blind experiment, and as Blumberg et al. (2008) inform, it assists in controlling obstacles such as participants’ response to projected conditions.

5.2. The Experiment

Two games are used in this study, first one being the Ultimatum game, second being the Dictator game.

Both Dictator and Ultimatum game consist of two players. In the Dictator game, the first participant is to decide on how to divide a given amount of money between himself and the opponent. He can choose any distribution of the money he wants, from keeping everything to himself, sharing any part of it, to giving the whole amount to the opponent. The opponent is inactive, meaning that he does not make any decision; he is merely a receiver of what the proposer decides to share with him. In the Ultimatum game, on the other hand, the opponent is
an active participant, therefore, responding to the proposer’s offer by either accepting it, or rejecting. If the responder agrees with the division of the money made by the proposer, he can accept it, in which case both of the players receive the amount of money suggested by the proposer. If, however, the responder does not like the offer made by the proposer, he can reject his offer, thus punishing him, in which case neither the proposer, nor the responder will receive any money.

There are two treatments used in the study, both in the Ultimatum game as well as in the Dictator game. One is that of a single parent being a woman, one being a man. In addition, the control group is used, where the gender of a single parent is not stated, in order to make sure that the effect of the treatment is caused by the gender of the single parent.

The experiment designed in this study uses single parents and students as participants. Single parents may be recruited through an association that helps and connect single parents. In Denmark, some of the such organizations are: Foreningen Mor og Far, Foreningen til støtte for Mødre og Børn or Foreningen Far. Student participants may be recruited via a university research website.

The study is divided into three stages. The first one is a Dictator game, where student participants are to make a decision on how to split the bonus salary between themselves and a single parent assigned to them. Second is the first round of the Ultimatum game played by single parents, who are told to split a bonus salary between themselves and randomly assigned student responders-their “co-workers”. Third stage is the second round of the Ultimatum game, where randomly assigned student responder is to either accept or decline the offer made by a single parent. Therefore, student subjects are participating in the first stage, which is the Dictator game, as well as in the third stage, so the role of responder in the second round of the Ultimatum game.

The student participants in the Dictator game are different ones than those playing the Ultimatum game. That is so that the participants remain unaware of what the study is, in fact, measuring and to eliminate any possible extraneous variables.
Using a background story (a vignette) about a single mother/father has in its aim to see if by the introduction of the context the subjects’ behaviour changes, possibly towards discriminatory towards either of the genders. It can be also studied if men and women make different decisions based on the emotional/psychological side, since the treatment will only differ in the sense of the gender of a single parent.

In the instructions for the participants, before being asked to perform any task, it is written that their decisions and answers are anonymous. No other subjects and no one other than the researchers will be able to identify their responses and their payoffs.

Next, all the participants are informed, that the experiment involves two parts, one decision-making task, and the second one being a short questionnaire.

The instructions provide that the task is to split the bonus salary (in the Dictator game and the first round of the Ultimatum game) between themselves and their co-worker or to accept/decline an offer (in the second round of the Ultimatum game) made by their co-worker. In order to create as little variations to the design and validity as possible, the participants are told that they and their co-worker work on the same task and that their level of effort is the same, in order to minimize the scope of statistical discrimination. By standardizing the level of effort, according to the standard economics model of humans as rational decision-makers, a consequence to the participants should be that they exhibit no discriminations towards their opponents, since they are told that their opponents work exactly as much as they do on performing exactly the same task. However, based on the previous literature subjects will most probably exhibit some level of discrimination.

Although the participants are told that their level of effort is each month the same as the level of effort of their co-workers, they are also told that the aggregate level of their and their co-workers effort differs from month to month, therefore, creating a different level of bonus salary to be split between the two. Six months of different levels of bonus salary in Danish Kroner (DKK) are given to split, with months 1 to 6 having consecutively bonuses of 500DKK, 200DKK, 1000DKK, 150DKK, 50DKK and 100DKK. Therefore at one time, the participants are given a set of decisions to make though with the only factor varying is the amount of bonus salary. This method, called strategy method, is widely used in experimental economics, and as Brandts & Charness (2011) report, should generate the same results as a method in which the subjects make decisions being
presented with only one decision to make at a time. In addition, it allows for the collection of data to be done in a more economical way, generating a bigger amount of data in a shorter time, without diminishing its validity. One main downside to this method, is that presenting all bonus salaries at the same time may create too abstract setting, since, in the real world, such event happens rather rarely. However, with other factors being carefully designed, and with a background story creating enough contexts to the decisions being made, subjects may make decisions that are more thought through and the data collected may give better insights to the drives and decision-making process of the participants.

After explaining the task, a control question is asked to make sure that all participants understood the instructions.

Both men and women are to be tested in the same room, as so not to directly make them realize that is it the sex of the responders that is being tested.

Eckel & Grossman (1998) used single-sex rooms in order not to ask participants about their gender. Here, however, the question about the gender will be asked in the last part of the experiment, so as to not prime the participants, and using mixed-sex rooms will enable to distract attention from the sex-relevance in the study.

Firstly, in the Dictator game, the student participants are randomly assigned different treatments, some of them being assigned to a single mother, some of them to a single father, and some of them only knowing that they are making a division of the money between them and single parents, without knowing the gender.

This game has in its aim investigating gender differences in altruism and generosity, as well as if those differences vary, based on whether the opponent is a single mother or a single father.

Therefore, it may be further investigated in this part, if either of the gender discriminates towards either gender of the single parents, and how giving and inequality aversion differ for men and women. In addition, another important factor is here controlled for, namely risk aversion. In the Ultimatum game, it may be argued, that the inequality aversion and notions of fairness are affected by the risk aversion of the participants (Davidovitz & Kroll, 2003). Studies on risk aversion, in experimental economics, have revealed mixed results. However, there is strong evidence from a large body of literature that women tend to be more risk averse than men are (Charness & Gneezy, 2012). This in consequence may lead to results, which suggests that women share more
than men, while, in fact, only being more risk averse and for that reason sharing more. That is why a Dictator game is being used in this study as well, not only to bring about more data, but furthermore to check whether the results found in the Ultimatum game are consistent with the results from the Dictator game. Since, in the Dictator game, the responder does not make a decision on whether to accept or to decline the offer, the proposer does not need to be affected by the feeling of risk, and may decide on the split of the money in a purely consistent with their notion of fairness manner.

After deciding on how to split the bonus salary between themselves and the single parent, the student participants are asked to fill out a short survey, asking for their gender, age, nationality, education level, marital status, number of children. In addition, questions about their beliefs on the single parents in the labour market are asked. Precisely, they are asked whether they think that single mothers and single fathers are treated in the same way in the labour market. They are also asked, whether they would prefer to hire a single mother and a single father if they were an employer, and what would they base their decision on.

In the Ultimatum game, the first round is played by the single parents. Here, they are asked, to split the bonus salary between them and their co-worker, who is another randomly assigned student participant. They are not told what the gender of that participant is. This part has in its aim to give a base for answers for the second round of the Ultimatum game, where the student participants either accept or decline an offer made by a single parent. In this part, fairness and inequality aversion of men and women can be measured, by looking whether mothers made significantly different decisions than father in suggesting the split of the money.

Further, the parents are to fill out a sheet, which presents the same bonus salaries in 6 months as in the first task, but where they are asked about their beliefs on how the money will be split by other participants in the Dictator game, so in a game where they have no decision-making role. This part may bring about insights, about what the parents believe others will decide on, and if those beliefs differ for men and women. Lastly, a short survey is included, where the same demographic questions are asked as those in the Dictator game’s survey. Additionally, the single parents are asked whether they had any problems with finding a job due to being a single parent, and whether they think that single parents are being discriminated in the labour market.
After the responses from the single parents are received and recorded, the second round of the Ultimatum game can follow. Here the responses of the parents will be distributed to randomly assigned student participants, some of them receiving a proposed division of money from a single mother, some receive a proposed division from a single father, and some receiving a proposition from either a single mother or father but not being told which one it is (they are merely being informed that the decision-maker was a single parent). The task is either to accept the offer (and receive the money agreed on), or to decline the offer, in which case neither the single parent nor the responder receives the money. This part aims at studying, whether there is a difference between men and women acceptance/decline decisions, as well as measuring if discrimination exists in the decisions they make. Two types of discrimination may be revealed. One of them is that the responders, regardless of their gender, discriminate either single mothers or single fathers more. The second one is that one of the genders of the responders discriminates more towards either one of the genders of the single parents. In the end, the student responders are asked to fill out a survey involving the same questions as the survey in the Dictator game.

5.3. External and Internal Validity

Internal validity exists if the observed effects of the independent variable on the dependent variable are real, and not caused by extraneous factors. External validity, on the other hand, enables researchers to generalize the study results to other groups and settings beyond those in the current experiment.

When increasing internal validity (thus making it ‘more important’) by implementing more controls to reduce confounds, in the same time the external validity decreases because the generalizability of the experiment decreases and the experiment becomes more artificial. There is a clear trade-off between the two (Guala, 2005).

If the researchers test, whether a certain effect occurs in a particular setting, then internal validity would be more important. If the purpose of the experiment is to generalize to a bigger environment, then focus should be put on the external validity, so without controlling too much of the internal validity and extraneous variables. Hence, there should be a balance between both external and internal validity.

As follows from economic experiments, internal validity is usually not a setback. Since the experiments are carefully constructed in a particular setting and able to control for most the
extraneous variables, internal validity of economics experiments is in most of the cases very strong. On the other hand, external validity may be an impediment.

In order to increase the external validity dimension, real life situation with the help of vignette about a single mother/father being a co-worker of the participants is used in this study. Other solutions to increase external validity are using real-world opponents (in this study real single parents on one side, and student participants on the other side) as well as using monetary incentives in order to create a notion that the decision that participants make are, in fact, important and not purely hypothetical.

5.4. Remuneration

In the pilot study conducted, no remuneration was used. That is because of the budget constraints, as well as the matter that the pilot study was conducted in order to examine the appropriateness and design of the experiment, rather than to create valid and ready to be analysed data, which would not be scientifically important at such early stage of the study.

Next, I will describe the way the incentives are designed, if the full experiment was to be conducted. In addition, even though in the pilot study there was no remuneration to the participants, the amount of “imaginary” money to be split, is still the same as it would have been if real financial incentives were involved.

Guala (p. 25, 2005) in his book on experimental economics informs that monetary incentives in experiments are, what distinguishes studies conducted within the field of economics and other fields as psychology and sociology. Because humans in economic models are described as rational decision-makers aiming at maximizing their profits, paying for participating in the experiments is necessary to invoke the real-life behaviour and imitate the environment outside of the laboratory.

It has been previously indicated, that the amount of money offered as remuneration in an experiment does not significantly vary the decision made (Hoffman et al., 1994). According to Camerer & Hogarth (1999), although economic model assumes that the more the experimental subjects can earn, the better their performance, after reviewing 74 experiments in their article, they come to the conclusion that the amount of financial incentives in the experiments has no or little effect on the performance. There are, however, differences in the results when looking at different games. In the Ultimatum games analysed by Camerer & Hogarth, the amount of financial incentives had generally no effect. On the other hand, in the Dictator games, the decisions made
by the subjects did differ based on whether the choices to be made were real rather than hypothetical.

Based on the above analysis, in this study since the background story is based on splitting the bonus salary, it would be easier for the participants to imagine a given situation with the amount of money close to the one offered in the real world, rather than traditionally used amount of 10 units. That is why an amount used in this study will be varying from 50 DKK to 1000 DKK, depending on the round, or the “month”.

5.5. Sample Size

In order to make sure that the sample size is sufficiently large, power analysis ought to be conducted. Statistical power refers to the probability that the difference between the groups is found, when, in fact, it does exist. Two errors can occur if the sample size is not sufficiently large. Type I error, refers to finding the difference between the groups when the difference does not exist. Type II error means that the difference was not found, when, in fact, it does exist. Therefore conducting a power analysis decreases the likelihood of committing a Type II error. As the sample size increases, so does the power of the test- meaning that larger sample size results in more data, which makes is more probable to correctly reject the null hypothesis (which states that no difference between the groups exist) when it should be rejected. List et al. (2014) suggest that the standard power value used in experimental economics literature is 0.8. Power of 0.8 (or higher) means that there should be at least 80% or greater chance of finding the difference between the groups when it really exists.

In order to conduct power analysis, thus find a sample size, some factors need to be determined. Determining a significance level (the alpha value), generally agreed to take the value of 0.05 (List et al., 2014), would mean that there is 5% chance that the difference that was found between the groups is due to chance. Another factor to be determined in order to conduct a power analysis is establishing an expected effect size. Effect size is used, once the difference between the groups is found. Because the found difference does not inform about how big of a difference there is, the effect size measures the effectiveness of the treatment, by quantifying the difference between the groups. Cohen’s d is often used as a standardized effect size measurement in estimating sample sizes. Generally, a number lower than 0.2 represents a small effect size, d of 0.5 means a medium effect, and 0.8 suggests a large effect. The minimum value of 0.3 is generally used (List et al.,
The last ingredient, needed to conduct a power analysis, is setting up a sample size. However, since the sample size is, in fact, what needs to be found, then setting a power to an agreed value can be used, so that the sample size will be generated based on the mentioned elements. Another approach is to set up a provisional sample size, conduct the power analysis, and see if the power is of an at least agreed upon value (usually 0.8). If it is below the value, then increase the sample size and run the analysis again, until power reaches required value.

If the full experiment is to be run, literature in behavioural and experimental economics usually suggests involving at least around 30-40 participants per treatment (Andreoni, 2001; Aguiar, 2009), although the higher the number the number of participants, the stronger the external validity. In addition, List et al. (2014) state that most studies assign at least 30 participants into each treatment.

5.6. The Pilot Study

As aforementioned, no incentives were used while conducting the pilot study. The subjects were informed about that prior to the participation, and asked to nevertheless try to make the decisions in a way, as if they were to receive remuneration at the end of the study. As suggested by Guala (2005), it is a common practise not to use monetary incentives in the pilot study, and to conduct it on the researchers themselves, colleagues and friends. However, in order to imitate the actual possible full study, as well as avoid deception, it was necessary to test the single-parent part of the study on actual single parents.

As a first attempt, single parents were to be recruited through single parents associations within Denmark. E-mails with instructions were sent to associations that help both single mothers as well as single fathers, and they were asked to forward the instructions to the parents that they are in contact with. Unfortunately, only one association responded, however, with a message that they do not have e-mail addresses of the parents that they are helping.

Due to the difficulties with finding single parents to fill out the first round of the Ultimatum game through associations, two Danish single parents- one mother and one father were found through word-of-mouth. Even though it was not enough to conduct a meaningful analysis, one single mother and one single father were sufficient to be able to conduct the rest of the Ultimatum game with students as subjects.
The recruited student subjects are a convenience sample, being drawn with non-probability sampling from a population close at hand, and the instructions were sent to them via e-mails. Convenience sampling is often being used in pilot testing (Blumberg et al., 2008). Because, in this part, the subjects were not anonymous, the collected data cannot be used to generalize about total population and to statistically support or reject tested hypotheses. It was however sufficient, to make sure that the experiment is designed in a clear and understandable way, and in all other respects it resembled the possible real experiment.

6. Tentative Results

Because of the small sample size of the pilot study, quantitative results have not been tested for statistical significance, therefore, are not sufficient to statistically support or reject the hypotheses. There are, however, certain tendencies that can be observed from the pilot study, which are described in this section with the use of descriptive statistics. What could also be inferred from the pilot study, are improvements that should be implemented into the full study. Changes that should be enacted to the design of a full-scale study are discussed in section 7.

6.1. Dictator Game

The Dictator game included 12 participants. Four participants were included in each of the two treatments as well as in the control group, 2 male and 2 female in each.

Control question was included in the instructions, to make sure that the participants understood the task. All participants correctly answered the control question.

Results are presented in Table 1.

All participants were between 21, and 25 years old, all participants’ highest finished education was Bachelor’s degree, none of them was ever married or had any children.

First very clear observation is that the great majority of shares (83%) are divisions 50/50 with the single parents- “co-workers”. There are very few deviations from this tendency- three female participants gave more to the parents (61%, 83%, 60%), when the bonus was low- up to 200 DKK. One male participant kept more to himself when the bonus was high- 500 and 1000 DKK. Giving
was on average higher, when the bonus was lower. 58% of three lower bonuses (50, 100 and 150DKK) were shared with single parents, while three higher bonuses (200, 500, 1000 DKK) were shared in 50%. On average, male participants gave 49% of their bonuses, while female participants gave 59%, which could indicate higher inequality aversion and fairness of women. There are small observed differences in giving across treatments. Participants shared 58% of their bonuses with single mothers, 53% with single fathers, and 51% when gender was not specified. This could indicate greater inequality aversion towards single mothers. Such small differences were, however, to be expected. One of the reasons for it could be the lack of real monetary incentive in the pilot study. Because participants are not playing with the real money, as Camerer & Hogarth (1999) observed, the choices made are not invoking the real-life behaviour, and they are more willing to share since they do not actually have the money in any case. This result is expected to differ, once real monetary incentives are used. Another factor influencing the equal split of money could be the fact that the participants were not anonymous, and they knew that their results could be connected to them, therefore, consciously or subconsciously feeling that their performance and generosity is being observed and can be judged. Once anonymity is guaranteed in the real experiment, and the responses cannot be directly connected to the participants, the results could differ.

After the task on splitting the money, participants were asked in a short questionnaire about their beliefs on treatment of single parents in the labour market as well as if they were an employer, would they rather hire a single mother or a single father for the same position. 11 participants answered that they do not think that single mothers and single father receive the same treatment in the labour market. Only one male participant answered that he believes that they receive the same treatment. Once asked if they would rather employ a single mother or a single father, 8 participants (4 male, 4 female) stated that a single mother, 3 (2 male, 1 female) stated that a single father, one female participant stated that she has no preference. An interesting observation, however, consistent with the social role theory and theories on discrimination is their reasoning behind their decision. All three participants that chose the father, stated that they did so, as they believe that men are better workers and that men would be more devoted to the job, spending there more time and taking fewer days off. None of the reasoning for choosing the mother by other eight participants is similar to the reasoning behind choosing the father. The arguments used are that women are better prepared for the dual role of a mother and a worker, that women devote more to children so they would work better in order to keep the job and that
they need it more than men because they are discriminated in the labour market. One of the male
participants wrote in the comment section an explanation for his division of the money (he split
the bonus equally between himself and the single father) for all the months. He explained that he
did not give himself more money, because since their effort was the same, he did not deserve it
and did not want to abuse the fact that he was the one splitting the money. He noted that he
hopes that the other person would do the same. He continued that he did not give more to the
single father, because he would feel as if he is subsidizing his salary, even though their level effort
was the same. Though such explanation seems rather consistent with the behaviour of other
participants (since definite most of them shared the bonus equally), it once again could be argued
that once real monetary incentives are involved, their decisions would be significantly different.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Single Father</th>
<th>Single Mother</th>
<th>Single Parent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month &amp; DKK Bonus</td>
<td>1 Male</td>
<td>2 Male</td>
<td>3 Female</td>
</tr>
<tr>
<td>1-500</td>
<td>50%</td>
<td>50%</td>
<td>56%</td>
</tr>
<tr>
<td>2-200</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>3-1000</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>4-150</td>
<td>50%</td>
<td>56%</td>
<td>50%</td>
</tr>
<tr>
<td>5-50</td>
<td>50%</td>
<td>50%</td>
<td>100%</td>
</tr>
<tr>
<td>6-100</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>average giving per subject</td>
<td>50%</td>
<td>50%</td>
<td>56%</td>
</tr>
</tbody>
</table>

Table 1- Results of the Dictator Game

6.2. Ultimatum Game

Due to difficulties with receiving replies from the single parents associations in Denmark, two
parents to participate were found via word-of-mouth. One single mother and one single father,
both Danish, agreed to participate. Although a very symbolic number of participants, it was
enough to be able to conduct a second part of the Ultimatum game with students as participants,
without using deception, since the responses were provided by real single parents.
In the instructions, parents were asked first to suggest a split of bonus, which later would be
accepted or rejected by student participants. Secondly, they were asked to state their believes
regarding the amount of money that would be given to them by student participants in the
Dictator game. Control question was included to make sure that the task is understood.
Both parents suggested equal split of money (50/50 in all 6 months) in the Ultimatum game, as well as believed that, in the Dictator game, the student participants would offer them half of the bonus amount, which from the results of the Dictator game can be seen, happened in 83% cases of giving.

Next, student participants were asked to decide whether to accept or decline the offer made by the single mother, single father or as a control by single parent. Because the offer of the single mother as well as the single father was the same, there was no variation in the treatments other than the gender difference of the parents. As in the previous parts, control question was included, which all participants answered correctly. Lastly, as in the Dictator game, participants were asked whether they think that single mothers and single fathers are treated equally in the labour market and whether they would rather employ a single mother or a father and why.

Results are presented in Table 2.

In the second (response) round of the Ultimatum game, there were 12 student participants. There were 4 participants in every treatment and control group, 2 male and 2 female in each. The participants were between 21 and 28 years old, 10 Bachelor students and 2 Ph.D. students. None of them was ever married, and none had any children.

All 12 participants accepted the offer made by the single parents. Such results, however, are most probably due both to the fact that single parent’s offers were relatively high (all 50%, assumed that it was the case due to hypothetical use of money), as well as because no real monetary incentive was involved- therefore making it less valuable for the participants to try to “punish” the proposer. It is expected that, in the study with real money involved, the results in this part would be significantly different. One other possibility for such undifferentiated results may be that the participants were asked to accept or decline the offer, instead of being asked to state what is the minimal offer they would accept. This change should be included in the possible full-scale study.

In the questionnaire part of the experiment, all 12 participants answered that they do not think single mothers and single fathers are treated in the same way in the labour market.

Regarding the question whether they would rather hire a single mother or a single father, the findings are very much alike those from the Dictator game. 8 participants (4 male and 4 female) answered that they would rather hire a single mother. The arguments were the following: women are better at multitasking and managing two roles; women are discriminated in the labour market, therefore, hiring one would try to diminish it (although it would be a positive discrimination), and
that women are more responsible than men, hence, would manage the work-life balance better. Two participants (one male, one female) chose to employ single father over a single mother, arguing that a single mother would prioritize children over work, thus, father’s effort and performance at work would be better. The last two participants (one male, one female) answered that if the qualifications of a single mother and a single father were the same, they would flip a coin in order to make a decision.

<table>
<thead>
<tr>
<th>Ultimatum Game</th>
<th>Treatment: Month-DKK Bonus: Parent’s share</th>
<th>Single Father</th>
<th>Single Mother</th>
<th>Single Parent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-500-250 A A A A</td>
<td>A A A A A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
</tr>
<tr>
<td></td>
<td>2-200-100 A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
</tr>
<tr>
<td></td>
<td>3-1000-500 A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
</tr>
<tr>
<td></td>
<td>4-150-75 A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
</tr>
<tr>
<td></td>
<td>5-50-25 A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
</tr>
<tr>
<td></td>
<td>6-100-50 A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
<td>A A A A A A A</td>
</tr>
</tbody>
</table>

Table 2- Results of the Ultimatum Game

6.3. Summary of Findings

In order to see if the results from Dictator and Ultimatum games could reject or confirm hypotheses (however not in a statistically significant way) the summary is presented in Table 3.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>
In the Dictator game, women’s offers to single parents were higher. Women gave to single parents on average 59% of their bonuses, while men gave 49%.

Women’s acceptance threshold in the Ultimatum game was the same as men’s. All the offers made were 50%, and all the offers were accepted both by men and women.

In both treatments, when the gender of the single parent was known, generosity was higher (53% in single father treatment, 58% in single mother treatment) than in the control group where the gender was unknown (51%).

Men’s giving behaviour was dependent on the level of bonus. However, there is very little evidence. Only one male participant kept more to himself, when the level of bonus was higher.

Women’s giving behaviour was not independent of the level of bonus each month. Women gave more, when the bonus was lower.

Offers of the single mother in the Ultimatum game were the same as the offers of the single father.

In the Dictator game, single mothers on average received 58%, while single fathers received 53%.

In the Ultimatum game, acceptance was the same, regardless if the offer was made by a single mother or a single father.

The results regarding the questions asked in the questionnaire in the second part of the experiment are presented below:

Hypothesis 12: Single mothers are perceived to be more discriminated in the labour market than single fathers are.

The findings based on the question asked to the participants whether they believe that men and women are equally treated in the labour market are rather unequivocal. 23 out of 24 participants
believe that single mothers are more discriminated than single fathers in the labour market are. Participants supported their answers with arguments that generally, because they believe women are more discriminated more than men in the labour market, single mothers will automatically be even more discriminated due to not only being a woman, but additionally a single mother.

*Hypothesis 13: Women will be better evaluated when performing the role of a single parent and an employee at the same time than men will.*

When asked if the participants would rather employ a single mother or a single father, 67% of student participants (16 out of 24; 8 male and 8 female) stated that they would rather employ a single mother while 20% (5 out of 24; 3 male and 2 female) preferred employing a single father. Two participants refrained from choosing one of the parents, stating that if both of them had equal qualifications, they would “flip a coin”. Such answer, however, does not seem to very realistic, as it is rather hard to imagine an employer flipping a coin when making a decision regarding which candidate to employ.

Despite the small sample size, the result of 67% of participants stating that they would prefer employing a single mother than a single father may indicate in favour of the Hypothesis 13. A rather surprising observation, nevertheless supporting the gender and discrimination theories discussed in Section 2, comes from the argumentation used by the subjects. While all arguments for hiring a single father state either that men are better workers or that men would be more devoted to their job, none of the arguments for hiring a single mother says that she would be a better employer than a single father. The arguments used in favour of choosing a single mother are that women are better at dual roles; women are better at balancing work and life; women need more opportunity and help because they are being discriminated in the labour market, which, in fact, is a positive discrimination (also known as affirmative action), meaning supporting one group (in this case single mothers) because they are being discriminated by discriminating the other groups (in this case single fathers).
7. Limitations and Possible Changes to the Full-scale Study

By conducting the pilot study, certain deficiencies in the design of the study have been observed. Additionally, feedback provided by the participants of the pilot study supplemented the changes that need to be implemented.

7.1. Limitations

The main drawback on the pilot study was insufficiently small sample size. Due to monetary and time constraints, the experiment was run with 26 participants in total, which does not nearly approach the required minimal sample size discussed in the section on experimental design. For the full-scale study purposes, the sample size must be reconsidered in order to suffice the requirements for an economic experiment.

The lack of monetary incentives was another major obstacle. Because the participants were asked to make decisions concerning hypothetical division of money, which does not comply with requirements of economic experiments, the results of the main part of the experiment cannot be used to confirm or refute hypotheses 1 to 10, which concern the division of money. In order to find economically valid confirmation or refutation of aforementioned hypotheses, a full-scale experiment involving remuneration needs to be run.

7.2. Possible Changes

One of the student participants commented that a context should be provided for each month, including the financial situation of the participant, as well as of the co-worker, the participant’s observations about the co-worker and their progress. However, information of this sort was intentionally not included, and the effort level was stated to be the same, so that the decision is based merely on the fact that the co-worker is a single parent (or a single mother/single father in the two treatment groups).

Some other comments included questions, asking whether the statement that the participant’s and the co-worker’s effort is the same, means that their performance is the same. Meaning, that just because two people put the same amount of effort into performing a task, it does not mean that the result will be equal. One may be more productive, efficient, or effective than the other
one. This explanation should perhaps have been included in the instructions, and thus needs to be clarified for the purposes of the full-scale study. Because the experiment aims at studying people’s perception of single parents, it should be stated that just because two people’s effort is the same, it does not mean that the result is the same. In this way, participants will reveal statistical discrimination if they believe that due to some external factors single parents could have deserved bigger or the smaller part of the bonus, and the results can easier be assigned to the believe about the deservingsness of single parents and about discrimination towards them. That is why, instructions in the improved study would include a statement that the effort level is the same, but it does not necessarily mean that their effectiveness or efficiency are the same.

Another improvement would concern the question regarding whether the participants as employers would rather employ a single mother or a father. Many of the participants included in their response explanations, that first, they would look at the qualifications of the single mother and the single father and base their decision on that. However, they stated, if the qualifications were the same, they would choose a mother or father because of such and such reasons. To clear this ambiguity whether single mother and single father have the same qualifications, the question would include information, that both single mother and single father have the same qualifications.

Additionally, in the second round of the Ultimatum game, where student participants are to accept or decline the offer made by the single parent, it could be useful to ask them what is the minimal offer they would accept. This may allow for a deeper qualitative analysis and greater insights about their acceptance threshold, which due to being absent in the pilot study’s design, could not be analysed.

The last, and probably the most important improvement rather than a minor alteration, would be considering adding another treatment/control group. Namely one, which instead of saying that the co-worker is a single mother/father/parent would state, that it is “just” a co-worker. Because, in this dissertation, I am trying to investigate people’s preferences towards single parents, and whether due to some of those preferences there may be discrimination in the labour market towards single parents (and if so, is it more towards single mothers or single fathers), it seems rather important to find out, not only if the discrimination towards either gender of the single
parents exists, but also if people’s generosity differs based on whether the co-worker is a single parent or not.

Because single parents are also a minority group in the labour market, which is mostly constructed of either married couples with children or people without children, my hypothesis is that they are also heavily discriminated in the labour market. The ancillary hypothesis for the improved study would be:

*Hypothesis 14: Single parents are more discriminated in the labour market than married/childless workers are.*

By adding a treatment, where student participants in the Ultimatum and the Dictator game would perform the same task and division of money, but towards a “co-worker” not a “single parent co-worker”, also the effect of the “single-parent” versus “not a single-parent”.

8. Conclusion

This thesis set out to extend the current knowledge about inequality aversion and discrimination towards single mothers and single fathers, investigating whether gender differences in social preferences may be affecting how they are perceived in the society. With the use of an experiment designed for this study, inequality aversion as well as preferences towards single parents were studied. Throughout the thesis, theories aiming at explaining inequality aversion, discrimination and gender roles were discussed, in order to be able to put possible findings in the context of previously developed models. Literature review on social preferences including inequality aversion, risk aversion, fairness, altruism, generosity, discrimination, stereotyping, with a focus on gender differences in those areas was conducted. To see how factors such as social preferences, discriminations and gender roles affect the wage gap between men and women, literature exploring those issues was further brought up. Because the problem of discrimination in the labour market is often based on animosity, minority groups often are disadvantaged, based on factors, which are not aligning with economic Rational Choice Theory. Gender based
discrimination, has been already well documented. However, towards some minority groups there appear to be a negligence in the research. Single parents, having to perform two roles at the same time, of often being the sole breadwinner as well as the sole parent, may be the victims of a bias from the employers, who might believe that such person may not be able to perform well enough in both roles, resulting in deterioration, in either work or family life.

In order to generate primary data that would add to the existing body of literature as well as to investigate an area scarcely studied before, an experiment was designed in such a way, to make it possible to conduct a full-scale study in a possible future research. The aim of the designed experiment is to find differences in inequality aversion of men and women, and using a vignette about single parents may allow for findings in the area of possible discrimination towards this specific minority group as well as may indicate if either single mothers or single fathers may be particularly exposed to discrimination in the labour market.

Due to constraints of resources, for the purposes of this thesis only a pilot study was conducted, with 24 student participants recruited via e-mails by convenience sampling and 2 single parents recruited via word-of-mouth. 12 participants, 6 male and 6 female participated in the Dictator game, and 12 participants (also 6 male and 6 female) participated in the second (responder) part of the Ultimatum game, where 2 single parents were the proposers in the first part. The main drawback of the conducted experiment was insufficiently small sample size. Moreover, because no monetary incentives were used in the study, data collected from the experiment must be approached very cautiously. However, the designed experiment can be used in possible future full-scale research in order to generate meaningful and insightful new findings. If the full-scale study is to be run, some improvements of the pilot study should be included. Minor clarifications to the instructions are recommended to be added, however, the main enhancement should be adding an additional treatment group, where hypothesis regarding the treatment of single parents versus married or childless employers can be explored.

Despite the small sample size and no statistical significance of the results, certain conclusions can be drawn from the conducted games about the treatment of single parents in the labour market and the beliefs about their abilities. Namely, is has been found that generosity towards single mothers may be higher than towards single father. Looking at the amount shared with single parents through the aspect of gender, the evidence suggests that the female participants shared
more than did male participants. It also appears that nearly all of the participants believe that single mothers are not treated equally in the labour market as the single fathers. Such perception may be stemming from the general opinion that women are more discriminated in the labour market than men are. Moreover, there is evidence of a preference for affirmative action towards single mothers, since 67% of the subjects who preferred to employ a single mother argued that they would do so because single mothers are more discriminated than single fathers are. Furthermore, the results support the social role as well as social structure theories, which can be clearly observed in the way that subjects argument their responses by assigning certain predispositions and characteristics to the roles of single mothers and single fathers.

The findings inferred from this thesis may supplement previous studies, and benefit further investigation of possible discrimination towards single parents. Speculating that such tendencies are found, single parents could be treated as a minority group in the labour market, in which case implementing the policies regarding single parents would be of great importance. However, more research is needed, in order to be able to draw any unequivocal conclusions.

Even though certain changes need to be implemented if the full-scale study is to be conducted, obtained findings are supporting the need for further research into the issue of inequality aversion and discrimination towards single parents, as well as how the differences in gender roles in society may be actuating further discrimination.
9. References


10. Appendix

10.1. Instructions for the participants of the pilot study

A. Dictator game instructions

[Depending on the treatment, throughout the instructions, either a term “single parent”, “single mother” or “single father” was used. Also, words indicating the gender of the co-worker (“she, her” for the mother, “he, him” for the father, “they, them” for the control) were adjusted according to the treatments.]

Introduction
Welcome to the study!
This study aims at looking at attitude and preferences of people towards single parents.

This is a pilot study, meaning that no monetary reward will be included. It checks whether the study is designed in an appropriate way, and if it turns out to be successful, a full-time study may be conducted with monetary reward, varying with the decisions you and other participants make. Therefore please try to make the decisions as if real money was at stake.
All decisions that you make are anonymous.

In the study, there will be two parts.
First part is a decision-making part.
In the second part you will be asked to fill out a short survey.

During the study, you remain anonymous and your answers are absolutely confidential. None of the answers and decisions you make, nor the answers to a short survey on the last page will ever be known to other participants.

Part 1
Imagine that you are to decide, on how to split the bonus earnings between you and your co-worker for the next 6 months. The co-worker in this study is a randomly assigned participant, and it is a real single parent chosen from an association for single parents in Denmark. Throughout the whole study you remain completely anonymous to that person.

[Depending on the treatment:
[Control group- Single parent]
Your co-worker is a single parent of two children. You don’t have any personal relationship with them, they don’t know who you are, and will never find out it was you or who you are. You will always remain anonymous.

[Treatment- Single mother]
Your co-worker is a single mother of two children. You don’t have any personal relationship with her, she doesn’t know who you are, and will never find out it was you or who you are. You will always remain anonymous.

[Treatment- Single father]
Your co-worker is a single father of two children. You don’t have any personal relationship with him, he doesn’t know who you are, and will never find out it was you or who you are. You will always remain anonymous.

Imagine that you and your co-worker work on the same task, and your level of effort each month is different, although it is the same as the level of effort of your co-worker. There will be 6 rounds, each round meaning the end of each month. At the end of each month, you will be asked to split a given bonus salary between you and your co-worker. The bonus salary will vary from month to month accordingly to the aggregate level of effort of you and your co-worker exhibited (think of it as the amount of work you both performed). Yours and your co-worker’s base salary is the same. You are allowed to divide the money in any way you wish.

Your co-worker will never find out that you made the decision, and will receive whatever amount you assign to them. You remain anonymous to your co-worker, and your co-worker will never know it was you who made the decision.

Example:
Let’s say that you get to split a bonus, which amounts to 500 Danish Kroner (DKK). You can keep the whole amount, you can give the whole amount to your co-workers, or you can suggest any other division of the money, like 200:300, 250:250, 10:490, 400:100 etc.

Control question (the used split of money is purely hypothetical):
The bonus salary to split between you and your co-worker in one month amounts to 1500 DKK, and you decide to keep 1000 DKK. How much money do you receive? (fill in) How much money does your co-worker receive? (fill in)

Decision Sheet:
Month1: Bonus Salary- 500 DKK
I keep: (fill in) I give: (fill in)

Month2: Bonus Salary- 200 DKK
I keep: (fill in) I give: (fill in)

Month3: Bonus Salary- 1000 DKK
I keep: (fill in) I give: (fill in)

Month4: Bonus Salary- 150 DKK
I keep: (fill in) I give: (fill in)

Month5: Bonus Salary- 50 DKK
I keep: (fill in) I give: (fill in)

Month6: Bonus Salary- 100 DKK
I keep: (fill in) I give: (fill in)
...

PART 2 Questionnaire
Your beliefs:
*If you were an employer, would you rather hire a single mother or a single father?*
Single mother | Single father

What made you decide on the above you chose?
(fill in)

*Do you think that single mother and single fathers receive the same treatment in the labour market?*
Yes | No

Sex: Male | Female
Age: (fill in)
Nationality: (fill in)
Education Level Completed: High School | Bachelor student | Master’s student | PhD | if something else then write here
Marital status: Never married | Divorced | Widowed | Other (please write)
Number of children: (fill in)

Comments (If you have any comments regarding this study or instructions, if you find some of it unclear or want to give any feedback, please do so here):...
THE END.

B. Ultimatum game instructions for the proposers- single parents

Introduction
Welcome to the study!
This study aims at looking at attitude and preferences of people towards single parents.

This is a pilot study, meaning that no monetary reward will be included. It checks whether the study is designed in an appropriate way, and if it turns out to be successful, a full-time study may be conducted with monetary reward, varying with the decisions you and other participants make. Therefore please try to make the decisions as if real money was at stake.
All decisions that you make are anonymous.

In the study, there will be two parts.
First part is a decision-making part.
In the second part you will be asked to fill out a short survey.

During the study, you remain anonymous and your answers are absolutely confidential. None of the answers and decisions you make, nor your email address, or answers to a short survey on the last page will ever be known to other participants.
Part 1A
Imagine that you are to decide, on how to split the bonus earnings between you and your co-worker for the next 6 months. The co-worker in this study is one other randomly assigned participant, who is randomly selected from a group of students participating in this study. Throughout the whole study you remain completely anonymous to that person. Your co-worker (the other participant) is informed that you are a single parent.

Imagine that you and your co-worker work on the same task, and your level of effort each month is different, although it is the same as the level of effort of your co-worker. There will be 6 rounds, each round meaning the end of each month. At the end of each month, you will be asked to split a given bonus salary between you and your co-worker. The bonus salary will vary from month to month accordingly to the aggregate level of effort of you and your co-worker exhibited (think of it as the amount of work you both performed).

Your’s and your co-worker’s base salary is the same. You are allowed to divide the money in any way you wish.

After you divide the money, your co-worker (a randomly assigned person in the study) will either accept the offer, in which case you’ll both receive the payoff suggest by you, or they will decline your offer, in which case neither of you will receive the money. You remain anonymous to your co-worker, and your co-worker (a randomly assigned person in the study) will never know it was you who made the decision.

Example:
Let’s say that you get to split a bonus, which amounts to 500 Danish Kroner (DKK). You can keep the whole amount, you can give the whole amount to your co-workers, or you can suggest any other division of the money, like 200:300, 250:250, 10:490, 400:100 etc. Remember that after you make the decision, your co-worker will have a choice of either accepting the amount, in which case you both receive suggested by you amounts, or will have the right to decline, in which case none of you receives the money.

Control question (the used split of money is purely hypothetical):
The bonus salary to split between you and your co-worker in one month amounts to 1500 DKK, and you decide to keep 1000 DKK and give 500 DKK to your co-worker. Your co-worker decided to decline your offer.
How much money do you receive? (fill in)
How much money does your co-worker (the other participant) receive? (fill in)

Decision Sheet:
Month1: Bonus Salary- 500 DKK
I keep: (fill in) I give: (fill in)

Month2: Bonus Salary- 200 DKK
I keep: (fill in) I give: (fill in)

Month3: Bonus Salary- 1000 DKK
I keep: (fill in) I give: (fill in)

Month4: Bonus Salary- 150 DKK
I keep: (fill in) I give: (fill in)

Month 5: Bonus Salary - 50 DKK
I keep: (fill in) I give: (fill in)

Month 6: Bonus Salary - 100 DKK
I keep: (fill in) I give: (fill in)

... 

PART 1B
There is a second part of the study, where randomly assigned participants are to decide on how to split the bonus salary between them and a co-worker who is a single parent (you). In this study however, you do not make a decision to accept or reject an offer. You are only a receiver of the amount the participant decides to share with you.
Please state your beliefs about what amount of money do you think the participant will give you:

Month 1: Bonus Salary - 500 DKK
They will keep: (fill in) They will give me: (fill in)

Month 2: Bonus Salary - 200 DKK
They will keep: (fill in) They will give me: (fill in)

Month 3: Bonus Salary - 1000 DKK
They will keep: (fill in) They will give me: (fill in)

Month 4: Bonus Salary - 150 DKK
They will keep: (fill in) They will give me: (fill in)

Month 5: Bonus Salary - 50 DKK
They will keep: (fill in) They will give me: (fill in)

Month 6: Bonus Salary - 100 DKK
They will keep: (fill in) They will give me: (fill in)

... 

PART 2 Questionnaire
Your experience:
*Have you ever had difficulties with finding a job due to the fact that you were a single parent?*
Yes | No | I don’t know if it was due to being a single parent

*Do you feel that you were being discriminated in the labour market due to being a single parent?*
Yes | No

*Sex: Male | Female*
*Age: (fill in)*
*Nationality: (fill in)*
Introduction

Welcome to the study!
This study aims at looking at attitude and preferences of people towards single parents.

This is a pilot study, meaning that no monetary reward will be included. It checks whether the study is designed in an appropriate way, and if it turns out to be successful, a full-time study may be conducted with monetary reward, varying with the decisions you and other participants make. Therefore please try to make the decisions as if real money was at stake.
All decisions that you make are anonymous.

In the study, there will be two parts.
First part is a decision-making part.
In the second part you will be asked to fill out a short survey.

During the study, you remain anonymous and your answers are absolutely confidential. None of the answers and decisions you make, nor your email address, or answers to a short survey on the last page will ever be known to other participants.

Part 1
Imagine that your co-worker is to decide, on how to split the bonus salary between you and her for the next 6 months. The co-worker in this study is a randomly assigned participant, and it is a real single parent.

{Depending on the treatment:
[Control group- Single parent]
Your co-worker is a single parent of two children. You don’t have any personal relationship with them, they don’t know who you are, and regardless of whether you accept or decline their offer, will never find out it was you or who you are.

[Control group- Single mother]
Your co-worker is a single mother of two children. You don’t have any personal relationship with her, she doesn’t know who you are, and regardless of whether you accept or decline her offer, she will not know it was you.

[Control group- Single father]
Your co-worker is a single father of three children. You don’t have any personal relationship with him, he doesn’t know who you are, and regardless of whether you accept or decline her offer, he will not know it was you.

You will always remain anonymous.
Imagine that you and your co-worker work on the same task, and your level of effort each month is different, although it is the same as the level of effort of your co-worker. Yours and your co-worker’s base salary is the same. There will be 6 rounds, each round meaning the end of each month. At the end of each month, you will be showed what the bonus salary was, and how your co-worker suggested splitting it- the suggested split is made by a real single parent. The bonus salary will vary from month to month accordingly to the aggregate level of effort of you and your co-worker exhibited (think of it as the amount of work you both performed). After the proposed distribution of the money, you have two options:

1. You can accept the offer, in which case the money will be split according to your co-worker’s offer.
2. You are allowed to decline the offer, if you don’t agree with it. In such case, neither one of you will receive the money.

Example:
Let’s say that your co-worker is to split a bonus, which amounts to 500 Danish Kroner (DKK). They can keep the whole 500 DKK and give nothing to you, can offer you 250 DKK and keep 250 DKK, give you 500 DKK and keep nothing to themself, or use any other division of the money. In any case, you can accept their offer, in which case you both receive the money suggested by them, or you can decline it in which case no one of you receives any money.

**Control question** (the used split of money is purely hypothetical): The bonus salary to split between you and your co-worker in one month amounts to 1500 DKK, and your co-worker decided to keep 1000 DKK. You decide to decline their offer. How much money do you receive? (fill in)
How much money does your co-worker receive? (fill in)

**Decision Sheet:**
**Offers made by your co-worker are as follows:**

**Month1:** Bonus Salary- 500 DKK
You get: 250  Your co-worker keeps: 250
Accept/ Decline (choose)

**Month2:** Bonus Salary- 200 DKK
You get: 100  Your co-worker keeps: 100
Accept/ Decline (choose)
Month 3: Bonus Salary - 1000 DKK  
You get: 500  
Your co-worker keeps: 500  
Accept/ Decline (choose)

Month 4: Bonus Salary - 150 DKK  
You get: 75  
Your co-worker keeps: 75  
Accept/ Decline (choose)

Month 5: Bonus Salary - 50 DKK  
You get: 25  
Your co-worker keeps: 25  
Accept/ Decline (choose)

Month 6: Bonus Salary - 100 DKK  
You get: 50  
Your co-worker keeps: 50  
Accept/ Decline (choose)

PART 2 Questionnaire
Your beliefs:
If you were an employer, would you rather hire a single mother or a single father?  
Single mother | Single father

What made you decide on the above you chose?  
(fill in)

Do you think that single mother and single fathers receive the same treatment in the labour market?  
Yes | No

Sex: Male | Female  
Age: (fill in)  
Nationality: (fill in)  
Education Level Completed: High School | Bachelor student | Master’s student | PhD | if something else then write here  
Marital status: Never married | Divorced | Widowed | Other (please write)  
Number of children: (fill in)

Comments (If you have any comments regarding this study or instructions, if you find some of it unclear or want to give any feedback, please do so here):....  
THE END.