



## Individual-Level Determinants of Social Capital: Some Empirical Evidence in MENA \*

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### Abstract

Despite social capital's role in shaping nations' economic growth and social development, studies examining social capital determinants have overlooked the MENA region. This study explores personal values and religiosity as possible determinants of social capital in the Middle East and North Africa (MENA) region by focusing on interpersonal trust. Considering the social and cultural context in the MENA region, the author advances an approach exploring how personal values and religiosity shape interpersonal trust. In doing so, we utilize data from the World Values Survey Round 7. The WVS data pertains to 12322 respondents from 9 MENA countries, which we analyze with the help of linear regression analysis. The novelty of this study lies in covering how individual-level personal values and religiosity influence ingroup and outgroup trust. An important finding is that outgroup trust can decrease when people become more religious, attend prayers frequently, or believe in their religion's superiority. At the same time, it increases when people attend religious services more frequently. We find that interpersonal trust increases when people favor gender equality.

**Keywords:** Middle East, Social Capital, Personal Values, Religiosity, Interpersonal Trust, Economic Sociology.

**Jel Codes:** A13, Z13, Z12, N35

## Sosyal Sermayenin Bireysel Belirleyicileri: MENA Bölgesinde Bazı Deneysel Bulgular

### Özet

Sosyal sermayenin ulusların ekonomik büyüme ve sosyal gelişimini şekillendirmedeki rolüne rağmen, sosyal sermaye belirleyicilerini inceleyen çalışmalar MENA bölgesini göz ardı etmiştir. Bu çalışma, Orta Doğu ve Kuzey Afrika (MENA) bölgesinde sosyal sermayenin olası belirleyicileri olarak kişisel değerler ve dindarlığı, kişiler arası güvene odaklanarak incelemektedir. Yazar, MENA bölgesindeki sosyal ve kültürel bağlamı göz önünde bulundurarak, kişisel değerlerin ve dindarlığın kişilerarası güveni nasıl şekillendirdiğini araştıran bir yaklaşım geliştirmektedir. Bunu yaparken, Dünya Değerler Anketi 7. Tur verilerinden yararlanılmaktadır. WVS verileri, doğrusal regresyon analizi yardımıyla analiz ettiğimiz 9 MENA ülkesinden 12322 katılımcıya aittir. Bu çalışmanın yeniliği, bireysel düzeydeki kişisel değerlerin ve dindarlığın grup içi ve grup dışı güveni nasıl etkilediğini ele almasında yatmaktadır. Önemli bir bulgu, insanlar daha dindar olduklarında, ibadetlere sık katıldıklarında veya dinlerinin üstünlüğüne inandıklarında dış grup güveninin azalabileceğidir. Aynı zamanda, insanlar dini hizmetlere daha sık katıldıklarında artmaktadır. İnsanlar cinsiyet eşitliğini desteklediklerinde kişiler arası güvenin arttığını bulduk.

**Anahtar kelimeler:** Orta Doğu, Sosyal Sermaye, Kişisel Değerler, Dindarlık, Kişilerarası Güven, Ekonomik Sosyoloji.

**Jel Kodu:** A13, Z13, Z12, N35

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## 1. INTRODUCTION

Considering the increasing scholarly attention to social capital and its role in explaining cross-country variations in socioeconomic development and institutional performance, several scholars attempted to examine factors affecting social capital formation on both the individual and country levels. However, theories about the sources that shape social capital are still developing. Some scholars claim that sources of social capital are long-term, such as history, heritage, religion, and culture, or short-term, such as civic and political events (Van Oorschot et al., 2006; Delhey and Newton, 2005; Kaasa, 2013; Kaasa, 2015; Halman and Luijkx, 2006; Kaasa and Parts, 2008). Few studies have examined how social capital components are shaped by determinants such as culture and personal values (Kaasa, 2019; Kaasa, 2013; Halman and Luijkx, 2006; Kaasa, 2015; Berggren and Bjornskov, 2011; Van Oorschot and Arts, 2005; Van Oorschot et al., 2006). Unfortunately, all these studies examined European countries, whether on a regional or country level.

This furthered our interest in understanding how factors such as personal values and religiosity function in the Middle East context and how they affect social capital components. This was the first motivation for this study to fill a gap in the literature by exploring individual-level determinants affecting social capital in MENA countries. Additionally, an overview of the social capital literature shows that despite the growing scholarly interest in social capital, the number of studies on the MENA region (See Almutairi et al., 2021; Kasmaoui and Errami, 2017; Tausch, 2016; Ceyhun, 2019; Cherkaoui, 2019) remains relatively low compared to the immense literature studies from developed countries such as the Mediterranean, Western, Eastern, and Central European countries, Nordic, Scandinavian, and Continental European countries, and the United States (Kaasa, 2015; Van Oorschot and Arts, 2005; Van Oorschot et al., 2006; Halman and Luijkx, 2006; Christoforou, 2010; Putnam et al., 1993; Knack and Keefer, 1997).

In addition to the lack of studies examining sources of social capital in the MENA and the few numbers of studies covering the region, another motivation for this study is that the region witnessed several events in the last two decades, such as the Arab Spring and the following social unrest and political conflicts. Considering such changes and the critical role social capital plays in countries' economic and social development, it is worth understanding interpersonal trust as a component of social capital. In their study, Kasmaoui et al. (2018) examined how social capital affects economic growth in MENA countries, using social trust as a proxy. They found a significant effect of trust on economic growth. However, compared to the rest of the world, its impact was weaker in MENA countries. They attributed low trust levels in the MENA region to factors such as political conflict and the strong familial bonds that form the basis for social connections and business interactions (Kasmaoui et al., 2018). Putnam (2000) highlights the importance of social capital, stating that it helps people be richer, smarter, healthier, and better able to govern a stable democracy.

The current article presents a novelty in the following aspects: First, while earlier research on factors of social capital, such as cultural dimensions, personal values, and religiosity, has paid attention to Western and European countries (See Kaasa, 2013; Kaasa, 2015; Kaasa, 2019), this article focuses on the Middle East and North Africa using WVS data to study individual-level determinants of social capital, using interpersonal trust as a proxy. Next, most studies on social capital focus on social trust as a main proxy. However, we consider interpersonal trust, including its two subcomponents, ingroup and outgroup trust. We explore how they are affected by various individual-level determinants, such as personal values, besides demographics, such as gender, subjective social class, education, and age. Finally, except for studies that examined the role of religion in shaping social capital from a Western lens (Christoforou, 2010; Kaasa, 2013; Kaasa, 2015; Kaasa, 2019), this study examines how different religiosity indicators shape interpersonal trust in the MENA region.

Using interpersonal trust as a proxy, we use linear regression analysis to explore personal values and religiosity as determinants of social capital. We use individual-level data from the latest wave of the World Values Survey (WVS, 2017). Due to data availability, we confine our analysis to 9 MENA countries. Several indicators of personal values and religiosity are based on theoretical assumptions and an empirical approach based on factor analysis. Following exploratory factor analysis, linear regression analysis examines the effects of personal values and religiosity on ingroup and outgroup trust.

The article is structured as follows: Section 2 presents the theoretical literature, Section 3 presents the methodology and the empirical framework, Section 4 presents the results and discussion, and Section 5 presents the conclusion.

## **2. SOCIAL CAPITAL AND ITS SOURCES**

The literature on social capital includes numerous definitions, reflecting the concept's multifaceted nature. In 1916, L.J. Hanifan described social capital as intangible assets such as goodwill and social interplay that meet social needs and shape social units (Hanifan, 1916). Fukuyama (1995) defines social capital as cultural values such as altruism, tolerance, and compassion. Knack and Keefer (1997) describe civic cooperation norms that reflect those social relations rooted in the social structures of society and assist people in coordinating their actions and achieving their goals. According to the World Bank, social capital is essential to local development. The World Bank defines social capital as "institutions, relationships, norms, and values that govern all forms, quantity, and quality of social interactions for socioeconomic development" (Islam and Alam, 2018).

Social capital has many dimensions, which can be defined according to two broad approaches: (a) bonding and bridging social capital and (b) cognitive and structural social capital. The first approach distinguishes between bonding and bridging social capital. Bonding social capital refers to close ties and social interactions in social networks among homogeneous groups such as immediate family and close friends; such ties are essential for "getting by" in life. Bridging social capital refers to weak and distant ties with people from different social networks. It reflects the resources that individuals obtain through their external connections and social networks (Narayan, 1999; Saukani and Ismail, 2019). The second approach includes cognitive and structural social capital. Cognitive social capital describes the less tangible aspect of social capital that refers to values, beliefs, attitudes, conduct, and social standards, whereas structural social capital is about tangible nature (Krishna and Shrader, 1999). Cognitive social capital is a more informal, subjective, and intangible construct based on shared norms and attitudes, and it disposes people toward mutually beneficial collective action (Krishna and Uphoff, 2002). Structural social capital encompasses actions that compromise civic participation and networking (Kaasa, 2019).

Researchers use different proxies of social capital, such as associational life (Knack and Keefer, 1997; Narayan and Pritchett, 1997), civic engagement (Sedeh et al., 2021; Putnam, 2000), and voluntary memberships in associations (Christoforou, 2010). However, Putnam (2000) and Putnam et al. (1993) define a touchstone of social capital: generalized reciprocity. Generalized reciprocity is about our general tendency to trust each other when there is no immediate reciprocity. When we act altruistically, we expect an indefinite future repayment by an indefinite individual, which embodies uncertainty in social interactions (Portes, 1998).

Trust encourages people to cooperate for mutual benefit (Krishna and Uphoff, 2002) and enhances their ability to solve social and economic problems (Irwin, 2009). Decades ago, Arrow (1972) attributed the economic backwardness of the world to a lack of trust since trust is a primary component of every commercial transaction. There are several types of trust, however. Generalized or social trust is our belief in good intentions and the trustworthiness of others (Irwin, 2009). Social trust is critical in measuring social capital, as people rely on each other, including people who do not

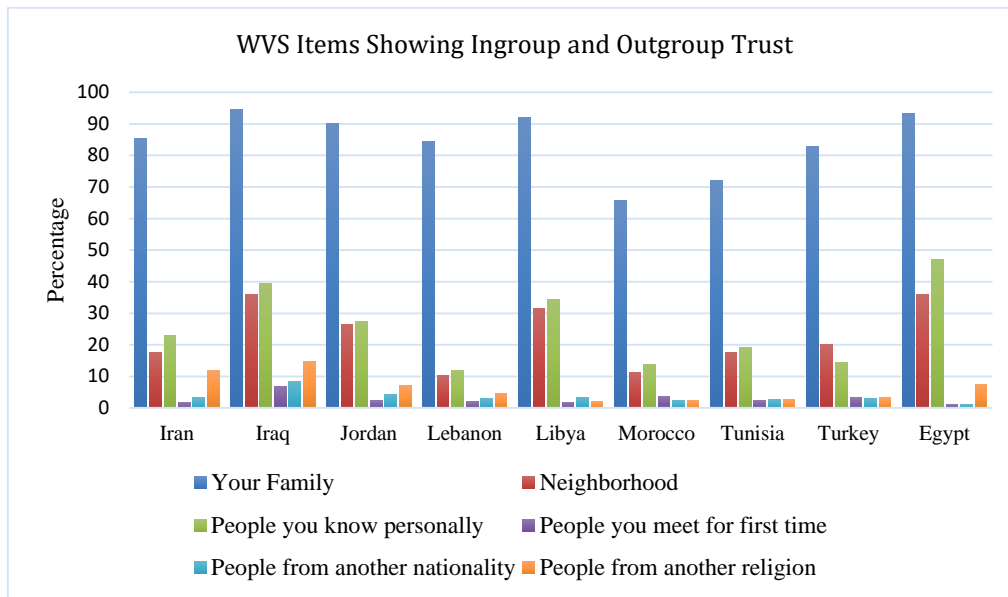
know each other personally. Numerous studies use social trust as a proxy for social capital (Norris and Inglehart, 2006; Kasmaoui et al., 2018; Knack and Keefer, 1997; Uslaner, 2002; Kasmaoui and Errami, 2017).

Besides social trust in general, individuals tend to exhibit a more specific trust in those they know, such as their family or those from the same religion or ethnicity. As a result, in addition to social trust measuring our abstract trust in others, there is particularized/interpersonal trust. Yamagishi and Yamagishi (1994) define particularized trust as the tendency of people to trust their kind and people they know to reduce their social uncertainty. Delhey and Welzel (2012) proposed a way to distinguish two types of interpersonal trust: ingroup and outgroup trust. Outgroup trust extends to strangers and those different in some group identity characteristics, such as nationality and religion.

In contrast, ingroup trust includes people one is familiar with, such as friends, relatives, and acquaintances. Ingroup trust emphasizes "familiarity" with close individuals such as family, relatives, neighbours, and people one knows. Ingroup trust is used to capture how much trust exists within an organization. Outgroup trust gauges confidence in strangers from various racial and religious backgrounds and strongly emphasizes difference and distance (Delhey and Welzel, 2012).

The WVS includes questions asking respondents to provide information about 'How much do you trust your family, neighbours, people you know, people from another religion, people from another nationality, and people you meet for the first time?' In societies with low levels of generalized trust, people tend to have more transactions with their close friends and relatives. Answers to such questions range from 'trust them completely' to 'do not trust them at all' (Figure 1). Figure 1 exhibits WVS items: "How much you trust: your family, your neighbourhood, people you know personally, people you meet for the first time, people of another religion, and people of another nationality." The questions had 4-likert points: '4=trust completely' to '1=do not trust at all'. Figure 1 shows that a sizable portion (84.5%) of all respondents said they had complete trust in their family. Trust toward outgroups, such as those outside one's own identity, includes respect for those of other nationalities, religious backgrounds, and first-time acquaintances. Only 2.8% of respondents said they completely trusted others, compared to 23.7% of first-time meeting respondents. A little under 6% of respondents (6.1% overall) and 36.6% said they completely trusted people of other religions. Only 3.5% and 29.4% of respondents trusted people from different nationalities.

**Figure 1:** WVS Questions on Degree of Trust Individuals Exhibit toward Six Social Groups in MENA Countries. It shows the Percentage of responses that "trust very much."



Source: WVS 7<sup>th</sup> Round, (2017-2022)

## 2.1 Determinants of Social Capital

Social capital can be shaped by long-term sources, such as values, which can be both cultural and personal, as well as short-term events, such as civil and political events (Van Oorschot et al., 2006; Delhey and Newton, 2005; Halman and Luijkx, 2006; Kaasa and Parts, 2008; Saukani and Ismail, 2019). Historical factors also determine social capital (Krishna and Uphoff, 2002). Values are determinants of social capital because they serve as the foundation for human activities (Portes, 1998). The concept of culture captures values dominating society (Kaasa, 2019). Several approaches describe culture through cultural dimensions on which countries or regions score differently. Literature offers numerous sets of cultural dimensions, such as the six cultural dimensions by Geert Hofstede (1980), the Values Theory by Shalom H. Schwartz (1994), the Global Leadership and Organizational Behavior Effectiveness (GLOBE) study (House et al., 2002), and the Cultural Map by Inglehart-Welzel (2002).

This study briefly discusses MENA countries' cultural classification on the World Cultural Map by Inglehart-Welzel (2022). This approach was chosen as the WVS is the primary data source used in this study; the WVS offers nationally representative data whose reliability has been proven. Also, the WVS data shed light on different countries' societal and cultural commonalities regarding societal configuration, cultural values, and individual and national priorities (Tausch, 2016). The Cultural Map of WVS places most MENA countries in a single cultural zone, exhibiting traditional and survival values rather than secular and self-expression values. We are aware of the individual particularities that individual MENA countries have. However, it is beyond the scope of this study to examine individual countries due to our focus on the MENA region.

There are two cultural dimensions: traditional/secular-rational and survival/self-expression. Societies have scores lying in two polar positions on these dimensions. In cultures with high traditional values, people give more importance to religion, family, and God and are proud of their nation. In countries with a secular-rational orientation, people are interested in politics, acceptance of practices such as abortion and suicide, and are driven towards achievement and thrift (Jong, 2009). Survival values emphasize physical and economic security. Individuals have an ethnocentric outlook,

low trust, and weak tolerance. Survival values reflect traditional opinions on issues such as unaccepting outgroups, a woman needing to give birth to children, children needing both parents and an appreciation of technology. Societies with self-expression values care for environmental protection and gender equality. They have tolerance for outgroups, such as foreigners. Citizens enjoy increasing demands for participation in economic and political decision-making (Jong, 2009).

The nine countries examined in this study show traditional and survival values rather than self-expression and rationality. The sociocultural makeup of MENA countries provides valuable insights into understanding interpersonal trust, which is low in terms of outgroup but high in ingroup trust (see Figure 1). In MENA, some cultural values dominate society, such as the importance of family, which is considered a valuable resource that one can rely on in times of crisis (Cleaver, 2005). Family ties are the foundation of economic and commercial interactions in most MENA countries (Kasmaoui et al., 2018). Also, since MENA countries exhibit survival and traditional values, they prioritize values such as rigid gender roles, national pride, and distrust (Fargher et al., 2008).

Another cultural feature of the MENA region is the high importance of religion and spirituality. The WVS shows that most citizens in MENA place high importance on religion. Interestingly, Norris and Inglehart (2009) state that religiosity is more likely to persist in vulnerable societies, especially when people face personal threats to survival. Given the context of MENA countries, particularly those with social unrest and political conflicts, people depend more on faith to overcome such worsening conditions. Also, religion can be considered part of the culture in MENA, where it functions as a comprehensive guidebook for life.

In addition to the cultural context, some roots of social capital are embodied in individuals' attitudes and values. For example, individual differences in preferences and beliefs, such as their political attitudes, encourage political participation, social participation, and trust in others. Our traditional attitudes that form our political culture shape our trust and values (Almond and Verba, 1963). Similarly, people's civic attitudes can foster positive outcomes such as cooperation, help overcome the dilemmas of collective actions, and improve the quality of political institutions (Putnam et al., 1993). For example, Halman and Luijkx (2006) examined how interpersonal trust was affected by individuals' values. Using factor analysis, they created an individual-level construct called individualism, which measured how people valued being creative and successful and their decision-making. It was found that interpersonal trust was negatively affected by individualism. In another study, using individual-level data, Mondéjar-Jiménez et al. (2011) conducted a factor analysis. They created a construct called 'collectivism,' which included questions reflecting individual attitudes toward competition, private ownership, income equality, and wealth accumulation. They found collectivism to positively affect social capital measured by political and social participation and institutional trust. Kaasa (2019) examined how social capital components such as general trust, institutional trust, and civic participation are influenced by personal values such as security, modesty, acceptance of authority, and values of achievement and recognition. Irwin (2009) describes collectivist societies as having closed networks and sanctioning systems to enforce group norms and conformity.

In addition to values, religion is a discrete factor shaping our social capital. Concerning religion, previous research examining the relationship between religion and social capital has been done both at the country level (Delhey and Newton, 2005; Berggren and Bjornskov, 2011) and the individual level, along with incorporating macro-level contextual variables (Van Oorschot and Arts, 2005; Lam, 2006; Van Oorschot et al., 2006). In their study on European countries, Halman and Luijks (2006) found that religiosity positively affects social capital at both the individual and societal levels. Some scholars have examined the impact of religiosity or religious denomination on some social capital dimensions, such as voluntary association participation at the personal level and social trust (Deneulin and Bano, 2009; Lam, 2006; Berggren and Bjornskov, 2011). In one study including major

world religions in 119 countries, Norris and Inglehart (2006) argue that historical heritages in terms of religion have a long-lasting print. Hierarchical religions negatively affect civic participation and professional associations' participation, both components of social capital (La Porta et al., 1997). Protestant churches encourage people to engage in social processes outside the family and church and hold extra-family orientation, and individualism prevails. On the other hand, Catholicism supports vertical bonds and imposes a hierarchical structure on society through the close relationship between the church and the family (Lam, 2006; La Porta et al., 1997).

Moreover, sources of social capital can be level-based (Deneulin and Bano, 2009). At the individual level, numerous socioeconomic and demographic determinants of social capital have been identified in the literature. These include income level (Narayan and Pritchett, 1997), gender (Uslaner, 2002; Putnam et al., 1993), and age (Welch et al., 2007). Others emphasize contextual, institutional, and country-level factors, such as national wealth, income inequality, and the quality of government (Kaasa, 2015; Krishna and Uphoff, 2002).

### 3. METHOD

We drew our sample from the latest wave of the WVS (2017-2022), which includes only 9 MENA countries: Egypt, Iraq, Tunisia, Turkey, Iran, Morocco, Libya, Lebanon, and Jordan. The WVS data offers repeated cross-sectional rather than panel data, including new respondents in each round. The sample from 9 MENA countries includes a total of 12322 participants. Males comprise 50.2% of the sample, while females comprise 49.9%. About 28.5 % of the respondents are between 16 and 29, 45% are aged 30 to 49, and 26.4% are aged 50 and more. Only 26.1 % of the respondents have high education, 42.8 % have low education, and 31% have medium education.

#### Dependent Variable

Regarding the dependent variable of social capital, we examine interpersonal trust as the primary proxy. We adopt the "New Item Battery on Trust" by Delhey and Welzel (2012), presented in Table 1. Ingroup trust includes three questions emphasizing "familiarity" with close individuals such as one's family, neighbours, and people one knows personally. In contrast, outgroup trust strongly emphasizes difference and distance through three questions on trust in people from another religion, nationality, or those whom one meets for the first time (Delhey and Welzel, 2012).

Cross-cultural measurement reliability, full configurational invariance, and sufficient metric invariance across countries are proven for this construct (Delhey and Welzel, 2012; Delhey et al., 2011). The original WVS items were ordinal encoded on a 3-point scale. We normalized the items using Min-Max normalization between "0=lowest trust to 1=highest trust", and then averaged over the three items to build ingroup and outgroup trust, respectively. Ingroup trust has a Cronbach Alpha of .588, while outgroup trust has a Cronbach Alpha of .771.

**Table 1:** The New Item Battery on Trust

I would like to ask you how much you trust people from various groups. Could you tell me whether you trust people from this group completely, not very much, or not at all?	
Your family, your neighbourhood, people you know personally.	Ingroup-trust
People you meet for the first time, people of other religions, people of another nationality.	Outgroup-trust

**Source:** (Delhey and Welzel, 2014: 54)

## **Independent Variables**

As regards the individual-level determinants of social capital, we first consider socioeconomic factors such as gender, age, education, and subjective social class. As regards gender, it is coded as male=1 and female=0. Ordinal variables that have three levels include education, coded as lower, middle, and higher education. The age of respondents is recorded in 3 categories: 16-29 years, 30-49 years, or 50 and more. WVS includes an item on income deciles, but we do not include it in the analysis due to missing values. We use a WVS item that asks respondents to report their subjective social class, a proxy for their self-position in society. The original WVS item has a 5-point scale (lower class, working class, lower middle class, upper middle class, and high class). We merge the upper and lower middle classes into 'The middle class,' working and lower classes into 'The low class,' and 'The upper class.' Self-defined religiosity is measured by a WVS item that asks respondents to describe their self-religiosity, whether they are atheist, non-religious, or religious. Higher scores reflect higher religiosity (Lam, 2006).

The second group of explanatory variables includes WVS items reflecting personal values. Given the categorical nature of WVS questions having different measurement units, the data have been normalized using the Min-Max Method to a range from "0" to "1". The Min-Max normalization maintains the relations among the values of the original data and enables equal weights and accurate analysis. As a next step, we apply factor analysis to the normalized items through principal component analysis (PCA) as a data reduction method due to the considerable number of questions and the exploratory nature of this study. Factor analysis reduces the amount of data into a manageable number of composite components. It classifies items clustering together and ensures they measure the same concept (Saukani and Ismail, 2019).

Since the data includes missing values, using factor scores will decrease the sample size, as only cases without missing values are used in factor scores. Consequently, we construct indices that capture important values exhibited by citizens in the nine countries examined. Summated scales combine variables that measure the same concept into one variable to improve measurement reliability. Moreover, Cronbach's Alpha is checked as a measure of reliability for each construct.

Table 2 represents the factor loadings and percentages of those factors. The analysis shows that 7 factors are retained as eigenvalues over 1. These seven factors account for 59.712% of the total variance. The Kaiser-Meyer-Olkin (KMO) is found to be 0.750. Bartlett's test of sphericity was significant, showing that  $X^2$  is 67264.968 significant at a 1% level.



**Table 2: Results of Factor Analysis of WVS Items as Personal Values**

Factor Name (personal value)	WVS Indicators	Loadings
Belongingness Attitudes	Feel close to your district region.	.870
	Feel close to your village, town, or city.	.847
	Feel close to your country.	.770
	Cronbach's Alpha	.823
Democracy Attitudes	Civil rights protect people's liberty against oppression.	.767
	People choose their leaders in free elections.	.721
	People receive state aid for unemployment.	.709
	The state makes people's incomes equal.	.675
	Women have the same rights as men.	.673
	Cronbach's Alpha	.758
Life Control Attitudes	Satisfaction with your life	.803
	Satisfaction with the financial situation	.732
	The feeling of happiness.	.714
	State of health (subjective)	.667
	Freedom of choice and control	.570
	Cronbach's Alpha	.740
Gender Attitudes	Men make better business executives than women do.	.839
	Men make better political leaders than women do.	.798
	Men should have more rights to a job than women.	.680
	University is more important than for a girl.	.662
	Cronbach's Alpha	.741
Attitudes toward the World	Feel close to the world.	.888
	Feel close to your continent.	.826
	Cronbach's Alpha	.816
Economic Attitudes	Competition is good or harmful.	.800
	Government's vs individual's responsibility.	.731
	Success: hard work vs luck.	.678
	Cronbach's Alpha	.588
Attitudes toward Authority	Income equality vs larger income differences.	.747
	Private vs state ownership of business.	.694

**Note:** The analysis is based on 12322 observations and a pairwise listing. It uses the Varimax rotation method.

The score for Bartlett's test of sphericity is 67274.968. The Kaiser-Meyer-Olkin measure for sampling adequacy is 0.750.

1. *Attitudes toward Democracy:* The factor analysis shows a factor capturing attitudes toward democracy (Civil rights protect people's liberty against oppression, people choose their leaders in free elections, people receive state aid for unemployment, the state makes people's

incomes equal, and women have the same rights as men). A summated index was constructed from these normalized items with a .800 Cronbach Alpha.

2. *Life Control and Indulgence Attitudes*: The factor analysis shows one factor that includes WVS items that asked respondents to rate the level of freedom and control respondents believe they have over their lives, their levels of happiness, life satisfaction, and satisfaction with the financial situation. Values such as freedom and happiness are regarded as indulgence values that reflect well-being values, which are hypothesized to affect social capital positively.
3. *Belongingness Attitudes to the Collective*: Three WVS items combine into a single factor that encapsulates a person's sense of belongingness to the place one lives in and the collective society. The index of belonging to a collective is constructed as an additive index of 3 WVS items: "How close you feel: Your village, town, or city" "I see myself as a member of my local community." "I see myself as a citizen of the [country] nation.' The summated scale has a Cronbach Alpha of .846.
4. *Attitudes Toward the World*: One factor describes the degree to which respondents feel part of their collective world and continent. Pinillos-Franco and Kawachi (2018) measured individuals' attachment to their community using two questions on the degree of emotional attachment they felt toward (1) their own country and (2) Europe. Questions ranged from 0=not emotionally attached to 10= very emotionally attached". Similarly, Altinbaşak-Farina and Güteryüz-Türkel (2017) used a similar variable capturing a similar concept of people's unity with nature and their world; they utilized a value dimension called 'peace with the world' that captures the idea of care for the world and unity with nature. A summated index is constructed from the two WVS items asking respondents how they feel close to their continent and the external world. Cronbach's Alpha for the scale is .816. These variables capture a feeling of connectedness to the external world. It measures distinct aspects than belongingness attitudes, which focus more on close groups.
5. *Gender Attitudes*: A factor that measures perceptions on gender-related issues includes four WVS items that reflect respondents' opinions on women's role as political leaders and business leaders and opinions on men's right to access work more than women. Higher values reflect more unfavourable opinions on such WVS questions. The WVS contains questions that reflect attitudes toward gender rights and social roles. Four WVS items demonstrate positive attitudes toward men's superiority over women as business executives and political leaders. The other two questions ask about men's right to have more rights than women and if university education is more important for boys than girls. The scale has a Cronbach Alpha of .741.
6. *Economic Attitudes*: Three WVS questions that capture respondents' attitudes toward economic issues were loaded into one factor. The first question asks respondents whether they believe the government should bear more responsibility for ensuring everyone is provided for, while the second asks whether competition is good or harmful. The third WVS question asked respondents whether they thought success came from hard work or luck. The three-item scale's Cronbach's Alpha value is .588.
7. *Attitudes toward Authority*: A final factor includes WVS items that capture individuals' views on authority intervention in issues such as income inequality and the state's role in business ownership.

Religiosity is measured using four WVS indicators. These items include two questions that capture religious intensity: (a) the frequency of attending religious services and (b) praying. Katz-Gerro and Jaeger (2012) argue that the frequency of attending religious services can strongly measure

religiosity as it reflects actual behavior. The third WVS question asks respondents to define themselves as being a religious person, a non-religious person, or an atheist. Higher scores indicate higher religiosity levels. Finally, we use one question, asking respondents about religion's importance in their lives.

#### 4. ANALYSIS AND RESULTS

Simple linear regression was used to estimate the effects of different determinants on ingroup and outgroup trust. Simple linear regression is used since the dependent variable has a continuous rather than a binary or ordinal scale. It was constructed as a summated index based on factor analysis of normalized data. A similar approach was adopted in previous studies, such as Kaasa (2015) and Kaasa (2013), examining the effects of religiosity and culture on social capital components.

##### 4.1. Ingroup Trust as Dependent Variable

Equation 1 shows linear regression with ingroup trust as the dependent variable. GENDER denotes gender, CLASS stands for social class, AGE refers to the age of respondents, and EDU denotes education level. World attitudes and attitudes of belonging to the collective are shown by WORLD and BELONG, respectively. CONTROL denotes the degree of control over life, and AUTH refers to attitudes toward authority. GNDR shows attitudes toward gender. SELFRELIG denotes self-defined religiosity, PRAYER is the frequency of prayers, RELSERV denotes religious services, and BELIEF denotes the intensity of belief. Based on the discussions above, the model can be constructed as:

$$\beta_0 + \beta_1 GENDER_i + \beta_2 CLASS + \beta_3 EDU_i + \beta_4 AGE_i + \beta_5 BELIEF_i + \beta_6 RELSERV_i + \beta_7 PRAYER_i + \beta_8 SELFRELIG_i + \beta_9 CONTROL_i + \beta_{10} BELONG_i + \beta_{11} AUTH_i + \beta_{12} GNDR_i + \beta_{13} WORLD_i + \varepsilon_i \quad (1)$$

The regression model significantly predicts ingroup trust as a dependent variable (F (13, 10557) =33.77; p = 000\*). Tests for multicollinearity show that VIF values are all below the threshold level of VIF, which is 5. Since the analysis includes individuals clustered in 9 countries, heteroscedasticity problems were detected. As a result, robust standard errors are used in the regression analysis.

Regression results in Table 3 show that ingroup trust is negatively affected by attitudes of belongingness. Keeping other variables constant, one unit increase in belongingness attitudes citizens hold is associated with a decrease of .02 unit in ingroup trust. A more favourable attitude toward society and closeness to one's social environment is associated with lower ingroup trust. Wang et al. (2015) and Everett et al. (2015) found that values of collectivism increase the trust individuals have toward ingroups and encourage actions that benefit these ingroups. World attitudes have a negative association with ingroup trust. A one-unit increase in attitudes citizens hold toward their external world is associated with a decline of .03 in their ingroup trust, keeping all other variables constant. People can become less attached to their ingroups as they integrate into the external world and environment. This interaction with the external world allows individuals exposure to diverse groups, and therefore, it can reduce their ingroup trust.

Gender attitudes are positively associated with ingroup trust. Individuals who hold unfavourable attitudes toward gender roles and rights are more trusting of their family, friends, and people they know personally. An increase of .05 in ingroup trust levels results from a one-unit increase in gender attitudes held by the respondents. A higher level of life control and indulgent attitudes is associated with higher ingroup trust. One unit increase in life-control attitudes, which are based on feelings of happiness by citizens, their levels of life satisfaction, financial satisfaction, and perceived control over life, is associated with an increase of .07 in ingroup trust, keeping all other variables constant. People's trust toward ingroup increases the happier they become and the more control over life they

perceive to have; since they reflect higher levels of well-being and fewer constraints in life, individuals can be more trusting. A higher perception of personal self-control means people believe they can improve their lives and pursue their dreams. As a result, their levels of trust are expected to increase.

**Table 3: Linear Regression Results for Ingroup Trust**

Variables	Coefficient (B)	Robust Std. Err. (B)	Lower	Upper
Gender	-.0058253	.0061043	-.0177909	.0061403
Age	.0118947	.0043175	.0034316	.0203578
Social Class	-.0163561	.0062577	-.0286223	-.0040899
Education	.0156187*	.0039536	.0078688	.0233686
Self-religiosity	.0219818*	.0071786	.0079104	.0360531
Attitudes toward authority	.039237*	.0117147	.0162739	.0622002
Life control attitudes	.0788991*	.0197321	.0402205	.1175776
Belongingness attitudes	-.0205848	.174093	-.0547104	.0135408
Attitudes toward the world	-.0341694*	.0104655	-.0546839	-.013655
Gender attitudes	.0514158*	.0042196	.0431446	.0596869
Religious Services	-.0016115	.0015014	-.0045546	.0013315
Prayers	.0089302*	.0019912	.005027	.0128334
Religion Importance	.0387577*	.0060027	.0269912	.0505242
Constant	.1877984*	.0301123	.1287727	.2468242
Observations	10,571			
F(13,10557)	33.77			
Prob > F	0.0000			
R-squared	0.0403			
Root MSE	.31347			

Note: SE (B) denotes the heteroscedasticity-modified robust standard error for coefficient B; t-statistics are expressed, and the asterisk sign (\*) denotes significance levels, \* p < 0.05.

As Table 3 shows, self-religiosity has a positive effect on ingroup trust. This means the more religious individuals become, the more trust they exhibit in their close groups. MENA countries exhibit traditional cultural values such as the importance of religion and family. Therefore, higher religiosity is expected to be associated with higher trust toward close groups, as both are values that cultures in MENA emphasize and encourage. A similar conclusion was made by Wijaya (2019), who discovered a positive correlation between religiosity and ingroup trust. The importance of religion is positively related to ingroup trust. A one-unit increase in religion's importance is associated with an increase of .038 in ingroup trust. Sulemana and Issufu (2015) found similar results of a positive

relationship between the degree of importance people place on religion and their trust in their neighbours, relatives, and people they know.

Additionally, the frequency of prayers was positively associated with ingroup trust. A one-unit increase in the frequency of prayers is associated with an increase of .008 in ingroup trust. On the other hand, a negative relationship exists between attending religious services and ingroup trust, as shown by a decrease of .006 in ingroup trust for one unit increase in the frequency of attending religious services.

#### 4.2 Outgroup Trust as Dependent Variable

Equation 2 shows linear regression with outgroup trust as the dependent variable. Gender is denoted by GENDER; CLASS stands for social class; AGE refers to the age of respondents; and EDU denotes education level. World attitudes and attitudes of belonging to the collective are shown by WORLD and BELONG, respectively. CONTROL denotes the degree of control over life, and AUTH stands for attitudes toward authority. GNDR shows attitudes toward gender. SELFRELIG denotes self-defined religiosity, PRAYER is the frequency of prayers, RELSERV denotes religious services, and BELIEF denotes the intensity of belief.

$$\text{Outgrouptr}_i = \beta_0 + \beta_1 \text{SEX}_i + \beta_2 \text{CLASS} + \beta_3 \text{EDU}_i + \beta_4 \text{AGE}_i + \beta_5 \text{BELIEF}_i + \beta_6 \text{RELSERV}_i + \beta_7 \text{PRAYER}_i + \beta_8 \text{SELFRELIG}_i + \beta_9 \text{CONTROL}_i + \beta_{10} \text{BELONG}_i + \beta_{11} \text{AUTH}_i + \beta_{12} \text{GNDR}_i + \beta_{13} \text{WORLD}_i + \varepsilon_i \quad (2)$$

Table 4 shows that the model, including personal values and religiosity, had a statistically significant effect on outgroup trust ( $F(13,10211) = (34.80)$ ;  $p = .000^*$ ). Tests for multicollinearity show that VIF values are all below the threshold level ( $VIF < 5$ ). We report robust standard errors to correct the problem of heteroscedasticity. The low coefficient of determination indicates the models' lack of explanatory power for variance. However, in the social sciences, it is expected that studies including individual-level data analysis will have low values of  $R^2$  (Langbein and Felbinger, 2006; Kaasa, 2013).

Regression results in Table 4 show that outgroup trust is positively associated with favourable attitudes toward one's external world. Keeping other variables constant, a one-unit increase in world attitudes is associated with an increase of .15 in outgroup trust held by citizens in MENA. However, belonging to the collective is associated negatively with outgroup trust, as shown by a decline of .14 associated with one unit increase in belongingness attitudes to the collective, keeping other variables constant. Collectivism attitudes have a negative association with outgroup trust. This can be attributed to the nature of items included in the 'belongingness' index. People who feel more engaged in their close world can be more reluctant to engage with the external social environment. Delhey and Welzel (2012) found that the value system of individualism favours people's freedom from ingroup control, making it conducive to outgroup trust. Fukuyama (2002) had a similar argument that the value system of collectivism favours people's integration into close groups, making it detrimental to outgroup trust (Fukuyama, 2002). Irwin (2009) emphasized that collectivist societies establish fixed boundaries between the ingroup and the outgroup to regulate social interactions. As a result, equality-based norms and mutually helpful interactions help to maintain ingroup harmony.

Interestingly, gender attitudes have a negative association with outgroup trust. People with unfavourable social attitudes toward gender roles, such as women's success as good business executives or business leaders and university education, show less trust toward outside groups. A one-unit increase in gender attitudes is associated with a decrease of .002 in outgroup trust. This is expected since the MENA region is known as a conservative region, which prioritizes traditional cultural values such as rigid gender roles and the importance of family.

**Table 4:** Linear Regression Results for Outgroup Trust

Variables	Coefficient (B)	Robust Std. Err. (B)	Lower	Upper
Gender	.03063*	.0045687	.0216745	.0395855
Age	.0014346	.0032244	-.0048858	.007755
Social Class	-.0010519	.0045787	-.0100271	.0079233
Education	-.0063373	.0029668	-.0121528	-.0005219
Self-religiosity	.012351	.0052138	.002131	.022571
Attitudes toward authority	-.0394694*	.0091342	-.0573742	-.0215645
Life control attitudes	.014811	.0148619	-.0143212	.0439432
Belongingness attitudes	-.1418382*	.0134884	-.1682782	-.1153982
Attitudes toward the world	.152557*	.0079281	.1370164	.1680977
Gender attitudes	.0020235	.0030558	-.0039664	.0080135
Religious services	.0004965	.0010878	-.0016358	.0026289
Prayer	-.0007769	.0014925	-.0037024	.0021486
Religion Importance	-.0054849	.0045757	-.0144542	.0034845
Constant	.390651*	.0232896	.3449988	.4363031
Observations	10,225			
F(13,10211)	34.80			
Prob > F	0.0000			
R-squared	0.0422			
Root MSE	.2306			

**Note:** SE (B) denotes the heteroscedasticity-modified robust standard error for coefficient B; t-statistics are expressed, and the asterisk sign (\*) denotes significance levels, \* p < 0.05.

Regarding religiosity indicators, the results in Table 4 indicate that outgroup trust is negatively affected by all religiosity variables, except for attending religious services, which positively affects outgroup trust. According to Kaasa (2015), attending religious services is a form of networking and formal participation. Put differently, people can widen their social networks to outgroups when participating in religious services, which explains the positive relationship with outgroup trust. Moving to the frequency of prayers and the importance of religion, both reflect a more conservative attitude of highly religious individuals who might disfavour social interactions with others from different religions or countries. Such scepticism toward outgroups can result from believing that one's religion is the most important or superior. This, in turn, results in less trust in people who do not belong to the same religion or the same nationality. Previous research found mixed results on the relationship between religiosity and outgroup trust. For example, Delhey and Welzel (2012) argued that Protestantism benefits outgroup trust because of its individualistic beliefs, in contrast to three cultural legacies detrimental to outgroup trust: Confucianism, Islam, and communism. Likewise, Putnam et al. (1993) argued that hierarchical religions like Catholicism were detrimental to society

and outgroup trust. Trust is created by religion through ingroup networks. Religious diversity might adversely affect social integration and social capital formation (Delhey and Newton, 2005).

Moving to sociodemographic variables, the results show no significant difference in ingroup trust between men and women, while they differ in outgroup trust. Only gender significantly affects outgroup trust, which reflects that men and women differ in the levels of trust they show toward outgroups. Of course, considering the social and cultural makeup of MENA societies, it would be reasonable to expect men to have higher social interactions due to their access to the job market and their relative freedom compared to women. A point worth mentioning is that gender egalitarianism is low to moderate in most MENA countries, unlike societies high in gender egalitarianism, in which gender roles in homes, organizations, and society are minimized; women can easily access authority positions, enjoy higher status, and have equal access to education as boys (Tuleja and Schachner, 2020). In a similar argument, Norris and Inglehart (2006) argue that men rely more on social connections through employment and association involvement, while women mostly rely on social connections within the family in countries with traditional values. Similarly, Van Emmerik (2006) found that men were more likely to rely more on non-family social connections, for example, to achieve career goals or improve their socioeconomic position in society. However, Putnam (2000) and Uslaner (2002) found that women are more trusting toward others than men.

Results show that age is positively related to both ingroup and outgroup interpersonal trust. Previous studies show mixed results on the effects of age on trust. Welch et al. (2007) found that older people tend to be more trusting than younger people. However, An and Phuong (2021) found that older individuals are less trusting than younger individuals. Older people might be more trusting due to their social interactions over the years and past life experiences, unlike younger people, who might not have the same level of social experience.

Subjective social class is negatively related to both components of interpersonal trust. The results imply that people tend to show less interpersonal trust the higher their subjective social class is. It is worth mentioning that subjective social class differs from income, but it reflects how respondents view their social position. As a result, scholars should be careful when dealing with this WVS item. A point worth mentioning here is that social capital can be an asset that the poor can use to face vulnerability due to their lack of material sources, unlike the rich, who have political influence and networks. This argument implies that people experiencing poverty need to increase their social interaction with others to expand their networks and access resources that might not be provided by their ingroups, such as family and friends (Woolcock and Narayan, 2000).

Education is negatively related to outgroup trust. On the other hand, it has a significant positive effect on ingroup trust. However, Hooghe et al. (2006) found highly educated individuals to be more trusting of others. In this article, we adopt Spiering's (2019) argument that education enhances a critical mindset and feeds into a need for freedom and self-expression. As a result, highly educated individuals become better equipped to criticize their surroundings, including the regimes, particularly paternalistic regimes. In MENA countries, people with high education become more sceptical of outgroups to avoid risk or protect their social position. However, this is a complex relationship that needs further examination.

## **5. CONCLUSION**

The findings of this exploratory study allow us to shed light on factors affecting social capital in 9 MENA countries. The article's main objective was to help us understand how the interpersonal trust of citizens in MENA countries differs, based on whether it is their trust in social groups, whether these groups include similar people such as their family and close friends, or outgroups such as those of other religions or countries. Although social capital can be affected by values at the cultural and individual levels, we confine our research to individual-level determinants and how they affect

ingroup and outgroup trust. As a novelty, we include personal values and religiosity-related variables in the linear regression analysis for both interpersonal trust components, representing one proxy of social capital. The individual-level data from the World Values Survey Round 7 (2017-2022) of 12322 respondents from 9 MENA countries was used in the study.

The results show that religiosity is indeed essential in determining interpersonal trust. However, the direction and strength of the effect of religiosity indicators differ across interpersonal trust components. Our results imply that outgroup trust increases with a higher level of religiosity and frequent attendance at religious services. On the contrary, the regular attendance at prayers and the higher importance people place on religion are associated with less outgroup trust. These findings reflect the complexity of religiosity as a factor shaping social capital in a region where most citizens emphasize religion's importance. Why should people who pray more and believe their religion is essential to become less trusting in outgroups, although most religious teachings encourage altruistic and social behaviors? When people engage in prayers or focus solely on their religion, they may develop the idea that only their religion is right and superior to other religions or even that they are superior to individuals from another religious background or other outgroups. We can relate to this argument when we see the opposite effect of religiosity-variables on ingroup trust, which increases with the frequency of prayers, self-religiosity, and the importance of religion but decreases with frequent attendance of religious services. More social interactions are possible when people start attending religious services, which should increase outgroup trust.

Another finding worth discussing is the positive relationship between gender attitudes and both ingroup and outgroup interpersonal trust. Our results show that interpersonal trust increases when individuals hold favorable attitudes toward equal gender roles and education for boys and girls. These results imply that fundamental values such as female participation in the labor force, access to political and business positions, or educating both genders are crucial in shaping how people trust ingroups and outgroups. Therefore, it would be recommended for education programs to incorporate and encourage values of gender equality and equal rights to enhance interpersonal trust.

We acknowledge several limitations concerning this study, which can also represent directions for future research. First, due to data limitations, only data on 9 MENA countries was used. Consequently, conclusions should not be generalized to other countries but drawn only for those analyzed. It should be noted that there are no previous empirical results on MENA to compare. It is recommended that similar analyses be performed when more data becomes available. Secondly, this study includes possible individual-level determinants of social capital, as measured by interpersonal trust. Some other variables might be used when more data is available, such as cultural values and contextual variables such as political freedom, governance quality, labor force participation, and regime type. Other components of social capital can be examined, such as civic participation and organization membership. Finally, despite its limitations, this exploratory study attempts to understand how different determinants shape social capital in the MENA region and provides guidelines for future research.



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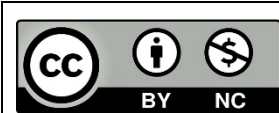
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