



Doctoral Thesis

School of Social Sciences

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Differences in decision-making and gender  
discrimination across cultures: Evidence from  
Saudi Arabia

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## **General Introduction**

People are brought into different cultures with various norms, different teaching styles, religions, beliefs, and experiences. Some cultures are based on individualistic principles others on collectivist principles with differing gender roles and their relative role expectations. Examining cross-cultural differences in behavioral economics is an essential step towards understanding and discovering the nature of the human decision-making process to gain a better understanding of why and how a decision is made. The literature on behavioral economics shows that humans are not always rational while making decisions; in fact, they often act according to a bounded rationality. Since literature has been recorded, economists have been investigating human motives for certain types of behaviors such as, altruism, trust, and reciprocity which affect the decision- making process. Age, gender, marital status, employment status, and other demographic variables have been used to identify human decision making, preferences, and perception of gender discrimination.

In this thesis, the main goal is to shed some light on the differences in exchanges between Italian and Saudi Arabian culture and on the extent that economic development improves gender equality leading to less gender discrimination in society. In order to measure the differences in these exchanges that is, altruistic, trust and reciprocal behaviour, the ultimatum game, the trust game, and the dictator game respectively were used. These are experimental instruments that are traditionally used and referred to in the literature of behavioral economics. The results of these experiments varied significantly based on their partner's gender and culture and on occasions when their identity was revealed to the other partner.

This thesis contributes to the study of intercultural relationships, economic behavior, and perception of gender discrimination in Italian and Saudi Arabian people. There are two main

aims of this study; first, to describe exchange behavior and gender differences across two cultures (Italian and Saudi Arabian) and its effect on economic behavior. Second, to investigate the perception of gender discrimination in the workplace and occupational preferences in Saudi Arabia, exploring the extent gender discrimination is associated with age, region, marital status, and education level. With the introduction of new policies, both men and women in Saudi Arabia are able to receive higher education in addition to the opportunity to study abroad. Moreover, a lot of cultural changes under Vision 2030 are occurring in Saudi Arabia which is breaking the barriers in women's lives which are changing their strict gender role stereotype. This study is important in providing an early observation of the initial implementation of Vision 2030 and of the perception of gender discrimination in the minds of people of Saudi Arabia which has not yet been fully explored; the latter is the prime motivation of my study.

My two chapters make several contributions to the literature regarding behavioral insights across cultures and the perception of gender discrimination in Saudi Arabia. The first chapter explains how cultural differences and gender influence behavioral patterns such as altruism, trust and reciprocity through the ultimatum game, the trust game, and the dictator game respectively among the people of Italy and Saudi Arabia. This study was able to investigate how the culture and the gender of participants affect their exchange behaviors. The second chapter shows how people perceive gender discrimination and how gender discrimination influences occupational preferences and the environment in the workplace in Saudi Arabia.

A survey or online questionnaire was used to analyze people's perception of gender discrimination in Saudi Arabia. Overall this thesis confirms the persistence of the existence of gender differences in behavioral patterns across cultures. Saudi Arabian females accept less than Italian male and female participants. However, these Saudi Arabian female participants sent

more tokens when they were paired with Italian females. Italian participants were observed as being more trustful on the whole than Saudi Arabians and Italian females were seen to be more generous and altruistic than Saudi Arabian participants. Subsequently, significant gender differences were noted in the perception of and attitude towards gender discrimination, for example, Saudi Arabian males favor gender discrimination in Saudi Arabian society. There are clear differences in perception of and attitude towards gender discrimination according to educational level, for example, males with higher education did not favor gender discrimination. It is suggested that this is primarily due to the distribution of gender-typical stereotypes in Saudi society.

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## **Chapter 1**

# **Intercultural Relationships and Economic Behaviour: Altruism, trust, and reciprocity in exchanges between Italian and Saudi Arabian subjects**

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“This chapter has been written under the  
supervision of:

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## **Abstract**

This study examines how specific behavioral patterns, like altruism, trust, and reciprocity are affected by cultural differences and gender. The study is based on three classical economic games and involves people living in Italy and Saudi Arabia. The results confirm the roles of reciprocity, trust, and altruism in personal interaction. Our findings were in line with a view of culturally-founded preferences and document also the role of culture as a moderator of inter and intra-gender interactions. Performance in these games varies by culture and gender. However, we do not find stable patterns across games. The findings revealed that Saudi Arabian females accept less than Italian subjects. However, they send more when paired with Italian females. It was also found that male and female Italians are more trusting when sending than Saudi Arabians and males were more trustful than females. However, when playing trust games in the role of trustee Saudi Arabian males and females return more than Italian males and females. On the other hand, Italian females in the dictator game were found to be more generous and altruistic.

**Keywords:** Ultimatum Game, behavioural economics, reciprocity, altruism, trustee

## **1.1 Introduction**

Over the last few decades, the rise of globalization has promoted new diplomatic relationships as well as cultural exchanges across countries. Italy and Saudi Arabia are an excellent example of two countries that have established good international relations owing to globalization during the last century.

The Republic of Italy was one of the first countries to recognize the Kingdom of Saudi Arabia after it was founded in 1932. Since then, the two countries have shared a positive development history of distinct bilateral relations on economic, trading, and investment fronts. The past two decades have also seen numerous economic cooperation agreements between the two countries, boosting trade. The economic power that each state possesses in their respective geographical confines has also contributed to their shared economic interests (Colombo, 2013).

Both of these countries have significant economic activities. Saudi Arabia, for instance, ranks as the 28<sup>th</sup> largest importer of services in the world and comes in seventh in the global retail development index (ANSA, 2016). The Kingdom of Saudi Arabia has the largest economy in the Middle East, besides being a member of the World Trade Organization, the Cooperation Council for the Arab Gulf States, and the League of Arab States. Saudi Arabia is also a member of the G20, a “group of twenty industrial countries” (Diez & Donnell, 2017; “What is the G20?” 2018). Notably, the effect of the global financial crisis that was felt by many nations globally in 2008 was less harmful to the Saudi economy than it was to either the U.S. or European economies (Colombo, 2013). Now, the Kingdom of Saudi Arabia is chairing the G-20 in the year 2020 in Riyadh.

A Memorandum of Understanding (MoU) on trade and investment cooperation signed between Saudi Arabia and Italy will help Italian industries and companies to invest in remarkable

infrastructural projects under Saudi strategy “Vision 2030”, a plan to reduce dependency on oil, to diversify the Saudi economy and to develop sectors, for example, health, education, infrastructure, and tourism. The bilateral trade between Italy and Saudi Arabia is growing on a yearly basis.

Italy, on the other hand, is regarded as one of the most industrialised countries in the world, a member of the G8 and among the global economic powers (Massidda & Mattana, 2013). It is also ranked the 18<sup>th</sup> most developed country globally and among the top ten countries for quality of life (Colombo, 2013). Italy is also ranked seventh in the world in terms of gross domestic product per capita (Diez & Donnell, 2017). According to Colombo (2013), Italy is also a founding member of the European Union and NATO, and a member of the G20, the Organization for Economic Cooperation and Development (OECD), and the World Trade Organization (“What is the G20?” 2018).

In the contemporary world, relationships between Italy and Saudi Arabia, whether at economic, political, or intelligence levels are perceived to be very solid in all aspects. Italy, for instance, is one of the top 10 exporters to Saudi Arabia (ANSA, 2016), and the two economies enjoy high volumes of trade. In 2016, for instance, exports from Italy to Saudi Arabia were worth more than 4 billion dollars, while exports from Saudi Arabia to Italy exceeded 3 billion dollars (Hirszowicz, 2016).

The cooperation between these two countries extends into other sectors, including cultural and educational exchanges. They have also established student exchange programs as well as dialogues on issues of common interest within universities in both countries (Leatherdale, 2012). Italy has an illustrious history of arts, and Saudi Arabia has a very active world of artistic

exhibits and associations, with many artists promoting an artistic vision of the country and its issues (Colombo, 2013).

Taking a broader perspective, the relationship between the Islamic world and the West has been noticeably tense over the last few decades (Al Rajhi, Al Salamah, Malik, & Wilson, 2012). Saudi Arabia, as one of the major Muslim and Arab countries, and Italy, as a representative of European culture and the Catholic religion, are deemed the two nations likely to bridge this gap due to their strong ties (Colombo, 2013; Diez & Donnell, 2017).

The relationships between countries are often carried out through individual interactions between diplomatic representatives or business partners (Rivoli, 2014). So the observation, in the laboratory, of the interaction between individuals belonging to a different culture can contribute to the assessment of the potential for cooperation in a broader economic context.

In this study, we will focus on a set of specific behavioral patterns, by looking at the degree of altruism, trust, and reciprocity - which constitute the conditions for the emergence of a cooperative relationship, shown by interacting partners belonging to different cultures.

In general, it is reasonable to expect that the degree of reciprocal knowledge will affect the way in which people belonging to different countries and cultures will interact. In the specific context considered in this study, we may also expect to observe cultural differences in the way in which members of the two cultures may perceive gender roles. This may lead to the emergence of interaction between cultural driven and gender-driven preferences, beliefs, and choices.

So, our main research questions are the following:

1. Do cultural differences of interacting partners affect their degree of altruism, reciprocity, and trust towards others?

2. How does the degree of knowledge of the interacting partners' culture affect the degree of altruism, reciprocity, and trust?
3. How do cultural and gender differences interact? Do Saudi males and females behave differently when confronted with Italian males and females?

## **1.2 Related literature**

Over the last few decades, many experimental studies have proved the effect of cultural and demographic differences on the behavior of subjects facing the same decisions (Alesina & Giuliano, 2015; Dreber, Ellingsen, Johannesson, & Rand, 2013; Georgantzis, Lacomba, Lagos, & Milgram, 2013; Johansson-Stenman, Mahmud, & Martinsson, 2009).

Georgantzis et al. (2013) used a trust game in a study with subjects of different nationalities (Moroccan, French, and Spaniard). Before making each decision, participants were informed of the nationality of their partner. The authors report that, overall, the subjects from Morocco exhibited a higher level of trust. Furthermore, they trusted their French partners more than they trusted their Spaniard partners. Subjects from Spain were the least likely to exhibit positive reciprocal behavior. The findings of this study showed that people behave differently when encountered with people of other cultures.

Johansson-Stenman et al. (2009) examined a sample of Muslim and Hindu household heads in rural Bangladesh. They measured trust using a survey along with a trust game. The authors found no significant effect of Hindu–Muslim social distance on performance in the trust game. However, the survey responses did indicate significant differences. Both Hindus and Muslims were found to trust others from their religion more than they trusted people from other religions. A minority of Hindus were also found to distrust other people in general. Finally, Hindus trusted Muslims more than Muslims trusted Hindus.

Willinger, Keser, Lohmann, and Usunier (2003) studied a sample of German and French subjects. The authors analyzed trust and reciprocity using a one-shot investment game. They reported that Germans showed a willingness to make significantly larger investments compared to their French counterparts, but the level of reciprocity was not significantly different between the two nationalities.

Chuah et al. (2007) conducted a study in which Malaysian, Chinese, and English subjects played the ultimatum game in both culturally heterogeneous and culturally homogeneous pairs. The authors found behavioural differences both in intra-cultural and inter-cultural interactions.

Roth et al. (1991) studied bargaining behaviours in samples from four countries: Israel, the U.S., Yugoslavia, and Japan. They compared bargaining behaviours in two different environments: a closed environment using the ultimatum game and an open ecosystem using a market game. The results demonstrated that the behaviour of the participants differs in both types of situations. In the market game, participants reached economic equilibrium. In the ultimatum game, however, offers were significantly below economic stability. The authors concluded that differences in bargaining behaviour are not caused by language, experimenters, or currency. Instead, they argue that differences in bargaining behaviour can be attributed to cultural differences.

In another study, Lugger et al. (2014) arranged German and Chinese subjects in culturally homogeneous and heterogeneous pairs. Both cultures have differences between them with regard to competitive and cooperative behaviours. Thus, the authors hypothesised that there would also be differences in their bargaining and adaptive practices. For this experiment, each of the four dyads (German–German, German–Chinese, Chinese–Chinese, and Chinese–German) had to solve a complex integrative bargaining task using Internet chats. The dyads could carry out

negotiations using either an integrative or a distributive approach. When following a distributive procedure, the parties are interested in maximising their gain while in the integrative approach, both parties seek mutual benefit. Thus, close cooperation and communication between the parties are crucial requirements for integrative negotiations. The study found that German negotiators used more integrative and less distributive tactics compared to the Chinese negotiators when paired in homogeneous dyads. However, when they were paired in heterogeneous dyads, German negotiators significantly increased their level of distributive behaviour.

Buchan, Croson, and Johnson (2004) examined the influence of beliefs about fairness in bargaining behaviour using an ultimatum game. The nationalities they studied were Japanese and American. In the study, bargaining power was manipulated to induce and examine variations in beliefs about the fairness of the game. The authors argue that understanding the relationship between beliefs about fairness and self-interest is essential to understanding how ideas will influence bargaining behaviour. Their results demonstrate that beliefs about fairness predict bargaining behaviour when they are aligned with one's self-interest.

Chowdhury, Grossman and Jeon (2019) studied altruistic payoff and gender differences in related payoff anticipation in dictator game using data from Chowdhury & Jeon (2014). The participants were informed about the show-up fee but not about the gender of their partner. It was found that female dictators were more generous than male dictators whereas, male dictators anticipate higher amounts than they give.

Candelo, Eckel and Johnson (2019) studied the factors behind proposer's behavior in ultimatum game among 11 Mexican villages. Past researches suggest that there are several motivating factors for proposer's behavior in ultimatum game, deviating from strategies to maximize income. The proposers who deviate from this strategy were found to be more

altruistic, more risk taking and have false beliefs about fairness norms in society. Thus, they offer more than what is acceptable for the responder in ultimatum game. Hence, it was concluded that proposer's decisions were derived by altruistic motives.

In another paper, Netzer and Sutter (2009) focused their attention on inter-individual trust both within and across two different cultures. This study arranged for Austrian and Japanese university students to participate in a trust game. Intra-cultural experiments in the respective countries served as controls to differentiate between inter- and intra-cultural behavioural variations. Additionally, a survey on demographics, trust, and reciprocity was included after the experiment. The purpose of this survey was to test for differences in culture-specific dispositions. Their results show that the levels of trust and reciprocity in a trust game with heterogeneous pairings are significantly different from the levels of trust and reciprocity in homogeneous pairings in the control groups.

Austrian participants showed significantly higher levels of trust toward Japanese participants than towards their fellow countrymen. In contrast, Japanese subjects did not behave any differently when paired with either Austrian or Japanese partners. Japanese subjects were also found to be less reciprocal than the Austrian subjects in general. The post-experimental survey revealed differences in culture-specific dispositions between the two countries that could explain the country-specific differences (Netzer and Sutter, 2009).

Fershtman and Gneezy (2001) studied racial discrimination by having participants play several games with opponents of varying ethnicities. The objective of this research was to study ethnic discrimination in the Israeli Jewish society. Using the trust game, the authors found a systematic distrust of men of Eastern origin. However, a dictator game experiment suggested that this discrimination was caused by misguided ethnic stereotypes and not by an inherent taste for

discrimination. Finally, an ultimatum game allowed the researchers to trace an ethnic stereotype that reversed discrimination. One of the most surprising results was that ethnic discrimination was an entirely male phenomenon.

Another study that used both the dictator and trust games is that carried out by Holm and Danielson (2005). In this study, undergraduate students in Tanzania and Sweden participated in both games and answered a survey about trust. The authors found a significant and robust relationship between donations in the dictator game as well as the proportion of money that was returned in the trust game. This effect was found in both countries. However, the predictive power of the survey differed between countries since it foresaw the behaviour of participants from Sweden more accurately than those from Tanzania.

Studies of this kind are relatively common when it comes to countries like Germany, Japan, United Kingdom, and the United States (Fehr, Fischbacher, & Gächter, 2002; Fehr, Fischbacher, von Rosenblatt, Schupp, & Wagner, 2003; Herrmann, Zeckhauser, & Bohnet, 2010; Stoddard & Leibbrandt, 2014). However, information regarding interactions between individuals from Middle Eastern countries such as Saudi Arabia and individuals from European countries like Italy is currently lacking. Additionally, while there is some research into gender differences in the levels of trust and cooperation displayed (Fershtman & Gneezy, 2001), and how gender differences interact with cultural differences, this area of investigation is also incomplete.

Eagly (2009) found that men and women differ in prosocial behaviors. The difference might occur due to the underlying differences in gender stereotypes and the division of labor. Social experiments carried out by Darley and Latane revealed that men generally help more than women. Hormonal processes and society's expectations from an individual moderate the effect of gender roles on their behavior.

Gender differences in bargaining were examined by Croson and Buchan (1999) by using the trust game. Their findings showed that a higher rate of reciprocity, altruism was demonstrated by women than men while making riskless decisions. The findings confirmed with the results of Eckel and Grossman's study (1996) demonstrating that women were equal to men in this regard while showing prosocial behaviors.

Croson and Gneezy (2009) stated that women are less likely to take risks than men. This could be explained by the differences in gender towards emotional reactions to ambiguous situations. However, it was seen that these differences could be mitigated by professional exposure and experience as some studies with entrepreneurs and managers found no significant gender differences in risk preferences.

A study by Kricheli-Katz, Porat, and Feldman (2017) organized a random sample of the Israeli Jewish population to play 4 games with fictitious partners. These fictitious partners were from a variety of ethnic and religious backgrounds, including women and Arabs, ultra-Orthodox Jews, Mizrahi Jews, and Ashkenazi Jews. The dictator game identifies and explores negative emotions such as animosity whereas the trust game examines mistrust. The findings of the study revealed that Arabs were the most discriminated group in all four games played. Additionally, a preference for women rather than men was noticeable in all the games. The dictator game, however, showed that Ultra-Orthodox Jews were discriminated against, portraying a general animosity towards them although they were considered trustworthy.

Extant research indicates that individual behavior, in terms of social preferences, is affected by culture, gender, and religion. The present study contributes to this literature by focusing on direct interaction between people belonging to different culture, which has been only partially studied in previous research. It also contributes by exploring the interaction between

gender and culture, and on their combined impact on subject's behavior, which is of particular relevance when the perception of gender issues is very different in the societies in which the studies are conducted.

### **1.3 Experimental Design and procedures**

A total of 160 subjects (80 Saudis and 80 Italians; 40 participants of each gender from each country) participated voluntarily in the experiment at the Saudi Electronic University, Dar Al-Hekma University in Jeddah City, University Lap, and Trento University. The mean age of the Italian males and females was 21.45 years and 20.6 years respectively, whereas the mean age of the Saudi Arabian males was 24.2 and Saudi Arabian females were 21.33 years.

All the subjects were matched in pairs and played the same sequence of three games (Ultimatum Game, Trust Game, and Dictator). Each subject was matched with a different partner in each game. The experiment consisted of four sessions and each pair was always made up of one Italian and one Saudi Arabian participant. At the end of the experiment, participants were asked to fill in a questionnaire including questions about their socio-demographic characteristics and questions about reciprocal knowledge of the two cultures and country characteristics (see Appendix II). Subjects received a payment of 0.11 euros (0.33 Riyals) for each correct answer concerning reciprocal knowledge of the culture. These reciprocal knowledge questions included questions about the continent to which the other country belonged, the official language, currency, predominant religion, and type of government.

The study employed a between-subjects design: no participant took part in more than one session. To maintain the purchasing power parity of the payments we used the Big Mac index exchange rate of 1 euro = 3 Saudi Arabian Riyals (SAR). Subjects were paid with tokens, converted at the rate of 1 token = 1 euro for the Italians and 1 token = 3 SAR for the Saudi. In

each session, a show-up fee of 3 Euro was given to each Italian participant and 9 Saudi Arabian Riyals to each Saudi participant.

Participants included both graduate and undergraduate students. In Saudi Arabia, male and female students were enrolled in different schools/universities and for this reason, two universities were involved. Sessions took place on the 5<sup>th</sup> and 6<sup>th</sup> December 2018. Italian and Saudi Arabian students interacted online by using the O-Tree software platform (Chen et al. 2016). Instructions were given in Italian to the Italian participants and in Arabic to Saudi Arabian participants. We conducted four sessions, in each session there were 20 Italian and 20 Saudi Arabian participants(see table 1).

Table 1

*Sessions*

No. of Session	No. of subjects
Session 1	20 Italian males + 20 Saudi Arabian males
Session 2	20 Italian females + 20 Saudi Arabian males
Session 3	20 Italian males + 20 Saudi Arabian females
Session 4	20 Italian females + 20 Saudi Arabian females

### 1.3.1 The Games

The experiment was based on three standard games: the dictator game, the ultimatum game, and the trust game. Subjects played each of the games sequentially; first was an ultimatum, the second was the trust game, and the last was the dictator game.

The only condition that was set for the experimental design and which was applied to each game was that all the participants were to be matched in heterogeneous pairs (participants

of different cultures) and that whether the other member of the pair was the same or opposite gender would be determined by session.

#### ***1.3.1.1 The Ultimatum Game.***

The Ultimatum Game is used to study negative reciprocity. The game involves two participants: the proposer and the responder. In the first stage, the proposer offers a portion of his or her money. In the second stage, the responder decides to either accept or reject the offer of the proposer. If the responder chooses to reject the offer, neither participant receives any money (Besancenot, Dubart, & Vranceanu, 2013; Güth & Kirchkamp, 2012, Vesely, 2014). Game theory predicts that assuming that the individuals are purely self-interested, the responder will accept any positive sum of money. It also assumes that the proposer anticipates this and will thus offer the smallest amount of money possible. This is not, however, how subjects in the laboratory typically behave in this game. Proposers usually provide a substantial amount of money, and responders often reject large sums (see for example, Oosterbeek, Sloof & van de Kuilen, 2004).

In our study, participant 1 in the Ultimatum Game receives 10 tokens and decides on a number of tokens to send to participant 2. Simultaneously, participant 2 decides the minimum amount of money they would accept from participant 1. If the offer made by participant 1 is above or equal to the minimum set by participant 2, then the offer is accepted and the sum divided accordingly. Otherwise, both receive 0 tokens.

#### ***1.3.1.2 The Trust Game.***

The Trust Game was designed to measure trust and to demonstrate the importance of positive reciprocity. Trust is inherently a matter of the beliefs that one agent has about the behaviour of another. An action that is trusting of another person creates the possibility of a

mutual benefit (Berg, Dickhaut, & McCabe, 1995). In the game, typically, an investor is endowed with money (usually \$10) and invests as little or as much as he or she likes. The amount invested is then tripled and given to an anonymous trustee. The trustee can pay back to the investor as much of the sum as he or she wants or the trustee may choose to keep all the money for himself or herself. The amount invested is used as a measurement of trust, and the amount repaid is used as a measurement of trustworthiness. The Trust Game is well-studied in a number of contexts (see for example, Johnson & Mislin 2011).

In our study, participant 1 is given 4 tokens and has the choice to send 0,1,2,3 or 4 tokens to the trustee. The sum sent is multiplied by 3 and sent to participant 2. Participant 2 has to choose how many tokens to return (from 0 to the sum received).

#### ***1.3.1.3 Dictator Game.***

The Dictator Game is a game used to study altruistic behaviour (Forsythe, Horowitz, Savin, & Sefton, 1994). In this game, the first participant (playing the role of the dictator) determines how to distribute an endowment (usually a cash prize) between himself and the second participant. The recipient does not influence the outcome of the game. In general, dictators give about 28% of the endowment, well above what the rational model with selfish players would predict (Engel, 2011).

In our study, participant 1 in the Dictator Game received 10 tokens and was given the option to send any amount between 0 and 10 tokens to the other participant. The partner this time does not have the opportunity to refuse the offer.

#### ***1.3.1.4 Payments.***

In the ultimatum and the trust game, each participant plays both as participant 1 (proposer in the Ultimatum and Trustor in the trust game) and as participant 2 (Responder in the Ultimatum and Trustee in the trust game). In the Dictator game, both the participants make the decision. At the end of the experiment, only one of the three games was randomly selected by the software, a second random draw determined the actual role played by the participant in that game.

Participants were subsequently paid on the basis of the outcome of the selected games, on their role in that game, and on the basis of their answer to the reciprocal knowledge questions.

### **1.4 Hypotheses**

The main objective of this study is to detect the existence of differences between Italian and Saudi Arabian subjects' choices in the three games and to assess how these choices are affected by the gender and by the degree of reciprocal knowledge of the culture of the interacting partner. We then put forward the following hypotheses:

**Hypothesis 1:** Saudi Arabian and Italian subjects display a different degree of altruism, trust, and reciprocity. This hypothesis is inspired by the evidence of the effect of culture on beliefs and preferences.

**Hypothesis 2:** Knowledge of the culture and the country of the interacting partner increases the degree of reciprocity, trust, and altruism. This hypothesis is inspired by the evidence regarding the relationship between social distance and pro-social behavior. For example, Bohnet and Frey, (1999); Charness and Gneezy (2008); experiments of Catherine C. Eckel and Philip J. Grossman (1996) show that different behavior is more prominent when dictators were provided information about their respective recipient.

**Hypothesis 3 a:** Males and females display a different degree of altruism, trust, and reciprocity. This is in line with the literature on gender differences discussed in section 2.

**Hypothesis 3 b:** Gender differences have a stronger impact on the Saudi Arabian subjects' choices. This corresponds to the different perceptions of gender roles in the two cultures. Gender roles are more strongly defined and the rules governing gender roles are more rigid in Saudi Arabia. Consequently, differences in behaviour are likely to be more conspicuous in Saudi Arabian subjects than Italians.

## 1.5 Results

### Descriptive analysis

Starting from reciprocal knowledge, Table 2 summarizes the frequency of correct answers by each participant for each reciprocal knowledge question. The last column of Table 2 provides the total correct answers by each nationality/gender.

Table 2

#### *Knowledge of Other Countries*

Participant	CT	LG	CR	MR	GT	SF	HI	FM	UE	T (Avg)
Italian Female	80 %	95%	75%	72.5%	62.5%	17.5%	22.5%	60%	25%	56.67%
Saudi Arabian Female	80 %	100%	72.5%	65%	70%	15%	12.5%	62.5%	45%	58.05%
Italian Male	90 %	87.5 %	85%	75%	37.5%	22.5%	27.5%	25%	27.5%	53.05%
Saudi Arabian Male	95 %	95%	100%	85%	75%	35%	35%	37.5%	67.5%	69.4%

*CT: Continent; LG: Language; CR: Currency; MR: Main Religion; GT: Government; SF: Satisfaction; HI: Household income; FM: Family Member; UE: Unemployment; T (Avg): Total Average.*

Most participants could correctly identify the continent and language of the other country although scores were lower for the currency, main religion, or form of government of the other country. Saudi males had the highest percentage of correct answers (69.4%), followed by Saudi females (58.05%), subsequently Italian females (56.67%), and finally by Italian males (53.05%). This disparity of knowledge between Saudi Males and Saudi Females is noteworthy and open to interpretation. The results might suggest that Saudi males have more opportunities to travel, have increased access to education, in addition to being more exposed to the media and foreigners. The findings were in accordance with the study of Al Alhareth, Al Alhareth & Al Dighrir (2015) that women in Saudi Arabia lack equal access to education, employment, and economic and political opportunities. The position of women in Saudi Arabia is more conservative than other Islamic communities such as Indonesia despite the fact that such discriminative behaviour towards women is not endorsed by the Quran (or Islam).

Moving to the games, the first step is to compare the choices of the different categories of subjects where they meet their male and female counterparts. Table 3 shows the average allocation in the Ultimatum Game and the results of a Mann Whitney – Wilcoxon rank-sum test (z and p-value). The first column gives the nationality and gender of participant 1, and the first row provides the nationality and gender of his/her counterpart. For example, Italian females give 5.3 on average to Saudi Females and 4.95 to Saudi males and the two choices are not statistically different. Saudi females (first column, third row) give 4.35 tokens to Italian females and 5.15 to Italian males, and also, in this case, the two choices are not statistically different.

Table 3

*Choices in Ultimatum Game (Proposer)*

Participant 1	IT-F	IT-M	SA-F	SA-M	Avg	z	p-Value
IT-F			5.3	4.95	5.13	0	1
IT-M			4.85	4.35	4.60	-0.056	0.9552
SA-F	4.35	5.15			4.75	1.272	0.2034
SA-M	5.4	4.6			5.00	-1.235	0.2168
z-Value	1.484	-0.797	-0.433	-0.267			
p-Value	0.137	0.426	0.6647	0.7893			

Note: *IT-F* = Italian females, *IT-M* = Italian male, *SA-F* = Saudi females, *SA-M* = Saudi males, *p* = ns

Looking at the results of each pair comparison we do not observe any statistical difference. Subsequently, we can make the following observation:

*Observation 1. Ultimatum game, proposer*

*Subjects do not display significant differences, independently of their nationality and gender.*

Table 4 shows the choices of subjects when playing as responder (Participant 2) in the Ultimatum game: here we observe how Saudi females are seen to set a significantly higher threshold when they are paired with Italian females (5.8) than during interaction with Italian males (4.85). Moreover, when they play with an Italian female, Saudi Arabian females set a higher threshold than their fellow male citizens.

Considering the average threshold set by each type of subject (5<sup>th</sup> column of the table<sup>1</sup>), we is significantly lower than that of Arabian females ( $z = 4.23$ ,  $p < 0.01$ ) and that of Arabian males ( $z = 2.30$ ,  $p = 0.02$ ). As for Italian males, they set lower thresholds than Arabian females ( $z$

<sup>1</sup> [The complete set of results of pairwise comparisons between these values are reported in Appendix III, table 1, 2, 3, 4](#)

= 3.67,  $p < 0.01$ ), while the difference with Arabian males' threshold is significant only at 10% ( $z = 1.82, p = 0.068$ ).

Table 4

*Rank-Sum Test for Ultimatum Game (Responder's acceptance threshold)*

Participant 2	IT-F	IT-M	SA-F	SA-M	Avg	z	p-Value
IT-F			3.75	4.15	3.95	0.573	0.5667
IT-M			4.2	4.15	4.18	-0.427	0.6691
SA-F	5.8	4.85			5.33	-2.134	0.0328
SA-M	4.5	4.9			4.70	0.516	0.6061
z-Value	-2.35	-0.200	0.748	-0.206			
p-Value	0.0189	0.842	0.454	0.837			

*Note: IT-F = Italian females, IT-M = Italian male, SA-F = Saudi females, SA-M = Saudi males,*

*\* $p < .05$*

*Observation 2. Ultimatum Game, responder*

*Saudi Arabian females are willing to accept less from Italian males than from Italian females.*

*Observation 3. Ultimatum Game, responder*

*When paired with females, Saudi Arabian females set a higher threshold than Saudi Arabian males.*

*Observation 4. Ultimatum Game, responder*

*Italian subjects set a lower threshold than Arabian Subjects; the difference is considerable especially when they are compared with Saudi Arabian females.*

Table 5 reports the results from the Trust Game focusing on participant 1, the trustee. The results show that Saudi Males send, on average, significantly more tokens to Italian females (2.25) than Saudi females (1.55). Similarly, Italian males send more tokens to Saudi females (2.75) than to Italian women (2.05).

Independently of the gender of the partner, Saudi Arabian females send significantly less than the other subjects (SA-F vs. SA-M:  $z = 2.71, p = 0.006$ ; SA-F vs. IT-F:  $z = 3.05, p = 0.002$ ; SA-F vs. IT-M:  $z = 3.88, p = 0.001$ ). Finally, Saudi Arabian males send less than Italian males.

Table 5

*Trust Game: trustor's choices*

	IT-F	IT-M	SA-F	SA-M	Avg	z	p-Value
IT-F			2.05	2.65	2.35	1.638	0.1014
IT-M			2.75	2.5	2.63	-0.568	0.5702
SA-F	1.55	1.7			1.63	0.502	0.6157
SA-M	2.25	2.05			2.15	-0.662	0.508
z-Value	2.370	1.418	1.907	-0.245			
p-Value	0.0178	0.156	0.0565	0.806			

*Note: IT-F = Italian females, IT-M = Italian male, SA-F = Saudi females, SA-M = Saudi males,*

*\* $p < 0.05, p = ns$*

*Observation 5. Trust game, trustor*

*Independently of nationality, when paired with females, males are more trustful than females.*

*Observation 6. Trust game, trustor*

*On average, Saudi Arabian females are less trustful than the other subjects.*

*Observation 7. Trust game, trustor*

*On average, Saudi Arabian males are less trustful than Italian males.*

Table 6 reports the average ratio between the amount sent back and the amount received in the trust game. If no tokens are received, none can be returned. These averages are obtained first by computing the ratio, per subject and for each possible amount received, between the amount returned and the amount received and then by computing the average of these ratios.

Table 6

*Trust Game – Average return ratio by Participant 2*

	<b>IT-F</b>	<b>IT-M</b>	<b>SA-F</b>	<b>SA-M</b>	<b>Avg</b>	<b>z</b>	<b>p-Value</b>
<b>IT-F</b>			0.38 (0.19)	0.29 (0.13)	0.34 (0.16)	-1.645	0.09
<b>IT-M</b>			0.29 (0.17)	0.25 (0.17)	0.27 (0.17)	-0.53	0.59
<b>SA-F</b>	0.34 (0.20)	0.39 (0.13)			0.37 (0.17)	1.408	0.16
<b>SA-M</b>	0.40 (0.15)	0.41 (0.18)			0.41 (0.16)	-1.061	0.28
<b>z-Value</b>	1.54	0.05	-1.42	-0.53			
<b>p-Value</b>	0.12	0.95	0.15	0.59			

*Note: IT-F = Italian females, IT-M = Italian male, SA-F = Saudi females, SA-M = Saudi males,*

*\*p < 0.05, p = ns*

No significant differences were found but the results revealed that Italian females return on average less to Saudi Arabian males (0.29) than to Saudi Arabian females (0.38), but this difference is significant only at 10 %.

*Observation 8. Trust game, Trustee*

*Italian males return less than Saudi subjects.*

*Observation 9. Trust game, Trustee*

*Saudi males return more than Italian subjects.*

Finally, Table 7 shows the results of the Dictator Game. The results show that Saudi females allocate significantly more tokens to Italian males (5.1) on average than to Italian females (4.65). When paired with Saudi males, Italian females tend to send more (4.3) than their male fellow citizens (2.9). Considering the average amount sent by each type of subject we see

that Italian males are less generous than the other three types of subjects (IT-M vs. IT-F:  $z = 2.31, p = 0.02$ ; IT-M vs. SA-M:  $z = 2.48, p = 0.013$ ; IT-M vs. SA-F:  $z = 2.23, p = 0.025$ ).

Table 7

*Rank Sum Test for Dictator Game*

	IT-F	IT-M	SA-F	SA-M	Avg	z	p-Value
IT-F			4.75	4.3	4.53	-0.137	0.8911
IT-M			3.2	2.9	3.05	-0.455	0.6488
SA-F	3.5	5.1			4.30	2.644	0.0082
SA-M	4.2	4.65			4.43	0.703	0.4823
z-Value	1.091	-1.21	-1.640	-1.77			
p-Value	0.276	0.224	0.101	0.075			

*Note: IT-F = Italian females, IT-M = Italian male, SA-F = Saudi females, SA-M = Saudi males, \*\* $p < 0.01, p = ns$*

*Observation 10. Dictator*

*Saudi females are more generous with Italian males than with Italian females.*

*Observation 11. Dictator*

*Italian males are less generous, on average than the other subjects, but this difference is significant only at 10%.*

## 1.6 Econometric analysis

In order to determine how different respondents' characteristics affect performance in the games and to evaluate the role of reciprocal knowledge, I estimated two regression models for each choice using ordinary least squares. The first model of interest examines whether performance in a game varies by respondent gender, nationality, and the gender of the other players (the same characteristics addressed in the rank-sum tests), as well as demographics and

cross-country knowledge. The second model interacts these additional characteristics with gender.

Table 8

*Ultimatum game proposer (N=157)*

Dependent variable: tokens send to the Responder	(1) UG_P	(2) UG_P
Female	-0.310 (0.488)	0.362 (0.775)
Italian	-0.106 (0.481)	-0.022 (0.488)
Female*Italian	1.007 (0.657)	0.945 (0.661)
Female other		0.642 (0.620)
Female*female other		-1.232 (1.099)
Reciprocal Knowledge	-0.086 (0.069)	0.025 (0.120)
Marital Status	-0.165 (1.116)	-0.170 (0.116)
Age	0.001 (0.063)	0.006 (0.063)
Employment	-0.358 (0.403)	-0.361 (0.404)
Trust	-0.221 (0.243)	-0.253 (0.247)
Agreement	0.334 (0.257)	0.365 (0.271)
Altruistic	0.270 (0.228)	0.315 (0.237)
Reciprocity	0.155 (0.256)	0.149 (0.258)
Constant	4.043 (2.277)	3.073 (2.442)
<i>N</i>	157	157
<i>R</i> <sup>2</sup>	0.081	0.089

*Note: \* p < 0.05*

Table 8 shows the results regarding the analysis of choices in the ultimatum game. There is no significance difference in the proposers' choices independently of their gender and nationality, furthermore, the amount sent is not related to any of the demographic or knowledge characteristics collected.

*Result 1: Subjects do not display significant differences, independently of their nationality and gender.*

Table 9  
*Ultimatum game responder (N=157)*

Dependent variable: responders' decision to accept or reject the offer by proposer	(1) UG_R	(2) UG_R
Female	0.808* (0.365)	0.882 (0.581)
Italian	-0.779* (0.360)	-0.769* (0.366)
Female*Italian	-1.244* (0.491)	-1.243* (0.496)
Female other		0.235 (0.465)
Female*female other		-0.151 (0.824)
Reciprocal Knowledge	0.075 (0.052)	0.088 (0.903)
Marital Status	0.188* (0.087)	0.186* (0.087)
Age	0.010 (0.471)	0.013 (0.048)
Employment	0.232 (0.301)	0.233 (0.303)
Trust	0.380* (0.182)	0.384* (0.185)
Agreement	-0.266 (0.192)	-0.298 (0.203)
Altruistic	0.088 (0.171)	0.075 (0.177)
Reciprocity	-0.420* (0.192)	-0.413* (0.193)
Constant	4.515**	4.401*

<i>N</i>	(1.703)	(1.831)
<i>R</i> <sup>2</sup>	0.205	0.208

Note: \*  $p < 0.05$ , \*\* $p < 0.01$

Table 9 shows the results regarding the Ultimatum game responder. It shows that Italian females establish a threshold which is lower than that of Arabian males and that Saudi females set a threshold which is higher than that of Italian males and that of Italian females.

*Result 2: Saudi Arabian females established lower acceptance thresholds than Italian males and females. Saudi Arabian females established a higher threshold when paired with Italian females than with Italian males.*

*Observation 2 and 3 are confirmed.*

Table 10  
Trust game: trustor ( $N=157$ )

Dependent variable: responders' decision to accept or reject the offer by proposer	(1) TG_FIRST	(2) TG_FIRST
Female	-0.467 (0.284)	0.078 (0.449)
Italian	0.326 (0.280)	0.394 (0.282)
Female*Italian	0.212 (0.382)	0.157 (0.383)
Female other		0.437 (0.359)
Female*female other		-0.994 (0.637)
Reciprocal Knowledge	-0.039 (0.040)	0.050 (0.069)
Marital Status	-0.024 (0.067)	-0.028 (0.067)
Age	0.028 (0.037)	0.031 (0.037)
Employment	0.308 (0.234)	0.306 (0.234)

Trust	0.179 (0.142)	0.149 (0.143)
Agreement	-0.129 (0.149)	-0.086 (0.157)
Altruistic	0.003 (0.132)	0.049 (0.137)
Reciprocity	0.022 (0.149)	0.012 (0.149)
Constant	0.871 (1.325)	0.086 (1.415)
<i>N</i>	157	157
<i>R</i> <sup>2</sup>	0.128	0.143

Note: \*  $p = 0.09$

Table 10 shows the results of trustors in the trust game. The results confirmed that Italian males send more than Saudi Arabian females and that Italian females send more than Saudi Arabian females but in the event that  $p$ -value = 0.09. Additionally, it can be seen that when paired with females, Saudi Arabian males send more than Saudi Arabian females. Furthermore, in the event that  $p = 0.07$ , the results show that when paired with females, Italian females send less than Italian male.

*Result 3: Males are more trustful than females.*

Observation 5 is confirmed.

Table 11  
*Trust game: trustee (N=157)*

Dependent variable: responders' decision to accept or reject the offer by proposer	(1) Average return ratio	(2) Average return ratio
Female	-0.027 (0.042)	0.005 (0.066)
Italian	-0.124** (0.041)	-0.120** (0.042)
Female*Italian	0.082 (0.056)	0.079 (0.057)
Female other		0.047 (0.053)
Female*female other		-0.059

		(0.094)
Reciprocal Knowledge	0.003 (0.006)	0.008 (0.010)
Marital Status	-0.011 (0.009)	-0.011 (0.009)
Age	0.003 (0.005)	0.003 (0.005)
Employment	-0.052 (0.034)	-0.052 (0.035)
Trust	0.032 (0.021)	0.032 (0.021)
Agreement	0.016 (0.022)	0.014 (0.023)
Altruistic	-0.037 (0.019)	-0.036 (0.020)
Reciprocity	0.036 (0.022)	0.037 (0.022)
Constant	0.225 (0.195)	0.178 (0.209)
<i>N</i>	157	157
<i>R</i> <sup>2</sup>	0.167	0.172

Note: \*  $p < 0.05$ , \*\* $p < 0.01$

Table 11 shows the results of the trustee in the trust game. This data indicates that Saudi Arabian males return more than Italian males. It is also apparent from the table that Saudi Arabian females return more than Italian males.

*Result 4: Italian males return less than Saudi Arabian participants.*

*Observation 9 is supported by the data in the table..*

Table 12  
*Dictator (N=157)*

	(1) DICTATOR	(2) DICTATOR
Female	0.052 (0.609)	0.942 (0.967)
Italian	-0.964 (0.602)	-0.854 (0.609)
Female*Italian	1.580* (0.822)	1.479 (0.825)
Female other		0.435 (0.774)

Female*female other		-1.595 (1.371)
Reciprocal Knowledge	-0.034 (0.086)	0.109 (0.150)
Marital Status	-0.099 (0.145)	-0.103 (0.145)
Age	0.076 (0.079)	0.077 (0.079)
Employment	-0.352 (0.504)	-0.358 (0.504)
Trust	-0.158 (0.304)	-0.219 (0.308)
Agreement	-0.091 (0.321)	0.041 (0.339)
Altruistic	-0.121 (0.286)	-0.017 (0.295)
Reciprocity	0.339 (0.321)	0.311 (0.322)
Constant	3.448 (2.849)	2.182 (3.047)
<i>N</i>	157	157
<i>R</i> <sup>2</sup>	0.089	0.101

Note: \*  $p < 0.05$

Table 12 shows the results of the dictator game. The results confirmed that Italian females send more than Italian males. Additionally, the data illustrates that when paired with males, Italian females send more than Italian males.

*Result 5: Italian females are more generous/ altruistic<sup>2</sup>*

Observation 11 is confirmed.

## 1.7 Conclusion

In this chapter, three games/experiments were played by the participants from Italy and Saudi Arabia. Participants behaved differently in three games, which support the first hypothesis that people of Saudi Arabia and Italy showed a different level of reciprocity, altruism, and trust.

<sup>2</sup> In all of these analyses, three observations are dropped because of missing data in the questionnaires.

Moreover, participants accepted less when the identity or gender of their counterparts was disclosed, for example, Saudi Arabian females tended to accept less from Italian males and females as well as setting high thresholds when paired with Italian females.

The findings of the trust game demonstrated that participants showed more trust and were generous towards their partners when they were aware of the identity of their counterparts. Generally, males showed generous behaviour towards females. Significant differences were seen among the behaviour of males and females in all three games; which support hypothesis 3. Gender was found to play a significant role in the ultimatum game, responder, and trust games. Saudi Arabian females accepted less from Italian males whereas when Italian females were partnered with Italian male respondents they tended to accept more. Although gender differences were observed, Saudi Arabian females showed considerable generosity towards Italian counterparts.

The econometric analysis examines the role of respondent characteristics in affecting their performance on three games. The results revealed that when playing Ultimatum game-proposer no differences were found, subjects played independently of their nationality and gender. Whereas, when playing Ultimatum games-responder Saudi Arabian females accepted less from Italian males than from females. When participants play trust game-trustor, Italian males and females send more to Saudi Arabian females than males. However, when trust game-trustee was played, Saudi Arabian males and females return more than Italians. The results with the dictator game showed that Italian females send more than Italian males, particularly when paired with males. Thus, Italian females showed high altruistic behaviour.

Even if these results could be explained in terms of persistent individual social preferences, a more convincing explanation could be put forward by referring to the concept of

social norms, which account for context-dependent behaviors. In common words, social norms are the informal rules by the society that governs' an individual's behavior. Social norms are perceived as exogenous variables in social sciences whose application depends on the presence of expectations about the behavior of others (empirical expectations) and their expectations about our behavior (normative expectations) as made clear by Bicchieri (2006) who examines social norms as fairness, cooperation and reciprocity to understand their nature, dynamics, and expectations. In our study people from different culture behave differently when confronted with males or females, and differences are also observed across games, suggesting that choices depends on the context, but also on subject's expectations about what people like her or him do in certain situations and about what people expect him or her to do in the same situations. One could expect, for example, Saudi Arabian females to have different expectations regarding the right thing to do when confronted with male or females not belonging to their culture, and the same could be said about Italian males and females and Saudi Arabian males. Further research is needed to explore the nature and origin of these expectations.

## **Chapter 2**

### **Gender Discrimination in Saudi Arabia: an empirical study on attitude in gender issues and its determinants.**

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“This chapter has been written under the supervision of:

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## **Abstract**

The perception of gender discrimination has not been widely studied in Saudi Arabia. Therefore, the present study aims to explore the differences and highlight the factors that influence perception of gender discrimination among Saudi students and employees. The perception of gender discrimination has been investigated and quantified by distributing a questionnaire to the people of Saudi Arabia. The reliability and validity of questions measuring the perception of gender discrimination were computed before its administration. The questionnaire was administered on male and female employees and students in different regions of Saudi Arabia. It was found that male employees and married people favoured gender discrimination in general. However, education was seen to promote a more challenging response because people with higher education were found to disapprove of gender discrimination and discourage it. This is also true of people who have heard reports of gender discrimination affecting one of their acquaintances, they do not favour it. It was also found that generally male student and those belonging to the central region of Saudi Arabia favour gender discrimination. Moreover, this research could provide assistance to policymakers in developing strategies to overcome barriers faced by women in Saudi Arabia with respect to their personal and professional needs.

**Keywords:** Perception, gender discrimination, culture

## 2.1 Introduction

Gender is commonly defined as the social identity of an individual (Lurye, Zosuls & Ruble, 2008) and gender discrimination is the prejudicial treatment of an individual or group due to their gender. However, perceived gender discrimination is the person's perception of being deprived of equal treatment owing to their gender (Triana, Jayasinghe, Pieper, Delgado & Li, 2019). Gender has always been a major element while discussing education and work. Surprisingly, the job market is still gender differentiated. Not only does occupational gender discrimination eliminate women workers from male dominated jobs, it also includes men's elimination from women dominated jobs. This might be due to the rejection of gender atypical occupations (Sanduleasa, 2015). Laub Coser (1991) stated that women learn from their surroundings that their commitment to values differs from those of men. The female has to take care of the family as is taught in her culture so girls lack the choice to choose their occupation freely and independently as boys do; their future occupation does not matter as much as those of boys (Karlsen, 2001). Environment and society were identified as factors behind the maintenance of occupational discrimination. This discrimination is further compounded by factors such as sex discrimination, maternity issues, inability to work part-time, sexual harassment, and absence of child care facilities. Women show disinclination towards male-dominated occupations motivated by problems working women encounter in male-dominated professions (Clement, 1987).

The occupational preferences of adolescents, the type of work that people prefer (Occupational preference, 2020), have sparked the interest of social scientists for many years. The decision about one's occupation is a crucial period of young adult's life which marks the shift from school to the work environment. Gender stereotypes prevail everywhere thus playing an important role in occupational preferences among adolescents. Irrespective of the educational

status and modernization, societies have certain stigmas attached to gender roles. Individuals usually show occupational preferences that are in harmony with society's expectations and norms regarding gender such as; men usually choose professions requiring physical power and leadership skills (Teig & Susskind, 2008). While women choose professions involving social interaction, care, and aesthetics (Abu-saad & Isralowitz, 1997; Fejes & Haake, 2013).

The religion of Islam intends to prioritize protection of women's rights over the Western women's fight for privileges, for instance, the right to education, right of inheritance, owning property, and equal participants in all facets of life (Hamdan, 2005). The life of Prophet Muhammad (PBUH) provides evidence that Islam allows strong and economically established women as the wife of Prophet Muhammad (PBUH), Syedah Khadijah was seen to be a successful businesswoman and initiated her marriage proposal. Another wife of Prophet Muhammad (PBUH), Syedah Ayesha commanded the army in battles and is known for her splendid intellect. The religion of Islam gave equal rights and rewards to men and women. In fact, education is mandatory for men and women in Islam (Alsaleh, 2012).

Social media, cultural values, and religion are multiple factors that affect the occupational choices of men and women. The media portrays women and men in stereotyped ways that limit our impression of human potential. Typically, men are depicted as dynamic, daring, groundbreaking, explicitly forceful and generally uninvolved in human connections. Similarly, women are considered as sex objects who are youthful, slender, excellent, aloof, subordinate, and regularly inept and imbecilic. Females invest their energies in improving their appearance and looking after homes and caring for individuals. Since the media overruns our lives, the manners in which they distort gender roles may twist how we see ourselves and what we see as desirable

and attractive for people. Men and women both differ in their career decisions as well as in their occupational preferences. Numerous elements contribute to these factors. Socialization plays a very important role in career choices, the kind of people one meets, has a great impact on how we see ourselves as well as how we see our future self. For men, opportunities like an occupational decision, for example, employment benefits, housing schemes, chances to learn, and job stability is of crucial importance.

Saudi Arabia has made significant efforts in creating job opportunities for Saudi people and promoting female education and participation in employment. Owing to these efforts women's participation has increased from 5.4 % in 1992 to 14.4 % in the labor force; with the majority working in the education sector (AlMunajjed, 2010). Employment of women in the public sector is likely to increase shortly although an increase in the employment rate of women in the private sector, predominantly in the field of banking, has already been seen (AlMunajjed, 2010).

Saudi Arabia designed 'Saudi Vision 2030' for the economy in the year 2016. 'Saudi Vision 2030' program is aimed to empower women, giving them opportunities to enter the workplace and thus increase the rate of working women from 22 to 30 %. Saudi Arabia plans to strengthen its economy through the maximum contribution of its citizens particularly women (by reducing gender discrimination) who comprise 50 % of university graduates. Saudi Arabia Vision 2030 aims to utilize this asset to contribute to the development of a nation's economy and society. In light of Vision 2030, the government of Saudi Arabia has given women the right to drive cars, watch live sport at stadiums, and participate in politics. Women has also been able to enroll in the army and start a personal business without her guardian's permission since 2018 (Bell, 2018; Jameel, 2018). Recently, in October 2019 a musical concert was held in Riyadh

(Saudi Arabia) and some schemes have also been planned to develop the sports, entertainment, and tourism industry of the state (Hollingsworth, 2019). Another purpose of extending equal rights to women is to be able to utilize their potential, thus also increasing the employment rate of local citizens and ensuring money stay in the state as almost 8 lac foreign drivers have been working in Saudi Arabia (Jameel, 2018).

It is evident from existing studies that people in Saudi Arabia face gender discrimination in the workplace but the Saudi people's perception of gender discrimination has not been studied hitherto. What do people think about gender discrimination? This research contributes to the literature by providing knowledge about how people of Saudi Arabia perceive gender discrimination while at the same time people's perception of gender discrimination reveals a lot about them. Until people perceive that they are discriminated against; they are unlikely to welcome changes or policies announced by the government. I will explore people's approach to change, through their perceptions of gender discrimination. As the government has developed a policy that is not mandatory for citizens, the choice belongs to the people and their task will be influenced by their perception of gender discrimination in general. For instance, if women in Saudi Arabia perceive no gender discrimination they may not find the new opportunities opening up to them by Vision 2030 appealing and may dislike the idea of balancing gender. This means that they may not be taking advantage of the new policies and opportunities, and the vision of enhanced economic prosperity. They may believe that a Saudi Arabia based on gender equality will not yield beneficial results. Therefore, it is very important to study people's perceptions of gender discrimination to help the government design a policy that will prove effective. My study also asks people about their preferences regarding the change. The government may give a lot of opportunities for changes but what if people do not feel discriminated against and have little

appetite for change? The present study provides fresh insight into the changes in gender discrimination in Saudi society under Vision 2030.

To shed light on people's perception of gender discrimination in Saudi Arabia the present study intends to explore the following research questions:

- What is the perception of gender discrimination nowadays in Saudi Arabia?
- What are the factors affecting the perception of gender discrimination?

## **2.2 Related Literature**

Even in the twenty-first century, the influence of gender is a highly significant issues. Most Western nations, including Israel, are still seeing obvious contrasts among men and women in the working environment. There is evidence that numerous occupations and employments are divided based on gender (Izraeli, 2000; Kraus, 2002).

Gender roles have been generally examined in relation to occupational decision making. Various gender differences emerge due to social expectations. Children are trained from childhood to behave in a particular way to fit in with the own society's perceived gender roles. Hence, they build up perceptions of appropriate occupational choices related to their own gender (Gottfredson, 1981; Eagly, 1987). Parenting style has also played a vital role in forming gender role perception among children. Parents ask children to engage with gender-related toys and treat them in different ways, for example, boys play with cars, boys don't cry, boys play football and girls play with dolls, girls do dancing and cooking. Children from the very first moments of their lives are treated differently on the basis of their gender and gender-appropriate behavior is expected of them by society. Boys are expected to be physically fit, strong, and tough while girls are expected to be soft, caring and friendly. In this way, society and culture tend to extend a firm

guiding hand in defining gender roles. Educational material also contributes to stereotyped gender roles and behavior. Textbooks, for instance, portray people in occupations (e.g., men as specialists, engineers, and ladies as nurses, teachers). The literature does not fully explore people's perceptions regarding gender discrimination, thus the present research examines Saudi people's perception of gender discrimination to be able to establish their state of awareness of any discrimination either in their favour or otherwise.

School is an institution that serves as an agent which contributes significantly in the building of schemas in the minds of children where textbooks also help to build social identity. Ghalib (2017) explores the phenomenon of gender discrimination in textbooks of first-grade students in Saudi Arabia. The study revealed that women were less visible and quieter than men in illustrations and texts. All occupations such as engineers, sellers, carpenters, firefighters, farmers, and teaching were associated with men, with only the latter job associated with females. However, female employment was shown to be socially undesirable. Textbooks also illustrated women participating in indoor activities whereas men were seen to be involved in outdoor activities thus social activity was segregated by gender.

Many Arab countries treat women as legal minors under the guardianship of male relatives such as husbands, brothers, or fathers which limits their freedom and capabilities. Women are deprived of the freedom to drive, travel, study, work, start a business, and participate in sports or political events (Bable, 2016).

Saudi Arabian culture considers men to be superior and more talented than women who are considered to be emotional beings and more suited to carry out household chores. These conservative values of society create obstacles for female participation in the workforce and also impede equal pay distribution to women in the marketplace. The literature shows that families

with low socioeconomic status are more conservative than wealthier families, as the latter are ready to take up challenges, travel abroad for higher education and employment (Syed, Ali & Hennekam, 2018). Furthermore, cultural barriers and women's domestic duties affect their career selection in Saudi Arabia. Consequently, jobs like teaching, tend to be female-dominated as the working hours allow women to fulfill their domestic duties at the same time (Aleidan, 2003).

Existing literature provides evidence that school, home, and social setup has an immense influence on an individual's occupational preference. Males experience more pressure in their choice of profession as they are expected to meet the financial requirements of the family (Sax, 2001). Other factors such as academic achievement, fitness, parental education, financial status also have a significant effect on occupational decision making (Hearn, 1984).

Jamali, Sidani & Safieddine (2005) investigated the obstacles faced by working women in Arab districts. They found that the patriarchal system and the conservative frame of mind of people towards women were the basic hindrances in their professional growth (Omair, 2008). It is, however, essential at this point to differentiate between normative teachings of Islam and various cultural practices among Muslims. Islamic history reveals a huge number of serving women with rights, such as political rights, more than even most advanced Western nations. It is evident from Arab history that Syedah Ayesha (Wife of Prophet Mohammed (PBUH)) commanded an army of 30,000 soldiers and medicated them at wartime. She also negotiated various political issues with Prophet Mohammed (PBUH) and army Chief which showcases how her wisdom was acknowledged. Syedah Khadija (Wife of Prophet Mohammed (PBUH)) ran a successful business thus being the first businesswoman in Islam (Badawi, 1995). Syedah Fatima (Daughter of Prophet Mohammed (PBUH)) was also politically active.

Prophet Mohammed (PBUH) stood by women's rights particularly that of education which is evident from his statements "The quest for knowledge is mandatory for every Muslim man and woman" and "seek knowledge from the cradle to the grave". Nevertheless, conservative religious scholars and the general public generally support strict gender roles especially towards females, for instance, that women's place is at home. According to the 1999 census, 5 % of Saudi women work outside the home in the education and health sector. The statistics show that Saudi women experience limitations and hurdles at educational and professional levels. On the other hand, Islam is the only religion which traditionally gave women the right to inherit and own property and run a business (Bishin & Cherif, 2017). However, Saudi Vision 2030 allows women to enter occupational fields other than medicine and teaching.

Rajeh, Nicolau, Qutob, Pluye & Esfandiari (2019), in a recent study, identified the extent to which family, gender discrimination, cultural factors, and male dominance have been the barriers encountered by female dentists in Saudi Arabia. Due to these factors, female dentists are paid less and hold merely temporary positions in this occupational sphere. These barriers also limit career opportunities and chances of promotion for women. In fact, women generally face more obstacles in getting jobs of their choice (Kruijthof, Van Leeuwen, Ventevogel, Van Der Horst & Van Staveren, 1992).

Another survey investigates employment difficulties encountered by male and female doctors in the government university hospital in Saudi Arabia. No gender discrimination among doctors was found in their salaries, promotion opportunities, or choice of field specialization. However, significant discrimination was found in the field of surgery and very few females occupy consultant positions (Baqi et al, 2017). Similarly, employment challenges and barriers experienced by Saudi women were identified by Al-Asfour, Tlaiss, Khan & Rajasekar (2017).

The study revealed that lack of mobility, strict gender stereotypes in society, and gender discrimination at the workplace, limited women's opportunities for promotion. Difficulty managing the work-family balance and challenges related to pregnancy were noted as further barriers to the advancement of women in Saudi Arabia.

Allam and Shaik (2020) studied quality of life among employees working in Saudi Arabia. The data was randomly collected from employees working in public and private sectors. Six prime determinants were found for high quality of life among employees that is, autonomy, recognition, self-respect, financial benefits and supervisory relation. It was also found that married employees and those working in public sector have high quality of life than those working in companies.

Salami (2007) found in his study that female students from high socioeconomic backgrounds prefer male-dominated professions (engineering) whereas, female students from low socioeconomic status prefer female-dominated occupations such as nursing. Additionally, students whose parents showed interest in their children's career development were seen to prefer male-dominated professions, which highlighted the role of familial factors. Over the last years, the ratio of working women is increasing but it is still less than males. Similarly, women in Nigeria are contributing to the development of their economy by working for low wages in traditional female careers such as nursing, caretaking, education, and social work. However, women are given fewer opportunities in the fields of science, information technology, and mathematics in Nigeria.

Furthermore, previous literature has highlighted the fact that girls show more preference towards male-dominated jobs than boys. The devaluation theory states that society does not value social skills, and roles associated with females. Thus, females feel ambitious in their

decision to opt for male professions (Alm, 2015). This might be the reason that women are warmly welcoming Vision 2030 change in Saudi Arabia.

Children's preference for traditionally specified male and female occupations was investigated by O'bryant, Durrett & Pennebaker (1978). They found that when children realized the higher status of a career in terms of rewards, money, and prestige, they are more likely to choose a non-traditional higher status job; particularly females. Masclet, Colombier, Denant-Boemont & Loheac (2009) reported that the public and private employment sectors also influence risk decision making among both genders. Moreover, it was found that the probability of workers employed in the public sector to choose a safer option was higher than workers of private sectors.

Women perceive greater gender discrimination in the workplace than men (Jain & Osmany, 2019). Gender discrimination further leads to segregation in male and female dominant occupations. For example, engineering and information technology are stereotypically male jobs. On the other hand, nursing and teaching are typically perceived as female jobs. Sometimes children's interest, motivation, and academic achievement levels help parents to identify the direction of their career. However, social-psychological factors were also found to have an effect on occupation selection. When an individual chooses an occupation that does not fit with their gender stereotypes they may feel that their gender identity is threatened. As a result of this, male students are likely to strive for stereotypical male-dominated occupations. On the other hand, females may show a preference for male-dominated occupations because male jobs are considered superior and have more financial worth (Sinclair & Carlsson, 2013).

Friends also have a significant impact in strengthening these gender dictated behaviors, especially in adolescence. As adolescents want to fit in with their companions, the decision to opt for activities that are not concurrent with the gender role expectation is a difficult one. This may include taking part in activities which are gender-typed e.g., a child pursuing art, a girl joining a wrestling group, or communicating professional interests that are perceived as less appropriate for one's gender (e.g., a boy keen on nursing, a girl interested in repairing vehicles).

Gender differences are also observed when people are hired in organizations. Females are more likely to be employed in staff positions and have less access to line experience, which is often a stepping stone to higher-level management positions. Women in general report that their initial job assignments are less challenging than men's assignments (Ragins & Cotton, 1999). However, research shows that men as compared to women prefer a position which eventually leads to more prominent power and a greater impact on the company. Men will, in general, be more politically inclined and approach more dominant authoritative individuals than females (Eagly, 1995). However, the non-profit sector supports women by enabling them to enhance their skills and imparting confidence but improved human resource practices could further help in providing a non-discriminatory workplace environment to women in Saudi Arabia (Hodges, 2017).

Saudi students' attitudes regarding gender roles as defined in Vision 2030 were investigated by Al-Bakr, Bruce, Davidson, Schlaffer & Kropiunigg (2017). Male and female students were generally optimistic, accepting, and open to new policies and gender equality under vision 2030. However, females were more optimistic, and warmly welcomed the new changes designed to eliminate gender discrimination. These revisions in policy will provide more

opportunities for women and pave the way for their overall development and consequently, the economic growth of the state. However, resistance to new policies was shown by people with a traditional mind-set.

Under the vision 2030, Kingdom of Saudi Arabia is focusing on Technical and vocational education and training (TVET) among students. The importance of skilled labor has increased in Saudi Arabia as the Vision 2030 focuses moving the economy from oil to investment. Aldossari (2020) did a quantitative study to investigate the various socio-economic factors affecting the student's attitudes towards Technical and vocational education and training (TVET). A significant relationship was found between gender, family income, education level and Technical and vocational education and training.

Saudi Arabia holds the view that education and training are the main tools to narrow the skills gap and career development. Currently, about 6 % of GNP is allocated to the education sector in Saudi Arabia. But a few problems still prevail, as female students have more limited access to specialization, technical, and vocational education and training than males (Madhi & Barrientos, 2003). Syed, Ali & Hennekam (2018) highlighted the importance of the equal distribution of opportunities to both genders as the parity of opportunity would effectively spur a larger portion of human resources (women) to be utilized. Vision 2030 is based on a similar premise, opportunities, and a platform provided by the government, where women can employ their talents, show their capabilities, and consequently be empowered. These innovations open up a bright future to them, at the same time enabling them to contribute to the development of the state's economy. The Saudi Arabian government under the supremacy of Prince Mohamed bin Salman is taking remarkable and proactive actions to decrease unemployment rates in the country and to increase women's involvement in the workforce by 30 % by 2030 (Jameel, 2018).

As a G20 member, Saudi Arabia participated in an initiative, in a meeting held in 2019, to empower women in the workforce by reducing pay gaps between males and females (Women's rights in Saudi Arabia Facts and News Updates (n.d.), 2019).

The perception of women in the workplace is changing in the Gulf Cooperation Council countries (i.e Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates). Saudi women are now being appointed to high-ranking positions, for example a Saudi woman has been appointed as head of the Saudi Stock Exchange and another Saudi woman has been appointed as head of the Saudi American Bank, SAMBA. Overall, women are also trying to play a more active role in the state's economy. All Gulf Cooperation Council countries (GCC) have made efforts to reduce gender discrimination in the education sector. Almost 90 % of women aged 10 years or older are literate and a higher number of women than men currently attend courses at university or in higher studies (Shah, Al-Kazi & Husain, 2018). In the case of Saudi Arabia, more females are going on to higher education than males; which means that the state has a well-educated workforce of women despite the fact that it is underused. This discrepancy was my primary motivation to study Saudi people's perception of gender discrimination.

The literature review highlights the presence of gender discrimination in Saudi Arabia but is limited in its analysis of Saudi Arabian people's perception of gender discrimination. There has been no exclusive study of Saudi's perception of gender discrimination. Therefore, this research aims shed light on how Saudi people perceive gender discrimination.

With the implementation of Vision 2030 in Saudi Arabia and the fact that women are taking part in the economic progress of the country (Shah, Al-Kazi & Husain, 2018), some changes in the perception of gender discrimination and diffusion in gender roles have been seen.

Conversely, Saudi Arabia's culture has emerged as the major obstacle which is limiting women's emancipation and professional development. Similarly, the culture of Qatar has been limiting women's participation in socio-economic development despite modernization and governmental policies (Al-Ghanim, 2019). Notwithstanding the new policies that have been introduced in Saudi Arabia, women continue to pursue feminine professions such as teaching (Shah, Al-Kazi & Husain, 2018). As the literature fails to explore Saudi people's perceptions of gender discrimination, the reason for Saudi women's continuing preference for feminine professions is unclear, whether it is due to gender discrimination at the workplace or not.

Women's rights and responsibilities have historically been an issue of considerable controversy. Limited literature is present about gender issues and regarding women's role in the economic sphere in Saudi Arabia. Little attention has been given to information channels accessible to Saudi women. The meta-analytic findings of a study by Triana, Jayasinghe, Pieper, Delgado and Li (2019) show that gender discrimination negatively affects men and women employees all over the world. State policies and agendas should be designed to reduce and prevent gender discrimination from occurring and provide a fair work environment to both genders. Saudi Arabia is taking this direction and is currently going through a transitional phase of change; to empower women and increase their role in the state's economy. Vision 2030 aims to remove gender barriers between Saudi men and women and their role in the economic development of the state. Moreover, the present research aims to fill the gap in the literature and provides indigenous data, exploring first-hand experiences and perception of gender discrimination by Saudi men and women.

Saudi Arabia is experiencing a huge cultural change driven by Vision 2030. The main objective of my study is to assist the government in structuring new policies to reduce gender discrimination and facilitate openness to women's professional needs, desires, and wishes. Furthermore, it intends to highlight the importance of women's contribution to the workforce in the economic growth of the country.

### **2.3 Rationale of the Study**

The present study aims to identify barriers faced by women in the workplace and investigate people's perception of gender discrimination in Saudi Arabia during a period of revolutionary change.

Men's and women's jobs tend to differ greatly. The gender difference across sectors, industries, occupations, types of jobs, or firms evolve with economic development the resulting changes in the structure of employment are not enough to eliminate employment segregation by gender. As compared to the male population of Saudi Arab, females struggle to get jobs, despite extensive education and the rate of female unemployment is very high. Even though women throughout the world are excelling in every career, Saudi Arab has so far been unable to utilize the female workforce effectively (AlMunajjed, 2010).

Results from the previous studies reveal two things: first, that there is an imbalance in gender distribution in most of the occupations. Secondly, women and men prefer to work in different occupations. Insufficient literature in this subject prevents us from exploring people's perception of gender discrimination. Hence, research needs to be carried out identify people's perceptions on gender discrimination which may further account for gender differences in occupational preferences.

## 2.4 Methodology

### 2.4.1 Objectives

- To study the differences in perception of gender discrimination among male and female Saudi students and employees.
- To explore the factors that influence perception of gender discrimination of male and female Saudi students and employees.

### 2.4.3 Hypotheses

The specific aim of the study is to investigate the degree of perceived gender discrimination in the sample and its socio-demographic determinants. In particular, the focus is on the impact of the following variables: gender, age, occupation, geographical location, level of education, number of sister and brothers, awareness of gender discrimination problems.

The following correlation are expected:

**Hypothesis 1:** Males, married people and less educated people favor gender discrimination. This hypothesis is inspired by the evidence regarding gender discrimination in Arab countries for example, Bable (2016); Ghalib (2017) showed that the concept of gender discrimination is imparted right from childhood. Similarly, Jain and Osmany (2019) found that women perceive greater gender discrimination at workplace than men.

**Hypothesis 2:** Employees working in public sector favours gender discrimination. This hypothesis corresponds to the employment challenges faced by women in marketplace highlighted in the studies of Al-Asfour, Tlaiss, Khan & Rajasekar (2017); Rajeh, Nicolau, Qutob, Pluye & Esfandiari (2019); Kruijthof, Van Leeuwen, Ventevogel, Van Der Horst & Van Staveren (1992).

#### **2.4.4 Research Design**

Cross-sectional, Explanatory Research and Survey methods were used to study the variables.

#### **2.4.5 Sample**

The present study aimed to collect a huge sample but due to time limitations a clean sample of 1005 participants was collected comprising of 154 students and 851 workers. Students from all disciplines participated in the study. The sample was drawn from different cities of The Kingdom of Saudi Arabia such as Riyadh (Center of Saudi), Jeddah (West of Saudi), Dammam (East of Saudi), and some other cities from the north and south of Saudi Arabia. A practical sampling technique was used to collect data.

#### **2.4.6 Procedure**

Initially, students and workers were briefed about the purpose of the study. Informed consent was signed by the participants before filling in the questionnaire (student and worker version). Oral and written instructions were provided to participants regarding how to fill in the questionnaire. Confidentiality of information was ensured and they were assured that their information would be kept anonymous and be used only for research purposes. The participants were given the right to withdraw from the study at any point. Moreover, data were also collected using the online monkey survey via Whatsapp and Twitter. Lastly, students and workers were thanked for participation in the study.

### **2.5 Results**

Reliability analysis was conducted to find the internal consistency of questions to compute an index of attitudes to gender discrimination e. The questions, as listed here, were rated on a 5-point Likert-type scale ranging from 1 (I totally agree) to 5 (I totally disagree): (Do you agree

that men should have more work benefits than women? Do you agree that women should have more work benefits than men? Do you agree that the most important place for women is her home? Should some fields be restricted to men? Should some fields be restricted to women? Do you think gender preferences should be eliminated as criteria for selecting employees?) The reliability of these 6 questions was given as low,  $\alpha = 0.642$ . According to Nunally and Berstein (1994), the minimal acceptable reliability coefficient criterion is 0.7. Furthermore, the last question was eliminated because it was least correlated with the other questions as the aim was to compute an index of attitudes to gender discrimination. After eliminating the last question, the reliability analysis was run on the first five questions obtaining a reliability value of  $\alpha = 0.724$ ; which shows these questions are measuring the construct in the same direction.

Table 1  
*Reliability of Questions Measuring Gender Discrimination (N=1005)*

Scale	<i>k</i>	<i>A</i>
Gender discrimination	5	.724

The reliability analysis, after pooling the first five questions together, shows an acceptable reliability value in measuring perception towards gender discrimination.

In addition to assessing reliability, factor analysis was performed to ensure the validity of the questions. Factor analysis was run to confirm that these five questions measure the same thing or dimension. Principal component analysis (PCA) was used on the data attained by 1005 participants using the varimax rotation method. On the basis of the Guttman-Kaiser criterion (1960), one factor was derived by considering the Eigen value  $>1.0$  and its theoretical relevance. The Eigen value of this factor is 2.46. The items were retained on the basis of its theoretical relevance as well as on the result of high factor loadings ( $> 0.3$ ).

The KMO and Bartlett's test are indicators for determining sample adequacy for principal component analysis. For the present study, KMO = 0.66, Bartlett's test of sphericity = 1379.07,  $p < .001$ . The communalities were all above 0.3 (see table 2), confirming that each item shared some common variance with other items. These results supported the data's suitability for factor analysis. In the current study, one common factor was extracted which generates 49.196 % variance. The result of this factor analysis reflects the variation of perception towards gender discrimination.

Table 2

*Factors and Communalities Based on Principle Component Analysis with Varimax Rotation for 5 Items (N=1005)*

Items	Communalities
Men should have more work benefits than women	0.47
Women should have more work benefits than men	0.33
First place of women is her home	0.45
Some fields should be restricted to men	0.61
Some fields should be restricted to women	0.60

There were 1005 participants in our survey comprising of 851 employees and 154 students from all regions of The Kingdom. Table 3 and Table 4 report the descriptive statistics of subject characteristics by gender.

Table 3

*Employees' descriptive statistics by Gender (N= 851)*

Variables	Female		Male	
	Obs.	Mean or %	Obs.	Mean or %
<b>Age</b>	109	37.6	742	41.0

<b>Number of brothers</b>		4.15		4.54
<b>Number of sisters</b>		4.26		4.06
<b>Index</b>		2.71		2.17
<b>Marital status</b>				
	<i>Single</i>	21	19.3 %	107
	<i>Married</i>	83	76.2 %	624
	<i>Divorced</i>	5	4.6 %	8
	<i>Widowed</i>	0	0 %	3
<b>Region</b>				
	<i>Northern</i>	6	5.5 %	22
	<i>Southern</i>	5	4.6 %	27
	<i>Eastern</i>	23	21.1 %	110
	<i>Western</i>	9	8.3 %	57
	<i>Central</i>	66	60.6 %	526
<b>Final Education level</b>				
	<i>Less than high school</i>	0	0 %	6
	<i>High school</i>	2	1.8 %	74
	<i>Diploma</i>	15	13.8 %	104
	<i>Bachelor</i>	64	58.7 %	403
	<i>Masters</i>	16	14.7%	106
	<i>PhD</i>	12	11.0 %	49
<b>Working Sector</b>				
	<i>Public</i>	81	74.3 %	514
	<i>Private</i>	17	15.6 %	129
	<i>Semi-Government</i>	3	2.6 %	73
	<i>Charity Sector</i>	5	4.6 %	4
	<i>Business</i>	3	2.6 %	22

Employees had a mean age of 39 years. The mean number of brothers in a family was 4.54 and the number of sisters was 4.06 for males while for females the mean number of brothers

was 4.25 and the mean number of sisters was 4.26. The mean score of index (perception of gender discrimination) is less for male employees i.e 2.17; showing that they favor gender discrimination. Most of the female (76.2 %) and male (84.1 %) employees were married, but there were also single working women (19.3 %). The majority of the participants were from the central region of Saudi Arabia, whereas the minority of male participants were from the northern region (3.0 %) and the minority of female participants came from the southern region (4.6 %). More than half of the employees had bachelors' level education, that is to say, 58.7 % females and 54.3 % males, while 11 % of female employees had PhDs. The majority of the employees work in the public sector (74.3 % of females and 69.3 % of males). Less than one-quarter of the employees work in the private sector, 9.8 % of males and 2.6 % of females work in semi-government sector jobs. Semi-government and the business sector were represented by the least number of female employees (2.6 %) while 0.5 % of male employees worked in the charity sector.

Table 4  
*Students' descriptive statistics by Gender (N= 154)*

Variables	Female		Male	
	Obs.	Mean or %	Obs.	Mean or %
<b>Age</b>	92	24	62	22.1
<b>Number of brothers</b>		2.62		3.29
<b>Number of sisters</b>		2.90		3.03
<b>Index</b>		3.36		2.26
<b>Marital status</b>				
<i>Single</i>	53	57.6 %	61	98.4 %
<i>Married</i>	38	41.3 %	1	1.6 %
<i>Divorced</i>	1	1.1 %	0	0 %
<b>Region</b>				
<i>Northern</i>	22	23.9 %	4	6.5 %

<i>Southern</i>	17	18.5 %	2	3.2 %
<i>Eastern</i>	5	5.4 %	7	11.3 %
<i>Western</i>	5	5.4 %	9	14.5 %
<i>Central</i>	43	46.7 %	40	64.5 %
<b>Current Education level</b>				
<i>Bachelor</i>	53	57.6 %	46	74.2 %
<i>Diploma</i>	5	5.4 %	12	19.4 %
<i>Masters</i>	30	32.6 %	3	4.8 %
<i>PhD</i>	4	4.3 %	1	1.6 %
<b>Sector Choice</b>				
<i>Public</i>	38	41.3 %	36	58.1 %
<i>Private</i>	14	15.2 %	12	19.4 %
<i>Semi-Government</i>	23	25.0 %	7	11.3 %
<i>Charity Sector</i>	7	7.6 %	0	0 %
<i>Business</i>	10	10.9 %	7	11.3 %

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The mean age of female students was 24 years and male students were 22.1 years. The mean number of brothers and sisters in the participants' families was 2.62 and 2.90 respectively for females, whereas the mean number of sisters was 3.03 and the mean number of brothers was 3.29 for male students. The mean score of index (perception of gender discrimination) is less for male students (2.26) than female students (3.36) showing that males favor gender discrimination. The majority of the male (98.4 %) and female (57.6%) students participating were single but a few were married (1.6 % males, 41.3 % females). The highest number of students participating in the survey originated from the central region. Only 5.4 % of the female students participating came from the eastern and western regions. The southern region had the lowest number of male students participating (3.2 %). More than half of students in the survey studied at the university level but there were few Ph.D. students with a greater number of female doctoral students (4.3 %) than male doctoral students (1.6 %).

The public job sector was most popular as a choice of a future career with both males (58.1 %) and female students (41.3 %). However, private-sector jobs were popular with more male students (19.4 %) and the future choice of the business sector was almost equal for males (11.3 %) and females (10.9 %). However, the charity sector was shown little preference by female students (7.6 %).

The perception index was calculated by taking the average of the first five questions included in the reliability analysis. The smaller value of perception index indicates higher gender discrimination. It was evident from the descriptive statistics that both male employees and male students had a lower index score thus, they favor gender discrimination. OLS Regression analysis was carried out to determine the best predictors for employee's perceptions towards gender discrimination. OLS regression analysis was run for employees with a dependent variable "perception towards gender discrimination" and 9 independent variables: gender, age, marital status, region, educational level, working sector, hearsay of experience of gender discrimination, number of brothers, and number of sisters.

Table 5

*Determinants of Employee's Perception towards Gender Discrimination (N=851)*

Independent Variables	M1		M2	
	Coefficient	SE	Coefficient	SE
Male	-0.50***	0.09	-0.75***	0.17
Public	-0.05	0.06	-0.34*	0.18
Male*Public			-0.217**	0.059
Age	0.002	0.003	0.003	0.003
Married	-0.29**	0.09	-0.29**	0.09
Central region	0.11	0.06	0.10	0.06
High school	-0.06	0.08	-0.06	0.08

Diploma	-0.09	0.07	-0.097	0.068
Masters	0.16*	0.07	0.155*	0.068
PhD	0.13	0.09	0.133	0.089
Heard of someone facing gender discrimination	0.198**	0.07	0.194**	0.072
Number of brothers	-0.009	0.01	-0.009	0.012
Number of sisters	-0.009	0.01	-0.009	0.013
Constant	2.89***	0.16	3.083***	0.198
Observations	851		851	
R-squared	0.091		0.094	

Note: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ , M2 is the OLS regression with an interaction effect of male and public sector

The results showed that a significant negative correlation exists between male gender and gender discrimination perception. Male participants have a lower index than females which means that males typically favor gender discrimination. A negative correlation was also found between married people and the perception of gender discrimination, showing married people generally favor gender discrimination. Moreover, a positive correlation exists between a masters' level of education and perception of gender discrimination. This demonstrates that as education level increases people are less likely to favor gender discrimination. The results also found that if people have heard about someone experiencing gender discrimination they are less likely to approve of it.

The results of the OLS regression analysis with the interaction effect of male and public sectors of working shows that male gender, public sector, and married employees have a negative correlation with the perception of gender discrimination. It tells us that male employees have lower index scores thus favor gender discrimination. The combined effect of male and public employees also shows a negative correlation with the perception of gender discrimination which means their combined effect also favors gender discrimination. Employees who have received higher education (masters) and who have heard of someone experiencing gender discrimination do not favor gender discrimination.

*Result 1: Males, employees working in the public sector and married employees favor gender discrimination.*

Another OLS Regression analysis was carried out to determine the predictors for student's perception of gender discrimination (see table 6 below).

Table 6  
*Determinants of Student's Perception towards Gender Discrimination (N=154)*

Independent Variables	M1		M2	
	Coefficient	SE	Coefficient	SE
Male	-.95***	.19	-1.21***	.280
Public	-.05	.17	-.038	.168
Male* Public			.412	.327
Age	-.009	.019	-.006	.019
Married	.39	.22	.339	.219
Central region	-.34*	.17	-.510*	.221
Masters	-.24	.18	-.250	.182
PhD	.27	.37	.244	.369
Diploma	.06	.24	.084	.237
Heard of someone facing	.022	.199	.031	.199

gender discrimination				
Number of brothers	-.039	.049	-.043	.049
Number of sisters	-.013	.043	-.006	.043
Constant	3.86***	.51	3.87***	.506
Observations	154		154	
R-squared	.329		.336	

Note: \* $p = .05$ , \*\*\* $p < .001$ , M2 is the OLS regression with interaction effect of male and public sector

The results of OLS regression analysis of students show that the male gender and the central region of Saudi Arabia emerged as significant negative predictors of perception of gender discrimination. It means that males and students belonging to the central region have lower index scores than females; showing that they favor gender discrimination.

On the other hand, the results of OLS regression analysis with the interaction effect of the male and public sector shows that a negative correlation exists between males and students of the central region of Saudi Arabia, which means males and central region students favor gender discrimination. The combined effect of male and public sector is shown to be insignificant.

*Result 2: Male students and students of the central region favor gender discrimination.*

## 2.6 Conclusion

This chapter investigates the perception of gender discrimination in people of Saudi Arabia. Gender discrimination could be clearly observed in the data collection as there is a lower representation of females in the data. However, it was evident from the results that male employees and married people favour gender discrimination. Moreover, a positive impact of

education was found as people with higher education dislike gender discrimination and disapprove of it being promoted. Besides, if people have heard of someone they know experiencing gender discrimination, they do not favour it. This chapter also examines the perception of gender discrimination from a Saudi Arabian student's point of view. It revealed that male students in general and those originating from the central region of Saudi Arabia favour gender discrimination.

Social norms may have a role in explaining our evidence. In Saudi Arabia women are required to take approval from their male guardian before working. The results of the present study showed that more Saudi females are getting higher education than men but comparatively fewer females are seen in the labor market.. Smerdon, Offerman, and Gneezy (2019) found that bad social norms persist when people are aware of other's preferences or are uncertain about other's preferences. Research in this field shows also that information on other men's perception of female participation in labor force impacts on men's willingness to let their female join labor force. Wives of men who were given such information were likely to apply for a job (Bursztyn, Gonzalez & Yanagizawa-Drott, 2020). This shows that how social norms influence one's thought pattern and choices.

## **GENERAL CONCLUSIONS**

This thesis suggests that laboratory experiments mimic real life situations of bargaining, decision making and depicts gender differences. Cultural differences play a major role in shaping people's perception towards gender, their responses towards economic behavioural patterns such as altruism, trust, and reciprocity. It has been estimated that women are paid less than men and are unlikely to be appointed at higher leadership positions. Studies show that differences might

be due to women's tendency to avoid negotiating. As a result of some factors put forward in this chapter, such as higher education, economic development may eventually lead to less gender discrimination and more female labor force participation in the state's economy.

This thesis extends the discussion to the association between gender differences, cultural differences and gender discrimination in Saudi Arabia. It confirms previous findings regarding gender differences in altruistic, trust, and reciprocity behaviours (Georgantzis et al., 2013; Kricheli-Katz, Porat and Feldman, 2017). Furthermore, it is seen that participants accept less when they are aware of their counterpart's gender, as Saudi Arabian females accept less from Italian males and females. Significant gender perception differences in Saudi Arabian society are indicated in this chapter. Similarly, while playing the trust game, participants show more trust when the identity of their counterpart is known, for example, males showed more generous behaviour towards females. This study revealed another interesting finding that despite the presence of gender differences, Saudi Arabian females still show more generosity towards Italian subjects. Social norms are informal rules that shape an individual's behaviour.

This dissertation extends the literature on gender discrimination in Saudi Arabia. While it is seen that males favour gender discrimination, females do not. Education has emerged as an aiding element to counter gender discrimination as people with higher education do not favour it. Also, elements of sympathy and compassion were found among Saudi Arabian people that have heard of someone facing gender discrimination. In this situation, they do not favor gender discrimination irrespective of the gender of the victim.

### **Implications of the study**

This study could be of assistance to policymakers in developing strategies to overcome barriers faced by women in Saudi Arabia with respect to their personal and professional needs. A gender-neutral policy, if implemented, could lead to a supportive workplace environment for women, their promotion to leadership positions, and their involvement in building the state's economy. In order to enable this transition, society needs to change its perception of the roles of women in society. The more progressive attitude of educated women should be promoted so that they could contribute their input to their families in particular and society in general.

### **Recommendations for future studies**

Further research is required in different parts of the country with equal representation of both genders in order to shed light on differences in their opinion and perception with regard to the perception of gender discrimination. Such a study, conducted in rural and industrial areas, for example, may reveal differences in perception of gender discrimination and decision-making behavior. Although this study would contribute to the literature on gender discrimination in Saudi Arabia, there is still a need to explore further issues that act as obstacles to women's advancement in Saudi Arabia. Future research could explore women's positive experiences in the workplace, experiences in which their skills and knowledge are given value. Future studies could identify the resources that could be utilized to maximize the experiences and opportunities for Saudi women. Research is also required to shed light on women entrepreneurs who, by setting up a private business in Saudi Arabia, would help the common masses to change their perception regarding gender discrimination.

Future researches could be conducted to explore the social norms that affect the choice of decision while playing games in different socio-cultural environments. Moreover, a survey form

could be designed that investigate the kind of social norms affecting strategic decision making ability. Further research ought to be carried on the impact of social norms on gender discrimination in Saudi Arabian society.

### **Limitations**

As laboratory studies incur substantial costs it was not feasible to carry out this study in other cities or other countries. This study encourages further academic investigation into the perception of gender discrimination in other Islamic states, thus fostering a wider understanding of the effect of religion or culture on the people's perceptions.

**Appendix II (CH1)**  
**Instructions (Saudi Arabian Version)**

*You are invited to participate in a research study about economic decisions. Your decision whether or not to participate in this study will not affect your university grades, and denying participation has no negative consequences.*

*During your participation, you are matched with female students from Italy. They are currently at Trento University and they are students like you, between 18 and 35 years old. You will be presented with five decisions, and your decisions as individuals will have an effect both on you and on the person with whom you will be matched.*

*A researcher is reading, in this moment, these instructions to the students in Italy.*

*The decisions will involve the distribution of money, but during the experiment we will not use actual money but tokens. The tokens which will be transferred from you to the person with whom you will be matched and from that person to you will be converted, at the end of the experiment, at two different rates: 1 token= 1€ for the Italian participants, and 1 token= 3SAR for the Saudi Arabian participants. This rates have been chosen to take into account the fact that with 3SAR in Saudi Arabia you can buy approximately the same bundle of goods that you can buy with 1 euro in Italy.*

*Your participation will take approximately one hour.*

*For each decision, you will be presented with three situations, and you must make choices regarding each situation. Each of the situations will have its own explanation and a practice section that will allow you to make sure that you have understood properly what should be done.*

*If at any time you have any question, do not hesitate to ask.*

*In each situation you will be matched with a new person. In particular, you will make Decision 1 and 2, in Situation 1, with a person, Decision 2 and 3, in Situation 2, with another person, and Decision 5 in Situation 3 with another person.*

*At the end of the experiment you must answer a short set of questions. Your payment for participating will depend on your decisions, the decisions of your partner, and your answers to the survey. **In particular one of the situation will be picked at random and you will be paid according to one of the decisions made in that situation (further details will be provided later).***

*Your total payment will consist of this payment plus the amount of money that you earn in the<sup>3</sup>*

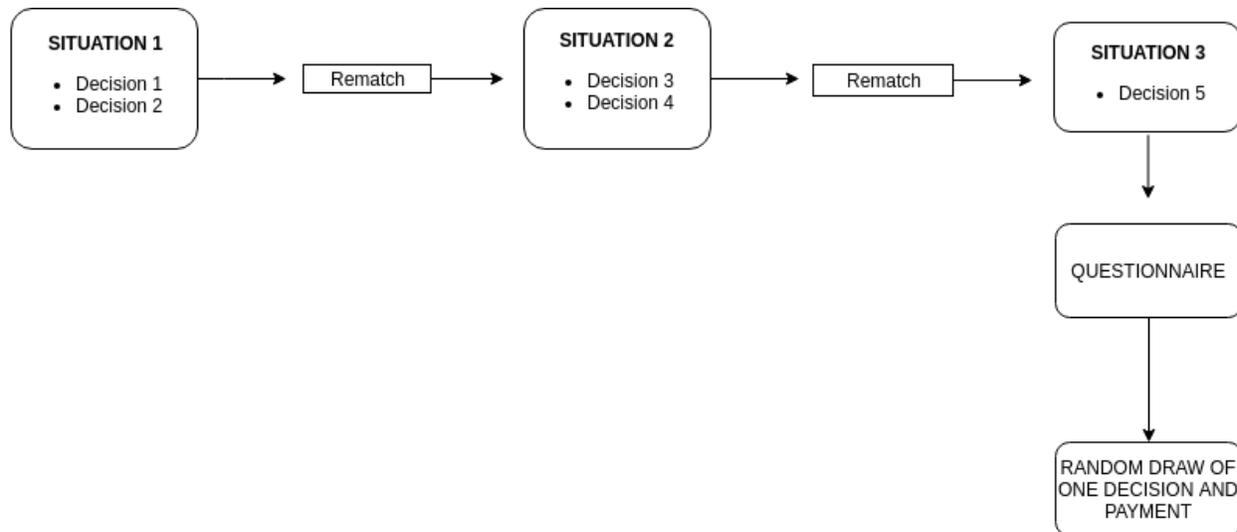
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<sup>3</sup> Original instructions in Arabic or Italian version are available upon request.

survey presented after completing all the decisions.

If you have read this and agree to participate in this project, please understand your participation is voluntary. The results of this research study may be presented at scientific or professional meetings or published in scientific journals. Your individual privacy will be maintained in all published and written data resulting from the study.

### Schema of the decisions



#### Situation 1: Decisions 1 & 2 (Ultimatum Game)

This activity is done in pairs, each pair is made of a Participant 1 and a Participant 2.

Your earnings will depend on your decisions, as well as on the decisions of the other participant.

During the activity, Participant 1 will receive 10 tokens. Then, she will be asked to make **Decision 1**, and decide how much tokens she wants to send to participant 2. Participant 1 will make an offer to Participant 2 that specifies how much tokens each will receive.

The amount that Participant 1 can offer to Participant 2 can be anything from 0 to 10 tokens. Their earnings will depend on whether or not Participant 2 accepts the offer.

Participant 2 will decide what is the minimum offer that she is ready to accept. This is **Decision 2**.

If the offer made by participant 1 is above or equal to this minimum, then the offer is accepted and the sum is divided as decided by participant 1. Otherwise both receive 0 token.

Both of you will make both decision 1 and decision 2.

After completing both Decision 1 and Decision 2, you will be paired with a different person.

**At the end of the experiment, if this situation is selected, one of the two decisions will be picked at random, so if Decision 1 is selected you will be paid the payoff of obtained as Participant 1, if Decision 2 is selected you will be paid the payoff obtained as Participant 2.**

*Questions regarding the decisions*

If participant 1 sends 6 tokens and the threshold that was set by participant 2 is 4 tokens. What will be the outcome?

- The offer is accepted
- The offer is rejected

If participant 2 sets a threshold of 6 tokens and participant 1 sends 4 tokens. What will be the outcome?

- The offer is accepted
- The offer is rejected

*First decision*

Ok, now it's time to make **Decision 1** as **Participant 1**.

From 10 tokens, How much will you send to the other participant?\_\_\_\_\_.

*Second decision*

Ok, now it's time to make **Decision 2** as **Participant 2**.

What is the minimum amount that you are ready to accept?\_\_\_\_\_.

**Situation 2: Decisions 3 & 4 (Trust game)**

This activity is done in pairs, each pair is made of a Participant 1 and a Participant 2.

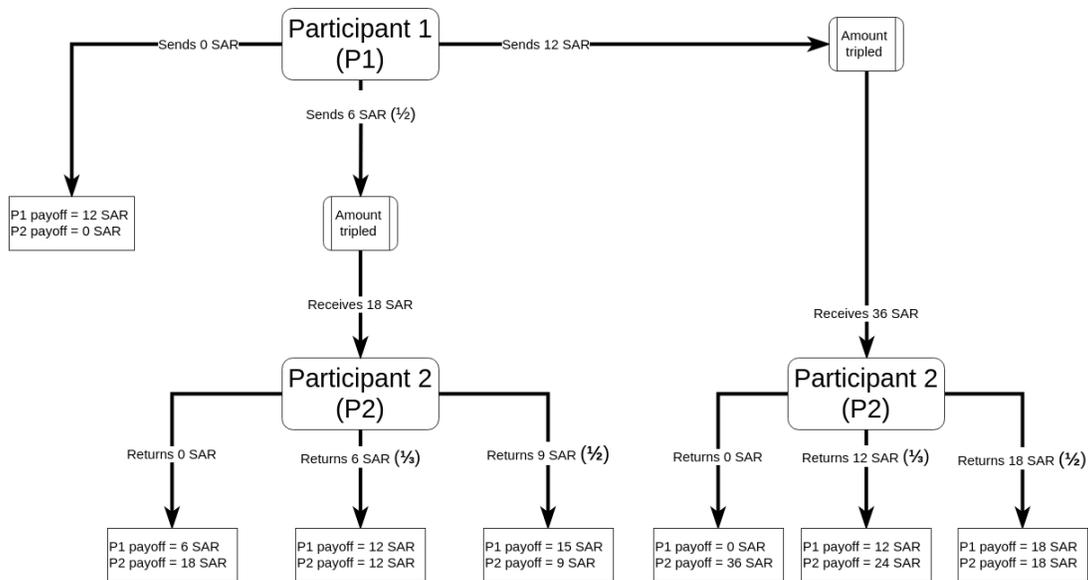
Your earnings will depend on your decisions, as well as on the decisions of your partner.

During the activity, Participant 1 will receive 4 tokens. Then she will be given three options: send 0 token, send 1 send 2 send 3 tokens or send 4 tokens to Participant 2. The sum sent will then be multiplied by 3 and sent to participant 2. This is **Decision 3**.

Participant 2 has to decide what to do for each possible choice made by participant 1. In particular, for each choice that Participant 1 can make, Participant 2 must choose one of the 3 options: send 0, send ( $\frac{1}{3}$ ) one third, or send ( $\frac{1}{2}$ ) half of the sum received. So, she has to declare what she will do if she receives 6 tokens or 12 tokens. This is **Decision 4**.

After completing both Decision 3 and Decision 4, you will be paired with a different person.

**At the end of the experiment, if this situation is selected, one of the two decisions will be picked at random, so if Decision 3 is selected you will be paid the payoff of obtained as Participant 1, if Decision 4 is selected you will be paid the payoff obtained as Participant 2.**



**Figure 1. Possible payoff outcomes for Decision 3 and Decision 4.** During Decision 3 you have the option to send either 0, 2, or 4 tokens to the other participant. During Decision 4, you can decide how much to return if you receive 2 or 4 tokens. In the case of receiving 6 tokens, you may return 0, 2 ( $\frac{1}{3}$ ), or 3 ( $\frac{1}{2}$ ) tokens. In the case of receiving 12 tokens, you may return 0, 4 ( $\frac{1}{3}$ ) or 6 tokens ( $\frac{1}{2}$ ). Depending on both decisions you may earn from 0 token up to 12 tokens.

**Questions regarding the decisions**

If participant 1 sends 2 tokens to Participant 2. How much tokens Participant 2 will receive? \_\_\_\_\_.

Does Participant 1 have any guarantee that Participant 2 will return tokens at all? \_\_\_\_\_.

**Third decision**

Ok, now it's time to make **Decision 3** as **Participant 1**:

How much will you send to participant 2?

- 0 token
- 1 token
- 2 tokens
- 3 tokens
- 4 tokens

**Fourth decision**

Ok, now it's time to make **Decision 4** as **Participant 2**:

How much tokens would you send back in case you receive 3 tokens? \_\_\_\_\_.

How much tokens would you send back in case you receive 6 tokens? \_\_\_\_\_.

How much tokens would you send back in case you receive 9 tokens? \_\_\_\_\_.

How much tokens would you send back in case you receive 12 tokens? \_\_\_\_\_.

**Situation 3: Decision 5 (Dictator Game)**

This activity is done in pairs.

Your earnings will depend on your decisions, as well as on the decisions of your partner.

During the activity, Participant 1 will receive 10 tokens. Then, he/she will have the option to make an offer to the other participant that specifies how much tokens each will receive.

The amount that you can offer to your partner can be anything from 0 to 10 tokens; her partner can't refuse the offer.

Both of you and the other person will make **Decision 5**.

**At the end of the experiment, if this situation is selected, either your Decision 5 or Decision 5 of the other person will be picked up randomly and you will be paid accordingly. If your Decision is selected then you will get the payoff as Participant 1, otherwise the other person will be paid as Participant 1 and you will be paid as Participant 2.**

*Questions regarding the decisions*

If Participant 1 sends 3 tokens. How much tokens participant 1 will have with him/her?\_\_\_\_\_.

*Fifth decision*

Ok, now it's time to make **Decision 5** as **Participant 1**.

From 10 tokens, how much will you send to the other participant?\_\_\_\_\_.

## Appendix III (CH1) Questionnaire

### General Instructions

In the following, you must answer some questions about yourself and the knowledge you have about the culture of another country. Please answer as clearly and as honestly as possible, selecting the option that you consider the most appropriate accordingly to each question or statement.

Starting from question 9, each correct answer has a value. If you succeed to respond correctly to the questions of this section (from 9 to 17), you will receive a bonus payment of *1 token*; for each correct answer you will receive *0.11 token*.

### *Demographic section*

1. *What is your age?* \_\_\_\_\_.

2. *Please indicate your gender:*

Male  
Female

3. *Please indicate your current marital status:*

Single  
Married  
Separated  
Widowed  
Divorced  
Other:

4. *Please indicate your nationality:*

Italian  
Saudi Arabian

5. *What is your religion?*

Catholic  
Protestant  
Muslim Sunni  
Muslim Shia  
Mormon  
Atheist/Agnostic  
Other:  
Do not want to answer

6. *Are you actually employed?*

Yes  
No  
Do not want to  
answer

7. *How would you describe your employment status?*

Full-Time  
Part-Time  
Casual  
Do not work  
Do not want to  
answer

8. *What is your current MONTHLY household income?*

\_\_\_\_\_.

***Reciprocal knowledge section (For Saudi Arabian Subjects)***

In the following section you will find some questions about Italy and its inhabitants; choose the answer that you consider to be correct.

9. *Please indicate which continent is Italy:*

Asia

Africa  
America  
Europe  
Oceania  
Antarctica

*10. What is Italy's official language?*

English  
Spanish  
Chinese  
Italian  
Portuguese  
French  
Arabic

*11. What is Italy's currency?*

USD  
MXN  
SAUDI RIYAL  
EURO  
YUAN  
LIBRA  
SAUDI USD

*12. What is the religion that predominates among Italy's inhabitants?*

Muslim Sunni  
Protestant  
Catholic  
Muslim Shia  
Mormon  
Atheist/Agnostic

*13. What kind of government does Italy have?*

Monarchy  
Republic  
Democracy  
Oligarchy  
Autocracy

14. From zero to ten, what do you think is the satisfaction that Italians have for living in their country?

1	2	3	4	5	6	7	8	9	10

15. What do you consider to be the house holding MONTHLY income of an average family in Italy?

- Less than 6000SAR
- Between 6000SAR 8000SAR
- Between 8000 SAR and 10,000 SAR
- Between 10,000SAR and 12,000SAR
- More than 12,000 SAR

16. How many members do you think an Italian family has on average?

- Between 2 and 3
- Between 4 and 5
- Between 6 and 7
- More than 8

17. What percentage of the Italian population do you consider to be unemployed?

- Less than 15 %
- Between 15 and 35 %
- Between 35 and 50 %
- Between 50 and 75 %
- More than 75 %

18. Please indicate how strongly you agree or disagree are with the following statements:

*I believe that Italians are people who deserve trust*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

*b) I believe that Italians are people with whom an agreement can be reached*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

*c) I consider that the Italians are altruistic people*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

*d) I think that if I support an Italian, he/she will help me back*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	2	3	4	5

## Appendix IV (CH1)

Table 1

<i>Trust Game – Sum returned by Participant 2 when s/he receives three tokens</i>							
	IT-F	IT-M	SA-F	SA-M	Avg	z-Value	p-Value
IT-F			0.26	0.21	0.24	-0.78	0.432
IT-M			0.14	0.13	0.13	0.015	0.987
SA-F	0.19	0.26			0.23	1.28	0.199
SA-M	0.30	0.28			0.29	-0.78	0.432
z-Value	2.06	0.266	-2.148	-1.870			
p-Value	0.039	0.79	0.031	0.061			

*Note: IT-F = Italian females, IT-M = Italian male, SA-F = Saudi females, SA-M = Saudi males,*  
*\*p < 0.05, p = ns*

When paired with females, results revealed that Saudi females were significantly more willing to send back less tokens to Italian male (0.26) and females (0.19) than Saudi males (0.30); if they receive only three tokens.

Table 2

*Trust Game – Sum returned by Participant 2 when she receives six tokens*

	IT-F	IT-M	SA-F	SA-M	Avg	z-Value	p-Value
IT-F			0.41	0.34	0.38	-0.903	0.366
IT-M			0.34	0.28	0.31	-0.958	0.3378
SA-F	0.38	0.43			0.40	0.45	0.65
SA-M	0.45	0.47			0.46	-0.46	0.65
z-Value	1.27	0.66	-0.525	-0.789			
p-Value	0.204	0.506	0.599	0.43			

*Note: IT-F = Italian females, IT-M = Italian male, SA-F = Saudi females, SA-M = Saudi males,*  
*\*p < 0.05, p = ns*

Results shows that Saudi females were willing to send back less to Italian males (0.43) and females (0.38) than Saudi males (0.45); if they receive six tokens.

Table 3

*Trust Game – Sum returned by Participant 2 when she receives nine tokens*

	IT-F	IT-M	SA-F	SA-M	Avg	z-Value	p-Value
IT-F			0.43	0.32	0.37	-2.036	0.0418
IT-M			0.36	0.29	0.33	-1.005	0.3148
SA-F	0.38	0.44			0.41	1.001	0.317

SA-M	0.42	0.47		0.44	-0.41	0.683
z-Value	0.714	-0.18	-0.665		-0.07	
p-Value	0.475	0.855	0.506		0.94	

Note: *IT-F* = Italian females, *IT-M* = Italian male, *SA-F* = Saudi females, *SA-M* = Saudi males,

\* $p < 0.05$ ,  $p = ns$

The results show that Italian Females significantly return more tokens to Saudi Females (0.43) than Saudi Males (0.32) after receiving nine tokens.

Table 4

*Trust Game – Sum returned by Participant 2 when she receives twelve tokens*

	IT-F	IT-M	SA-F	SA-M	Avg	z-Value	p-Value
IT-F			0.42	0.30	0.36	-2.125	0.0336
IT-M			0.34	0.30	0.32	-0.332	0.74
SA-F	0.40	0.45			0.43	0.81	0.418
SA-M	0.44	0.45			0.44	-0.66	0.505
z-Value	0.88	-0.46	-0.805	0.34			
p-Value	0.375	0.655	0.42	0.73			

Note: *IT-F* = Italian females, *IT-M* = Italian male, *SA-F* = Saudi females, *SA-M* = Saudi males,

\* $p < 0.05$ ,  $p = ns$

Results show that when paired with females; Italian Females return significantly more tokens to Saudi Females (0.42) than Saudi Males (0.30) after receiving twelve tokens.

## Appendix I (CH2) QUESTIONNAIRE(استبيان)

Thank you for agreeing to take part in this important survey measuring Occupational Preferences Between Male & Female Saudi Students. To begin with I would like to ask you some questions about the factor that influence/Influenced you in making occupational preferences. Please answer all questions and choose the answer that applies best to you. This survey should take 4 to 5 minutes to complete. Be assured that all answers you provide will be kept in the strictest confidentiality and will be used for research purposes.

أخي \ أختي , شكرا على موافقتك بالمشاركة في هذا الاستبيان المهم جدا وهو لمعرفة التوجهات والتفضيلات المهنية (الوظيفية) للطلاب والطالبات في المملكة العربية السعودية. بالبداية, أود أن أطرح عليك بعض الأسئلة حول العامل الذي قد أثر أو يؤثر عليك في اختيار توجهاتك المهنية (الوظيفية). يرجى الإجابة على جميع الأسئلة التالية واختيار الإجابة التي تتفق معها بشكل صريح. سيستغرق هذا الاستبيان حوالي 4 الى 5 دقائق فقط. تأكد من أن جميع الإجابات التي تقدمها ستبقى في سرية تامة, و سنتستخدم فقط لأغراض بحثية.

### Personal/Demographic Information (المعلومات الشخصية)

- **Gender(الجنس):** Male ( ذكر ) / Female ( أنثى )
- **Profession(المهنة):** Student (طالب) / Working (موظف)
- **Specialization (التخصص):** List of specializations at university.
- **Age (العمر) :** 15 to 80
- **Level of Education (المرحلة الدراسية):** Diploma to PhD
- **Education Year (السنة الدراسية) :** 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> or other
- **Education of your father:** High school to PhD or Other .....
- **Education of mother :** High school to PhD or Other .....
- **What is the job of your father:** Gov sector, private sector, Business man, Semi Gov, other .....
- **What is the job of your mother:** Gov sector, private sector, Business women, Semi Gov, other .....
- **How many brothers you have?** 1,2,3,4,5,6,7,8,9,10+.
- **How many sisters you have?** 1,2,3,4,5,6,7,8,9,10+.

- **What is the job of your brother?** Table of the job for each brother.
- **What is the job of your sisters?** Table of the job for each sister.

- **In which sector would you like to work (في أي قطاع ترغب في العمل)**
  - a. Government sector (القطاع الحكومي)
  - b. Private sector (القطاع الخاص)
  - c. Corporate Sector (القطاع المشترك مثل الهيئات وغيرها)
  - d. Provide services to people (تقديم خدمات للمجتمع)

**Choose the answer that describes your opinion best / اختر الإجابة التي تصف رأيك بشكل أفضل /**

	1	2	3	4	5
	Very false (خطأ بقلوة)	Somewhat false (نوعاً ما خطأ)	Maybe (ربما)	Somewhat true (صحيح إلى حد ما)	Very true (صحيح للغاية)
1 Do you agree that as a male/Female, there are certain benefits which are purely related to one gender? هل توافق على أن يكون هناك فوائد أو مميزات لها صلة بجنس واحد فقط كالذكور أو الإناث					
2 Do you agree that gender has anything to do with occupational preferences? هل توافق على أن يكون لإحدى الجنسين علاقة بالأفضليات المهنية (الوظيفية) عن الآخر؟					
3					
4 Do you agree that female's first preference should be their home? هل توافق على أن خيار الإناث الأول يجب أن يكون منزلها؟					
5 In Your Opinion , Are There Any Specific Occupations/fields Which Women/ Men Should Stick To? / في رأيك، هل هناك أي مهن / مجالات محددة يجب على النساء / الرجال الالتزام بها؟					
6 Do you agree that occupation should not be chosen on gender basis. هل توافق على عدم اختيار المهنة على أساس الجنس؟					
7 Did you ever take advice from your parents while choosing an occupation? هل سبق لك أن أخذت نصيحة من أصدقائك وعائلتك أثناء اختيار المهنة؟					
8 Do you think that our society is the main cause behind all these gender stereotypes? هل تعتقد أن مجتمعنا هو السبب الرئيسي وراء كل الأفكار النمطية؟					

هل سبق لك أن أخذت نصيحة من عائلتك أثناء اختيار المهنة؟  
Did you ever take advice from your family while choosing an occupation?

هل سبق لك أن أخذت نصيحة من إخوانك أثناء اختيار المهنة؟  
Did you ever take advice from your brothers while choosing an occupation?

هل سبق لك أن أخذت نصيحة من أخواتك أثناء اختيار المهنة؟  
Did you ever take advice from sisters while choosing an occupation?

هل سبق لك أن أخذت نصيحة من أقربائك أثناء اختيار المهنة؟  
Did you ever take advice from your relatives while choosing an occupation?

1. ما هي العوامل التي تؤثر على التفضيلات المهنية والخيارات؟  
1. What are the factors which effect occupational preferences and choices?

تؤثر على التفضيلات المهنية والخيارات؟

- Media (وسائل الاعلام)
- Relatives (الأقارب)
- Siblings (الاخوان)
- The occupational trends in your Society (المجتمع)
- Parents
- Friends

2. ماهي المهن / المجالات المحددة التي يجب على المرأة الالتزام بها؟  
2. Any Specific Occupations/fields Which Women Should Stick To?

المحددة التي يجب على المرأة الالتزام بها؟

- Homemaking (الاعمال المنزلية)
- No need to stick to any field (لا حاجة الى التمسك بأي مجال)
- Sky is the limit, why limit women to homes only (عنان السماء, ولماذا يقتصر على المرأة في المنازل)
- Women should work but not at the expense of their home or child (يجب أن تعمل المرأة و لكن ليس على حساب منزلها أو أولادها)

3. ماهي المهن / المجالات المحددة التي يجب على الرجال الالتزام بها؟  
3. Any specific Occupation/Fields Men should stick to?

على الرجال الالتزام بها؟

- Men can do any work except for soft and meek work (يمكن للرجال القيام بأي عمل باستثناء الأعمال الناعمة والودية)
- Men should choose steady work (يجب على الرجال اختيار الاعمال الثابتة)
- Services (الخدمات)
- no need to stick to any field (لا حاجة للالتزام في أي مجال)

4. هل توافق على أن يكون هناك بعض المميزات التي لها صلة بحتة بجنس واحد كالذكور أو الاناث؟ (Male/Female)  
4. Do you agree that there are certain benefits which are purely related to one gender?

**Appendix A**  
**Survey questions for employees and students**

1. Gender

- Male
- Female

2. Region

- Central
- Western
- Eastern
- Northern
- Southern

3. Age

4. Marital status

- Single
- Married
- Divorced
- Widowed

5. What kind of accommodation do you live at?

- Owned
- Rented
- I live with my parents

6. Employment status

- An employee
- A student
- Unemployed

The following questions are for An Employee:

7. What is your education level?

- Less than high school
- High school
- Diploma
- Bachelor's
- Master's
- PhD's

8. What is the sector you are working in now?

- Public sector
- Private sector
- Semi-government sector
- Charity sector
- Businessman/businesswoman

9. If you had a chance to change your job, what would the next sector be?

- Public sector
- Private sector
- Semi-government sector
- Charity sector
- Businessman/businesswoman

10. What is your work/education major?

- Business & economics
- Engineering
- IT
- Psychology & sociology
- Medicine & pharmacy
- Religion studies
- Aviation

- Language & translation
- Other-please write it down \_\_\_\_\_

11. What was your major in high school?

- Scientific
- Arts
- Business
- Industrial

12. What type of high school did you attend?

- Public school
- Private
- International school

13. What is your father's education level?

- Less than high school
- High school
- Bachelor's
- Master's
- PhD's

14. What was the latest job of your father?

- Public sector
- Private sector
- Semi-government sector
- Charity sector
- Businessman/businesswoman
- Unemployed

15. What is your mother's education level?

- Less than high school
- High school

- Bachelor's
- Master's
- PhD's

16. What was the latest job of your mother?

- Housewife
- Public sector
- Private sector
- Semi-government sector
- Charity sector
- Businessman/businesswoman
- Unemployed

\*17. How many brothers do you have?

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, more than 10.

\*18. How many employed brothers do you have?

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, more than 10.

19. What are your brother's jobs (you can write more than one job for each brother if they have)

- 1<sup>st</sup> brother
- 2<sup>nd</sup> brother
- 3<sup>rd</sup> brother
- 4<sup>th</sup> brother
- 5<sup>th</sup> brother
- 6<sup>th</sup> brother
- 7<sup>th</sup> brother
- 8<sup>th</sup> brother
- 9<sup>th</sup> brother
- 10<sup>th</sup> brother

\*20. How many sisters do you have?

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, more than 10.

\*21. How many employed sisters do you have?

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, more than 10.

22. What type of jobs do your sisters have?

- 1<sup>st</sup> sister
- 2<sup>nd</sup> sister
- 3<sup>rd</sup> sister

- 4<sup>th</sup> sister
- 5<sup>th</sup> sister
- 6<sup>th</sup> sister
- 7<sup>th</sup> sister
- 8<sup>th</sup> sister
- 9<sup>th</sup> sister
- 10<sup>th</sup> sister

Now we will provide a commonly accepted definition of gender discrimination and we will ask your opinions regarding this phenomenon. Gender is commonly defined as the social identity of an individual. Gender discrimination is the prejudicial treatment of an individual or group due to gender.

23. Have you ever heard from your (friends, relatives, people you know) that someone was facing a gender discrimination?

- No
  - Yes. Please explain the situation in which gender discrimination occurred
- 

\*24. do you agree that men should have more work benefits than women?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*25. Do you agree that women should have more work benefits than men?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*26. Do you agree that the first place of women is her home?

- I totally agree
- I agree to some extent

- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*27. In your opinion, do you think that there are some fields should be restricted to only men?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*28. In your opinion, do you think that there are some fields should be restricted to only women?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*29. In your opinion, do you think gender preferences should be eliminated from hiring employees?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*30. Do you think that social habits are the main reason behind gender discrimination?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*31. Do you think that religion is the main reason behind gender discrimination?

- I totally agree

- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*32. In your opinion, what types of jobs a woman must be limited to?

- Housewife only
- Jobs that are segregated from men
- All types of jobs (except field jobs)
- All types of jobs (including field jobs)
- All types of jobs (including hard-work jobs)
- Only jobs that make a balance between jobs duties and house duties

\*33. In your opinion, what types of jobs a man must be limited to?

- Househusband only
- Jobs that are segregated from women
- All types of jobs (except field jobs)
- All types of jobs (including field jobs)
- All types of jobs (including hard-work jobs)
- Only jobs that make a balance between jobs duties and house duties

\*34. In your opinion, what is the most important change to the job market to make employing women easier?

- Increase salaries
- Issue a law to criminate gender discrimination
- Official jobs (not temporary contracts)
- To have a segregated environment away from men
- Promotions
- Other- please write it down \_\_\_\_\_

\*35. Have you ever taken advice from your parents when you applied for a job?

- Yes of course
- Sometimes

I have never

\*36. Have you ever taken advice from your brothers when you applied for a job?

Yes of course

Sometimes

I have never

\*37. Have you ever taken advice from your sisters when you applied for a job?

Yes of course

Sometimes

I have never

\*38. Have you ever taken advice from your friends when you applied for a job?

Yes of course

Sometimes

I have never

\*39. Have you ever taken advice from your relatives when you applied for a job?

Yes of course

Sometimes

I have never

\*40. Have you ever taken advice from your colleagues when you applied for a job?

Yes of course

Sometimes

I have never

\*41. In your opinion, which of the following has the strongest influence on your employment choice?

Social media

Parents

Siblings

Friends

Relatives

Society

Colleagues

\*7. Since you are a student, what is your current education level?

- Diploma
- University
- Masters
- PhD

\*8. Since you are a diploma student, in which year do you study?

- The 1<sup>st</sup>
- The 2<sup>nd</sup>
- The 3<sup>rd</sup>

\*9. In future, what potentially would your job be? Rank them accordingly to importance

The 1<sup>st</sup> \_\_\_\_\_

The 2<sup>nd</sup> \_\_\_\_\_

The 3<sup>rd</sup> \_\_\_\_\_

\*10. In future, which sector would you like to work in?

- Public sector
- Private sector
- Semi- government
- Charity
- Businessman/ businesswoman

\*11. What is your work education major?

- Business & economics
- Engineering
- IT
- Psychology & sociology
- Medicine & pharmacy
- Religion studies
- Aviation
- Language & translation
- Other-please write it down \_\_\_\_\_

\*12. What was your major in high school?

- Scientific

- Arts
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- Industrial

\*13. What type of high school did you attend?

- Public school
- Private scjhool
- International schol

\*14. What is your father's education level?

- Less than high school
- High school
- Bachelor's
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- PhD's

\*15. What was the latest job of your father?

- Public sector
- Private sector
- Semi-government sector
- Charity sector
- Businessman/businesswoman
- Unemployed

\*16. What is your mother's education level?

- Less than high school
- High school
- Bachelor's
- Master's
- PhD's

\*17. What was the latest job of your mother?

- Housewife

- Public sector
- Private sector
- Semi-government sector
- Charity sector
- Businessman/businesswoman
- Unemployed

**\*18.** How many brothers do you have?

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**\*19.** How many employed brothers do you have?

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5<sup>th</sup> brother

6<sup>th</sup> brother

7<sup>th</sup> brother

8<sup>th</sup> brother

9<sup>th</sup> brother

10<sup>th</sup> brother

**\*21.** How many sisters do you have?

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, more than 10.

**\*22.** How many employed sisters do you have?

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, more than 10.

23. What type of jobs do your sisters have?

1<sup>st</sup> sister

2<sup>nd</sup> sister

3<sup>rd</sup> sister

4<sup>th</sup> sister

5<sup>th</sup> sister

6<sup>th</sup> sister

7<sup>th</sup> sister

8<sup>th</sup> sister

9<sup>th</sup> sister

10<sup>th</sup> sister

Now we will provide a commonly accepted definition of gender discrimination and we will ask your opinions regarding this phenomenon. Gender is commonly defined as the social identity of an individual. Gender discrimination is the prejudicial treatment of an individual or group due to gender.

24. Have you ever heard from your (friends, relatives, people you know) that someone was facing a gender discrimination?

- No
  - Yes. Please explain the situation in which gender discrimination occurred
- 

\*25. Do you agree that men should have more work benefits than women?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*26. Do you agree that women should have more work benefits than men?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*27. Do you agree that the first place of women is her home?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*28. In your opinion, do you think that there are some fields should be restricted to only men?

- I totally agree
- I agree to some extent

- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*29. In your opinion, do you think that there are some fields should be restricted to only women?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*30. In your opinion, do you think gender preferences should be eliminated from hiring employees?

- I totally agree
- I agree to some extent
- Not agree or disagree
- I disagree to some extent
- I totally disagree

\*31. Do you think that social habits are the main reason behind gender discrimination?

- I totally agree
- I agree to some extent
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\*32. Do you think that religion is the main reason behind gender discrimination?

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- I disagree to some extent
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- Househusband only
- Jobs that are segregated from women
- All types of jobs (except field jobs)
- All types of jobs (including field jobs)
- All types of jobs (including hard-work jobs)
- Only jobs that make a balance between jobs duties and house duties

\*35. In your opinion, what is the most important change to the job market to make employing women easier?

- Increase salaries
- Issue a law to criminate gender discrimination
- Official jobs (not temporary contracts)
- To have a segregated environment away from men
- Promotions
- Other- please write it down \_\_\_\_\_

Now, we would like to have your opinion on following points:

\*36. Have you ever taken advice from your parents when you applied for a job?

- Yes of course
- Sometimes
- I have never

\*37. Have you ever taken advice from your brothers when you applied for a job?

- Yes of course
- Sometimes
- I have never

\*38. Have you ever taken advice from your sisters when you applied for a job?

- Yes of course
- Sometimes
- I have never

\*39. Have you ever taken advice from your friends when you applied for a job?

- Yes of course
- Sometimes
- I have never

\*40. Have you ever taken advice from your relatives when you applied for a job?

- Yes of course
- Sometimes
- I have never

\*41. Have you ever taken advice from your colleagues when you applied for a job?

- Yes of course
- Sometimes
- I have never

\*42. In your opinion, which of the following has the strongest influence on your employment choice?

- Social media
- Parents
- Siblings
- Friends
- Relatives
- Society
- Colleagues

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